ILUMNIA

Vocalis

USER MANUAL

Contents

Congratulations on your new Ilumnia speakers.

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

To enjoy them to their fullest potential 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 speakers and how to handle and maintain them properly. 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 liquids or moisture. Read our special paragraph concerning cleaning carefully.

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

Place the units on a solid surface. Do not block any ventilation openings or cooling fins, **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

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

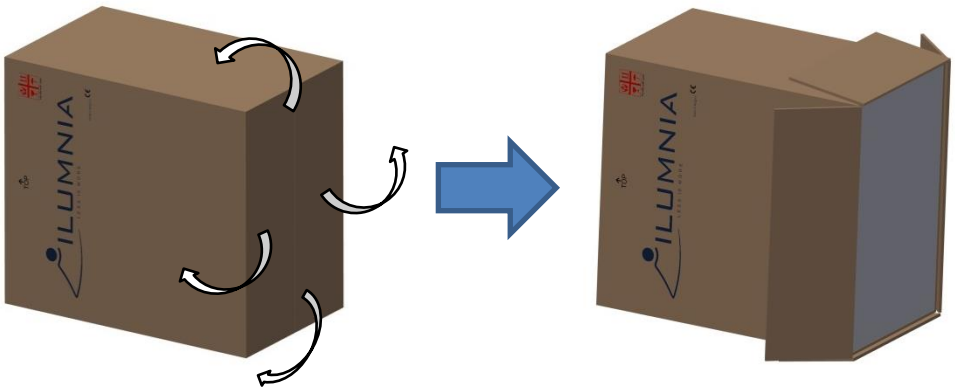
UNPACKING PROCEDURE

Follow these steps :

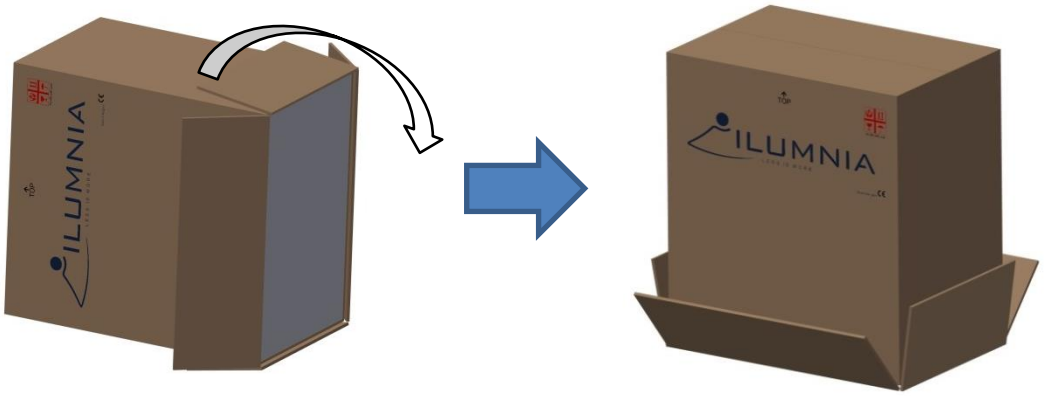
WARNING : Avoid touching the cone during these operations!

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)

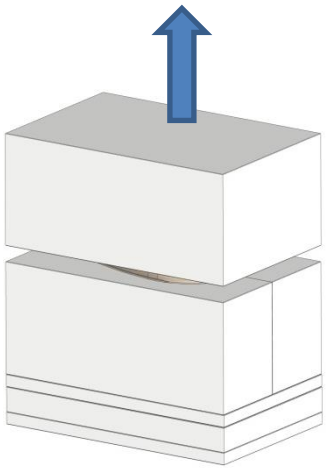


3. Place the carton back up so that the Ilumnia logo is in horizontal position and the “UP” arrow is pointing upwards to the ceiling.

