

KARAN

30th Anniversary - Master Collection

LINEb

DUAL MONO BALANCED LINE PREAMPLIFIER

We sincerely thank you for selecting a product from **KARAN Acoustics**. We hope you will have many years as a true high-end musical enjoyment from our creation within your audio system. Please read this instruction manual carefully in order to familiarise yourself with our product before use.

About us

KARAN Acoustics has been founded in the summer of **1986** by **Mr. Milan Karan**.

In its early days, the company was engaged in servicing and maintenance of extremely sophisticated medical and television broadcasting equipment. As often happens, love for music and desire to create first-class audio components prevailed and, at the end of **1989** first designs of **KARAN Acoustics** high-end audio components came into life.

The very first product was a moderately powered ($2 \times 100W$) integrated amplifier while the company continued its main activities. As customary, once a truly remarkable audio component comes into life, the audio community learns about it and the level of interest grew rapidly. Which, in turn made Milan Karan decide he should dedicate his time and energy in this domain more than anything else.

In recent years, our company has focussed on design and manufacturing of state of the art solid-state (*transistor*) audio electronics. The ultimate was, is and will remain the highest possible proximity to a perfectly reproduced sound of recorded music.

Our products have a unique design and sonic signature, which became a trademark of **KARAN Acoustics**. Uncompromised design, combined with the best passive and active components, as well as the small manufacture scrupulous approach to assembly and quality control, are the unequivocal guarantee of a reference standard sonic result from a finished product.

Main features of KARAN Acoustic designs:

- ! all our products are hand made with carefully selected electronic components.
- ! all our products use highest quality, custom made components and carefully designed boards with **75um and 105um copper** on all layers.
- ! all our products are designed within the realms of solid-state technology, utilizing very fast, state of the art **RET (Ring Emitter Transistor)** bi-polar output devices.
- ! zero overall feedback.
- ! all stages of amplification are pure dual mono designs, fully differential (**balanced**), of high transient speed, as well as **DC coupled in class-A** operational mode (**without any capacitors in the audio signal path**).
- ! power supplies of our products have minimal internal impedance with large capacitance reserves for ample dynamic headroom.
- ! the electronic boards are decoupled with custom made mechanical parts to achieve zero feedback from unit chassis.
- ! all our products are built into massive aluminium chassis of original aesthetic and mechanical concept with an easy to recognize illuminated display of the **KARAN Acoustics logo**.
- ! all our products are equipped with **Critical Mass Systems - CS2** supporting feet to achieve zero feedback between the components and the supporting surface.

We invite you to experience and critically appraise any of our high-end audio designs and are confident you will be pleased with their sonic performance, reliability and craftsmanship of manufacturing for many years to come.

Respectfully,

Milan Karan
KARAN Acoustics

Unpacking

The packing should contain the following elements:

- ! Warranty card
- ! User manual
- ! allen key **NO.3** for the top cover removal
- ! allen key **NO.2** for remote control handset opening
- ! Remote control unit handset and **two (2) AAA 1.5V DC batteries (only for Master Collection preamplifiers LINEa and LINEb)**
- ! **7-pin XLR CARDAS** power supply cable (**only for Master Collection line preamplifier LINEa and phono preamplifier PHONOa**)

If any of these items are missing, please contact your **KARAN Acoustics** dealer or national distributor. Unpack the unit carefully and please remember to save all the packaging materials in case you need to transport the unit at a later date. The packaging has been designed to offer the safest possible protection when transporting your product.

Before anything else

Before you begin the installation please verify that your unit has been factory set to the correct voltage/frequency of your location. If not, please **DO NOT** attempt to install the unit and contact your dealer or national distributor for assistance. Kindly note that no **KARAN Acoustics** products have any user adjustable voltage settings and any such changes must be performed by authorized qualified personnel.

Please do not make any connections, insert or remove audio or other connectors, while the unit is connected to the mains supply and switched on, as the high output level may cause damage to your loudspeakers and other equipment.

Positioning

The unit should be set on rigid, vibration-free supporting surface. In order to avoid damage to the top panel, we would advise avoiding placing other equipment on the top of the unit.

It is to be expected that our components feel moderately warm to touch when in use. Therefore, the component should be positioned to allow a generous amount of free air flow and circulation in all directions, particularly in the vicinity of the heat sinks.

