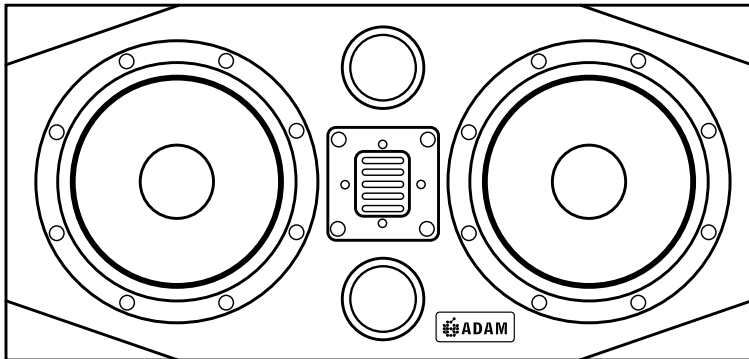




HM3 Home Monitor

Operation manual



english

Introduction

First of all, we would like to thank you for choosing ADAM Audio!

ADAM Home Monitors are built for maximum quality reproduction and audio perfection. You have selected a precise, high resolution passive speaker system that allows you to professionally evaluate audio recordings. We are confident that these monitors can meet your expectations for faithful sound reproduction.

To enjoy the capabilities of your new speakers, please read the following safety and warranty considerations before connecting them. Try to become informed about the speaker placement and the available control factors - the positioning and the acoustic properties of the control room often play a bigger role than you might think.

The HM3 is a compact near field monitor. It is an ideal tool for small control rooms, recording vehicles and post-production suites. It is also perfectly suited for situations where a combination of no-compromise sound reproduction and a small footprint is required.

The HM3 is a two-way ported passive system that uses a single A.R.T. tweeter and conventional bass/midrange driver below the crossover frequency of 1.8 kHz.

The use of our exceptional A.R.T. tweeter ensures full compatibility with the latest expanded high frequency resolution media formats such as DVD Audio and SACD. At the same time, the HM3 allows you to monitor the low frequency range down to 52 Hz with a flat response.

We hope very much that you enjoy your new monitors and their unique transducer design. If you have any questions about this or any of our products, don't hesitate to contact us - we will be happy to advise you. **The ADAM Audio Team**

Quickstart

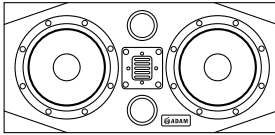
Your new speaker system will need some hours of playtime to reach its full potential. It is advised to warm up the monitors a bit before working with them.

When you start listening, keep all panel settings in the tweeter level switch position. You should listen to various recordings first, especially untreated material that should sound natural, where only little or no equalization or dynamic correction has been applied. After some experience you will be better prepared to eventually adapt to your room's acoustics.

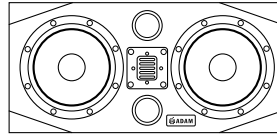
Setting up your speakers

General recommendations for the set up:

- The speakers should be positioned on firm ground or a stand. Vibrating parts of nearby objects can mask the sound.
- Normally it is advised to set them up in the horizontal position:



A



B

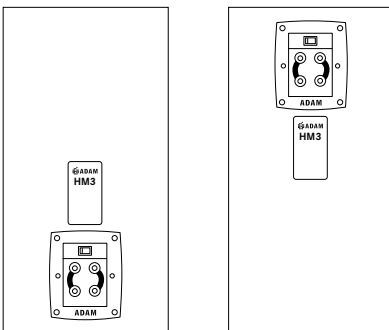
A and B speakers

- there are 2 kinds of HM3's. To avoid interferences between the woofers of the HM3 one of the units stops at 150 Hz, like a built in subwoofer, the other one goes up to 1800 Hz. You find an A or B label on the back side of the monitors. The A means that the subwoofer is on the left side if you look at the unit from a listening position, the B speaker has it on the right side. You can use A as the left speaker, then you have a subjectively smaller basis. If you use it as the right speaker the basis will be somewhat broader. There is no rule or fixed proposal when or where the speakers sound better, please try it out for yourself.

But:

- Don't use 2 A-speakers or 2 B-speakers in a stereo set up, the imaging will suffer!
- If the speakers are in a vertical position - as indicated below - please position both panels readable. You will get the most linear frequency response on different listening positions that way.

