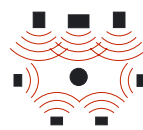


SURROUND



AUDIO

MANUAL

Concept

IN ADMIRATION OF MUSIC



www.dali.dk



*D*anish *A*udiophile *L*oudspeaker *I*ndustries

DALI is renowned among music lovers throughout the world for its unique speakers and cables, all constructed and build for uncompromising design and sound requirements. Our ultra-modern factory in Denmark is fully equipped with facilities for development and production of quality speakers.

Dali's principal competence is development and optimisation of known and new technology in the field of audio and acoustics. The result is continuous development and optimisation of new and existing models.

We always keep our goal firmly in view for each and every DALI speaker: To recreate sound experiences in your home that will carry you away, making you forget time and place...

It is important to us that your new DALI speakers are set up and connected optimally. This manual contains our recommendations for setup, connection and maintenance.

Enjoy!



Safety



CAUTION:
TO REDUCE THE RISK OF ELRCTRIC SHOCK, DO NOT REMOVE THE BACK PANEL. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.



The lightning flash within an equilateral triangle is intended to alert you to the presence of uninsulated „dangerous voltage“ within the product’s enclosure that may be of sufficient magnitude to constitute an electric shock to persons.



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

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions - All operating and use instructions should be followed.
5. Water and Moisture - The appliance should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool and the like. Do not place anything containing liquids on the appliance.
6. Carts and Stands - The appliance should be used only with a cart or stand if recommended by the manufacturer.
7. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation - The appliance should be situated so that its location or position does not interfere with proper ventilation. For or placed in a built-in installation, such as a bookcase or cabinet, that mayimpede the flow of air through the ventilation openings. Do not close or block any ventilation holes. Maintain free space between ventilation holes and wall.
9. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances that produce heat. Do not place candles or other open flame on the appliance.
10. Clearance - The appliance should be situated as shown in the operating instructions, or as marked on the appliance.
11. Power Cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed on or against them, paying particular attention to cords at plugs, convenience receptacles and the point where they exit from appliance.
12. Cleaning - Do not use any liquid cleaners. Use only a dry cloth to wipe off dust and grease.
13. Non-use Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
15. Damage Requiring Service - The appliance should be serviced by qualified personnel when:
 - a. The power-supply cord or the plug has been damaged; or
 - b. Objects have fallen, or liquid has been spilled into the appliance; or
 - c. The appliance has been exposed to rain; or
 - d. The appliance does not appear to operate normally, or exhibits a marked change in performance; or
 - e. The appliance has been dropped, or the enclosure damaged.
16. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Maintain free space between ventilation holes and wall.

Manual

Congratulations on the purchase of your new DALI Concept speakers. In this manual, you can read about set-up, adjustment and maintenance of the Concept series speakers.

Standard accessories

Floor-standing DALI Concept speakers comes with 4 spikes for fitting beneath the speaker. It is extremely important that these spikes are fitted correctly to ensure speaker stability. Remember to tighten the lock nut well once you have adjusted the height of the four spikes.

Bookshelf and center speakers are supplied with self-adhesive rubber feet to ensure a stable and vibration-free set-up.

Maintenance

Clean the cabinets with a soft, dry cloth. If the cabinets are dirty, wipe with a soft cloth dipped in all-purpose cleaner and then well wrung out. Be very careful when wiping the speaker membranes, as they are very fragile. Fabric frameworks can be vacuumed and wiped with a well-wrung, lint-free cloth and mild all-purpose cleaner

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Running-in

Like any other mechanical system, a speaker needs to be "run in", so you can look forward to a gradual improvement in sound quality over the initial period. Unlike other mechanical systems, a DALI speaker does not wear out - in fact, regular use will extend its lifetime.

Connection

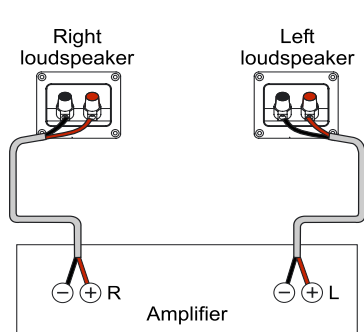
The connection to your amplifier is extremely important for your sound experience.

