ADORN User Guide

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MARTIN AUDIO
LONDON

Table of Contents

Introduction

The Martin Audio ADORN series consists of ultra-compact, discreet, easy to deploy speakers for a wide range of commercial integration projects. They deliver superior sound quality and the signature Martin Audio tonal characteristics at a great price point. ADORN is an ideal partner with larger Martin Audio systems in venues with a variety of zones, providing a seamless transition between zones and retaining the same sonic performance and tonal quality.

Range

The ADORN range consists of five cabinet speakers (for fixing to walls or ceilings), four ceiling speakers (for installing into ceilings) and one pendant speaker (for suspending from the ceiling).

The cabinet speakers are available in black (RAL 9005) or white (RAL 9016).

A40	4" cabinet speaker
A40T	4" cabinet speaker with transformer
A55	5" cabinet speaker
A55T	5" cabinet speaker with transformer
A80T	8" cabinet speaker with transformer

The ceiling speakers have bezel-free grilles for a clean look and are available in white only (RAL 9016). The pendant model is available in black (RAL 9005) or white (RAL 9016):

ACS-40TS	4” ceiling speaker, shallow can with transformer
ACS-55TS	5" ceiling speaker, shallow can with transformer
ACS-55T	5" ceiling speaker, deep can with transformer
ACP-55T	5" pendant speaker with transformer

70/100 V line transformer

All ADORN speakers, except the A40 and A55, have a 70/100 V line transformer allowing you to select the appropriate power output. For further details, see 70/100 V line systems (page 13). With any ADORN transformer model, you can, if you wish, switch off the transformer by selecting low impedance mode.

Low impedance mode

In low impedance mode, all ADORN speakers except the A80T have an impedance of 16 ohm. This allows you to drive up to eight speakers from a single channel, if your amplifier has a 2 ohm load capability. For the A80T in low impedance mode, the impedance is 8 ohm.

The A40 and A55 models don't have a transformer, so these models have an impedance of 16 ohm.

Note that we don't have an A80 model, so if you need an 8" ADORN cabinet speaker without a transformer, use the A80T and set it to low impedance mode.

Protection

All models have built-in independent protection for the high and low frequency drivers to ensure reliable operation in the event of an overload condition.

ADORN cabinet speakers

A40 and A40T

The A40 is a two-way passive speaker with an elegant design that is perfect for architectural interiors that require high-fidelity sound from an unobtrusive, ultra-compact enclosure. Comprising a 4” (100mm) LF driver and a 0.75” (19mm) silk-dome HF driver on a 110° x 80° horn, it handles 40 W AES, 160 W peak and can produce 109 dB peak output at 1 metre.

It is available as standard in either black or white and the paintable ABS enclosure can be wall-mounted vertically or horizontally using the mounting bracket supplied. With a nominal impedance of 16 ohms, multiple speakers can be driven in parallel from a single channel of a low impedance amplifier such as the Martin Audio VIA2004.

The A40T transformer option features a built-in 70/100 V multi-tap transformer for line operation.

The enclosure is suitable for outdoor usage when used with the waterproof connector cover accessory (sold separately).

A55 and A55T

The A55 features a 5.25” (135mm) LF driver and a 0.75” (19mm) silk-dome HF driver on a 110° x 80° horn. With a power handling of 50 W AES, 200 W peak, and a maximum SPL of 113 dB at 1 metre, it is designed for background and foreground applications that call for premium sound quality and high levels from a visually discreet enclosure.

It is available as standard in either black or white and the paintable ABS enclosure can be wall-mounted vertically or horizontally using the mounting bracket supplied and its nominal impedance of 16 ohms enables multiple speakers to be driven in parallel from a single channel of a low impedance amplifier such as the Martin Audio VIA2004.

The A55T transformer option has a built-in 70/100 V multi-tap transformer for line operation.

The enclosure is suitable for outdoor usage when used with the waterproof connector cover accessory (sold separately).

A80T

The ADORN A80T is a two-way passive speaker with an elegant design that is perfect for architectural environments that require high fidelity sound from an unobtrusive, compact enclosure. It brings class-leading performance, reliability and value to a wide range of commercial sound applications — from retail outlets, bars and restaurants to corporate offices and convention centres.

A80T is the perfect choice for background and foreground systems which require superior performance. Its Martin Audio signature sound characteristic also provides a seamless sonic transition within a multi-zoned complex using larger Martin Audio systems such as CDD or BlacklineX.

Comprising an 8” (203mm) LF driver and a 1” (25mm) polymer dome HF compression driver on a 90° x 50° horn, it handles 200W AES, 800W peak and can produce 120dB peak output at 1 metre. It has a smooth frequency response and strong bass reproduction that extends down to 63Hz.

With a nominal impedance of 8 ohms, multiple speakers can be driven in parallel from a single channel of a low impedance amplifier, such as the Martin Audio VIA2502 or VIA5004, thereby maximising efficiency and minimising cost. A80T also incorporates a high-quality transformer for 70V/100V line operation, with transformer taps selected by a rotary switch. For 70V/100V line, we recommend the VIA5002. For full bandwidth protection, the low and high-frequency sections are individually protected against overload.

Available in black or white as standard, it can be readily painted to match any décor and can be wall-mounted vertically or horizontally using the supplied accessory WB6/8 bracket. In addition, for general outdoor use the cabinet only requires the additional waterproof connector cover to be IP54 compliant.

The VIA2502 or VIA5004 (or VIA5002 for 70V/100V line) in combination with a Martin Audio DX0.4 or DX0.6 controller will be perfect partners for small-scale efficient installations. Combine these amps with the DX4.0 controller for larger more complex installations managed by Marin Audio’s VU-NET control software.

The Martin Audio SX112 subwoofer will extend the bandwidth of A80T and is ideal for foreground music applications which require increased impact and low frequency performance.

Subwoofers

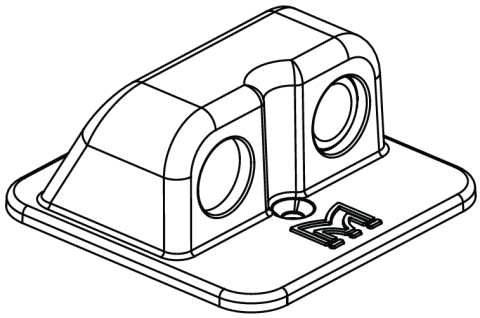
For a full range music system, you can supplement ADORN speakers with one or more subwoofers from the Martin Audio SX Series. For example, the SX110 is a very compact single 10” subwoofer and is an ideal partner for the ADORN series. Note that with a subwoofer, you will need an additional amplifier and a system controller. For amplifiers for small low impedance systems, we recommend the four channel VIA2504 or VIA5004. For

system controller, we recommend the DX4.0, DX0.4 or DX0.6 to act as a crossover between the subwoofer and ADORN speakers.

Cabinet speaker accessories

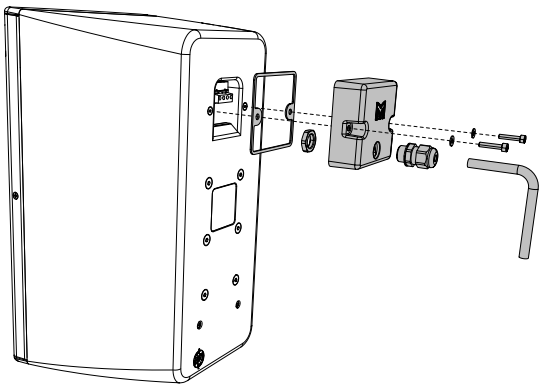
Weatherised connector cover kit AIPKIT

The optional AIPKIT connector cover kit upgrades the A40, A40T, A55 or A55T to an IP54 rating for outdoor use. The kit includes a weatherised connection cover, screws, rubber gasket seal and cable gland. This kit is available in black (AIPKIT) and white (AIPKIT-W).



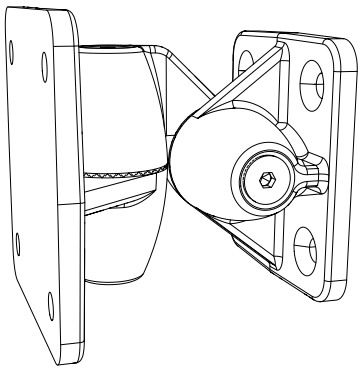
Weatherised connector cover kit ASF09006

The optional ASF09006 connector cover kit upgrades the A80T to an IP54 rating for outdoor use. The kit includes a weatherised connection cover, screws, rubber gasket seal and cable gland. This kit is only available in black.



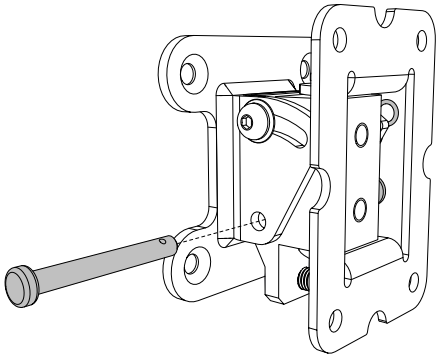
Wall bracket ASM10001/2

We supply the A40, A40T, A55 and A55T with a weatherised wall bracket that provides tilt and pan (replacement part ASM10002 for black or ASM10001 for white).



Wall bracket WB6/8

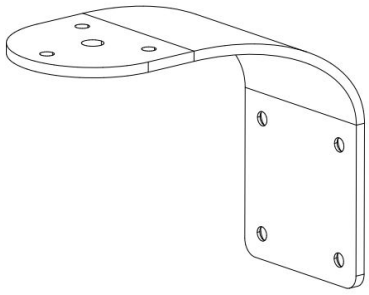
We supply the A80T with a weatherised wall bracket that provides tilt and pan (replacement part WB6/8B for black or WB6/8W for white).



Ceiling bracket CDDCB5

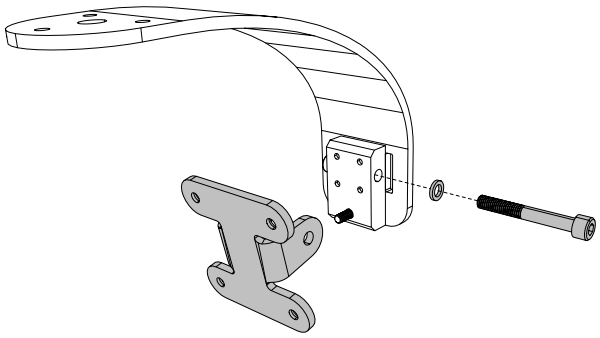
This optional bracket allows you to ceiling mount the A40, A40T, A55 and A55T. This bracket is weatherised for

outdoor use and is available in black (CDDCB5B), white (CDDCB5W) or custom RAL colours (CDDCB5RAL).



Ceiling bracket CDDCB6/8

This optional bracket allows you to ceiling mount the A80T. This bracket is weatherised for outdoor use and is available in black (CDDCB6/8B), white (CDDCB6/8W) or custom RAL colours (CDDCB6/8RAL).



ADORN ceiling and pendant speakers

ACS-40TS

Comprising a 4” (100mm) LF driver and a 0.75” (19mm) silk-dome tweeter, the ACS-40TS produces 108dB peak output at 1 metre and has a high-fidelity sonic character ideal for both music and speech reproduction. Its ported design delivers strong bass that extends down to 73 Hz.

The very wide 180° conical coverage of the ACS-40TS makes it particularly suitable for low ceilings and reduces the number of speakers required for even coverage — leading to a reduction in installation cost. It features a shallow back can for installation in ceilings with a minimum cavity depth.

ACS-55TS

Comprising a 5.25” (100mm) LF driver and a 0.75” (19mm) silk-dome tweeter, the ACS-55TS produces 113dB peak output at 1 metre and has a high-fidelity sonic character ideal for both music and speech reproduction. Its ported design delivers strong bass that extends down to 79Hz.

The wide 150° conical coverage of the ACS-55TS makes it particularly suitable for low ceilings and reduces the number of speakers required for even coverage — leading to a reduction in installation cost. It features a shallow back can for installation in ceilings with a minimum cavity depth.

ACS-55T

Comprising a 5.25” (100mm) LF driver and a 0.75” (19mm) silk-dome tweeter, the ACS-55T produces 113dB peak output at 1 metre and has a high-fidelity sonic character ideal for both music and speech reproduction. Its ported bass reflex design and back can with generous internal volume maximises low frequency output and delivers strong bass that extends down to 62Hz.

The wide 150° conical coverage of the ACS-55T reduces the number of speakers required for even coverage — leading to a reduction in installation cost.

