SONOMAX

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# MA600.4-24V MA1500.1-24V

## 24V 4-Channel Amplifier

MA MAXIMUS III - SERIES

### FEATURES

- Flexible Crossover Design
- Load Resistors
- Balanced / Unbalanced Input Switch
- Turn On Switch (High-level / Remote)
- Remote Controller (CH3+CH4)
- Auto Turn-On
- High-Level / Low-Level Inputs

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## WIRE SIZES

Use the chart below to select the recommended power cable size based on the amplifier's total current draw and the cable length between the battery and the amplifier.

| | CABLE LENGTH | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-1 m / 0-4 ft | | 1-2 m / 4-7 ft | | 2-3 m / 7-10 ft | | 3-4 m / 10-13 ft | | 4-5 m / 13-16 ft | | 5-6 m / 16-19 ft | | 6-7 m / 19-22 ft | | 7-8 m / 22-28 ft | |
| TOTAL AMPS | MM2 | AWG | MM2 | AWG | MM2 | AWG | MM2 | AWG | MM2 | AWG | MM2 | AWG | MM2 | AWG | MM2 | AWG |
| 0-20A | 4 | 12 | 4 | 12 | 4 | 12 | 4 | 12 | 6 | 10 | 6 | 10 | 6 | 10 | 10 | 8 |
| 20-35A | 4 | 12 | 6 | 10 | 6 | 10 | 6 | 10 | 6 | 10 | 10 | 8 | 10 | 8 | 20 | 4 |
| 35-50A | 6 | 10 | 6 | 10 | 6 | 10 | 10 | 8 | 20 | 8 | 10 | 8 | 20 | 4 | 20 | 4 |
| 50-65A | 10 | 8 | 10 | 8 | 10 | 8 | 10 | 8 | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 |
| 65-85A | 10 | 8 | 10 | 8 | 10 | 8 | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 35 | 2 |
| 85-105A | 10 | 8 | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 35 | 2 |
| 105-125A | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 35 | 2 | 35 | 2 |
| 125-150A | 20 | 4 | 20 | 4 | 20 | 4 | 20 | 4 | 35 | 2 | 35 | 2 | 35 | 2 | 50 | 0 |
| 150-200A | 20 | 4 | 20 | 4 | 20 | 4 | 35 | 2 | 35 | 2 | 50 | 0 | 50 | 0 | 50 | 0 |
| 200-250A | 35 | 2 | 35 | 2 | 35 | 2 | 50 | 0 | 50 | 0 | 50 | 0 | 50 | 0 | 70 | 2/0 |
| 250-300A | 50 | 0 | 50 | 0 | 50 | 0 | 50 | 0 | 50 | 0 | 50 | 0 | 70 | 2/0 | 70 | 2/0 |

## UNIVERSAL INSTALLATION

### Step-by-Step Instructions:

**1. Disconnect the battery**
Disconnect the negative (-) battery terminal before beginning the installation.

**2. Mount the Amplifier**
Choose a suitable mounting location. Before drilling or cutting, check carefully to avoid fuel tanks, fuel lines, hydraulic lines, electrical wiring, and other vehicle components.

**3. Run the Power Cable**
Route a power cable from the battery to the amplifier location. Use a high-quality cable with the correct size for the amplifier's power requirements and cable length (see cable size chart).

**4. Install the Fuse**
Install a fuse holder on the power cable as close to the battery as possible. Use a fuse rated appropriately for the cable's current capacity.

**5. Ground the Amplifier**
Connect the ground cable to a clean, unpainted metal surface near the amplifier. Remove any paint or coating to ensure a solid electrical connection.

**6. Connect Power and Ground**
Connect the ground cable to the amplifier first, followed by the power cable.

**7. Connect the Remote Turn-On Wire**
Connect the remote turn-on wire from the source unit to the amplifier's ACC terminal. *Note:* A remote wire is typically not required when using high-level inputs.

**8. Connect the Audio Signal**
Connect the RCA cables or high-level input harness from the source unit to the amplifier.

