

SURROUND



AUDIO

MANUAL

# *Piano*



[www.dali.dk](http://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 designed based on uncompromising design and sound requirements. Our ultra-modern factory in Denmark is fully equipped with facilities for production and development of quality speakers.

In the same building you will find the R&D department, where first-class equipment and know-how, built up over many years, ensure constant development and optimisation of existing and future 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 be set up and connected optimally. This manual contains our recommendations for setup, connection and maintenance.

**Enjoy!**



## Manual

Congratulations on the purchase of your new DALI Piano speakers. This manual contains information on setup, tuning and maintenance of Piano Noble, Agile, Ambient, Vocal and Forte subwoofer.

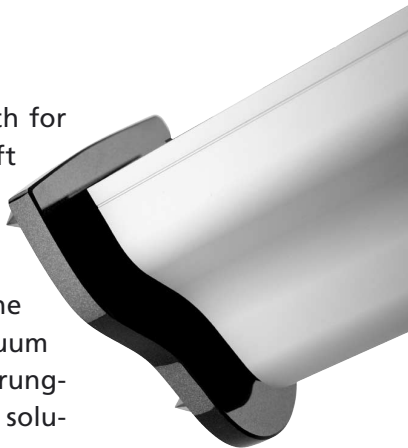
## Unpacking

The floor-standing DALI Piano speakers come with 4 cones to be mounted under the base. It is vital that these cones be positioned correctly to ensure the stability of the speakers. Please use the accompanying template, which can be found at one end of the packaging, for mounting the 4 self-adhesive cones.

## Maintenance

Please clean the housing using a soft, dry cloth for optimum results. If they are very dirty, use a soft cloth soaked in a mild universal cleaning solution and firmly wrung out.

Take great care when wiping off the speaker diaphragms, as these are highly sensitive. The fabric framework can be cleaned using a vacuum cleaner and may also be wiped using a well-wrung-out lint-free cloth and a mild universal cleaning solution.



## Piano Forte wall-mounted subwoofer

DALI strongly recommends that wall-mounting of Piano Forte be carried out by trained staff, who can ensure that the fitting is securely fastened to the wall. For wall-mounting, the fitting that accompanies the speakers must be used.

## 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

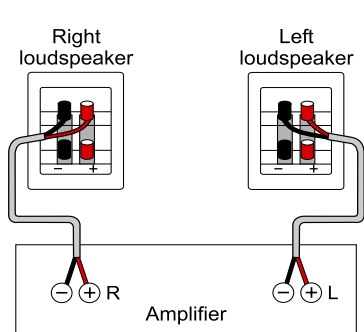
The connection to your amplifier is extremely important for your sound experience.

**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)

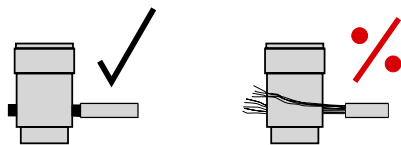


Fig. 2. Terminal connection

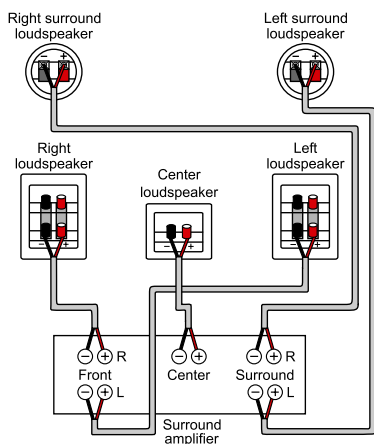


Fig. 3. Surround connection

Surround sound amplifiers have similar output terminals to stereo speakers, usually labelled "Front", "Centre" and "Rear". (Fig. 3)

For further information, please refer to the manual.

Using inferior cables for your new DALI speakers is just the same as putting cheap tyres on a thoroughbred racing car. Using cables from DALI, which have been specially designed, will ensure a perfect sound experience every time.



