



MAGISTER

mkII



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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 of 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.

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

Unplug the power supply 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.

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.

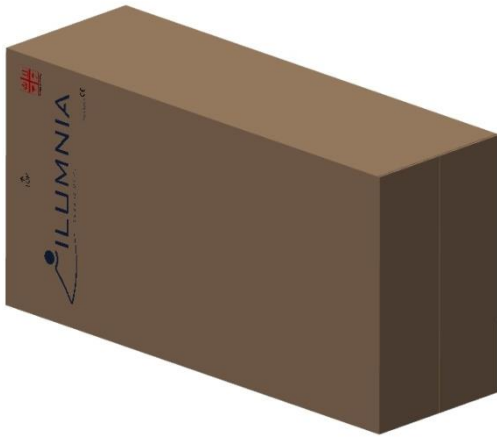
UNPACKING PROCEDURE

Follow these steps :

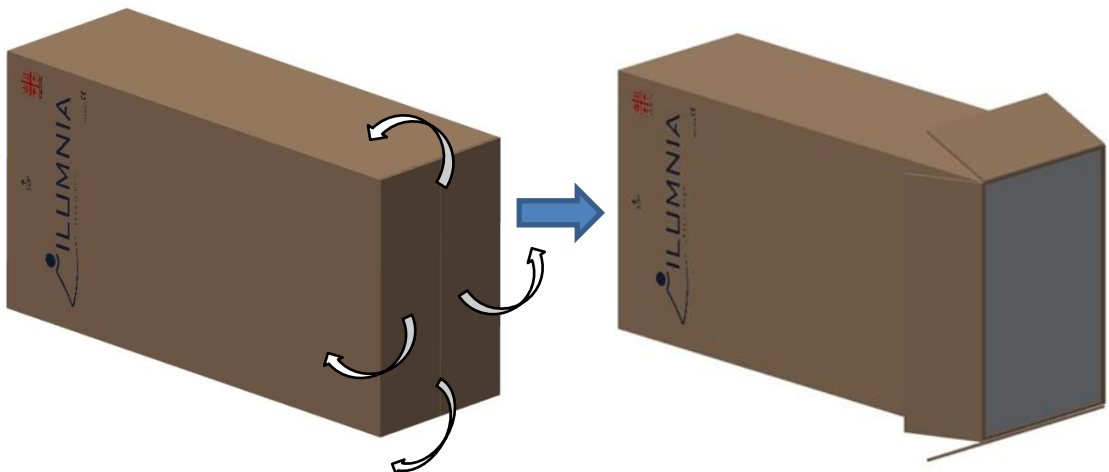


WARNING : Avoid touching the cone during these operations!

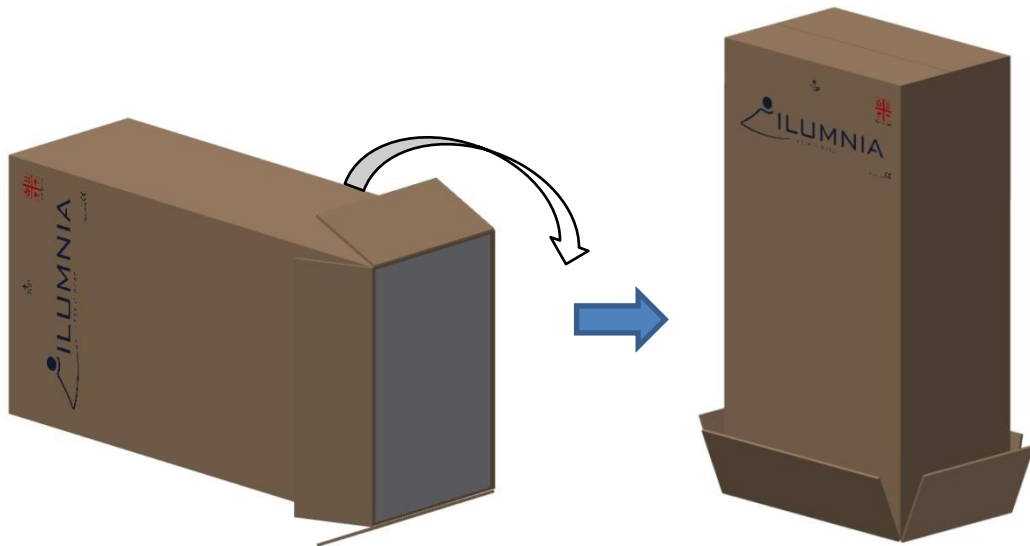
1. Place the carton box flat (horizontal) on one of its sides so that the bottom of the box is accessible.