**9. Connect the Speakers**
Connect the speaker wires to the amplifier outputs, ensuring correct polarity.

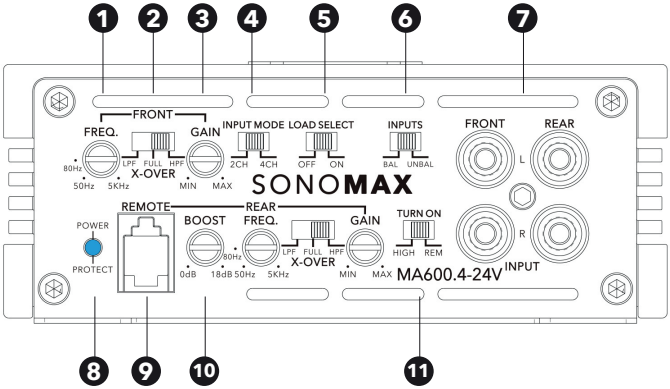
**10. Power On and Verify Operation**
Reconnect the battery. Set the amplifier gain to minimum and turn on the system. Start with the source unit volume low and verify that the amplifier powers up correctly.

**11. Adjust Amplifier Settings**
Set the gain, crossover, and other amplifier controls as required. Make small adjustments and verify the results.

## SPECIFICATIONS

| | MA600.4-24V | MA1500.1-24V |
|---|---|---|
| **Class:** | Class D | Class D |
| **Channels:** | 4 | 1 |
| **Frequency Response:** | 20Hz - 25kHz (-1dB) | 10Hz - 270Hz |
| **Power Rating (MAX):** | 1400W | 3000W |
| **Power Rating RMS (1Ω):** | N/A | 1 x 1500W |
| **Power Rating RMS (2Ω):** | 4 x 170W | 1 x 900W |
| **Power Rating RMS (4Ω):** | 4 x 100W | 1 x 500W |
| **Power Rating RMS (4Ω Bridged):** | 2 x 350W | N/A |
| **Signal to Noise Ratio (SNR):** | -83dB | -90dB |
| **Total Harmonic Distortion (THD):** | <0.2% | <0.1% |
| **Low Pass Filter (LPF):** | 50Hz - 5kHz (-12dB/Oct) | 50Hz - 250Hz (-24dB/Oct) |
| **High Pass Filter (HPF):** | 50Hz - 5kHz (-12dB/Oct) | N/A |
| **Subsonic:** | N/A | 10Hz - 55Hz (-24dB/Oct) |
| **Bass Boost:** | 0 - +18dB (@45Hz) | 0 - +18dB (@45Hz) |
| **Damping Factor:** | 86.5 | 90.3 |
| **Crosstalk:** | -53dB | N/A |
| **Input Sensitivity (High-Level):** | 0.25V - 10V | 0.25V - 10V |
| **Fuses:** | N/A | N/A |
| **Remote Controller:** | Yes (Included) | Yes (Included) |
| **Auto Turn-On:** | Yes | Yes |
| **Turn-On Switch:** | Yes (High-level / Remote) | Yes (High-level / Remote) |
| **Phase:** | N/A | 0° or 180° |
| **Load Resistors:** | Yes (ON/OFF) | Yes (ON/OFF) |
| **Input Mode:** | 2CH / 4CH | N/A |
| **Balanced/Unbalanced Inputs Switch:** | Yes | Yes |
| **Pre-Outs:** | N/A | Yes (1pair) |
| **Operating Voltage:** | 19.5V - 32V | 19.5V - 32V |
| **Idle Current:** | 0.45A | 0.9A |
| **Current Draw (MAX):** | 31A | 69A |
| **Total Efficiency (4Ω):** | 94% | 95% |
| **Power Terminal:** | 20mm² | 20mm² |
| **Speaker Terminal:** | 4mm² | 10mm² |
| **Dimensions (L*W*H):** | 242 x 125 x 49.15mm | 322 x 125 x 48.65mm |
| **Weight:** | 1.58kg | 2.30kg |

## MA600.4-24V PRODUCT OVERVIEW




**1** **FREQ.** - Set the crossover frequency using this knob. HPF or LPF is selected by the X-OVER switch.

**2** **Front/Rear X-OVER** - These switches control the crossover settings for channels 1-2 (front) and 3-4 (rear).
HPF (High-Pass Filter): Allows only frequencies above the selected crossover point to pass through.
FULL: Send the full frequency range to the speakers.
LPF (Low-Pass Filter): Allows only the frequencies below the selected crossover point to pass through.

