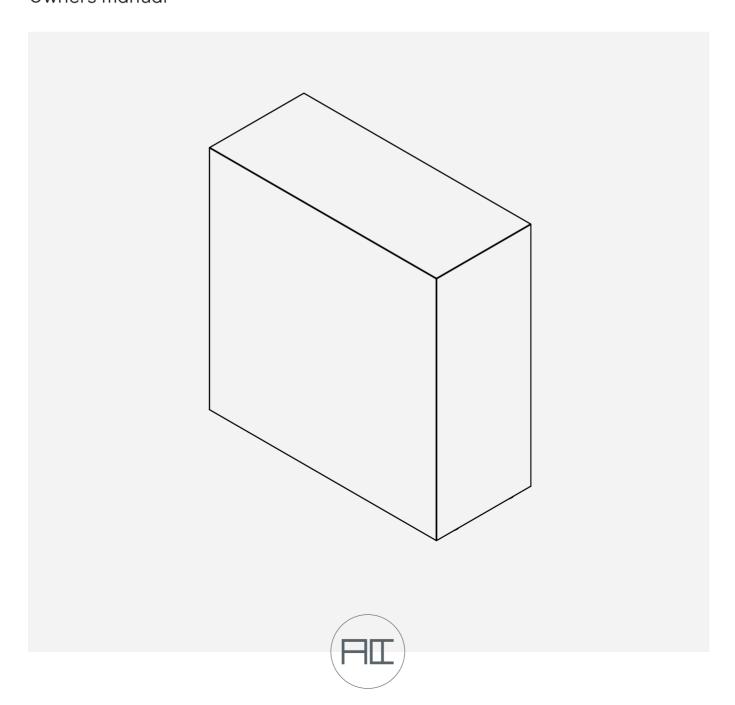
Artcoustic

SUBWOOFER SERIES

Owners manual



WELCOME TO THE WORLD OF ARTCOUSTIC

Congratulations with the purchase of your Artcoustic Subwoofer.

The Artcoustic Subwoofer Series has an efficient passive double-tuned bandpass design, producing a fast, dynamic bass response and exceptional musical authority, easily integrated into any small to large Artcoustic system.

The Artcoustic Subwoofer Series is designed with a low resonance frequency 4th order bandpass design, which ensures powerful and clean bass.

The Artcoustic Subwoofer Series fits well into a remarkably small projection screen installation space, featuring a single or up to four high-quality 10" bass units, mounted within a specially tuned, elegant and contemporary cabinet, offering discrete floor, cabinet or wall placement. This technology allows for superb output performance to be possible in a cabinet much smaller than would otherwise be required.

Nearly 20 years of subwoofer technology and acoustic evolution has merged into the most advanced and powerful subwoofer series ever produced by Artcoustic. The Artcoustic Subwoofer Series delivers amazing bass, ideal for professional applications, such as recording and film studios, dedicated cinemas and fixed installations in general. Employing a single or up to four long-throw woofers, capable of reproducing low frequency signals accurately and effortlessly. For larger rooms, or where a higher SPL is required, use multiple units.

Thank you for purchasing an Artcoustic product.

All the best, The Artcoustic Team



FEATURES

SUBWOOFER SERIES

The Artcoustic Subwoofer Series is ideal for use in high-end installations where sound quality is paramount, such as mid-field to full-space studio monitoring, for private cinema installations, and for commercial use in bars, restaurants and corporate presentation facilities, including commercial movie theatres.

LONG THROW BASS UNITS

HIGH LONG TERM POWER HANDLING

VERY LOW DISTORTION

VERY HIGH SPL

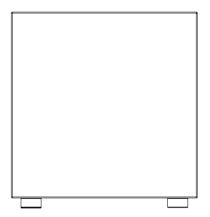
remarkable dynamic range and transient response

HEAT DISSIPATION, COMBINED WITH REDUCED DISTORTION MOTOR

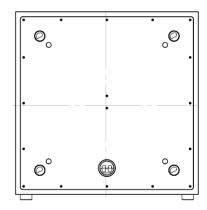
FAST EASY AND SIMPLE INSTALLATION

SUITABLE FOR A WIDE RANGE OF APPLICATION

Dedicated cinemas, screening rooms and most commercial applications



Sub 3 front view



Sub 3 rear view

SUB C14-5 MKII SUBWOOFER

TRANSDUCER

LF 4 x 5'1/4 inch long throw cones

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 40 Hz (-3dB) to 400 Hz

Axial Sensitivity (Half Space SPL) LF 90 dB

Calculated Axial Output Limit (Half Space SPL) Average Peak 110 dB

Maximum Power Handling 2 hours of 6 dB crest factor pink noise,
200 Watt RMS (AES Standard)

Input Impedance Nominal Minimum 8 ohms

Nominal Beamwidth Omni-directional

DESIGN

Cabinet: Black SL, White SL, Optional RAL and NCS

Weight 10 kg

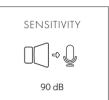
Dimensions H: 145 W: 1000 D: 99 mm without baffle

H: 185 W: 1020 D: 111 mm with baffle

The Artcoustic Sub Ci4-5 MKII features four 51/4-inch long-throw woofers, paired with Artcoustic's in-house designed 1st order high-bandwidth sealed cabinet technology. This combination ensures precise low-frequency reproduction, high power handling, and exceptionally low distortion.

The Sub Ci4-5 MKII is perfect for installations where space and aesthetics are key. It can be mounted on construction beams, positioned low along the floor line, or discreetly placed under furniture such as sofas. An optional oversized baffle allows for seamless in-wall integration, blending effortlessly into any interior.

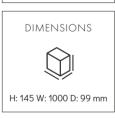
















SUB 7 SUBWOOFFR

TRANSDUCER

LF 1 x 10 inch long throw cone

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 35 Hz (-3dB) to 120 Hz

Axial Sensitivity (Half Space SPL) LF 94 dB

Calculated Axial Output Limit (Half Space SPL) Average Peak 110 dB

Maximum Power Handling 2 hours of 6 dB crest factor pink noise,

160 Watt RMS (AES Standard)

Input Impedance Nominal Minimum 7 ohms

Nominal Beamwidth Omni-directional

DESIGN

Cabinet: Outdoor IP62 standard colour NCS S 2500-N. optional RAL

Indoor Black, White, RAL, NCS

Weight 6.1 kg

Dimensions H: 350 W: 350 D: 208 mm

IMPORTANT!

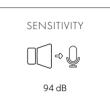
For outdoor installations, check the installation guide

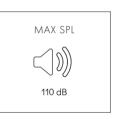
Artcoustic Sub Z is the smallest subwoofer in our line up. This subwoofer delivers amazing bass, ideal for smaller installations, residential TV setup and smaller sized cinemas, commercial installations, such as bars, restaurants and cafés.

The Sub Z employs one 10 inch long-throw woofer, combined with the Artcoustic in-house designed 4th order bandpass technology, making this sub capable of reproducing low frequency signals accurately and effortlessly, with high power handling and extremely low distortion.

The Artcoustic Sub Z subwoofer is ideal for use in high-end installations where sound quality is paramount, for higher output, use multiple units.

















