La Voix du Luthier

Give the sound of a luthier to your instrument

Pyramid User Guide

Disclaimer

Please be careful: if you asked for the sharp version (not the Pyramidion one) the top of the Pyramid is very sharp and it can be hurtful if not handled with care.

Don't put anything on the top of the Pyramid, and take care of it as for any acoustical instrument.
La Voix du Luthier cannot be held responsible for injuries or damage caused by handling the Pyramid.
Please always use the provided protection ball, on the top of the Pyramid, when handling it.

Resonators from La Voix du Luthier

Like any **handmade acoustic instrument**
Each resonator is **signed and numbered**
They are also **unique** and slightly different from each other

The resonators from La Voix du Luthier are real **handmade instruments** built using the traditional **craftmanship** of **stringed instrument makers**, augmented with the expertise of **electronic instrument maker**.

Feel the acoustical vibrations while playing your electronic instrument due to direct acoustical coupling, bringing to electronic musician this **subtle yet significant playing experience** that naturally occurs in traditional acoustic instruments.

If you have a question not answered in this manual, please send a mail to contact@la-voix-du-luthier.com

Unboxing

Please check the unboxing tutorial video before opening the 2 boxes
https://youtu.be/P2QyuCvZ4cM

Also note the box containing the Pyramid resonator (the higher one) **shall not be opened from the top but from the bottom**, as explained in the video

In the box

A **Pyramid** and its base plus a set of connection cables and power supply

A Pyramid resonator (one soundboard on the front and one on the back), also containing the amplifier with the control panel.

The resonator can be used standalone without the base.

B Pyramid base is empty and mainly an aesthetic time to put the Pyramid resonator on.

1 Power supply

2 3 tripod feet (that will be attached under the Pyramid when used standalone)

And 8 wooden round feet (4 under the resonator, 4 under the base)

Note: check the Single Body Pyramid documentation to operate the Pyramid standalone: https://www.la-voix-du-luthier.com/wp-content/uploads/2022/11/LVdL-Pyramide-Monocorps-Installation-notes-v2.pdf

Assembling the Pyramid

The **Pyramid** is very easy to attach to its base

Please check the tutorial video
https://youtu.be/P2QyuCvZ4cM
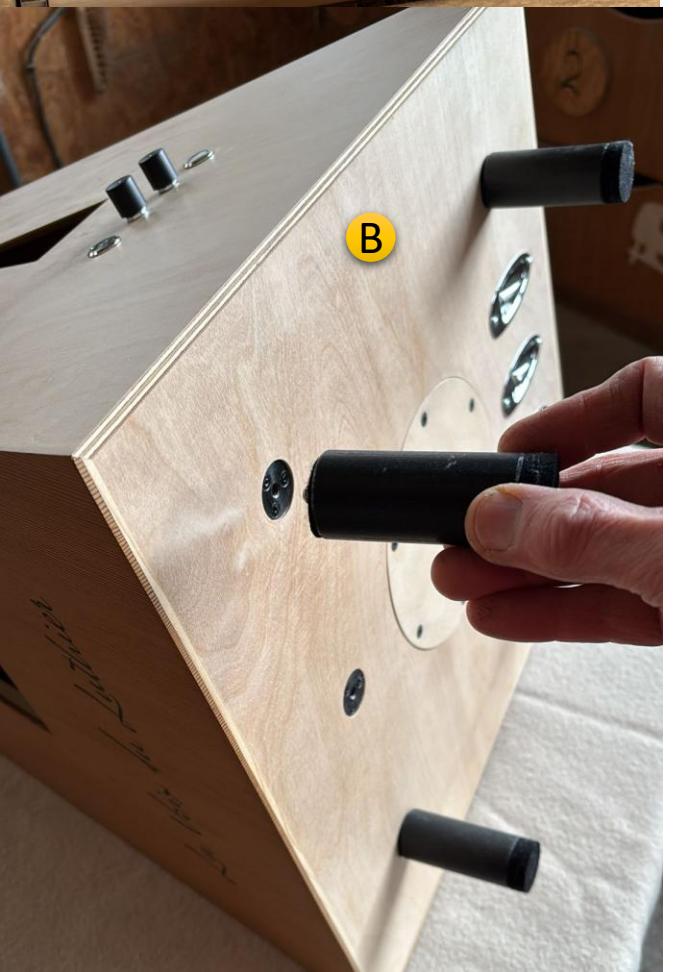
The standalone resonator   and the aesthetical base both have 4 black wooden feet (alternatively, tripods can be used on the resonator for a standalone use).

The 4 small pillars of the base just have to be screwed in the 4 holes of the base at unboxing time. **(A)**

Then 4 small pillars of the base just have to be screwed in the 4 holes of the resonator. **(B)**

Hold the resonator in your hands (one hand under and one on the tip)... avoid any strong pressure on the front soundboard. **(C)**

Make sure the front edges are properly aligned.

Gently insert the 4 pillars on the base and press a little bit to make sure it is properly inserted and secured.

You are done, you can use the Pyramid.