## Connecting Piano Forte



If supplementing your stereo or surround sound system with Piano Forte, the active subwoofer from the Piano range with active crossover network and amplifier, you have various connection options. You can choose from four options:

### Amplifier with separate subwoofer output terminal (Fig. 4)

If you have an amplifier with a separate subwoofer output terminal, you can connect this to the line input terminals on Piano Forte. Your front speakers are operated directly by the amplifier and so must not be connected to Piano Forte. Surround sound amplifiers generally have a separate subwoofer output terminal.

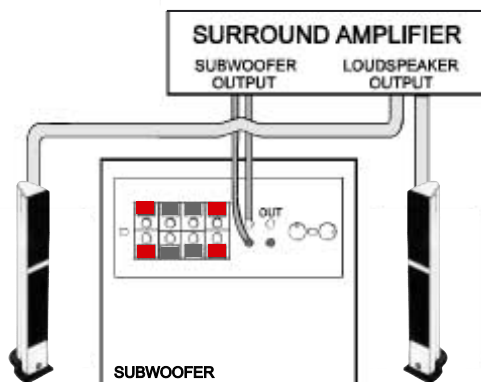


Fig. 4

### Amplifier without preamplifier/subwoofer output terminal

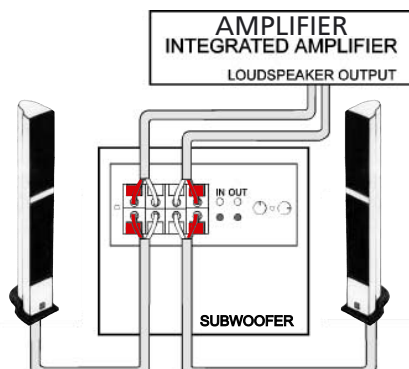


Fig. 5

You should only employ the passive solution if you do not have a preamplifier output terminal on your amplifier. Piano Forte is operated by the speaker signal from your amplifier/surround sound receiver.

Connect the front speakers to the speaker output terminals on Piano Forte

**Amplifier with separate preamplifier output terminal and detachable power amplifier (Fig. 6)**

Piano Forte is operated by a signal from your preamplifier/surround decoder. Piano Forte operates the front speakers via the built-in active crossover network and a separate power amplifier.

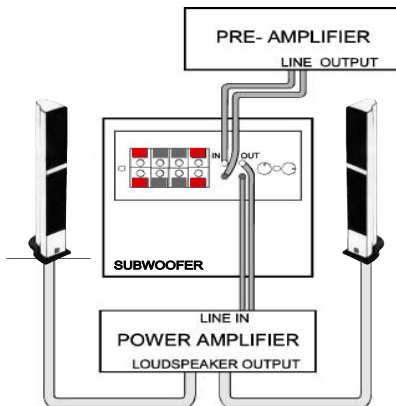


Fig. 6

**Amplifier without separate preamplifier output terminal and detachable power amplifier (Fig. 7)**

With this solution you have the option of using a more powerful power amplifier for the front speakers. The partially passive solution means that Piano Forte is operated by the speaker signal from your amplifier and converts this signal into a line signal that operates both the subwoofer and the power amplifier for the front speakers.

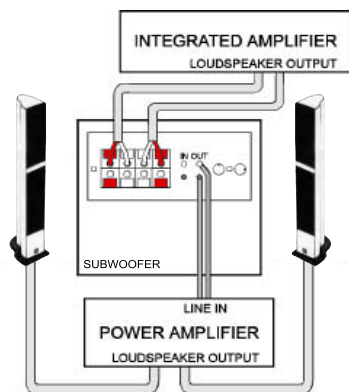
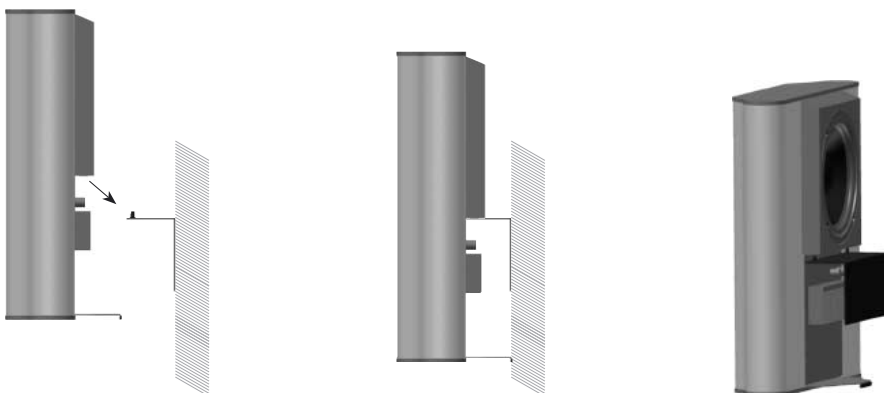