SUB Z-IWS IN-WALL SUBWOOFER

TRANSDUCER

LF 1 x 10 inch long throw cone

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 35 Hz (-3dB) to 120 Hz

Axial Sensitivity (Half Space SPL) LF 94 dB

Calculated Axial Output Limit (Half Space SPL) Average Peak 110 dB

Maximum Power Handling 2 hours of 6 dB crest factor pink noise,

160 Watt RMS (AES Standard)

Input Impedance Nominal Minimum 7 ohms

Nominal Beamwidth Omni-directional

DESIGN

Cabinet: Outdoor IP62 standard colour NCS S 2500-N. optional RAL

Indoor Black, White, RAL, NCS

Weight 10 kg

Dimensions H: 440 W: 440 D: 163 mm

IMPORTANT!

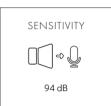
For outdoor installations, check the installation guide

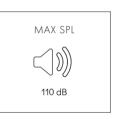
Artcoustic Sub Z-IWS is the slimmest subwoofer in our line up. This in-wall subwoofer delivers amazing bass, ideal for smaller installations; residential TV setups, smaller sized cinemas and commercial installations, such as bars, restaurants and cafés.

The Sub Z-IWS employs one 10 inch long-throw woofer, combined with the Artcoustic in-house designed 4th order bandpass technology, making this sub capable of reproducing low frequency signals accurately and effortlessly, with high power handling and extremely low distortion.

The Artcoustic Sub Z-IWS subwoofer is ideal for use in high-end installations where sound quality is paramount. For higher output, use multiple units.

















SUB 1 SUBWOOFER

TRANSDUCER

LF 1 x 10 inch long throw cone

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 30 Hz (-3dB) to 120 Hz

Axial Sensitivity (Half Space SPL) LF 96 dB

Calculated Axial Output Limit (Half Space SPL) Average Peak 115 dB

Maximum Power Handling 2 hours of 6 dB crest factor pink noise,
160 Watt RMS (AES Standard)

Input Impedance Nominal Minimum 7 ohms

Nominal Beamwidth Omni-directional

DESIGN

Cabinet: Outdoor IP62 standard colour NCS S 2500-N. optional RAL Indoor Black, White, RAL, NCS

Weight 17 kg

Dimensions H: 450 W: 450 D: 233 mm

IMPORTANT!

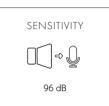
For outdoor installations, check the installation guide

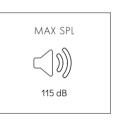
Artcoustic Sub 1 delivers amazing bass ideal for professional applications, such as recording and film studios, dedicated cinemas and fixed installations in general.

The Sub 1 employs one 10 inch long-throw woofer, combined with the Artcoustic in-house designed 4th order bandpass technology, making this sub capable of reproducing low frequency signals accurately and effortlessly, with high power handling and extremely low distortion.

The Artcoustic Sub 1 subwoofer is ideal for use in high-end installations where sound quality is paramount.

















SUB 2 SUBWOOFFR

TRANSDUCER

LF 1 x 10 inch long throw cone

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 27 Hz (-3dB) to 120 Hz

Axial Sensitivity (Half Space SPL) LF 96 dB

Calculated Axial Output Limit (Half Space SPL) Average Peak 116 dB

Maximum Power Handling 2 hours of 6 dB crest factor pink noise,

160 Watt RMS (AES Standard)

Input Impedance Nominal Minimum 7 ohms

Nominal Beamwidth Omni-directional

DESIGN

Cabinet: Outdoor IP62 standard colour NCS S 2500-N. optional RAL

Indoor Black, White, RAL, NCS

Weight 18.8 kg

Dimensions H: 500 W: 500 D: 233 mm

IMPORTANT!

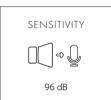
For outdoor installations, check the installation guide

For the ultimate in low-frequency performance, the Artcoustic Sub 2 subwoofer delivers awesome bass reproduction. This model changes the way subwoofers are perceived. Employing a single 10" long-throw woofer combined with the Artcoustic in-house designed 4th order bandpass technology, this subwoofer reproduces low frequency signals accurately and effortlessly, with high power handling and extremely low distortion.

For its size, it is one of the most dynamic, powerful and controlled subwoofer on the market, making it ideal for professional applications, such as recording and film studios, smaller dedicated cinemas and fixed installations in general.

The Artcoustic Sub 2 subwoofer is ideal for use in high-end installations where sound quality is paramount, such as mid-field to full-space studio monitoring, for private cinema installations, and for commercial use in bars, restaurants and corporate presentation facilities. For high SPL requirements, use multiple units.

















SUB 3 SUBWOOFFR

TRANSDUCER

LF 2 x 10 inch long throw cones

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 20 Hz (-3dB) to 120 Hz

Axial Sensitivity (Half Space SPL) LF 96 dB

Calculated Axial Output Limit (Half Space SPL) Average Peak 122 dB

Maximum Power Handling 2 hours of 6 dB crest factor pink noise,
320 Watt RMS (AES Standard)

Input Impedance Nominal Minimum 14 ohms

Nominal Beamwidth Omni-directional

DESIGN

Cabinet: Outdoor IP62 standard colour NCS S 2500-N. optional RAL

Indoor Black, White, RAL, NCS

Weight 28.1 kg

Dimensions H: 600 W: 600 D: 258 mm

IMPORTANT!

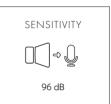
For outdoor installations, check the installation guide

For the ultimate in low-frequency performance, the Artcoustic Sub 3 subwoofer delivers awesome bass reproduction. For its size, it is one of the most dynamic, powerful and controlled subwoofer on the market, making it ideal for professional applications, such as recording and film studios, dedicated cinemas and fixed installations in general.

This model changes the way subwoofers are perceived. Employing two 10" long-throw woofers combined with our in-house 4th order bandpass technology, this subwoofer reproduces low frequency signals accurately and effortlessly, with high power handling and extremely low distortion.

The Artcoustic Sub 3 subwoofer is ideal for use in high-end installations where sound quality is paramount, such as mid-field to full-space studio monitoring, for private cinema installations and for commercial use in bars, restaurants and corporate presentation facilities. For very high SPL requirements, use multiple units.

















SUB 4 SUBWOOFFR

TRANSDUCER

LF 4 x 10 inch long throw cones

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 15 Hz (-3dB) to 120 Hz

Axial Sensitivity (Half Space SPL) LF 99 dB

Calculated Axial Output Limit (Half Space SPL) Average Peak 128 dB

Maximum Power Handling 2 hours of 6 dB crest factor pink noise,
640 Watt RMS (AES Standard)

Input Impedance Nominal Minimum 8 ohms

Nominal Beamwidth Omni-directional

DESIGN

Cabinet: Outdoor IP62 standard colour NCS S 2500-N. optional RAL

Indoor Black SL, White SL, RAL, NCS

Weight 51.5 kg

Dimensions H: 1000 W: 600 D: 258 mm

IMPORTANT!

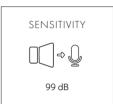
For outdoor installations, check the installation guide

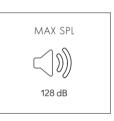
For the ultimate in low-frequency performance, the Artcoustic Sub 4 subwoofer is the largest and most powerful subwoofer in our lineup. The Sub 4 delivers unmatched bass reproduction and for its size, it is one of the most dynamic, powerful and controlled subwoofer on the market, making it ideal for professional applications, such as recording and film studios, dedicated cinemas and fixed installations in general.

This model changes the way subwoofers are perceived. Employing 4 10" long-throw woofers combined with our in-house 4th order bandpass technology, this subwoofer reproduces low frequency signals accurately and effortlessly, with high power handling and extremely low distortion.

