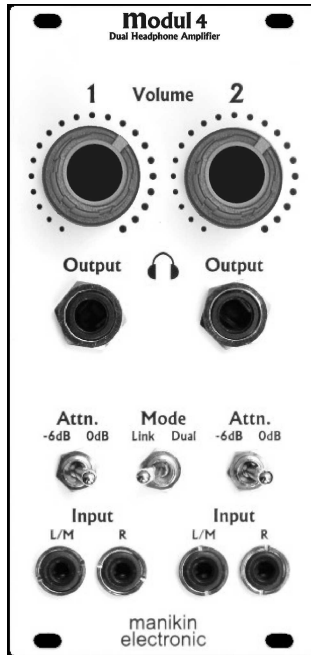# Modul 4
Dual Headphone Amplifier

User Manual

Preface

Many thanks for purchasing the **modul 4**. You have chosen a very high quality ultra low-noise designed headphone amplifier. This product will give you the opportunity to monitor your audio sources noise-free and authentically. That's why the highest quality modern electronic components have been used.

To become familiar with this product's capabilities, we recommend you take the time to first study this manual.

Enjoy your **modul 4**

Your Manikin team

Note

Manikin Electronic will not assume any responsibility for errors which may occur in this manual. The content of these instructions is subject to change without prior notice. When this manual was created, care was taken to exclude any mistakes and contradictions. Manikin Electronic will not accept any guarantees for this manual except those provided by commercial law.

No part of this user manual is allowed to be reproduced without the expressly written consent of the manufacturer.

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Contents

1. Introduction

1.1 General safety instructions

Please read the safety instructions below very carefully. They comprise some basic rules for the use of electronic devices. Please read all the notes before you start using the device.

Attention:
Headphone amplifiers as well as the modul 4 can, depending to the connected input signal and connected headphone, generate very high level signals. Protect your ears and listen with moderate volume in order to prevent irreversible damage to your hearing.

1.2 Suitable locations

- Only operate the device in closed rooms.
- Never operate the device in humid environments such as bathrooms, washing rooms or swimming pools.
- Do not operate the device in extremely dusty or dirty environments.
- Ensure unhindered air supply to all sides of the device. Do not place the device in close proximity to heat sources such as radiators.
- Do not expose the device to direct sunlight.
- Do not expose the unit to heavy vibration.

1.3 Mains connection

- Only use the supplied ribbon cable.
- Disconnect the mains connector from the socket before you mount the **modul 4**.

1.4 Operation

- Make sure that your **modul 4** is correctly mounted in your Eurorack.
- Ensure that no objects can get inside the device. Should this happen at all, switch the device off and disconnect it from the mains. Then contact a qualified technician.

1.5 Maintenance

- Do not try to open the device or detach the front panel. Any repair or maintenance should be done by qualified tech-personnel only. There are no parts inside the device that could be maintained by the user. You will also lose your right to claim warranty if you open the device.
- Only use a dry, smooth cloth or brush for cleaning the device. Do not use any alcohol, solvents or similar chemicals. They will damage the surfaces.

Proper use

This device is exclusively intended for creating audio signals. Any other use is not permitted and will obviate any warranty claims towards Manikin Electronic.

2. Setting Up

2.1 Unpacking

When unpacking, please check if all parts are included. If something appears to be missing, please contact your local Manikin Dealer immediately.

The **modul 4** box contains:
- the **modul 4**
- a 16-pole ribbon cable for powering the **module 4** from your Eurorack-Power Supply
- this Manual
- 4 mounting screws for mounting the **modul 4** in the Eurorack

2.2 Installation
The **modul 4** was designed to be mounted in an Eurorack system.
All necessary parts for mounting the **modul 4** into your Eurorack are part of the delivery.

How to hook up the modul 4:
Make sure that your Eurorack is powered off and disconnected from the mains connector.

Connect the included power supply ribbon cable to the **modul 4**.

Connect the power supply ribbon cable with the Base Board of your Eurorack.

Check very carefully that the coloured marking of the power supply ribbon cable has to align with the "-12V" printing on the bus board next to the pin header. Check also very carefully that it is pushed fully home, not at a slight angle and not vertically or horizontally displaced.