Further, please **DO NOT** place your unit:

- ! in direct sunlight
- ! near any heat sources
- ! near, on, or under any other audio components, as the heat it generates may damage other components

Connecting the unit

Please ensure that the specified mains voltage on the back panel of your **KARAN Acoustics** component corresponds with the mains (**line**) voltage of the territory where you intend to use our product!

IMPORTANT !!!

If the unit is not correctly set, DO NOT apply power to the unit but consult your dealer or national distributor. An attempt to use the unit at an incorrect mains (line) supply setting may cause a malfunction, overheating or permanent damage and will invalidate the warranty.

Safe and wise precautions

A good operational practice is to turn **OFF** the equipment before any connections or disconnections are made. Do not under any circumstances connect or disconnect any other equipment while your **KARAN Acoustics** component is switched on and the power is turned **ON**. This could damage both our and other components in question.

Replacing a faulty mains fuse

Always remove all mains (AC) cables from the IEC receptacle on the back of the unit and the mains supply wall or other outlet before attempting to replace a faulty mains or any other fuse !!!

The mains fuse holder is located on back panel of the unit. If, for some reason, the fuse blows, turn the power of the unit off and remove the mains **(AC)** cable from the **IEC** receptacle on the unit as well as the wall mains outlet. Open the fuse holder drawer prising it carefully with a small, flat blade screwdriver and replace the faulty fuse with a new one of the same value. **NEVER replace a faulty fuse with any other values than those printed on the unit and etched into the ends of the fuse itself!**

Safety Notice

Your unit contains no user serviceable parts. The user should not attempt to open the product enclosure, as there are **potentially dangerous voltages** present inside the unit and they may cause injury or death. If the unit may have developed a fault, please consult your **KARAN Acoustics** dealer or national distributor for assistance.

Running-In Period

For the best sonic results please allow a **minimum of 100 h** in active use with power and audio signal flowing through your **KARAN Acoustics** product. Both passive and active components need to be conditioned to perform at their best and so does the internal wiring. Once run-in, your product will subsequently reach its optimum sonic performance within **45-60 minutes** after being switched on power. We do **NOT** recommend any **KARAN Acoustics** power amplifiers being permanently switched on power as there is no need for that with regard to the long-term sonic performance.

Cleaning

- ! When cleaning the unit, use a slightly damp soft cloth.
- ! Do not apply any corrosive, abrasive agents, spirit or alcohol based cleaning fluids or polishing wax as they will damage or alter the finish irreparably.

Troubleshooting

If steps suggested in this section fail to solve the possible issue, please contact your **KARAN Acoustics** dealer or national distributor for further assistance.

Front panel display does not illuminate when unit power is ON:

- ! Check if your mains (**AC**) power supply is connected correctly.
- ! Check if the **ON-OFF** switch on the rear panel is in the **ON** position.
- ! Check if the fuse on the unit rear panel may have become faulty.

NO sound:

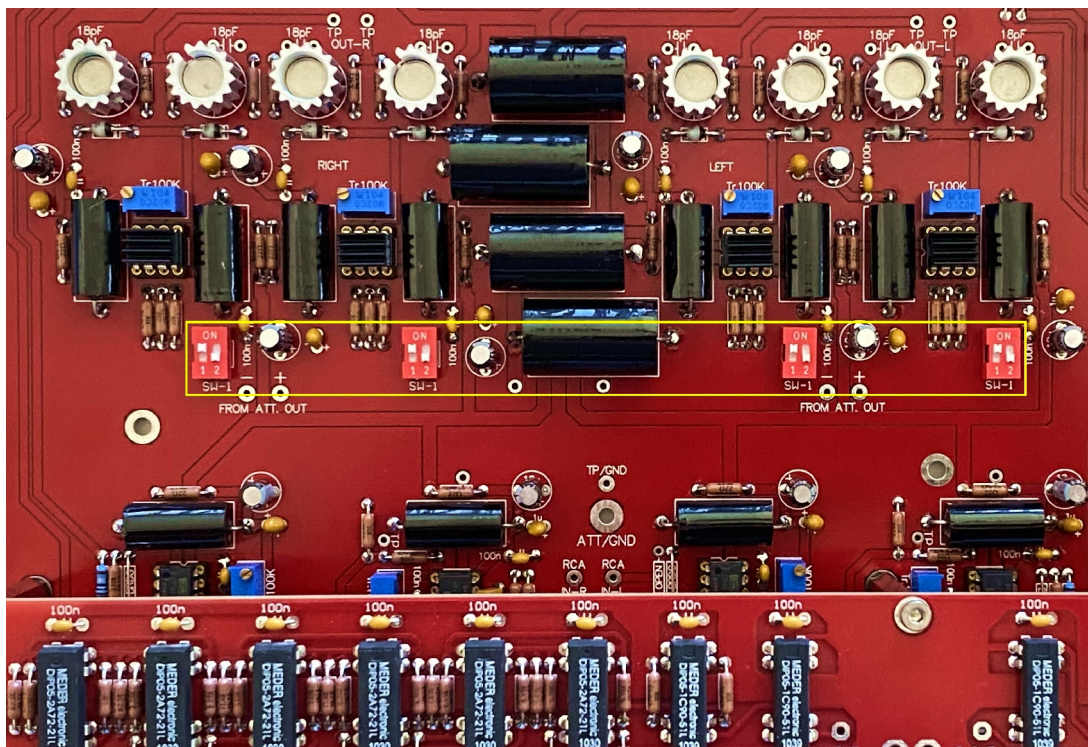
- ! Check all connections between the source, amplifier and speakers.
- ! Check that the correct source has been selected on your control unit.
- ! Check that the unit is connected correctly to the other components of your system.