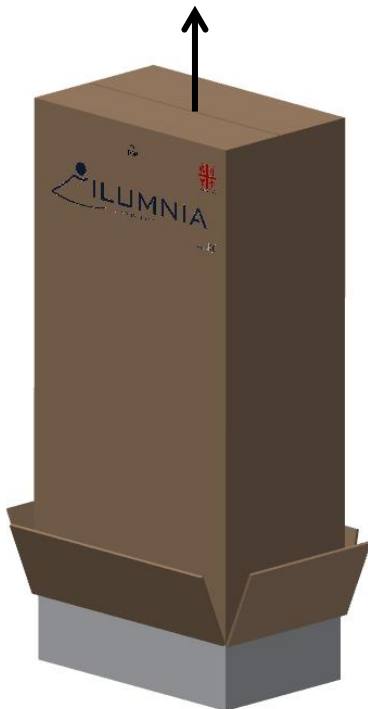
2. Open the bottom of the carton box by folding the carton flaps 270° up so that the content can slip out (as described in step 4)



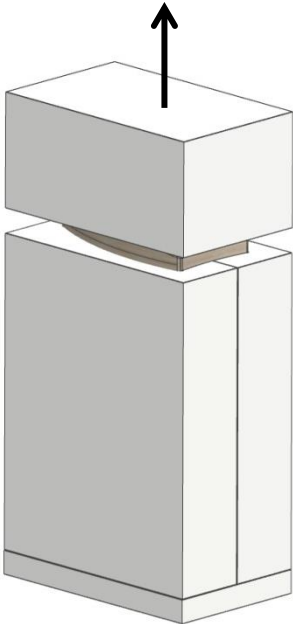
3. Place the carton back up so that the Illumnia logo is in horizontal position and the “UP” arrow is pointing upwards to the ceiling.



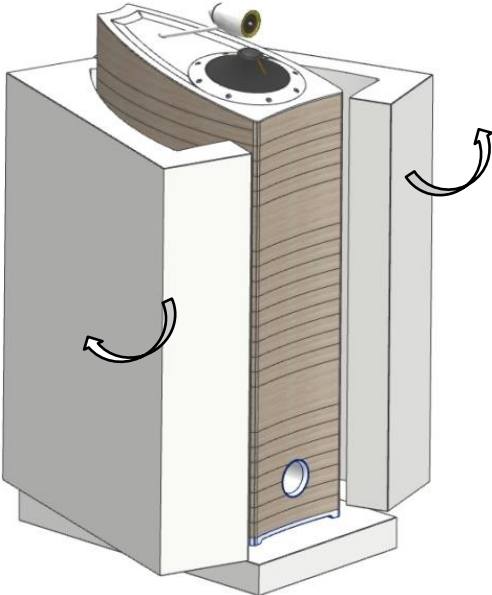
4. Now lift the carton box slowly upwards so that the speaker including its EPS packaging slips out of the carton box from the bottom. Watch out not to tip over the speaker.



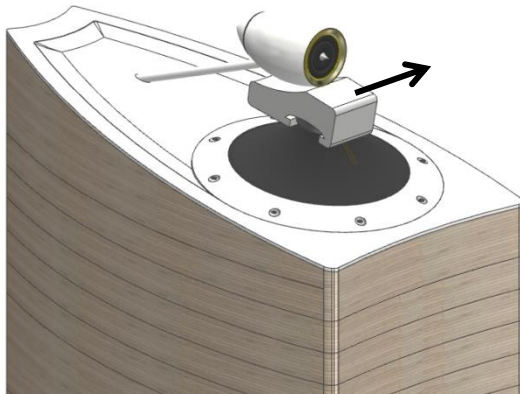
5. Now carefully lift the top part of the EPS packaging.



