



Platinum In-Ceiling II

Product Manual

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Introduction from the Technical Director

“How can a loudspeaker be made to sound more natural? This is the question that drives our endeavor day-in, day-out. We’re motivated by the quest to eliminate distortion from the most important element in your audio system. How far we’ve come can be measured by the sound of Platinum II: the most accurate and beautiful loudspeakers Monitor Audio has ever made. Supported by painstaking analysis and a lifetime of listening, their evolution has refined our technologies, inspired new discoveries and achieved advances in every area of design - electrical, mechanical, magnetic, acoustic and aesthetic. The result is a speaker range of exceptional quality, dedicated to raising your emotional contact with music and film sound in all its natural glory. Built by audio lovers, for audio lovers, Platinum II provides our answer to the primary challenge of speaker design. To the big question we simply reply “like this!” “



Dean Hartley
Technical Director



Company History

Since 1972, Monitor Audio’s near fanatical commitment to quality in every aspect of loudspeaker design coupled with its willingness to innovate has inspired global recognition and acclaim. Daring to challenge design orthodoxy has been its signature approach.



When Monitor Audio launched its R852MD loudspeaker – the first model to incorporate a metal dome tweeter - it caused quite a stir. Until that time, most metal domes were single-metal types made from copper or titanium and virtually all sounded unconvincing. The R852 used an aluminium-magnesium alloy dome and sounded significantly better and smoother than all of its single-metal rivals. It also incorporated ferro-fluid damping/cooling of the metal voice-coil former and a vented voice coil mechanism for better heat dissipation. These radical design elements formed the basis for successive generations of C-CAM® metal domes.

By consistently refining and applying the technology, Monitor Audio has become the world’s foremost proponent of metal dome drivers. Monitor Audio designs everything in house at their world headquarters in England, so that it can optimise the incomparable blend of virtues that makes Monitor Audio loudspeakers unique: clean, dynamic sound, superior build quality and innovative design. Because they share a philosophy of excellence and a consistency of quality and voicing, loudspeakers of different types: on-wall, In-Ceiling, floor and stand-mounting, may be used together to create the perfect acoustic blend for any room.

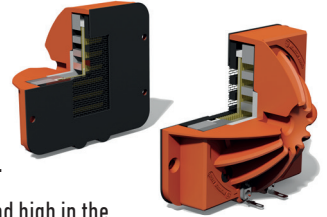
In the strength and depth of Monitor Audio’s evolving product portfolio, the ideal of a universal whole-house loudspeaker brand finds true expression. Decades of accumulated expertise and knowledge have refined the rare mix of innovation, reliability and sheer performance that has propelled the brand to global status and on which aficionados of music and movie sound have come to rely.

Technologies

MPD (Micro Pleated Diaphragm) High Frequency Transducer

AMT design was first invented by Dr Oskar Heil in the 1970s. However, all designs typically suffer from a null in the frequency response around 40kHz. Using FEA modelling techniques, Monitor Audio engineers were able to find the root cause of this null and develop a solution. This phenomenon was eliminated, allowing the driver to operate with uniform output to over 100 kHz. We call this unique innovation Micro Pleated Diaphragm (MPD).

The folded MPD diaphragm exhibits a surface area typically eight times that of a conventional dome tweeter, and around thirteen times that of a pure ribbon tweeter. This large surface area improves the conducted heat path and the open front increases the convection. The power handling is also improved by the high sensitivity of the tweeter. The AMT design also provides a constant non-reactive load to the amplifier, this means it's able to deliver power more efficiently with lower distortion.



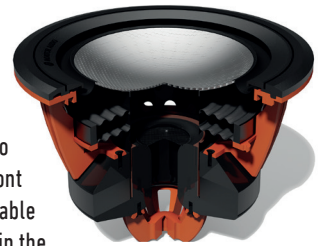
The MPD is designed to bend and does not rely on its structural integrity to extend high in the frequency range. There are no break up modes throughout the entire frequency range, exhibiting clean sonic character, free from any harmonic artefacts.

C-CAM® (Ceramic Coated Aluminium/Magnesium)

C-CAM is an innovative alloy material originally developed by the aerospace industry. It exhibits ideal qualities for use as loudspeaker cones, being extremely rigid, yet light enough to yield high overall efficiency. C-CAM is formed from an alloy of aluminium and magnesium, which undergoes stress-relieving processes in manufacturing to avoid surface deformation and molecular weakness. A layer of pure ceramic (alumina) is deposited onto the surfaces to produce a completely rigid exterior. C-CAM cones are designed to have high resistance to bending stress. When formed into a cone, C-CAM material provides increased clarity and reduced distortion compared to conventional cone materials.

