

ILUMNIA

Vocalis MKII

USER MANUAL

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Congratulations on your new Illumnia speakers.

These speakers incorporate the unique LEMS technology only found in Illumnia loudspeakers. However, this technology requires some extra attention from its owner.

To enjoy them to their fullest potential, today - and for years to come - it's imperative to invest a little bit of your time to read this manual. It contains valuable information on how to get the most out of your high-tech speaker system, how to handle and maintain them properly, and last but not least, how to listen to them. We're sure you won't regret.

Enjoy!

Safety Instructions

Servicing is required when the product has been damaged. Do not attempt to service this product yourself.

Opening or removing covers may expose you to dangerous voltages or other hazards.

Please contact your dealer or distributor in case of any damage or malfunction.

Please **store this instruction manual** for future reference or in case of transportation.

Do not use this product near water or moisture. Read our special paragraph concerning cleaning carefully.

Unplug this product from the wall outlet before cleaning. Avoid dust and dirt.

Place the unit on a solid surface. Do not block any ventilation openings, **including the bass reflex port!**

To prevent risk of fire or electric shock, avoid over loading wall outlets, extension cords or integral convenience receptacles.

Do not let objects or liquids enter the product.

Do not install near any heat sources, such as radiators, heat registers, stoves or other appliances that produce heat.

Use proper power sources. Plug the product into a proper power source, as described in the operating instructions or as marked on the product.

Protect the power cord from being walked on or pinched, particularly at plugs and the point where they exit from the product.

CAUTION :

 RISK OF ELECTRIC SHOCK, DO NOT OPEN 

Information

Unpacking

These speakers were carefully tested and inspected during production and before packaging and shipping. After unpacking please check for any damage. It is rare that a unit is damaged during shipping, but if this does happen contact your retailer immediately.

Due to the specific nature of these speaker's geometry the necessary attention has to be given to unpacking / repacking.

UNPACKING

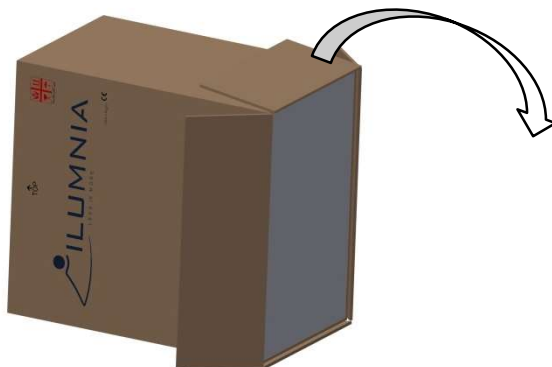
Follow these steps :

WARNING : Avoid touching the cone during these operations!

1. Place the carton box flat (horizontal) on one of its sides so that the bottom of the box is accessible.



2. Open the bottom of the carton box by folding the carton flaps 270° up so that the content can slip out (as described in step 4)



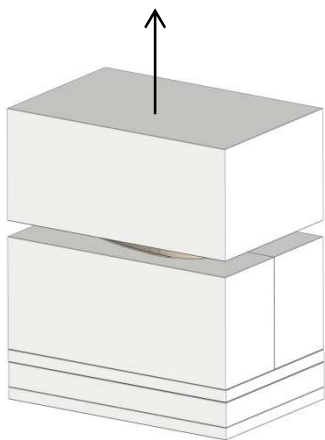
3. Place the carton back up so that the Illumnia logo is in horizontal position and the “UP” arrow is pointing upwards to the ceiling.



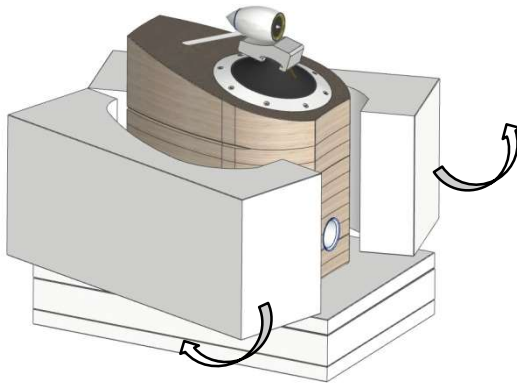
4. Now lift the carton box slowly upwards so that the speaker including its EPS packaging slips out of the carton box from the bottom. Watch out not to tip over the speaker.