**3** **GAIN** - This control matches the amplifier's input sensitivity to your high- or low-level input signal.

**4** **INPUT MODE Switch** - This switch determines how many input channels feed the outputs of the amplifier.

**2CH:** Use this if you only have 2 high- or low-level inputs. The amplifier will internally split the signal to all 4 output channels.

**4CH:** Use this if you have 4 high- or low-level inputs.

## MA600.4-24V PRODUCT OVERVIEW

5 **Load Select Switch** - This switch simulates a speaker load on the high-level input, which is sometimes required for factory head units to work correctly.

**ON:** Use this setting if the factory head unit no longer has speakers connected.
*Note 1: This tricks the head unit into thinking speakers are still connected, which is necessary for some vehicles to operate properly.*

**OFF:** Use this setting if the factory head unit still has speakers connected.
*Note 2: Do NOT use the ON setting in this case, or the head unit may be damaged.*

6 **INPUTS -** Select the input mode. Use BALANCED for most installations. If the amplifier does not turn on when using a remote turn-on signal, switch to UNBALANCED.

7 **RCA INPUTS (Front / Rear)** - Connect the audio signal to the RCA inputs. Supports both high- and low-level signals.

8 **POWER Indicator** - Light shows if the amplifier is powered on.

9 **REMOTE** - Connect the remote controller to adjust the output level of the rear
channels (CH3/CH4).

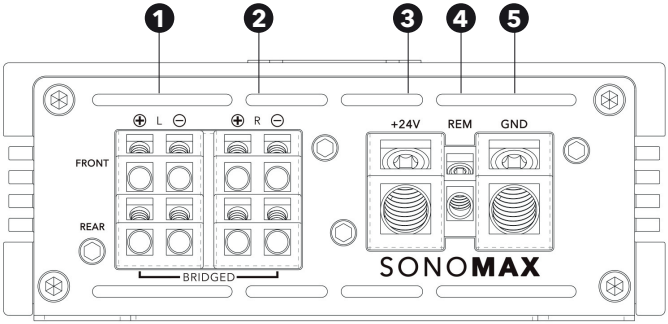
10 **BOOST** - Boosts 45Hz from 0 to +18dB.

11 **TURN ON Switch** - This switch controls how the amplifier turns on:

**High:** The amplifier will automatically turn on when it detects a signal from the high-level input.
*Note: Use this if you're connecting the amplifier to factory speaker wires without a remote wire.*

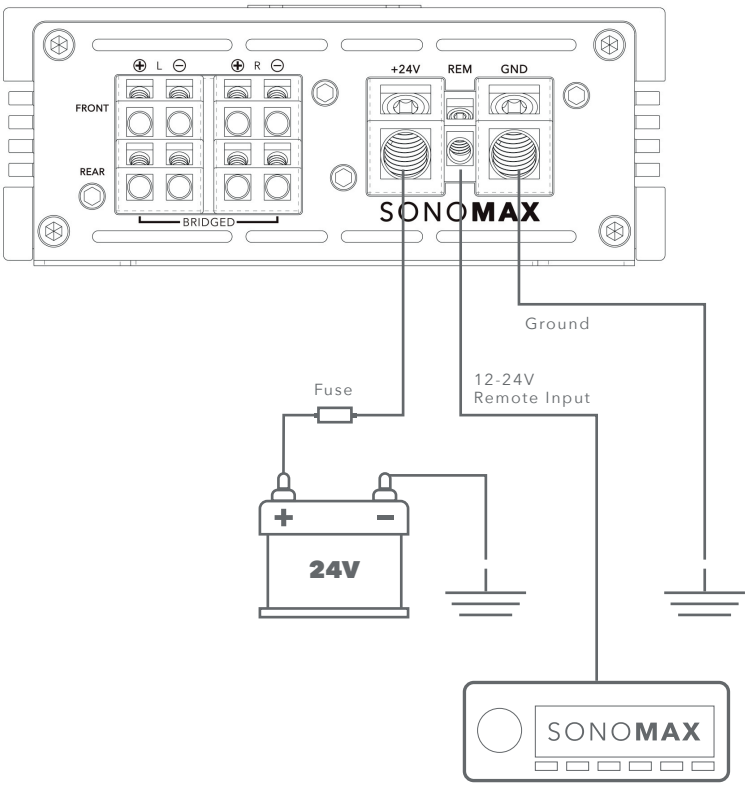
**REM:** The amplifier will turn on when it receives a 12V/24V signal through the remote turn-on wire.

