



R.R. Amplifiers

User manual

AS5

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 2; p. 4). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, this User manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.



Version	Date	Auteur
V1.0	16-12-2020	Remco Ranschaert

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1. Using the unit safely

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSON

About  WARNING and  CAUTION Notice

 WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly
 CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

-----ALWAYS OBSERVE THE FOLLOWING-----

WARNING

- Do not open or perform any internal modifications on the unit.
 - Do not attempt to repair the unit, or replace parts. Refer all servicing to only R.R.Amplifiers.
- Never install the unit in any of the following locations:
- Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
 - Damp (e.g., baths, washrooms, on wet floors); or are
 - Exposed to steam or smoke; or are
 - Subject to salt exposure; or are
 - Humid; or are
 - Exposed to rain; or are
 - Dusty or sandy; or are
 - Subject to high levels of vibration and shakiness

WARNING

- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.
- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit. Immediately turn the power off, and request servicing by R.R.Amplifiers, when:
 - Smoke or unusual odour occurs
 - Objects have fallen into, or liquid has been spilled onto the unit; or
 - The unit has been exposed to rain (or otherwise has become wet); or
 - The unit does not appear to operate normally or exhibits a marked change in performance.
- Protect the unit from strong impact. (Do not drop it!)

 WARNING

- When cleaning the unit, only use a water moistened cloth. Do not use a wet cloth, or use other liquids, see Maintenance.
- This device needs proper grounding for a safe use.

 CAUTION

- Try to prevent cords and cables from becoming entangled. Be good for your cables.
- Disconnect all cords coming from external devices before moving the unit.
- Make all connections to the unit before powering the device(s). This can prevent ear or unit damage because units can produce hard popping or clicking noises while powering up.

2. Important Notes

Power Supply

Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.

- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.

- Noise may be produced if wireless Communications devices, such as cell phones, Are operated in the vicinity of this unit. Such Noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.

- When moved from one location to Another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.

- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolour or mar the surface.

You can place a piece of felt or cloth under the rubber feet to prevent this from happening. If you do so, please make sure that the unit will not slip or move accidentally.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, nonabrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.

- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

3. Additional Precaution

- Use a reasonable amount of care when using the unit's buttons, switches, or other controls; and when using its jacks and connectors.
Rough handling can lead to malfunctions.

3.1 Notes

- Microsoft, Windows are registered trademarks of Microsoft Corporation.
- All product names mentioned in this document are trademarks or registered trademarks of their respective owners.

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4. What's in de box

When you open the box, please check that al items are present. Please contact R.R.Amplifiers when something is missing.

- AS5 (2HE-19"unit)
- Power cord
- This User manual printed.

You'll need to provide the following items

External amplifier(s) and speakers are not included.

The external amplifier, speakers, that you'll need in order to listen to sounds that are output via the AS5 are not included. Nor is there included a device/unit for connection to the AS5 to input audio. You'll need to obtain these items separately.

Cables for connecting to, and from the AS5, are not included.

Please refer to this manual for what cable's you can use.

5. Introduction

Congratulations on choosing this R.R.Amplifiers device. Our devices are developed and build with the highest attention and quality possible.

We are very confident that you will be familiar with the AS5 very quickly, and will appreciate the versatility and high quality of this unit.

Remco Ranschaert

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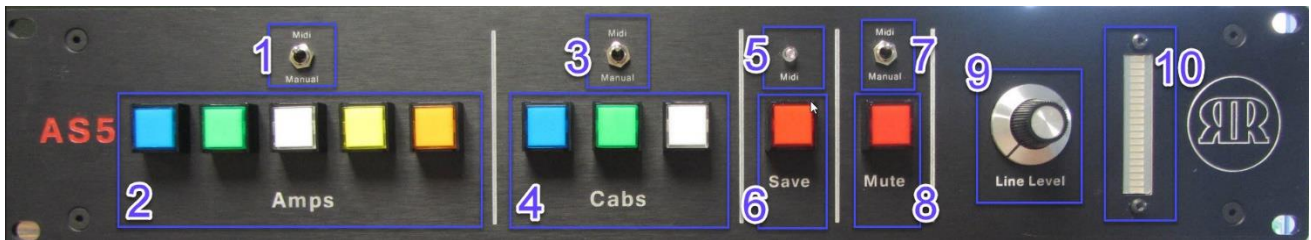
5.1 Key Features

- 19" 2HE rack mount unit
- High quality audio components are used
- High Quality Audio Transformers to prevent groundloops
- Buffered and transformer-Isolated Tuner output
- Professional Line Out to feed for example your stereo effects. In this way, you can create, for example, a 3 way system (Wet/Dry/Wet)
- 5 (silently) switchable/selectable guitar (tube)Amps can be connected
- 3 independent cabs/speakers/Loadbox or dummy loads (like for recording/FOH use)
- 340 pre-sets in PC mode selectable via a Midi controller. (R.R.Amplifiers mMFC)
- Standard settings, like Midi channel and more are done with software available on website.