Fig. 7



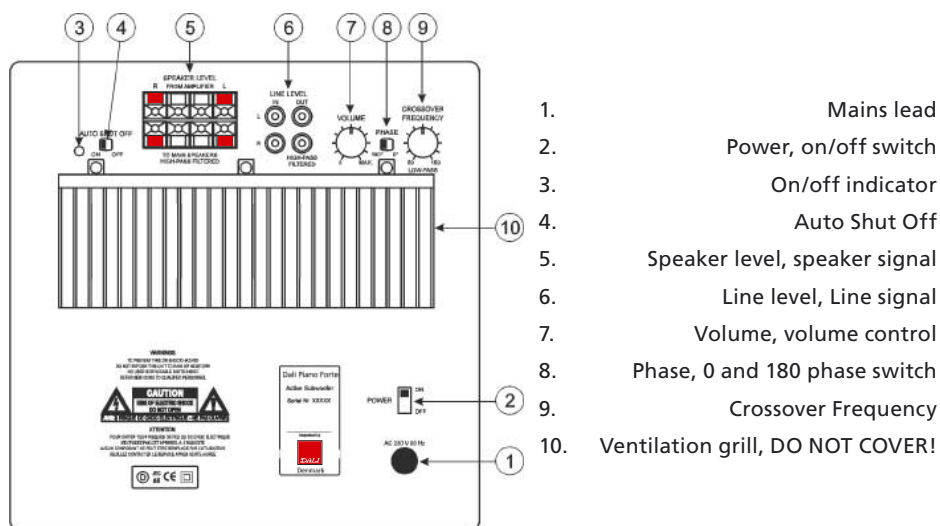
Piano Forte should be positioned with the speaker unit facing the wall.

In many cases one Piano Forte in one of the listed setups will provide a good solution, but the absolute perfect solution is two Piano Fortes in stereo setup. This solution should be connected in exactly the same way, but you only connect the left channel to one input terminal on the left Piano Forte and the right channel to one input terminal on the right Piano Forte. In other respects, follow the instructions given above - simply with separate channels. If necessary, obtain advice from your dealer.

## Tuning Piano Forte

Once you have chosen the connection you wish to use, you must begin the task of tuning the system. Following the procedure below will help you to achieve good results. Use a piece of music that you know well, ideally with rhythmic bass tone content such as bass drums, electric bass or similar.

Begin by setting "Volume" and "Crossover Frequency" to the central position ("12 o'clock"). Set the "Phase" change-over switch to position 180°, and set both "Auto Shut Off" and "Power" to the "ON" position.



Always switch off Piano Forte before adjusting any of the cables!



## Setting level

Adjust the volume on your Piano Forte so the bass sound matches the level from the front speakers. Adjust it so that you can hear the sound contribution from Piano Forte - but without the bass being too dominant. The bass should be stable and precise. If you set the volume too high, there is a risk of the subwoofer being overloaded, which would have a detrimental effect on the vital playback of mid-range tones from the front speakers.

## Choice of crossover frequency

Once the volume level is set you can tackle the equally important adjustment of the crossover between the front speakers and Piano Forte. You do this by adjusting the "Crossover Frequency" up and down until you can hear the bass running evenly and with no gaps. You may need to readjust the volume slightly for this adjustment.

## Phase setting

In most cases you will achieve the best results with "Phase" set to 180°. However, this will depend on the front speakers you are using. Once again, your ears must be the judge. Use the trial-and-error method for both settings - and you may also want to try readjusting the volume and crossover frequency. In all cases it is a good idea to listen to the system for several days and readjust as required. The same setting will not always be ideal for both surround sound and 2-channel stereo. So it is useful to make a note of your preferred settings for each type.