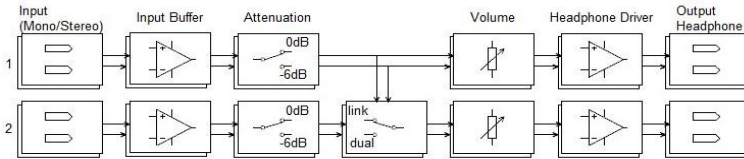Mount the **modul 4** by using the supplied screws in the required place.

Turn the mains power of your Eurorack on.

3. Overview

The **modul 4** is an ultra low-noise dual headphone amplifier designed for usage in the Eurorack.
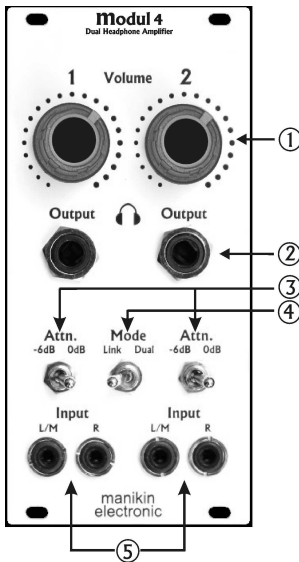Both signal paths can be used independently but it is also possible to use the so called „Link"-Mode. To match high level signal sources an attenuator (6dB) is available for both signal paths.

The block diagram shows the signal flow:

4. User Elements and Connectors

The **modul 4** contains two signal paths with the following user elements.

1 : Volume Potentiometer for each signal path

2 : 6,3mm Stereo Headphone Output for each signal path

3 : Attenuator Toggle Switch (0db/-6dB) for each signal path

4 : Mode Toggle Switch (Link/Dual)

5 : 3,5mm Mono / Stereo Input for each signal path

5. Basic Operation

5.1 Mono / Stereo Operation

Basically it is possible to use the **modul 4** with mono and stereo input signals.

If you want to make a mono signal audible connect your signal to the 3,5mm Phone Jack labeled „L/M" (5). In this case your mono signal will be audible on both sides of your headphone.

If you want to make a stereo signal audible connect your signal of the left channel to the 3,5mm Phone Jack labeled „L/M" (5) and connect the signal of your right channel to the Phone Jack labeled „R" (5).

The volume of your headphone can be adjusted to your individual needs by turning the „Volume"-Potentiometer (1).

In „Dual"-Mode this behaviour is valid for both signal paths.

5.3 Attenuation

If your supplied input signal has a too high level you can attenuate the input signal independently for each signal path by turning the Toggle Switch "Attn." (3) to -6dB position.

5.2 Dual- / Link Mode

The **modul 4** offers two, by running in Dual Mode, independent signal paths. Therefore the Toggle Switch (4) must be turned to „Dual".

Using the "Link"-Mode your input signal source connected to the inputs of signal path 1 to both Headphone Outputs (2). The input of signal path 2 is not used in this mode. To configure the Link Mode the Toggle Switch "Mode" (4) has to be turned to „Link" (4) position.

This Mode works well for two persons who want to listen to the same signal source with individual volume adjustment.
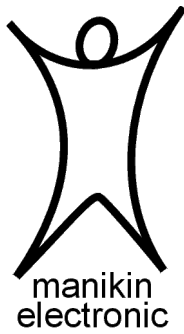
6. Additional operation modes

Beside the previously described examples of use ("Dual" and "Link") the **modul 4** can also be used in a live setup to pre-hear a second signal source.

In this case you have to connect your main signal as well as your headphone to the in- and outputs of signal path 2 and turn the Toggle Switch "Mode" to the "Dual" position.

Connect the signal that you want to pre-hear to the inputs of signal path 1. By toggling the "Mode" Toggle Switch you can switch between your main- and pre-hear signal.

7. Technical Data

Technology	: **Ultra low-noise design** **alternative Input routing**
Inputs	: **2x2 3,5mm Phone Jack (mono)**
Outputs	: **2x 6,3mm Phone Jack (stereo)**
Input attenuator	: **-6dB (switchable)**
Volume control	: **2x Potentiometer**
Power Supply	: **+12V / 150mA -12V / 150mA**
Dimensions (W/H/D)	: **12 HP / 3U / 40mm**

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