GRAND REFERENCE

USER MANUAL

Thank you for sharing our perfectionist vision and investing in the IO Design Grand Reference loudspeaker system.

The Grand Reference is paramount in IO Design engineering of precision musical instruments, and brings truly live music in your home for many years of live-events-like enjoyment.

IO Design's Grand Reference is the ultimate instrument in home audio loudspeakers, a high precision instrument engineered and crafted with the highest standards to be the pinnacle of audio reproduction.

Please take your time to get acquainted with the features and instructions, to get the maximum performance from your Grand Reference and maximize its interfacing with your system and environment.

Please carefully check and follow the safety instruction to safely operate your Grand Reference.

SAFETY INSTRUCTIONS

The Grand Reference is very heavy, never try installing it without the help of your dealer and, in any case, 3-4 persons. As for unpacking, moving and positioning the Grand Reference, please refer to the specific section.

After the correct positioning is found, you need to substitute the wheels with the speakers' feet.

None of the parts and accessories provided shall be used differently from the original scope described.

The Grand Reference does not need any electrical connection, only speaker cables are needed to connect it to your system.

Never shortcut cables + and –(nor the connection cables to the amplifier, nor the internal wiring) it will result in clipping and damaging your amplifier and the speaker's drivers.

Always shut the amplifier down when you are operating on the loudspeaker, the cables or the crossover filter's setup.

Never use excessive volumes, in particular with non-adequate amplifiers, in particular amps/preamp giving out high distortion levels (or eve current). This may result in clipping and damaging your amplifier and, potentially, your speaker's drivers.

Please mind that a prolonged exposure to sound pressures higher than 90 dB, is not healthy.

The Grand Reference is suitable for indoor use only.

Never get near the powerful magnets of the speakers with a watch or credit cards, the speakers are safe but they may be affected.

Never attempt touching the internal parts of the speaker's midrange or tweeter.

Don't allow the Grand Reference to be managed by inexpert people or kids.

Never open the Crossover glass to access the filter. Should you need to adjust the Crossover settings, we advise to do so under the guidance of your dealer.

Never let the Crossover glass open to avoid building up dust and any possible accident.

GENERAL INFORMATION

The Grand Reference loudspeaker system, weighs 450 Kg. each.

Power rating is minimum 100W, nominal 400W.

The Grand Reference impedance is nominal 4 Ohms and never drops below with an absolutely linear modulation across frequencies.

Clean the speakers with a soft cloth. In case of dust first use a feather duster and then complete cleaning with a soft cloth, if we needed you can wet the cloth with water.

Never use chemical products, they can stain or spoil the finishing. Some products are very aggressive and can actually remove the anodization layer or make paint become dull.

Avoid the Grand Reference to be exposed in direct sunlight for long periods, UV rays might decolor the surface over the time.

Keep your Grand Reference speakers in a dry location avoiding mist and humidity.

CONCEPT

The Io Design Grand Reference system rehashes and reinforces all the unique and exclusive concepts and features already present in the Naked models but, without any budget constraint, we pushed the concept to the limits of current parts and materials availability.

IO Design goal is to further enhance the Naked concept ability, to materialize a live event in your room, recreating a scale reproduction evermore closer to reality. Some may object that any loudspeakers manufacturer claims the same, but the flaws of the old concept of boxed or dipole speakers is repeated again and again with new designs, materials and even some intuition, but not getting down to the point that those old designs can't allow reproducing the most important parameters of a live performance in a totally faithful way, always introducing something that, at IO Design, we completely reject.

This approach allows IO Design listeners to experience the emotion of the original sound's physical and tangible presence in all its complexity. The Grand Reference is extremizing this result thanks to an approach free from any budget constraint.

The challenge was tough indeed because we did not set any limit in our pursuit of the true live performance of instruments and the IO Design team worked tirelessly to achieve this uneasy target.

Thanks to our team's dedication and clear vision, we are now proud of what we have accomplished. The Grand Reference has ventured into a realm of sound presentation in your listening space that is unique and yet unexplored by any other company on the market.

As with the Naked model, the Grand Reference leverages its distinctive emission concept to use the environment as an integrated component in the propagation of sound waves, transforming the limits of traditional speakers into a much valuable asset.