Always turn off your amplifier before connecting any cables or altering any connections.

Always use cables of the same type and length for left and right speakers. We recommend using special speaker cables from DALI, available from your dealer.

For the perfect sound experience, the right speaker must be connected to the output terminal marked "R" or "Right" on your amplifier and the left speaker to the terminal marked "L" or "Left".

A detail that is often overlooked is connection in the correct phase, i.e. the red terminal (+) on the amplifier should be connected to the red terminal (+) on the speaker, and the black terminal (-) on the amplifier should be connected to the black terminal (-) on the speaker.



(+) on the speaker, and the black terminal (-) on the amplifier should be connected to the black terminal (-) on the speaker. (Fig. 1) If just one speaker in a stereo or surround sound system is not connected in phase, the bass will be weak and the overall sound will be diffuse.

Fig. 1. Stereo connection

Always switch off your amplifier before adjusting any of the cables!

The same guidelines apply irrespective of the number of speakers in your sound system: speakers positioned to the right must be connected to the amplifier output terminal marked "R" or "Right", and any to the left must be connected to "L" or "Left".

You must ensure that the cable ends are firmly pushed into the terminals, and that there are no loose wires, which could cause a short circuit and damage the amplifier. (Fig. 2)

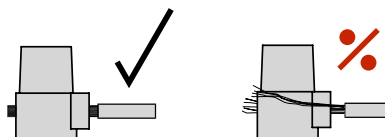


Fig. 2. Terminal connection

Positioning

Once you have connected your new DALI Concept speakers, you need to begin the process of searching for the perfect location for the speakers in relation to your listening position - and adjusting the surround amplifier, if applicable. It is worth spending a little time experimenting, as the correct set-up and tuning will provide a significantly better sound experience. Here are some useful pieces of advice:

Avoid placing objects between the speakers and your listening position, as obstructions can cause incorrect tonal balance.

Try to ensure that the distance between the left and right speakers is equal to the distance from your listening position to the speakers (Fig. 3). If you have surround sound, the distance between all the speakers should be symmetrically identical.

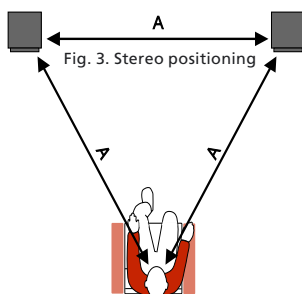


Fig. 3. Stereo positioning

DALI Concept speakers has been designed using the Linear Directivity principle, which means that the tonal balance will be perfect, even if your listening position is not quite central. It is not recommendable to angle the front speakers towards your listening position, unless the front speakers are very far apart.

Surround

The Concept Center center channel loudspeaker is specially designed for placement close to the large surface of a TV screen and can be placed above or below the screen, to suit your needs. For both of these positions, we recommend that the speaker's front edge be on a line with the TV screen. Attachment of the enclosed rubber feet is recommended to ensure stable, non-resonant operation.

All DALI Concept models may be used as rear-channel loudspeakers. If you wish to wall-mount your rear speakers, DALI Concept 1 is an excellent choice, as it is factory-fitted with mounting hardware.

For the ultimate surround experience, a central listening position is recommended, but, naturally, you can also enjoy fine surround, when not seated exactly in the ideal "sweet spot" (Fig. 4).

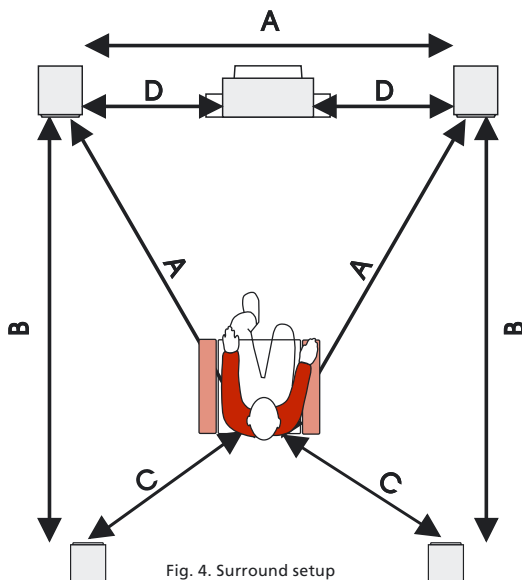


Fig. 4. Surround setup

The DALI Concept series is also well-suited to a 7.1-channel surround set-up, as shown in Fig. 5.