The Artcoustic Sub 4 subwoofer is ideal for use in high-end installations where sound quality is paramount, such as full-space studio monitoring, for private and commercial cinema installations and for commercial use in bars, clubs and corporate presentation facilities. For professional level SPL requirements, use multiple units.

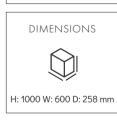






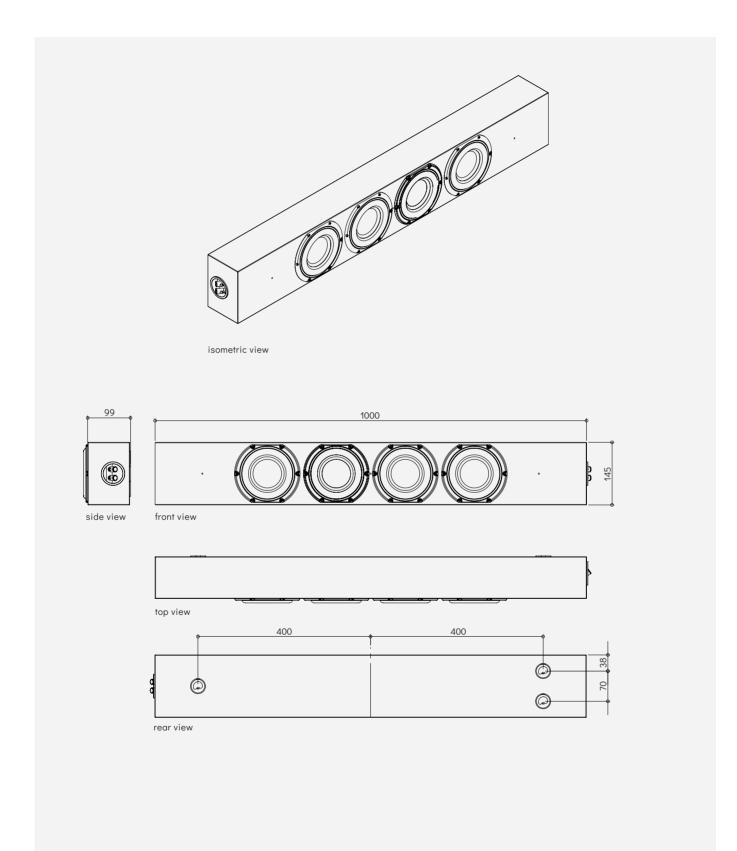


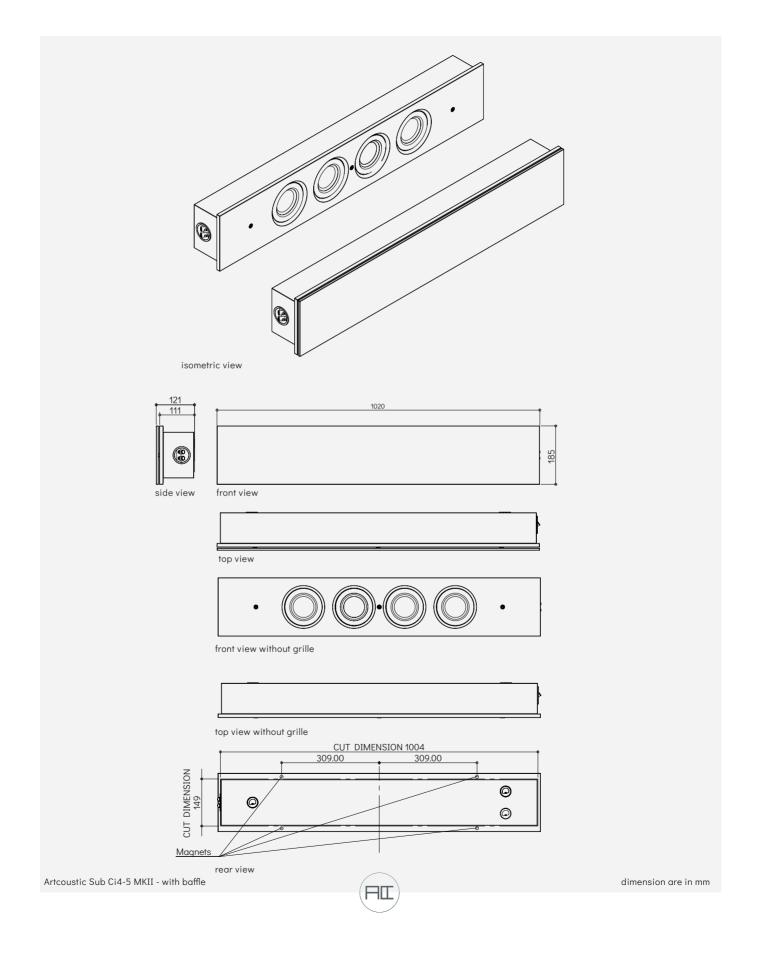




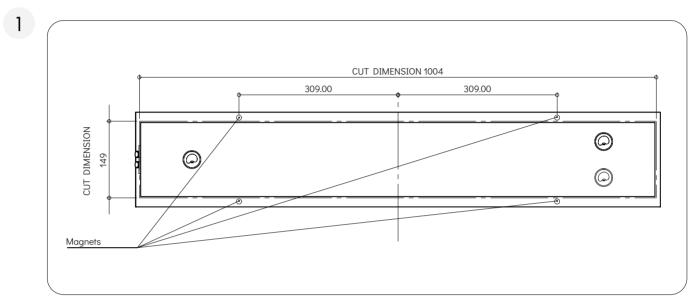




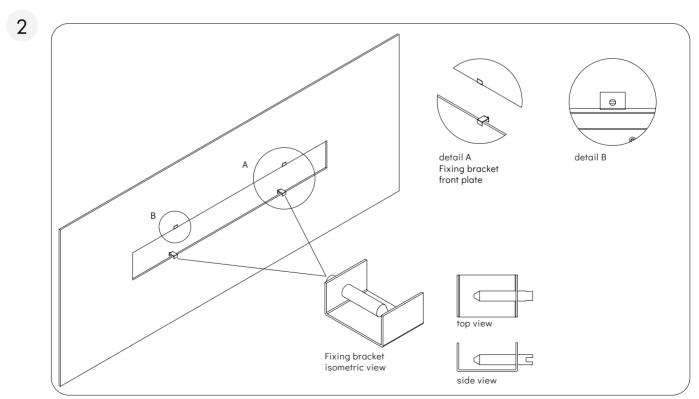




IN-WALL CI4-5 MKII SUBWOOFER INSTALLATION MADE EASY



Cut the hole in the wall according to the template, carefully mark the wall cut out and the fitting bracket position. For horizontal studs, keep a minimum distance of 30mm.



Mount the fixing brackets according to the template position.