The Pyramid Class D - Technical details

Resonator: 112 cm high, 44.2 x 44.2 cm base and, 5 kg weight.
Base: 36.3 cm high (+feet, 7 cm each) on 44.2 x 44.2 cm base, 11.5 kg weight

2x30W Class D amplifier driving 2 carefully selected wideband transducers.

Built following the traditional stringed instrument maker's know-how, integrating two sonically complementary soundboards.

Separated volume control for each soundboard.

Line level stereo in (3.5 mm stereo jack).

Bluetooth Audio (and APTX). Line level and Bluetooth can be mixed together.

Battery-powered (3x18650 3.7 Volt Li-ion rechargeable batteries: **not provided**, see later in the document)

The Pyramid can supply power for two other USB devices during normal operation.

Front soundboard (spruce or red cedar) for higher frequencies

PARAMIDE
La Voix du Luthier

Back soundboard (Finnish birch) for lower frequencies
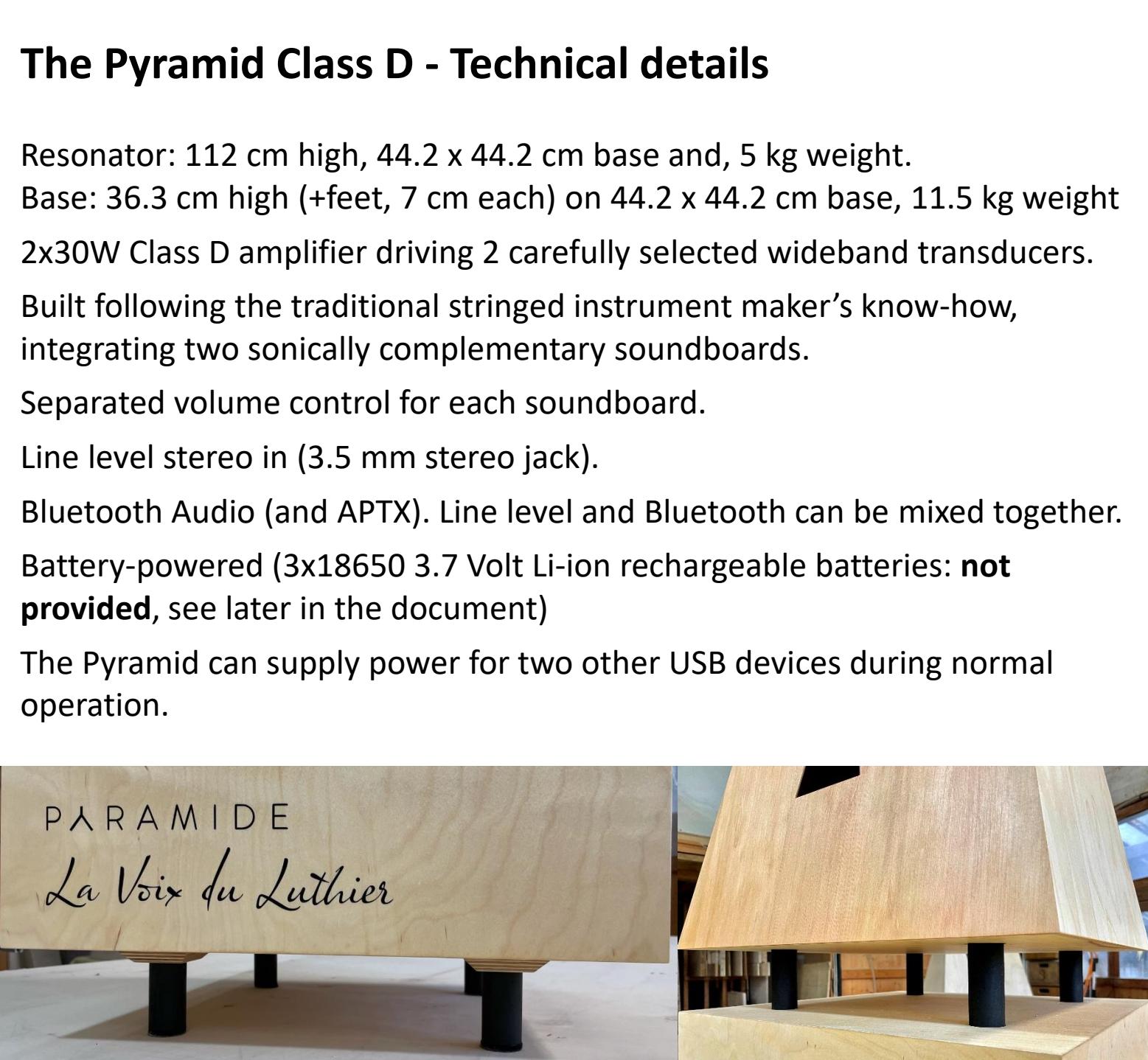
# Assembling and connecting the Pyramid

The **Pyramid** is very easy to attach to its provided feet

The 3 small feet just have to be screwed (and well tightened to avoid any vibration) in 3 of the 5 mounting points as shown in the pictures on the right . The other mounting point are here for your convenience allowing multiple DIY mounting solutions (they are all very standard Kodak *(1/4"-20)* screws).