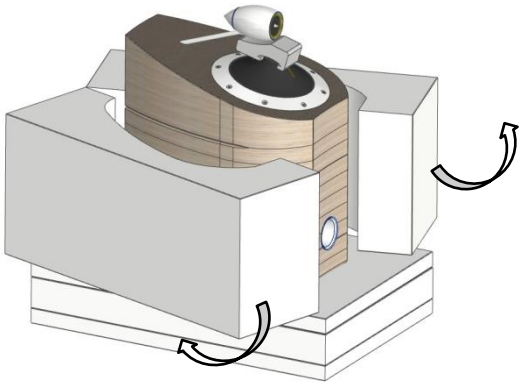


4. Now lift the carton box slowly upwards so that the speaker including the EPS packaging slips out of the carton box from the bottom. Watch out not to tip over the speaker.

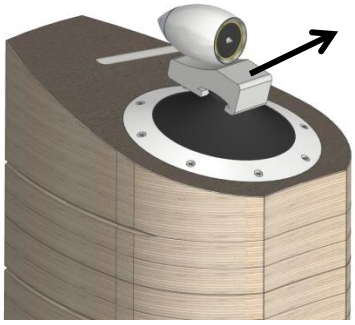
5. Now carefully lift up the top part of the EPS packaging.



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 by gently sliding it from the phase plug.



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. Positioning

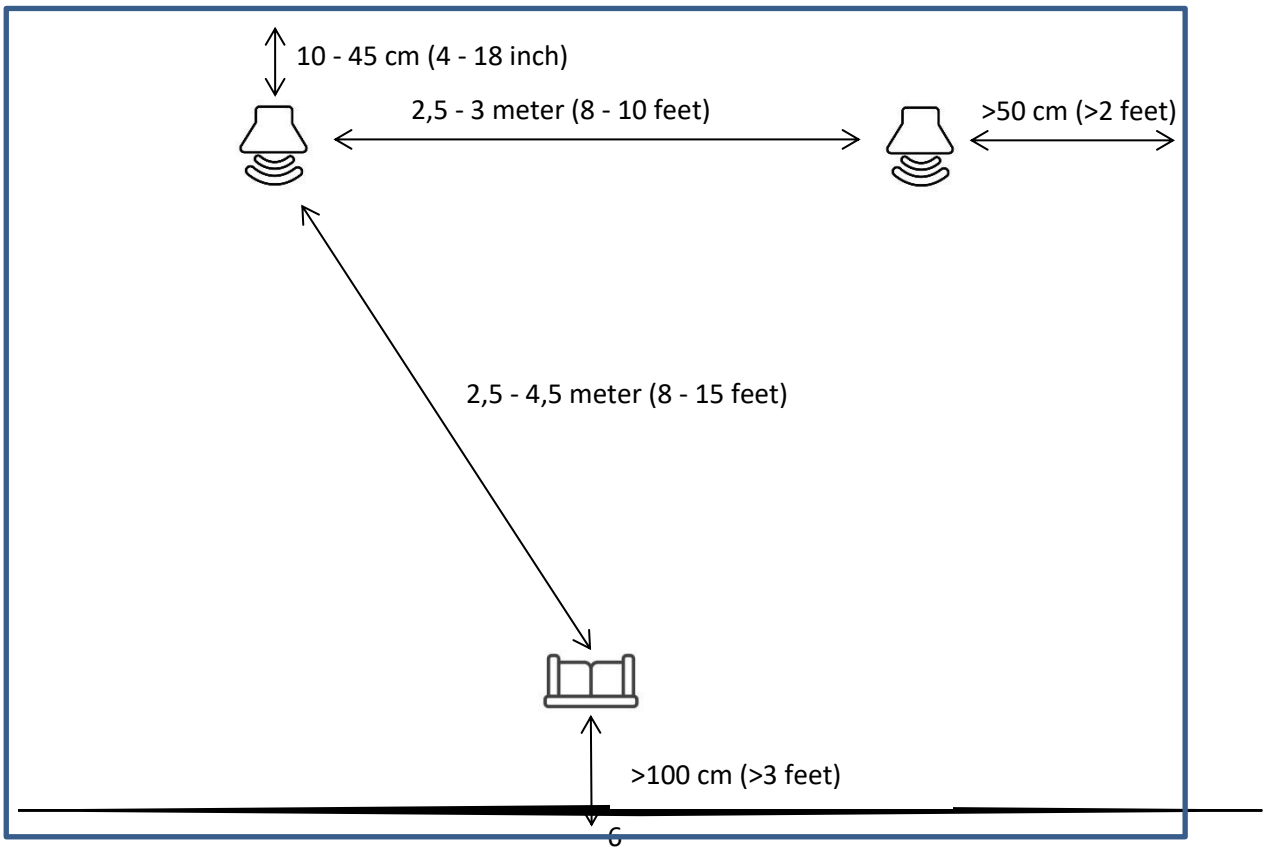
Correct speaker placement has a huge impact on sound quality. Every room has its optimal layout for positioning the speakers.