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



7. Option : if you want to mount spikes, now is the time (while the fixing foam part between tweeter and LEMS unit and the protection bag are still in place).
 - a. Put the speaker gently on its side so that the bottom can be reached. Watch out to have some soft underground like carpet, foam or a thick blanket to put it on in order not to damage the clearcoat finishing.
 - b. Now screw M8 spikes under the speaker.
 - c. Put the speaker back in its vertical position.
8. Remove the protection bag from the speaker
9. 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

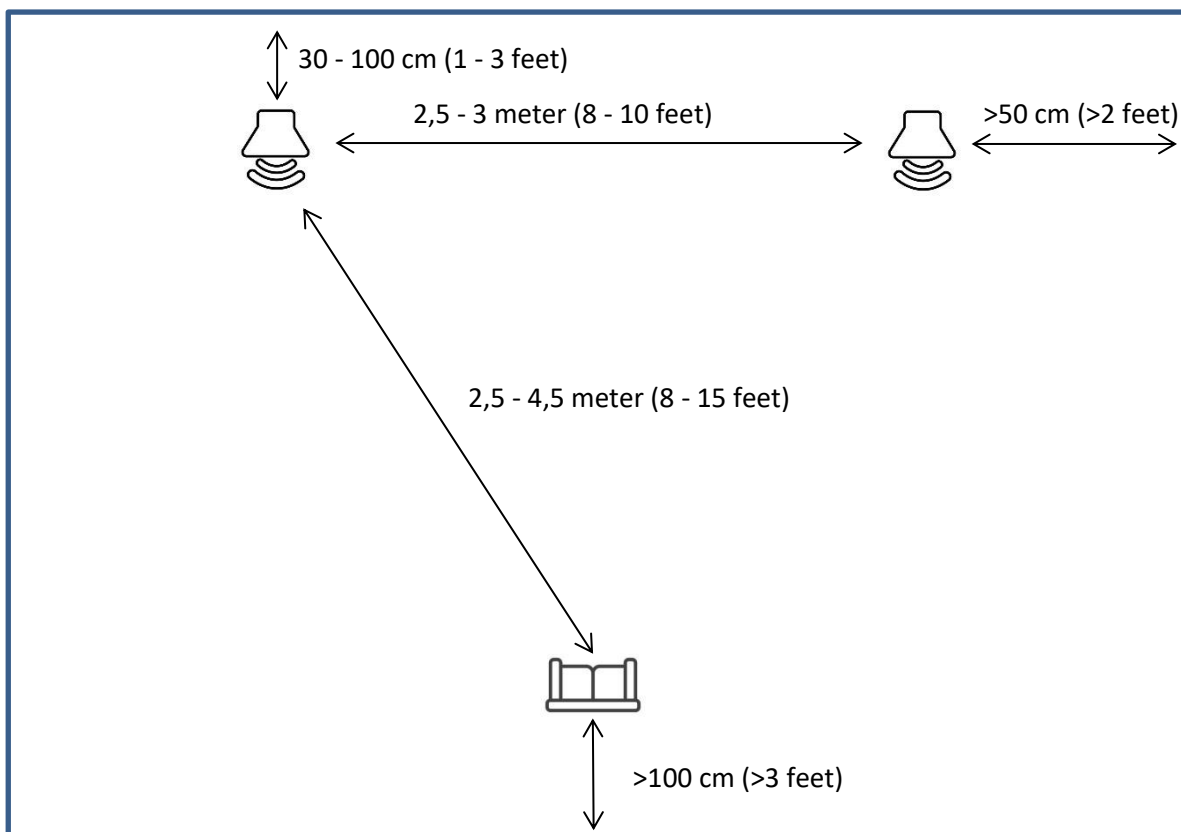
Correct speaker placement has a huge impact on sound quality. Every room has its optimal layout for positioning the speakers.

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 30-100 cm (1 to 3 feet) between the speakers and the rear wall.

Ideally we recommend a distance of about 2,5 - 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 get 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 1,5 meter (1 - 5 feet) additional distance.



