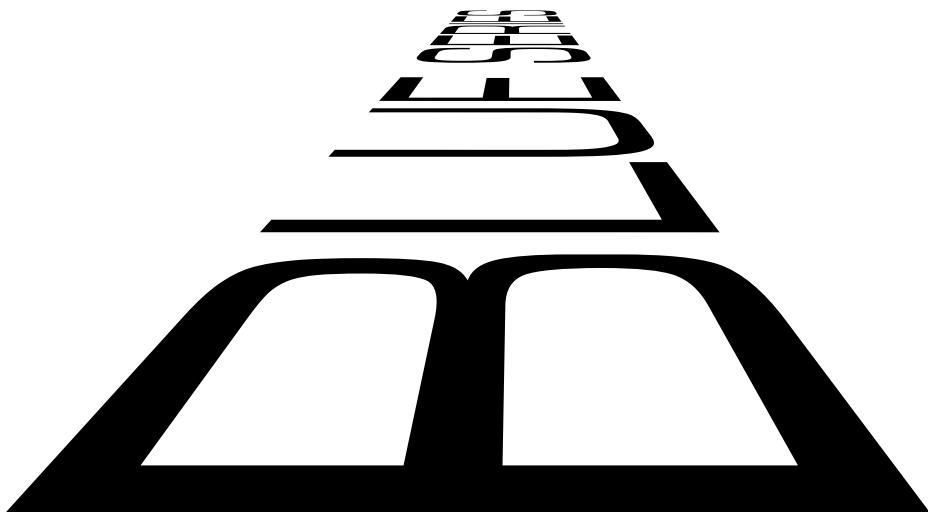


# OWNER'S MANUAL



PERFECT ILLUSION



Made in Denmark



## **Danish Audiophile Loudspeaker Industries**

DALI is a highly respected manufacturer of loudspeakers for music lovers around the world. The factory in Denmark controls all facilities of the loudspeakers production, including the development and design of cabinets, crossover components and custom drive units.

With firstclass equipment and know-how, it is possible for DALI to develop and produce loudspeakers according to the highest subjective and technical standards, while maintaining close tolerance limits.

DALI loudspeakers are developed subject to a wide range of technical parameters while never losing sight of the ultimate goal: to create loudspeakers capable of bringing all dimensions of music into your livingroom.

With this manual DALI wishes to ensure that you may enjoy the expertise and quality invested in your loudspeakers.

# UNPACKING

Most DALI models are delivered in pairs. The loudspeakers are typically marked (L) left or (R) right. Place the loudspeakers to the left and to the right as seen from the listening position.

The DALI R1000 however, are marked A or B. In this case please check the paragraph about placement.

For the floor standing models spikes are included in the packing - please check this before discarding the packing.

# MAINTENANCE

Use a dry soft piece of cloth (or a wrung up soft piece of cloth with a mild detergent) for wiping off the dust and grease from the loudspeaker's cabinet. Please be careful when cleaning the loudspeaker units because the diaphragms are very sensitive.

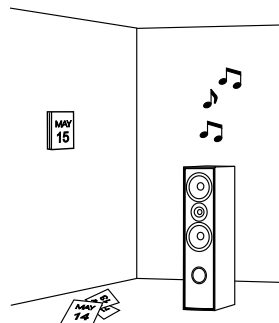
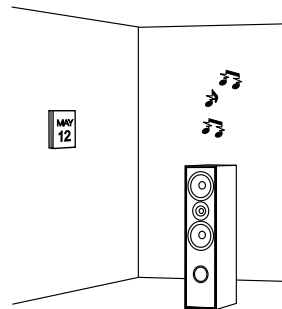
The grilles can be vacuum cleaned and if necessary wiped with a piece of wrung up fluff-free cloth with a mild detergent.

# BREAK-IN PERIOD

A loudspeaker is a mechanical device and requires a "break-in" period. During the first period of use you will therefore notice a gradual improvement of the sound quality of the loudspeakers.

Wear is not a problem for the DALI loudspeakers. Actually, regular use will only extend their life.

If the loudspeakers have not been used for quite some time, they may need a short break-in period again.



