

MP-DX MK2 DAC Quick Setup Manual

1. Volume and Gain Settings

For optimal sound quality, set the on-screen output gain between **0 dB and +6 dB**.

- When using stock **6H1N, E88CC, or 6922** tubes, a setting between **0 dB and +1 dB** is recommended.
- When using lower-gain tubes such as **6SN7, 12AU7, 6CG7, or 6H30Pi**, a setting between **+3 dB and +6 dB** is recommended.

There are two gain switches located on the rear panel:

- **RCA output** uses the **L Gain** switch
 - **XLR output** uses the **H Gain** switch
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2. Encoder Knob & Menu Operation

- **Short press** the encoder knob on the right side to switch between input sources.
- **Press and hold** the knob for approximately 3 seconds to enter the setup menu.
- Rotate the knob left or right to adjust parameters.
- Short press the knob to confirm and move to the next menu page.
- All settings are saved automatically.
- Press and hold the knob again for approximately 3 seconds to exit the menu.

Menu Functions

Filter

Select different digital filters to adjust the sound characteristics to your preference.

Recommended for beginners: Min Phase

PLL BW

Setting **1** is recommended for the best sound performance.

If you experience random signal dropouts during playback, especially with coaxial or optical inputs, increase the PLL bandwidth slightly.

2nd H COMP (Second Harmonic Compensation)

The default setting is **-32768**.

To make the sound warmer or thicker, increase the value slightly as desired.

It is not recommended to increase the setting above **0**.

Screen Saver

Enable the screen saver to extend display lifespan and reduce interference to the power supply.

DF Bypass (Oversampling Digital Filter Bypass)

Enable this option when using high-quality upsampling software such as **HQPlayer** or **Hi-Player**.

For normal bit-perfect playback, keep this setting **OFF**.

Output Phase

Try both **0°** and **180°** settings to determine which sounds best in your system.

WiFi F/W Update

Enable this option only when performing a firmware update over WiFi.

3. Firmware Upgrade

1. Enable **WiFi F/W Update** in the on-screen menu and wait approximately 1 minute.
2. On your computer or mobile device, connect to the WiFi SSID:

MP-DX-OTA

Password:

123456789abc

1. Open a web browser and visit:

`http://10.10.10.1`

1. Upload the unzipped firmware `.bin` file downloaded from the Musical Paradise website.
2. The upgrade process takes approximately 20–30 seconds.

Important:

Do not power off the unit during the upgrade process.

The MP-DX will reboot automatically after the update is completed.

4. Bluetooth Audio Input

Install the included Bluetooth antenna before use.

Only one mobile device can be connected via Bluetooth at a time.

5. Raspberry Pi 5 OS Reinstallation

Required SD Card Writing Tool

BalenaEtcher:

<https://etcher.balena.io/>

RoPieee Installation

RoPieee:

<https://github.com/RoPieee/RoPieee>

Installation Steps

1. Download and unzip the latest RoPieee Raspberry Pi 5 image.
2. Use BalenaEtcher to write the image to a TF (microSD) card.
3. The first boot may take approximately 15 minutes.

After booting, open one of the following addresses in a web browser:

- `http://ropieee`
- `http://ropieee.local`

I2S Output Configuration

1. Select “**Raspberry Pi Generic I2S**” as the output HAT device.
2. Save the settings and reboot the system.
3. After rebooting, go to the **Services**, **DLNA/UPNP**, and **AirPlay** tabs.
4. Select the HAT output device, then save and apply the configuration.

USB DAC Configuration

If using a USB connection to the DAC, select the USB DAC device as the output device under the **DLNA/UPNP** and **AirPlay** service tabs.

6. Diretta Musical Paradise Target Reinstallation

(Required when using a new TF/microSD card)

Download: <https://www.musicalparadise.ca/files/diretta-mp.zip>

Installation Steps

1. Unzip the downloaded package.
2. Use BalenaEtcher to write:

`diretta_RaspberryPi5_embedded_installer_Paradise.img`

to the TF (microSD) card. 3. Run:

`diretta_embedded_activate.exe`

to activate the installation. 4. Update to the latest Diretta Target version.

Diretta Drivers

Diretta Windows ASIO and Linux ALSA drivers:

<https://www.diretta.link/preview/>

7. Tube Replacement

Tube Heater Voltage Settings

Set the power supply board switch according to the tube type:

Set to 12.6V for:

- ECC82
- 12AU7
- E80CC
- 12BH7
- ECC99
- 12SN7

Set to 6.3V for:

- Stock 6H1N
- 6H23N
- 6CG7
- 6H30Pi
- 6SN7
- 6922
- 6DJ8
- E88CC

Important Notes

- Do not mix 12.6V and 6.3V filament tubes.
 - **V1** and **V3** are used for RCA output only.
 - If you do not use XLR output, there is no need to install or replace **V2** or **V4**.
 - For XLR operation, all four tubes must be a matched quad.
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8. Interchangeable Output Coupling Capacitors

Specifications

- Non-polarized capacitors

- Voltage rating: **400V or higher**
- Capacitance range: **1 μ F – 10 μ F**

Recommended Capacitors

VCAP ODAM

- 2.2 μ F – 4.7 μ F
- 400V / 630V

Audio Note Copper

- Maximum supported size: 2.2 μ F
- 400V / 630V

Important Notes

- **C38** and **C40** are used for RCA output only.
- If XLR output is not used, there is no need to install or replace **C39** or **C41**.
- For XLR operation, all four capacitors should be identical.