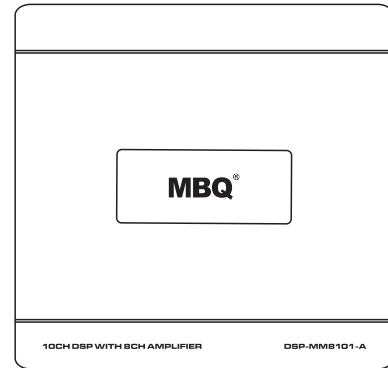




User Manual

DSP-MM8101-A

Product Introduction

This is a car audio digital signal processor with amplifier.
Thank you for purchasing the MBQ product. With this DSP amplifier, you can realize sound delay and equalizer settings and other tuning functions, improve the music listening experience.

Product Features

- Plug & play connector allows installation without wire stripping
- High fidelity double precision floating-point DSP processor
- Zero quiescent current for better battery protection
- Automatic noise cancellation
- New functions with time-delay link, mixing and main source gain control

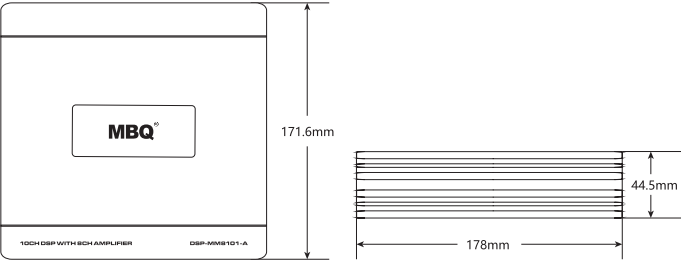
Notes

Please install this product correctly, and carefully go through the plug and play wiring harness before installation.
If your sound system has an independent power amplifier or an aftermarket amplifier, please consult the local dealer before installing this product, to make sure a correct connection method.
Please turn off the sound effect function of the original car navigation or CD.

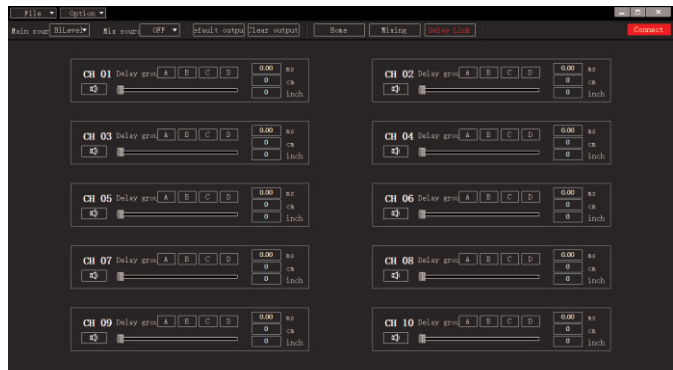
Software Operation - PC

- Ultra High Frequency: 8-10kHz affects the transparency and clarity of the sound, and excessive elevation will make the sound unnatural.
- High Frequency: 7-8kHz affects the layering of the sound, and excessive elevation will make the tooth accent of the language and the timbre hairy.
- Mid-hi Frequency: 2-5kHz is the characteristic tone of strings, excessive elevation will obscure the recognition of language syllables, and sound penetration decreases when insufficient.
- Mid Frequency: 500-2kHz is the characteristic tone of snare drums and percussion instruments, with a hazy sound when insufficient and a transparent and bright sound when appropriate.
- Mid-low Frequency: 150-500Hz is the structural part of the sound, the position of the human voice, excessive lifting will affect the clarity of the sound, the sound is soft and weak when it is insufficient, and the sound will feel thick and powerful when appropriate.
- Low Frequency: 40-150Hz is the basic part of the sound, is an important part of the performance of musical style, 150Hz excessive elevation will make the voice muffled, brightness decreased, nasal tone enhanced, insufficient sound thin, appropriate, bass tension appropriately, sound full and soft.
- Ultra Low Frequency: 20-40Hz is the sound that reflects thunder, bass drums, etc., excessive elevation will make the music muddy, and the sound is strong when appropriate.

Product Dimensions



Delay link: All channels can be freely divided into ABCD four groups, so that the time delay of all channels in the same group can be linked.



