# DSP POWER AMPLIFIER

# USER MANUAL M-DSPA.401

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# MACROM



www.macrom.it

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## Warranty

Thank you for purchasing this Macrom product. Should your product need warranty service, please return it to the shop where you buy it or to the Macrom distributor in your country. The warranty does not cover damage due to improper use and or installation, incorrect connections to power supply and audio sources, exposure to excessive humidity, unauthorized repair attempts or modifications.

# Safety information

Before beginning with installation, disconnect the wire from the battery ground terminal to prevent any short during installation.

This subwoofer must properly installed by Macrom authorized installer. Impropers installation may damege the unit and /or the vehicle. Verify all electrical and drivability of the vehicle before the installation.

# Features

- DSP Bluetooth setting control via APP for Android and iPhone smart phones.
- 3 way active crossover, selectable from By-pass, Low-pass, Hi-pass and Band-pass.
- Time alignment in "cm" for 4 channel output selectatble from 0 to 230 cm.
- 7-Band parametric equalizer
- Input setting controller, easy to set Gain, Mute, changing Phase of each channel
- SRS 3D surround sound
- Dynamic Bass setting
- 5 memory preset sound in the amplifier
- Unlimited sound setting save in the mobile phone

# **Specifications**

M-DSPA.401 play a music from a RCA line input or from a High level input.

- Output rated power 150 Watt by 4 channel (76W RMS).
- The operating frequency range is from 20Hz to 20KHz.
- Signal to noise ratio > 120dB.
- Dynamic range > 100dB.
- THD: 1KHz < 0.001%.</li>
- Standby current < 0.1mA
- Max current consumption 20A.
- Operation voltage from 9Volts to 15.5Volts.
- Dimensions: 195mm 130mm 38mm



# **Product overview**

#### Front Panel

- 1. Power DC connector
- 2. Fuse [20A]
- 3. Subwoofer output
- 4. Front output
- 5. Rear Output
- 6. Speakers connector
- 7. LED power indicator
- 8. LED effect indicator
- 9. ON/OFF effect swict



Notice:

The graphic in this manual is for reference only, and may be different from the actual unit.

#### Speaker connector pins layout

1. Front/Right + input

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- 2. Front/Right input
- 3. Front/Left + input
- 4. Front/Left input
- 5. Rear/Left + input
- 6. Rear/Left input
- 7. Rear/Right + input
- 8. Rear/Right input
- 9. Remote output (+12V/Max 500mA)
- 10. Acc input
- 11. Rear/Right output
- 12. Rear/Right + output
- 13. Rear/Left output
- 14. Rear/Left + output
- 15. Front/Right output
- 16. Front/Right + output
- 17. Front/Left output
- 18. Front/Left + output
- 19. + Batt (12volts)
- 20. GND (Ground)





# How to install and connect the APP

#### **APP Installation**

1. Download the APP of M-DSPA.401 in the Google Play or Apple store by search "M-DSPA.401"

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- 2. Install the APP to your Android or iPhone smart mobile.
- 3. Turn ON Bluethooth on your mobile and search "M-DSPA.401", then PAIR it. If requiredt the pairing code is :1234.
- 4. Open the APP "M-DSPA.401" and click [ Connect ], then you will connect to the amplifier and you can set your own sound by the APP.
- 5. When you finish the setting, please click [EXIT] to exit from the APP.

#### APP overview



# Setting channels



#### Crossover Filter



#### Time alignment

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Parametric equalizer



#### Gain level selector



Frequency cuts selector



#### Slop selector

Rear HP	Front HPF S	lope:	Regular	
d Cancel	6dB/Oct	0		
-12	12dB/Oct	0		
	18dB/Oct	0		•
[40] d	24dB/Oct	0		
-12 -24	Bypass	0		
20.01/7			1240/04	



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#### Main

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- 1. Parametric Equalizer; click on it to obtain the EQ functions.
- 2. Time Alignment; click on it to obtain the TA functions.
- 3. Setting; click on it to obtain the setting functions.
- 4. Favorite preset; you can load the 5 favorite setting saved in the amplifier.
- 5. Save to Amplifier; after you finish the setting, you can save to amplifier your own setting in the favorite five preset.

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- 6. Exit; after finisc the sound setting please click (EXIT) to exit the APP.
- 7. Connect; click (Connect), then you will connect the amplifier and you can set your own sound by the APP.
- 8. Load preset; click to load the presets stored on your PC.
- 9. Save to phone; after you finish the setting, you can create the name of your sound setting and when you click (OK) the sound setting will be saved in your phone memory.
- 10. Filter: click on it to obtain the crossover functions.