RDT® II (Rigid Diaphragm Technology 2nd Generation)

RDT II is a composite 'sandwich' structure made from ultra-thin low-mass skins, bonded to a honeycomb NomexR core material. The overall thickness of the RDT II diaphragm is only 2mm, yet it exhibits 150 times the strength of a conventional loudspeaker cone. RDT II is a unique, innovative development conceived by Monitor Audio engineers for the new Platinum II series. It uses two skin materials with dissimilar mechanical properties. C-CAM is used for the front skin, while the rear skin is made from a woven carbon fibre. This combination is able to reduce distortion by over 8dB above 300Hz, which equates to a 60% reduction in the energy of harmonic components, making RDT II the lowest distortion cone technology in Monitor Audio's history.



ARC® (Anti-Resonance Composite)

A cast thermo-set polymer loaded with minerals to provide very inert, optimally damped components. This material is ideal for high-end acoustic applications where a high degree of structural rigidity and vibration damping is required. ARC is used for mid-range housings and baffle components. ARC is a unique material, developed specifically by Monitor Audio engineers for the Platinum II series. Its properties ensure energy is damped out and not emitted as high-Q resonance.

Setting Up

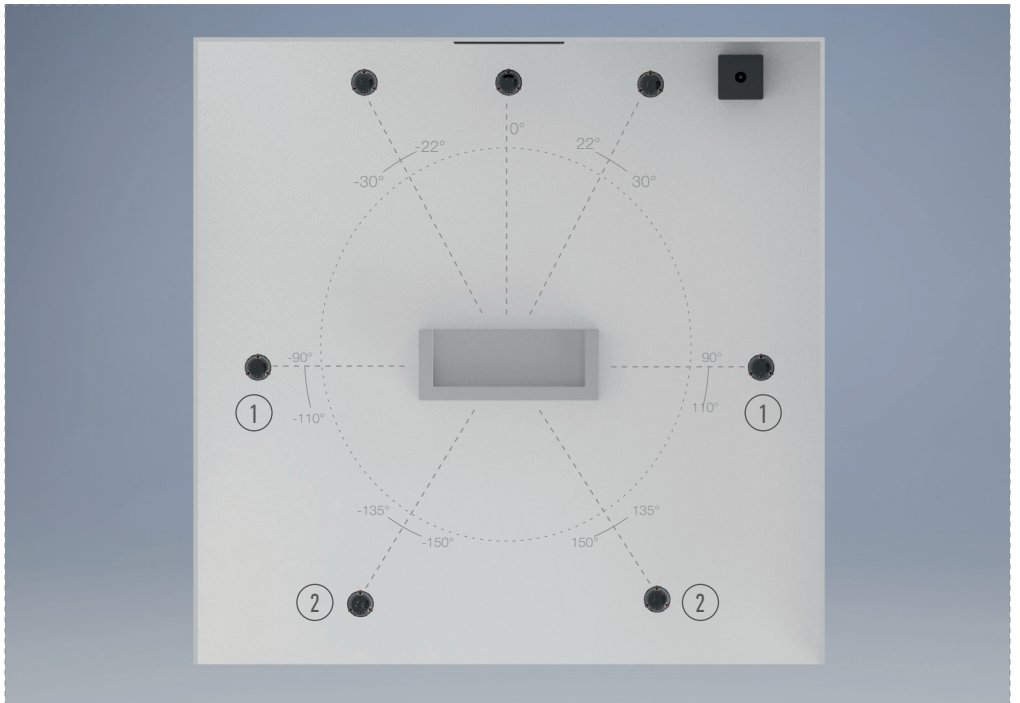
2-Channel Positioning

When arranging a 2-channel system, the main listening position and the loudspeakers should ideally form an equilateral triangle. The speakers should be positioned approximately 6 - 10 feet (1.8 - 3m) apart. They should be positioned so that the tweeter is angled towards the main listening position.

AV Positioning

Please refer to the illustration below and opposite for the ideal angles and positions of each speaker in your surround system.

The centre channel will need to be as close to the screen as possible to ensure the sound does not sound disjointed, with a approximately 2-3 feet from the rear wall.



1. Side surround speakers
2. Rear surround speakers

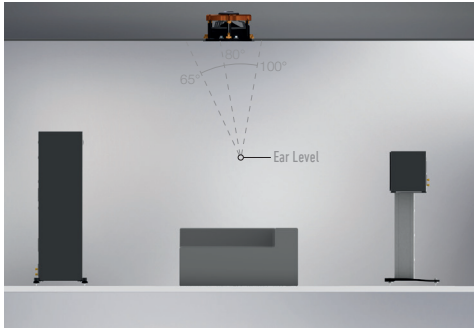
A 7.(1) surround system will make use of side (position 1) and rear (position 2) speakers to create a full 360° soundstage, if setting up a 5.(1) system you can place your surrounds in position (1) or (2).