The **Pyramid** has 3 inputs, all located on its bottom:

*   One for the power input - Power supply connection *(19V DC, 2.1 A, center +)* where you can connect the provided power supply... no possible confusion: the power connector only fits in this one.

*   Two for the audio input for 2 6,35 TS (Mono) jack. The Pyramid is **Stereo** but if you connect only the jack on the side (the red jack on the picture) it will send its signal to both resonators, acting as a mono input (for any mono instrument). As soon as you connect the center jack the signals will be separated and individually sent to the front and back soundboards.

You are done, you can use the Pyramid, and remember that you can also use as a Bluetooth speaker.


Power Input

Audio Inputs

x2

Mono Input
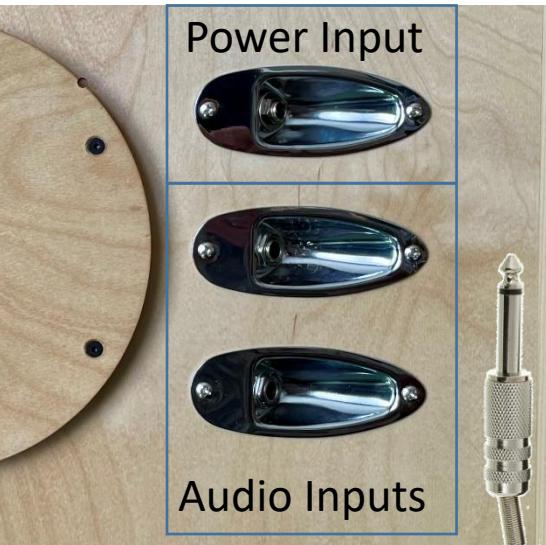
Amplifier Control

The controls are on the right side of the **Pyramid**.
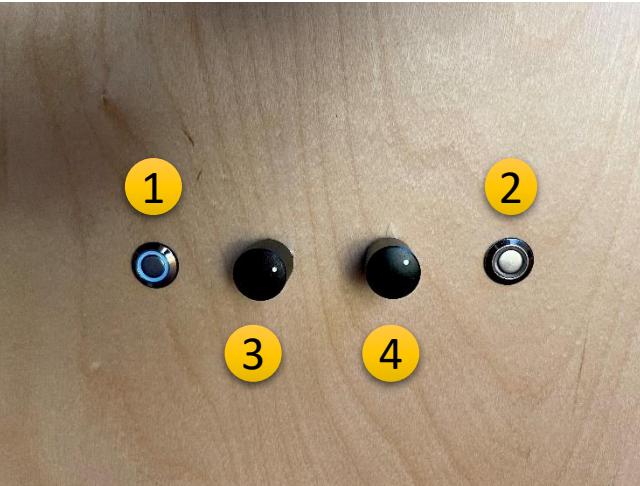
1. The button on the left it the On-Off button,

2. The button on the right controls the Bluetooth: a short press on this button will disconnect any Bluetooth device already connected; The button's led shows the Bluetooth audio status *(that appears with a Bluetooth device name **La Voix du Luthier**)* and will blink when there is no connection and become steady as soon as a device is connected.

3. The rotating knob on the left controls the front Soundboard volume

4. The rotating knob on the right controls the back Soundboard volume

The front soundboard is tuned to be more effective for high frequencies, while the back soundboard is tuned for low frequencies. Therefore, adjusting the relative volumes is great way for defining your own sound color.
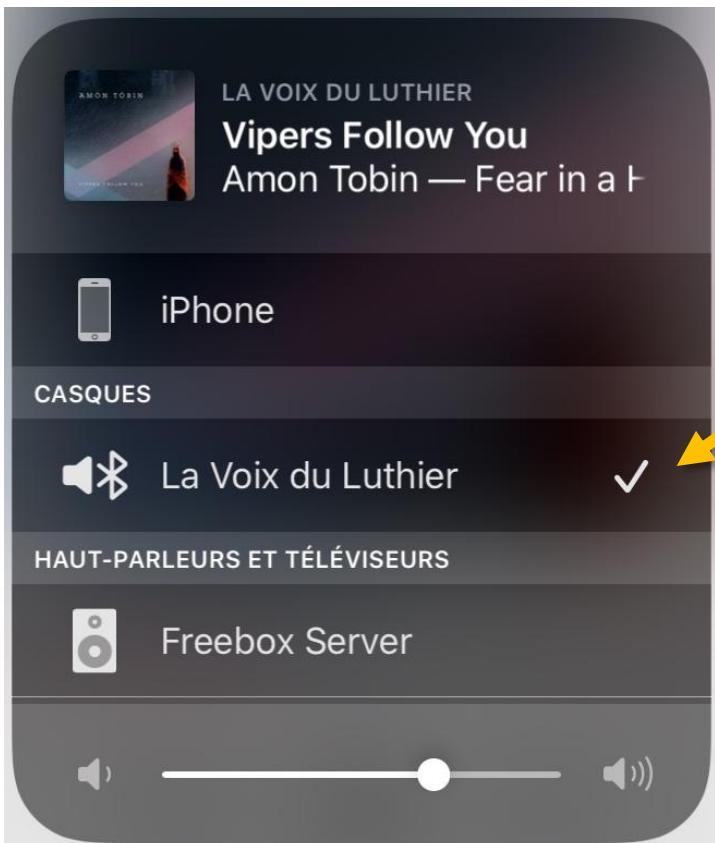
Bluetooth Connection

The Onde is Bluetooth V4.0 APT-X + EDR, A2DP compliant

The Bluetooth connection to the Pyramid is just like the connection to any Bluetooth device:

1. The Pyramid will show up as "*La Voix du Lutier*", connect to it, from you smartphone, tablet or computer, as to any Bluetooth device
2. Select "*La Voix du Lutier*", as output device
3. The output level will depend on your device volume and the Pyramid volume knobs: we recommend to have the highest possible volume on the device and to adjust it on the Pyramid itself.