# CONNECTIONS

Always switch off your amplifier/receiver before changing any connections. Always use cables of the same type and of the same length for the left and right loudspeakers.

Always connect loudspeakers in the right side of the listening room to the output terminals marked (R) or (Right) on the amplifier and loudspeakers in the left side of the listening room to the output terminals marked (L) or (Left) on the amplifier.

Loudspeaker cables must always be connected in phase between amplifier and loudspeaker, that is from red plus (+) terminal to red plus (+) terminal and from black minus (-) terminal to black minus (-) terminal.

If not all loudspeakers are connected in phase to the stereo or surround system, you will experience weak bass and diffuse perspective.

Whether you are to connect two stereo loudspeakers or a whole surround system you must follow the same guidelines. In the diagram (fig. 1) it is shown how to connect a 5 channel surround system by using single-wiring (bi-wiring and bi-amping can be carried out according to the directions below).

A stereo amplifier has two pairs of output terminals called Right (R) and Left (L). You connect the right (R) and left (L) loudspeakers here. A surround amplifier also has outputs for stereo loudspeakers typically called "Front". Furthermore, the surround amplifier has outputs for "Center" and rear loudspeakers "Rear" or "Surround" (fig. 1). Please check with the manual for your surround amplifier.

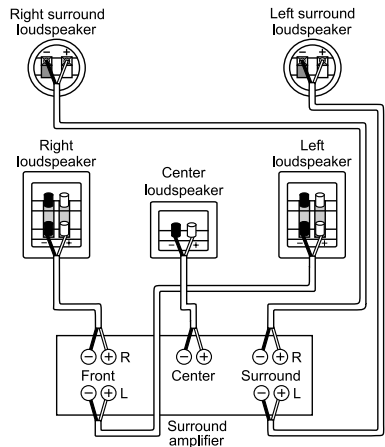


Fig. 1

Tighten all connections so that cables do not get loose (do not use tools). No loose strands of wires should stick out, as this may cause a short circuit and damage the amplifier. Re-tighten the connections now and then as the connections may get loose after a period of time.

Cable quality and construction does make a difference. You should therefore always buy cable of good quality to ensure the best possible sound quality.

## Single-wiring

By single-wiring one cable is connected from the amplifier's loudspeaker output to each single loudspeaker.

On those loudspeaker models having two terminal pairs, the straps delivered with the loudspeakers must be installed between the upper and lower terminal pair: one between the two red terminals and one between the two black terminals of the loudspeaker (fig. 2).

With the straps installed, it is recommended that you connect the cables from the amplifier to the upper terminal pair.

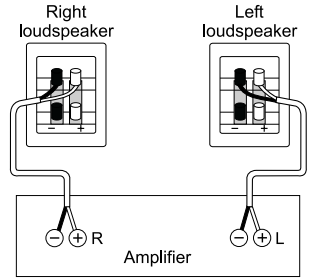


Fig. 2

## Bi-wiring and bi-amping

DALI recommends that you use bi-wiring or bi-amping on the loudspeaker models having two terminal pairs. Bi-wiring provides a more clean and undistorted sound. Bi-amping offers an even better improvement on these accounts as well as extended dynamics.

Before using bi-wiring or bi-amping, the metal straps must be removed. The lower terminal pair is connected to the bass section and the upper terminal pair is connected to the tweeter/midrange section.

### Bi-wiring

For bi-wiring (fig. 3) one cable is connected to the lower terminal pair and another cable to the upper terminal pair of the loudspeaker. These two cables are connected to the same output terminal on the amplifier.

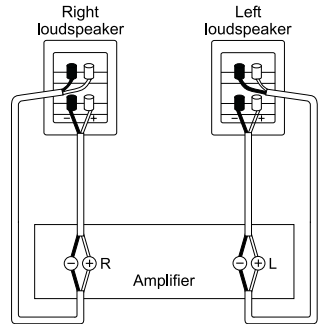


Fig. 3

### Bi-amping

For bi-amping (fig. 4) two identical stereo power amplifiers should be used. The output terminals of one of the amplifiers are connected to the lower terminal pair of the two loudspeakers and the output terminals of the other amplifier are connected to the upper terminal pair of the same two loudspeakers.