Atmos

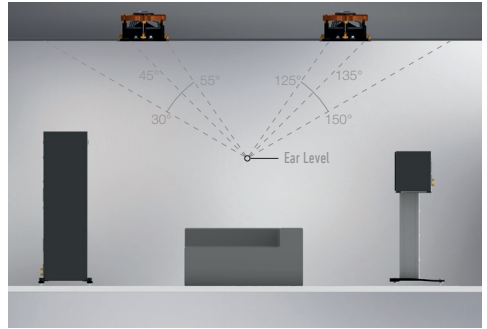
When installing an Atmos system, we would recommend using the C380-IDC or CPCT380-IDC for the Atmos channels. These speakers employ a unique pivoting IDC (Inverted Dual Concentric) midrange/tweeter module which offers a wider dispersion characteristic which works very good for Atmos duties. More information on both the C380-IDC and CPCT380-IDC can be found on our website: monitoraudio.com

The reason we do not suggest the Platinum In-Ceiling II for Atmos duties is due to the tweeter being a fixed, angled position. The C380-IDC and CPCT380-IDC on the other hand offer up to 18 degrees pivot in all directions and can be fitted directly above the seating position in the case of a 2 Atmos speaker setup.

Please see below for ideal positioning of 2 or 4 speaker setups.



2 Atmos speakers (in line with front left and right)



4 Atmos Speakers (in line with front left and right)

Prior to Fitting the Platinum In-Ceiling II Speakers



CAUTION: These Custom Install loudspeakers can only be fixed into plasterboard (dry-lined) or suspended ceilings/ walls with a thickness of up to 45mm (1 3/4"). Solid wall installation will require channelling out and frame work constructed to provide a structure for the Tri Grip dog legs to clamp to. For safety reasons, if you are unsure of your ability to provide a secure and safe fixing, do not attempt to fix these speakers, please obtain the services of a competent and qualified trades person.



CAUTION: Ensure that there are no water pipes or electricity cables running within the wall structure before cutting the speaker apertures. Work from secure steps and avoid trailing wires.

Over Tightening Warning



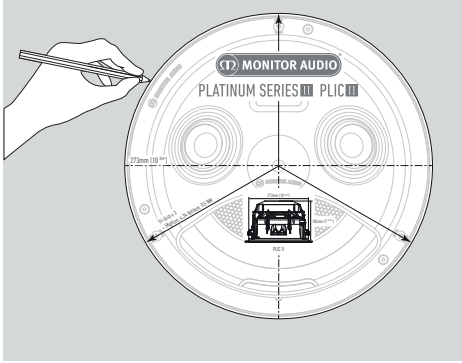
Attention installers:

Do not over-tighten the Tri-Grip Dog Leg clamps. Over tightening the clamping mechanism on any in ceiling/ in wall speaker can result in damage to the speaker mounting hardware, ceiling/ wall or speaker frame, and/ or deflection in the speaker frame during installation.

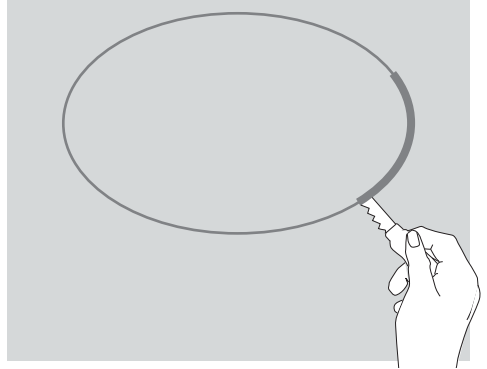
If you notice any of the above during installation, you have overtightened the Tri Grip dog leg. Back off the mounting screw until deflection is reduced to allow the product to sit firmly against the ceiling / wall.

Installation

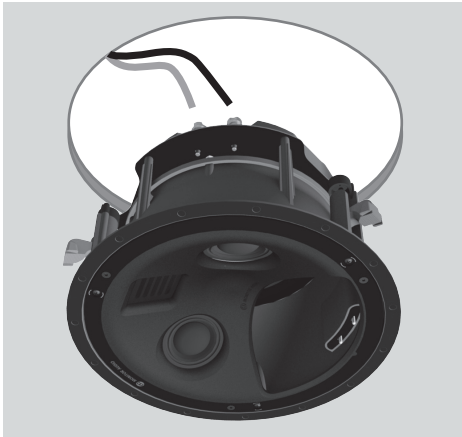
1. Draw around template.