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 : Illumnia 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 :

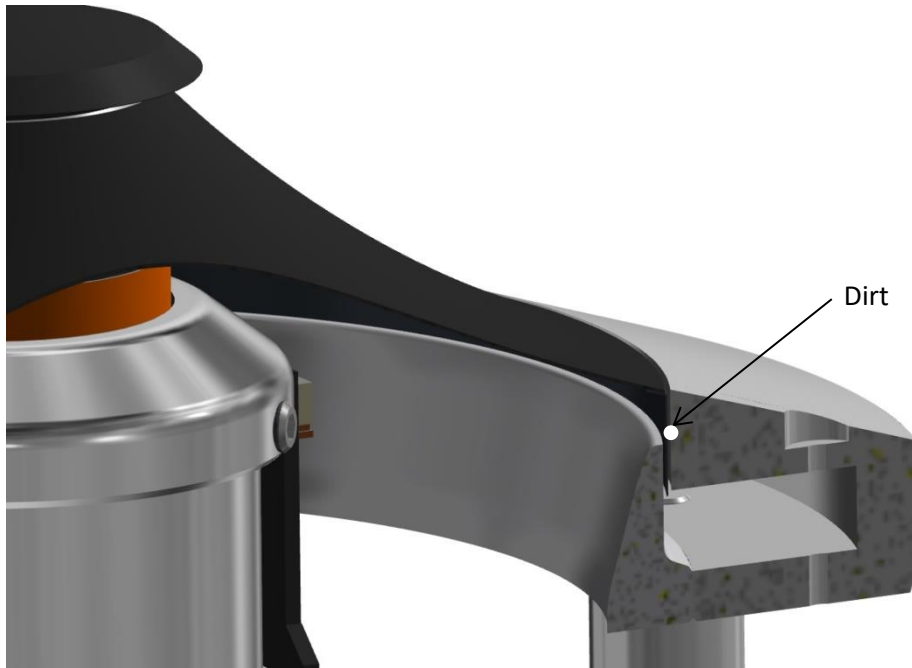
- Try to clean the cone just by gently blowing off the dust (**do not use high pressure tools!!**)
- If this doesn't help : wipe down with a soft, dry cloth. Ideally use a clean and unused SWIFFER DUSTER pad or soft micro fiber cloth. Never use moist or any form of liquids as the cone is made of impregnated 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.

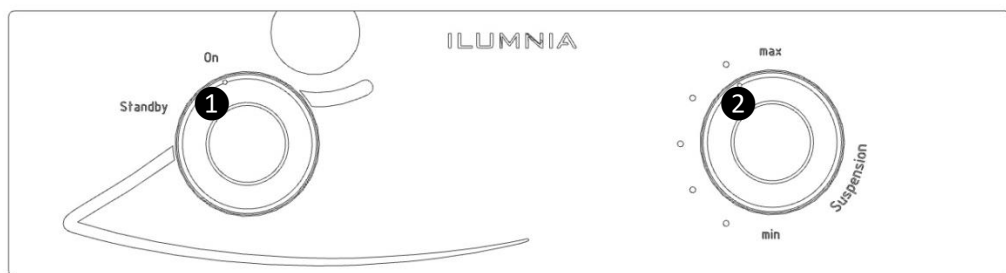
Illumnia Magister



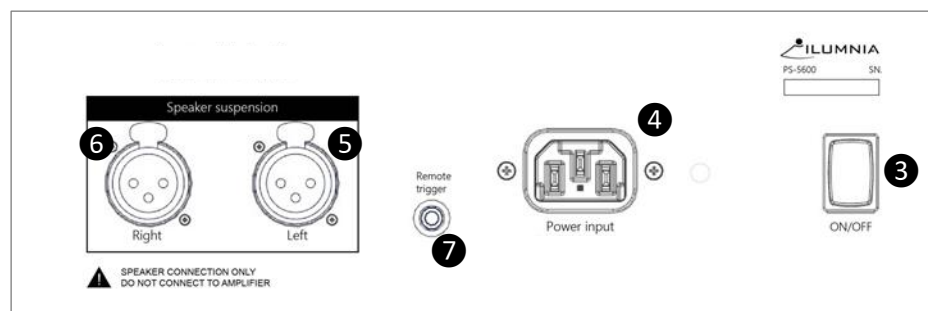
There is no harm in dust or dirt falling into the decompression chamber. It has been designed with sufficient clearance between cone and bottom.