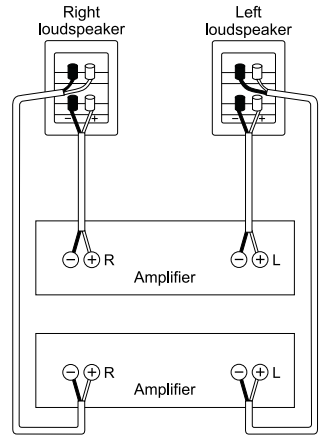


Fig. 4

# PLACEMENT

Even the slightest changes of a loudspeaker's placement in a room has big influence on the sound. The spacious experience and the tonal balance will for instance be effected by this. DALI therefore recommends that you experiment to find the optimum placement. Notice that your DALI loudspeakers should not be installed in places where they are exposed to direct sunlight. In this connection, here are a few but useful pieces about placement:

- Avoid objects between loudspeakers and listening position. Obstructions not letting the sound pass through directly to the listener may cause a wrong tonal balance and influence the spacious experience negatively.
- By critical listening the distance between left (L) and right (R) front loudspeaker and between each of the loudspeakers and the central listening position should be the same in order to obtain the best possible spacious reproduction (fig. 5). DALI's Linear Directivity construction principle ensures that the tonal balance will be almost perfect, even when you are not listening from a central position.
- The loudspeaker models having a bass port on the rear panel should always be placed with free passage of air, otherwise, the bass level is reduced.
- As a groundrule, DALI front loudspeakers should not be angled towards the listening position, as the loudspeakers with Linear Directivity have been optimized for perfect horizontal frequency response. The use of angling can only be recommended if the loudspeakers have to be placed extremely far from each other.
- The center loudspeaker C1000 is especially designed to be placed close to the large surface of the TV screen and you can freely choose between a placement either over or under the screen (fig. 6). The front of the loudspeaker should be flush with the screen.
- The rear loudspeaker R1000 is designed to hang on a wall at a distance of minimum 1,5 meter above the floor (fig. 7).

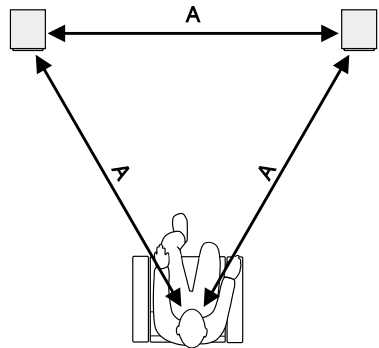


Fig. 5

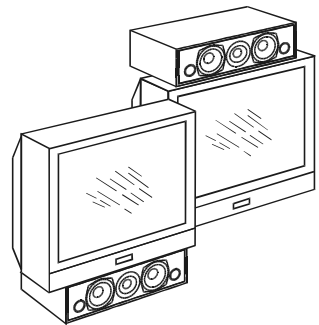


Fig. 6

A placement on the side wall and with R1000 placed somewhat behind the listening position is recommended (fig. 8). The bottom tweeter unit in R1000 should be turned towards the listening position. Please notice that in case of side wall placement the R1000 marked A on the rear side channel and B for the right rear channel (with rear wall placement this is the other way around). This way you ensure an angling towards the listening position.

- The surround sound experience is ideal if the loudspeakers are placed symmetrically around a central listening position (fig. 7). Spacious experience of the sound can definitely be present away from this central listening position. However, it will be less accurate.
- Spend some time setting up the surround amplifier correctly with e.g. the correct level in all channels. Surround amplifiers with adjustment of delay times or distances between listening position and loudspeakers should be set up thoroughly by giving the amplifier the exact informations. Follow the guidelines from you amplifier manufacturer, the process takes time but it pays off in form of a perfect spacious sound scenario.