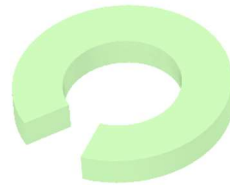
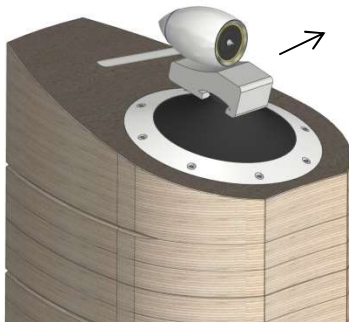
5. Now carefully lift of the top part of the EPS packaging.



6. Remove the other EPS packaging parts from the speaker.



7. Remove the protection bag from the speaker
8. Remove the fixing foam part between tweeter and LEMS driver gently by sliding it from the phase plug.



Remark: A green foam ring is sometimes used to fixate the cone. Remove this ring before using the speakers.

Do not break or throw away this protective piece. Otherwise it will be impossible to further handle or ship the speakers as the cone must stay at all times at its rest position while the speaker is being handled or shipped!

For repacking follow these instructions in reverse order.

RECOMMENDATION

We strongly recommend that you keep the original carton and EPS packing material for future use and shipping. It has been 3D shaped to optimal protect the speakers against shipping damage.

It's virtually impossible to ship the speakers safely in any other packaging material.

Recommended Speaker Setup

1. Placement

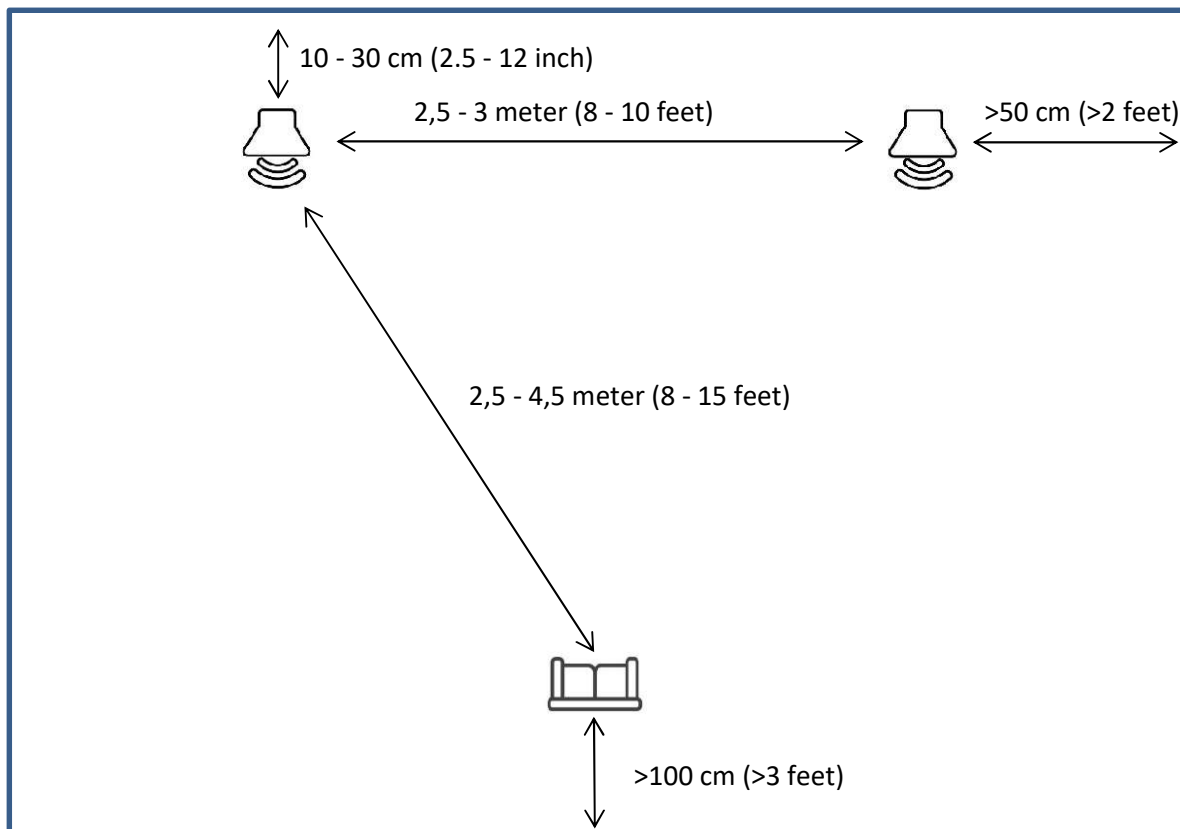
Correct speaker placement has a huge impact on sound quality. Every room has its optimal layout for positioning the speakers and the listening position.