## MA600.4-24V PRODUCT OVERVIEW

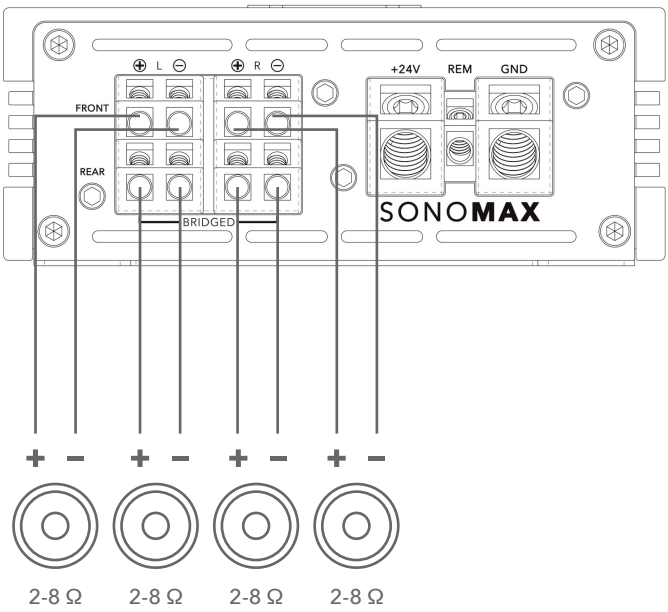



1. **FRONT / REAR L** - Left channels speaker outputs.
2. **FRONT / REAR R** - Right channels speaker outputs.
3. **+24V** - Positive power terminal.
4. **REM** - The amplifier will start when it receives a 12V/24V signal on the REM input.
5. **GND** - Negative ground terminal.