SOUND REPRODUCTION AND DYNAMICS

Even with a proper acoustic correction, a closed-box loudspeaker can never achieve the speed, presence and decay, just to quote some parameters, meaning the genuine energy of an acoustic instrument played live. All manufacturers well know this basic truth and try to mitigate it with evermore heavy and stiff boxes that are still doing the same job, distortion creation… In fact, the old boxed concept, produces an uncontrolled loudness effect contaminating all frequencies, drastically staving off home reproduction from the true performance of live instruments (regardless of the brand or the cost of the loudspeakers).

One of the greatest challenges that IO Design faced, was achieving an even energy distribution across the entire sound spectrum. Our aim is to deliver the same sound pressure at a constant distance regardless of the frequency, and with the minimal possible distortion. This meticulous balance results in a listening experience that is natural, balanced, lively immersive and delivering an undistorted high sound pressure regardless of the listening point position.

Sound pressure is a crucial aspect of reproduction. When we experience a sound featuring a very low distortion and an excellent frequency balance, less expert listeners may fail to fully appreciate the true energy of that sound; this applies to both dynamics and micro-dynamics. With IO Design systems, where the Grand Reference is paramount, these parameters are pushed to the limit of today's available materials. The Grand Reference, by concept supported by the environment, propagates energy throughout the room, plunging the listener into a tangible, real presence drastically narrowing the gap between live music and home reproduction.

The Grand Reference system is designed to the limit to recreate that sonic impact, that realism, and those harmonic nuances, along with the interplay of silences and micro/macro dynamics, to result in a total emotional experience so entangling that it leaves no room for any other alternative regardless of the price.

INSTALLATION GUIDELINES

After assembling the speakers, we recommend keeping the casters mounted so you can easily reposition them to find the optimal placement in your environment. You will remove them later when the Grand Reference is in its final position, substituting them with the specially designed absorption feet.

The Grand Reference speakers should be oriented with the mid/tweeters structure on the inward. Do not swap the speakers putting the mid/tweeter on the external side, as this would result in a significant loss of performance regardless of the room.

The minimum distance from the listener for achieving an optimal response curve is 2.50 meters; however, if the seating position is not too low, you can approach as close as 2 meters.

- Distance from Rear Wall: the recommended space from the rear wall is between 1.0 and 2.0 meters or more. This value depends on room dimensions, the distance from the listening point, the room's acoustics, and the ceiling height. We advise using at least minimal acoustic treatment—such as panels, decorative elements, or damping materials—behind the speakers (and, if possible, centrally) to avoid a completely smooth, reflective surface. The researched effect is to diffuse the sound that the dipoles are sending to the back wall.
- Speaker Positioning: the speakers should be placed so that the distance between them closely matches the distance from the listening point, forming an equilateral triangle. In particular, the tweeters should align diagonally, intersecting approximately 40 cm in front of your ears. We also recommend toeing in the Grand Reference speakers toward the listening position, rather than placing them parallel to the rear wall, in order to achieve a better tridimensionality and soundstage depth.
- Ceiling: if ceiling is low (less than 3 m), we recommend placing a carpet in front of the speaker
- Optimal position: the optimal listening position is also achieved when your ears are at the same height of the center of the tweeter. The Grand reference, contrarily from boxed or open baffle speakers, is not so directive so you can get its full energy even if you move in the room or you are not exactly in the classical ideal (audiophile) position
- Performance: for maximum performance, we recommend, if possible, using acoustic panels behind the two speakers, covering their entire height. You should place acoustic panels also in the center of your back wall. These panels should be diffusive or absorption panels, but you can also use materials suitable for your living room's décor design such as tissues, carpets, paintings, etc…). This little care enhances the three-dimensional image, improves the harmonic decay, the dynamics, and micro/macro details. The central acoustic element can be lower than the speakers, but always centered
- Electronics: we recommend using high-performance electronics, ideally with a high damping factor, high signal-to-noise ratio, and the lowest possible distortion. These characteristics are often overlooked but are very important to achieve a natural sound form your systems. In particular a low distortion maximizes the Grand Reference performance. We also recommend a minimum power rating of 100+100 watts into 8 ohms to achieve a good presence effect. Do not push your amplifier to or over its limits because this not only degrades the listening experience but also puts the amplifiers at

risk of clipping (clipped amplifiers can damage your speakers as well). If you feel the need of more power, please consider using a more powerful amplifier. If bi-amping is used, we recommend using identical amplifiers for greater consistency in reproduction. Use a high-quality source, as the Grand Reference is a very linear instrument in reproduction and sensitive to small details

