

# DALI KATCH

WHITEPAPER



IN ADMIRATION OF MUSIC



# INTRODUCTION

The enjoyment of music is something that we want you to experience everywhere. DALI has for more than 30 years made speakers for the ultimate in audio experiences within the home. With the DALI KATCH we now extend the DALI sound experience to more casual listening situations. Easy to place almost anywhere including outdoors the DALI KATCH will bring new musical pleasure to your daily listen needs.

DALI KATCH is a battery powered Bluetooth speaker. Wrapped in an elegantly rounded solid housing the specially developed drivers deliver the audio signal from the internal digital amplifier. Easily connectable via Bluetooth, and the possibility to enjoy the improved audio quality of Apt-X if supported. The DALI KATCH also support analogue input via mini-jack. Knowing that you will bring you DALI

KATCH on the road we included a USB charge output to keep you phone or tablet charged while you rock your beats.

Available in three different colour schemes, Dark Shadow, Cloud Gray and Green Moss, the DALI KATCH will blend elegantly into almost any environment. The integrated leather carry strap makes it easy and comfortable to bring along the DALI KATCH and the durable design makes it safe to do so.

At DALI we are truly proud to bring the DALI sound to even more music experiences and it is with great pride we introduce the DALI KATCH.

DALI KATCH  
Dark Shadow

DALI KATCH brings  
DALI's audio DNA  
to the compact  
Bluetooth speaker  
segment





Designed by DALI with  
a clear focus on the  
target user group and  
ease of use

DALI KATCH  
Green Moss

## DESIGN

From the onset it was decided to incorporate end-user input to deliver the right visual design style for the DALI KATCH. Reaching out to end-users, in the target groups, around the world, one design style very quickly came into focus. With an overwhelming margin the current design was selected. Getting the visual design right is not just about shape, but just as much about the right colours. The current colour schemes were derived in cooperation with some of the best trend researchers available. They helped select the perfect combination of colours for the different end-user groups.

Another very important part of the design was a lot more practical. The DALI KATCH is a portable speaker and need to invite to be picked up. The shape, size and weight is all important factors, but by adding a carrying strap to the design two things were accomplished. Firstly, it sends a clear message to, "pick me up". Secondly, it introduces an organic element into the visual design adding texture and soft touch.



## CABINET

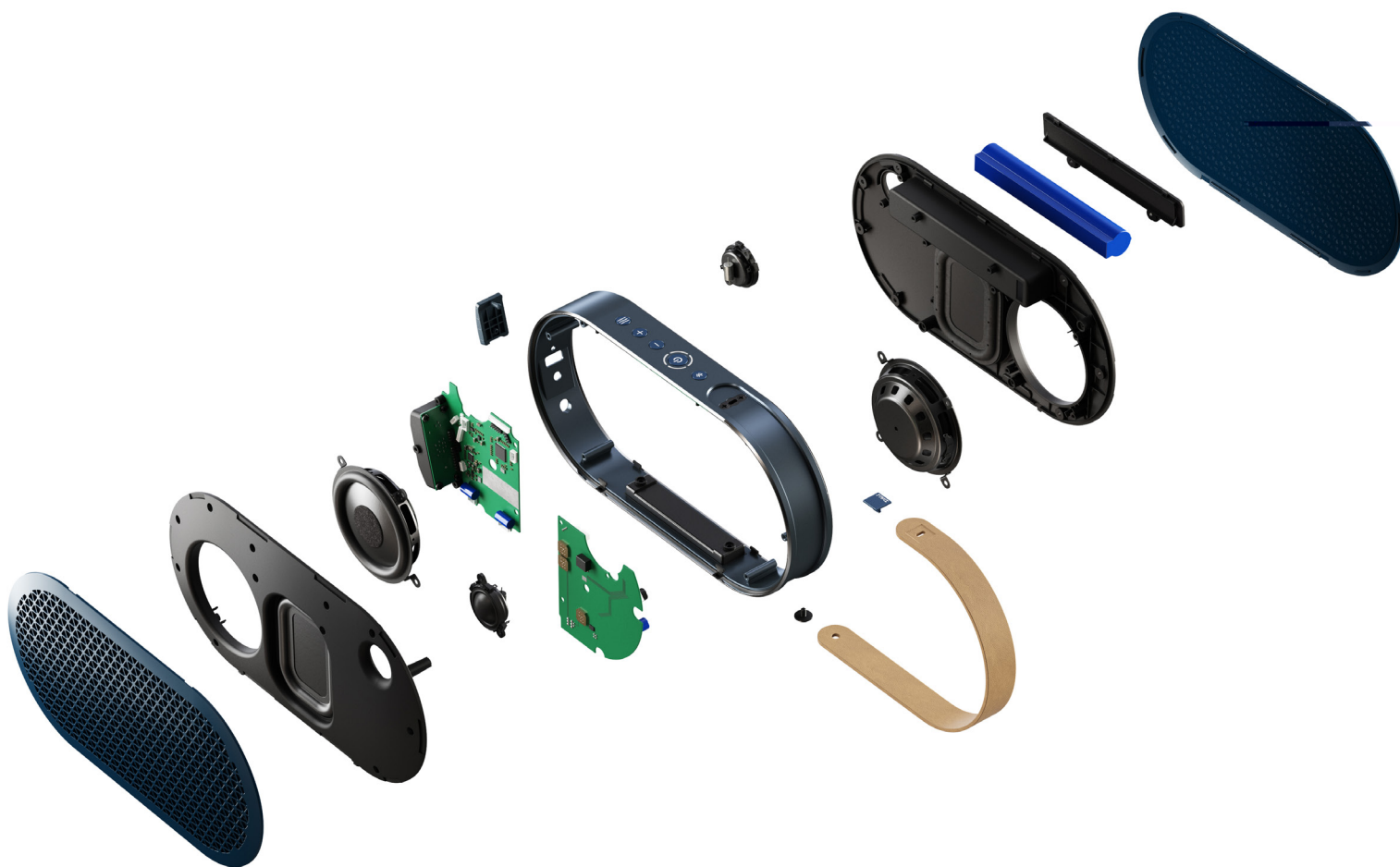
DALI KATCH had to be compact enough to be easily carried or brought along, but at the same time have enough inner volume to reproduce a realistic musical experience. Drawing on our knowledge from the FAZON series, an extruded aluminium body was used in collaboration with front and rear baffles made from an ABS+PC compound. Utilising the great strength of aluminium allowed our design team to design a cabinet with a much thinner structure which maximises the precious