The "Auto Shut Off" function will set Piano Forte to stand-by mode after approximately 15 minutes with no signal to the input terminal. When Piano Forte 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 off the system completely when it is not going to be in use for long periods. **When making any changes to connections, always shut down the system completely.**

## Overloading

When playing at a loud volume, listen out for possible dissonance and distortion. Piano Forte is protected against temporary overloading, but if you often play at a loud volume, you should use a permanent lower setting for the volume level on Piano Forte. If you position Piano Forte in a corner, this will increase the bass level. For more information on this, see "Tuning Piano Forte".

## Positioning

Once you have connected up your new Piano speakers, you need to begin the process of finding the optimum position for your speakers in relation to your listening position - and adjusting the surround sound amplifier, if applicable. It is worth spending a little time experimenting, as the correct setup 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. If you have surround sound, the distance between all the speakers should be symmetrically identical (Fig. 8).

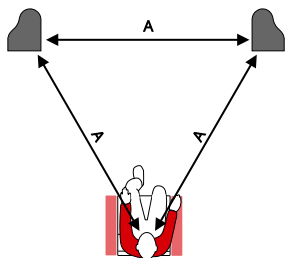


Fig. 8. Stereo positioning

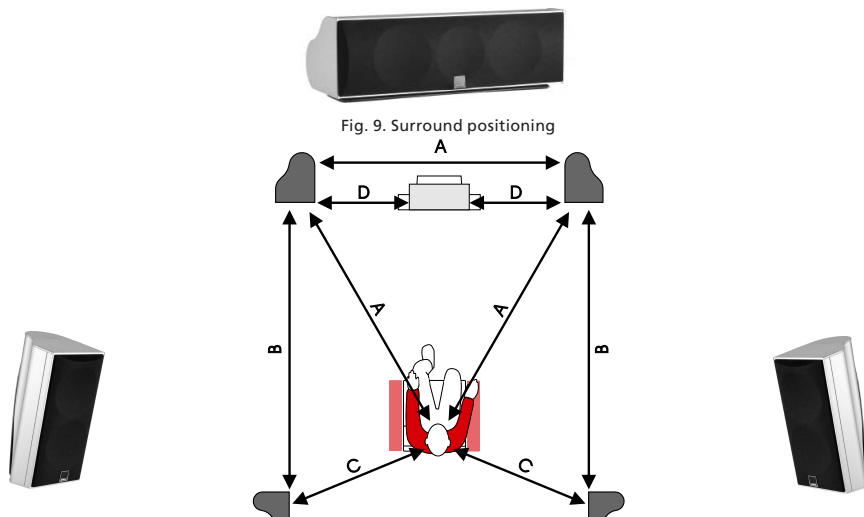
DALI Piano has been designed using the Linear Directivity principle, which means that the tonal balance will be perfect, even if your listening position is not quite central. So, it is not necessary to angle the front speakers towards your listening position, unless the front speakers are very far apart.

The central Piano Vocal speaker has been specially designed to be positioned close to the large surface of the TV screen - and can be placed either above or below the screen, as required. Whether you position the central speaker above or below your TV, we recommend having the front of the speaker in line with the front of the TV screen.

The rear Piano Ambient speakers are designed to be positioned at least 1.5 metres off the floor, ideally on a side wall slightly behind the listening position. If positioning them on a side wall, please note that the speaker marked "A" on the back is intended for the left rear channel and the one marked "B" for the right rear channel. If positioning the rear speakers on a back wall, it is the other way around.

For the best surround sound experience, you need to be in a central listening position, but, of course, you can still enjoy surround sound, even if you are not sitting in the exact ideal position. (Fig. 9)

As mentioned, it is well worthwhile to spend some time adjusting your surround sound amplifier for optimum performance. You can do this by adjusting delay times, distance between speakers and listening position etc. Follow the instructions in the manual for your surround sound amplifier carefully - and you will achieve a perfect spatial sound image.