ACP-55T

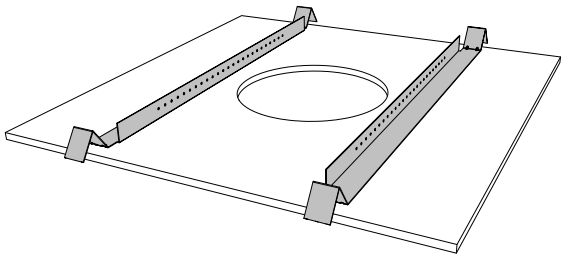
Comprising a 5.25” (100mm) LF driver and a 0.75” (19mm) silk-dome tweeter, the ACP-55T produces 109dB peak output at 1 metre and delivers superb sound quality for both music and speech reproduction. Its stylish pendant enclosure is equipped with a single-point mounting system plus provision for attaching a safety cable.

The consistent and wide 150° conical coverage of the ACP-55T reduces the number of speakers required for even coverage — leading to a reduction in installation cost.

Accessories for ceiling and pendant speakers

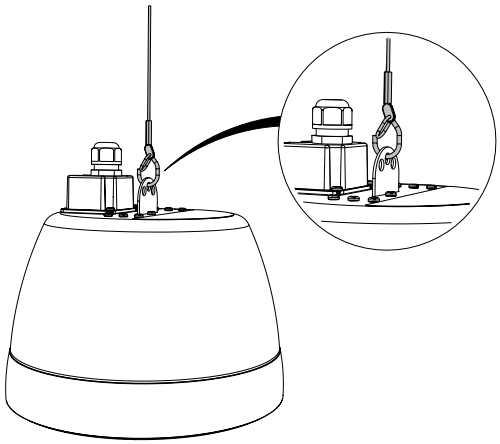
Tile rails

We supply each ceiling speaker with two tile rails for installing into suspended ceilings.



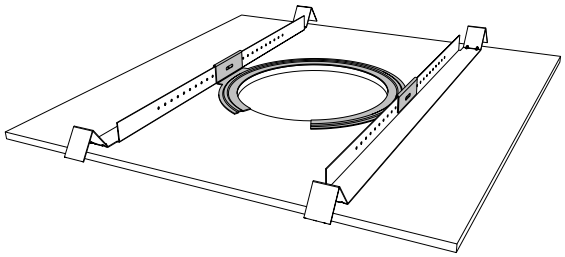
Suspension cable CK3

This optional 3 metre suspension cable allows you to suspend the ADORN pendant speaker ACP-55T.



C bracket

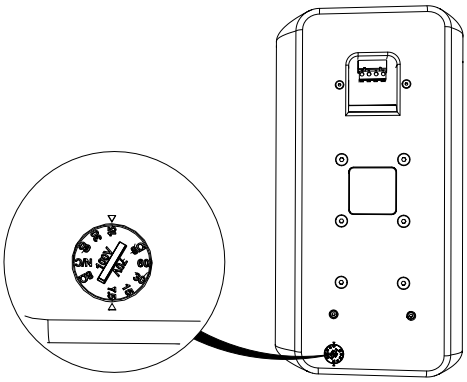
We supply each ceiling speaker with an appropriately sized C bracket for installing into suspended ceilings.



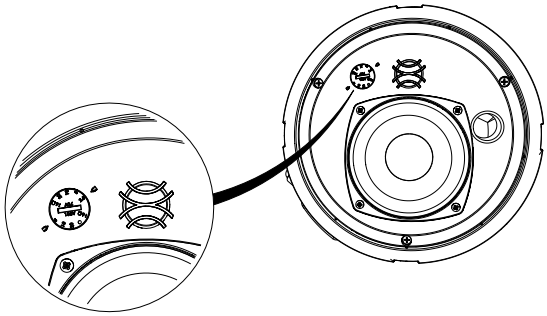
70/100 V line systems

For a 70/100 V line system, you need to select the appropriate tap using a rotary switch:

- For the cabinet speakers with transformers, the rotary switch is on the back.



- For the ceiling and pendant models, the rotary switch is on the front baffle.



> The sum of the speaker taps must be less than the amplifier's rated power output.

The speaker taps for each speaker are shown below.

A40T and ACS-40TS

Position	70 V	100 V
1	2.5 W	5 W
2	5 W	10 W
3	10 W	20 W
4	20 W	Not used
5	16 ohm	16 ohm

A55T, ACS-55T, ACS-55TS and ACP-55T

Position	70 V	100 V
1	3.75 W	7.5 W
2	7.5 W	15 W
3	15 W	30 W
4	30 W	Not used
5	16 ohm	16 ohm

A80T

Position	70 V	100 V
1	7.5 W	15 W
2	15 W	30 W
3	30 W	60 W
4	60 W	Not used
5	8 ohm	8 ohm

Amplification for 70/100 V line

With a 70/100 V line system, you must have an amplifier designed for driving a distributed line system, such as the Martin Audio VIA5002. Note that this is the only VIA amplifier that supports 70/100 V line systems. Alternatively, you can use a Martin Audio iKON amplifier, and these amplifiers have the advantage of on-board system processing.

Connecting ADORN cabinet speakers

With the ADORN cabinet speakers, there are two types of connections:

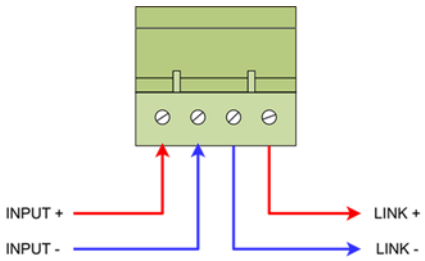
- The A40, A40T, A55 and A55T have a pair of spring-loaded push terminals, one red and one black.
- The A80T has a pluggable low-profile four-pin Phoenix-style connector.

To connect the A40, A40T, A55 and A55T

1. Strip about 10 mm of insulation from ends of the speaker cables.
2. If you have stranded cables, twist the ends or attach crimped bootlace ferrules.
3. Press the terminal lever and insert the cable into the hole. Connect positive (+) to the red terminal and negative (–) to the black terminal.
4. To daisy-chain connections to several speakers, insert pairs of cables into each hole. You could twist the cable ends together.

To connect the A80T

1. Take hold of the lower section of the connector (the part that sticks out) and ease it downwards until it unplugs from the upper section.



2. Wire the speaker cable to the connector using the two screw fittings on the left:
   - Connect positive from the amplifier to the leftmost pin (labelled INPUT +).
   - Connect negative from the amplifier to the second pin (labelled INPUT –).
3. To daisy-chain the amplifier output to further speakers on the same circuit, use the two screw fittings on the right:
   - Connect negative for the next speaker to the third pin (labelled LINK –).
   - Connect positive for the next speaker to the rightmost pin (labelled LINK +).
4. Plug the connector back into the speaker.

Connecting ADORN ceiling and pendant speakers

The ADORN ceiling and pendant speakers have a connection cover to keep the cable connections safe and help prevent accidental disconnections.

To connect the ceiling and pendant speakers

1. Strip about 10 mm of insulation from ends of the speaker cables.
2. If you have stranded cables, twist the ends or attach crimped bootlace ferrules.
3. Loosen the four screws in the connection cover and remove this cover (you can remove the cover without removing the screws).
4. Pass the cable through the gland from the outside.
5. Connect the speaker cables to the four-pin ceramic terminal block using the cross-head screw fittings.
   - Connect positive (+) from the amplifier to the leftmost pin.
   - Connect negative (–) from the amplifier to the second pin.
   - If daisy-chaining, connect negative (–) for the next speaker to the third pin.
   - If daisy-chaining, connect positive (+) for the next speaker to the rightmost pin.
6. Replace the connector cover making sure there's no strain on the connections.
7. Tighten the gland to seal the connection.

Wall mounting ADORN cabinet speakers

We supply the ADORN cabinet speakers with wall brackets that allow tilt and pan:

- For the A40, A40T, A55 and A55T, the bracket has three parts: a part that attaches to the wall, a part that attaches to the cabinet and a link section that joins the two. This link section allows you to adjust the speaker both horizontally and vertically.

  If you only need to adjust the speaker in one plane (horizontally or vertically), you can leave out the link section.
- For the A80T, the bracket has two parts.

Portrait or landscape

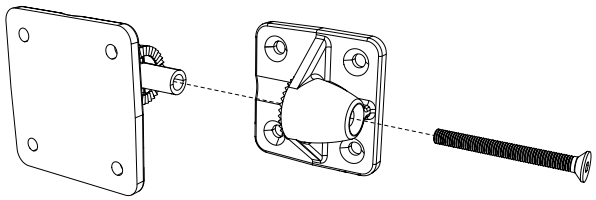
Whenever possible, install your ADORN cabinet speakers in portrait. You can install in landscape, but you can't rotate the driver, and so the dispersion will be impacted as follows.

Speaker	Dispersion in landscape
A40, A40T, A55, A55T	80° H x 110° V
A80T	50° H x 90° V

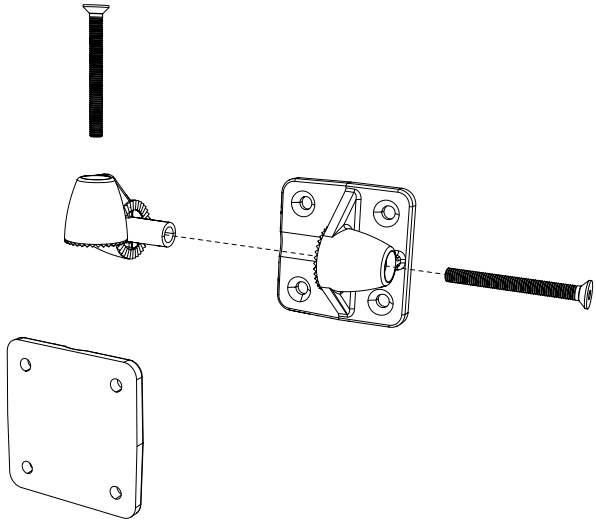
Note that if you ceiling-mount ADORN cabinet speakers, you can only install in landscape. For details, see Ceiling mounting cabinet speakers (page 22).

To wall mount A40, A40T, A55 and A55T

1. Decide whether you need to adjust the installed speaker horizontally or vertically or in both planes.

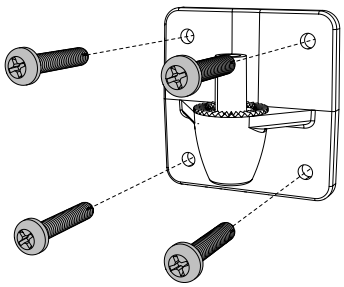


2. Separate the wall section from the rest of the bracket using a 4 mm hex key (H4).
   - The wall section is larger and has fixing holes on 45 mm centres.
   - The cabinet section is smaller and has countersunk holes on 35 mm centres.
3. If you only need to adjust the speaker in one plane (horizontally or vertically), remove the link section from the cabinet section using a 4 mm hex key (H4).



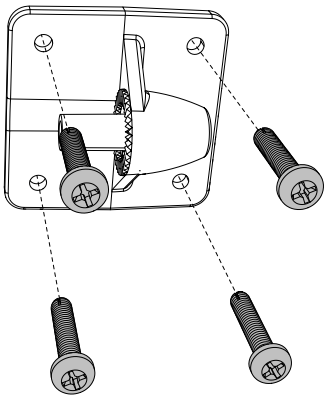
4. Attach the wall section to the wall. So that the installation is safe and secure, you must use fixings that are appropriate for the wall surface and the weight of the speaker.

   If you need to adjust the speaker in both planes, fit the bracket vertically, as shown below.



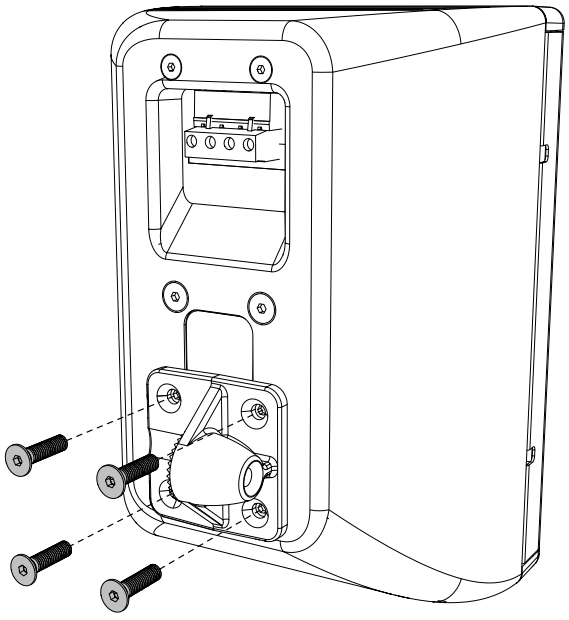
   If you only need to adjust the speaker horizontally, use the same vertical orientation.

