
DALI 2b

Congratulations on your fine judgement. In its class the DALI 2b is one of the finest loudspeakers on the market. To get the maximum performance from DALI 2b we recommend that you read this manual before installing your new speakers.

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POSITIONING

DISTANCE FROM WALLS

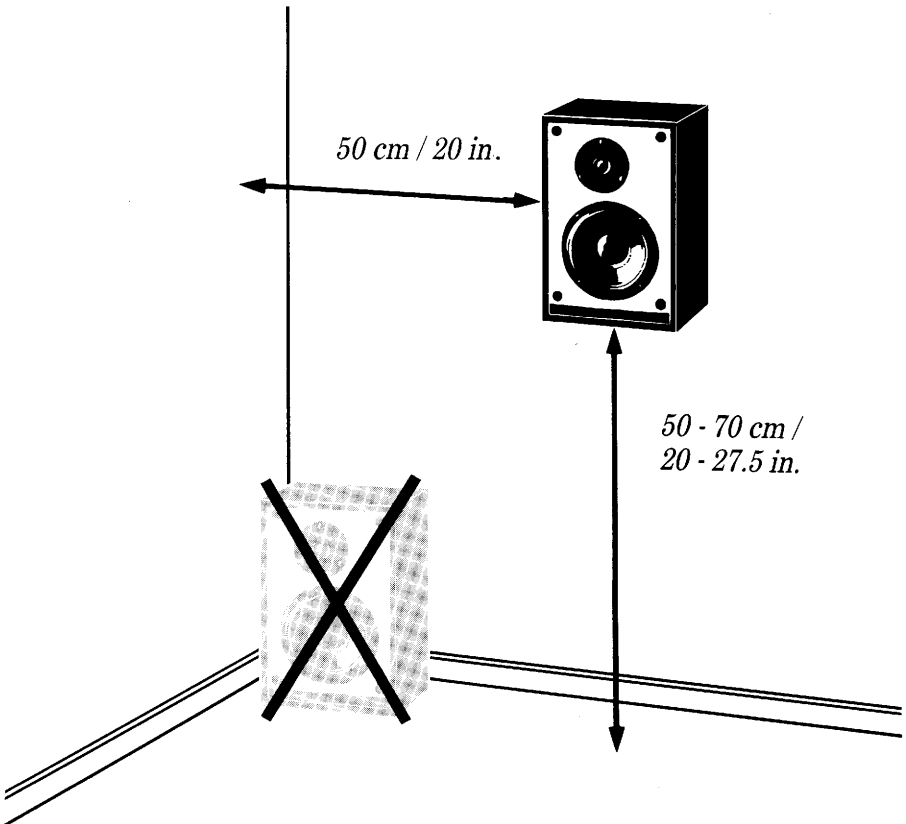
DALI 2b gives the best reproduction if placed on a speaker support of between 50 cm (20 in) and 70 cm (27.5 in). The system must be placed as close to the back wall as possible and approximately 50 cm (20 in) from the side walls.

Alternatively DALI 2b may be placed on the wall at a distance of between 50 cm (20 in) and 70 cm (27.5 in) from the floor.

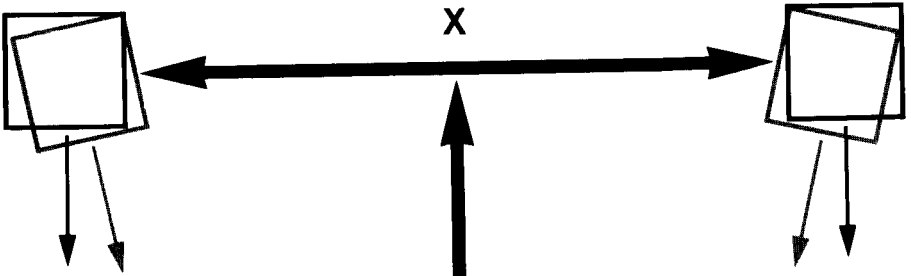
Or DALI 2b may be placed on a bookcase in a way allowing that the distance from the floor is kept within the range of 50 - 70 cm (20 - 27.5 in).

DALI 2b should be placed vertically.

Corner location should be avoided.



POSITIONING



EQUAL DISTANCE:

The distance from your normal listening position to both speakers should be equal. This distance should also equal the distance between both speakers.

ANGLING (TOE-IN):

Not normally necessary except where the walls are highly sound absorbent. In this case a slight angling may improve stereo imaging.