internal volume without the loss of the required rigidity. Matching the aluminium cabinet with a composite front and rear baffle ensures the perfect mix of materials to remove any potential internal resonance and ensures that the cabinet does not add any unwanted acoustic energy to the sound generated by the drivers. The baffles are secured to the aluminium body by screws and airtight EVA gasket, which ensures a tight and vibration free connection to the main cabinet.

The large soft dome tweeter and the aluminium woofer work perfectly together to generate a clear and detailed audio signal







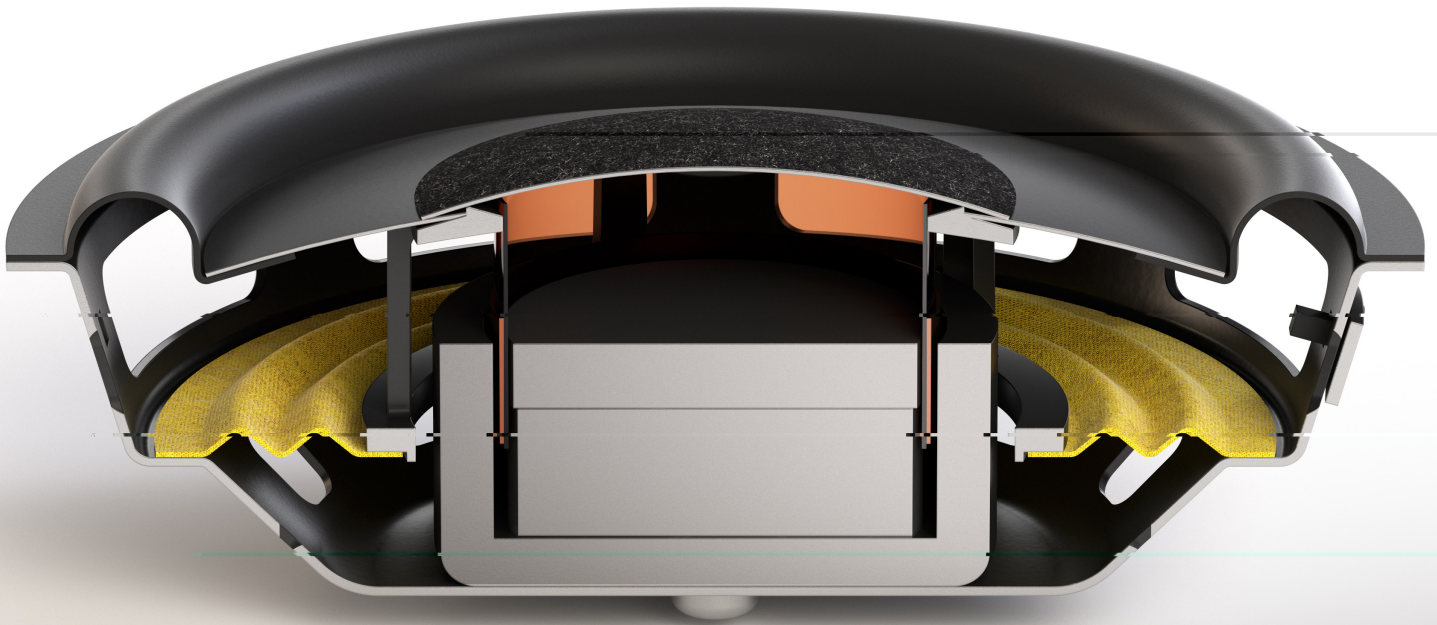
Placing drivers on both sides of the DALI KATCH helps the audio signal integrates with the entire room