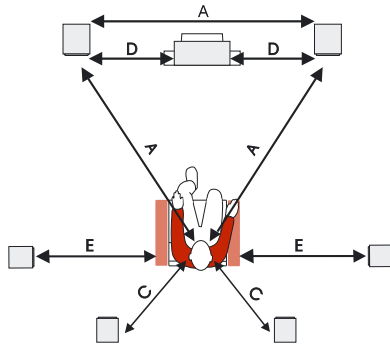
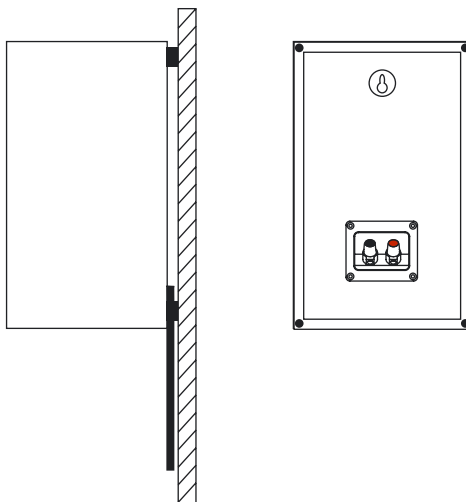


Fig. 5. 7.1 - channel surround setup

Wall-Mounting Concept 1

Concept 1 is particularly suited to wall-mounting, a useful feature, for instance, when employed as rear loudspeakers in a surround system. Before wall-mounting, it is important to attach the enclosed rubber feet to the rear panel of the loudspeaker as shown below. The rubber feet ensure stable contact with the wall and create space for the loudspeaker cable.



Connecting Concept SUB

When you complement your stereo or surround sound system with the Suite series subwoofer, Concept SUB, with active crossover network and amplifier, you have two different connection options: connection to a surround amplifier subwoofer output terminal, or to a stereo amplifier line output terminal.

Connection to surround amplifier with separate subwoofer output terminal (Fig. 6)

If you want to use Concept SUB for reproduction of the special subwoofer signal from a surround amplifier with separate subwoofer output terminal, connect this to the LFE input terminal on Concept SUB.

If the LFE input terminal is selected, the crossover network in Concept SUB is not active. The LFE input terminal should therefore only be used together with a special subwoofer output terminal in which the signal has already been filtered, so the subwoofer only receives the lowest frequencies.

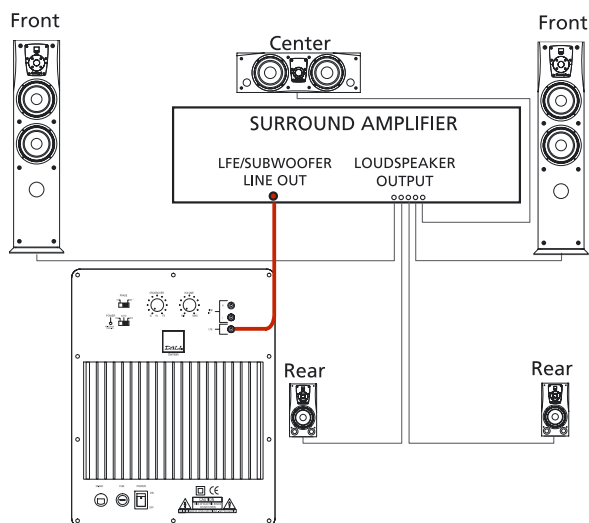


Fig. 6

Connection to a stereo pre-amplifier (Fig. 7)

If you want to use Concept SUB to supplement the bass reproduction of a stereo system, connect the subwoofer "Line in, Left/Right" to a stereo signal on the pre-amplifier with full frequency content. The built-in crossover network in Concept SUB then ensures that the subwoofer only reproduces the lowest frequencies (see section on adjustments on page 11).