Layout : Front- and rear panel

1. STANDBY / ON rotary switch (1)
2. Damping selector rotary switch / damping selector indicator LEDS (2)
 - On standby : the LED of the chosen setting will alternate its brightness
 - When switched on : the LED of the chosen setting will continuously shine bright
 - When switched off by the rear on/off button (3) all 5 LEDS will alternate their brightness simultaneously as long as the switch-off sequence is running (approx.. 1 hour). After 1 hour the cones have reached their resting position and all LEDS will dim.
 - All LEDS blinking subsequently : one or both of the XLR power cables are not or wrongly connected to the speakers => check connections



3. Power On / Off (3)
 1. This switch is used to power off the speakers completely. For instance when you are planning not to use them for several weeks (i.e. holiday) or before disconnecting them from the power supply unit.
 2. **WARNING : Before disconnecting the speakers from the power supply or the power supply from the mains ALWAYS run the power off sequence and wait until the complete power off sequence has finished and all LEDS went out (approx. 1 hour after switching off). Not following this instruction can cause damage to your speakers!**
4. IEC Power supply input (4) (110V-120V 60Hz or 220V-240V 50Hz depending on country, see power connection on power supply for the right voltage)
5. Left speaker power connection (5) (only XLR cable, min. 20AWG or 0,50mm² strands)
6. Right speaker power connection (6) (only XLR cable, min. 20AWG or 0,50mm² strands)
7. External remote trigger (jack 3,5mm : 5-12V DC) (7)