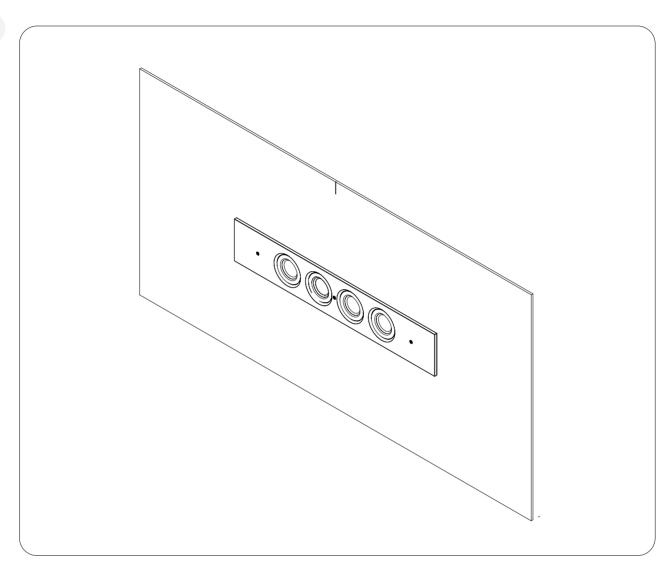
IN-WALL CI4-5 MKII SUBWOOFER INSTALLATION MADE EASY

mognet points detail C

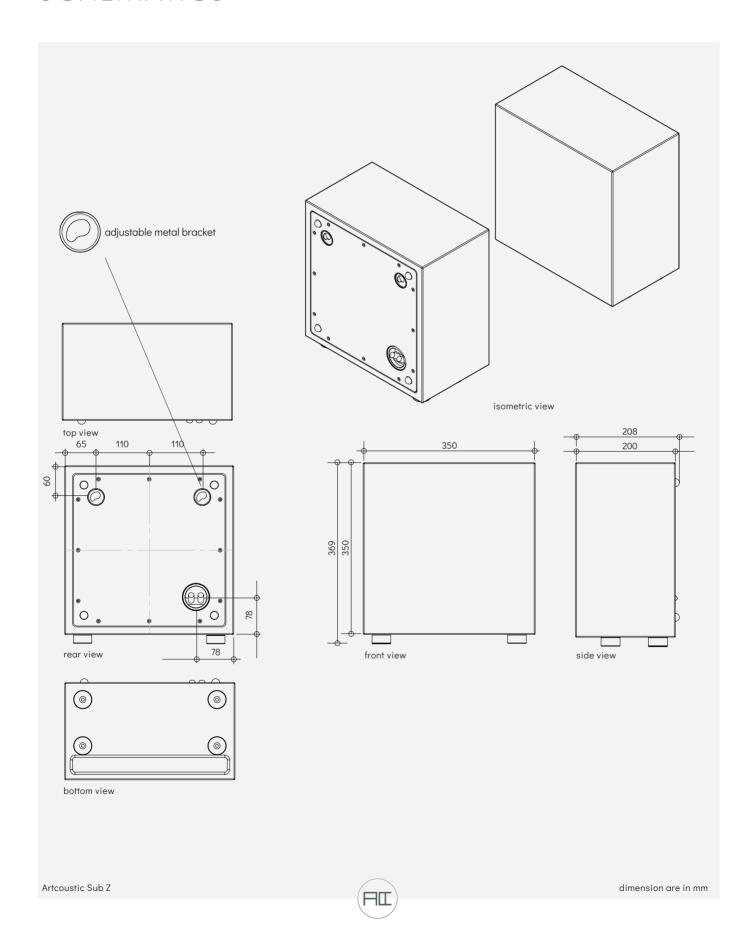
Fit Ci4-5 Subwoofer MKII in the cutout until magnets have contact with the four fixing brackets

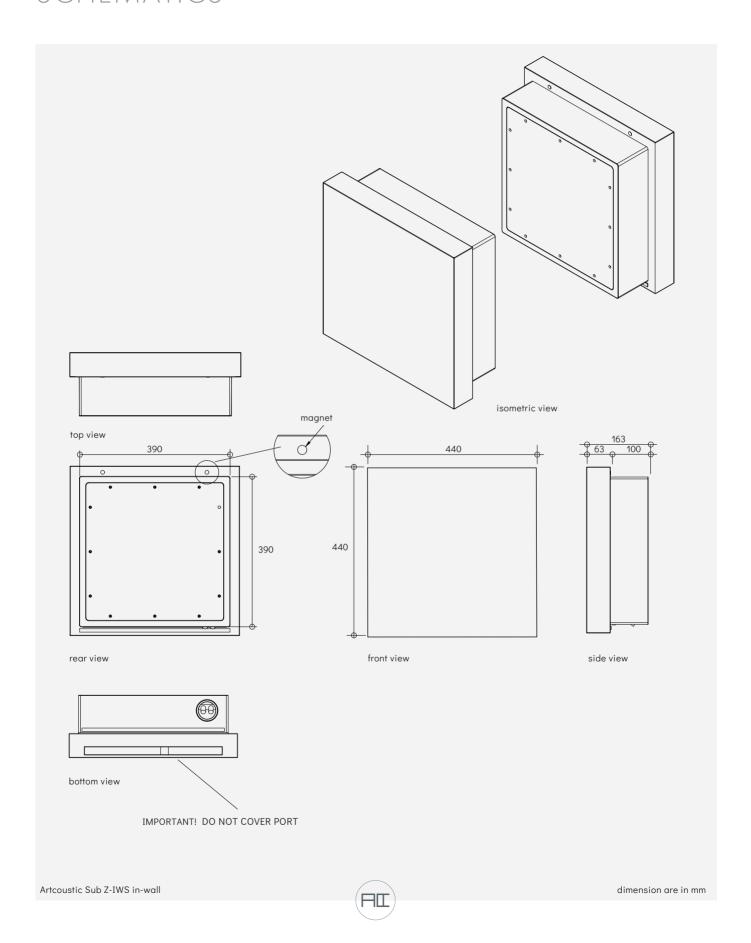
IN-WALL CI4-5 MKII SUBWOOFER INSTALLATION MADE EASY





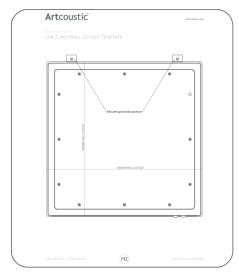
Installation finalized in-wall mounted Ci4-5 Subwoofer MKII isometric view



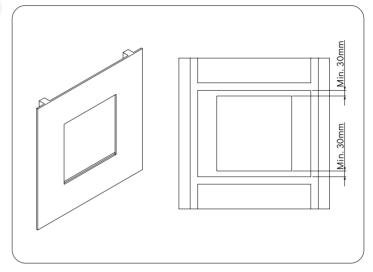


IN-WALL SUBWOOFER INSTALLATION MADE EASY

1

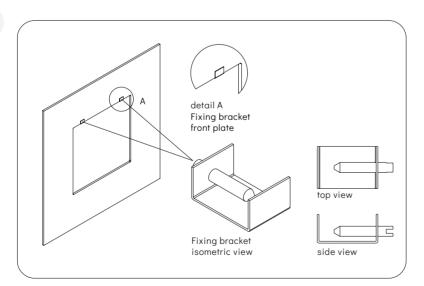


Place the IWS-Sub template on the wall and carefully mark the wall cut out and the fitting bracket position 2



Cut the hole in the wall according to the template For horizontal studs, keep a minimum distance of 30mm