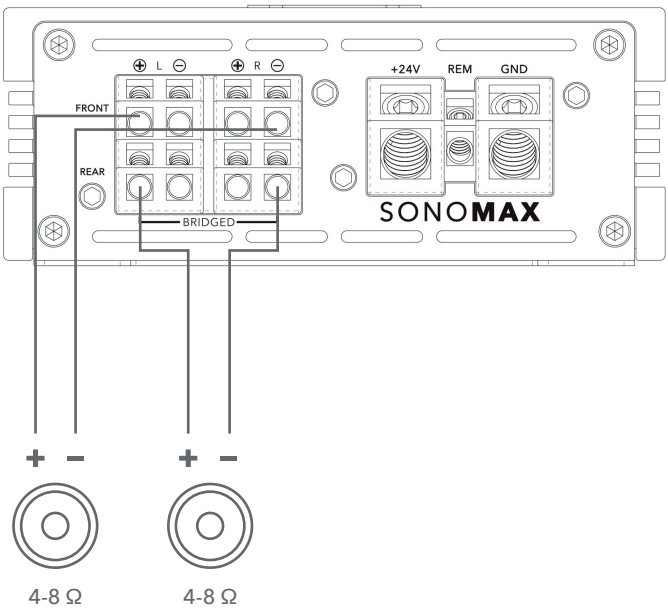
## MA600.4-24V POWER CONNECTION DIAGRAM



## MA600.4-24V SPEAKER CONNECTION DIAGRAM

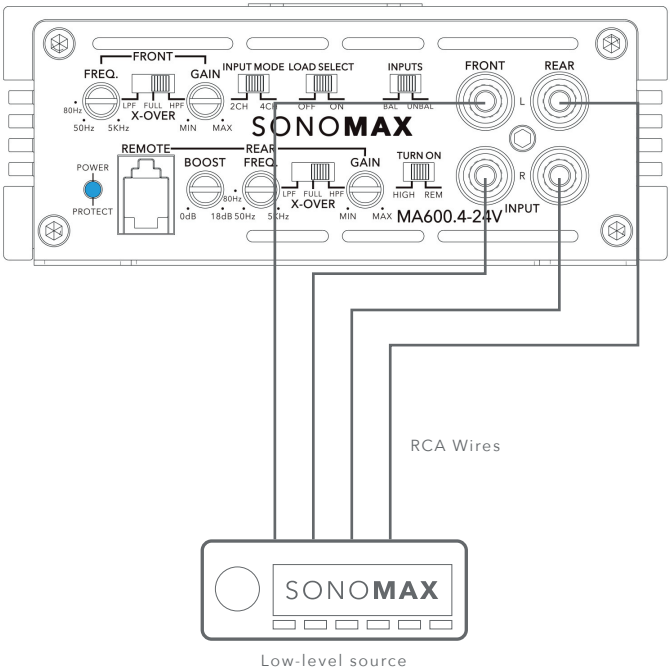


## MA600.4-24V SPEAKER CONNECTION DIAGRAM BRIDGED




*Note: When bridging, 4 ohm is the lowest acceptable impedance.*

## MA600.4-24V LOW-LEVEL SIGNAL CONNECTION DIAGRAM



## MA600.4-24V HIGH-LEVEL SIGNAL CONNECTION DIAGRAM



**Male RCA**
(Connect to amplifier)

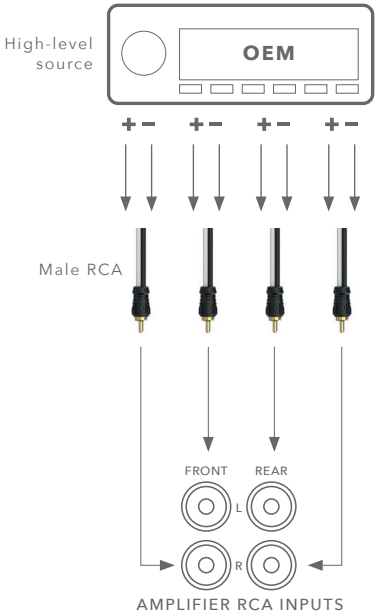
**Female RCA**
(for use with RCA cable)

**Cut the adapter**
**and use the connector you need.**
(SONOMAX cables ACISMF included)

### 1 OPTION 1

**Direct wire to the amplifier**

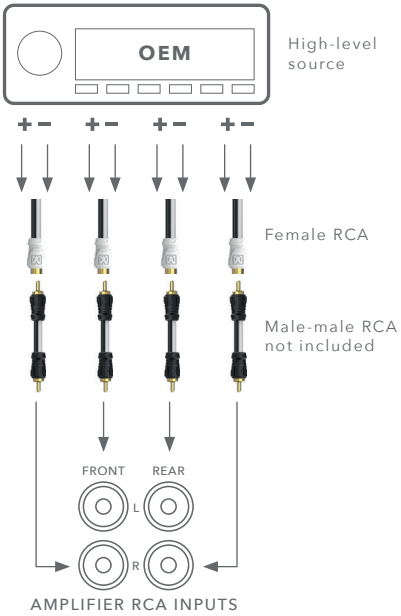
Use the male RCA half when running speaker wire directly from the OEM radio to the amplifier.




### 2 OPTION 2

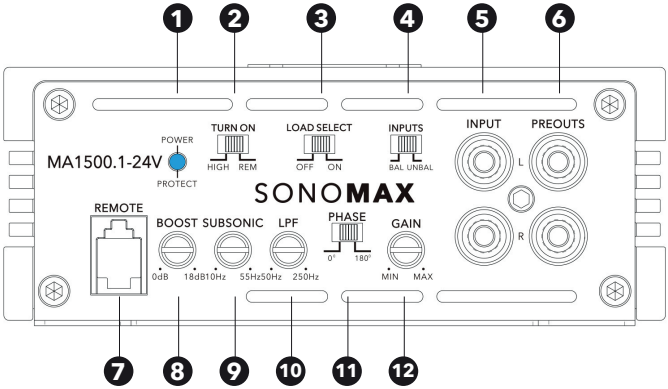
**Use an existing RCA cable**

Use the female RCA half when using a standard RCA cable between the OEM radio and amplifier.