Technical specifications

The following data were consistently measured on random test objects and are typical of the product in question. Operating mains (**AC**) voltage of all our products is **110-120 V or 220-240 V**. If the mains supply voltage drops approximately 10% below its nominal value, the power output of our amplifiers will reduce itself by approximately 10% relative to the rated power. (**power amplifiers only!**)

LINE INPUTS:	4 balanced (XLR) and 2 unbalanced (RCA)
LINE OUTPUTS:	2 balanced (XLR)
INPUT IMPEDANCE:	30 kOhm (balanced/unbalanced)
OUTPUT IMPEDANCE:	90 Ohm
OUTPUT LEVEL:	1.55 V/RMS (nominal) 18.0 V/RMS (maximum / balanced / 600 Ohm load)
MAX. INPUT LEVEL:	5.4 V/RMS (balanced/unbalanced / <u>Gain set to 6 dB</u>) <u>(before saturation)</u> 3.6 V/RMS (balanced/unbalanced / <u>Gain set to 9 dB</u>)
GAIN:	+ 6 dB or +9 dB (adjustable)
FREQUENCY RESPONSE:	20 Hz to 20 kHz, +/- 0 dB; <u>(1.5 Hz to 3 MHz, -3 dB)</u>
DISTORTION:	THD 0.003% (Full output, 20Hz to 20kHz) IMD 0.003% (Full output)
SPEED:	Rise and Settling time < 450 ns Slew rate 1.500 V/us (Amplification stages)
SIGNAL TO NOISE RATIO:	> 120 dB (unweighted)
AC VOLTAGE:	115 V or 230 V (nominal line voltage)
AC VOLTAGE RANGE:	+/- 10% (from nominal line voltage)
POWER CONSUMPTION:	60 W (maximum)
WARRANTY:	5 years, parts and labor
NET DIMENSIONS:	504 x 126 x 390 mm (whd); 19.8 x 5.1 x 15.3 inch (whd) (Main control unit)
NET WEIGHT:	17.4 kg / 38.4 lbs - (Main control unit)
PACKAGE DIMENSIONS:	645 x 255 x 516 mm (whd); 25.5 x 10.2 x 20.4 inch (whd) (Main control unit)
PACKAGE WEIGHT:	27.6 kg / 60.6 lbs - (Main control unit)

MAIN CONTROL UNIT GAIN SETTINGS & SETUP



Inside the Main Control Unit chassis there are arrays of DIP switches (**4 in total, marked *SW-1 on the motherboard top side***) and can be clearly seen on this image.

Before the top cover of the main control unit has been removed in order to perform gain adjustments, please switch **OFF** the preamplifier at the master power switch on the power supply unit and disconnect the mains cable from the **IEC** receptacle on the power supply unit. Remove the top cover as described elsewhere in this manual.

! **Each DIP switch has two (2) positions - ON and OFF.** Use a small, flat blade screwdriver or other suitable tool to move the DIP switches **up (ON)** or **down (OFF)**.