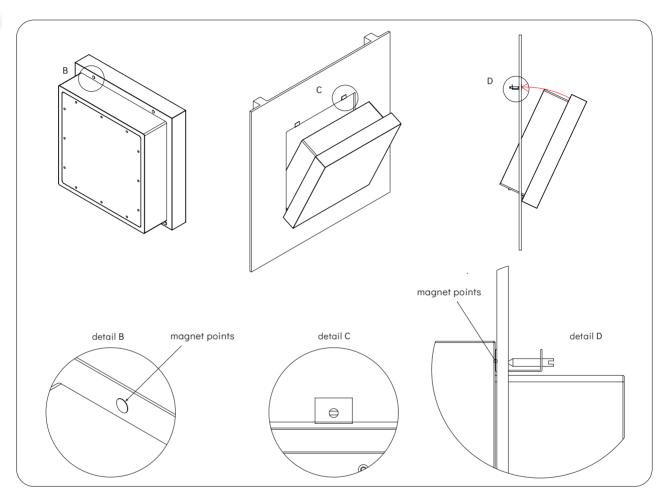
3



Mount the fixing brackets according to the template position

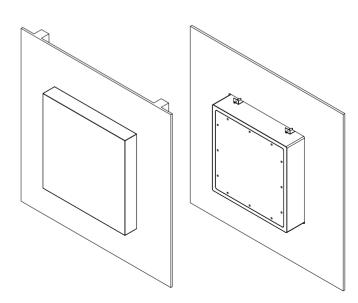
IN-WALL SUBWOOFER INSTALLATION MADE EASY

4



Place the IWS-Sub on lower edge and tilt upwards until magnets have contact with the two fixing brackets

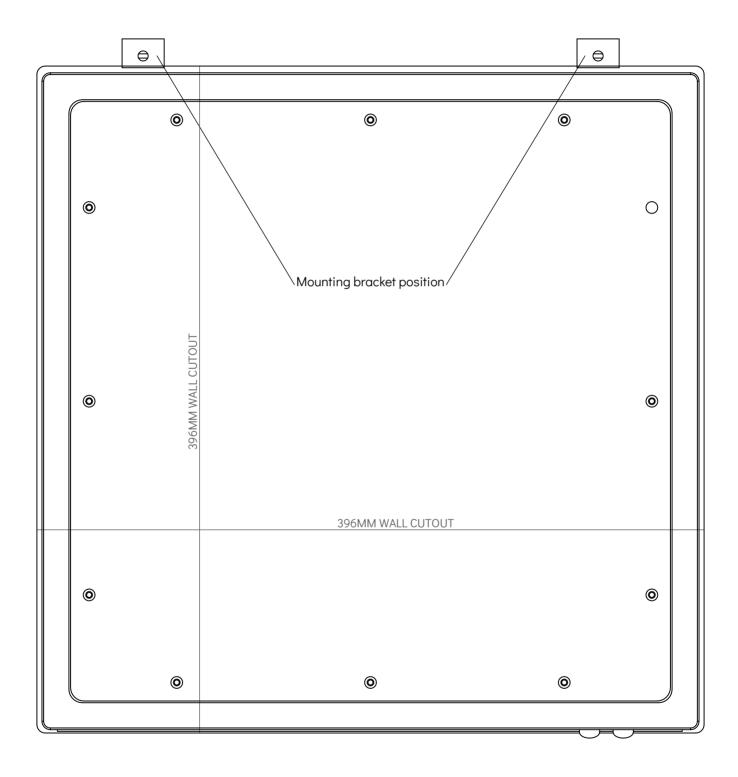
Installation finalized in-wall mounted Sub isometric view