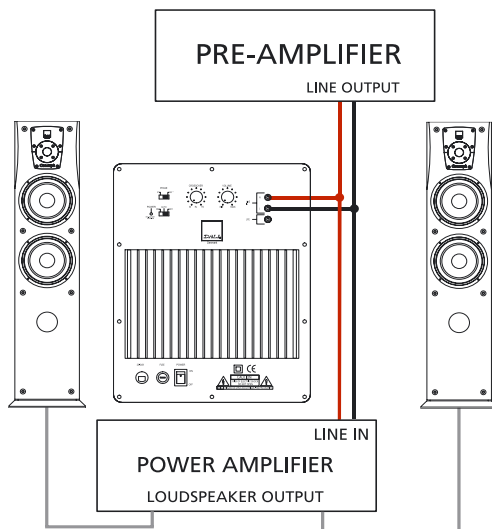


Fig. 7

In most cases you will achieve excellent results with one Concept SUB. It is possible as a no-compromise stereo solution, or for reproduction of very powerful sound pressure in a surround set-up in large rooms, to use two Concept SUB. This solution is connected in the same way, but for stereo you should only connect the left-hand channel to one input terminal on the left-hand Concept SUB and the right-hand channel to one input terminal on the right-hand Concept SUB. For a surround set-up, parallel the LFE-inputs of the two Concept SUB. In all other respects, follow the instructions above - but use separate channels. You may wish to consult your dealer.

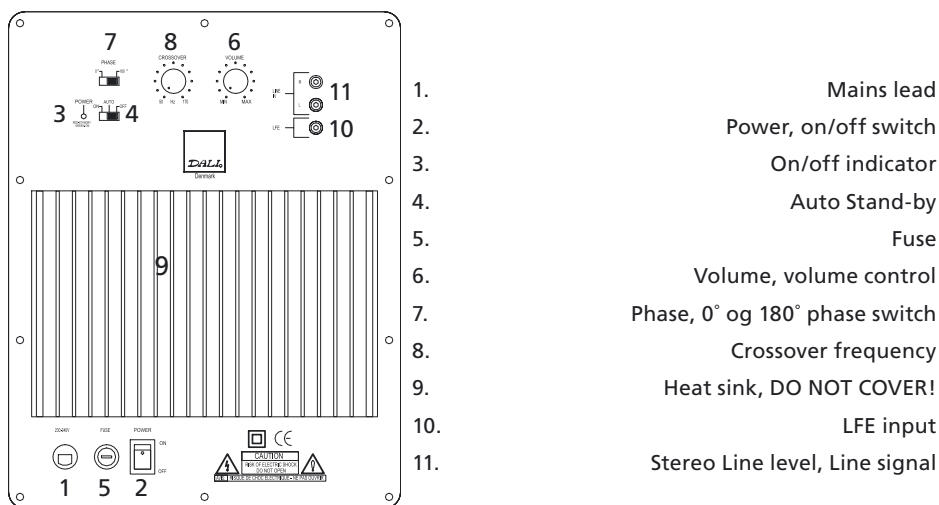
Note: When using two Concept SUB, the best results are normally achieved by positioning the two subwoofers relatively close to each other (1 - 2 metres).

Tuning of Concept SUB

Once you have chosen the set-up and connection you are going to use, and have positioned the subwoofer in the desired spot, you can begin the task of tuning the system. Please note that the actual location of the subwoofer greatly affects its contribution to the total acoustic image. For example, if you put Concept SUB in a corner, the bass will be considerably stronger than if it had been placed midway between two corners.

You can use the procedure below to achieve excellent results. Use a piece of music you know well, preferably containing rhythmic bass tones such as bass drum, electric bass or similar.

Begin by setting "Volume" and "Crossover" to the middle position ("12 o'clock"). Place the "Phase" switch in the 180° position, and set both "Auto" and "Power" to the "ON" position.



Setting level

Adjust the volume on your Concept SUB so the bass sound matches the level from the front speakers. Adjust it so that you can hear the sound contribution

Placing SUB in a corner will increase the bass level considerably.

from Concept SUB - but without the bass being too dominant. The bass should be firm and precise, so that the subwoofer provides the bass that is present in the music/sound track - neither more nor less. When connecting to a surround sound system it may be an advantage to select a fixed setting for Concept SUB and only adjust the level via the surround amplifier's separate adjustment of the subwoofer output level. If you over-modulate the subwoofer, your total sound experience may be disturbed by distortion. Remember that the location of Concept SUB has a major effect on the sound pressure you experience.