SIGNAL SOURCES

We recommend the use of the best speaker cables and, especially, a very good turntable or CD-player.

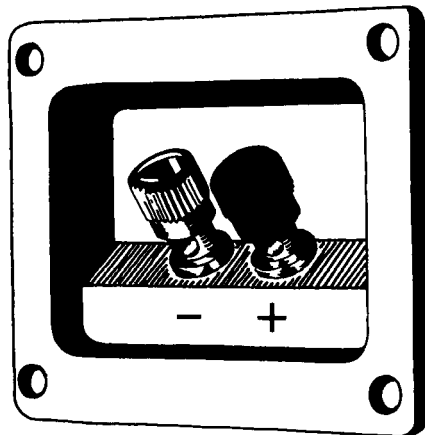
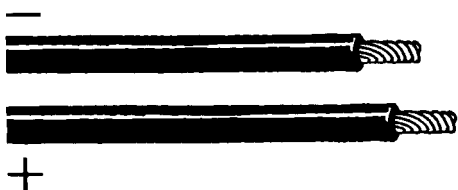
Limited sound reproduction is often caused by misadjustment and/or weak signal equipment.

CONNECTION

The gold-plated terminal on DALI 2b makes it possible to use banana plugs or heavy bared wires for amplifier connection.

IMPORTANT!

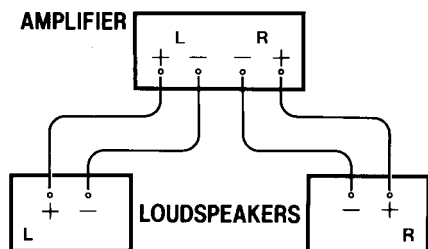
Turn off the amplifier when you are working at loudspeaker connection!



PHASING

To get true stereo-reproduction it is necessary that the loudspeakers are phased correctly. Always connect the amplifier + to the loudspeaker +, and the amplifier - to the loudspeaker -.

On most speaker cables one of the leads will have an indication making it easy to do this in the right way.



DAILY USE

The main point here is: enjoy the music! The only regular maintenance required is occasional cleaning of the surfaces.

WOOD:

Dust with cloth.

TEXTILE FRONT:

Brush with a clothes-brush or vacuum clean with a brush attachment.

Following the phenomenal reception by the hi-fi press and the audiophile consumer alike of the original DALI 2 and its successor, the DALI 2a, the DALI research and development team went back to the drawing board and to the listening room to find new ways of further refining this outstanding loudspeaker. Our efforts were rewarded, but only because we approached the DALI 2b armed with all the analytical tools usually reserved for expensive high-end products.

There are a number of common short-cuts which can be employed in order to achieve improved bass response, but, since the DALI 2a already had good deep bass extension, we decided to concentrate on improving the quality of its bass reproduction rather than extend its frequency range. We started with the finest pulp diaphragm available, made of long-fibre pulp which is injection-molded instead of stamped into the desired form. This process results in a diaphragm with good damping properties and an exceptionally smooth high frequency roll-off. The center dome is made of the same material for the best possible coupling to the diaphragm. When the bass driver is mounted in a sealed enclosure, the captive air mass acts as a spring, allowing the linear characteristics of the diaphragm surround and the spider to be optimized, rather than emphasizing their progressive damping properties. The diameter of the bass driver has been increased to 7", requiring reduced amplitude for the same volume velocity with a consequent reduction of distortion. In order to retain the low resonant frequency, the mass of the motor system has been increased. Although this would normally lead to a loss in sensitivity, we have in fact improved sensitivity 2dB, by incorporating a magnet which is 60% more powerful. With an unchanged power handling capability, the loudspeaker becomes an easier load for the amplifier and is capable of even greater sound pressure levels.

A newly developed 1" duraluminium metal dome covers the treble range. One of the many advantages of this material is its great rigidity which lends it perfect piston-like characteristics over the entire audible frequency range, unlike the more common cloth and synthetic domes which typically have peaks in the 12-16 kHz range. Of course, a metal dome also has its break-up modes, but its first structural resonant frequency is at 26,000 Hz, well outside the audible frequency range, where it cannot be excited by music signals. A metal dome is an excellent heat conductor which offers more efficient transfer of energy and improved heat dispersion when mounted directly on the voice coil and contributes greatly to the driver's increased power handling capability. Because the mechanical construction of a driver is every bit as important as its motor assembly, special attention has been paid to this aspect of the new tweeter. The entire construction is mounted in a diecast baffle of extremely rigid, glass-injected plastic to create a strong, stable, vibration-resistant unit. Five torque screws are employed to reinforce the interface between the driver and the cabinet. Torque screws, which are also used on the woofer, go all the way in to create a tightly-sealed connection between the driver and the enclosure.