In this part of the manual we will give you some guidelines to position the speakers but the result of these guidelines will strongly depend on your rooms acoustical properties and dimensions. We do suggest you experiment with a few different locations and see which setup best suits your taste. Even half of an inch can make a huge difference in performance, especially when focusing and sound staging capabilities are involved.

For the best bass response we recommend that you keep a minimum distance of 10-30 cm (4" to 12") between the speakers and the rear wall. For height, position the speakers with the tweeters at eye level of your most common listening position. **This is important for correct placement of the soundstage.**

Ideally we recommend a distance of about 2,5 till 3 meters (8 - 10 feet) between the 2 speakers.

The distance from the speakers to the listening position should be between 1 and 1,5 times the distance between the speakers to obtain the best sound staging and imaging. We personally prefer 1 time the distance instead of 1,5. But depending on room acoustics, dimensions and also personal taste it can be a good idea to experiment by adding 0.5 to 1 meter (1 - 3 feet) additional distance.



2. Bass Ports

The Illumnia Vocalis MKII has an adaptable bass reflex back loaded port. This port constitutes of 2 parts, the inner and outer tube. To change the tuning of its frequency you can shove the inner tube backwards or remove it completely.

Frequencies of the bass reflex port at different settings of the inner tube :
For associated frequency responses see p.15

Inner tube shoved inwards 4cm (1,5 inch) : 46 Hz



Inner tube at the same height as the outer tube : 49 Hz



Inner tube removed : 51 Hz



WARNING : DO NOT BLOCK THE BASS REFLEX PORT OF THE VOCALIS AS THIS WILL BLOCK VENTILATION TO THE INTEGRATED POWER SUPPLY

3. Speaker Conditioning and Break-in

Although a break-in period is not required, we recommend that you play between 100 to 150 hours of music through the speakers before doing any critical listening or speaker placement.

The LEMS driver does not have a break-in period at all because it does not have any parts which are prone to strain like spider and surround. But the Scanspeak tweeter and the filter parts do.

Speaker Cleaning

DISCLAIMER : Illumnia BVBA cannot be held responsible for damage caused to the speaker drivers by any of the procedures described in this user manual. Physically touching the cone always involves a certain risk of damaging it and the only way to avoid damage is by not touching it at all. **Damage caused by physical contact with the cone always voids warranty and is not covered by the limited warranty.**

Don't use any solvents or cleaners on cabinets, aluminium parts or speaker drivers.