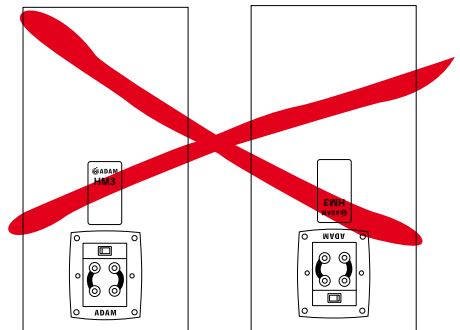
SO:



A

B

NOT SO:

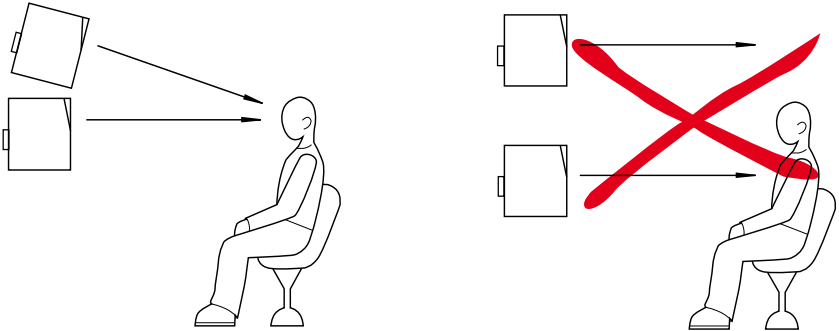


A

B

Setting up your speakers

The Tweeter should be positioned approximately at the height of your ears. In case you need to position the speaker in a significant lower or higher position, the monitor should be angled accordingly.

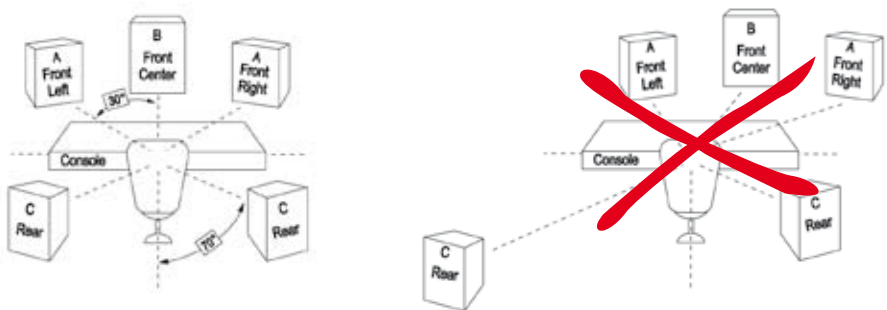


Placement of 2 speakers

The ideal placement of two speakers and a listener in a two-channel stereo listening situation are the corner points of an equilateral triangle (60° angles).

Surround placement

Speaker positioning for multi-channel stereo purposes is ideally based on a circle with speakers placed at 0° (Center), 30° (Front Right), 110° (Rear Right), 250° (Rear Left), 330° (Front Left), with the listener being the circle's center (Radius between 0.7-2.0 m). This ITU recommended configuration may vary depending on the purpose of the listening room (music or film). However, it is recommended to create a symmetrical listening position with the front side and surround speaker pointing to the listener's ear.



The distance to the surrounding walls should be at least 40 cm to avoid early reflections, which will degrade the sound.

A.R.T. Accelerated Ribbon Technology

So far, all loudspeaker drive units, whether they are voice coil driven, electrostatics, piezos or magnetostatics, act like a piston, moving air in a 1:1 ratio. As the specific weight of air is much lower than that of the driving mechanics, there is a bad match between source and load. This is one of the main reasons for the small 1-2% efficiency of conventional speakers.

All ADAM speaker systems take a completely new approach in kinematics to move air and overcome this problem.

Based on the original works of Dr. Oskar Heil, who invented his “Air Motion Transformer” back in 1972, new electrodynamical transducers have been developed. The A.R.T. tweeter’s and midrange membrane consist of a lamella-like folded diaphragm whose single folds move according to the alternate current, thus squeezing air in and out (see Fig. 1).

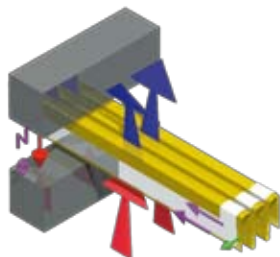
The A.R.T. principle achieves a 4:1 velocity transformation between driving diaphragm and driven air, i. e. the air moves in and out four times faster than the folds itself are moving. This superior “motor” is responsible for the enormous clarity and transient reproduction and thus their increased efficiency.

Another factor in dynamics is diaphragm area. For practically all drive units, the cone area you can see is the acoustically active area of the loudspeaker. By folding the A.R.T. diaphragm into the third dimension as seen from the listener’s position, the acoustically effective area of the diaphragm is increased by a factor larger than 2.5 (see Fig. 2). Thus, a smaller movement is needed for a given sound pressure level, enabling the unit to reach a higher sound pressure level without dynamic compression.

Besides these advantages, the membrane construction in single stripes avoids the typical break up of stiff domes or cones at higher frequencies and the resultant dynamic limiting.