If you only need to adjust the speaker vertically, fit the bracket horizontally, as shown below.



5. Remove four screws (M5) from the back of the cabinet using a 3 mm hex key (H3) and attach the cabinet bracket section using these screws.

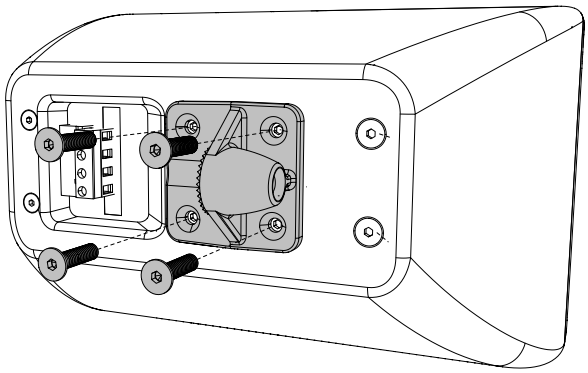
   If you need to adjust the speaker in both planes, fit the bracket horizontally, as shown below.

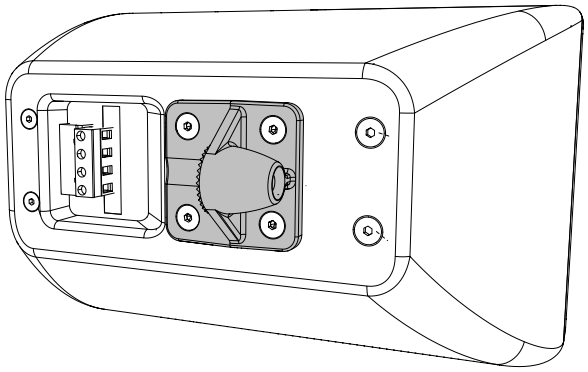


   If you only need to adjust the speaker vertically, use the same horizontal orientation.

   If you only need to adjust the speaker horizontally, fit the bracket vertically with the opening downwards.

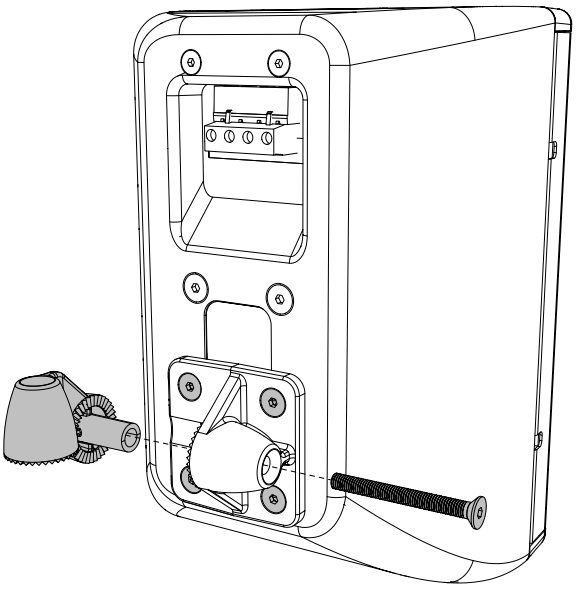
   For landscape installation, if you need to adjust the speaker in both planes, fit the bracket horizontally, as shown below. If you only need to adjust the speaker vertically, use this same orientation.

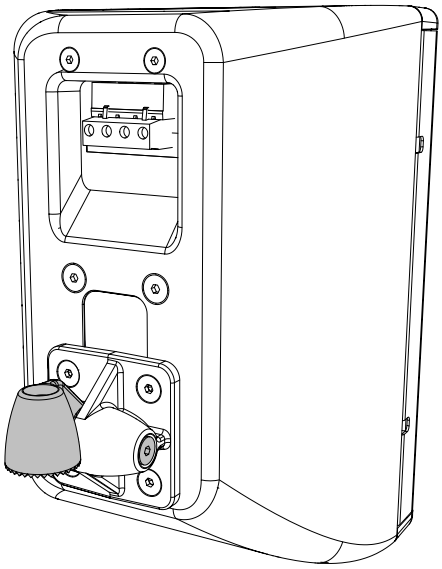




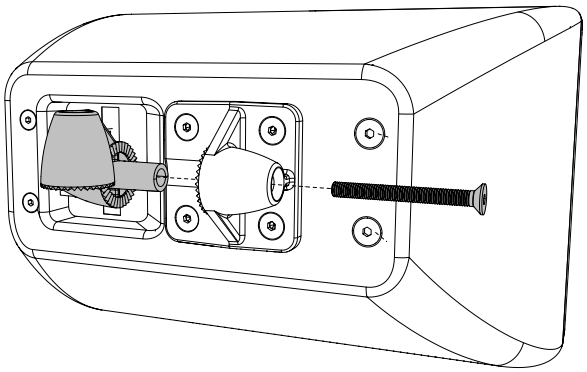
   If you only need to adjust horizontally, fit the bracket vertically with the opening downwards.

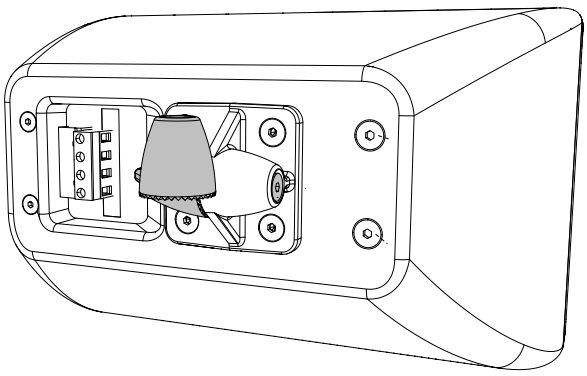
6. If you need to adjust in both planes, fit the link section to the cabinet section. For portrait, see below:





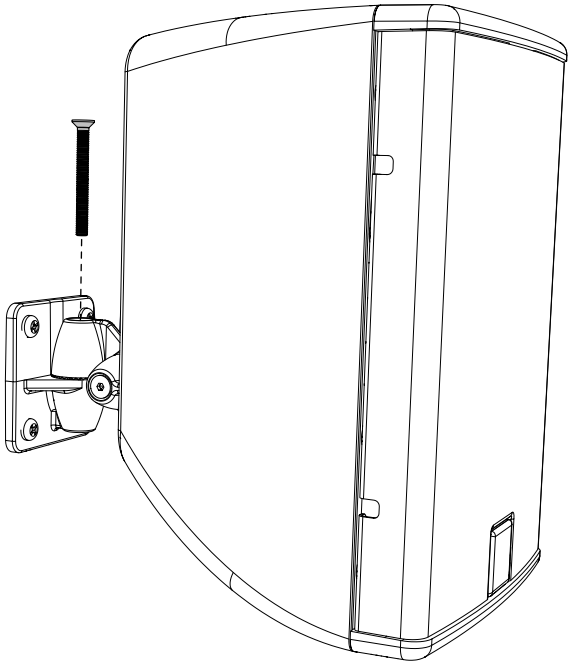
For landscape, see below:





7. Remove the pivot bolt from the wall bracket section.

8. Offer up the speaker to the wall bracket section.



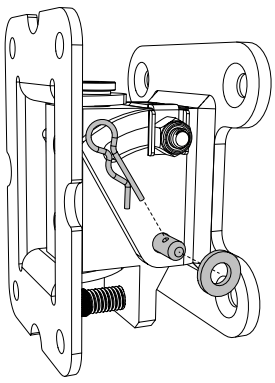
If the wall bracket section is vertical, the other section will hook securely in place freeing up your hands. You can then fit the pivot bolt.

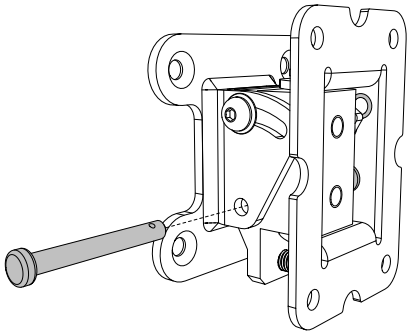
If the wall bracket is horizontal (allowing only vertical adjustment), slide the two sections of the bracket together and support the speaker with one hand while you insert the pivot bolt with your other hand. With this mounting option, you don't use the link section of the bracket.

9. Leave the bolt with a little play, to allow for final adjustments. You can now position the speaker on the radial teeth and adjust the position in increments of approximately 10°. If the fitting includes the link section, you can loosen the other fitting slightly, so that you can adjust in the other plane.
10. Connect the speaker cables (page 14).
11. Check the coverage using an audio source and make final adjustments to the speaker position.
12. When you have found the best position, tighten the securing bolts.

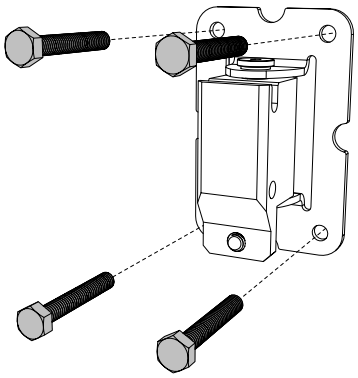
To wall mount A80T

1. Separate the two halves of the bracket by removing the R-clip, washer and lower pin (as shown below). Don't remove the upper nut and bolt in the curved slot.





2. Attach the wall section to the wall. Note that the wall section is rectangular whereas the cabinet section is square. Make sure that the grub screw is at the bottom.

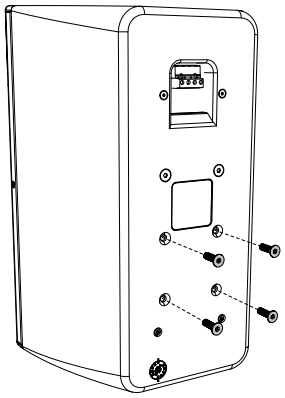


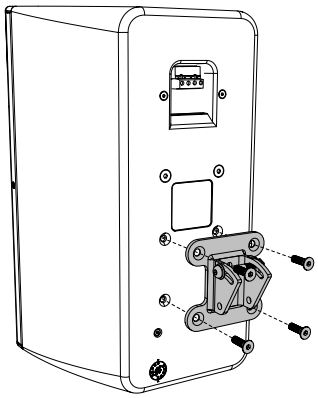
Use wall fixings that are appropriate for the composition of the wall and the weight of the speaker.

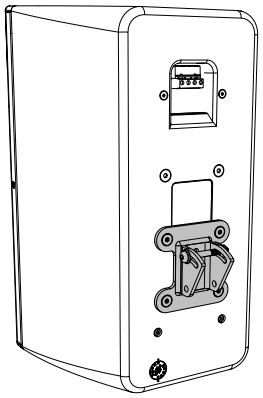
3. Remove four screws from the back of the cabinet using a 4 mm hex key and attach the cabinet section of the bracket (the square section) using these screws.

For landscape, use the four holes in the middle of the cabinet and make sure the bolt is horizontal in landscape.

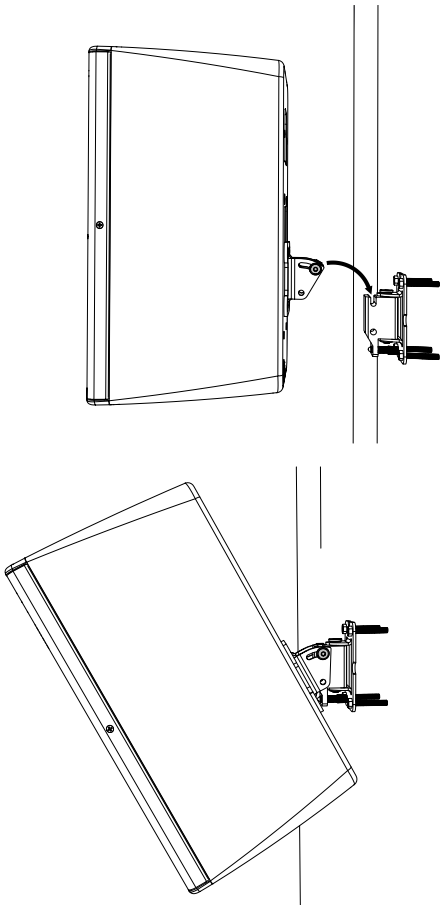
For portrait, use the lower four holes and make sure the bolt is horizontal in portrait.





