

# Power Amplifiers

## MDA Series - MDA2-9000DP

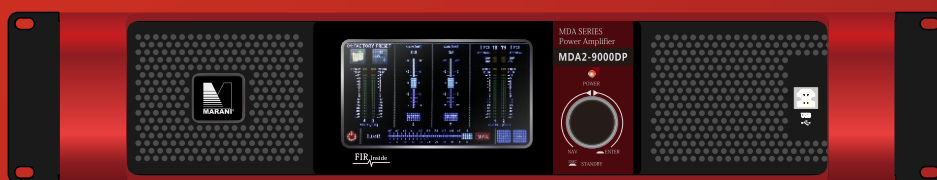
MDA2-9000DP

**MDA2-9000DP** is a high-performance and high-power touring-grade digital power amplifier. It has a total power output of 2x3000W under a 2-channel 8Ω load. Built-in powerful digital processor with 2 inputs and 2 outputs. The 4.3-inch high-definition touch screen clearly displays the system status, and the sufficient power is equipped with a powerful built-in DSP to enable this power amplifier to take into account both the fixed installation and the mobile performance market.

**MDA2-9000DP** adopts powerful Marani DSP, including 2 input and 2 output processing channels. Both DSP and AD/DA run at 96KHz sampling rate. The complete processing function provides a complete crossover solution for the

speaker. With signal hot backup automatic switching function, 3 levels of priority can easily back up the input source.

From input gain/delay/noise gate/EQ/compression /FIR /to output gain/delay/polarity/X-over/FIR/EQ/RMS compressor/Peak limiter, there are up to 13 PEQ types to choose. The output crossover filter includes the classic Linkwitz-Riley /Bessel/Butterworth, and the MARANI brand unique NXF (Northed X-over Filter) , built-in FIR filter, and newly added MIR linear phase filter can make the phase of the crossover point easier to join while maintaining a very low delay. All the functions we provide are designed to help you better restore the sound.



### Features

1. 2\*3000W(<1%)@8Ω high power, independent power supply for each channel, 2 channels can output maximum power at the same time regardless of whether they are connected to full-range speakers or sub-low speakers.
2. The built-in MARANI DSP runs at 96k sampling rate, and the high frequency response can reach 40KHz. The brand-new circuit design makes the 2-9000 has the advantages of soft sound, powerful self-protection function, low noise and high efficiency.
3. Source priority automatic switching function, the machine is equipped with 2 analog input interfaces, 1 independent AES digital input interfaces, and 2 Dante network interfaces. Each input channel can be set to 3 priority levels to effectively ensure the reliability of system signal transmission during major events.
4. Added a new "zero delay" hard limiter to better protect the speaker unit.
5. The fourth generation iFIR wizard V4.0 plug-in supports automatic measurement and

generation of FIR coefficients, as well as the import of FIR coefficients generated by third-party software. A new MIR linear phase filter is added to the output crossover filter, which can avoid the phase distortion caused by the traditional IIR filter.

6. Built-in dynamic loudness filter, the working principle is to self-adaptively boost the ultra-low and ultra-high frequency bands according to the equal loudness curve of the human ear, and the boost ratio is determined by the magnitude of the signal amplitude, which significantly improves the overall hearing of the small and medium-sized speaker system.

7. The control network port is independent of the dual Dante network port, and the control network system and the audio network system are separated design, which makes the system structure simpler and clearer, and the error rate of the network part is lower. Even if the control network fails, it will not affect the audio network work. With simple and intuitive management software, the success rate of one-time connection is extremely high.