Choice of crossover frequency (with connection via "Line In, Left/Right")

Once the volume level is set you can tackle the equally important adjustment of the crossover between the front speakers and Concept SUB. You do this by adjusting "Crossover" up and down until you can hear the bass is smooth and without "holes". You may need to readjust the volume slightly for this adjustment.

Phase setting

Use the trial-and-error method for both settings - and you may also want to try readjusting volume and crossover frequency. In all cases it is a good idea to listen to the system for a couple of days and then readjust as required. The same setting will not always be ideal for both surround and 2-channel stereo. It is therefore always useful to make a note of your preferred settings for each application.

The "Auto" function sets Concept SUB to stand-by mode after approximately 15 minutes with no signal to the input terminal. When Concept SUB receives a signal again, the system will switch on automatically.

The "Power" button is the main switch for the system. It is best to switch the system off completely when it is not going to be in use for long periods. When making or changing connections, always shut the system down completely.

Overloading

If Concept SUB is intensely overloaded, the built-in safety circuit may completely disconnect the subwoofer. If this happens, turn down the volume and turn off SUB for a moment before turning it on again.

The listening room

Every room has its own distinctive acoustics, which influence the way we experience the sound from a speaker. In actual fact, it's a matter of how the room accommodates the sound and then dampens it. You can influence the acoustics of your listening room in various ways.

Some of the sound you hear comes not from the actual speakers but from reflections from floor, ceiling and walls. These reflections are dampened by objects such as furniture, plants and carpets. If the sound is bright, soft items such as curtains and carpets can help. If the room has large window panes, drawing the curtains will prevent reflections from the glass surfaces.

Both the amount and quality of the deep bass depend on the size and shape of the room, and the position of the speakers. If positioned near a side or back wall, this will accentuate the bass. A corner location will accentuate it even more, but will also increase the reflections. The decision is yours, so experiment with different positions to find which provides the ideal sound for you.

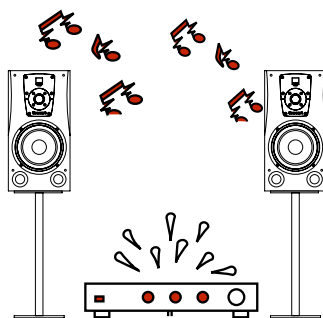
As a basic rule, try to avoid large, hard and reflective areas in the immediate vicinity of your loudspeakers. In the same way that a mirror reflects light, they will reflect sound from the speakers in almost full strength but with a slight delay due to the relatively low speed of sound. This will disturb the precision and spacial effect of sound reproduction. Try hanging a soft textile surface behind the speaker, place a rug in front of it, or place a large plant to the side and experience the surprisingly large effect doing so will have on the quality and precision of the sound.

Once you are happy with the positioning of your speakers, it is important to ensure that they are completely stable. For floor models it is essential that you use the accompanying spikes.

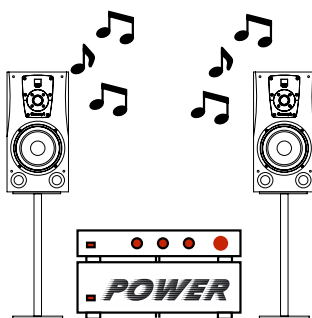
Power and acoustic pressure

How loud a speaker is able to play and still sound good is completely dependent on the signal it has to reproduce. So, in practice, you cannot define an unequivocal level for use in comparing different speakers.

Obviously, lots of pure, undistorted output from a large amplifier is better than a distorted signal from a small amplifier stretched beyond its capacity. The signal from a distorting (clipping) amplifier contains much more high-frequency information than an undistorted signal, and therefore puts a heavy strain on the tweeter. Consequently, speakers are most often damaged by small amplifiers having to work too hard - and very rarely by large amplifiers, which are practically running idle.



It is worth noting that when the tone controls are turned above the neutral setting this significantly burdens both speakers and amplifier. On a good sound system tone controls should only be used to compensate for poor recordings and not to permanently compensate for weaknesses elsewhere in the system. So, DALI recommends that the tone controls generally be set to the neutral position, and you achieve your desired sound image through correct positioning of the speakers.