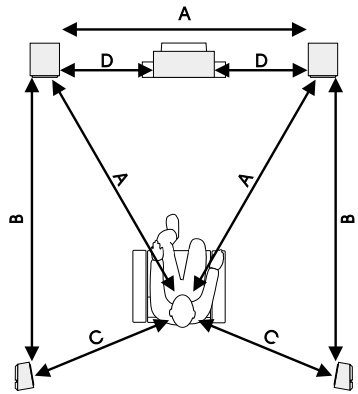


Fig. 7

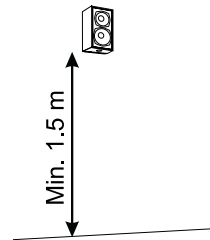


Fig. 8

The stand/bookcase loudspeakers DALI Blue 1001 and 2002 should be placed and used in accordance with the same principles as mentioned above but we may add some pieces of good advice:

- In order to achieve the best possible spacious reproduction, the loudspeakers should be placed so that from the listening position you can just see across the top plate. This can be done by tilting the loudspeaker (fig. 9).
- It is possible to place DALI Blue 1001 and 2002 high as e.g. in a bookcase. However, the loudspeakers should then be turned with the tweeter down towards the listening position in order to utilize the built-in qualities handling spacious reproduction (fig. 10). The DALI logo on the front grille can be rotated so that it may be read properly.

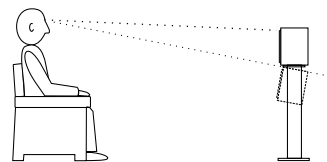


Fig. 9

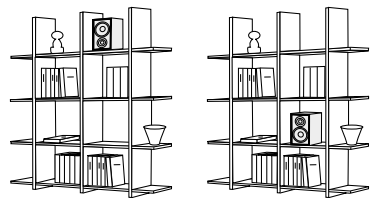


Fig. 10

# THE LISTENING ROOM

All listening rooms have their particular unique acoustic properties which has a big influence on how we experience the sound from the loudspeakers. Basically, it has to do with the way the room embraces the sound and then gets rid of it again, and you can do something about that yourself.

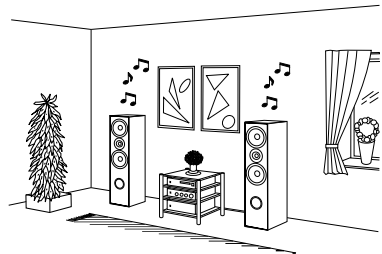
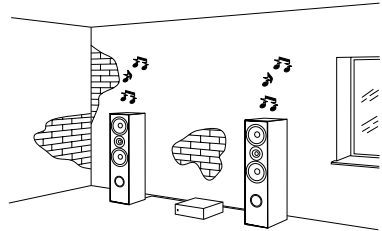
When loudspeakers are playing in a room, you will not only hear the sound directly, but also a number of reflections from the floor, walls and the ceiling. These unwanted reflections can be dampened by things in the room such as e.g. book cases, plants, carpets, furniture etc.

If the sound is on the bright side, soft things such as curtains, wall-to-wall carpets or spread carpets can help. If the living room has big window surfaces, closing the curtains can help.

The quality and amount of deep bass depends on the size and shape of the room. The bass is accentuated by placing the loudspeakers near a side or a rear wall. A corner position normally accentuates the bass even more, but it also increases the reflections from the walls. You should therefore experiment with different kinds of placements in order to find the sound balance you like best.

As a ground rule, you should avoid big, smooth reflecting surfaces close to the loudspeakers, as the reflections here will occur as phantom loudspeakers and will in particular destroy the spacious reproduction aspects. A plant, a wall carpet, or just a carpet on the floor in front of the loudspeakers can have a surprisingly big effect on the experienced precision of the soundstage.

Once you have found the best position you should make sure that the loudspeakers are standing firmly and do not rock. As for the floor standing models it is recommended that the spikes delivered with the loudspeakers are mounted in the bottom of the cabinet. On the stand/bookcase models, attach the rubber feet included.



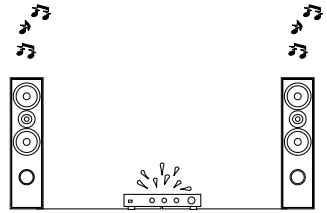


# POWER AND SOUND PRESSURE LEVEL

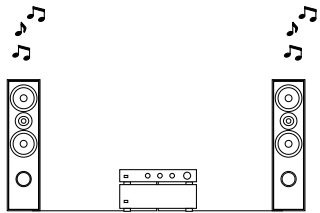
A loudspeaker's ability to "play loud" depends very much on the signal it has to reproduce. It will therefore be practically impossible to define an unambiguous maximum level so that the figure can be used in a sensible way.