**Note: for high-level / speaker signal only.**

## MA1500.1-24V PRODUCT OVERVIEW




**1** **POWER Indicator** - Light shows if the amplifier is powered on.

**2** **TURN ON Switch** – This switch controls how the amplifier turns on:

**High:** The amplifier will automatically turn on when it detects a signal from the high-level input.
*Note: Use this if you're connecting the amplifier to factory speaker wires without a remote wire.*

**REM:** The amplifier will turn on when it receives a 12V/24V signal through the remote turn-on wire.

**3** **Load Select Switch** - This switch simulates a speaker load on the high-level input, which is sometimes required for factory head units to work correctly.

**ON:** Use this setting if the factory head unit no longer has a speaker connected.
*Note 1: This tricks the head unit into thinking speakers are still connected, which is necessary for some vehicles to operate properly.*

**OFF:** Use this setting if the factory head unit still has a speaker connected.
*Note 2: Do NOT use the ON setting in this case, or the head unit may be damaged.*

## MA1500.1-24V PRODUCT OVERVIEW

4. **INPUTS** - Select the input mode. Use BALANCED for most installations. If the amplifier does not turn on when using a remote turn-on signal, switch to UNBALANCED.

5. **RCA INPUTS** - Connect the audio signal to the RCA inputs. Supports both high- and low-level signals.

6. **PREOUTS** - Takes the unfiltered signal from the RCA inputs (5) and linked them so you can connect the signal to another amplifier

7. **REMOTE** - Connect the remote controller to adjust the output level.

8. **BOOST** - Boosts 45Hz from 0 to +18dB.

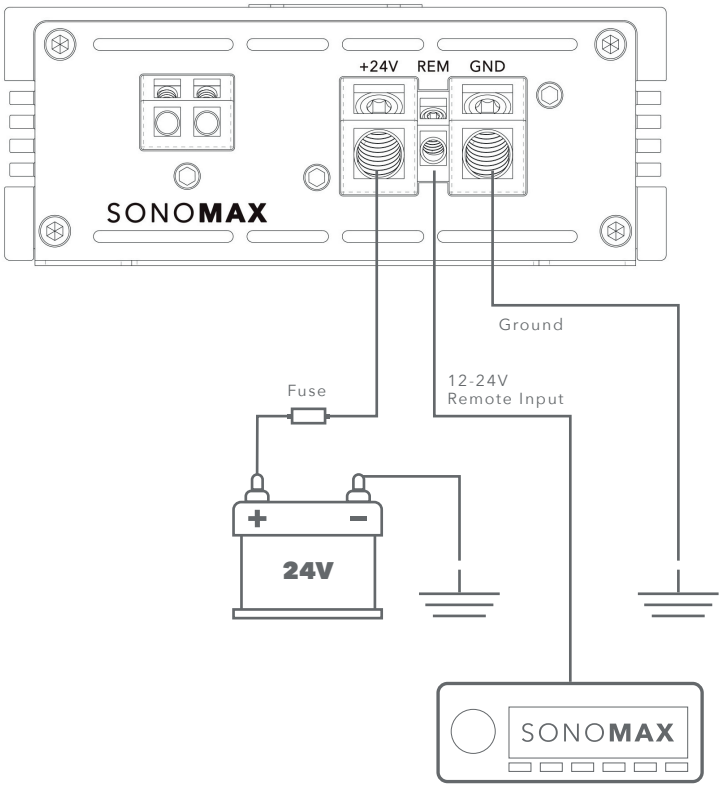
9. **SUBSONIC** - Allows only frequencies above the selected crossover point to pass through.

10. **LPF (Low-Pass Filter)** - Allows only the frequencies below the selected crossover point to pass through.