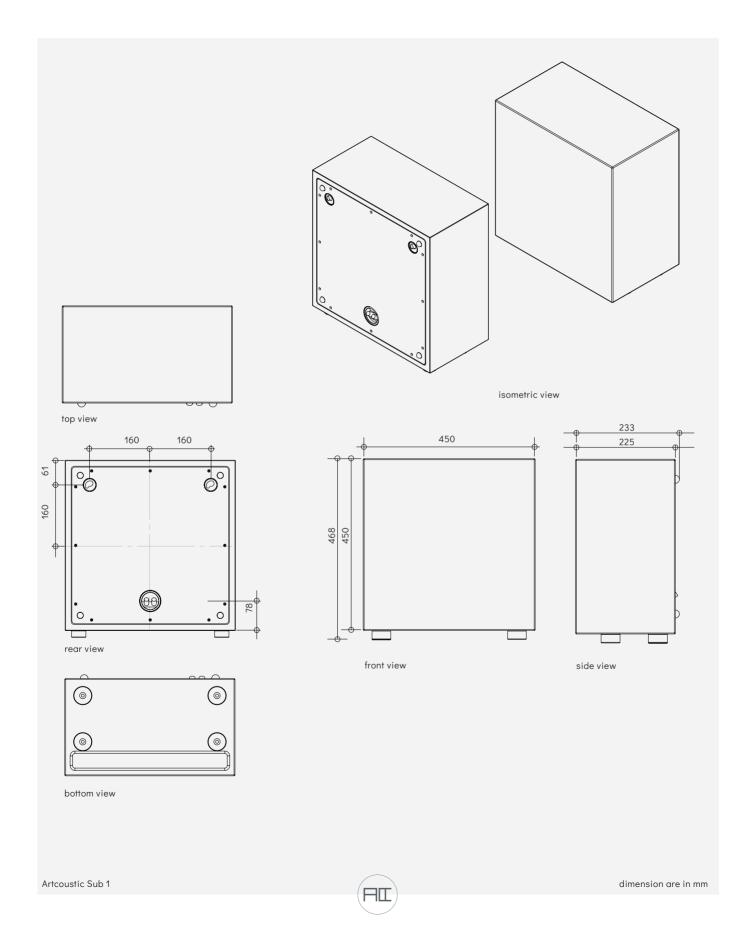


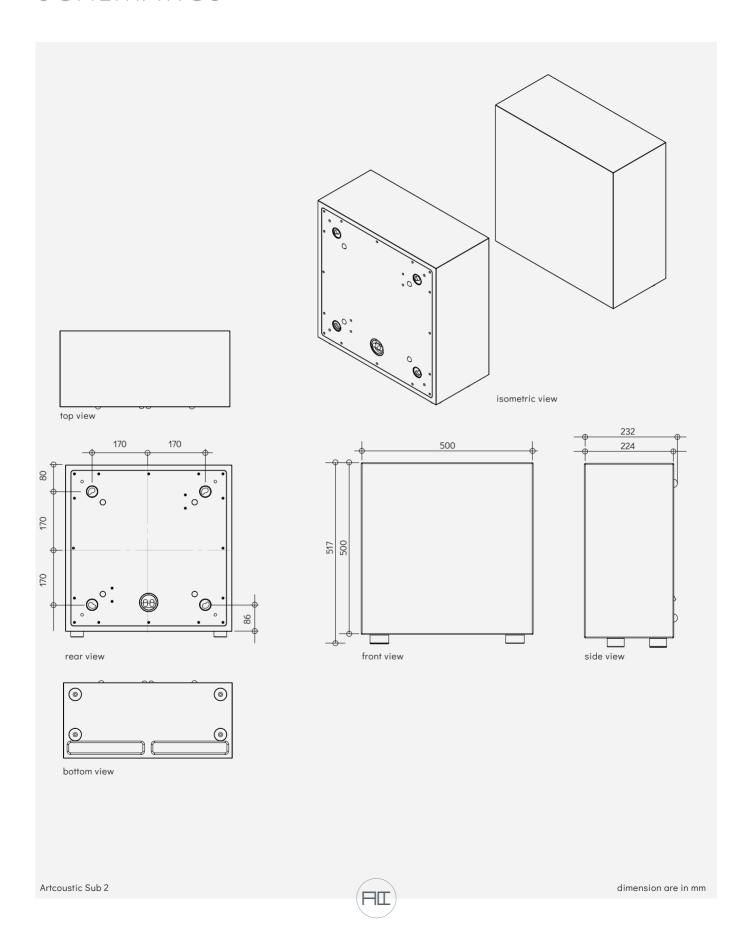


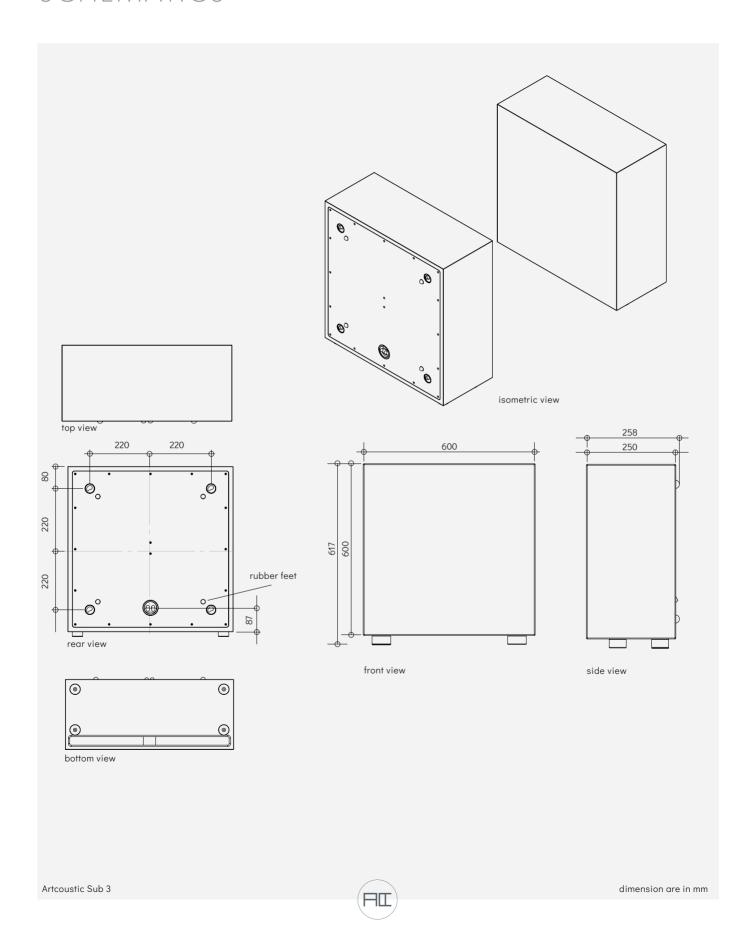
Artcoustic

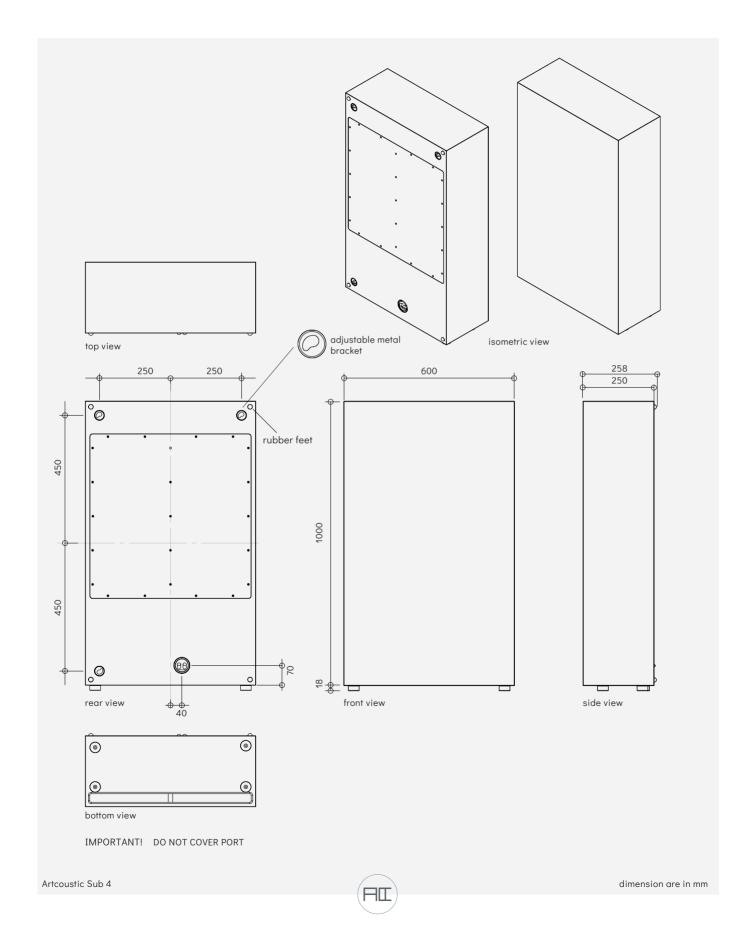
SUB Z-IWS WALL CUTOUT TEMPLATE











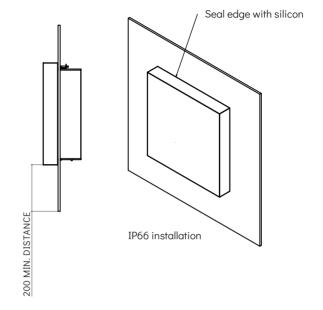
OUTDOOR PLACEMENT GUIDE

ARTCOUSTIC SUB Z-IWS

Sub Z-IWS IP66 mounted outdoor, it is important to seal the connecting edge with silicon and in order to avoid flooding, always mount the sub min. 200mm above ground.

IMPORTANT!

IP66 standard level can only be reached if installed properly

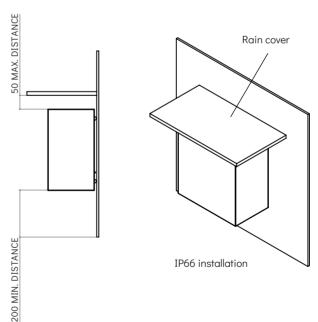


ARTCOUSTIC SUB Z, SUB 1, SUB 2, SUB 3 AND SUB 4

Bandpass sub series IP66 mounted outdoor, it is important to protect the rear plate, with connectors and wall mounts from direct rain, the Artcoustic bandpass subs should always be mounted under a rain cover and in order to avoid flooding, always mount the sub min. 200mm above ground.

IMPORTANT!

IP66 standard level can only be reached if installed properly





SUBWOOFER PLACEMENT GUIDE

THE FIRST RANGE OF SUBWOOFER SPECIFICALLY DESIGNED TO HELP ADDRESS ROOM MODES

Artcoustic have helped to create some truly stunning cinema systems, and have used all that experience to develop a groundbreaking range of new subwoofers.

The new Sub Z, Sub Z-IWS, Sub 1, Sub 2, Sub 3, Sub 4 effectively allow for more flexibility in positioning your subwoofers.

With this new range, we have the advantage of a smaller design, which here by can be positioned in more suitable places in the room.

This enables us to design systems which address the problematic room modes at the design stage instead of trying to fight them with aggressive EQ once installed.

The end result is a much more dynamic, smoother, more accurate bass in every room.

USE THE NEW SUBWOOFERS IN PAIRS, IN ORDER TO SMOOTHEN OUT OFTEN DIFFICULT TO EQ ROOM MODES.



SUBWOOFER PLACEMENT GUIDE

IMPORTANCE OF ROOM MODES

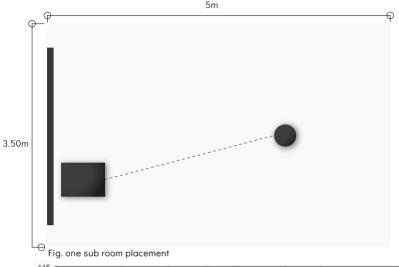
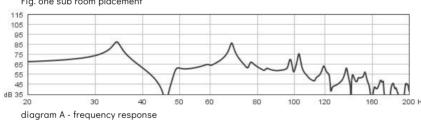


Diagram A illustrates a typical problem, which can arise using a single or multiple subwoofers, placed in one end of the room.