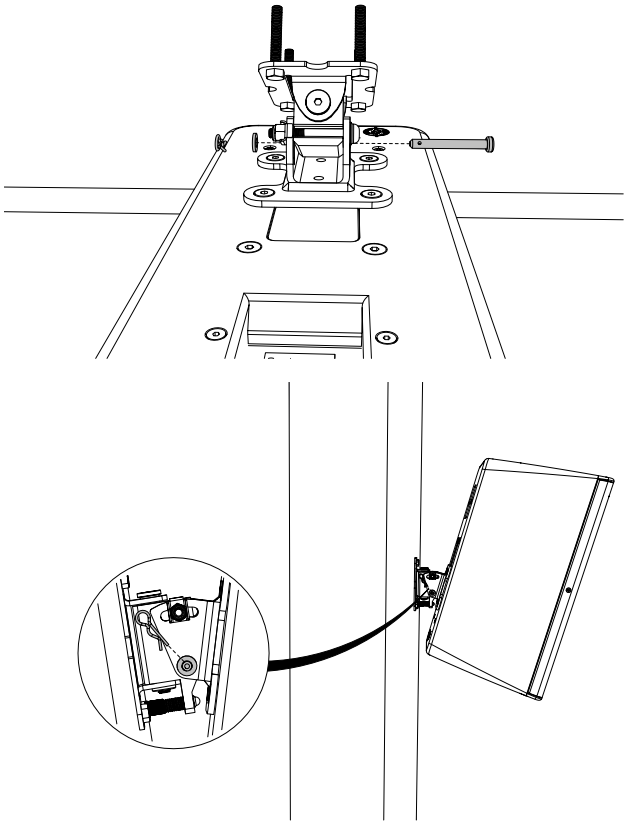


4. Offer the speaker up to the bracket and hook the horizontal bolt of the cabinet section onto the notch of the wall section.

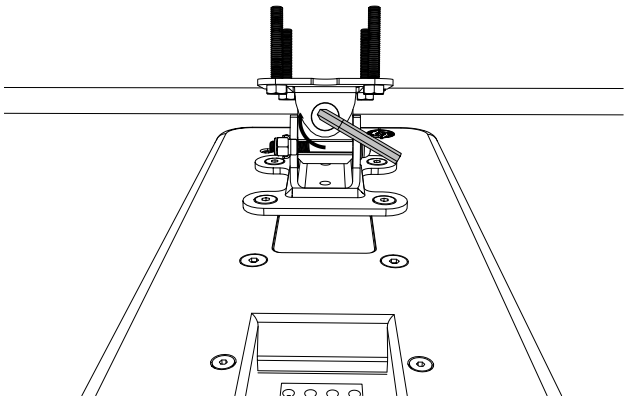


> When working at height, you must use appropriate safety measures.
>
> A scaffold tower or lifting platform will allow you to use both hands safely.

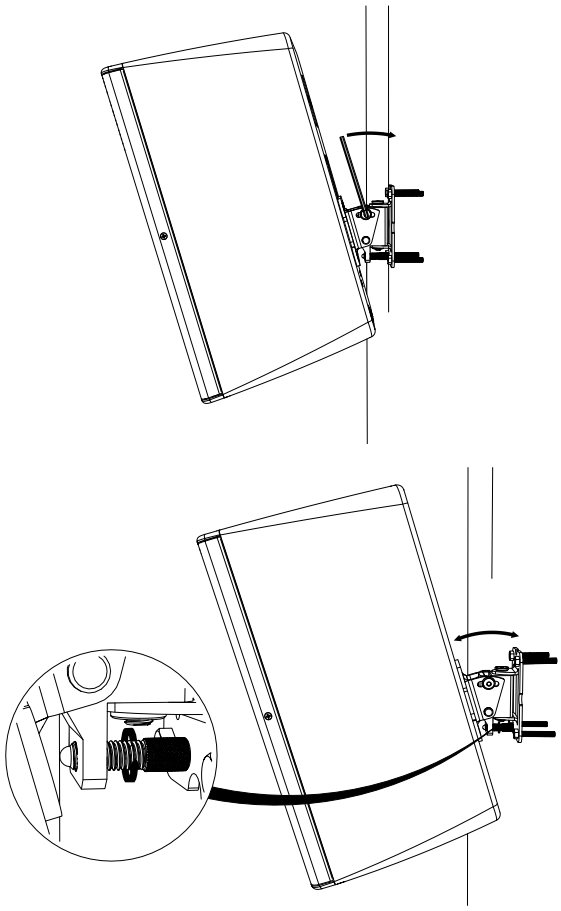
5. Replace the pin, washer and R clip.



6. Adjust horizontally (pan) by rotating the assembly on the vertical bolt. Use an M5 hex key.



7. Adjust vertically (tilt) by loosening the horizontal bolt and adjusting the grub screw.



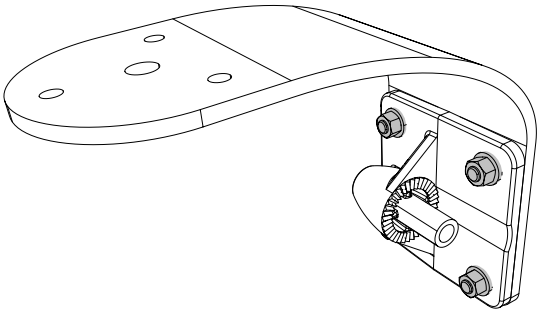
8. Connect the speaker cables (page 14).
9. Check the coverage using an audio source and make final adjustments to the speaker position.
10. When you have found the best position, tighten the securing bolts.

Ceiling mounting cabinet speakers

You can mount ADORN cabinet speakers on ceilings using optional ceiling brackets:

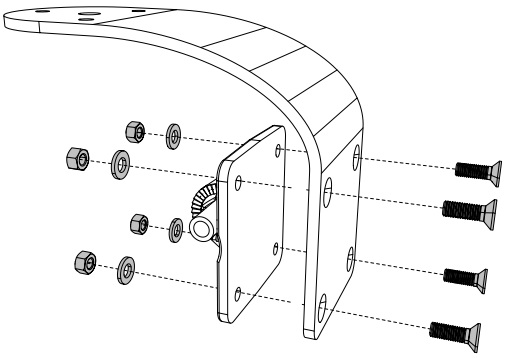
- For the A40, A40T, A55 and A55T, use bracket CDDCB5. This ceiling bracket connects to the wall bracket supplied with the speaker.
- For the A80T, use bracket CDDCB6/8.

Note that if you use a ceiling bracket, you can only mount ADORN cabinet speakers in landscape, and this will impact the dispersion. For details, see Portrait or landscape (page 16).

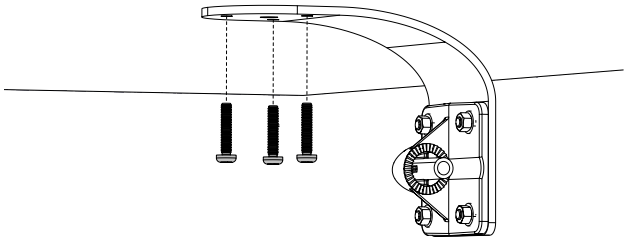


To ceiling mount the A40, A40T, A55 and A55T

1. Disassemble the wall bracket as described in the section Wall mounting ADORN cabinet speakers (page 16).
2. Bolt the wall section of the wall bracket to the ceiling bracket using the four M5 screws, plain washers and Nyloc nuts supplied with the ceiling bracket. Attach the wall bracket horizontally, as shown below:



3. Fix the ceiling bracket to the ceiling. The bracket has three 5.5 mm holes and a central 8.5 mm hole.

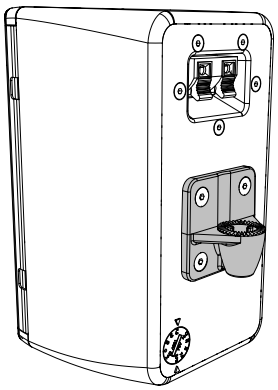


You can use the larger central hole as the principal fixing initially; this lets you find the correct horizontal coverage by pivoting the speaker on this single mounting. When the position is correct, tighten the central fixing, and add further fixings to the other three holes to ensure a safe and secure mounting.

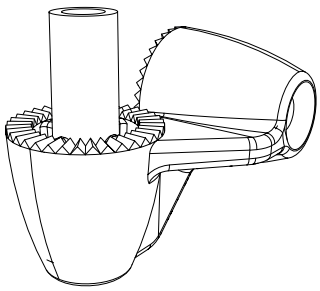
Alternatively, if the three smaller holes will give a safe and secure fixing (for example, by using wood screws into a batten above plasterboard), you could use the centre hole for cable routing.

Make sure that the attachment to the ceiling is safe and secure, particularly as the speakers may be over people's heads. The fixings to use will depend on the ceiling construction and the weight of the speaker.

4. Remove four M5 screws from the back of the cabinet using a 3 mm hex key (H3) and attach the cabinet section of the bracket using the same screws.

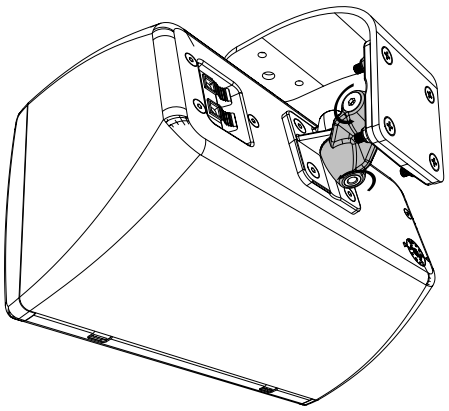


5. Connect the link section to the cabinet section of the wall bracket.



6. Offer the cabinet up to the ceiling bracket assembly and attach it using the 5 mm securing bolt.

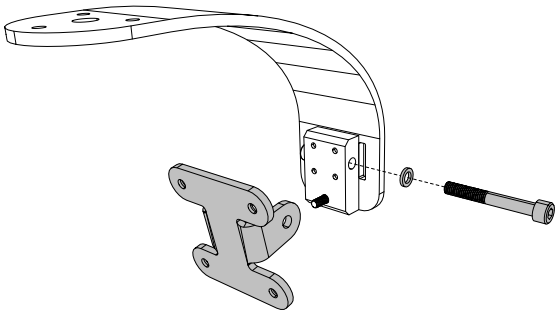
   Fit the bolt slightly loosely so that you can adjust the speaker.



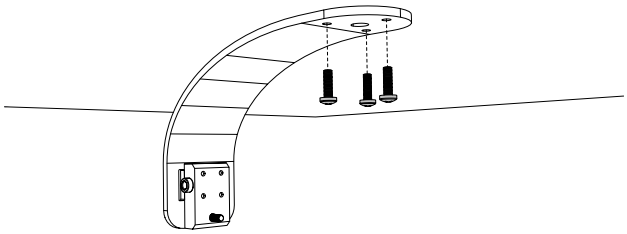
7. Connect the speaker cables. For details, see Connecting ADORN cabinet speakers (page 14).
8. Check the coverage using an audio source and make final adjustments to the speaker position.
9. When you have found the best position, tighten the securing bolts.

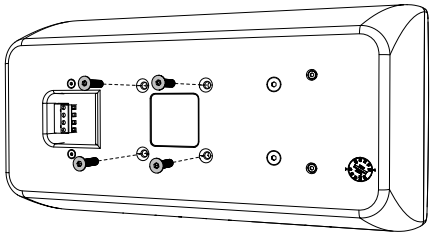
To ceiling mount the A80T

1. Unscrew the cabinet section of the bracket from the ceiling arm using an M6 hex key.



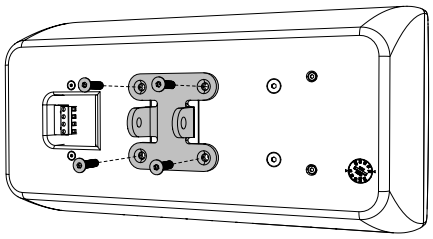
2. Fix the ceiling arm to the ceiling. The ceiling arm has three 6.5 mm holes and a central 13 mm hole for this purpose.

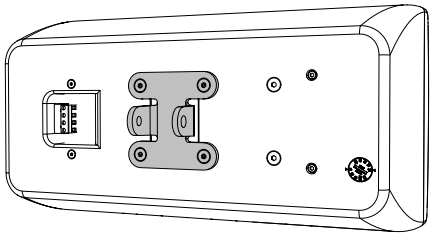




You can use the larger central hole as the principal fixing initially; this lets you find the correct horizontal coverage by pivoting the speaker on this single mounting. When the position is correct, tighten the central fixing, and add further fixings to the other three holes to ensure a safe and secure mounting.

Alternatively, if the three smaller holes will give a safe and secure fixing (for example, by using wood screws into a batten above plasterboard), you could use the centre hole for cable routing.





Make sure that the attachment to the ceiling is safe and secure, particularly as the speakers may be over people's heads. The fixings to use will depend on the ceiling construction and the weight of the speaker.