Note that the 3,5 mm stereo jack audio input is still available while playing Bluetooth, meaning that you can play backtracks via Bluetooth.

Resonators from La Voix du Luthier

They generate a 3D auditory space, just like a traditional acoustic instrument (as opposed to traditional speakers being very directional).

They are not sonically «neutral», but are not meant to be: they offer a colored sound carefully tuned by the luthier.

They offer a highly dynamic sound: transients, like the attack of sounds, mechanical noises, etc. are of incredible quality (prefer dynamic sounds to feed the resonators, rather than highly compressed ones, and it will shine)

They enhance any electronic signal, imparting a carefully balanced acoustical environment into the source, immersive like an acoustic instrument.

They have two fine wooden soundboards with oppositional placement that are complementary sounding, further enhancing the 3D experience. Each soundboard has a separate volume control allowing for fine-tuning of the tonal balance.

They offer a high number of possible mounting options including DIY Like acoustic instruments, they are deeply interacting with their environment, allowing to fully take advantage of the specific tonal characteristics of a venue.

They perfectly integrate with an acoustic ensemble.

They offer a very elegant wooden design (different finishing are available).
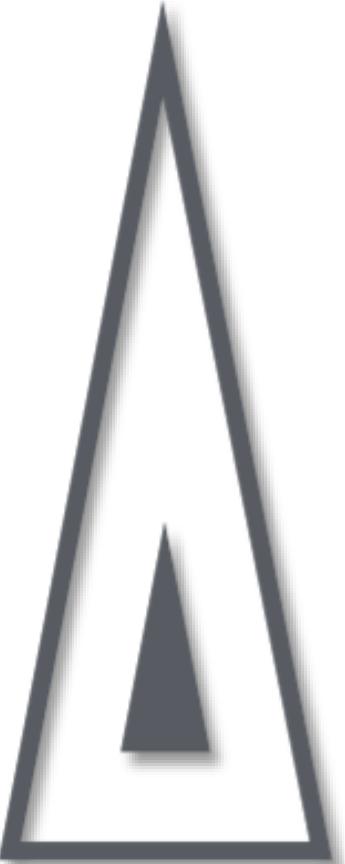
Pyramid: the magic of resonances *(1/2)*

As any acoustic resonator of an acoustic instrument, the Pyramid has numerous resonances (frequencies that sounds a bit louder than other ones) that's part of what is giving it its unique sonic behavior.

These resonances are managed and tuned by the stringed instrument maker mainly via the global shape and size of the resonator, the sound holes (surface and positions), the bracing of the soundboards (shape, thickness, etc.) and the soundboards of course (wood type, thickness, etc.),

When there is a resonance at a specific harmonic, you usually also have resonances around its natural harmonics: for example there is often a set of structural resonances (related to the shape and size), the stronger being around 80 Hz, but with additional significant ones at about 37Hz, 160 Hz and 320 Hz.

Note that resonance frequencies may vary from one Pyramid to another, but also depending on the humidity, the temperature, the age of the Pyramid: this is the life of wood.

If you play a frequency (at quite a high volume level) at one of the stronger resonances of the Pyramid, you may reach the mechanical limits of the resonator (the maximum displacement of the wood): this is not a problem in itself, but you will hear a sonic difference from that point... you may like it and play with it, or prefer to stay under that specific level.

Pyramid: the magic of resonances *(2/2)*
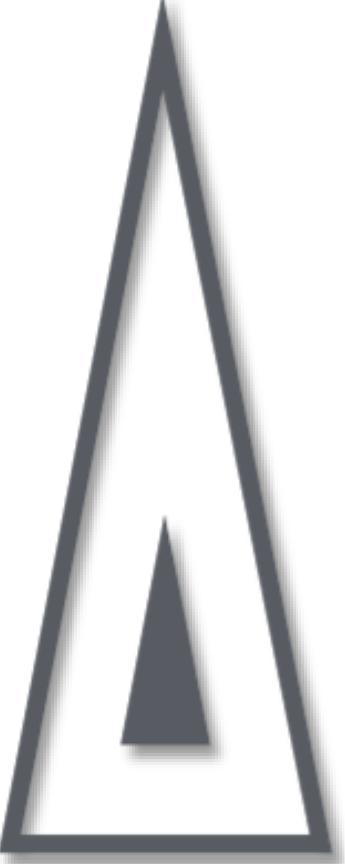
Also note that in a resonator, there are a lot of interactions across different frequencies and associated resonances: therefore a high resonant peak when a single frequency is played, may become a much lower peak when multiple frequencies are played together (not the way around, a peak will never be increased when multiple frequencies are played). All this to say that, as for all acoustic instruments, the way you play your instrument is the key important point to get the sound you want to have.