## DRIVERS

Bringing the DALI sound to the DALI KATCH was all about selecting, designing and using the right parts for the job. The sound from the DALI KATCH is rendered by a 2-way stereo speaker system with a large passive membrane working in the otherwise closed cabinet as bass reflex for the woofer. By placing drivers on both sides of the DALI KATCH, the audio signal integrates with the entire room for an immersive audio experience. Two 21 mm light weight soft dome tweeters bring the high-end and upper mid-range to life, and a pair of 3.5" aluminium woofers take over from around 2300 Hz to bring clear and well timed low mid-range and bass. Together, the two sets of drivers in collaboration with the passive unit, renders a clean, detailed and coherent audio signal above anything heard before in a portable Bluetooth speaker.

## TWEETER

Based upon a very strong neodymium magnet, the 21 mm light weight soft dome is extremely compact but at the same time retains a large membrane area. Both factors are extremely important in the DALI KATCH. The compact structure of the soft dome tweeter helps keeps the inner volume of the cabinet as large as possible. The large surface area of the soft dome ensures that it will reach deep down into the mid-range frequency area without any break up or drops offs, and integrates seamlessly with the woofer in that all important mid-range frequency range. The strong neodymium magnet delivers high power handling and a high sensitivity to the soft dome tweeter, bringing detail, accuracy and speed to the high frequencies.



The specially designed shallow 3.5" woofer retains the maximum excursion of a traditional sized woofer

## WOOFER

Designing a bass mid-range woofer with long excursion for a shallow cabinet sounds like a contradiction in terms. None the less, this was the task of the acoustics team. Using a specially designed chassis, inverted membrane and special spider suspension, we managed to get the same maximum excursion as a similar sized traditional woofer. Every extra millimetre gained in internal depth is turned into true low frequency reproduction, letting the woofer generate bass with only light help from the DSP.

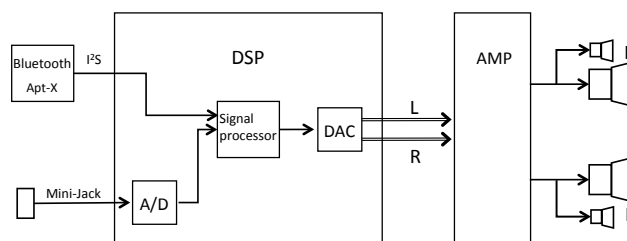
Despite the limited baffle surface area, the woofer membrane is a relatively large 3.5". The outward turned cone is constructed from an aluminium membrane with a soft fabric dust cap. The stiff aluminium cone allows the woofer to move as much air as possible even at mid-range frequencies, and the combination of aluminium and fabric works to lower surface resonances, retaining detail and clarity.

Select one of the two audio profiles for superior audio reproduction regardless of placement



## AMPLIFIER

Driving the DALI KATCH is a Class-D amplifier able to deliver 2 x 25 watts. Connected to the amplifier power stage is an advanced DSP that handles the Bluetooth and analogue inputs. The DSP's built-in DAC delivers a balanced stereo signal to the amplifier stage. This keeps the amplifier design simple, but effective, transforming up to 95% of the battery power into output power. The amplified audio signal is sent unfiltered to the woofer and via a simple crossover to the tweeter.