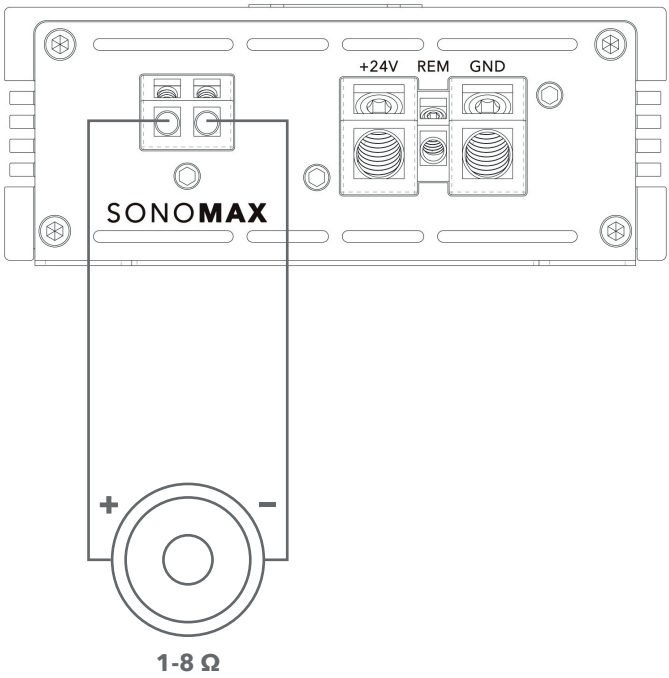
11. **PHASE** - Set the phase to 0° or 180° depending on what sounds the best.

12. **GAIN** - This control matches the amplifier's input sensitivity to your high- or low-level input signal..

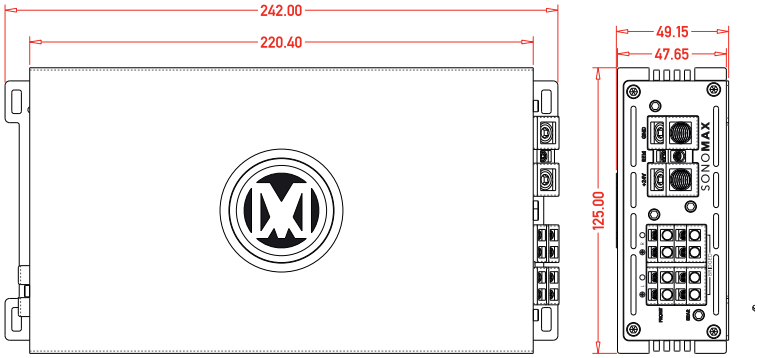
## MA1500.1-24V POWER CONNECTION DIAGRAM



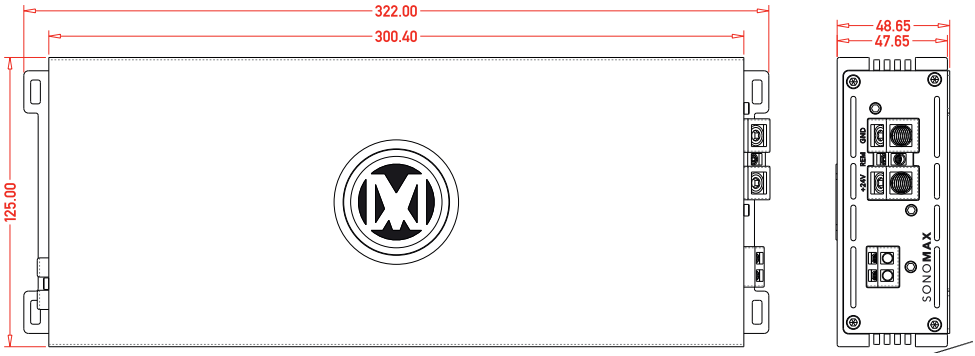
## MA1500.1-24V SUBWOOFER CONNECTION DIAGRAM



## MA600.4-24V DIMENSIONS




## MA1500.1-24V DIMENSIONS



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SONOAUTO AB · BRODALSVÄGEN 1B · 433 38 PARTILLE / SWEDEN