Also note that filtering the input signal may be interesting if it stays in a reasonable level, but the wood having its own behavior (for example, raising low frequency may also lower some high frequency, and creating a peak on a specific frequency may also trigger a peak on its harmonics) any such filtering will have to be tuned by carefully listening to its result on the whole sonic range of the resonator.
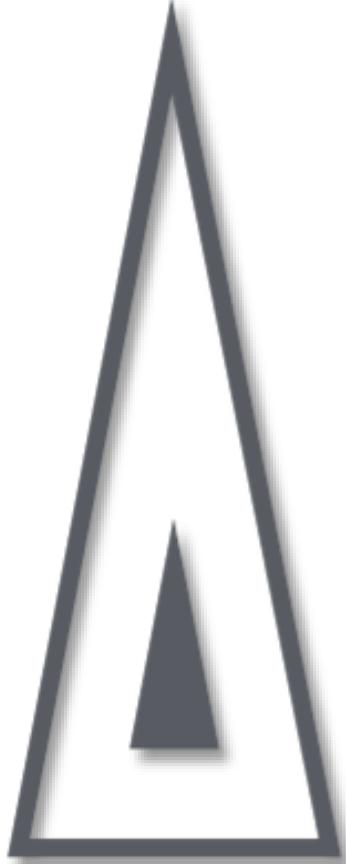
Some recommendations and Q&A

The typical usage environment of a Pyramid shall be the same as any acoustic instrument: avoid too dry or too wet environment the most dangerous being too dry, which may result in cracks on the soundboard. Also be aware that different humidity environment will result in different sonic behavior, that's normal. If you feel comfortable your Onde will feel comfortable,

Don't let your Pyramid under the direct light of the sun (in the back of a car for example or near to a window), or close a to very hot object (wood-burner, radiator, etc.)

As for any acoustic instrument the sound of your Pyramid will evolve over the time, usually in a good direction, and the more you play it, the better it will become !

You can carry your Pyramid like you would carry an acoustic instrument. The most fragile area is the front soundboard: don't put any weight or pressure on it, don't put water, café, soda are anything on it, it's not a cooking surface (furthermore: any object, even very light, touching one of the soundboards, will invariable be the source of unpleasant and noisy vibrations).

Please, only use your Pyramid as a resonator and in secured conditions (securely attached, sufficiently away from any fireplace and any source of water, etc.) any other use will be under your own responsibility.

It's not really fragile (not more than a guitar), but it's an acoustic musical instrument: please take care of it !

Pyramid: some recommendations and Q&A

How to take care of it ? Clean it with a dry cloth, avoid any household product. The finish of the Pyramid is a clean finish based on oil: if really necessary you can apply a care emulsion (we recommend Auro care emulsion No. 431, but other similar product may be suitable)

About vibrations: as any acoustic instrument, the Pyramid has a set of resonance frequencies (that's part of what makes its own color). Playing these resonance frequencies at high level may result in some annoying vibration noises. If this happens, lower the volume or try to put less input power on these frequencies. In a general way, don't play it too loud: that does not make the sound better.

Input levels: the 3,5 mm audio in is expecting to receive a Line-In input, but most input will work. However, some synthesizers may provide a very high level on their output: therefore we advise, when connecting a new instrument, to start with the 2 volume knobs at the minimum and then raise them progressively to a reasonable level.

3,5 mm audio input can be used simultaneously to the Bluetooth input. Also note that you will manage to get higher volume level with the 3,5 mm jack input (so be careful). Also note that, as all Bluetooth audio, wireless transmission result in an additional playback latency: therefore the 3,5 mm jack input is much more suitable to connect live instruments.

The audio input IS STEREO, and left/right will be distributed to the front and back soundboard, resulting in a very nice spatialized sound (but different from traditional left/right). To use the Pyramid with a monophonic instrument, use the provided mono to stereo adaptor cable.

# Pyramid: some recommendations and Q&A

In some rare circumstances, you may get some buzz noise. If this happens try to:

- If you are using a jack input, first check your cable !
- Insert a ground loop isolator on the jack input (it's cheap and easy to find)
- Lower the volume on the Pyramid
- Unplug the DC adaptor (only if you are using batteries of course)
- If you are using batteries: turn off the Pyramid and connect it to the DC adaptor (when the battery is low, you will progressively get distortion when requesting more output level)
- Move the Pyramid away from any electro magnetic radiation source
- Connect a Bluetooth device (if not already done)
- If none of the above works, fire a mail at contact@la-voix-du-luthier.com

Check https://www.la-voix-du-luthier.com/faq for additional Frequently asked questions.
The site also provides a lot of demonstration videos,