- Wiring: Use high-quality wiring; this is very important to ensure continuity with the wiring used for the Grand Reference. The best recommendable match with the top-level loudspeaker connection available, is the Countac and the Veloce interconnection systems from IO Design, engineered on the same Grand Reference radical principles and featuring the same materials, for the conductors, that is already used in the internal wiring of the loudspeaker. In this way you will thoroughly respect our project
- Levelling the speakers: set the speakers level, parallel to the floor, using the foot adjustments (bubble level in the middle position). If the listening position is very close to the speaker, we recommend you testing a little tilting a few degrees forward (towards the floor).

CONNECTION GUIDELINES

For optimal performance we again suggest using the IO Design Countac or Veloce speakers connecting systems.

Bi-wiring connections are preferrable if possible (same amps), a jumper is in any case provided, to allow the connection if you use a stereo amp.

The crossover is designed with two separate sections, allowing you to adjust the midrange and tweeter response using the supplied jumpers. This operation must be performed with the amplifier turned off.

CAUTION

AVOID TO SHORTCUT CABLES (to amp or internal) IT WOULD LEAD TO AMPS CLIPPING AND WOULD PROBABLY DAMAGE BOTH THE AMP AND THE SPEAKERS

ALWAYS OPERATE WITH THE AMPS TURNED OFF AND CABLES DISCONNECTED

Woofers adjustment: no adjustment is possible on bass notes. However, due to the fact that our customs midrange works on bass notes as well (in a kind of wide band configuration), the adjustment on the midrange would modify a bit also the woofers behavior.

Tweeter Adjustment: you can adjust the tweeter directly at the binding posts by moving the internal wiring from the 0 dB position (factory standard), to either +1.5 dB or -1.5 dB connector. You will move the original wiring from one position to another without using the supplied jumpers.

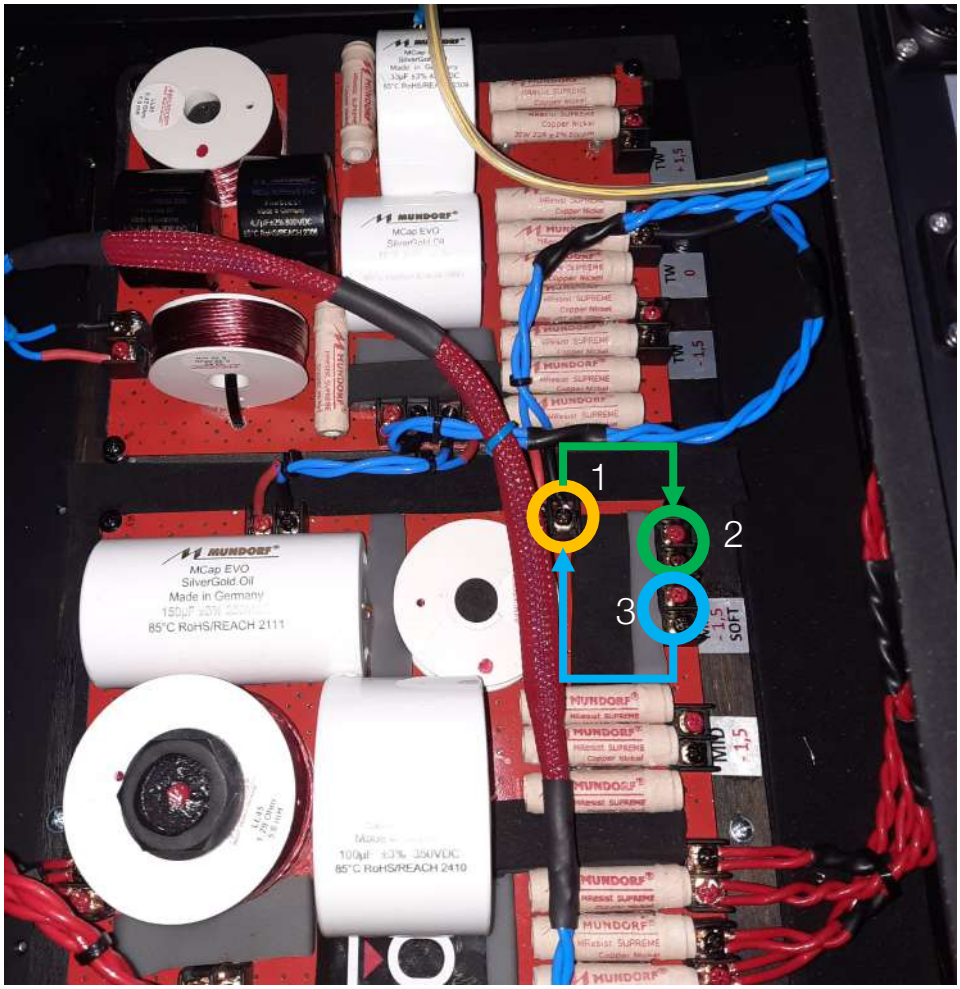
Midrange Adjustment: for the midrange, three tuning options are available: 0 dB (standard), -1.5 dB, or -1.5 SOFT. The -1.5 SOFT option applies a 1.5 dB attenuation on the equalization curve that predominantly affects the extreme frequencies, softening the abrupt cutoff on a specific section. Although this curve maintains a very linear graph, it has been designed to provide an alternative listening and fine-tuning option suited to your components and listening environment.

