

Digital power amplifier

MDA-KDM series



Box Contents:



AMP*1



warranty card*1



Network cable*1

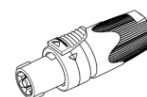


Power Cord*1

Audio Connections:

Input connections: Analog signal, Dante (Optional), AES digital signal. (The input signal line should have an independent shielding layer to maintain a distance of 50CM or more from other interference sources)

Output connection: Use the SpeakON plug to connect. A/C is the combined output, for example, interface A +1/-1 is the A output channel, and interface 2/-2 is the B output channel.



Front and Back Panels:



11

1

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Note:

- ① 4.3 inches capacitive touch screen, which can quickly manage input source switching, channel link, network settings, local information, etc.
- ② Multi-function button/knob, press or rotate, you can confirm or modify the selected parameters.
- ③ USB interface, use Type-B2.0 cable to connect the power amplifier. (Note: The following systems in WIN7 require manual installation of drivers. Address: www.marani-proaudio.com)
- ④ Analog signal input interface. Before connecting to the signal, please ensure that the amplifier is in a mute or minimum volume state. (Factory default analog input)
- ⑤ Analog Input A/B Link for amplifiers' inputs daisy chain.
- ⑥ AES3 digital signal input interface. You need to select a digital signal input source in the software.
- ⑦ Double Port TCP/IP network interface, supporting STATIC and DHCP modes, capable of remote control of devices, firmware upgrades, and more.
- ⑧ Double Port Dante network audio interface, supports daisy chain connection.
<https://my.audinate.com/support/downloads/download-latest-dante-software>
- ⑨ A/B/C/D output interface, A/C port is a combined output. +1/-1 is the A/C output channel and +2/-2 is the B/D output channel.
- ⑩ Power input interface and power switch, connected using PowerCON plug, connected to 90-240V 50/60Hz AC power.
- ⑪ Removable Front Panel Grid for dust filter replacement

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Connected operation:

The MDA-KDM series has two connection methods: USB or TCP/IP, and it is recommended to use TCP/IP network connection.

- **USB connection**, simply use a Type-B2.0 cable to connect to the power amplifier and open a computer with installed software. Add the corresponding model of power amplifier in the software and select USB connection **Off-line** to connect the device.



Add Device



Connected Device



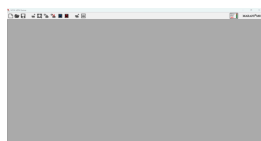
Successfully connected

Common issues with USB connection:

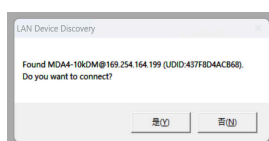
Click 'OK' and the device prompts 'Device not found' because the software did not recognize a device that can be connected on the COM port.

Solution: Open the computer device manager to check whether the port and driver are normal. When the COM port is greater than 12, manually change it to the free COM port within 12. If the driver cannot be recognized properly, please try using another USB port on the computer or reinstall the driver. Download address: www.marani-proaudio.com (Note: Drivers below WIN7 need to be manually installed)

- **Network cable connection**, Optional STATIC or DHCP IP mode, use a Category 5/Category 6 network cable to connect the TCP/IP port of the power amplifier to the network adapter interface of the computer. If DHCP mode is selected, ensure that the IPV4 address option in the network adapter of the computer is automatic, and open the software to automatically search for the power amplifier. To select the STATIC mode, you need to adjust the IPV4 address option in the corresponding network adapter in the Windows network settings to manual IP, and it should be within the same range as the power amplifier IP. Then, open the software to automatically discover the current power amplifier. When the number of connected amplifiers exceeds 5, it is recommended to use STATIC mode to prevent unstable connection due to network congestion. (Note: When using a static IP connection, if the power amplifier IP is 192.168.0.100, the computer IP should be set to 192.168.0.xxx)



Open software

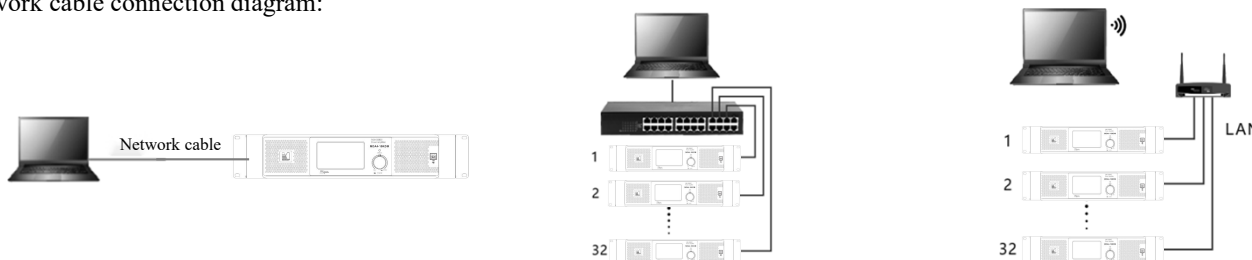


devices detected



Connected Device

Network cable connection diagram:



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Common issues with network cable connection:

1. After opening the software, it is not possible to automatically search for devices.

Solution: Click on the settings icon on the amplifier screen to enter the IP settings page and view the current IP mode of the amplifier. Open the computer's wired network card network adapter and view the IP mode of Internet Protocol Version 4 (TCP/IP v4).