! **All four (4) DIP switches need to set in an identical manner and left in the *identical position!***

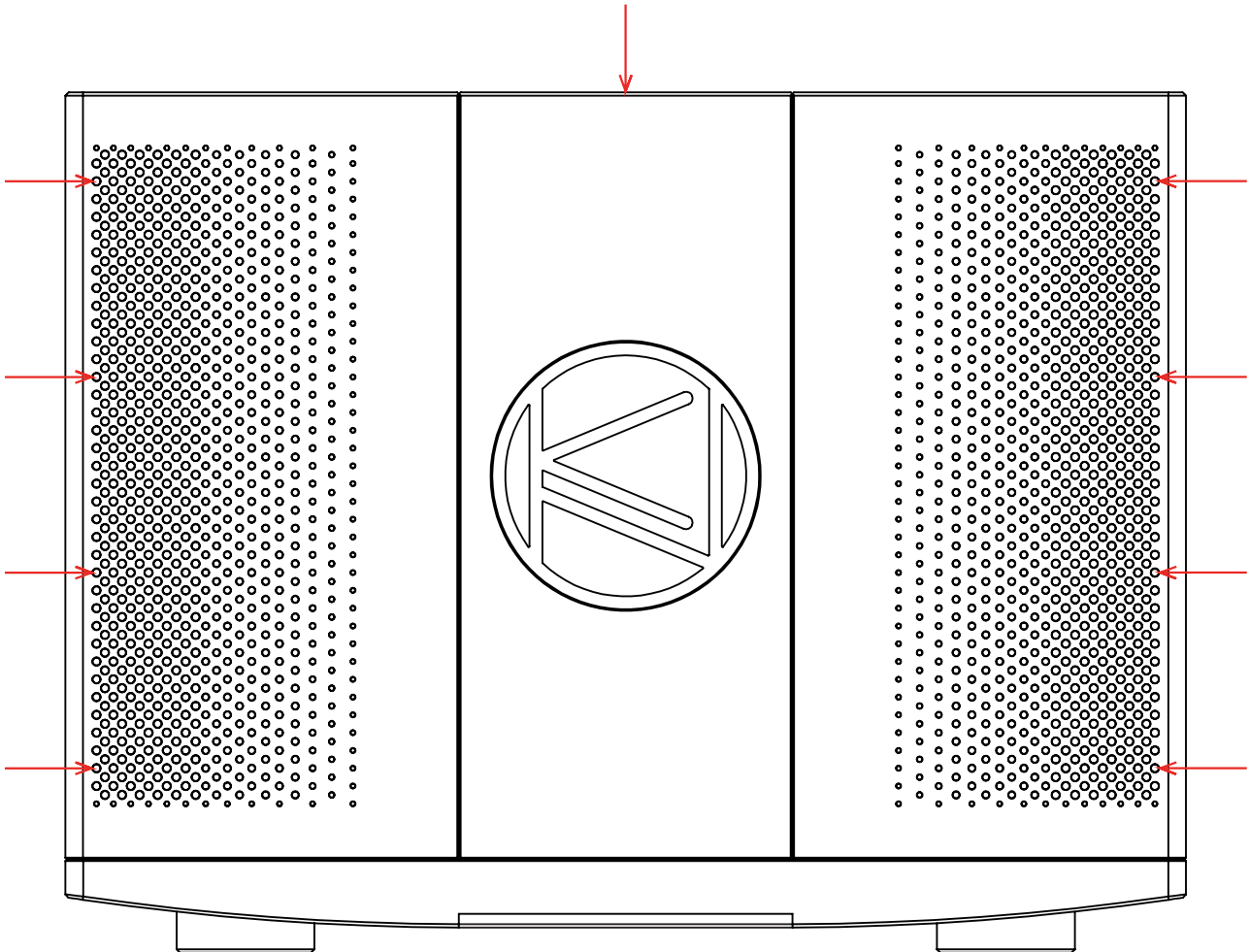
Two (2) gain level (settings) are available: ***(Default factory gain is set at 6dB!)***

! **6dB gain** - ***SW-1 position 1 must be ON***
SW-1 position 2 must be OFF

! **9dB gain** - ***SW-1 position 1 must be OFF***
SW-1 position 2 must be ON

After the adjustments have been completed, please reinstall the top cover, connect the mains cable to the IEC receptacle on the back panel of the power supply unit and switch the preamplifier on power using the master power switch on the power supply unit back panel.

REMOVAL OF THE TOP COVER



Top cover is fixed to the main chassis by **eight (8) hidden allen screws**. Locate **eight (8)** clearly marked positions with access holes in the top cover. Using the supplied **allen key No.3** reach each screw carefully through the holes in the top cover and release the screws. Using the same allen key release **one (1) remaining**, clearly marked screw in the centre (**middle**) of the back panel.