In practice, however, you can say that a lot of pure, undistorted power from a big amplifier is better than a distorted signal from a small amplifier pushed beyond its limits. The signal from a distorting (clipping) amplifier contains far more high frequency information than an undistorted signal, which puts a heavy strain on the tweeter unit. More loudspeakers are therefore destroyed by small amplifiers working too hard than by big amplifiers practically idling.

By turning the tone controls up beyond the neutral position the strain on the loudspeakers and amplifier is increased considerably. Tone controls are meant for brushing up an old or a poor recording. DALI strongly recommends that you do not use these for compensating weaknesses in other parts of the system. Re-positioning the loudspeakers may be just what it takes to achieve a much more musical result.



Under normal circumstances an overload of the amplifier causes distortion (clipping) and reduced clarity of the sound. If you make sure never to turn up the volume beyond the point where the music remains pure and undistorted, usually you should experience no problems.



## DYNAMICS

The focus is often solely put on how loud a loudspeaker can play, which is a pity because some of the biggest experiences in music and movies sound are found in the most quiet passages. Dynamics is the ability to reproduce these fine differences very exact and then to explode in a turmoil of sounds without distortion.

DALI loudspeakers are able to reproduce these very fine details, partly because DALI use specially developed Low Loss loudspeaker units.

A system with good dynamics can reproduce a true picture of the quality and size of the music event, even at low levels.

Try listening at low levels. This can be a far more demanding test of the system's ability than playing flat out at full power. Background noises from the surroundings must of course be kept at an absolute minimum in order to experience the full dynamics of the system.

# USEFUL SPECIFICATIONS

A lot of more or less objective measurements of loudspeakers can be made. Unfortunately the specifications stated are hardly ever comparable, and it is even more rare that they tell you something about how the loudspeaker actually sounds.

DALI does not state the power handling of the loudspeakers, because this is a misleading and actually also not useable measurement. Instead, DALI states sensitivity and maximum sound pressure level.

A lot of people take it for granted that a 100 Watt loudspeaker can play louder than a 50 Watt loudspeaker. Maybe it can, but the reason is not that it can endure twice the power. The difference is the sensitivity telling you how much of the output is actually used for producing sound and how much for heat.

(It is like an electric bulb, where a 11Watt energy saving bulb glows with the same intensity as a 60 Watt ordinary bulb.)

Always remember: it is the sound that matters, and the best way to evaluate it is by using your ears.

<b>Model:</b>	<b>1001</b>	<b>2002</b>	<b>3003</b>	<b>5005</b>	<b>6006</b>	<b>8008</b>	<b>C1000</b>	<b>R1000</b>
Frequency response +/-3 dB [Hz]	69-24000	41-24000	42-24000	37-25000	39-25000	39-25000	63-24000	70-20000
Impedance [ohms]	4	4	4	4	4	4	4	4
Bass Reflex System Resonance [Hz]	Closed	40.0	43.5	36.5	43.0	32.5	58.5	75.0
Crossover frequency [Hz]	3000	3000	3100	3500	3000	600 & 3000	3000	3000
Recommended amplifier power (8 ohms) [W]	25 - 80	30 - 100	25 - 125	25 - 150	30 - 150	40 - 160	30 - 150	25 - 80
Sensitivity (@2,83V/1m) [dB]	87.0	88.0	90.5	91.5	91.5	91.0	88.5	87.0
Max. SPL [dB]	106	108	110	111	112	113	109	105
Placement	Stand/ shelf	Stand/ shelf	Floor	Floor	Floor	Floor	On top/ below TV	Wall
Recommended distance from rear wall [cm]			10 - 100	10 - 100	10 - 100	10 - 100		
Height [cm]	296	370	750	860	970	1.000	139	296
Width [cm]	177	215	177	215	215	252	475	177
Depth [cm]	227	247	249	249	342	372	250	155
Weight [kg/lbs]	4.2/9.3	5.4/11.9	8.8/19.4	13.3/29.3	18.5/40.8	22.0/48.5	5.7/12.6	2.9/6.4