#### Equalizer

- 1. 7 Bands equalizer adjustable from +15dB to -15dB.
- 2. Frequencies setting adjustable from 20Hz to 20.000Hz
- 3. Q factor variable from 0.3 to 9.9
- 4. SRS 3D surrond sound
- 5. Rear, setting equalizer rear section
- 6. Front, setting equalizer front section
- 7. Setting; click on it to get the setup functions.
- 8. Main menu; click on it to get the main menu.
- 9. Time Alignment; click on it to get the time alignment functions.
- 10. Filter; click on it to get the filter crossover functions.
- 11. All, setting of equalization parameters for both sections (front and rear)

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12. Reset

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13. Setting Dynamic Bass



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#### Crossover filter

- 1. Front graphic view
- 2. Front low pass frequencies setting, adjustable from 20Hz to 20.000Hz

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- 3. Front low pass slope, selecatble from 6-12-18-24/dB or Bypass
- 4. Rear graphic view

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- 5. Rear low pass frequencies setting, adjustable from 20Hz to 20.000Hz
- 6. Rear low pass slope, selecatble from 6-12-18-24/dB or Bypass
- 7. Subwoofer graphic view
- 8. Subwoofer low pass frequencies setting, adjustable from 20Hz to 20.000Hz
- 9. Subwoofer low pass slope, selecatble from 6-12-18-24/dB or Bypass
- 10. Main menu; click on it to obtain the mani menu.
- 11. Parametric Equalizer; click on it to get the equalization functions.
- 12. Setting; click on it to obtain the setting functions.
- 13. Time Alignment; click on it to obtain the time alignment functions.
- 14. Subwoofer high pass frequencies setting, adjustable from 20Hz to 20.000Hz
- 15. Subwoofer high pass slope, selecatble from 6-12-18-24/dB or Bypass
- 16. Rear high pass frequencies setting, adjustable from 20Hz to 20.000Hz
- 17. Rear high pass slope, selecatble from 6-12-18-24/dB or Bypass
- 18. Front high pass frequencies setting, adjustable from 20Hz to 20.000Hz
- 19. Front low pass slope, selecatble from 6-12-18-24/dB or Bypass



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#### Setting channels

- 1. FR-Gain adjustable from -90 to +5
- 2. FR-Phase switch from 0° to 180°
- 3. RR-Gain adjustable from -90 to +5
- 4. RR-Phase switch from 0° to 180°
- 5. SW Selector phase adjustable from 0 ° to 180 °.
- 6. Slider for adjusting gain levels
- 7. MUTE switches for individual channels
- 8. Main menu; click on it to get the main menu.
- 9. Parametric Equalizer; click on it to get the equalization functions.

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- 10. Time Alignment; click on it to get the time alignment functions.
- 11. Filter; click on it to get the crossover functions.
- 12. SW Gain regolabite -90 to +5
- 13. RL Selector phase adjustable from 0 ° to 180 °.
- 14. RL Gain regolabite -90 to +5.
- 15. FL Selector phase adjustable from 0 ° to 180 °.
- 16. FL Gain regolabite -90 to +5.

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#### Time alignment

- 1. Increase (+) front right speaker delay.
- 2. Decrease (-) front right speaker delay.
- 3. FR adjustable delay Viewer from 0 cm to 230 cm.
- 4. Increase (+) Right rear speaker delay.
- 5. Decrease (-) late stage right rear speaker.
- 6. RR adjustable delay Viewer from 0 cm to 230 cm.
- 7. Decrease (-) subwoofer delay.
- 8. Main menu; click on it to get the main menu.
- 9. Parametric Equalizer; click on it to get the equalization functions.

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- 10. Setting; click on it to get the setup functions.
- 11. Filter; click on it to get the crossover functions.
- 12. Reset the parameter

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- 13. Increase (+) subwoofer delay.
- 14. RL viewer adjustable delay from 0 cm to 230 cm.
- 15. Decrease (-) left rear speaker delay.
- 16. Increase (+) left rear speaker delay.
- 17. FL Viewer of the adjustable delay from 0 cm to 230 cm.
- 18. Decrease (-) front left speaker delay
- 19. Increase (+) front left speaker delay



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#### Selector gain level

- 1. Cancel, selection cancel.
- 2. Type the value for the level between -90 to + 5dB.
- 3. Cursor to change the value of the level.
- 4. OK, press to confirm the selection.



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#### Selector frequency cuts

- 1. Cancel, selection cancel
- 2. Type the value of the selected cutoff frequency between 20Hz to 20,000Hz.
- 3. OK, press to confirm the selection.



#### Slope selector

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- 1. Cancel, selection cancel
- 2. Slope selector of 6 dB / octava
- 3. Slope selector of 12dB / octava
- 4. Slope selector 18 dB / octava
- 5. Slope selector 24 dB / octava
- 6. Bypass Switch (band pass)

NOTE: no cutting or gradient applied to the selected section.



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# Connections

Plug & Play 1. Plug & Play.

Interpose the Plug & Play wiring between the Car Stereo and the connector coming from the vehicle and connect the ends to 'M-DSPA.401 amplifier. Note: check the available wiring on www. macrom.it

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2. OPTIONAL: For more power and sound quality you can proceed with a power upgrade as shown in the diagram.



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#### Universal

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Follow the instructions on page 5, paragraph 6.



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# Connections

#### 1 System Extension

Thanks to the pre-amplified outputs on the product you can expand the system by adding a powered subwoofer.

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#### 2 System Extension

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Thanks to the pre-amplified outputs on the product you can expand the system by adding a multi-channel amplifier (4 + 1) to enhance the sound system.

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# **Declaration of Conformity**



#### M-DSPA.401 DSP POWER AMPLIFIER

Hereby, Aldinet S.p.A, declares that this type of M-DSPA.401, Brand Macrom is in compliance with the essential requirements and other relevant provisions of Directive R&TTE 1999/5/EC.

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The Declaration of Conformity is available at: Aldinet S.p.A. Viale Colombo, 8 - 20090 Trezzano S/N (MI) Italy

and available at www.macrom.it

Made in China by Aldinet S.p.A.

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