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 yields the best results. Even half of an inch can make a huge difference in performance, especially when focusing and sound staging capabilities are concerned.

For the best bass response we recommend that you keep a minimum distance of 10-45 cm (4" to 18") 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 rendering the soundstage in all 3 dimensions.

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 (equilateral triangle) 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 - 5 feet) additional distance.



2. Bass Ports

The Ilumnia Vocalis has an (optional) adaptable bass reflex front 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

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

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 tweeter and filter parts do have a break in period.

Speaker Cleaning

DISCLAIMER : Ilumnia BVBA cannot be held responsible for damage caused to the speakers 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.**

Do not use any solvents or cleaners on cabinets, aluminum parts or speaker drivers.

Do not use any liquids or moisture on the speaker drivers.

The cabinet and the aluminium parts can be cleaned with a soft damp cloth.

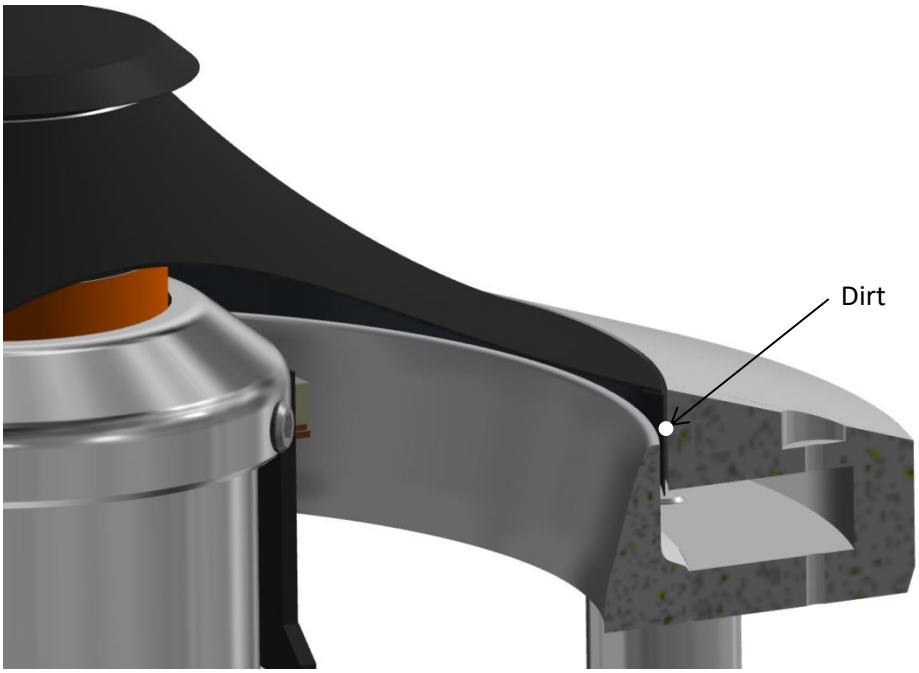
As already mentioned in the disclaimer we do not encourage customers to touch the cone of the LEMS driver. But if there's excessive dust on the LEMS driver and cleaning is really necessary follow these guidelines :

- 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. Moist or liquids will damage the cone!
- 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.
- To clean the cone, make sure the speaker is set to "ON" and the cone is floating (otherwise you will rub the dust in a gutter formed between cone and outer ring).