## DSP

Knowing the strengths of the amplifier and DSP, and having designed the cabinet from the ground up gave DALI the best possible opportunity to design the driver to perfectly match the conditions they work within. This knowledge allowed us to design a woofer that, on its own, can deliver an impressive amount of bass. But even the best designed woofer needs help when placed in the conditions the DALI KATCH has to offer. The 0.8 litre of total air volume in the cabinet is a very small volume to work in. But having had all this in mind when designing all the parts for the loudspeaker, the DSP can now be used to maximise the utilization of every driver helping to deliver a surprisingly linear frequency response. Letting the DSP add or subtract where help is needed and keeping hands off where

the drivers perform perfectly themselves, all in the pursuit of a true frequency range reproduction in line with what DALI speakers are known for.

The DALI KATCH is a portable speaker and will be used in a large variation of situations. To ensure the best possible result in all scenarios, the DALI KATCH has two audio profiles. One is optimized for a linear more neutral frequency response, perfect for most listening situations. The other has added warmth and will work perfectly when playing larger rooms or the music need just that little extra.



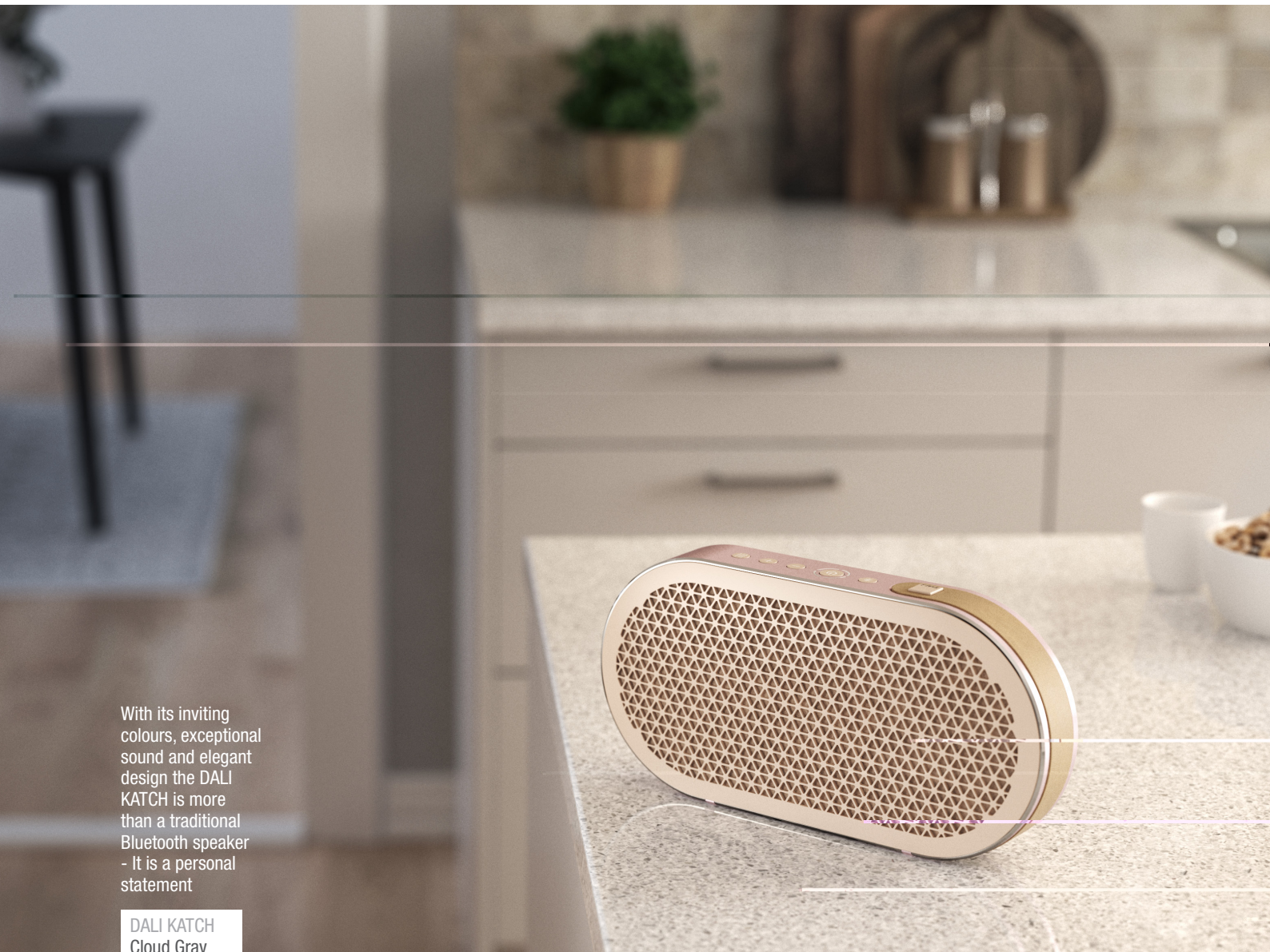
## CONNECTIONS

Getting music to the DALI KATCH is as easy as making a Bluetooth connection. Connect traditionally or use NFC for a quick effortless connection. The built-in Bluetooth 4.0 receiver will accept Apt-X connections if the source device is capable. As an alternative option, the DALI KATCH has a stereo mini-jack input, making it easy to connect non Bluetooth devices. The mini-jack input is auto-sensing eliminating the need for additional button presses to play music. Pressing the Bluetooth button with the mini-jack connected will allow for the possibility to toggle between the mini-jack input and Bluetooth. Alongside the mini-jack input is a USB charge connector and the power connector. The USB charge connector allows you to charge your music device when on the move, but also to drive a Chromecast Audio dongle for easy home network integration.

## BATTERY

The internal Li-Ion battery has a total capacity of 2600 mAh, letting the DALI KATCH play at normal volume for as long as 24 hours. The battery is exchangeable, with all components in the battery manufactured by a quality battery brand manufacturer.