FLAT Configuration and System Matching:

In the FLAT configuration (factory standard), the Grand Reference's extreme linearity of response fully emphasize its potential.
Since the system is exceptionally neutral and free from any coloration or distortion, it enhances the characteristics of all connected components. To achieve a robust sound pressure, we recommend amplifiers capable of delivering at least 100 Watts into 8 ohms, although the most important thing is the current capability and low distortion.

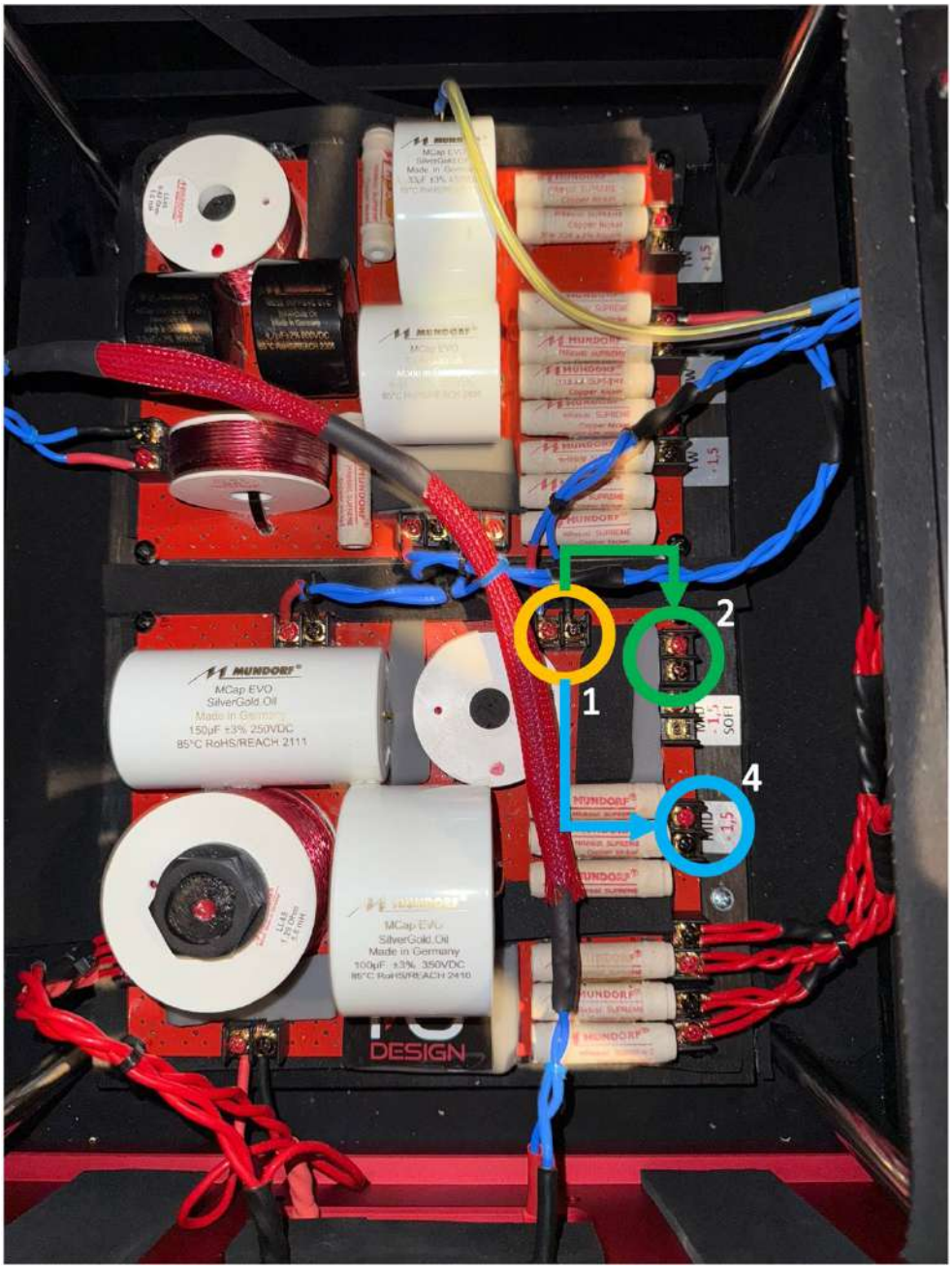
SOFT SETTING:

- Step 1: disconnect +/- wires from the terminal ports (1) and reconnect them into the free port (2) always respecting +/- positions
- Step 2: using the provided jumpers, connect the free +/- ports from the »-1.5 SOFT» labelled bay (3) back into the terminal ports (1)
- Repeat the same procedure on the other speaker to implement the soft crossover curve that many audiophile lovers prefer



MIDRANGE ATTENUATION SETTING:

- Step 1: disconnect +/- wires from the terminal ports (1) and reconnect them into the free port (2) always respecting +/- positions
- Step 2: using the provided jumpers, connect the free +/- ports from the »MID -1.5» labelled bay (4) back into the terminal ports (1)
- Repeat the same procedure on the other speaker to implement the soft crossover curve that many audiophile lovers prefer



CAUTION

AVOID TO SHORTCUT CABLES (to amp or internal) IT WOULD LEAD TO AMPS CLIPPING AND WOULD PROBABLY DAMAGE BOTH THE AMP AND THE SPEAKERS

ALWAYS OPERATE WITH THE AMPS TURNED OFF AND CABLES DISCONNECTED

NEVER INVERT POLARITY OF THE WORES IN THE CROSSOVER

Please note that with the IO Design concept, efficiency means very little. Efficiency, in our concept, is only a kind of abstract value measure, that does not reflect at all the actual amount of energy that the IO Design speakers (the Grand Reference even more), is able to bring undistorted in your listening room.

Contrarily to the old traditional boxed or open baffle systems, even average powered amplifiers will deliver a high impact, in your listening room, and a tangible realism with all IO Design loudspeakers. This is not possible with boxed or open baffle speakers that "suck" power with their boxes, and recreate a sexy efficiency specs value through the crossover to make people (visually) happy but, in the end, they bring into your rooms only big resonances without no energy at all, nothing comparable with the sound of real instruments in ambient.

Moreover, any average technician would agree that measuring a baffleless dipole speaker is impossible in an anechoic room (because our concept uses the room to sound), therefore measures are not truly defining performance here! It's a cultural step to take but IO Design flawless performance demonstrates it.

Even though the speakers are thoroughly tested to evaluate all the possible parameters, we recommend a break-in period of approximately 200 hours before reaching the maximum performance.

Your Grand Reference comes from factory set on a top performance curve. Should you want to soften the preset curve in your crossover, follow the the steps hereafter listed.

GRAND REFERENCE SPECIFICATION

Minimum power:	100 watts @ 8 Ohms
Nominal power:	400 watts @ 8 Ohms
Nominal Impedance	6 Ohm
Impedance module	stable from 4 to 6 Ohm @ any frequency
Sensitivity:	89 dB (1 watt, 1 meter)
Frequency response:	20 Hz – 35 KHz
Wiring	Proprietary pure silver 9N mono-crystal wire
Height:	220 cm
Weight:	490 Kg (boxed 600 Kg) each