5.2 Website

This User manual and PC software and available on the website: rramplifiers.nl/as5

6. Front Panel Description



1. Midi/Manual switch (Amps)
With this toggle switch you can determine if the Amp selection can be done with Midi or only manual. In manual mode, Midi messages for Amps selection will be ignored.
2. Amp Selector buttons (5)
Select which amp you want selected. You can only use one amp at a time.
3. Midi/Manual switch (Cabs)
With this toggle switch you can determine if the Cab selection can be done with Midi or only manual. In manual mode, Midi messages for Cab selection will be ignored.
4. Cab Selector buttons (3)
Select which Cab you want selected. You can only use one Cab at a time.
5. Midi indicator
The indicator lights up when a Midi signal is detected
6. Save button
The button blinks when a Midi Program change is received and you select/or change an amp. When you press the button while blinking, that Amp/Cab is saved for that specific Midi Program Change.
7. Midi/Manual switch (Mute)
With this toggle switch you can determine if the Mute function can be done with Midi or only manual. In manual mode, Midi messages for Mute will be ignored.
8. Mute button
This button will Mute all Amps sends.
9. Line out Level Control
This Control sets the Line out level to feed for instance stereo effects (or the R.R. Amplifiers SMX5) at line level.
10. VU meter line out
Here you can monitor the output level. Full scale is +8dBu. For +4dBu setup, set "Line Level" control so, that the VU meter light up to the 5th led from above.

7. Back Panel Description



1. Input section
 - a. The input is a balanced input (max 10k Ω) A high quality Audio Transformer is used to ensure there are no groundloops. (You can use a R.R.Amplifiers BGL or other (un)Balanced buffer).
 - b. Mono 1/4" Jack. The Tuner out also uses a transformer (not high quality) to make sure there is no groundloop. This output has no high audio quality, so only use it as a tuner out.
2. To Amp Inputs (send)

Mono 1/4" Jack's. All these Sends also use a high quality Audio Transformer to ensure there are no groundloops in you (multi-amp-setup). The Amps that are not used, are muted with relays.
3. From Speaker Outputs (Amp return)

Mono 1/4" Jack's. First of all: Do NOT use a guitar/signal cable to connect your Speaker out on your amp(s) to the AS5, but DO use a sufficient quality Speaker cable. All Amp(s) not used, are loaded with an 25Watt load. Note that an muted amp is hardly producing signal on the outputs.
4. Special Use

With the special use output, the R.R.Amplifiers -Amps-sign-system can controlled. This system can be provided as an Customshop device/unit. Depending on the customers wishes.
5. Cobs/Outputs

Mono 1/4" Jack's. First of all: Do NOT use a guitar/signal cable to connect your output to a Speaker/Cab/Loadbox, but DO use a sufficient quality Speaker cable.
6. Line Out
 - a. Ground lift lifts pin 1 in the Line Out XLR from ground to prevent hum or groundloop.
 - b. Inverts the phase of the Line Out when you detect phase issues.
 - c. Line Out XLR pin1=GND, pin2=hot, pin3=cold.
7. Midi in/out

Midi in and out connector. Midi out is a midi Thru, so all midi in will be directed to Midi out.
8. Power supply
 - a. Ground lift lifts the signal ground from the chassis ground. Chassis must always be grounded.
 - b. Neutrik PowerCon entry.

8. Connections

Below an overview how to connect you audio-signal cables to this device.

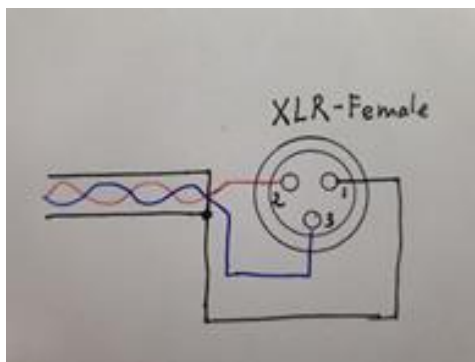
This unit is developed for high-end use, and therefore provided with balanced XLR connections.

However unbalanced connections is possible, see 8.2.

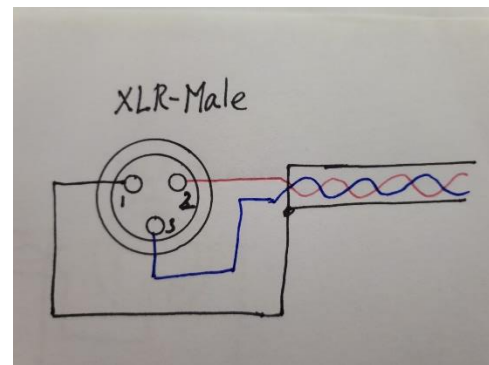
All Speaker Cables are standard connections TS-plugs. Use a good quality speaker cable, never use a microphone cable, or signal cable.