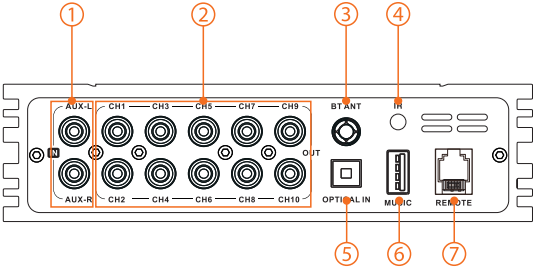
System settings

- File
PC save/PC insert file/export the entire file/import the entire
- Option
Settings Factory Reset / Firmware Upgrade / Language Mode / Administrator / Password Change / AboutBackground noise off

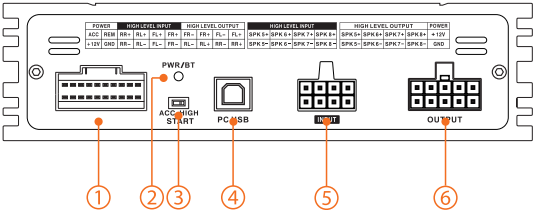
Settings: Background noise is the noise setting of the speaker when the speaker is paused or stopped in the process of playing music: on the home page of the interface> noise gate, the system defaults to -120dB (off state) according to different head units to make appropriate adjustments, the value being too small will cause no output, adjustable range is (-60~-120)

- Channel: 10CH
- Equalizer: 31-band EQ
- Built-in Amplifier Type: Class AB
- Max. Output Power @4Ω: 50W x8
- RMS Output Power @4Ω: 25W x8
- Max. Output Power @2Ω: 90W x8
- RMS Output Power @2Ω: 50W x8
- Load Impedance: 2Ω-4Ω
- Working Voltage: DC 10-15V
- Tuning Software: Available on Windows/ Android
- Inputs: 8CH Hi-level input, 2CH Low-Level Inputs, Music USB, BT 5.0 Input, Optical Input,DSD Player input
- Outputs: 8CH Hi-level Outputs, 10CH Low-level Outputs
- Frequency Response: 20Hz-20kHz
- Signal-to-Noise Ratio: ≥90dB
- Auto Turn ON/OFF: ACC/ Hi-level Input
- Dimensions: 178 x 171.6 x 44.5mm

Control Panel



- 1. CH1 - CH2 RCA low-level inputs
- 2. CH1 - CH10 DSP signal low-level outputs
- 3. Bluetooth antenna mount
- 4. Wireless remote control signal receiver port
- 5. Optical input
- 6. USB port for USB streaming
- 7. DRC remote controller / DSD player



- 1. Power Input / ACC / REM / CH1 - CH4 Hi-level inputs & outputs
- 2. Indicator: Red flashing is normal working state, and the number of flashes is the number of DSP tuning modes; The blue light indicates Bluetooth/USB streaming.
- 3. Start mode select: by Hi-level input or by ACC
- 4. USB port for PC tuning
- 5. CH5 - CH8 Hi-level inputs
- 6. CH5 - CH8 Hi-level outputs

Software Operation - PC

GEQ: Advanced equalizer, frequency and Q value can be set, and frequency point can be arbitrarily changed. Q value: when the Q value is small, the width of the frequency band is large, and the adjustment is obvious; When the Q value is large, the width of the frequency band is small, and the adjustment change is small. (Adjustable range: 0.3-50)

Total volume control: the gain adjustment of the power amplifier, the default is 0dB, which can be adjusted according to the actual situation as needed.

10 channels: it can be adjusted independently for the gain, EQ, delay, frequency, etc. of the front sound stage 3-way (tweeter, midrange, woofer), rear door speaker, and subwoofer, and can be adjusted according to the actual situation, or can also be selected left and right mixing adjustment.

Solo: quickly mute other channels, leaving only the sound output of the solo channel.

Mix input: supports the input of the main and secondary sources at the same time, and you can set the attenuation ratio of the main source. The input gain of the main and secondary sources can also be adjusted individually.

Mixing: different inputs can be assigned to different outputs through mixing to achieve more diversified mixing needs.





MBQ DSP.exe

- 1 Install the tuning software on your computer.
- 2 Connect the USB cable from the DSP to the PC.
- 3 Open the tuning interface (as shown in the pictures below).
- 4 The system automatically transmits data, and the upper right corner shows that the connection has successfully entered the tuning state.

Car audio enthusiasts/technicians can now start adjusting signal details. Enhance the sound effects to your own liking to get the best enjoyment with DSP software.