The crossover network in the DALI 2b consists of carefully selected components chosen for their sonic excellence. The inductors are wound on a dust core for low DC resistance without the saturation problems encountered in a massive iron core. Polypropylene capacitors are employed because of their audibly and measurably superior performance in direct comparison with polyester and polycarbonate types. Because of their high price, polypropylene types are generally found only in esoteric audio equipment.

An important aspect of Dali design philosophy is to achieve even sound radiation - even at wide off-axis positions. This aspect of loudspeaker design has proven to be an area where listening tests correlate accurately with objective measurements. The basic objective is to realise the best possible integration of the speaker and the listening room - a speaker with even sound radiation will be less »room-sensitive« than one with uneven off-axis response. Conventional 2-way systems cannot achieve such characteristics due to the substantial size differences between bass and treble drivers.

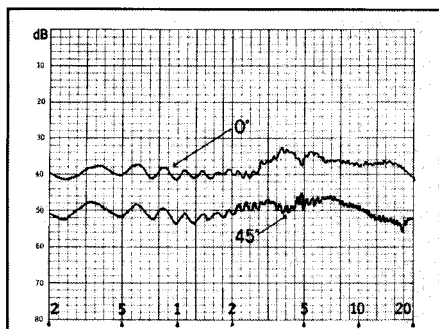
Dali 2b succeeds in this critical area largely due to the woofer diaphragm, whose soft material provides smooth roll-off while providing wide dispersion at these higher frequencies. This characteristic is aided by the asymmetrical crossover points. Combined with the abovementioned result is even and smooth radiation at extremely wide off-axis positions.

The cabinet is constructed to the same exacting standard as the largest DALI models, with a thick MDF baffle. MDF (Medium Density Fibreboard) offers greater mass and improved internal damping when compared to particle board. This is of crucial importance in the baffle, where MDF's special properties prevent the transmission of vibrations from the drivers to the rest of cabinet. The side and rear panels are of the finest quality chipboard with internal bracing as an integral part of the construction. The positioning of the braces has been precisely calculated using modal analysis to reveal the enclosure resonances. The cabinet is finished in the finest wood veneer, in keeping with the proud Danish tradition of furniture craftsmanship. In short, the speaker looks as good as it sounds.

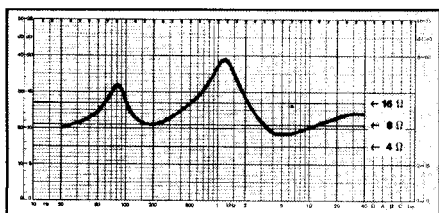
Three more things should be mentioned. The first is the damping material - special polyurethane foam chosen for a) the elimination of unwanted reflections out through the woofer diaphragm and b) to achieve a system Q of .7. The second is the grill frame, bevelled to a 60 degree angle inside to avoid diffraction effects which would otherwise cause a smearing of transient response. Dali 2b sounds equally as good with or without the grill in position. The last point of interest is the terminal block, built to accept banana plugs as well as heavy duty bare cables - recommended by us since heavy cables have more effect on sound than most people appreciate.

Nothing has been left to chance in the design of the DALI 2b. It will set the pace in its price range for a long time to come.

MEASUREMENTS



Frequency response on axis and 45° off axis.



Input impedance.

SPECIFICATIONS

Cabinet type	Closed
Drivers	
Woofer	17.5 cm (7")
Tweeter	1.9 cm (3/4"), metal dome
Crossover	Linear Directivity, 1st. quality components
Crossover frequency	3 KHz, asymmetrical
Impedance	8 ohms
System resonance	78 Hz
Frequency response ± 3 dB	60-25,000 Hz
Listening window ± 2 dB hor.	90°
ver.	+7°, -10°
Sensitivity (2.8 V)	91 dB/1m
Recommended amplifier	
power ratings	20 to 100 W/channel
Dimensions	
Height	35 cm (13 3/4")
Width	23 cm (9 1/8")
Depth	23.5 cm (9 1/4")
Net Weight	6 kg

Specifications are subject to change without notice in the course of product improvement.