Once all the screws have been released lift **vertically** the top cover and place it safely away from the main chassis.

Re-fitting of the top cover is an exact opposite process of the one described for the removal. Do not overtighten any of the allen screws in order to preserve the perfect shape of both the allen key end and the recess in the screw head.

REMOTE CONTROL HANDSET



The remote control handset has been CNC machined of high quality aluminium and, with minimal and proper care, will function and remain in perfect cosmetic condition for a long time.

As the illustration shows, there are **four (4) functions** on the top side of the handset:

- upper button** - **VOLUME UP** (increase output level)
- lower button** - **VOLUME DOWN** (decrease output level)
- left button** - **MUTE** (main outputs muted)
- right button** - **POLARITY** (inversion of the output signal phase)

The remote control handset is powered by **two (2) AAA 1.5V DC batteries**. While they should last for long, please replace them as soon as you notice a reduced response from the handset in regular use. Only quality batteries should be used to prevent damage or malfunction of the internal electronic circuits and components within the handset.

MAIN CONTROL UNIT FRONT PANEL



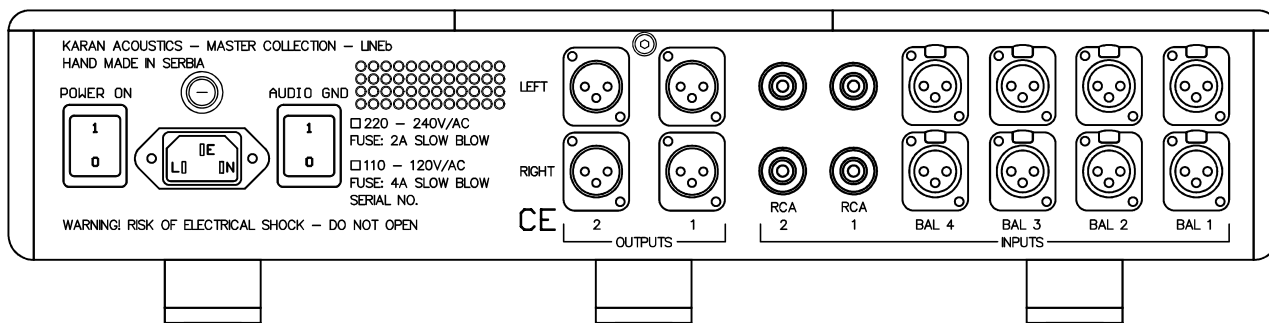
The centre of the display window shows a numeric output level (**volume**) value. The range of the volume control is from **1 to 64** in 1dB steps. Zero (**0**) value depicts the **MUTE** function (**main outputs closed**).

Left hand side rotary control selects inputs and any selected input is visually reflected on the central display window accordingly.

Right hand side rotary control controls the output volume in a form of an infinite encoder. Pressing the rotary control inwards (**towards the front panel**) also engages the **MUTE** function. Pressing the same rotary control once again or moving the volume control encoder either to the left or to the right will disengage the **MUTE** function and open the main line outputs of the preamplifier.

CRITICAL MASS SYSTEMS CS2-1.0 supporting feet are implemented on the main control unit chassis for superior sonic results.

MAIN CONTROL UNIT REAR PANEL



The main control unit rear panel has the following functions, switches and connections:

- **MASTER POWER switch** with position "0" (*mains power off*) and position "1" (*mains power on*).

- **An IEC 15A receptacle (connector)** for the mains (power) cable of owner's choice. Please consult the drawing showing the positions of the **L-live, N-neutral and E-earth connecting pins for the best sonic results!**

- **AUDIO GND switch** is unique facility allowing the **audio signal ground to be connected or disconnected from the mains supply earth**. In principle, **this switch should be always left in off (0) position for the best sonic results!** Please note that no level of safety is compromised to the slightest when the AUDIO GND switch is left in position off (0).

Only if and when a ground loop or any other interference, noise or hum may be present with the **AUDIO GND switch is in off (0) position, please keep in position on (1)**.

On the main control unit rear panel there are **four (4) XLR** and **two (2) RCA** line inputs and **two (2) XLR** main outputs.

Pin layout on all KARAN Acoustics **balanced (XLR)** interfaces is:

PIN 1 - ground

PIN 2 - positive signal and

PIN 3 - negative signal

Warning: Do not connect or disconnect any audio cable from the Master Collection - LINEb preamplifier or any other connected audio component unless it has been disconnected from the mains (power) household supply !!!