8.1 Balanced (Optimum)

Input

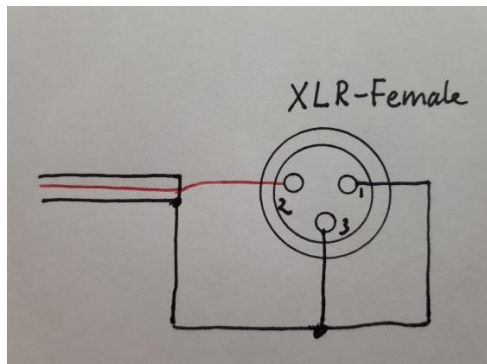


Line Out

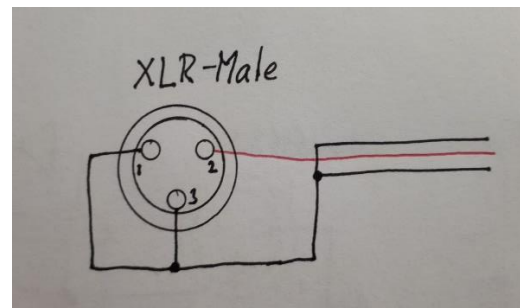


8.2 Unbalanced

Input



Line Out



When this Input connection gives Groundloops, disconnect pin1

9. PC software

In normal operation, you would not need the PC-software. You only need it to:

- Change the midi channel (default is channel #1)
- Set the Mute-CC (default is CC#9)

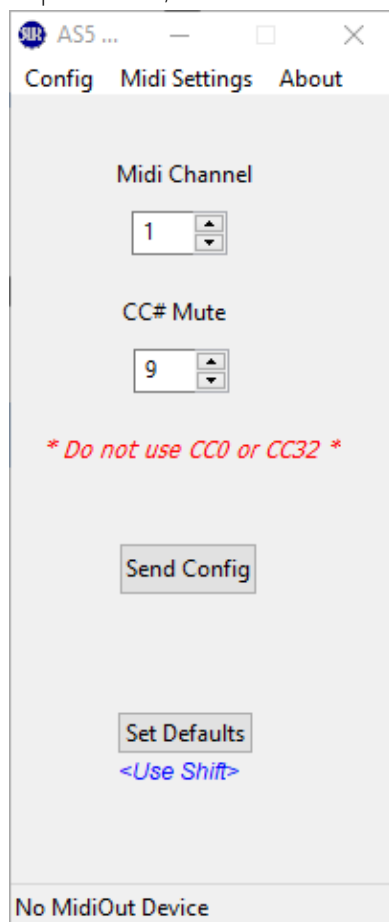
When you want to change settings, connect a midi cable from you (external) Soundcard's midi out, to your AS5 midi in.

9.1 The Software

First set your Midi Output Device:



After selecting your Midi Output device, the editor software opens:



*When you want to change your Midi Output Device, use the Midi-Settings tab.

*Use the about tab to view your software version.

After setting your Midi Output device, and you have set your desired settings, just press "Send Config".

10. Midi

The Midi Thru is a copy of the incoming Midi-in signal.

The Unit responds to PC's as well as CC's.

The Amp- and Cab selection can be set to the current PC.

Note: the units can process PC's till PC#340.

The Mute functionality which mutes all Amp sends can be set with a midi CC message.

Use the toggle switches to select which section should response to midi, or should be selected manually.

11. Unit Specifications

Input Impedance	max 10k Ω (balanced)
Amplifier and Load Rating	150Watt max pass thru
Output Impedance Tuner	10k Ω
Crosstalk Level	<120dBu
Noise Floor	<120dBu
Frequency Response	20Hz to 45kHz
Max Input Level	+8dBu
Max Line out Level	+8dBu
Amp Switching	(electromechanical relay switching)
Cab switching	(electromechanical relay switching)
Dimensions	19" 2HE, 230mm deep
Use between	0°C and 40°C

12. Power supply

Input Voltage	100-240 VAC
Required Current	1A

13. Warranty

R.R.Amplifiers warrants the product to be free from defects in material and workmanship for a period of two (2) year from the original date of purchase. If the product fails within the warranty period, R.R.Amplifiers will repair or, at our discretion, replace the product at no cost to the original purchaser.

13.1 Exclusions

This warranty covers defects in manufacturing discovered while using this product as recommended by R.R.Amplifiers. This warranty does not cover loss or theft, nor does the coverage extend to damage caused by misuse, abuse, unauthorized modification, improper storage, lightning, or natural disasters.

13.2 Limits of Liability

R.R.Amplifiers will not be held liable to any party for damages that result from the failure of this product. Damages excluded include, but are not limited to, the following: lost profits, lost savings, damage to other equipment, and incidental or consequential damages arising from the use, or inability to use this product. In no event will R.R.Amplifiers be liable for more than the amount of the purchase price, not to exceed the current retail price of the product. R.R.Amplifiers disclaims any other warranties, express or implied. By using the product, the user accepts all terms herein.

13.3 How to Obtain Service Under this Warranty

For all customers: Contact R.R.Amplifiers through our website at <http://www.rramplifiers.nl>, or dropping a email to info@rramplifiers.nl . Proof of original ownership may be required in the form of a purchase receipt.