A rather steep dip can be seen in the region of 35-60Hz.



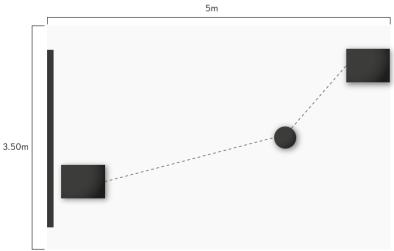
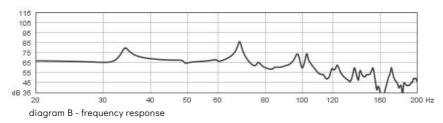


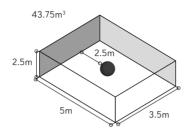
Diagram B illustrates how a dip can be eliminated by placing a similar size and output subwoofer in the opposite end of the room.

We strongly recommend using multiple subwoofer units whenever budget and space allow for it.

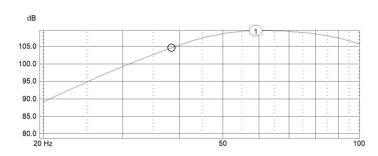
Fig. two sub room placement

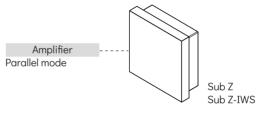


SUB Z SMALL ROOM



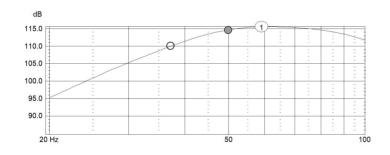
DOLBY ATMOS REFERENCE LEVEL NOT ACHIEVED (-3DB 37HZ)

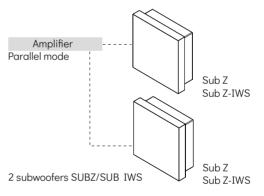




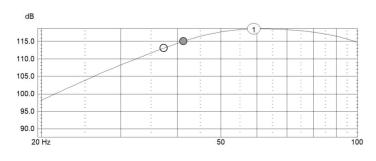
1 subwoofer Sub Z/Sub IWS

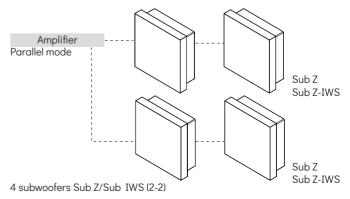
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 50HZ (-3DB 37HZ)



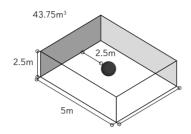


DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 42HZ (-3DB 37HZ)

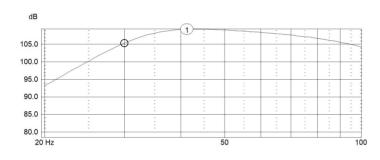


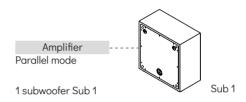


SUB 1 SMALL ROOM

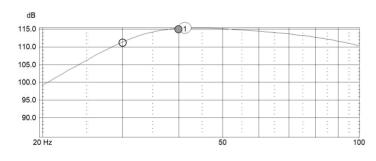


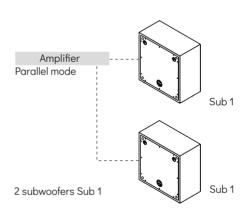
DOLBY ATMOS REFERENCE LEVEL NOT ACHIEVED (-3DB 30HZ)



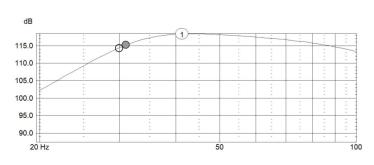


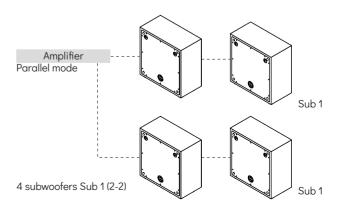
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 40HZ (-3DB 30HZ)





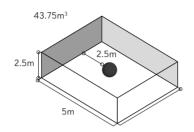
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 32HZ (-3DB 30HZ)



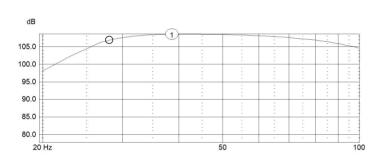


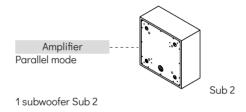


SUB 2 SMALL ROOM

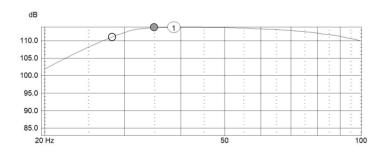


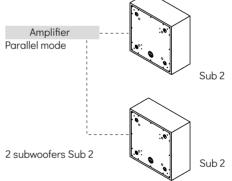
DOLBY ATMOS REFERENCE LEVEL NOT ACHIEVED (-3DB 27HZ)



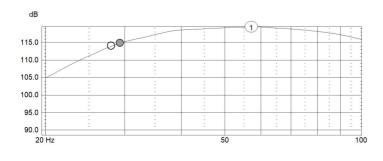


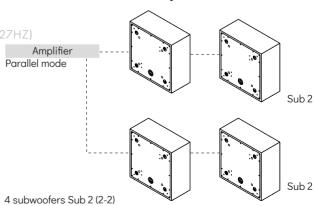




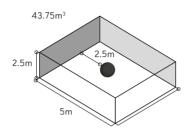


DOLBY ATMOS REFERENCE LEVEL, IN ROOM ACHIEVED @ 29HZ (-3DB 27HZ)

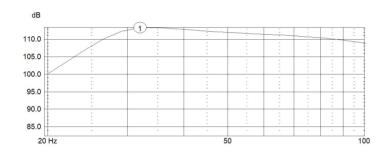


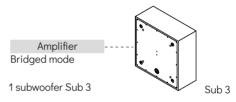


SUB 3 SMALL ROOM

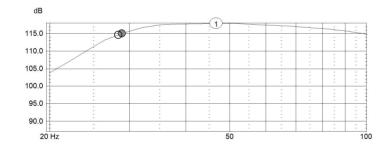


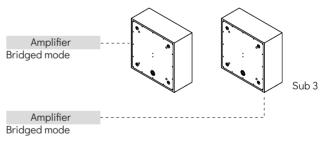
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 33HZ (-3DB 27HZ)





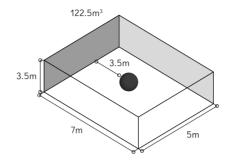
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 28HZ (-3DB 27HZ)



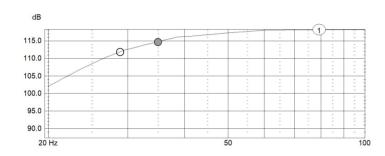


2 subwoofers Sub 3, one amplifier per Sub 3

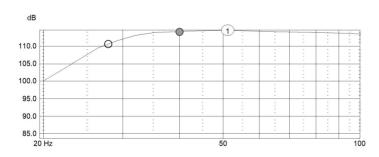
SUB 2 AND 3 MEDIUM ROOM



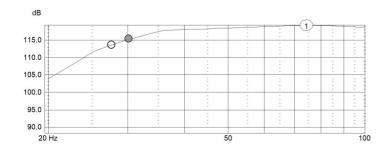
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 35HZ (-3DB 28HZ)