Make sure to check our terms and conditions on http://www.la-voix-du-luthier.com/cgv
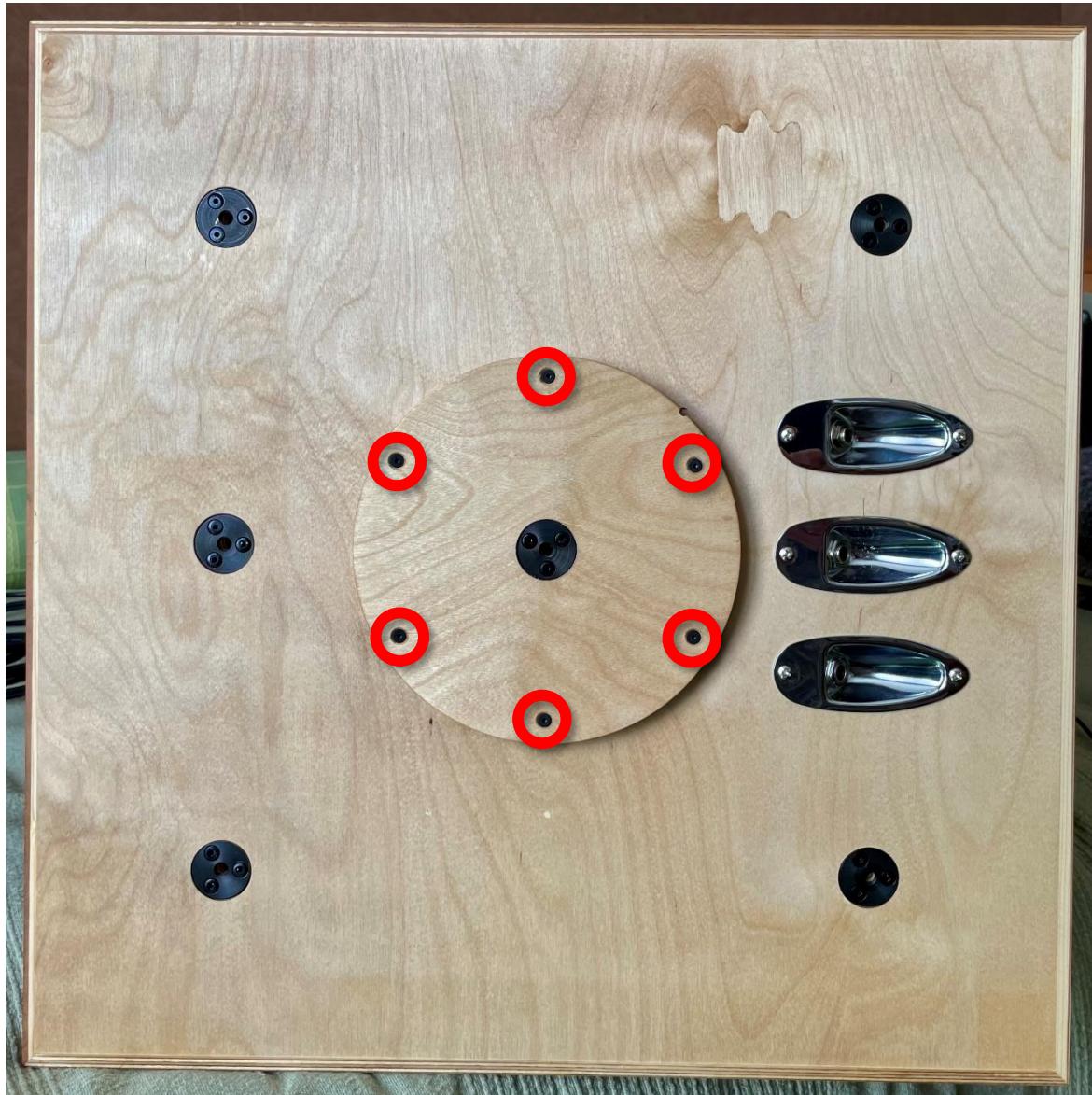
Batteries

Inserting the Pyramid Batteries

Tool required: Allen hexagonal 2,5 mm screwdriver. 6 screws to remove.

Step 1

Place the Pyramid on a flat surface to access its bottom: prefer laying it on the side without the knob (avoid laying it on one of the soundboards), preferably against something like a blanket or a couch. The control panel should be facing up, with all connections removed.

Be careful not to scratch any of the Pyramid's surfaces.

Step 2

Remove the six screws that attach the circle center of the bottom of the Pyramid, using a Allen hexagonal 2,5mm screwdriver.