As already mentioned in the disclaimer we do not encourage customers to touch the cone of the LEMS driver. But if there's excessive dust on the LEMS driver and cleaning is really necessary follow these guidelines :

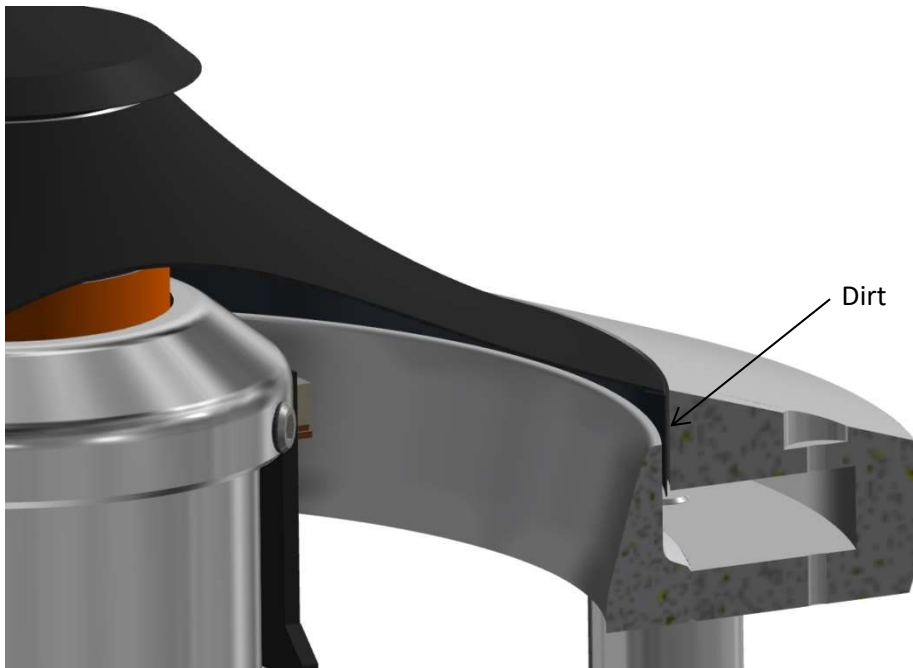
- Try to clean the cone just by gently blowing off the dust (do not use high pressure tools!!)
- If this doesn't help wipe down with a soft, dry cloth. Ideally use a clean and unused SWIFFER DUSTER pad or soft micro fiber cloth. Never use moist or any form of liquids as the cone is made of impregnated paper!
- When cleaning, don't use pressure to the cone to avoid deforming the cone or the aluminium closing ring.
- **Avoid the cone being turned around** its center as this movement **can damage** our proprietary flatband litz wire which is mounted underneath the cone (not visible).
Clean the cone from the inside to the outside, see picture.



If there's a hint of scraping / scrubbing sound coming from one of the LEMS drivers.

First thing to do : DON'T PANIC, it's not broken

Most probably a tiny piece of dirt or excessive dust has nested between the outside of the aluminum closing ring of the cone and the inside of the outer chassis ring of the driver.

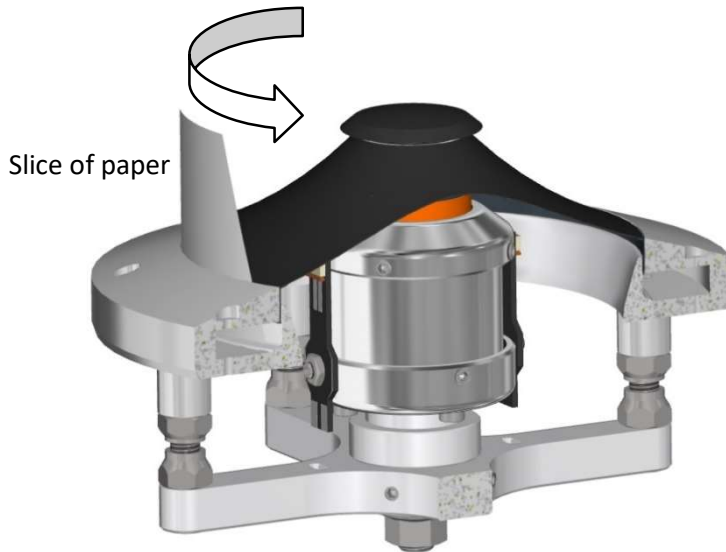


The tolerance between these two parts is kept to a minimum in order to avoid acoustic short circuit. But there is still a very narrow air gap and we cannot 100% exclude that dirt or dust can fall in between. In practice, if dust or dirt fits in between it also falls through and doesn't get stuck. But during testing under severe circumstances (sun, moist, dust) we once simulated this particular problem with a sticky kind of dirt.