If the current amplifier selects STATIC mode, the IP address is 192.168.0.100. Set the computer Internet Protocol version 4 (TCP/IP v4) to manual and manually enter the IP address 192.168.0.254. (Note: The IP address of the power amplifier is 192.168.0.100, and the computer IP needs to use an IP segment other than 192.168.0.100)

If the IP address and mode are set correctly, the software cannot search for the amplifier yet. You can first turn off the computer's wireless network, find the Internet and network in the computer settings, select Windows Firewall, turn off all firewalls, and restart the software to try connecting.

2. After opening the software, the software prompts: Found MDA4-10kDM@192168.1.100 (UDID: 437F8D4ACB68) The device is UNREACHABLE! Please check your network settings

Solution: The software has found a power amplifier with an IP segment of 192.168.1.100, but cannot connect. Need to check the computer IP settings.

Display screen management:

The MDA-KDM series power amplifier has a 4.3 inch capacitive touch screen, which can quickly manage input source switching, channel linkage, network settings, local information, and more. More precise data adjustment and function confirmation can be achieved through panel buttons.

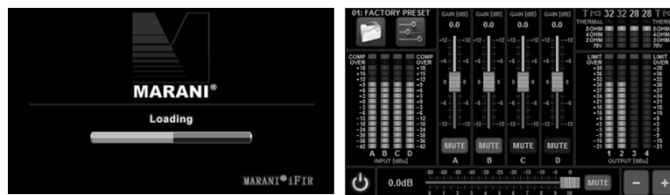
1.0. Turn on the power switch of the amplifier >>>> Data loading



1.1. Power amplifier Home screen



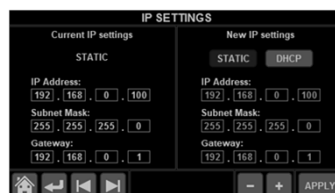
- Recall presets >>>> You can retrieve presets that have been saved in the amplifier
- Settings menu
- Channel Mute and Volume Adjustment
- Input and output signal display
- Standby Switch



2.0. Settings menu



- Channel Source Settings >>>> Selectable from Analog, Digital, Dante, Signal Generator
- Channel linkage >>>> Supports multi-channel linkage
- Network Settings >>>> Can view local IP settings information, supports STATIC and DHCP modes, and can customize IP addresses as needed
- Local information >>>> You can view the main information of this device, such as device name, current IP address, firmware version, etc



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Software management:

① New Project

② Import project Files from a Computer

③ Save project files to computer

④ Add a device (you can choose to add a device using USB, TCP/IP)

⑤ Search for new devices (search method USB, TCP/IP. TCP/IP can set the search range)

⑥ Connect all offline devices currently added

⑦ Disconnect all currently connected online devices

⑧ All devices exit standby mode

⑨ All devices are in standby mode

⑩ Add a group (can control the Gain/mute of multiple devices at the same time...)

⑪ Level monitoring and mute of all power amplifiers

Navigation Bar - At the top of all amplifier user interfaces.

① Load Save Store Recall Factory Copy

② Settings

③ FW Update

④ Login GUI Panel Identify

⑤ Backup Restore

⑥ Rout

⑦ Level

⑧ A B C D

⑨ 1 2 3 4

⑩ Version

- ① Call in presets from the computer, save presets to the computer, store presets to the amplifier, call up stored presets in the amplifier, and copy channel settings
- ② Amplifier settings, including LAN, name, group reset, preset call mode, amplifier gain, user, administrator
- ③ Firmware upgrade, please use a network cable connection to upgrade
- ④ Administrator, administrator mode has the highest management permissions for the device, which can encrypt, lock, or hide processor data and functions. Default password: 111111
- ⑤ User interface lock, panel lock (default password: 000000), device identification, data backup, and data recovery
- ⑥ Routing interface, which can be directly accessed by clicking on the function module
- ⑦ All channel level display, level adjustment, mute switch
- ⑧ A/B/C/D input channel, click the corresponding serial number to quickly open the channel processing page.
- ⑨ 1/2/3/4 output channel, click the corresponding serial number to quickly open the channel processing page.
- ⑩ Standby switch, red on, blue off