## 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.

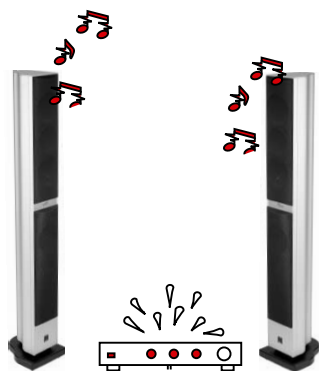
As a general guide, avoid large, hard reflective surfaces immediately around the speakers, as these will act as a "ghost speaker" and ruin the spatial perspective of the sound image. Try placing a wall hanging behind the speakers, laying a rug in front or placing a large plant at the side - it's surprising how much this can affect the precision of the sound image.

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 cones. If you wish to mount Piano Forte on the wall, we strongly recommend having the accompanying bracket mounted on the wall by trained staff.

## 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 treble unit. 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.

## Safety



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



### 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.
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 example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet, that may impede the flow of air through the ventilation openings.
9. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances that produce heat.
10. Power Sources - The appliance should be connected to a power supply only of the type described 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.

The ventilation grill on Piano Forte must not be covered.

## Specifications

There are countless methods for evaluating speakers. However, none of them actually represent how a speaker really sounds. It is up to the individual to decide whether one speaker sounds better than another. So we only give you the specifications that are of real value to you. The DALI Piano range has been designed to reproduce music as honestly as possible - and we know we have succeeded. Enjoy your new speakers!

Model:	NOBLE	AGILE	VOCAL	AMBIENT
Frequency response +/-3dB (Hz)	41 - 24000	47 - 24000	78 - 24000	65 - 24000
Impedance (ohms)	4	4	4	4
Bass Reflex System Resonance (Hz)	45,5	54	-	-
Crossover frequency (Hz)	2800	2600	2800	2300
Recommended amp. (8 ohm)(W)	40-160	40-150	40-150	40-80
Sensivity (@2.83V/1m) (dB)	89.5	87	89	87
Max. SPL (dB)	109	106	109	105
Placement	Floor	Floor	On top/ below TV	Wall
Rec. distance from rear wall (cm)	10-80	10-80	-	-
Height (cm)	116.0	99.0	13.7	28.7
Width (cm)	19.2	18.2	40.8	12.6
Depth (cm)	23.2	21.1	17.9	18.6
Weight (kg/lbs)	11.3/24.9	10.0/22.0	4.6/10.1	2.9/6.4

Model:	Piano Forte subwoofer
Design Principle	Active (built-in amplifier and crossover) Sealed enclosure
Basenhed	10", Air-dried pulp cone, ventilated magnet system
Forstærker	120 watt RMS
Inputs	Fully balanced stereo speaker level, Input impedance: 1.0 kohm Stereo line level RCA phono, Input impedance: 15 kohm Automatic summation of all inputs
Outputs	Fully balanced stereo speaker level, 1st order highpass crossover Stereo line level, 2nd order 150 Hz highpass crossover, Output imp. 200 ohm
Controls	Volume level, Lowpass crossover (50-150 Hz), Phase (0° or 180°)
Frequency response	29 - 150 Hz (variable crossover)
Max. SPL	109 dB
Power consumption	230 VAC 50 - 60 Hz
Finish/dimensions	Aluminium, Height 56.6 cm, Width 57.2 cm, Depth 21.2 cm
Weight	19 kg/42 lbs

## The DALI Piano range

The Piano range consists of two floor-standing models, Piano Noble and Agile, a wall-mounted rear speaker, Piano Ambient, the central speaker, Piano Vocal, and the unique subwoofer, Piano Forte.



## The right accessories



*Any chain is only as strong as its weakest link.* This is particularly relevant when it comes to Hi-Fi systems. Transferring the fine signal from a perfect amplifier to perfect speakers naturally requires perfect cables.

Original DALI signal and speaker cables are available from your dealer - or why not buy the ultimate product:

The exceptional WASATCH cables - totally uncompromising in all respects. The very best for your system and your ears!