So, if this problem should occur (dust or dirt gets stuck) you can easily fix this problem yourself.

Procedure :

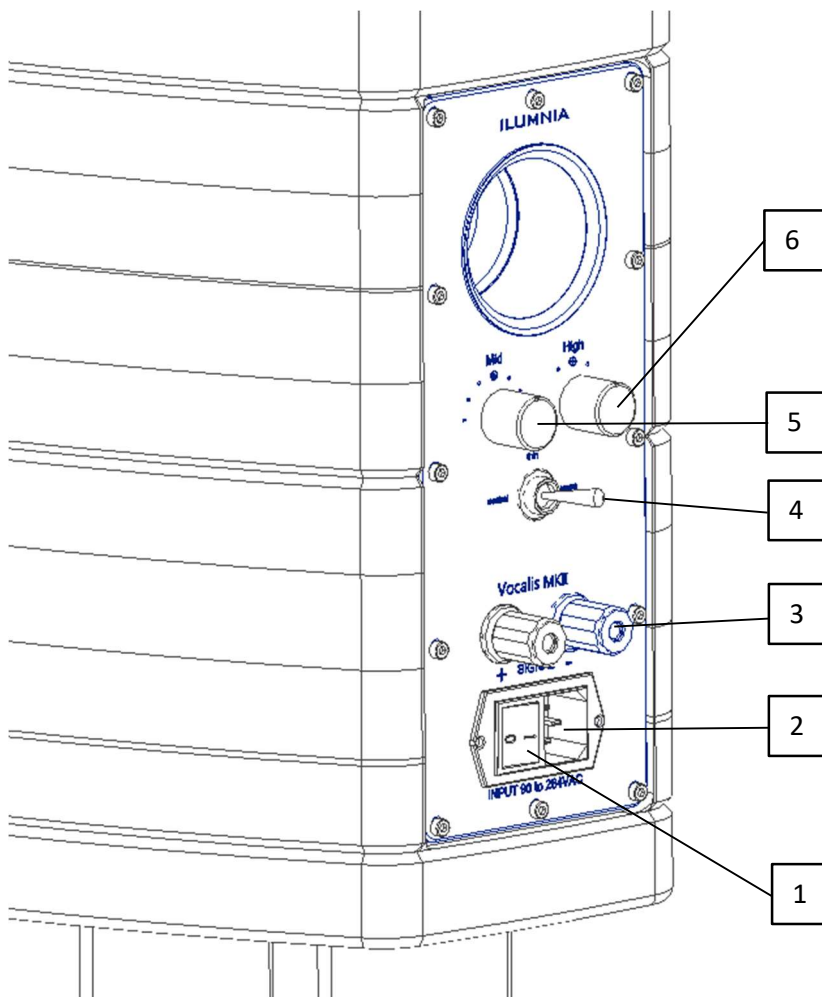
Take an ordinary piece of paper (such as normal **80** grams print paper but don't use any stiff paper like thick photo quality print paper). Cut a slice of it (see picture) and move it between the cone and the outer chassis ring of the driver (see picture). Go all around the cone and at the same time **hold the cone steady with your hand so it won't turn around!**. The piece of paper will push the dirt to the surface or in some cases it will fall in the decompression chamber located underneath the aluminum closing ring.



There is no harm in dust or dirt falling into the decompression chamber. It has been designed with sufficient clearance between cone and bottom.

Layout : rear panel

1. Power On / Off
 - This switch is used to power off the speakers completely. For instance when you are planning not to use them for several days (i.e. holiday) or before disconnecting them from the power supply unit. Before disconnecting the speakers from the wall outlet ALWAYS wait until the complete powering off sequence has finished (+/- 40min) and the cone is in its resting position. **There can be occur a slight difference in time between the left and right speaker.**
2. IEC Power supply input (110V-120V 60Hz or 220V-240V 50Hz depending on country, see power connection on power supply or speaker for the right voltage)
3. Speaker binding posts
4. Mid-low adjustment knob.
5. Mid adjustment knob.
6. High adjustment knob.