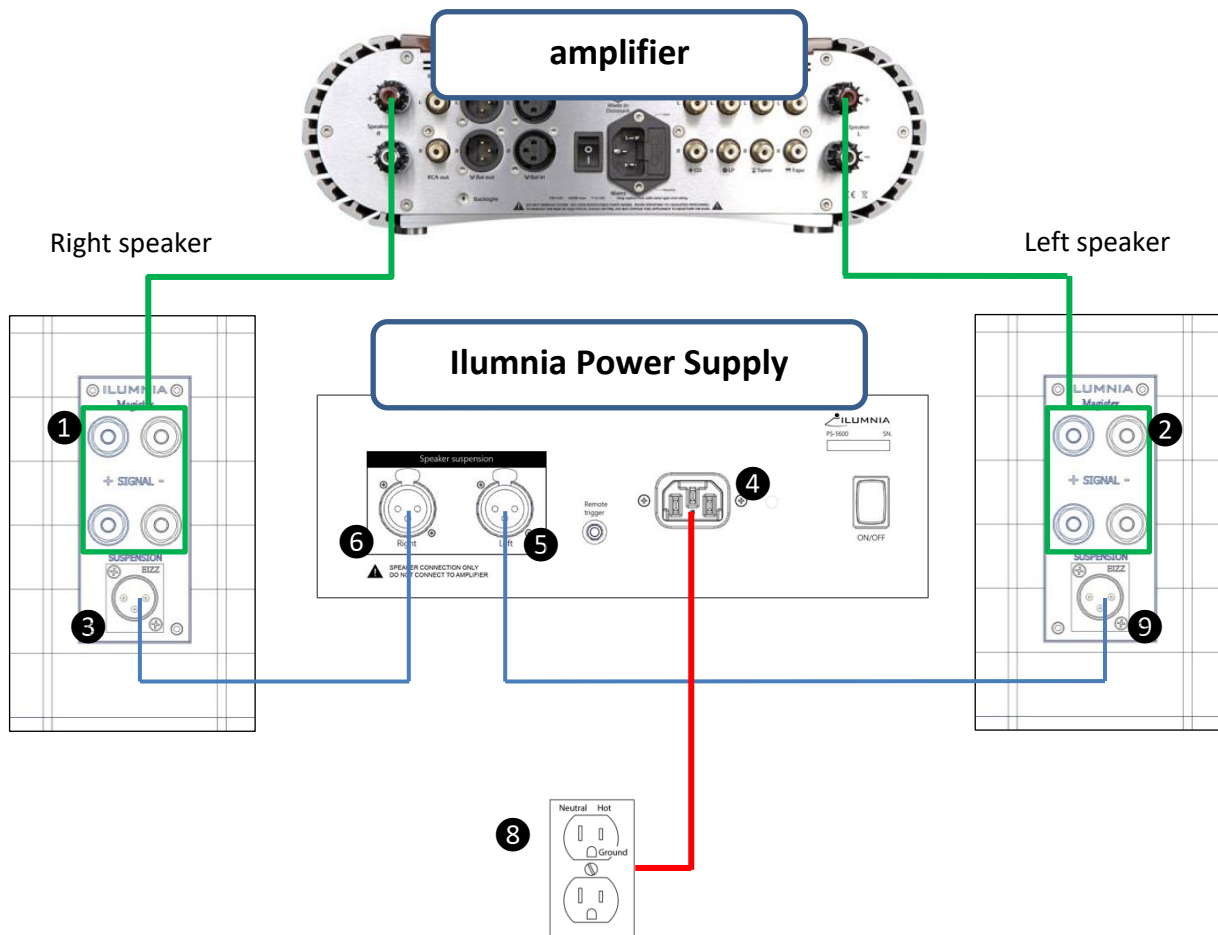
Connecting your speakers

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

Connect the RED(+) and BLACK(-) signal terminals (1) of the right speaker to the amplifiers right channel. (also see amplifier user guide)

Connect the XLR power supply cable from the right (3) and the left (9) speaker to the Illumnia power supply XLR connections (6) and (5). Use only shielded XLR cabling with a minimum core of 20AWG or 0,50mm².

Connect the power cable to the Illumnia IEC power supply entry socket (4) and the other end into the wall outlet (8).



Playing music

STEP 1

Switch on the Illumnia power supply at the back of the power supply unit with the power on/off switch.



Important remark : if the power supply is switched off 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 (in resting position) or insufficiently damped (standby). 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).

STEP 2

Turn the standby switch to the ON position.

STEP 3

Choose the damping setting of your choice.

Using the damping selector

One of the technological aspects of the LEMS driver is that it floats in an electromagnetic field. By adjusting the force of this field we can adjust the damping factor of the cone.

The reason why we have integrated this feature is because it makes it possible to match the speakers to your amplifier. If you own a solid state amplifier with high damping capabilities (and thus capabilities to control the cone) we suggest using the lower settings of the Illumnia power supply (1-2-3).

When using a tube amplifier which has much lower damping capabilities and thus less control of the cone we suggest using the higher settings of the power supply (setting 4 or 5).

These are the general rules. But you can use all settings on any amplifier. We suggest experimenting with different settings to figure out which one best suits your taste. The higher the setting, the higher the power capabilities of the speaker.

We advise using the off switch on the rear of the power supply only when the speakers are not used for several weeks (i.e. holiday). It is best to use only the on/standby switch on the front of the power supply.

Power consumption standby : 7 watt

Power consumption ON : 18 watt (maximum consumption when damping switch is on position "5")

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. 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.

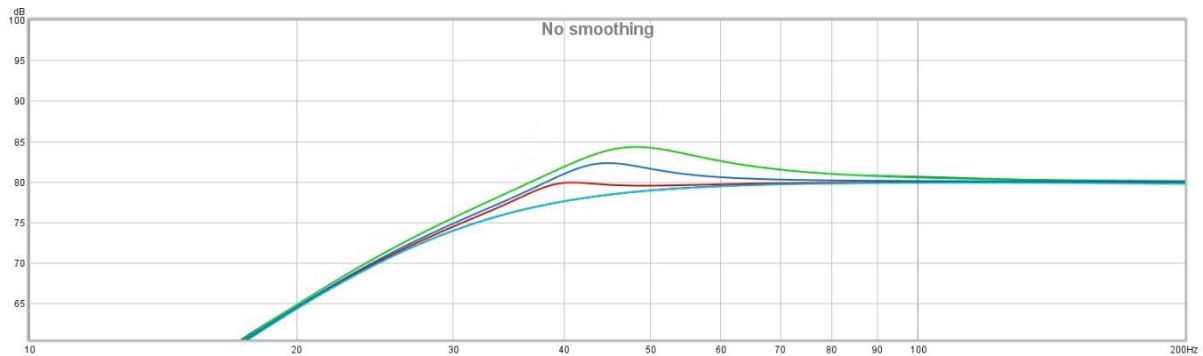
When switched from “off” to “on” (at the rear of the power supply), the corresponding warm-up time is about 30 minutes from cold (depending on room temperature).