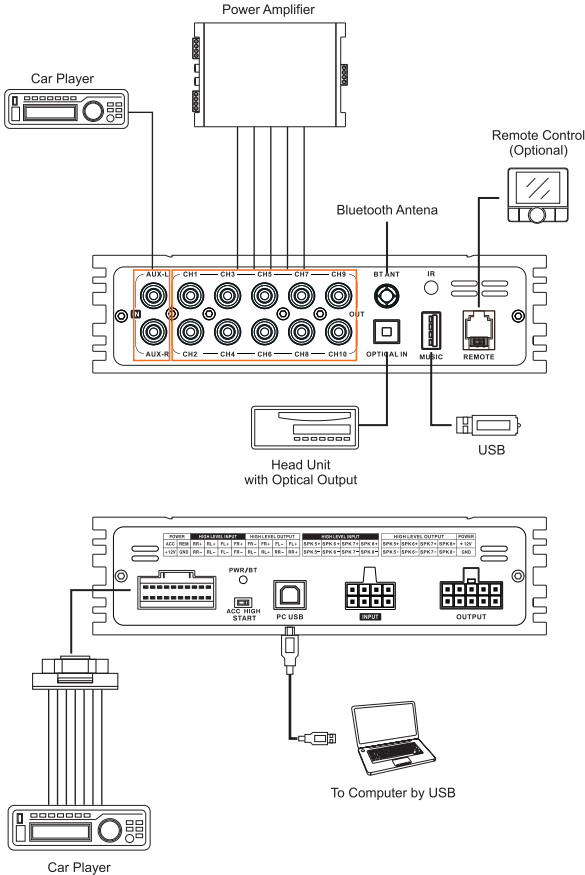
Software Interface

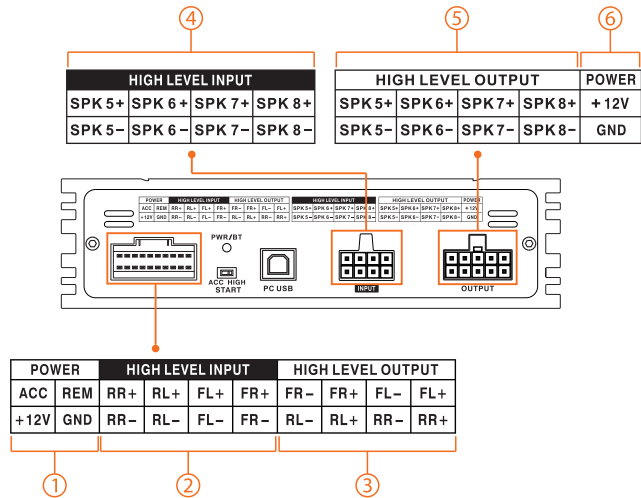
HPF: Setting the minimum frequency to pass. The frequency setting range is: 20Hz-20000Hz. For example: when the frequency is set at 800Hz, the frequency above 800Hz can pass, and the frequency below 800Hz cannot pass.

LPF: Setting the maximum frequency to pass. The frequency setting range is: 20Hz-20000Hz. For example: when the frequency is set at 800Hz, the frequency below 800Hz can pass, and the frequency above 800Hz cannot pass.

Limiting level: Limits the amount of output power and improves the effect of overall dynamics. The default is with maximum output power, when the level setting is small, the output power is also small. In general, keep the default state.

EQ: Normal equalizer, frequency and Q value cannot be set. Slowly adjust according to the sound of the scene, increasing or decreasing the gain.





- ① Power Inputs: ACC in, REM out, 12V Power Supply, Ground
- ② Hi-level Inputs: Front Left (FL+, FL-), Front Right (FR+, FR-)
Rear Left (RL+, RL-), Rear Right (RR+, RR-)
- ③ Hi-Level Outputs: Front Left (FL+, FL-), Front Right (FR+, FR-)
Rear Left (RL+, RL-), Rear Right (RR+, RR-)
- ④ Hi-level Inputs: Speaker 5 (SPK5+, SPK5-), Speaker 6 (SPK6+, SPK6-)
Speaker 7 (SPK7+, SPK7-), Speaker 8 (SPK8+, SPK8-)
- ⑤ Hi-Level Outputs: Speaker 5 (SPK5+, SPK5-), Speaker 6 (SPK6+, SPK6-)
Speaker 7 (SPK7+, SPK7-), Speaker 8 (SPK8+, SPK8-)
- ⑥ Power Inputs: 12V Power Supply, Ground

Mobile phone APP interface

1. Install the tuning APP on your mobile phone.
2. Open the APP tuning interface (as shown in the pictures above).
3. Tap the  icon in the upper right corner of the APP interface and select Bluetooth to connect.
4. Tap on Advanced Settings to enter the sound tuning interface.