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

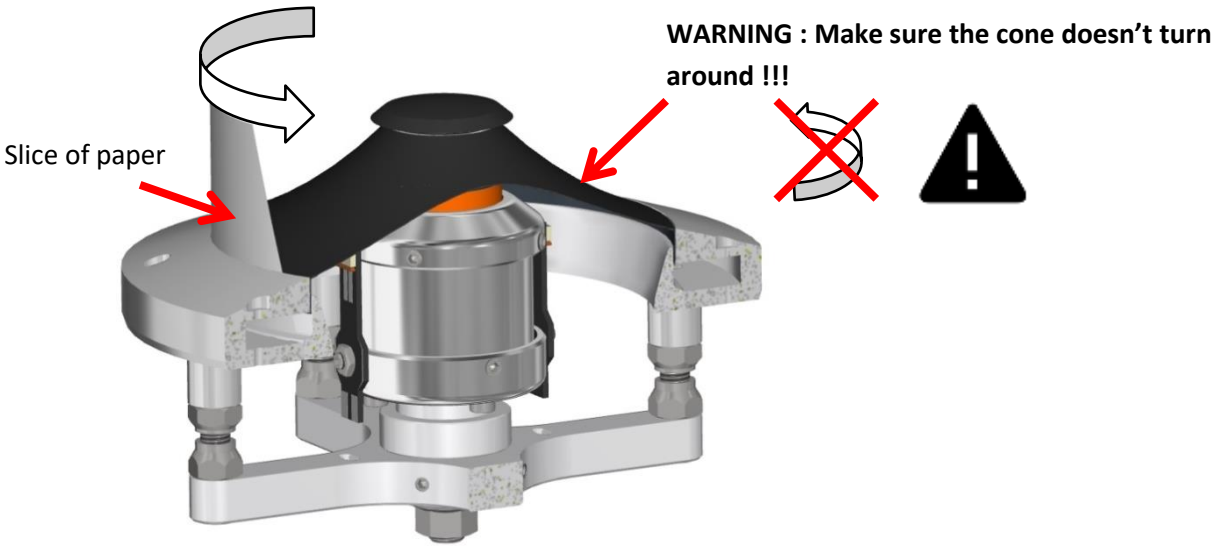


The tolerance between these two parts is kept to a minimum in order to avoid acoustic short circuit. But there is still a very narrow air gap and we cannot 100% exclude that dirt or dust can fall in between. In practice, if dust or dirt fits in between it also falls through and doesn't get stuck. The pistonic movement of the cone will guide the dirt towards the decompression chamber.

In the exceptional case that dust or dirt gets stuck between outer ring and cone 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 corner of the paper and move it between the cone and the outer chassis ring of the driver (see picture on the next page). Go all around the cone and at the same time **hold the cone in a steady position so it won't turn around by the force applied with the piece of paper !** 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 & functions : rear panel

1. On / Standby switch with integrated IEC Power supply entry (110-120V/60Hz or 220-240V/50Hz depending on country, see power connection on speaker for the right voltage)

    - This switch is used to switch the speakers to “standby” mode. After turning the switch to “0” (i.e. “standby”) a “standby-mode-sequence”** will start. During this standby-mode-sequence the cone will slowly drop. The standby-mode-sequence will take about 25-40 minutes. The time may vary slightly between the left and right speaker. This is normal. After the standby-mode-sequence has finished the cone will be in its resting position.

WARNING : Before disconnecting the speakers from the mains supply ALWAYS turn the “standby” switch to “0” (i.e. “standby”) and wait until the “standby-mode-sequence” has finished (i.e. wait until the cone is sitting in its resting position). Not doing so may damage your speakers.