When switched “on” from “standby” mode, the warm-up time is about 10-15 minutes. The warm-up time can be further reduced to roughly 5 minutes by switching the damping selector to position 5 (highest position, highest current) for 5 minutes and after that switch it back to the desired position.

Fine tuning the speakers

With mkII model we have added the possibility to fine tune the frequency response of the Magister. Because of its omni character the speaker uses and reinforces the room acoustics more than directional speakers. These fine tune functions offer our customers the possibility to adapt the speaker to the room acoustics and at the same time cater for personal preferences.

Low end adjustment with bass port setting:



0 ports open

1 (front port) open

2 (front and back) ports open

3 (all) ports open

There is also a difference in port tuning frequency:

Front port : highest tuning freq.

Back upper port : middle tuning freq.

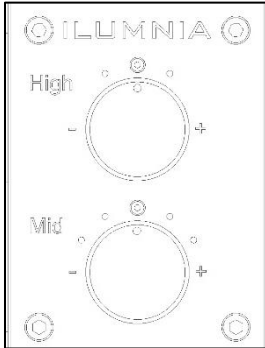
Back lower port : lowest tuning freq.

Since there are 3 ports with 3 different tuning frequencies and locations there are 8 different combinations you can choose of for the best match with your room.

Mid and high frequency adjustment

At the back of each speaker you will find 2 control knobs to adjust the frequency response.

The upper knob controls the treble, the lower the midband and mid-high frequencies.

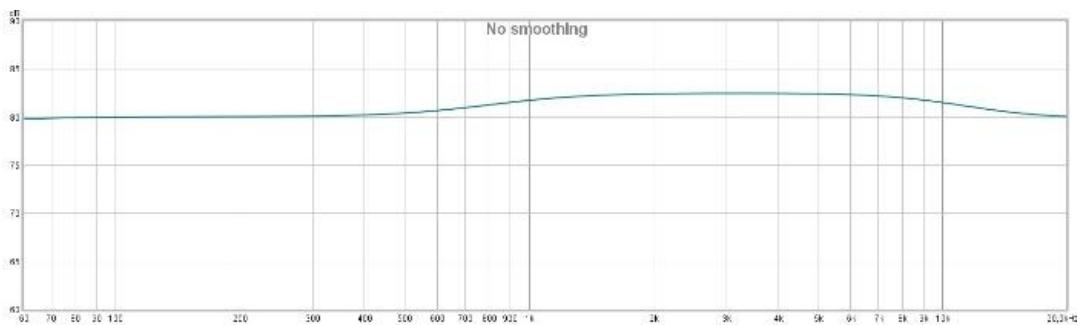


The graphs below show an indication on how these selection knobs control the frequency response.

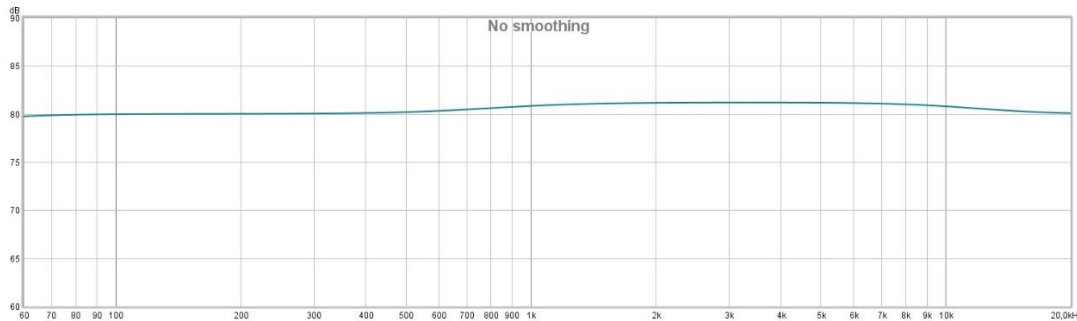
Mid-high adjustment (lower knob, 5 positions) :

This control covers the complete frequency band from 1Khz to 10khz. The interval in between selections is 1,5db of amplification each.