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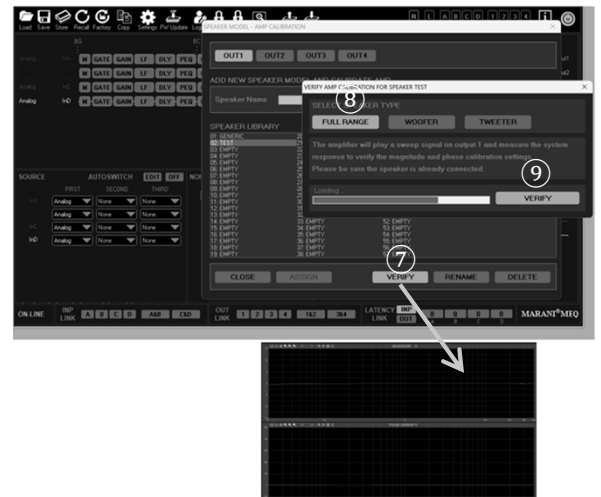
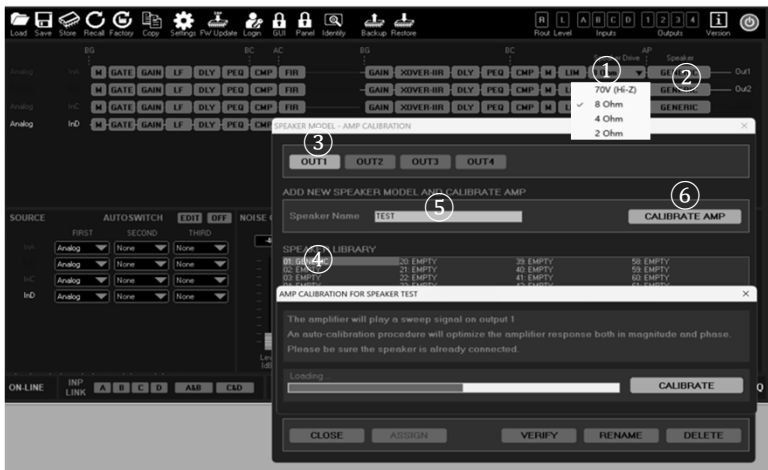
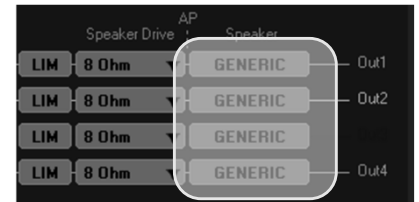
Software routing interface:

The screenshot shows the software routing interface for the MDA4-10kDM amplifier. It features a top toolbar with icons for Load, Save, Store, Recall, Factory, Copy, Settings, FW Update, Login, GUI, Panel, Identify, Backup, and Restore. Below the toolbar, there are sections for Routing (R), Level (L), Inputs (A, B, C, D), and Outputs (1, 2, 3, 4). The main interface displays four input channels (InA, InC, InD) and four output channels (Out1, Out2, Out4). Each channel has a series of DSP modules: MUTE, GATE, GAIN, LF (Loudness Filter), DLY (Delay), PEQ (Parametric EQ), CMP (Compressor), and FIR (FIR Filter). The output channels also include X-OVER, DLY, PEQ, CMP, MUTE, LIM (Limit), and Speaker Drive (8 Ohm) modules. A note at the bottom right states: "Note: Click on the corresponding function module for quick access."

AMP Calibration:

The MDA-KDM series amplifier has added an amplifier calibration function. The amplifier DSP can calibrate the output of the amplifier based on the load feedback signal to achieve more accurate output frequency response of the speaker. (When performing amplifier calibration, the amplifier input signal should be turned off.)

The user can select the impedance value on the corresponding power amplifier output channel according to the Impedance parameters of the speaker used. Then start the calibration function>>>Select the corresponding channel>>Select the data storage location>>Edit name>>Click on calibration>>Wait for calibration to complete>>Verify>>Select verification category>>Verify completed.



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	MDA4-10KDM	MDA2-8KDM	MDA4-6KDM	MDA4-4KDM
2Ω power (rms)	-	-	4 x 800W	4 x1200W
2.7Ω power (rms)	4 x 1600W	2 x 3800W	4 x 1800W	4 x1100W
4Ω power (rms)	4 x 2200W	2 x 4000W	4 x 1200W	4 x 800W
8Ω power (rms)	4 x 1600W	2 x 2000W	4 x 630W	4 x 400W
70V (rms)	4 x 2200W	2 x 4000W	4 x 1800W	4 x1200W
100V (rms)	4 x 2200W	2 x 4000W	-	-
Analog input	4 XLR (MDA2-8KDM 2 XLR)			
Digital input	2 x AES/EBU (MDA2-8KDM 1 XLR)			
Dante input	Dual LAN port / support AES67 (optional)			
THD+N	≤0.03% (1W@4Ω)	≤0.09% (1W@4Ω)	≤0.03% (1W@4Ω)	≤0.04% (1W@4Ω)
S/N(A-wt)	> 106dB			
Maximum input level	21dBu / 15dBu			
Frequency response	20Hz~20kHz ±0.8dB			
Connected mode	USB、Tcp/Ip			
Preset quantity	50			
FIR	Input: 512 Taps; Output: 512Taps			
PEQ	Up to 12 PEQ per input channel; Up to 8 PEQ per output channel			
Dynamic processing	LF、RMS、Limiter			
X-Over filter	IIR、FIR、MIR			
MARANI Correction plugin	AUTO EQ/AMP CALIBRATION			
Equipment size	482*470*88mm 2RU			
N.W/G.W	13.5 Kg /17Kg	13.2 Kg/16.7Kg	13.5Kg/17Kg	12.5Kg/16Kg
Package size	630x600x140mm			