3. Terminate the speaker cable with the Phoenix-style connector (page 14) supplied with the speaker.

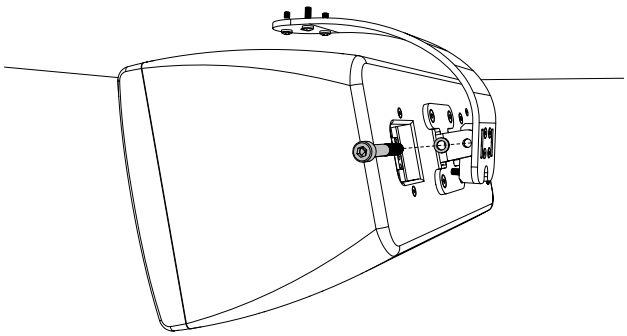
   Note that you could stop at this stage (for first fix) and complete the rest of the steps later (for second fix).

4. Remove four M6 screws from the cabinet using a 4 mm hex key (H4) and attach the cabinet bracket section using the same screws.

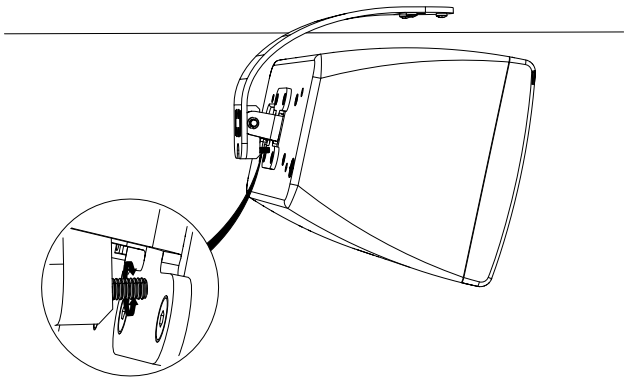
   The A80T has six screws on the back and you remove the middle four screws so that the bracket is in the middle of the cabinet. Make sure that the bolt holes are horizontal.

5. Offer the cabinet up to the ceiling bracket assembly and attach it using the 5 mm securing bolt. Leave this

a little loose, so you can adjust the vertical speaker position.



6. Adjust the vertical position using the grub screw accessed from the rear of the bracket.



7. Plug in the Phoenix-style connector.
8. Check the coverage using an audio source and make final adjustments to the speaker position.
9. When you have found the best position, tighten the securing bolts.

Installing ADORN ceiling speakers

Cutting ceiling holes

We supply a cut-out template along with the ADORN ceiling speakers. This template also acts as the packaging that holds the speaker in place in the cardboard box, so take care not to throw this packaging away.

Alternatively, you can cut a circular hole with the following diameter:

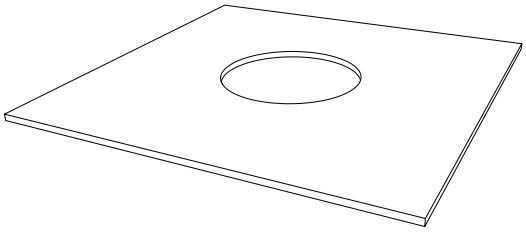
ACS-40TS	197 mm (7.75”) diameter ceiling hole
ACS-55TS and ACS-55T	222 mm (8.74”) diameter ceiling hole

Suspended ceilings

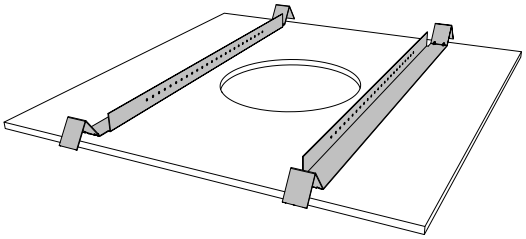
The ADORN ceiling speakers include two tile rails and a C bracket for use with suspended or false ceilings.

To prepare a suspended ceiling

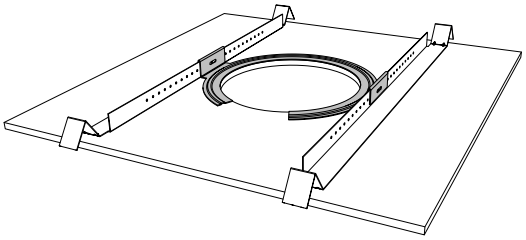
1. Remove the ceiling tile and cut a hole in the centre of the tile. For details, see Cutting ceiling holes (page 26).



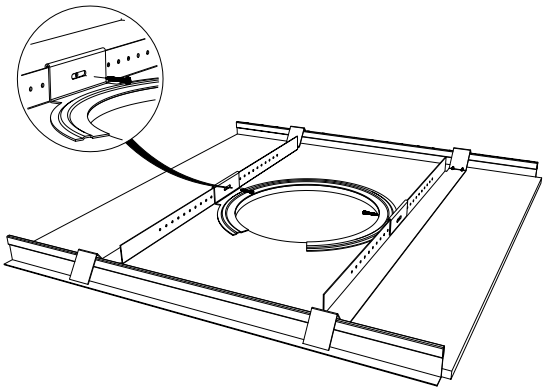
2. Place the tie rails on either side of the hole, orientated as shown and ensuring that the ends align with the edges of the tile.

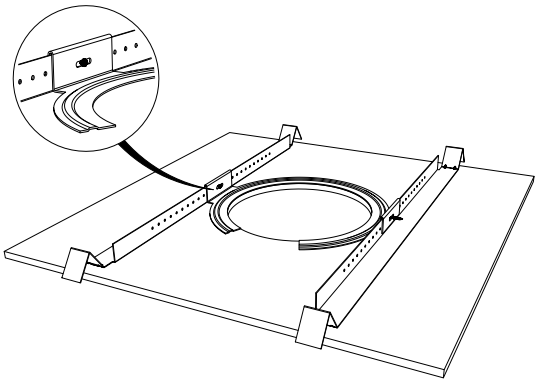


3. Place the C-bracket in position over the hole with the clips hooked over the rails. Make sure the bracket is aligned accurately with the hole.



4. Screw the C-Bracket in place with the screws provided. Screw from the hole side through to the rails. This will make it easier to access the screws if you need to make an adjustment later.





5. Place the bracket assembly into the ceiling. Re-shape the ends of the tile rail so that they fit onto the supporting frame for the ceiling. Note that the tile rails simply hook on top of the ceiling frame; they are not fixed in position. You can now replace the tile by lifting up one side of the bracket.
6. Once the tile is back in position, make sure that the frame sits on the ceiling frame and that the C-Bracket is accurately lined up with the hole.

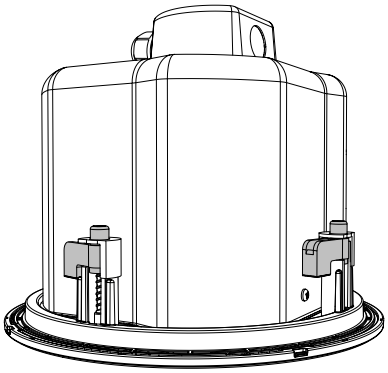
   If necessary, reach through the hole and loosen the fixing screws holding the C-Bracket to the rails, adjust the position and re-tighten the screws.

Installing a ceiling speaker

Once you have prepared a suitable hole in the ceiling, or have prepared a suspended ceiling as described above, you can now install the speaker.

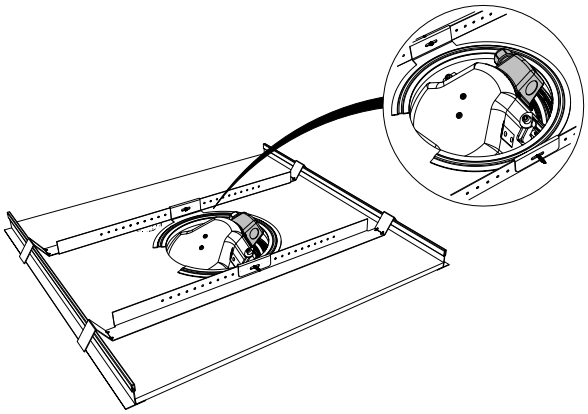
To install a ceiling speaker

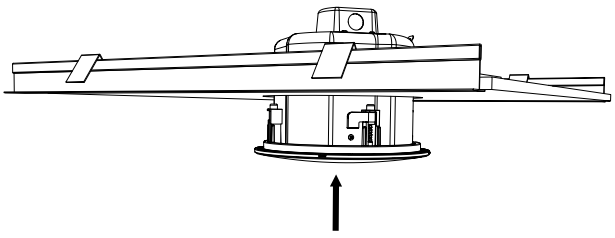
1. Pull the cabling down through the hole. It is important that there is enough slack on the cable to allow easy connection of the cables to the speaker.
2. Connect the speaker cable (page 15).
3. Fit a safety wire to the tab and ensure this is firmly attached to a fixing point independent of the ceiling structure.
4. Make sure that the tabs that are going to hold the speaker in position are rotated parallel to the edge of the bezel. This is so that you can insert the speaker into the ceiling hole. When you tighten the fixing screws, these fixing tabs will rotate 90° and then tighten to the ceiling to hold the speaker securely in place.



The connector cover sticks out at the side of the back can. This is to keep the depth of the speaker to a minimum so that the speakers are suitable for shallow voids above ceilings.

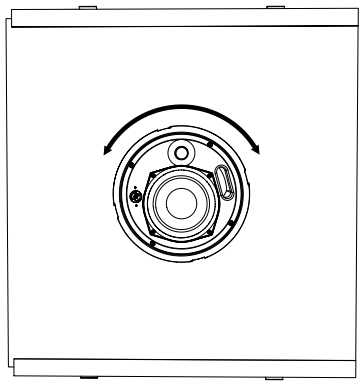
To fit the speaker, you will need to guide the connector cover and cables into the hole first (with the speaker at an angle) and then raise the speaker into position flush in the hole.



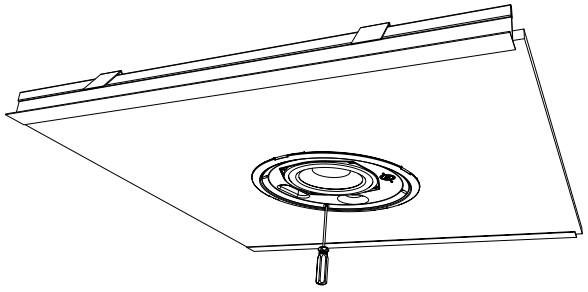


5. If you are deploying several ceiling speakers in a line, orient the tweeters so that an imaginary line

between the woofer and tweeter points along the line of speakers. This will minimise the phase issues at the crossover point that are inevitable with a two-way speaker.

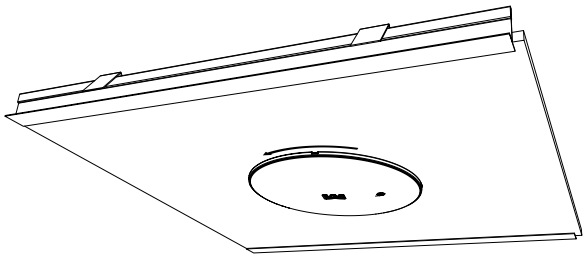


6. Tighten the mounting screws from the front baffle to secure the speaker to the ceiling. The ACS-40TS has three mounting screws, the ACS-55TS and ACS-55T have four. Tighten these screws clockwise so that the swivel tabs rotate 90° and pull down onto the ceiling or ceiling tile to hold the speaker securely in place. We recommend a torque setting of 0.5 Nm (and no more than 1 Nm to avoid over tightening).



To fit the grille

1. The grille has a simple bayonet fitting. Locate the lugs on the underside of the grille and position them on the ceiling speaker.



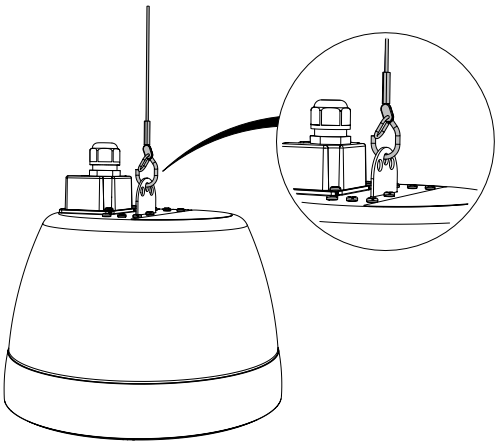
2. Rotate the grille clockwise about 5 degrees to fix it in place.
3. To remove the grille for maintenance or adjustment, rotate the grille anticlockwise about 5 degrees.

