

User's Manual



*Thank You for purchasing the AMT RD-2 "Reincarnator".
Please take the time to read through this manual to become acquainted with this device.*

INTRODUCTION

*AMT wants to present our new product – AMT RD-2 "Reincarnator".
It is a DI-box and a ReAmp-box in one device.*

Some words about Reamping technology:

Many sound recording studios use Reamping for getting desired sounding.

The essence of reamping technology is a playback of pre-recorded "dry" guitar signal (the signal from the pickups) through a guitar amp and recording simultaneously with the microphone the guitar cabinet sound.

With this technique, you can once record a guitar track and then, an unlimited number of times to playback and record it. In this case you can try to use different amplifiers, audio processing devices and microphone positions. Even with a live recording of a guitar cabinet with a microphone, you can later find out that you are not quite satisfied with the result, namely, satisfied with the quality of performance, but not satisfied with the quality of the guitar signal processing. When recording "live sounding" guitar cabinet, you can, at the same time, record a "dry" guitar sound, then, afterwards, using reamping you can achieve the desired result.

The full reamping cycle consists of two phases:

- 1. Recording a track of "dry" guitar sound, using a DI-box device and DAW (sound card). At this stage, the guitar cabinet sound can also be recorded with a microphone, or simply be monitored.*
- 2. Playback with a ReAmp-box and DAW (sound card) of the previously recorded guitar track, feed the signal to the input of the amplifier with simultaneous guitar cabinet sound recording, using a microphone.*

The main DI-box function is basically the matching of a high guitar sensors' impedance and a relatively low input impedance of the recording device. In addition, a DI-box makes a transformation of an unbalanced guitar signal into a balanced mic-level signal for sending to the input of the DAW (sound card). Guitar sensors have sufficiently high impedance, something like 10-15kOhm, so if the signal is put directly to the low-impedance input of the DAW (sound card), there will be a significant change in the signal. In addition, unbalanced guitar cables are susceptible to crosstalk and at a great length; it is desirable to move from an unbalanced line to a symmetric (balanced) one.

The main Reamp-box functions are the transformation of a symmetric (balanced) line-level signal from the output of the DAW (sound card) into the unbalanced signal being sent to the guitar amp input and a matching of the DAW (sound card) low output impedance and high-impedance guitar amplifier input.

1. SAFETY INSTRUCTIONS:

WARNING!

Do not expose the RD-2 to rain, moisture, dripping or splashing water. Do not place objects filled with liquids, such as vases, etc, on or near the device.

WARNING!

Inside the device there are no parts that are user-serviceable. Repairs to the device may only be performed by qualified personnel.

IGNORING THE ABOVE RULES CAN CAUSE THE DEVICE'S BREAKDOWN AND CAUSES THE LOST OF WARRANTY SERVICE!

2. HOW DOES IT WORK.

As it was said above, AMT RD-2 "Reincarnator" is a passive or active DI-box and ReAmp-box in one device. The heart of it is a high performance custom wound transformer.

When it is used as a DI-box in the passive mode, the INPUT signal is lessened at approx. 24dB and is being sent to LINE OUTPUT MIC LEVEL XLR plug, for further putting it into DAW (Sound card) mic input.

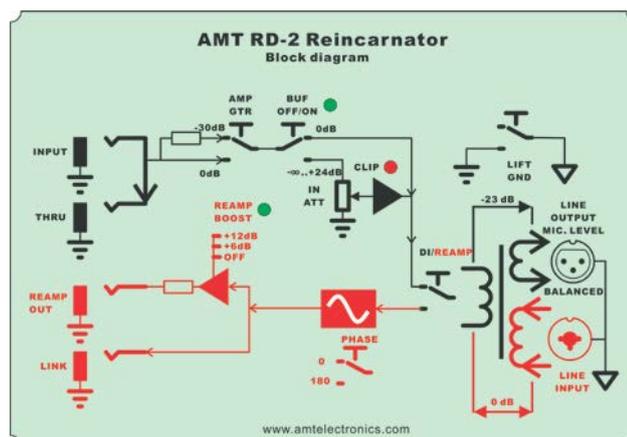
When it is used a Reamp-box in a passive mode, the LINE INPUT signal from a balanced line DAW output is transmitted to REAMP OUT unbalanced TS socket as it is (practically without an amplitude loss). Then it is being sent to the guitar amp's input.

For working in active modes, you have to use an external power supply with a voltage 9-18Vdc. The greater voltage value is preferable for achieving a wider dynamic range.

In the DI-mode, the input BUFFER can be used and its attenuator lets you regulate the input signal in the wide range and use input levels in the range from low guitar signals to high power amp signals.

In the Reamp mode, the switch OUTPUT BOOST can be used. It lets you to pass the signal without level change or with a boost by 6 or 12dB.

RD-2 BLOCK DIAGRAM



2.1 THE FRONT PANEL FUNCTIONS



- 1 The DI/REamp mode switch. Not pressed- DI Box mode, pressed- Reamp Box mode.
2. Input (unbalanced input) - TS socket. You can plug here a guitar, a preamp's output or power amp's output.
3. Thru (unbalanced output) –TS socket. This socket has a direct connection to the Input socket. You can leave it unused or:
 - a. to plug here an Input cable of a power amp, if you use a guitar as a signal's source
 - b. to plug here a Return cable of a power amp, if you use a preamp as a signal's source
 - c. to plug here a Guitar cabinet, if you use a power amp as a signal's source
4. Input Buffer's switch on/off button. Not pressed – buffer is OFF, pressed – buffer is ON
If you use RD-1 as a passive device, the buffer ought to be OFF
5. Buffer's ON/OFF LED indicator
6. Source signal attenuator's button. Not pressed – a power amp is a signal source, pressed – guitar or preamp is a signal source
7. Clipping LED indicator. It shows the input buffer's output clipping. If it is lighted you have to turn the "IN ATT" knob counter-clockwise
8. Input signal's attenuator. It works only in active mode.
9. REAMP OUT (unbalanced output)- TS socket. You can plug here an Input cable of a power amp, if you used a guitar as a source signal during recording or a Return cable of a power amp, if you used a preamp as a signal's source during recording
10. LINK (unbalanced output) –TS socket. You can plug an Input cable from another RD-1, if you want to send a Reamp signal to two (or more) power amps
11. PHASE – a button to reverse the Reamp signal's phase. Not pressed – direct phase, pressed – reversed phase (180 Grad)
12. REAMP BOOST- LED indicator. If it is lighted, the Boost buffer is used
13. Reamp boost buffer switch.

2.2 BACK PANEL FUNCTIONS:



1. *LINE INPUT (balanced or unbalanced line input) – combined XLR/TRS socket. You can plug in it a cable from your Sound Card (DAW) output. It can be an XLR – XLR balanced cable, a TRS-TRS balanced cable or a TS-TS unbalanced cable.*
2. *LINE OUTPUT MIC LEVEL – balanced XLR output, mic level output plug – you can connect here a cable to your sound card (DAW) input. It can be an XLR-XLR balanced cable, an XLR –TRS balanced cable or an XLR-TS unbalanced cable.*
3. *GND/LIFT switch. It connects or disconnects the “grounds” of Front Panel and Back Panel connectors.*
In some cases it helps to eliminate the ground signals’ paths.
4. *IN – a socket for a power supply plug*
5. *THRU – a socket directly connected to IN socket. It is used to power other devices.*

2.3 RECORDING, DI-MODE. POSSIBLE SETS:

A. Guitar or Preamp is a Source. Passive mode.

Front panel:

1. *Guitar or Preamp -> Input (2) TS-TS cable*
2. *THRU – unused or -> Guitar Amp’s Input or Guitar Amp’s Return TS-TS cable*
3. *Button BUF OFF/ON(4) is in OFF position (unpressed)*
4. *Button AMP/GTR(6) is in GTR position (pressed)*
5. *IN ATT Knob is no matter*
6. *Button DI/REamp(1) is in DI position (unpressed)*
7. *REAMP OUT(9), LINK(10) are not used*
8. *PHASE 0/180(11) and REAMP BOOST +12dB +6dB 0dB – are no matter*

Rear panel:

1. *LINE INPUT(1) – is unused*
2. *LINE OUTPUT MIC LEVEL(2) -> Sound Card Balanced Mic Input*
3. *GND/LIFT(3) – is in a lower hum position*
4. *9-18VDC(4,5) – are unused*

B. Guitar or Preamp is a Source. Active mode.

Front panel:

1. *Guitar or Preamp -> Input (2) TS-TS cable*
2. *THRU – unused or -> Guitar Amp’s Input or Guitar Amp’s Return TS-TS cable*
3. *Button BUF OFF/ON(4) is in ON position (pressed)*
4. *Button AMP/GTR(6) is in GTR position (pressed)*
5. *IN ATT Knob is in proper position*
6. *Button DI/REamp(1) is in DI position (unpressed)*
7. *REAMP OUT(9), LINK(10) are not used*
8. *PHASE 0/180(11) and REAMP BOOST +12dB +6dB 0dB – are no matter*

Rear panel:

- 1.LINE INPUT(1) – is unused
- 2.LINE OUTPUT MIC LEVEL(2) -> Sound Card Balanced Mic Input
- 3.GND/LIFT(3) – is in a lower hum position
4. 9-18VDC(4,5) <- DC power supply (center minus)

C. Power Amp is a Source. Active mode only.**Front panel:**

- 1.Power Amp -> INPUT (2) TS-TS cable
- 2.THRU – Guitar Cab or LoadBox TS-TS cable
- 3.Button BUF OFF/ON(4) is in ON position (pressed)
- 4.Button AMP/GTR(6) is in AMP position (unpressed)
- 5.IN ATT Knob is in proper position
- 6.Button DI/REamp(1) is in DI position (unpressed)
7. REAMP OUT(9), LINK(10) are not used
8. PHASE 0/180(11) and REAMP BOOST +12dB +6dB 0dB – are no matter

Rear panel:

- 1.LINE INPUT(1) – Note: in active mode you can use this input as a line level output (balanced or unbalanced)
- 2.LINE OUTPUT MIC LEVEL(2) -> Sound Card Balanced Mic Input
- 3.GND/LIFT(3) – is in a lower hum position
4. 9-18VDC(4,5) <- DC power supply (center minus)

2.4 REAMPING, REAMP-MODE. POSSIBLE SETS:**A. Passive mode.****Front panel:**

1. INPUT(2) is unused
2. THRU(3) is unused
3. Button BUF OFF/ON(4) is no matter
4. Button AMP/GTR(6) is no matter
5. IN ATT Knob(8) is no matter
6. Button DI/REamp(1) is in REamp position (pressed)
7. REAMP OUT (9) -> AMP's input
8. LINK(10) is not used
9. Button PHASE 0/180(11) is in a proper position
10. REAMP BOOST +12dB +6dB 0dB(13) is in 0dB position

Rear panel:

- 1.LINE INPUT(1) <- Sound card output (balanced or unbalanced, XLR,TRS or TS)
- 2.LINE OUTPUT MIC LEVEL(2) is not used
- 3.GND/LIFT(3) – is in a lower hum position
4. 9-18VDC(4,5) – is not used

B. Active mode.**Front panel:**

1. INPUT(2) is unused
2. THRU(3) is unused
3. Button BUF OFF/ON(4) is no matter
4. Button AMP/GTR(6) is no matter
5. IN ATT Knob(8) is no matter
6. Button DI/REamp(1) is in REamp position (pressed)
7. REAMP OUT (9) -> AMP's input

8. *LINK(10) is not used*
9. *Button PHASE 0/180(11) is in a proper position*
10. *REAMP BOOST +12dB +6dB 0dB(13) is in proper position*

Rear panel:

1. *LINE INPUT(1) <- Sound card output (balanced or unbalanced, XLR,TRS or TS)*
2. *LINE OUTPUT MIC LEVEL(2) is not used*
3. *GND/LIFT(3) – is in a lower hum position*
4. *9-18VDC(4,5) <- DC power supply (center minus)*

! AMT Electronics reserves the right to change the internal and external design of the device which won't decrease its consumer properties without preliminary notification. In this connection the specifications and appearance of the device might differ from the ones shown in this document.

3. SPECIFICATION.

1. *Weight netto* - 400 g
2. *Dimensions (Case only)* - W 84mm H 42mm L94mm
3. *Power Requirement:* -15mA, 9...18VDC

The complete set includes:

1. *AMT RD-1* 1
2. *Instruction manual* 1
3. *Packaging* 1
4. *Warranty card* 1