

HANDCRAFTED  
IN POLAND

REMOTE CONTROLLED  
DISCRETE CLASS A  
HIGH END MIC PREAMPS

WITH BUILT-IN  
M/S FUNCTIONALITY  
AND LINE/INSTRUMENT  
INPUTS

RP-2



WE  
BUILD  
THE  
SOUND



WWW.HUM-AUDIO.COM

# RP-2 Remote Controlled Discrete Class A Mic Preamps

## OWNER'S MANUAL

v1.0 - 01/2020

The information in this document has been carefully verified and is assumed to be correct. However HUM Audio Devices reserves the right to modify the product described in this manual at any time without prior notice.

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## Dear Customer,

Thank you for the confidence you have shown towards HUM Audio Devices by purchasing the RP-2 Remote Controlled Discrete Class A Mic Preamps. You have chosen high end tool which will help you to get excellent recordings. RP-2 is a result of over a year of meticulous development, careful audiophile quality component selection, and extensive studio testing during real sessions to get the final sound. Because we are also sound engineers with over 20 years of practice in recordings, we did our best to provide RP-2 with sound and features that make it very practical, creative and extraordinary tool.

We believe you will have much fun using RP-2 and love it as we do.

We wish you every success with your new RP-2 preamps!

*Your HUM Audio Devices - Team*



*Krzysztof Tonn*



*Krzysztof Rudnicki*

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**HUM Audio Devices RP-2 was designed, developed and precisely handcrafted in Poland.**

## Introduction

Our RP-2 is remote controlled, Stereo/M-S High-End discrete class A mic preamps with instrumental/line inputs. A lot of time and efforts have been taken to ensure the RP-2 is highest class system. All circuits are hand soldered, tested, and assembled in our lab in Poland. Audiophile and military spec components are additionally hand selected and paired. Thanks to it RP-2 is great choice for critical stereo or M/S applications.

You will find that RS-2 excels on practically all sound sources, covering wide range of studio recording applications, including string section recordings, piano, guitars, woodwinds, ambience, drum overheads and vocals. It gives you huge, vital sound with a lot of details, depth and air. It perfectly extracts all subtle nuances of sound of acoustic or electric/electronic instruments. We especially recommend using RP-2 with our active ribbon mics: ARM-1L or ARM-1S. You will create perfect set which will give you fantastic results - as good as ribbon sound can be. Tracks recorded with RP-2 also blend very well with other elements in the mix. That's a distinctive feature of all best preamps on the market.

# Operation Safety

Power the RP-2 system exclusively with the voltage rating specified on the back of RP-2 main unit. It is always factory prepared for use in a country of purchase. The actual operating voltage is stated on the back panel of Preamp Box. In case of doubt, or when it's necessary to change PSU voltage contact your local dealer.

Disconnect the unit from the electric power grid if you are not going to use it for a long period of time. Unplug the power cord from the mains to cut power supply to the unit.



Do not use this devices anywhere near water (for example in a bath room, a damp cellar, near swimming pools, or similar environments). Otherwise your are dealing with an extremely high risk of electrical shocks! RP-2 should also not be installed near equipment which produce strong magnetic fields or extreme heat.

Never allow any fluids to be spilled or sprayed on the RP-2 Preamp Box and Remote Controller. Such actions can lead to dangerous electrical shocks or fire!

If, during operation the sound is interrupted or indicators no longer illuminate, or if abnormal odor or smoke is detected, or if liquids are spilled on the unit, immediately disconnect the power cord plug and contact your dealer.

## Service and Repairs

Unplug the RP-2 preamp box from all power and signal connections and contact your local dealer when you think repairs are needed - or when moisture may accidentally have reached inside the RP-2 box housing, or in cases when the any of the RP-2 system devices may have fallen and shows any sign of having been damaged. This also applies to any situation in which preamp units have not been subjected to any of these unusual circumstances but still are not functioning normally or their performance is substantially altered. In cases of damage to the power supply and cord, first turn off the main circuit breaker before unplugging the power cord. All repairs are done at HUM audio Devices factory or in some cases at authorized dealer's site.



**Do not open any of RP-2 preamps yourself -  
- there are no user serviceable parts inside !**



## Replacement parts

Be sure that any authorized service technician uses original replacement parts or those with identical specifications as the originals. Incorrectly substituted parts can lead to fire, electrical shock or other dangers, including further equipment damage. HUM Audio Devices can only guarantee quality of performance if correct replacement parts are used.

Always be sure to ask a service technician to conduct a thorough safety check and ensure that the state of the repaired device is in all respects up to factory standards.

## Cleaning

Do not use any solvents, as these can damage the chassis, rubber feet or wood finish. Use a clean, dry cloth (if necessary, with an acid-free cleaning liquid). Great for cleaning RP-2's anodised front panels and housing is dry microfibre cloth. Disconnect the device from power source before cleaning.



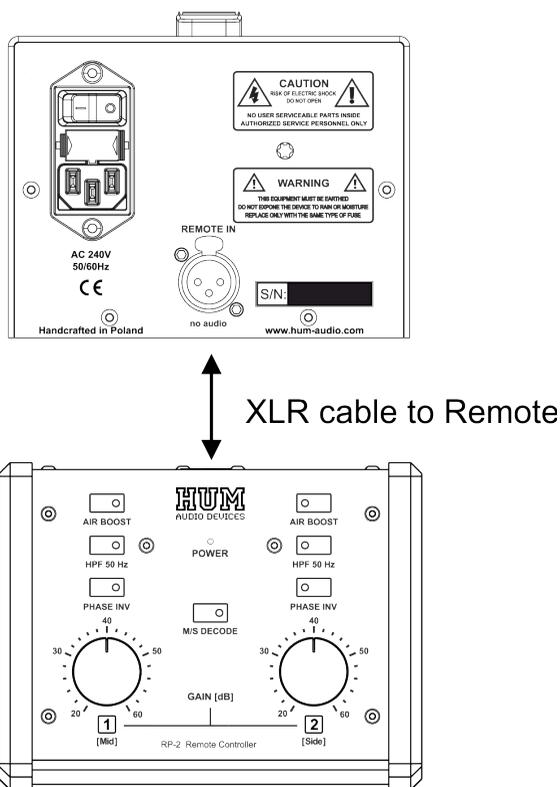
### Declaration of CE Conformity

The construction of these units is in compliance with the standards and regulations of the European Community.

# Installation and connections

The idea behind RP-2 design was to maximally shorten the distance between mics and preamp in your studio, which will result with no sound loss due to longer mic cable runs. At the same time you have the possibility to comfortably control main preamp settings with RP-2 remote. It also features all top-notch circuits, with audio transformers, high-end discrete class A preamplifiers based on legendary Jensen JE990 opamps, passive transformer-based M-S matrix and passive low-cut and Air Boost circuits, all precisely tailored to give you the best sound you wish to have from any mic or line/hi-z level sources.

## RP-2 system connection



RP-2 preamp consists of two units: Preamp Box and Remote Controller. This set comes with a male-to-male XLR cable for connecting both units. To use RP-2 system you will always need to have both units connected to each other. Typically you will put Preamp Box in studio close to your mics or instruments, and Remote controller in your control room.

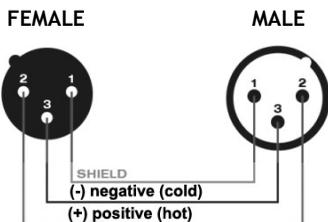
XLR cable between Preamp Box and Remote Controller carry no audio. Because all control signals from Remote Controller and its DC power are conducted via single XLR cable, you have big degree of freedom in connecting the Remote Controller. You can easily use existing studio cables or multicores to do connections between studio rooms. If you are setting the RP-2 preamp in studio room or record yourselves - you can also take the RP-2 controller with you to tweak the sound there.

You can freely extend up a distance between Preamp Box and Remote Controller using standard XLR mic cables. There are no special requirements on these cables, just every working cables with properly soldered pins are adequate. We guarantee correct remote operation up to 100m or even more. XLR cable with removed shield or incorrectly soldered (e.g. with swapped „hot” and „cold” pins) will cause RP-2 remote system malfunction.

### **VERY IMPORTANT:**

Always use a „clean” line for connection between Preamp Box and Remote Controller. Mic splitters, separating transformers, etc. are not allowed, because they change impedance of connection, and will cause RP-2 remote malfunction. You can connect RP-2 system via patchbay, as long as it is a direct, „clean” connection.

### **XLR wiring scheme:**



### **NOTES**

1. View from front  
(mates to other connector)
2. Pins 1 and 2 are reversed when looking  
at the other end (with solder points)

# System Power Supply

Sound quality of all audio equipment strongly depends on good power supply. That's why we designed very high quality PSU circuits for RP-2 system.

PSU is built into the Preamp Box. It is based on toroidal transformer with individual voltages for audio and control parts of RP-2 system, and best Linear Technology voltage regulators. You have also soft start and protection during power cycle, so no thumps and other sonic artefacts are present on your monitors. Although it is safe to turn on/off PSU or reconnect RP-2 system on working monitors, it is good to get into the habit of muting the monitors output before making any substantial changes in any of your audio connections.

We strongly recommend using good quality, custom shielded AC cable included in RP-2 set to power the unit.



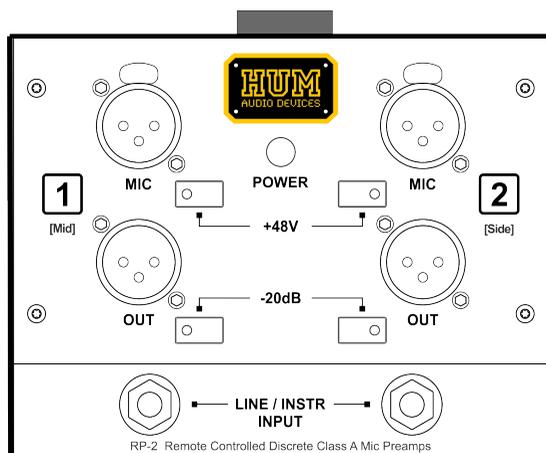
**Always connect the RP-2 Preamp Box to the AC outlet with correct voltage stated on the back panel. The unit is prepared to use in a country of purchase.**

**Be sure also to use correct fuse adequate to operating voltage !**



There is possible to change voltage - contact your local dealer in case you need to do that.

## Using Preamp Box



On front side of Preamp Box you will find two sets of typical XLR sockets for connecting all types of passive and active microphones. RP-2 excels also on ribbon mics, and that's why we strongly recommend using it with our ARM-1L and ARM-1S active ribbon mics.

Jack inputs serve for amplifying signals from keyboards as well as electric guitars and other HI-Z instruments. Inserting jack into the channel socket automatically switches signal source from XLR to jack for that channel. Thanks to special design, there are no thumps and other artifacts when switching between Jack and XLR inputs.

#### **+48 V**

Phantom power switching for all types of active mics, including ribbon mics. Unique design protects system from thump when powering Phantom on and off, protecting your ears and monitors.

#### **-20 dB**

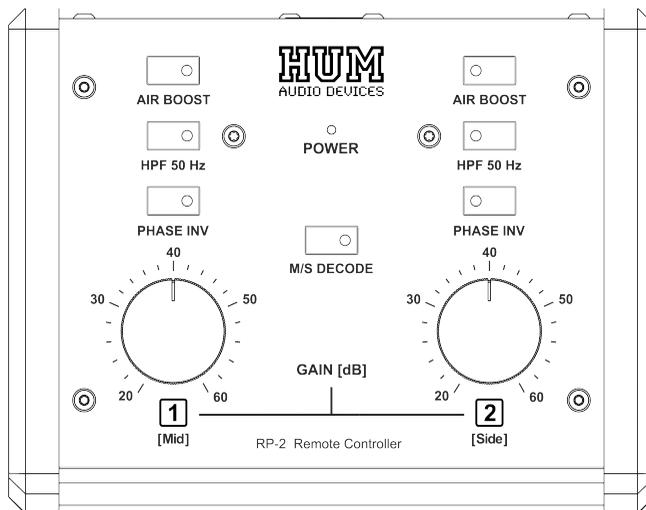
„Pad” switches for lowering gain for hot signals.

It is worth remembering that RP-2 is a creative device, and you can use for example Mic inputs for line level signals with -20dB switch engaged, for special sonic signature. Feel free to experiment.

## **Using Remote Controller**

Our genuine remote control system designed for RP-2 is similar to the one used in our flagship RS-2 Ribbon Recording System. It gives you an access to all main functions, including gain, M/S decoder, HPF 50Hz, Phase Invert and very special AIR BOOST mode. Because there is no software or programmed digital parts here, it is absolutely reliable. All functions are switched by top class relays and very reliable Alps switches.

Disconnecting the RP-2 remote automatically mutes audio signals, so no thumps are present in your monitors.



## POWER

When this green led diode is lit - means the RP-2 system is on and connection with Remote Controller is correct. You can then operate all functions.

## GAIN

Gain pots respectively for channel 1 [MID] and channel 2 [SIDE] varies from +20dB to +60dB. RP-2's audiophile quality gain control system based on opto elements (4 per channel), it makes gain changing smooth and more precise than by using standard gain pots, at the same time ensuring full separation between control signal and audio signal path. In M/S mode balancing Mid and Side gains changes the stereo width by choosing how much of stereo component (room signal) is present in recording.

## PHASE INV

Phase inversion for both channels individually. It is very useful especially when RP-2 works in multi-microphone setups, for example recording drum overheads or ambience. It lets you match the sound with other mics in your setup.

## HPF [50 Hz]

It was tested in practice for this application. The filter is high quality passive design [6dB/oct], and sounds very musical.

## AIR BOOST

Passive Pultec-style smooth HF booster. Sounds great on many sources, like vocals or cymbals. Adds subtle sparkle and additional „air” when needed.

## M/S DECODE

This switch activates passive, transformer-based M/S decoder built into the RP-2 Preamp Box. This is the best way to decode M/S signal to stereo in analogue domain. You can of course record M/S signal without decoding and do this later in the chain or in your DAW, but unless you do not need M/S signal for further manipulation, we strongly recommend to use RP-2's decoder, because it sounds really great.

# Specifications

<b>Preamps:</b>	Two discrete class-A mic preamps based on legendary Jensen JE990 op-amp min. gain: +20dB max. gain: +60dB
<b>Recording Modes:</b>	Stereo L/R, M/S (encoded or decoded), Dual /Mono
<b>Gain control:</b>	Circuit based on 4 photocells per channel ensures full separation between control and audio signals.
<b>M/S Decoder:</b>	Transformer based, passive M/S matrix, built into the Preamp Box
<b>Air Boost:</b>	Passive, smooth sounding Pultec-style HF booster
<b>HPF 50Hz:</b>	Switchable, passive Low Cut filter 50 Hz. 6dB/Oct slope
<b>Remote Controller: (no audio here)</b>	Access to all functions via standard 3-pin XLR cable. All functions controlled by high class relays and reliable Alps switches. Powered via the same XLR cable.

<b>PSU:</b> (built into the Preamp Box)	Classic linear, based on custom made power transformer and ultra quality Linear Technology voltage regulators Internally switchable between 240V / 120V Fuse: 250mA (240V operation) 500mA (120V operation)
<b>Connectors:</b>	2 x Gold plated TRS inputs (Preamp Box), 2 x Gold plated Neutrik XLR Mic inputs (Preamp Box) 2 x Gold plated Neutrik XLR Line outputs (Preamp Box) 1 x Gold plated Neutrik XLR Remote input (Preamp Box) 1 x Gold plated Neutrik XLR Remote output (Controller)
<b>Max. Output Level:</b>	+27 dBu
<b>Output Impedance:</b>	600 Ohm
<b>Input Impedance:</b>	XLR Mic inputs: 2K Ohm TRS Line/Instr inputs: 100K Ohm
<b>Frequency Response:</b>	20Hz - 50kHz (+/- 0,4dB)
<b>THD+N:</b>	0,027% at 60dB gain
<b>Weight:</b>	Preamp Box: 4,4 kg Remote Controller: 0,5 kg RS-2 set in Flight Case: 9,9 kg
<b>Dimensions:</b>	Preamp Box (without rubber feet) Length: 355 mm (incl. sockets) Width: 144,5 mm Height: 118 mm  Remote Controller (without rubber feet) Length: 123,5 mm Width: 154 mm Height: 55 mm (with knobs)  Flight Case Length: 340 mm Width: 490 mm Height: 180 mm

# Warranty

- 1) We provide full two (2) year Warranty for all HUM Audio Devices products against defects in material and workmanship. This Warranty relates to each original Customer of HUM Audio Devices product and is not transferable to other persons.
- 2) The period of this Warranty commences at the official receipt date of product purchase from authorized HUM Audio Devices Distributor or Dealer in given country, or directly from HUM Audio Devices for other countries. Within a period of Warranty, HUM Audio Devices will remove defects in materials and manufacturing faults adversely affecting warranted product performance, by repairing or replacing parts or replacing the product as we deem appropriate, free of charge.
- 3) This Warranty does not apply to any defect, failure, or damage due to any cause other than defects in materials or workmanship of the product.
- 4) HUM Audio Devices will not be responsible for damage to, or failure of, or need for repair or correction of any product, which occurs as a result of user abuse or misuse, including but not limited to the operation with wrong power supply or excessive voltage, or other wrong application or storage including unreasonable exposure to heat, cold, wind, water, or other elements, negligence or accident, and to material fatigue or degradation through very intensive normal usage.
- 5) Serial number removing or altering, actual or attempted correction, repair, service, modification or alteration of any HUM Audio Devices product by persons not authorized to do it automatically expires this Warranty.
- 6) Customer must contact his local HUM Audio Devices Distributor or Dealer, or in countries without Distribution - directly with HUM Audio Devices, to receive Product Return Authorization Number that will be used to track and identify the returned product.
- 7) After receiving Product Return Authorization Number please deliver the complete product in the original packing or in such packing that is adequate to prevent damage to the product during the normal course of transport to your local HUM Audio Devices Dealer, or in case of direct purchase - to HUM Audio Devices. Transportation and insurance is the Customer's responsibility and is not covered by this Warranty.
- 8) In the interests of product development, the specifications, construction and appearance of all above products are subject to change without prior notice and without obligation to install these improvements in any product previously manufactured.

- 9) All remedies and the measure of damages are limited to the above services. It is possible that economic loss or injury to person or property may result from the failure of the product; however, even if HUM Audio Devices has been advised of this possibility, this limited warranty does not cover any such consequential or incidental damages. Some states or countries do not allow the limitations or exclusion of incidental or consequential damages, so the above limitation may not apply to you.

## Limitations of Liability

In no event will HUM Audio Devices be liable for any damages, including loss of data, lost profits, cost of cover or other special, incidental, consequential or indirect damages arising from the use of the unit, however caused and on any theory of liability. This limitation will apply even if HUM Audio Devices or an authorised dealer has been advised of the possibility of such damage.

## Contact

### HUM Audio Devices

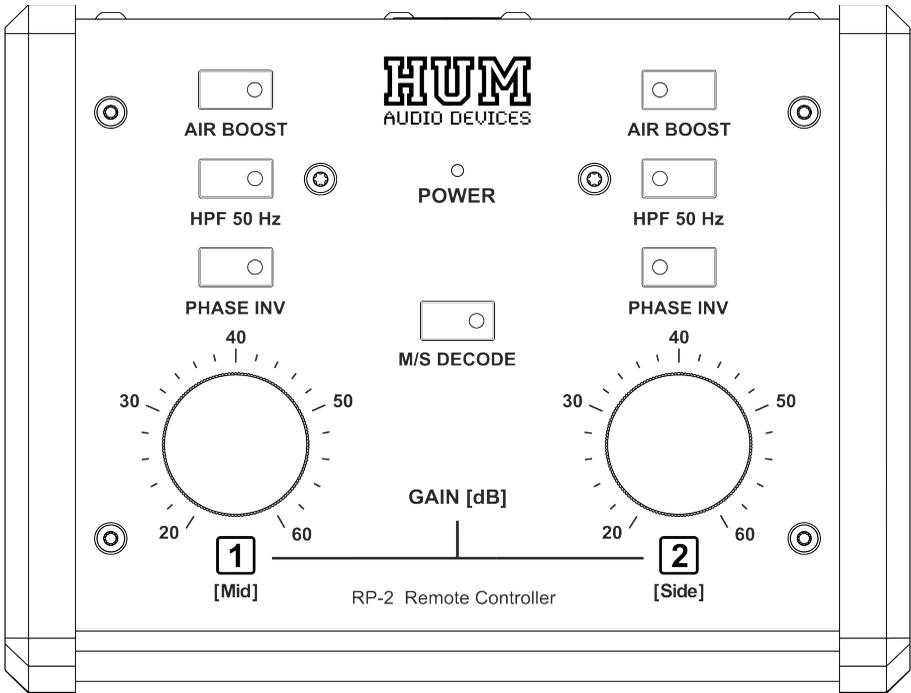
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# RP-2 SESSION RECALL SHEET



SESSION:	
ARTIST:	
TRACK:	
ENGINEER:	
DATE:	
STUDIO:	
NOTES:	