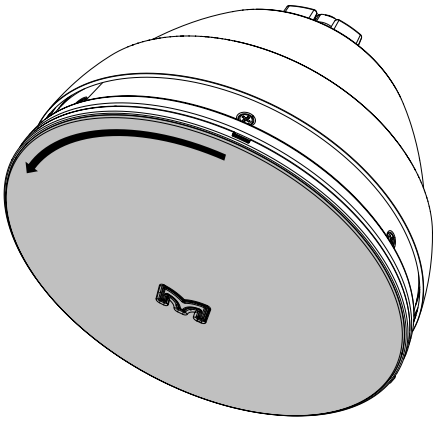
Safety information for ceiling speakers

- Martin Audio ADORN ceiling speakers must be installed by experienced installation personnel using all accessories appropriate to the ceiling construction.
- The installer must check with all relevant local, national and international electrical, fire and building safety authorities to ensure compliance with all regulations.
- Each ADORN ceiling speaker must be fitted with a steel safety wire between its rear can safety tag and a suitable overhead supporting structure independent of the ceiling. This is to provide a secondary safety support in the event of damage to the ceiling.
- When installed in an air handling space, the steel cover plates must be sealed to the loudspeaker back cans with firestop putty or a suitable alternative. This is to ensure plenum tight enclosure of the electrical connections.

Fitting the pendant speaker

The ACP-55T is designed to be suspended in free space from a single point. Use the mounting tab on the top of the enclosure to attach the C3K accessory (or your own wire rope or chain).





The suspension method and fixings must be rated for flown applications and have a working load limit greater than the weight of the speaker.

Fitting the pendant speaker grille

If you know the required electrical configuration (low impedance or the specific 70 V and 100 V line tap), you can select the power and fit the grille before you suspend the ACP-55T.

The grille fits in exactly the same way as for the ceiling speakers. For details, see Installing ADORN ceiling speakers (page 26).

Specifications

A40 and A40T

Type	Ultra-compact passive two-way system, front ported bass reflex
Frequency response[1]	98 Hz – 17 kHz ± 3 dB, –10 dB @ 70 Hz
Drivers	LF: 4” /1” high-temp voice coil, coated paper cone, rubber surround, ferrite motor, pressed steel chassis HF: 0.75” silk dome, neodymium motor
Rated power[2]	40 W AES, 160 W peak
Recommended amplifier	VIA2004 (for A40), VIA5002 (for A40T)
Sensitivity[3]	87 dB
Maximum SPL[3]	103 dB continuous, 109 dB peak, 115 dB peak with crest factor 4
Nominal impedance	16 ohms
Dispersion[4]	110° H x 80° V
Crossover	3.5 kHz passive (LF and HF auto-resetting fuses)
Transformer taps (A40T only)	70 V: 20/10/5/2.5 W 100 V: 20/10/5 W
Recommended high pass filter	60 Hz 24 dB/oct
Enclosure	ABS, UL 94V-0 rated
Finish	Black (RAL 9005) or white (RAL 9016)
Grille	Perforated steel
Connectors	Push terminals
Dimensions (excluding bracket)	(W) 124 mm x (H) 200 mm x (D) 114 mm (W) 4.9 in x (H) 7.9 in x (D) 4.5 in
Weight	A40: 1.75 kg (3.9 lbs) A40T: 2.13 kg (4.7 lbs)
Accessories (included)	Wall bracket included with speaker (replacement part ASM10002 for black or ASM10001 for white)
Accessories (optional)	Waterproof connector cover (AIPKIT for black or AIPKIT-W for white) Ceiling bracket (CDDCB5B for black or CDDCB5W for white)

[1]On-axis in half space (2 pi) at 1 m.

[2]AES Standard ANSI S4.26-1984.

[3]In half space (2 pi) at 1 m with 2.83 V input and band-limited pink noise.

[4]In open space (4 pi) at 2 m to –6 dB.

A55 and A55T

Type	Ultra-compact passive two-way system, front ported bass reflex
Frequency response[1]	90 Hz – 17 kHz ± 3 dB, –10 dB @ 65 Hz
Drivers	LF: 5.25” /1” high-temp voice coil, coated paper cone, rubber surround, ferrite motor, pressed steel chassis HF: 0.75” silk dome, neodymium motor
Rated power[2]	50 W AES, 200 W peak
Recommended amplifier	VIA2004 (for A55), VIA5002 (for A55T)
Sensitivity[3]	90 dB
Maximum SPL[3]	107 dB continuous, 113 dB peak, 119 dB peak with crest factor 4
Nominal impedance	16 ohms
Dispersion[4]	110° H x 80° V
Crossover	3.5 kHz passive (LF and HF auto-resetting fuses)
Transformer taps (A55T only)	70 V: 30 W / 15 W / 7.5 W / 3.75 W 100 V: 30 W / 15 W / 7.5 W
Recommended high pass filter	60 Hz 24 dB/oct
Enclosure	ABS, UL 94V-0 rated
Finish	Black (RAL 9005) or white (RAL 9016)
Grille	Perforated steel
Connectors	Push terminals
Dimensions (excluding bracket)	(W) 152 mm x (H) 245 mm x (D) 140 mm (W) 6.0 in x (H) 9.6 in x (D) 5.5 in
Weight	A55: 2.21 kg (4.9 lbs) A55T: 2.81 kg (6.2 lbs)
Accessories (included)	Wall bracket supplied with speaker (replacement part ASM10002 for black or ASM10001 for white)
Accessories (optional)	Waterproof connector cover (AIPKIT for black or AIPKIT-W for white) Ceiling bracket (CDDCB5B for black or CDDCB5W for white)

[1]On-axis in half space (2 pi) at 1 m.

[2]AES Standard ANSI S4.26-1984.

[3]In half space (2 pi) at 1 m with 2.83 V input and band-limited pink noise.

[4]In open space (4 pi) at 2 m to –6 dB.

A80T

Type	Compact passive two-way system, front ported bass reflex
Frequency response[1]	63 Hz – 17 kHz ± 3 dB, –10 dB @ 50 Hz
Drivers	LF: 8" with 2" high-temp voice coil, ferrite motor system HF: 1" with 1" exit polymer dome compression driver
Rated power[2]	200 W AES, 800 W peak
Recommended amplifier	VIA2502 or VIA5004 (or VIA5002 for 70/100 V line)
Sensitivity[3]	91 dB
Maximum SPL[3]	114 dB continuous, 120 dB peak, 126 dB peak with crest factor 4
Nominal impedance	8 ohms
Dispersion[4]	90° H x 50° V
Crossover	2.3 kHz passive (LF and HF auto-resetting fuses)
Transformer taps	70 V: 60/30/15/7.5 W 100 V: 60/30/15 W
Recommended high pass filter	40 Hz 24 dB/oct (8 ohm), 60 Hz 24 dB/oct (transformer)
Enclosure	ABS, UL 94V-0 rated
Finish	Black (RAL 9005) or white (RAL 9016)
Grille	Perforated steel
Connectors	Phoenix-style plug with screw connections (see accessories below)
Fittings	6 x M6 inserts for wall or ceiling brackets
Dimensions (excluding bracket)	(W) 246 mm x (H) 421 mm x (D) 233 mm (W) 9.7 in x (H) 16.6 in x (D) 9.2 in
Weight	9.1 kg (20.0 lbs)
IP rating	IP54 compliant when used with the optional connector cover (see accessories below)
Accessories (supplied)	Weatherised wall bracket supplied with speaker (replacement part WB6/8B for black or WB6/8W for white) Phoenix-style 12 A plug supplied with speaker (replacement part PCX00006)
Accessories (optional)	Weatherproof connector cover (black only), screws, gasket seal and cable gland (kit ASF09006 contains all these parts) Weatherised ceiling bracket (CDDCB6/8B for black or CDDCB6/8W for white). Note that you can only install the speaker horizontally on the ceiling bracket and you cannot rotate the driver, so the dispersion will be 50° H x 90° V

[1]On-axis in half space (2 pi) at 1 m.

[2]AES Standard ANSI S4.26-1984.

[3]In half space (2 pi) at 1 m with 2.83 V input and band-limited pink noise.

[4]In open space (4 pi) at 2 m to –6 dB.

ACP-55T

Type	Passive two-way pendant speaker, ported bass reflex
Frequency response[1]	98 Hz – 20 kHz ± 3 dB, –10 dB @ 56 Hz
Drivers	LF: 5.25" with 1" high-temp voice coil, coated paper cone, rubber surround, ferrite motor, pressed steel chassis HF: 0.75" silk dome, neodymium motor
Rated power[2]	50 W AES, 200 W peak
Recommended amplifier	VIA2004 (for low impedance), VIA5002 (for 70/100 V)
Sensitivity[3]	86 dB
Maximum SPL[3]	103 dB continuous, 109 dB peak, 115 dB peak with crest factor 4
Nominal impedance	16 ohms
Dispersion[4]	150° conical up to 7 kHz
Crossover	3 kHz passive (LF and HF auto-resetting fuses)
Transformer taps	70 V: 30/15/7.5/3.75 W 100 V: 30/15/7.5 W
Recommended high pass filter	65 Hz 24 dB/oct
Enclosure	UL 94V-0 rated ABS baffle with steel back can
Finish	Black (RAL 9005) or white (RAL 9016)
Grille	Perforated steel, powder coated, bayonet fitting
Connectors	Ceramic connector (in and link)
Dimensions	Diameter: 246 mm (9.7 in) Depth: 238 mm (9.35 in)
Weight	3.46 kg (7.62 lbs)
Accessory (optional)	CK3 suspension cable accessory kit – 3 metre (10 ft)

[1]On-axis in open space (4 pi) at 1 m.

[2]AES Standard ANSI S4.26-1984.

[3]In open space (4 pi) at 1 m with 2.83 V input and band-limited pink noise.

[4]In open space (4 pi) at 2 m to –6 dB.

ACS-40TS

Type	Ultra-compact, passive two-way ceiling speaker, ported bass reflex
Frequency response[1]	106 Hz – 20 kHz ± 3 dB, –10 dB @ 73 Hz

Drivers	LF: 4” with 1” high-temp voice coil, coated paper cone, rubber surround, ferrite motor, pressed steel chassis HF: 0.75” silk dome, neodymium motor
Rated power[2]	40 W AES, 160 W peak
Recommended amplifier	VIA2004 (for low impedance), VIA5002 (for 70/100 V)
Sensitivity[3]	86 dB
Maximum SPL[3]	102 dB continuous, 108 dB peak, 114 dB peak with crest factor 4
Nominal impedance	16 ohms
Dispersion[4]	180° conical up to 10 kHz
Crossover	3.5 kHz passive (LF and HF auto-resetting fuses)
Transformer taps	70 V: 20/10/5/2.5 W 100 V: 20/10/5 W
Recommended high pass filter	75 Hz 24 dB/oct
Enclosure	UL 94V-0 rated ABS baffle with steel back can
Finish	Baffle and grille: white (RAL9016) Back can: zinc plated
Grille	Perforated steel, powder coated, bayonet fitting
Connectors	Ceramic connector (in and link) behind fire-retardant steel cover
Dimensions	Diameter: 221 mm (8.7 in) Back can depth: 97 mm (3.8 in) or 115 mm (4.5 in) with grille
Hole cut-out dimension	197 mm (7.75 in) diameter
Weight	2.2 kg (4.8 lbs)
Accessories (included)	Two tile rails and C-ring backing plate included with speaker Cut-out template (as part of packaging)

[1]On-axis in half space (2 pi) at 1 m.

[2]AES Standard ANSI S4.26-1984.

[3]In half space (2 pi) at 1 m with 2.83 V input and band-limited pink noise.

[4]In open space (4 pi) at 2 m to −6 dB.

ACS-55T

Type	Compact, passive two-way ceiling speaker, ported bass reflex
Frequency response[1]	98 Hz – 20 kHz ± 3 dB, −10 dB @ 62 Hz
Drivers	LF: 5.25” with 1” high-temp voice coil, coated paper cone, rubber surround, ferrite motor, pressed steel chassis HF: 0.75” silk dome, neodymium motor
Rated power[2]	50 W AES, 200 W peak
Recommended amplifier	VIA2004 (for low impedance), VIA5002 (for 70/100 V)
Sensitivity[3]	90 dB
Maximum SPL[3]	107 dB continuous, 113 dB peak, 119 dB peak with crest factor 4
Nominal impedance	16 ohms
Dispersion[4]	150° conical up to 7 kHz
Crossover	3 kHz passive (LF and HF auto-resetting fuses)
Transformer taps	70 V: 30/15/7.5/3.75 W 100 V: 30/15/7.5 W
Recommended high pass filter	65 Hz 24 dB/oct
Enclosure	UL 94V-0 rated ABS baffle with steel back can
Finish	Baffle and grille: white (RAL9016) Back can: zinc plated
Grille	Perforated steel, powder coated, bayonet fitting
Connectors	Ceramic connector (in and link) behind fire-retardant steel cover
Dimensions	Diameter: 245 mm (9.7 in) Back can depth: 192 mm (7.55 in) or 209 mm (8.23 in) with grille
Hole cut-out dimension	222 mm (8.74 in) diameter
Weight	3 kg (6.6 lbs)
Accessories (included)	Two tile rails and C-ring backing plate included with speaker Cut-out template (as part of packaging)

[1]On-axis in half space (2 pi) at 1 m.