Place the screws aside.
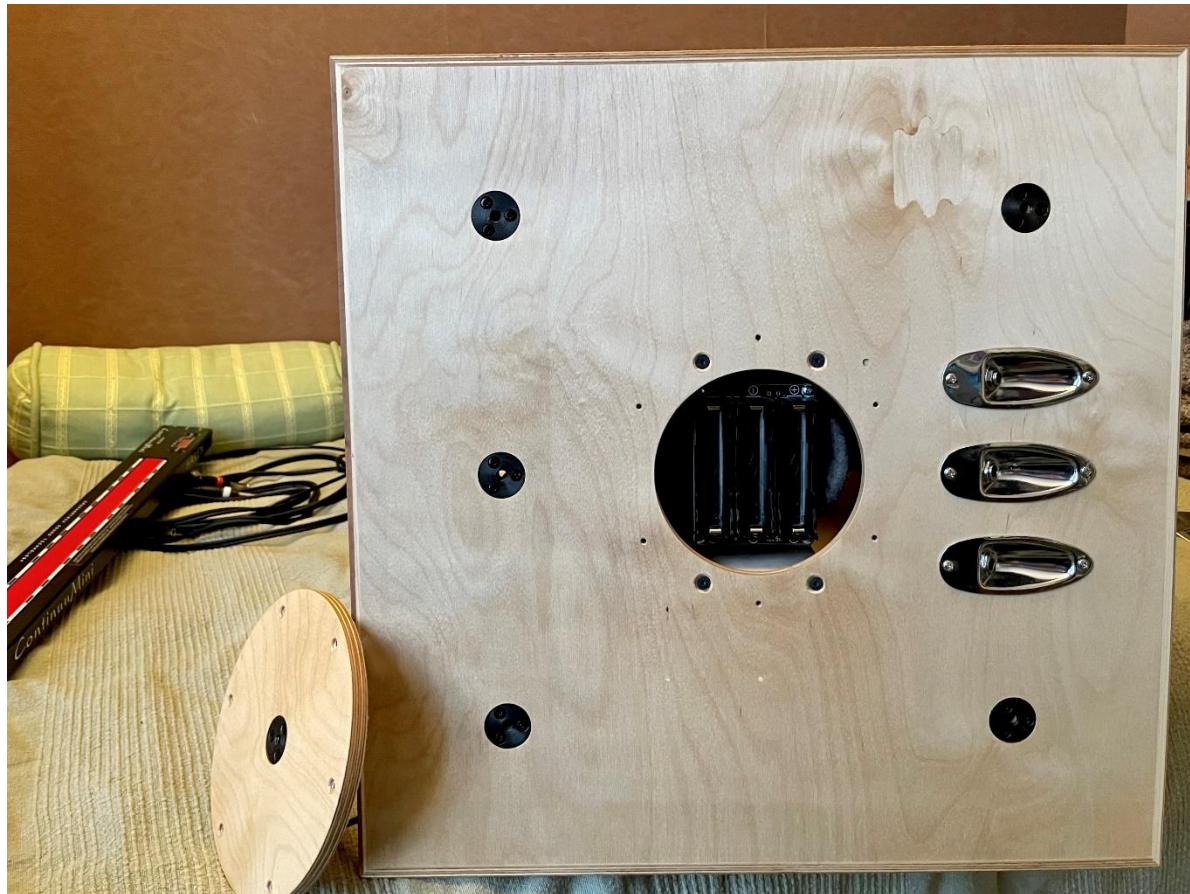
Step 3

Remove the wooden circle to expose the whole battery compartment.
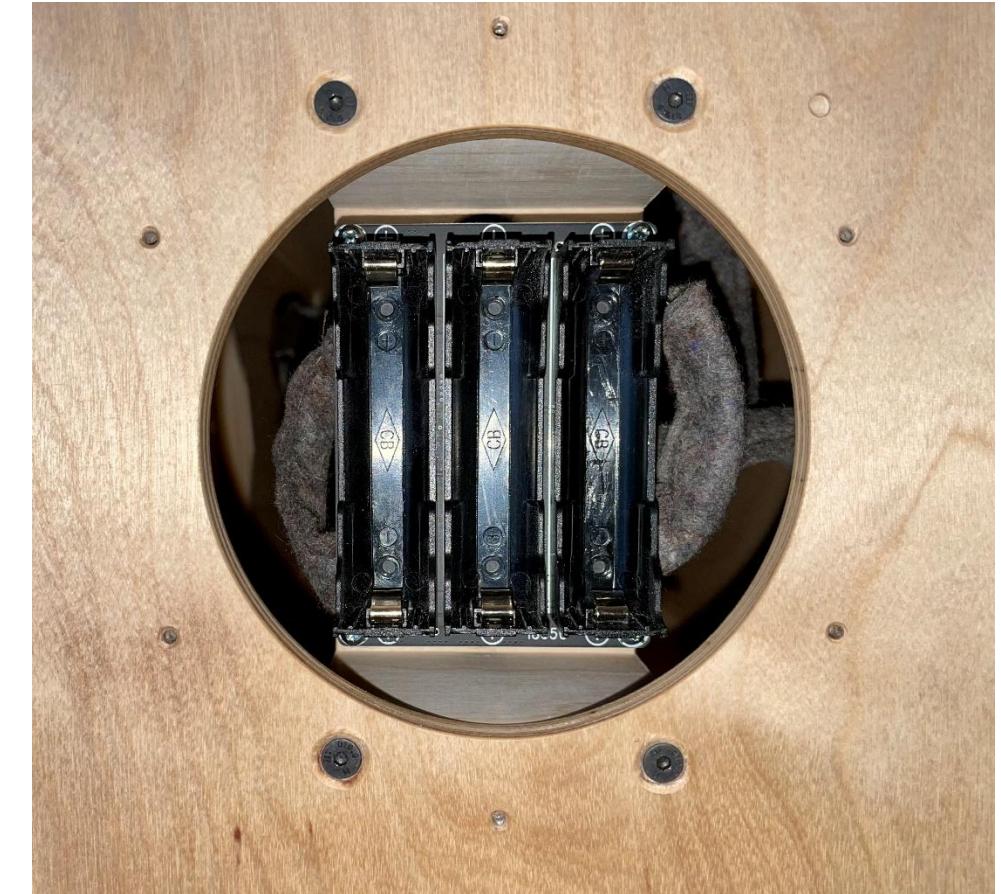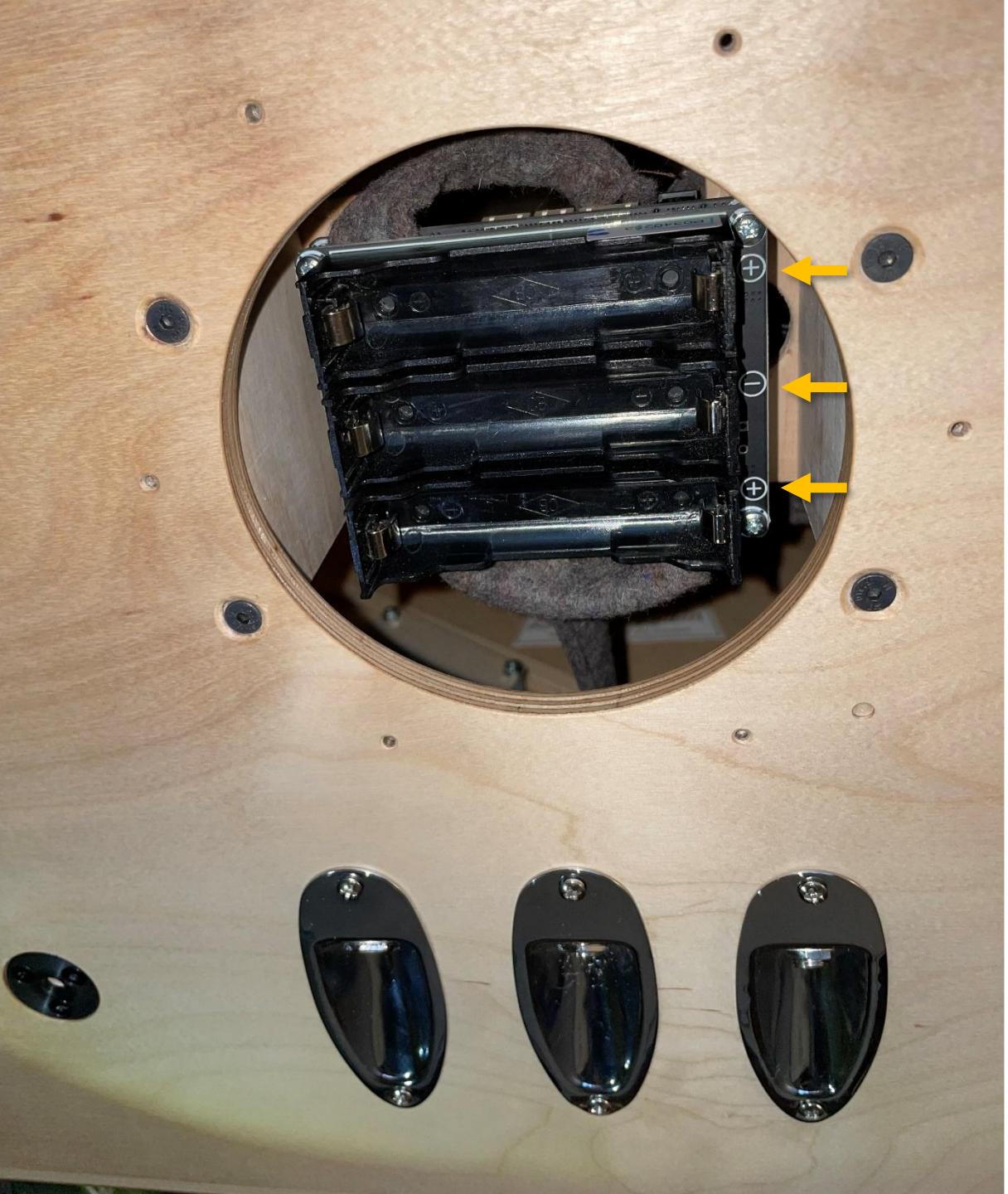
Step 4

Identify the battery compartment and the polarity of the batteries. This polarity is marked on the PCB under the battery compartment.

Step 5

Place the batteries inside the battery compartment, being careful to observe proper polarity.

Step 6

Place the wooden circle back in place and replace the six screws. Do not overtighten.

Note

Due to legislation, you will have to remove the batteries before traveling with the Pyramid in the hold of a plane (or shipping by air).

Also note that an impact on the Pyramid may move the batteries a bit out of their compartment: therefore after an impact on the Pyramid (due to travel of whatever other reason), if the batteries are not working anymore, just reopen the compartment to check and to put them back in place.

Have fun with your Pyramid !

Please note that none of the pictures in the document are contractual: the Pyramid is hand made and we are always improving our production process ! Therefore there may be slight differences from one Onde to another