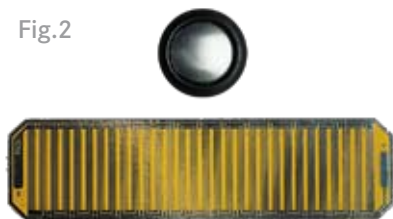
Since the A.R.T. membrane is not by a conventional voice coil but an Aluminum stripe on a very thin Diaphragm, it is extremely light and therefore ideally suited for high frequency reproduction up to 35kHz. In comparison to magnetostatics and ribbons, the A.R.T. tweeter offers an above average efficiency of 93dB/W/m, as well as a perfectly linear impedance of 3.2 ± 0.05 Ohms, an equally perfect phase response of $\pm 1^\circ$ within the used bandwidth, a reasonable directivity characteristic and a thermal power handling that exceeds that of 1” domes by a factor of 2 to 3.

Fig.1



The A.R.T. Principle: moving the air in a 4:1 ratio instead of a 1:1 piston motion

Fig.2



Area comparison between the unfolded A.R.T. tweeter diaphragm and a 1” dome tweeter

Warranty

ADAM Audio GmbH provides a *ten year limited warranty* for this product.

Terms and Conditions

This warranty is limited to the repair of the equipment or, if necessary, the replacement of parts or the product and return shipping within the country of purchase.

This warranty complements any national/regional law obligations of dealers or national distributors and does not affect your statutory rights as a customer.

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

Products whose serial number have been altered, deleted, removed or made illegible are excluded from this warranty.

The warranty 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 damages caused by incorrect installation, connection or packing,

- a) for damages caused by any use other than correct use described in the user
- b) manual,
- for damages caused by faulty or unsuitable ancillary equipment,
- c) if repairs or modifications have been executed by an unauthorized person,
- d) for damages caused by accidents, lightning, water, fire heat, public disturbances or any other cause beyond the reasonable control of ADAM Audio.
- e)

How to claim repairs under warranty

Should service be required, please *contact the ADAM Audio dealer* where the product has been purchased.

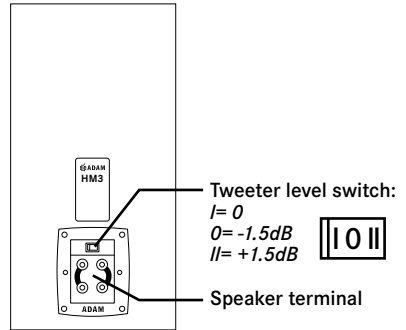
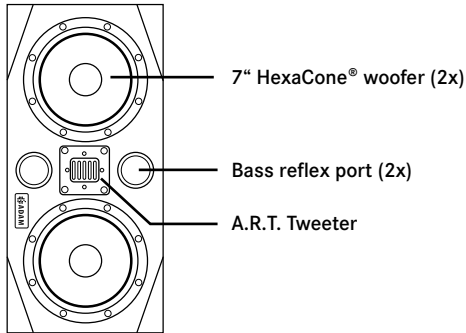
If the equipment is being used outside the country of purchase, the international shipping costs have to be paid for by the owner of the product.

Service may be supplied by your ADAM Audio national distributor in the country of residence. In this case, the service costs have to be paid for by the owner of the product whereas the costs for parts to be repaired or replaced are free of charge. Please visit our website to get the contact details of your local distributor.

To validate your warranty, you will need a copy of your original sales invoice with the date of purchase.

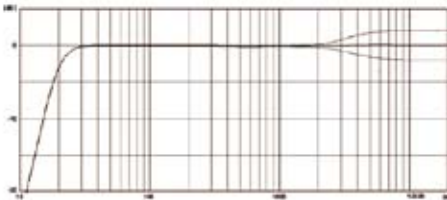
HM3 Front

HM3 Back



Technical Data

Woofer/Subwoofer	1
Basket \varnothing	7.5" / 186 mm
ART Tweeter	1
Velocity transf. ratio	4:1
Controls	
Tweeter level*	0/-1.5dB/+1.5dB



General Data	
Freq. response $\pm 3\text{dB}$	35Hz - 35kHz
SPL max at 1m	$\geq 112\text{dB}$
Crossover frequencies	1.800Hz
Input terminal	Biwireing
Input impedance	4 Ω
Power handling <i>sin/music</i>	160W/250W
Efficiency	$\geq 89 \text{ dB/W/m}$
Weight	14kg
Height x Width x Depth	240 x 500 x 320mm
Warranty	10 years

*The level of the tweeter can be varied in 0/-1.5dB/+1.5dB. This will produce a considerable change in the sound characteristics, and should be used with caution. In case you have a considerably damped room or if there is a special sound you are after, this control will serve you well.



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