[2]AES Standard ANSI S4.26-1984.

[3]In half space (2 pi) at 1 m with 2.83 V input and band-limited pink noise.

[4]In open space (4 pi) at 2 m to −6 dB.

ACS-55TS

Type	Compact, passive two-way ceiling speaker, ported bass reflex
Frequency response[1]	117 Hz – 20 kHz ± 3 dB, −10 dB @ 79 Hz
Drivers	LF: 5.25” with 1” high-temp voice coil, coated paper cone, rubber surround, ferrite motor, pressed steel chassis HF: 0.75” silk dome, neodymium motor
Rated power[2]	50 W AES, 200 W peak
Recommended amplifier	VIA2004 (for low impedance), VIA5002 (for 70/100 V)
Sensitivity[3]	90 dB

Maximum SPL[3]	107 dB continuous, 113 dB peak, 119 dB peak with crest factor 4
Nominal impedance	16 ohms
Dispersion[4]	150° conical up to 7 kHz
Crossover	3 kHz passive (LF and HF auto-resetting fuses)
Transformer taps	70 V: 30/15/7.5/3.75 W 100 V: 30/15/7.5 W
Recommended high pass filter	65 Hz 24 dB/oct
Enclosure	UL 94V-0 rated ABS baffle with steel back can
Finish	Baffle and grille: white (RAL9016) Back can: zinc plated
Grille	Perforated steel, powder coated, bayonet fitting
Connectors	Ceramic connector (in and link) behind fire-retardant steel cover
Dimensions	Diameter: 245 mm (9.7 in) Back can depth: 100 mm (3.95 in) or 118 mm (4.65 in) with grille
Hole cut-out dimension	222 mm (8.74 in) diameter
Weight	2.8 kg (6.2 lbs)
Accessories (included)	Two tile rails and C-ring backing plate included with speaker Cut-out template (as part of packaging)

[1]On-axis in half space (2 pi) at 1 m.

[2]AES Standard ANSI S4.26-1984.

[3]In half space (2 pi) at 1 m with 2.83 V input and band-limited pink noise.

[4]In open space (4 pi) at 2 m to −6 dB.

Technical drawings

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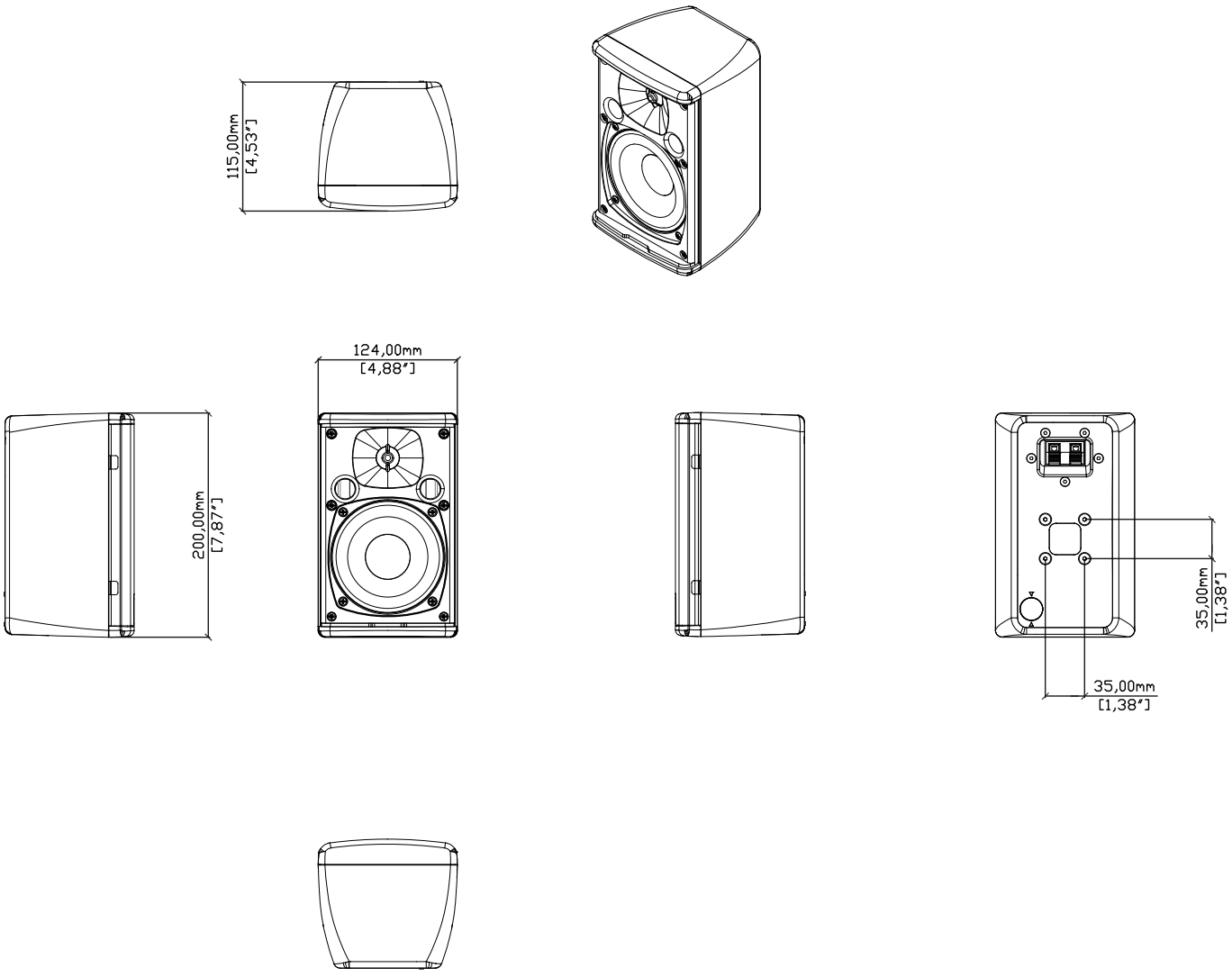

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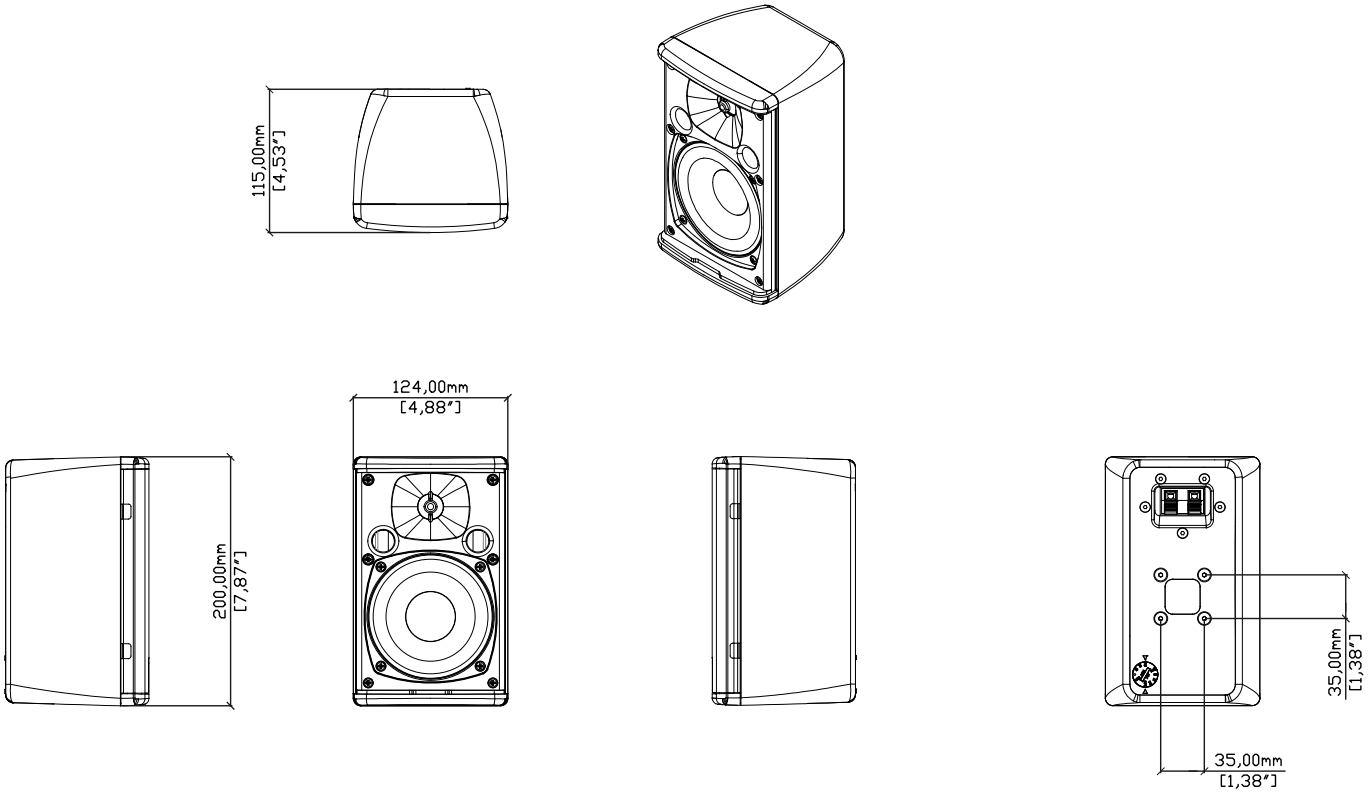

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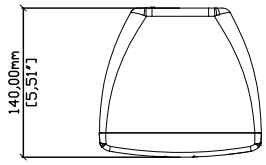