With its inviting colours, exceptional sound and elegant design the DALI KATCH is more than a traditional Bluetooth speaker - It is a personal statement

DALI KATCH  
Cloud Gray

## APPLICATION

The need for quality sound even in very compact portable speakers is constantly growing. With a long and acknowledged history of delivering a quality audio experience in every other field of personal audio, we knew that DALI could bring a new level of music listening pleasure to the portable segment. We believe that we have done just that with the DALI KATCH.

Striking the perfect balance between portability and enough inner volume to create high quality sound, the DALI KATCH is at home both inside the house and on the road. Having drivers on both sides enables the DALI KATCH to generate truly immersive sound. Reflecting off the back wall if placed on a shelf or table top, or freely into the room if placed openly on a table.

The durable and rounded design makes it easy to bring along the DALI KATCH in a suitcase or backpack when leaving home, and using the included high quality travel bag offers added protection. The built in battery will deliver over 24 hours of continued use, more than enough for that weekend away or the long summer nights on the terrace.

The DALI KATCH is not just any portable speaker. With its inviting colours, exceptional sound and elegant design it is a personal statement. It offers you the luxury of a true DALI sound experience in a stylish, compact and portable package.

# TECHNICAL SPECIFICATIONS

Frequency Range (+/-3 dB) [Hz]	49 - 23,000
Maximum SPL [dB]	95
Crossover Frequency [Hz]	2300
High Frequency Driver	2 x 21 mm Soft Textile Dome
Low Frequency Driver	2 x 3.5" Aluminium Cone With Cloth Cap
Low Frequency Passive Driver	2 x 73 x 52 mm Steel Cone
Enclosure Type	Closed Box With Dual Passive Radiators
Power Output [watt]	2 x 25
Connection input(s)	3.5 mm mini jack Stereo
Wireless Input(s)	Bluetooth™ 4.0 Apt-X
Connection output(s)	USB Charge (5V/1A)
Amplifier Type	Fully digital Class D
Battery Type	Li-Ion 2600 mAh
Battery Playback Time	Up to 24 hours
Battery Charge Time	Up to 2 hours
Recommended Placement	Shelf
	Table
	Hanging From Strap
Functions	Dual Sound Mode (Clear/Warm)
	Stereo Pair Mode
	Power On/Off
	Source Select
	Standby (Auto Power) Off
	Volume
	NFC Pairing
Standby Power Consumption [W]	<0,3 (Mains Adapter)
Dimensions (HxWxD) [mm]	138 x 268.5 x 47
Weight [kg]	1.1
Accessories Included	Universal Mains Adapter (1.75 m wire length)
	Quick Start Guide
	Mains Adapter Plugs
	Travel Bag
Finish	Dark Shadow
	Green Moss
	Cloud Gray