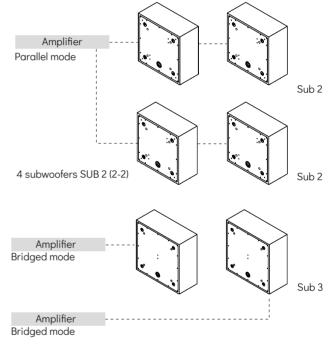


DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 35HZ (-3DB 27HZ)

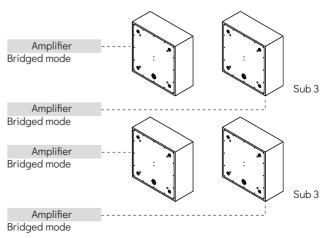


DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 30HZ (-3DB 27HZ)





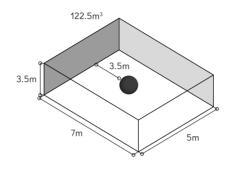
2 subwoofers Sub 3, one amplifier per Sub 3



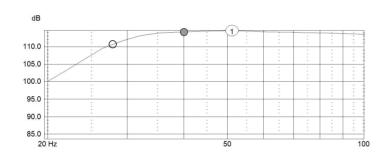
4 subwoofers Sub 3, one amplifier per Sub 3

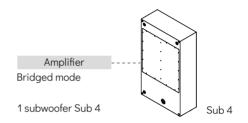
ARTCOUSTIC LOUDSPEAKERS

SUB 4 MEDIUM ROOM

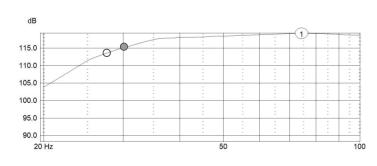


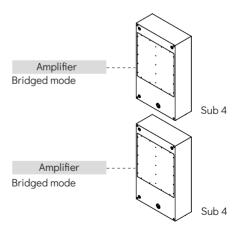
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 35HZ (-3DB 27HZ)





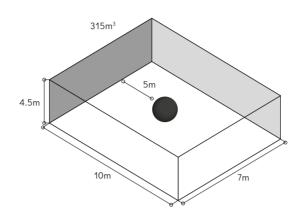
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 30HZ (-3DB 27HZ)



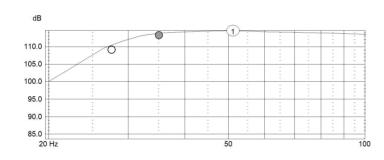


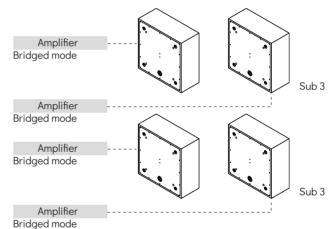
2 subwoofers Sub 4, one amplifier per Sub 4

SUB 3 AND SUB 4 LARGE ROOM



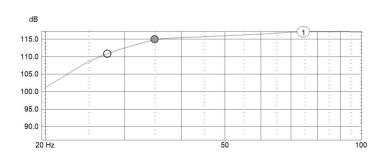
DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 35HZ (-3DB 27HZ)

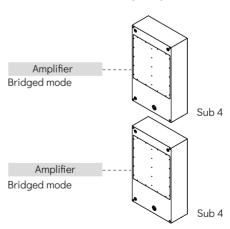




4 subwoofers Sub 3, one amplifier per Sub 3

DOLBY ATMOS REFERENCE LEVEL, ACHIEVED @ 35HZ (-3DB 27HZ)





2 subwoofers Sub 4, one amplifier per Sub 4



SUBWOOFER PLACEMENT

IMPORTANCE OF ROOM MODES

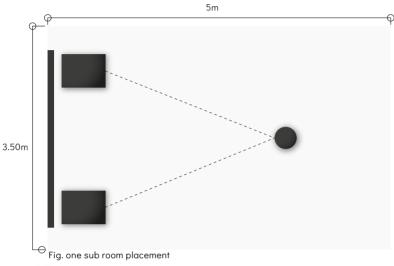
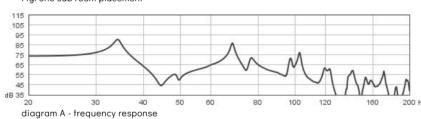


Diagram A illustrates the same problem, just with multiple units.

Here it can be observed that adding units to same end of room, will only change the overall amplitude, but in no way correcting the room modes causing a dip.



3.50m Fig. two sub room placement

5m

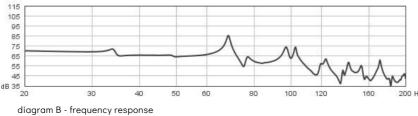
Again Diagram Billustrates how a dip can be eliminated by placing a similar size and output subwoofers in the opposite end of the room.

And again, we strongly recommend using multiple subwoofer units whenever budget and space allow for it.

It is essential to note that it is not always the best solution to have subwoofers at the front and back, though sometimes it is.

It is entirely room dependant, and that is why Artcoustic will help design systems to ensure the correct subwoofer locations are recommended.

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SAFETY INSTRUCTIONS

SAFFTY



Do not use this product near water



Clean rear panel



Do not block any ventilation opening



Do not install near



If wall-mounted, ensure the use of matching screws and rawl plugs

Refer all servicing to qualified service personnel. Servicing is required when the product has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the product, the product has been exposed to rain or moisture, does not operate normally or has been dropped.

To completely disconnect unit power from the AC mains, disconnect the unit's power cord from the mains socket.

Note: If the Artcoustic subwoofer is placed on a thick carpet blocking the air outlet, we recommend to use the special Artcoustic carpet spikes.

Not included as standard, please order separately.



WARNING

This product complies with Part 15 of the FCC Rules. Its operation is subject to the following two conditions:

- This product may not cause harmful interference.
- This product must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To reduce the risk of fire and electric shock do not expose this product to rain or moisture.



Do not place product filled with liquids such as vases on the product.



Do not open product. There are no user-serviceable parts inside.



Always use the power supply shipped with this product. Using a power supply with wrong voltage or polarity, can damage the electronics.





WARRANTY

IS APPLICABLE



Is valid only for products purchased from an authorised Artcoustic retailer or dealer.



Is valid from the date of purchase for a period of 3-years for passive loudspeakers, and 2-years for powered loudspeakers and electronics.



Is limited to the repair of the equipment (which could be a repair or replacement at our discretion, neither of which affects your original warranty).



Neither transportation, nor any other costs, nor any risk for removal, transportation and installation of products is covered by this warranty.

IS NOT APPLICABLE

Will not be applicable in cases other than defects in materials and/or workmanship at the time of purchase and will not be applicable:

- For deterioration of component parts, the nature of which is to become worn or depleted with use, such as batteries.
- For damages caused by incorrect installation, connection or packing.
- For damages caused by accidents, lightning, water, fire heat, war, public disturbances or any other cause beyond the reasonable control of Artcoustic and its appointed distributors.
- For damages caused by any use other than correct use described in the user manual, negligence, modifications, or use of parts that are not made or authorized by Artcoustic

If it is found necessary to return the product for repair, you will be given a form to fill out and return. You should not return the product without previous acceptance. To validate your warranty, you will need to produce the original sales invoice or other proof of ownership and date of purchase.