2. Speaker binding posts

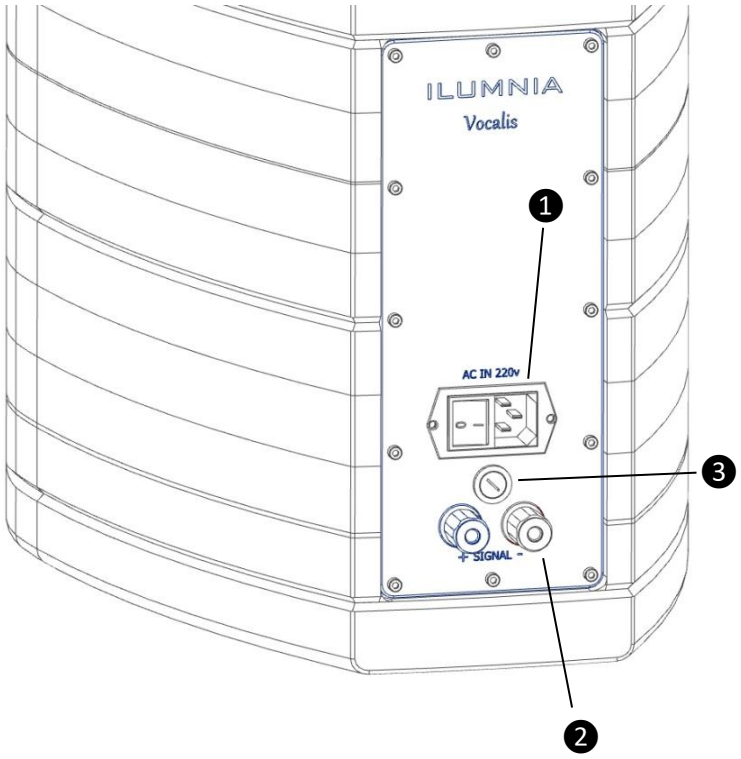
3. Mid-low frequency equalization rocker switch

** What’s the purpose of the “Standby-mode-sequence” ?

After having played music the suspension of the LEMS driver needs to settle before the cone is dropped to its resting position. The purpose of the standby-mode-sequence is to settle the suspension and drop the cone in a specific sequence and during a specific time. Not doing so could damage the driver. So the “Standby-mode-sequence” is more like a safety precaution to protect the LEMS driver.

Power consumption “ON” : 11 watt

Power consumption “STANDBY” : 2,5 watt



1. On / Standby switch with integrated IEC Power supply entry
2. Speaker binding posts
3. Low frequency equalization rocker switch

Connecting your speakers

STEP 1

Connect the RED(+) and BLACK(-) signal terminals (2) of the left speaker to the amplifiers left channel.

Connect the RED(+) and BLACK(-) signal terminals (2) of the right speaker to the amplifiers right channel. (also see amplifier user guide)

STEP 2

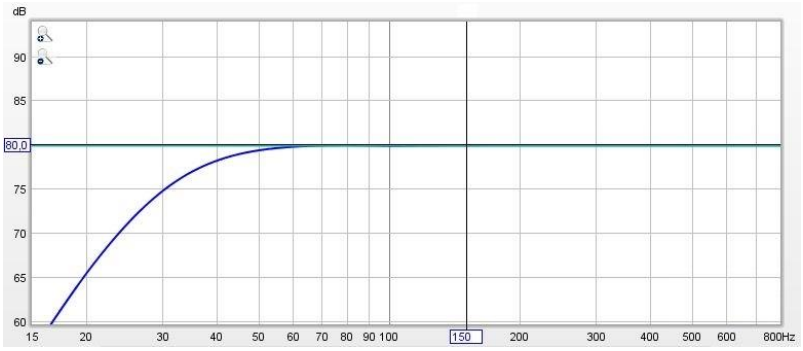
Connect the power cord into the IEC Power supply entry (1) of the left speaker and the other end into the mains wall outlet.

Connect the power cord into the IEC Power supply entry (1) of the right speaker and the other end into the mains wall outlet.

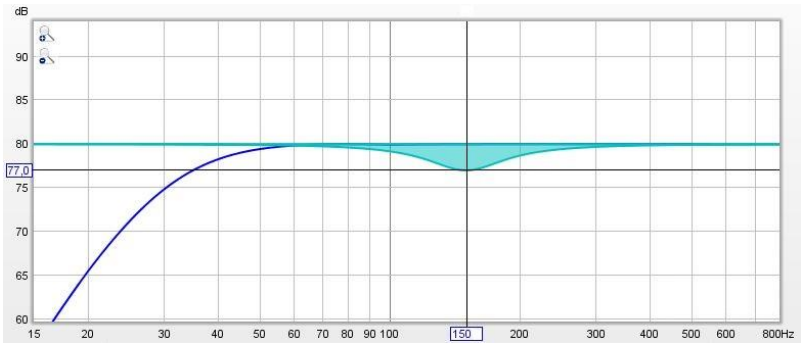
❸ 3 position rocker switch. This switch controls the energy in mid-low frequencies as shown in the graph below.