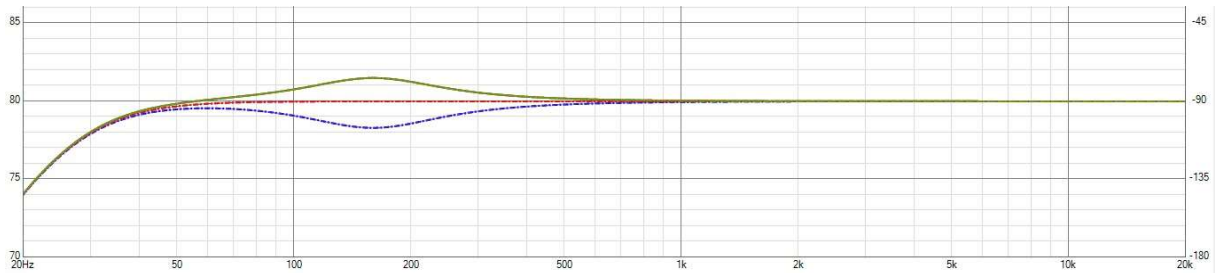
Speaker adjustment

The vocalis MKII is highly adjustable in function of room acoustics.

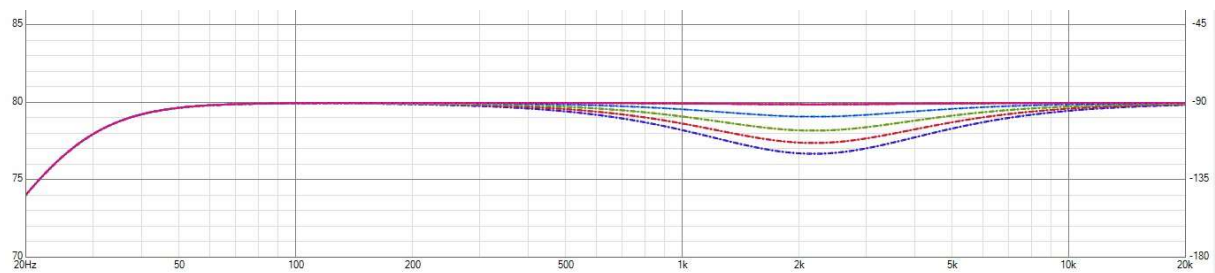
You can find 3 adjustment knobs on the back of the speaker to adjust different frequency ranges going from 80Hz till 21Khz.

Mid-low adjustment knob:

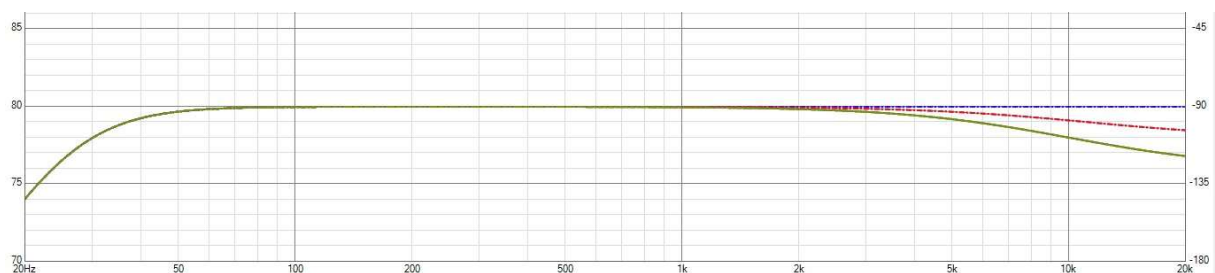
Thin / Neutral / Warm



Mid adjustment knob:

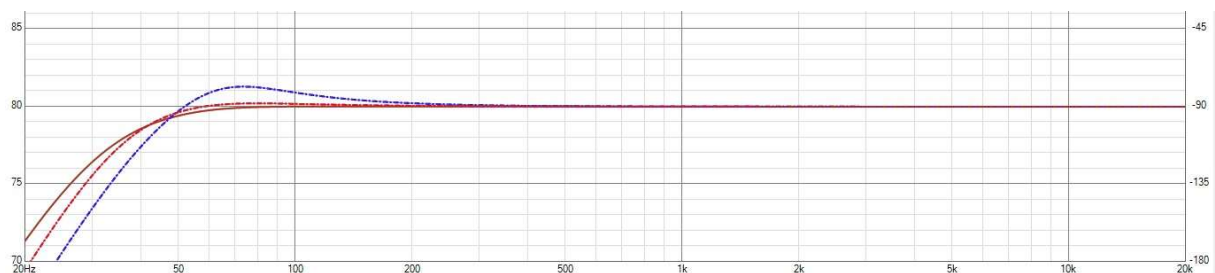


High adjustment knob:



Bass port tuning:

Without insert / With insert flushed / Insert pushed inwards



Connecting your speakers

STEP 1

Connect the RED(+) and BLACK(-) terminals of the left and right speaker to the amplifiers left and right channel. (also see amplifier user guide)

STEP 2

Connect the power cord into the left speaker and the other end into the wall outlet.

Connect the power cord into the right speaker and the other end into the wall outlet.

Playing music

STEP 1

Switch on both Illumnia Vocalis speakers at the back of the speakers.

Remark : if the speakers are switched off only the tweeters will work. This is done to protect the LEMS driver against music signal being fed while the cone is not floating (off position). The tweeter is never cut-off to keep a minimum load for the amplifier (this is done to protect tube amplifiers against being played without load).

Power consumption "ON" : 6 watt

IMPORTANT NOTE : These speaker have an active electromagnetic field to float the cone. This field also creates a limited amount of heat. The engine of the driver needs to be at a temperature of at least 25° Celsius or higher to perform optimal. After being switched on, this corresponds to a warm-up time of about 30 minutes from cold (depending on room temperature). The pole piece and phase plug of the LEMS driver have been designed for an optimal temperature control of the driver. After some time you will feel it's a little bit warm (lukewarm). This means the speakers have reached their optimal operating temperature.

Limited Warranty

Dear Customer,

This product has been designed and manufactured to the highest quality standards. However if something goes wrong with this product, the official distributor warrants free replacement of parts or repair.

Damages due to conditions beyond the supplier's control such as fire, rain, stroke of lightning, war or other force majeure events are not covered by the limited warranty.

How to claim parts or repair under warranty:

To have your product serviced under warranty, you must contact the dealer from where you bought the product.

This limited warranty is valid for the original owner for a period of two years from the date of purchase, it is not transferable.

You will need to provide this warranty booklet completed and stamped by your dealer on the date of purchase. Alternatively, you still need the original sales invoice or other proof of ownership and date of purchase.

What is covered by the limited warranty:

The limited warranty covers all production and material defects of the product, except for the damages stated below.

The supplier is liable only to repair or replace defective parts of products and the supplier is not responsible for indirect losses or damages arising from the use of the product.

What is not covered by the limited warranty:

- Damages caused by packing and transport.
- Transportation costs for servicing are not covered by the warranty.
- Defects caused by accidents, misuse, normal wear and tear, mis-maintenance, voltage variation and overloading.
- A service repair or replacement cannot exceed the value of the product under warranty, in no event shall the supplier be responsible or liable for special, incidental, consequential or indirect damages.
- Damages caused by incorrect installation, operation or maintenance.
- Damages caused by modification or repair by a non-authorized service centre and or use of non-original spare parts.

Date of purchase:

Dealer name and stamp:

Specifications

SPEAKERS

Tweeter: 1 inch soft-dome

Woofers: 8 inch LEMS impregnated paper cone

Nominal impedance: 8 Ohm

Sensitivity 2.83V(1W/1M): 89dB

Frequency Response (RAR): 40Hz-22KHz

Crossover System: 2-way

Dimensions: mm x mm x mm

Net Weight: 16 Kg Lbs

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement.