



μPRE

Portable battery powered stereo microphone preamp with M/S decoding

Thank you for buying our μPRE microphone preamp. We hope our device will become an essential companion for your sound recordings. This preamp has been designed and manufactured on the basis of extensive and detailed technical and audio considerations.

The Audioroot μPRE is a high quality microphone preamplifier of yet very simple use. This unit benefits from the best components available in a very small package. The μPRE has excellent technical and audio characteristics that make it compatible with the best microphones available. The μPRE was specially designed to be used as an add-on to your favorite analog mixer, digital audio recorder or any other pro audio equipment.

The μPRE is an autonomous device that can be powered using 2 x 9V batteries or an external power source (wall adapter or external Audioroot eSmart Lithium battery).

Warning

Do not try to repair this product or replace any of its elements if this user manual does not give specific instructions on how to do so. This equipment was built with surface mount components and needs special tooling for repair. The removal of the electronic PCB needs special technical skills.

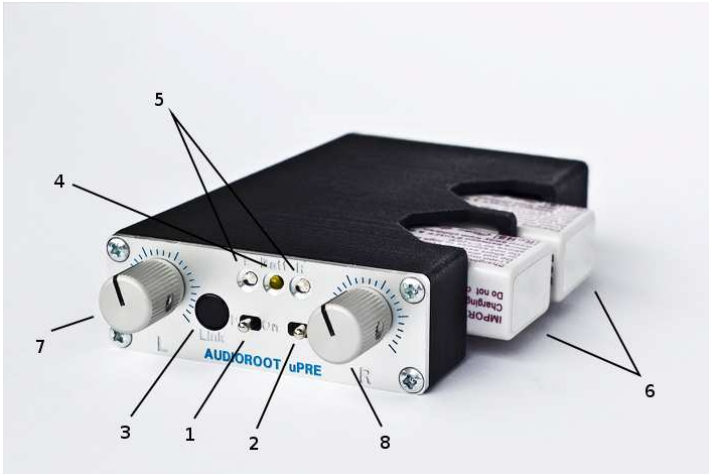
Identification and warranty

The unit's serial number is written on the silver sticker at the bottom of the battery compartment. Never modify, remove or damage this sticker. The unit has a one year warranty from date of purchase. Only officially appointed dealers or Audioroot are allowed to warranty repair of Audioroot products. Any damage caused by tampering, misuse or dismantling of the instrument will not be covered by the warranty and could be considered a reason for rendering the warranty null and void. Return shipping fees are always at the customer's charge.

UNPACKING AND INSPECTION

The μPRE preamplifier products are carefully checked for good condition before being shipped from the factory. Despite the protective carton and rugged design, shipping may damage the unit. Check for possible carton damage when unpacking the unit. Please save the carton for return shipment if required. AUDIOROOT does not warrant against damage caused by returning products in other cartons than the original ones or improperly packing the products. If shipping damage is evident, notify the transportation company immediately. Only the consignee can file a claim with the carrier for shipping damage. AUDIOROOT will fully co-operate in such an event. Be sure to save the carton for the shipper to inspect.

UNIT CONNECTIONS AND CONTROLS:

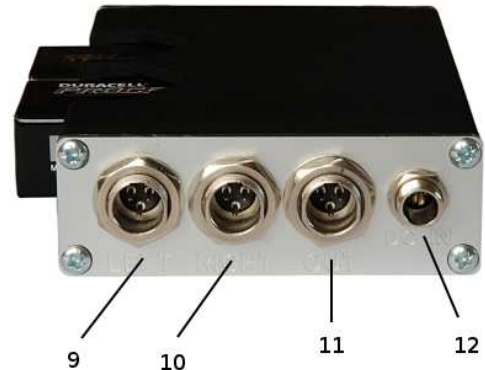


1. Power supply selection switch.
 - **Central** position : power off
 - **On** position (to the right): preamp on, 48V phantom power off
 - **P** position (to the left): preamp on, 48V phantom power on
2. Low cut filter selection switch.
 - **HP** position: filter in line
 - **Left** position: filter off line
3. Push button link selection switch.
 - Switch **engaged** : button link is not active ; each potentiometer controls the

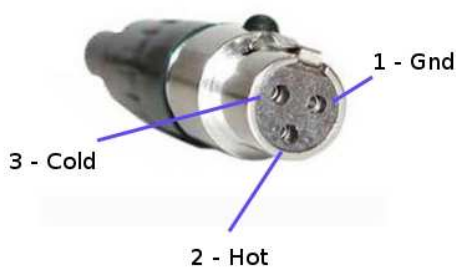
preamplification level of each mic input

- Switch **disengaged** : button link is active ; the right potentiometer controls the audio level of both mic inputs. The left potentiometer is deactivated.

4. Low battery level LED indicator. This LED turns on when the battery level is too low. The user should then replace the batteries as soon as possible. The low voltage threshold is set to 13V (2 x 6.5V). This threshold is compatible with iPOWERUS 9V rechargeable Lipo batteries. The LED will also turn on if an external power source with a voltage lower than 13.5V is applied to the external DC IN power input jack.
5. Audio modulation LED indicators. The LEDs luminosity is proportionnal to the audio level.
6. Batteries compartment. This compartment is designed to receive 9V 6LR61 or PP3 batteries. Audioroot recommends using alkaline or high power rechargeable lipo batteries. Please respect the + and - polarities. Never leave batteries in the unit during storage. Use only first choice alkaline or rechargeable batteries.
7. **Left** input gain level ajustement potentiometer. Gain can be adjusted from -50dB to +65dB. This potentiometer is deactivated when the "link" push button is engaged (3).



Audioroot uPRE Cable Pinout



8. **Right** input gain level ajustement potentiometer. Gain can be adjusted from -50dB to +65dB. This potentiometer also controls the gain level of the left input when the link function is activated for stereo operation.(3).

9. **Left mic input** connector. This connector has the following pinout : 1-ground, 2-hot signal, 3-cold signal. Mating connector : Switchcraft TA3F.

10. **Right mic input** connector. This connector has the following pinout : 1-ground, 2-hot signal, 3-cold signal. Mating connector : Switchcraft TA3F.

11. Asymetrical stereo output connector: This connector has the following pinout : 1-ground, 2-left, 3-right. Mating connector : Switchcraft TA3F.



12. External power DC input jack. The mating connector reference is Switchcraft 760K. The μPRE can be powered via this connector with an external voltage of 12 to 18V. Batteries are automatically disconnected when a power jack is inserted into the DC input connector. Connector polarity : inner = + , outer = - . The DC IN input is protected against polarity reversal.

13. M/S decoding selection switches. These 2 switches are purposely difficult to access; they optionally insert an M/S decoder on the path to the unbalanced stereo output

- In **off** position (switches to the left)

no matrixing takes place on the input signals; it is then possible to record either a conventional stereo signal, or to record "M/S" sources "as they are"

- In **on** position (switches to the right), the "M/S" signal is decoded and converted to conventional L/R stereo. With M/S decoding on, the μPRE outputs on its left channel a mixed signal of both microphones (1+2 or M+S) and a subtraction of both microphones on the right channel (1-2 or M-S).

TIP: 2 switches are voluntarily used to enable M/S decoding. By switching only the "S" channel, the μPRE will output a mix of microphones 1 and 2 on the left channel but will still output microphone 2 on the right channel. This setup is very useful when a mono mix of both channels is required.

AUTONOMY:

The autonomy of the AUDIOROOT μPRE depends directly from the power source (battery type) and microphones connected to the unit. Typical autonomy with 2 iPOWERUS 520mAh lithium-polymer batteries and 2 SCHOEPS CMC64Ug microphones is 5 hours. This autonomy rises with dynamic microphones, alkaline batteries or an external power source.

AUDIO INPUTS AND OUTPUTS:

The 2 "LEFT" and "RIGHT" mini-XLR input connectors are disposed at the rear of the unit. These inputs are transformer balanced with an input impedance of 5Kohms. Equipment with asymmetrical outputs can be connected to the μPRE by bridging pins 1 and 3 and connecting them to ground.

The preamp's stereo output is also disposed at the rear end of the μPRE. This output is asymmetrical and is directly compatible with many stereo asymmetrical inputs such as those found on small handheld flash recorders. The user can connect this stereo output to any symmetrical input by using the stereo XLR output cable provided with each μPRE.

Each microphone preamp is provided with 1 μPRE CABLE KIT which includes the following cables :

- 2 XLR mic input cables
- 1 stereo XLR output cable
- 1 stereo mini-jack output cable

Main specifications :

- 2 transformer balanced microphone inputs (Lundahl LL1587) on Switchcraft mini XLR connectors
- True phantom powering on both mic inputs
- Second order low-cut active filter on both channels : 80 Hz 12dB/Oct
- Very large gain range : -50dB à +62dB
- Stereo link
- M/S decoding
- Asymmetrical outputs on one Switchcraft mini XLR connector
- LED audio level indicator per channel
- Low battery voltage LED indicator (13V threshold)
- Battery operated (2 x 9V) or external DC power source (12 to 18V)
- Typical 5 hours battery autonomy with 2 Schoeps CMC6Ug microphones
- 10 hours typical battery autonomy with dynamic microphones
- Compatible with [iPOWERUS](#) lipo 9V rechargeable batteries
- Universal 100-240 V wall adapter available
- 110 x 65 x 30mm / 300 grammes

Technical specifications:

- Input impedance : 5Kohms
- Distorsion : < 0,1% (0,01% typical)
- Equivalent input noise (EIN) : -127.7dB with $Z_{source}=200\Omega$
- Max gain ($Z_{source}=600\Omega$, $Z_{load}=100K$) : 63.6dB
- Max gain ($Z_{source}=50\Omega$, $Z_{load}=100K$) : 66.6dB
- Audio bandwidth (+/- 0.5dB): 10Hz - 75Khz
- Maximum output level ($Z_{load}=100K$, $V_{in} = 15V$) : +13dBU
- Maximum output level ($Z_{load}=600\Omega$, $V_{in} = 15V$) : 0dBU