Position +2



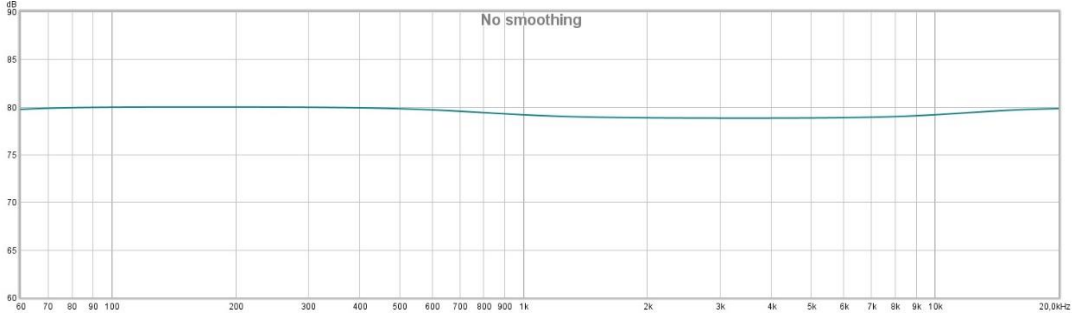
Position +1



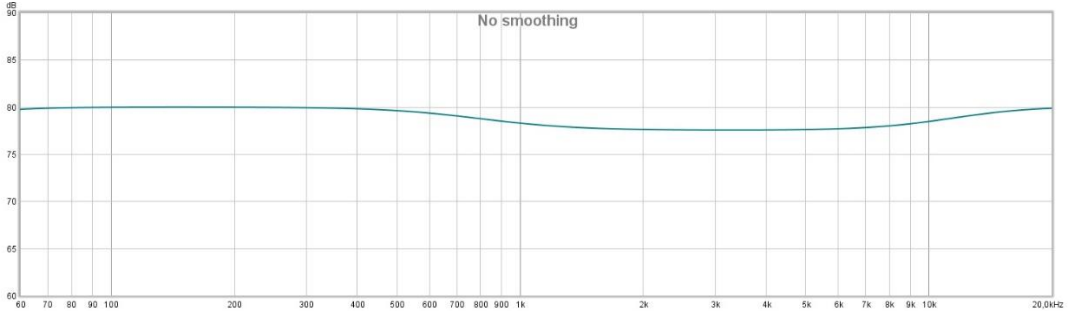
Position 0 (neutral)



Position -1



Position -2



High frequency adjustment (upper knob, 3 positions):

This control covers the frequency band from 10Khz onwards. The interval between selections is 3db of amplification each.

Position +1



Position 0 (neutral)



Position -1



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@illumnia.be or send it by mail to : Illumnia 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 Illumnia BVBA be responsible or liable for special, incidental, consequential or indirect damages.
5. Damages caused by incorrect installation, operation or maintenance.
6. Damages caused by modification or repair by a non-authorized 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, stroke of lightning, war or other force majeure events.

Specifications

SPEAKERS

Tweeter: 1 inch silk ring radiator

Woofer: 8 inch Linear Excursion Motor System with impregnated paper cone

Nominal impedance: 8 Ohm

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

Power Handling : 50 watt

Frequency Response (RAR): 37Hz-25KHz

Crossover System: 2-way

Dimensions (L x W x H) : 48 x 25 x 98 cm / 18.9 x 9.84 x 38.58 inch (without spikes)

Net Weight: 32,9 Kg – 72 Lbs pc.

POWER SUPPLY

Power consumption max (standby) : 18 Watt (7 watt)

Dimensions (L x W x H) : 240 x 340 x 90 mm

Power requirement (depending on country) : 220-240V AC, 50Hz / 110 - 120V AC,60Hz

Weight : 4 kg – 8.8 Lbs

Operating temperature : 32° ~ 104°F / 10 ~ 70% RH (non-condensing)

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.