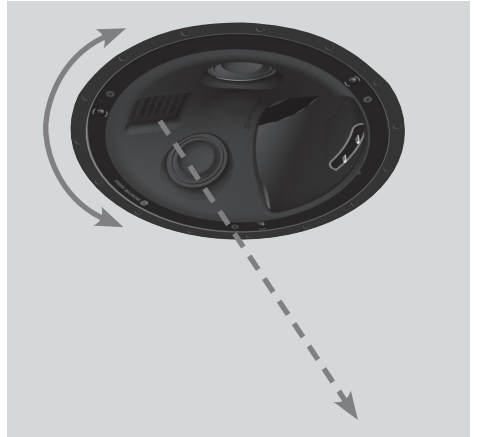
2. Cut around marked line.



3. Connect speaker cables. Refer to page 7 for more information.



4. Position into the ceiling so that the tweeter is angled towards the listening position.



5. Tighten the dog leg screws. Play some audio and adjust the HF and MF switches as required.



6. Place grille on the speaker. This is held in place magnetically.



Connecting Speaker Cables

The Platinum In-Ceiling II has one set of terminals for single wiring. Single wiring is achieved by using a single set of cables to the binding posts on the side of the speaker. Internally the speaker crossover guides the frequencies to the appropriate driver/tweeter - low frequencies to the bass drivers, mid frequencies to the mid/bass driver and high frequencies to the tweeter.

The binding posts are the sprung for ease of use and will accept bare wire only.

Press down on the binding post to reveal the through hole and pass the bare wire through the hole. Release the binding post and it will automatically clamp the cable in place. Ensure there are no loose strands of cables to cause a short circuit.

Level Adjustment Switches

The Platinum In-Ceiling II comes with a pair of switches to adjust the mid and high frequency levels. These are located on the front of the cabinet by the driver opening, and adjustment will either boost or attenuate the mid-range and tweeter levels by +/-1dB. There are separate switches for each unit, and experimentation is recommended to achieve the perfect combination for your environment.

Painting the Grilles



NOTE: If choosing to paint the grille, we recommend you follow these simple steps:

1. Remove the membrane scrim from the inside of the grille.
2. Paint all grilles required for the installation with the same batch of paint (if they are to be the same colour). Spray paint is easier to apply or use a stippling action when brushing to avoid blocking the holes of the grille.
3. When dry, attach the spare membrane scrim (where supplied) into the inside of the grille.
4. Fit the grille to the speaker (s).

Running-In Your Platinum In-Ceiling II

Run your speakers in by playing normal music at low-mid listening levels for approximately 50-70 hours play time. You may find the sound will continue to improve even after the 70 hour mark.

This can be done naturally over time: like a fine wine the performance will improve with age.

Warranty

Both the craftsmanship and the performance of this product is covered by the manufacturer's warranty against manufacturing defects provided that the product was supplied by an authorised Monitor Audio retailer under the consumer sale agreement. For the period of cover please refer to the product page on our website: monitoraudio.com for the product you have purchased.

When purchasing Monitor Audio products, please keep your receipt of purchase safe, as this validates your warranty.

Specifications

	PLATINUM II IN-CEILING
System Configuration	4 driver, 3-way
Frequency Response (-6db)	45Hz - 60kHz
Sensitivity (1W@1M)	90 dB
Impedance	4 Ohms nominal (3.1 Ohms minimum @1.1kHz)
Maximum S.P.L (@1M - each)	112 dBA
Power Handling	150W (RMS)
Recommended Amplifier Requirements	50-150W (RMS)
Recommended Enclosure	PLIC BOX II or A bespoke sealed enclosure of 24 Litres
Mid/ H.F Crossover Frequency (Hz)	5.3kHz 3rd Order (18dB/ Octave)
Bass/Midrange Crossover Frequency (Hz)	380Hz 4th Order (24dB/ Octave)
Drive Unit Complement	1 x 8" long-throw RDT II bass driver 2 x 2" C-CAM mid-range drivers 1 x MPD high frequency transducer
Adjustment Controls	H.F level switch (+1dB/ 0dB/ -1dB) M.F level switch (+1dB/ 0dB/ -1dB)
Cable Connection	High-end 'push' type terminals
Fixings	3 position Tri-grip™ dog leg fixings
Overall Diameter	Grille on - 309mm (12 ^{3/16} Inches) Grille off - 296.25mm (11 ^{1/4} Inches)
Overall Depth	Grille on - 191.5 mm (7 ^{1/2} Inches) Grille off - 188 mm (7 ^{5/32} inches)
Cut Out Depth	185.4 mm (7 ^{5/16} Inches)
Pre- Construction Bracket	CB10 (Light Brown)
Construction Material	Main chassis - Mineral Filled ABS (RoHS2 compliant) Baffle - Die cast aluminium
Grille Type	Low profile trimless grille with magnetic fixings - Paintable (Square grille available as a cost option)
Weight Each	5.22Kg (11lb 8oz)

Monitor Audio reserves the right to alter specifications without notice.



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