All indications below are when the user is behind the speaker and looking at the back of the speaker.

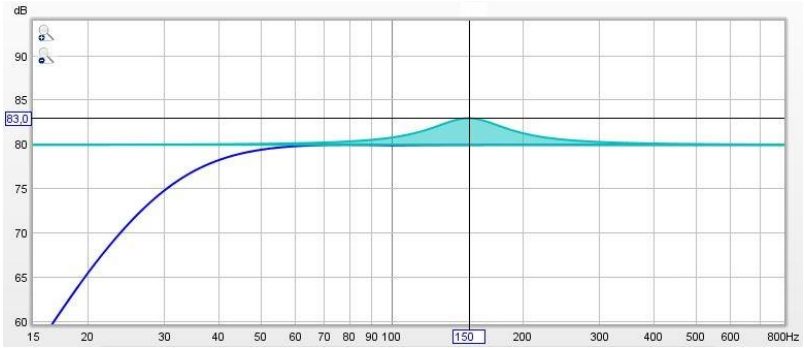
1> Rocker switch to the utmost left position



2> Rocker switch to the middle position



3> Rocker switch to the utmost right position



Playing music

Switch “on” (marked “1”) both speakers at the back of the speakers before playing any music.

Important remark : if the speakers are cut off the mains or in standby mode only the tweeters of the speakers will work.

This is done to protect the LEMS driver from being fed with music signal while the cone is not floating (i.e. in resting position). The tweeter is never cut off to keep a minimum load for the amplifier (this is done to protect tube amplifiers from being played without load).

IMPORTANT NOTE : These speakers 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 23°-24° Celsius (73-75° Fahrenheit) or higher to perform optimal. After being switched on, this corresponds to a warm-up time of about 15-30 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 the phase plug can feel lukewarm, this is normal.

Limited Warranty

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.

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 and solely after registration of your product. You can register your product by sending the product registration form provided with this User Manual together with a copy of the original purchase invoice to info@ilumnia.be or send it by mail to : Ilumnia BVBA, Sint Jorisstraat 9, 2450 Meerhout, Belgium.

You may also ask your dealer to assist you.

Registering your product is mandatory to receive full warranty but also to provide you with the best service on your product. By registering your product we can keep track of its life cycle which is very useful to us when service or repair should be in order.

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:

1. Damages caused by packing and transport.
2. Transportation costs for servicing are not covered by the warranty.
3. Defects caused by accidents, misuse, normal wear and tear, mis-maintenance, voltage variation and overloading.
4. A service repair or replacement cannot exceed the value of the product under warranty, in no event shall Ilumnia BVBA be responsible or liable for special, incidental, consequential or indirect damages or losses.
5. Damages caused by incorrect installation, operation or maintenance.
6. Damages caused by modification or repair by a non-authorised service centre and or use of non-original spare parts.
7. Minor cosmetic imperfections (they may occur as these products are handcrafted)
8. Damages due to conditions beyond the supplier's control such as fire, rain, strode of lightning, war or other force majeure events.

Specifications

SPEAKERS

Tweeter: 1 inch soft-dome

Woofer: 8 inch LEMS impregnated paper cone

Nominal impedance: 8 Ohm

Minimum impedance : 6 Ohm

Sensitivity 2.83V(1W/1M): 88dB

Recommended amplifier power : 20 watt – 250 watt

Frequency Response (RAR): 40Hz-25KHz

Crossover System: 2-way

Dimensions (L x W x H) : 40 x 28 x 48 cm / 15.75 x 11 x 18.90 inch

Net Weight: 17 Kg - 37 Lbs per pc.

This equipment complies 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.