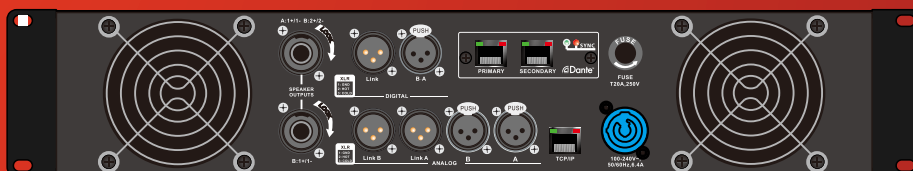
### General

Dimensions-----  
Weight, Net / Shipping -----  
Preset number-----

482x88x395(mm) 2RU  
14.5 Kg / 16Kg  
50

# Power Amplifiers

MDA Series - MDA2-9000DP



MDA2-9000DP

## Power & Amplifier Sections

Input impedance-----	20K $\Omega$	4 $\Omega$ power-----	2x4000W(THD+N:1% CEA-2006)
A/D dynamic range-----	118dB	8 $\Omega$ power-----	2x3000W(THD+N:1% CEA-2006)
D/A dynamic range-----	118dB	2 $\Omega$ power-----	2x4500W(THD+N:1% CEA-2006)
Maximum input level-----	+18dBu (when input gain is -8dB)	Minimum load-----	2 $\Omega$
DSP maximum output level--	+16 dBu	analog input-----	2 XLR electronic balance
Total harmonic distortion--	0.05% 1W@4 $\Omega$	AES input-----	1x AES/EBU
Frequency response-----	20Hz ~ 20kHz $\pm$ 0.3dB	AES Line output-----	1x AES/EBU
Crosstalk-----	-85dB	Dante input-----	2 Redundant/AES67 (optional)
Signal-to-noise ratio-----	>104dB (A weighting)	Network control -----	RJ45

## DSP & Processing

Signal generator-----	white noise/pink noise, level range: -40dBu~0dBu
Master Gain-----	-12dBu~+12dBu 0.1dB step
Master Vol-----	-80dB~0dB
Input & output gain-----	-12 dB ~ +12 dB, 0.1dB step
Noise gate-----	Threshold range: -85dBu~-50dBu Attack time: 1ms~1000ms; Release time: 1ms ~1000ms
Dynamic loudness filter-----	Lo-Boost (0%~100%),Hi-Boost (0%~100%)
Parametric Equalizer-----	Each input channel can have up to 12 optional types of PEQ, and each output channel have up to 8 optional types of PEQ
Type of PEQ include-----	Bell, 1st order/2th order high shelf, variable Q high Shelf filter, 1st order/2th order low Shelf filter, Variable Q low Shelf filter, 1st order/2nd order low pass filter, Variable Q low pass filter, 1st order/2 order high pass filter, Variable Q high-pass filter, band-pass filter, notch filter, 1st-order all-pass filter, 2nd-order all-pass filter with variable Q The center frequency is adjustable within the frequency range of 20Hz~20kHz with a step accuracy of 1Hz
Q value bandwidth-----	The Q value range of the Bell filter is: 0.4~128, with a step of 0.01, The Q value range of the F/high-pass/low-pass filter is: 0.1~5.1, the step is 0.01, and the Q value range of the band-pass/notch filter is: 4~104, the step is 1
Equalizer gain range-----	-15dB~+15dB
IIR crossover filter-----	Butterworth slope: 6/12/18/24/36/48dB per octave, bay Searle slope: 12/24dB per octave, Linkwitz-Riley slope: 12/24/36/48dB per octave, NXF horn filter slope: 40/45/50/50/55/60/65/70/75dB per octave
MIR linear phase filter-----	Butterworth slope: 6/12/18/24/36/48dB per octave, Bessel Slope: 12/24dB per octave, Linkwitz-Riley slope: 12/24/36/48dB per octave, NXF horn filter slope is 40/45/50/50/55/60 /65/70/75dB per octave
FIR Crossover filter-----	filter type; high-pass/low-pass/band-pass/external import, Taps range: 256 ~ 512, slope Range 21~120dB per octave, time window type: Rect / Sinc / Keiser / Hanning / Hamming / Blackman /Blackman-Harris/ Blackman-Nuttal / Nuttal/ Keiser-Bessel/Sine
Input RMS compressor -----	Threshold range: -17dBu~ +13dBu; compression ratio range: 2~32: 1, Knee point: 0~100% , Attack time: 0.1ms~1000ms, Release time: 100ms~1500ms, Max Makeup: 0dB~+12dB
Output Mode switch-----	8 $\Omega$ /4 $\Omega$ /2 $\Omega$ /100V
Output RMS compressor -----	Threshold range: +18dBu~ +46dBu; compression ratio range: 2~32: 1, Knee point: 0~100% , Attack time: 0.1ms~1000ms, Release time: 100ms~1500ms, Max Makeup: 0dB~+12dB
Output Peak limiter-----	Threshold range: 18dBu~ 46dBu, Attack time: 1ms~1000ms, Release time: 100ms~1500ms
Delay-----	The adjustable delay time of each input channel + output channel is 510ms, and the step accuracy is 10.4us
FIR filter-----	Each input channel and output channel can choose to import a FIR filter with 512 taps