Ensuring that you keep the volume low enough so the sound remains clear and undistorted will minimise the strain on both speakers and amplifier.

DALI - more than meets the eye

Your DALI speakers have been designed on the basis of a long succession of technical solutions based on many years' intensive development work. Most of this is not seen - but it can be heard and experienced, including:

An even frequency response ensures that your DALI speakers reproduce all tones and kinds of music faithfully and without emphasis.

Sound distribution and correct timing are among DALI's specialities, as all DALI speakers are designed for optimum performance in a real home environment and not just in a specially-constructed listening room. The perfect timing in the sound reproduction ensures that a light beat on a snare drum, for example, is reproduced as the light, sharp tap that it really is - without the drums filling and muddying the sound image.

Low loss in movable parts means that the speakers can reproduce very fine details, even at low sound levels.

Internal cables and crossover networks are an important but frequently-overlooked point. The internal cables and crossover networks in your DALI speakers are - like every component - high quality.

The loudspeaker units in your DALI speakers have been developed based on our ultimate sound requirements. This ensures that the most delicate details, such as a harp string or a puff of air, will be reproduced just as convincingly as the powerful sound of a car door slamming etc.

At DALI the cabinet is both a piece of furniture and the speaker's sound base, and is therefore constructed from acoustically-correct materials. As with all the other components, the cabinets undergo a rigorous final inspection, guaranteeing that only perfect speakers are labeled with the DALI name.

Specifications

There are countless methods measuring speakers. However, none of them actually represent how a speaker really sounds. Only by listening it is possible to determine whether one speaker sounds better than another. So we only give you the specifications that are of real value to you. The DALI Concept range has been designed to reproduce music as honestly as possible - and we know we have succeeded. Enjoy your new speakers!

	Concept 1	Concept 2	Concept 6	Concept 8	Concept 10	Concept Center
Frequency Response [Hz]	62.5-22500	43-25000	41-25000	41-25000	35-25000	72-22500
Crossover Frequency [Hz]	3000	3000	3000	610 / 3500	600 / 3200	2500
Sensitivity (2,83V/1m.) [dB]	87	87	91	90	91	91
Nominal Impedance [Ohm]	8	8	8	6	6	8
Maximum SPL [dB]	106	108	110	112	114	109
Recommended Amp. Power (8 Ohm) [Watt]	25-100	40-120	30-150	40-160	50-200	25-120
High Frequency Driver	1 x 1"	1 x 1"	1 x 1"	1 x 1"	1 x 1"	1 x 1"
Midrange Driver	-	-	-	1 x 5"	1 x 6½"	-
Low Frequency Driver	1 x 5"	1 x 6½"	2 x 6½"	2 x 8"	2 x 10"	2 x 5"
Bass Reflex System Resonance [Hz]	58.5	42.5	38.0	36.5	29.5	55.0
Dimensions (H x W x D) [cm]	31x17x19	39x20x26	93x20x26	103x25x36	113x30x42	16x50x23
Dimensions (H x W x D) [inch]	12.2x6.7x7.5	15.4x7.9x10.2	36.5x7.9x10.1	40.5x9.8x14.0	44.4x11.8x16.3	6.3x19.7x8.9
Weight [kg]/[lb.]	4 / 8.8	6.3 / 13.9	14.2 / 31	25 / 55	34 / 75	6.6 / 14.5

	Concept SUB
Design Principle	Active, built-in amplifier and crossover, sealed enclosure
Low Frequency Driver	1 x 12" air-dried pulp cone
Amplifier	160 Watt RMS
Inputs	Stereo line signal input RCA, input impedance 20 kΩ LFE Line signal input RCA, input impedance 35 kΩ
Controls	Volume level, lowpass crossover 50 - 170 Hz, phase (0 or 180°)
Frequency Response	29-170 Hz
Maximum SPL	110 dB
Power Consumption	115/230 VAC, 50 - 60 Hz, 330 Watt
Dimensions (H x W x D) [cm]	41x38x42
Dimensions (H x W x D) [inch]	16.2x15.0x16.6
Weight [kg]/[lb.]	21.2/46.7