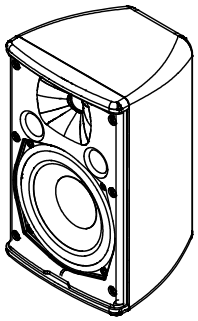

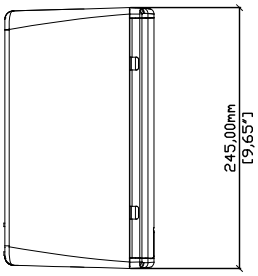

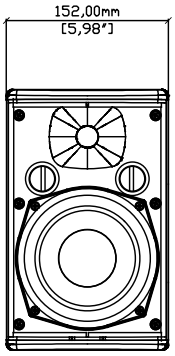

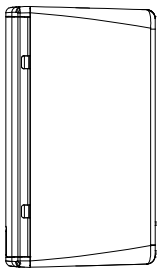

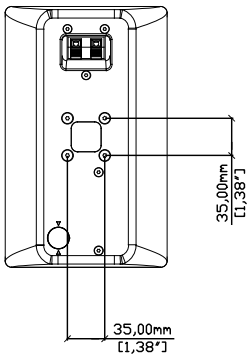

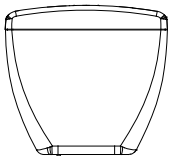

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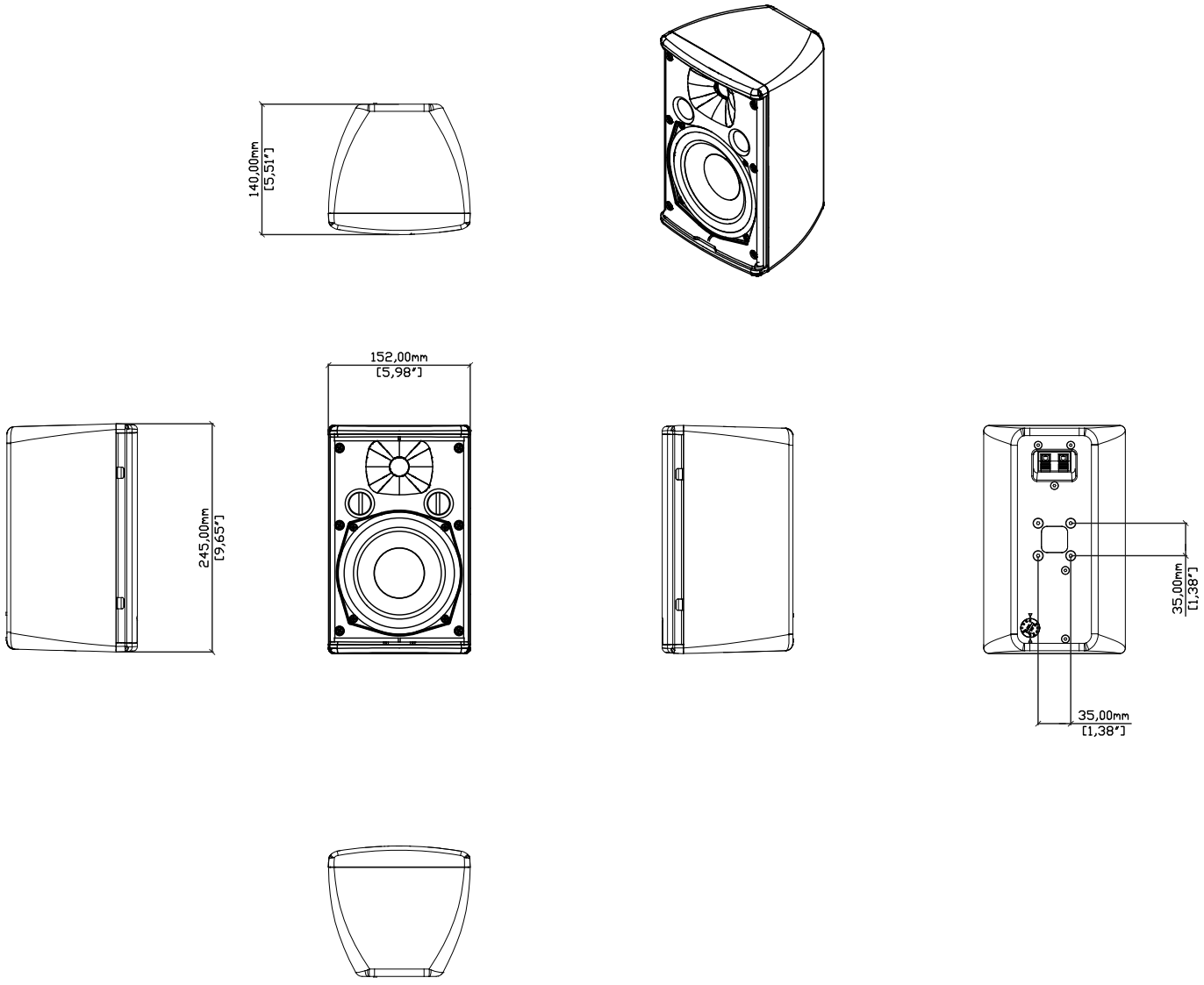

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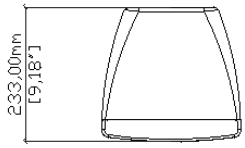

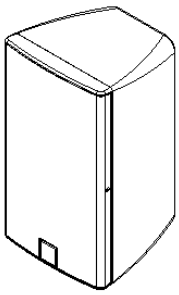

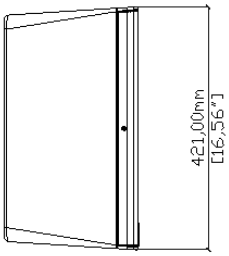

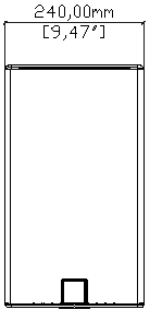

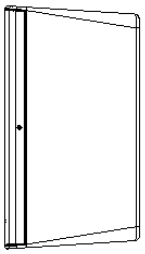

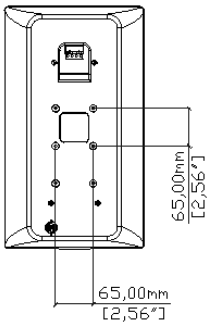

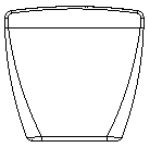

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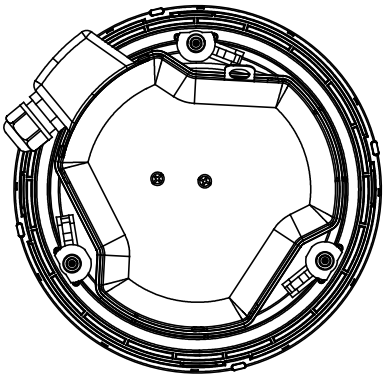

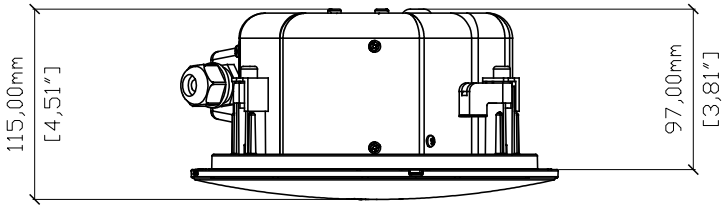

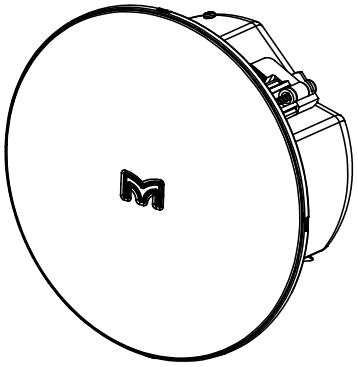

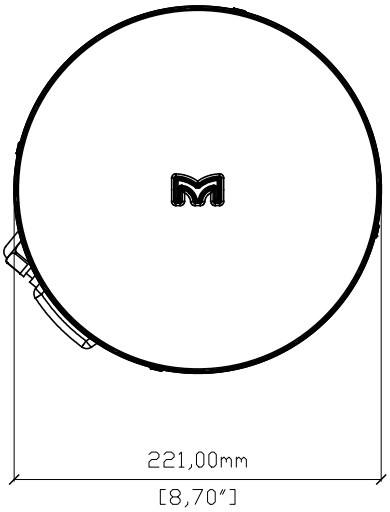

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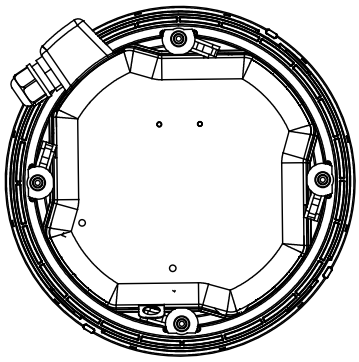

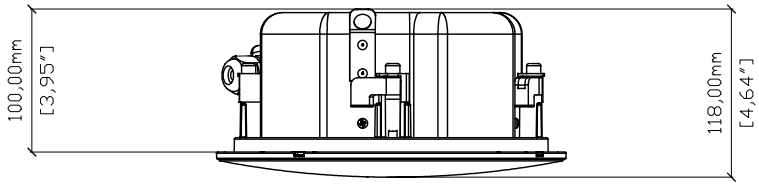

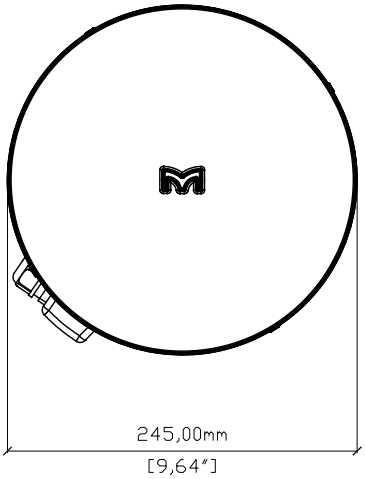

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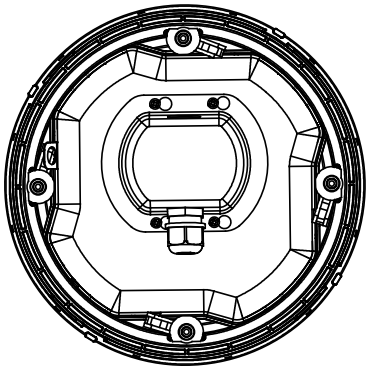

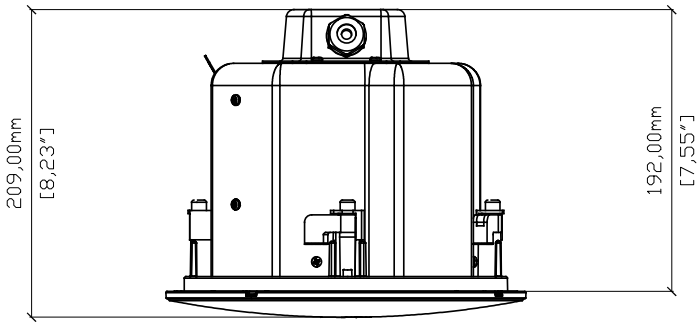

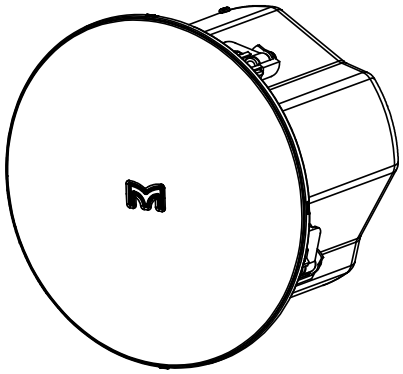

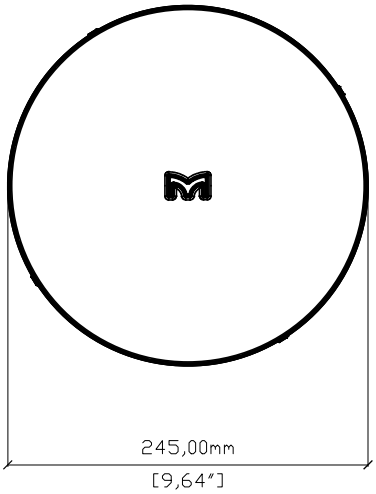

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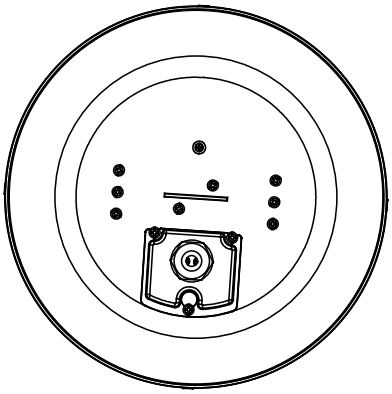

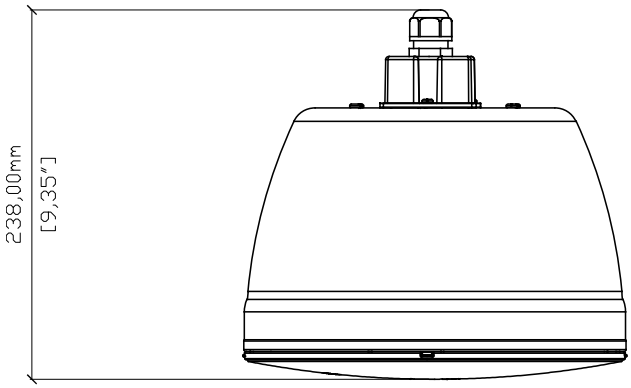

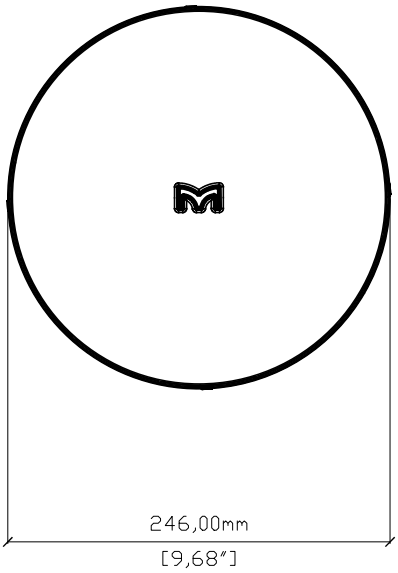

ACP-55T

Troubleshooting

- Bad sound. Check the input and output connectors to make sure you have plugged them completely into the sockets. Check the sound quality with headphones at the amplifier or preamp.

Technical support

- For technical support, contact either your supplier or Martin Audio technical support.
- For Martin Audio technical support, go to our website martin-audio.com and select **Support** > **Support Contacts**.

Service

- For service details, go to our website martin-audio.com and select **Support** > **Service & Returns**.

Warranty

- For warranty details, go to our website martin-audio.com and select **Support** > **Service & Returns**.

Unpacking

Martin Audio loudspeakers are built to the highest standards and are thoroughly inspected before they leave the factory. After unpacking, check your speakers carefully for any signs of transit damage and if you find anything, inform your dealer straight away. if possible, keep the original packaging in case you need to repack the system at a future date.

Recycling

When the product has reached the end of its life, please dispose of it responsibly through a recycling centre.

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