



ETON MA6 6- and
1 Channel Class D
Amplifier



ETON MA6 6- and 1 Channel Class D Amplifier Installation Guide

[Home](#) » [ETON](#) » ETON MA6 6- and 1 Channel Class D Amplifier Installation Guide 

Contents

- [1 ETON MA6 6- and 1 Channel Class D Amplifier](#)
- [2 Safety Instructions](#)
- [3 Tools](#)
- [4 Precautions – Read first](#)
- [5 Before Installation](#)
- [6 Installation and wiring](#)
- [7 MOUNTING LOCATIONS](#)
- [8 RCA connection](#)
- [9 Adjustment](#)
- [10 Start-Up](#)
- [11 Trouble shooting](#)
- [12 Technical Data](#)
- [13 Conformity](#)
- [14 Documents / Resources](#)
 - [14.1 References](#)
- [15 Related Posts](#)



ETON MA6 6- and 1 Channel Class D Amplifier



Specifications

- Brand: ETON
- Product: Amplifier
- Model: MA 6 MA 1
- Dimensions: 270 x 160 x 51 mm 270 x 160 x 51 mm

Product Information

The ETON amplifiers are designed to provide outstanding performance in terms of electrical, mechanical, and tonal characteristics throughout the entire operational life of the product. The amplifier ensures a high standard of quality and reliability for a superior listening experience.

Installation Instructions

Safety Instructions

Before proceeding with the installation, it is crucial to read and understand the safety instructions provided in the manual. Failure to adhere to these instructions may result in personal injury or property damage.

Before Installation

Verify that the packaging is intact upon receipt of the amplifier. Check that all contents are according to specifications and there is no obvious damage to the product. In case of any missing or damaged parts, contact your dealer immediately with the model name and serial number.

Installation and Wiring

Follow the step-by-step instructions for proper installation and wiring of the amplifier. Ensure that all connections are secure and in accordance with the provided guidelines. Use the included tools such as wire strippers, wire cutters, hex key, and other recommended tools for a successful installation.

Adjustments

Make necessary adjustments to optimize the performance of the amplifier. Refer to the manual for guidance on adjusting settings according to your preferences and audio setup.

Start-Up

After installation and adjustments, proceed with the start-up process as outlined in the manual. Ensure all connections are secure before powering on the amplifier.

Troubleshooting

Refer to the troubleshooting section in case of any issues with the amplifier. Follow the recommended steps to identify and resolve common problems that may arise during operation.

FAQ

- **Q: What should I do if I encounter issues with the amplifier after installation?**

A: Refer to the troubleshooting section of the manual for guidance on identifying and resolving common problems. If the issue persists, contact your dealer for further assistance.

- **Q: Can I adjust the settings of the amplifier to suit my audio preferences?**

A: Yes, you can make adjustments to the settings of the amplifier to optimize its performance based on your audio setup and preferences. Refer to the manual for detailed instructions on making these adjustments.

Introduction

ETON expressly thanks you for deciding to purchase this amplifier and congratulates you on the selection of this excellent product. The ETON amplifiers are a guarantee for out-standing performance. The electrical, mechanical and tonal characteristics will be maintained at the original high standard throughout the entire operational life of this product. We wish you many pleasant listening hours.

Operating Instructions

The current operational instructions are designed to ensure correct installation of the amplifier. They contain information and essential procedures for the correct operation of the product and its attached external devices. Please carefully study the operating instructions before beginning with the installation or the connection of the amplifier.

Safety Instructions

Attention !

Please read all warnings found in this manual. This information is highlighted and included to inform you of the potential danger of personal injury or damage to property.

Hearing Damage

CONTINUOUS EXPOSURE TO SOUND PRESSURE LEVELS OVER 85dB MAY CAUSE PERMANENT HEARING LOSS. HIGH POWERED AUTO-SOUND SYSTEMS MAY PRODUCE SOUND PRESSURE LEVELS WELL OVER 130dB. THIS MAY CAUSE DAMAGE OF HEARING. USE COMMON SENSE AND AVOID SUCH RISKS!

Volume and Driver Awareness

Use of sound components can impair your ability to hear necessary traffic sounds and may constitute a hazard while driving your automobile. ETON accepts no liability for hearing loss, bodily injury or property damage as a result of use or misuse of this product.

ATTENTION!

If sheet metal must be cut or removed contact your authorized car dealer for professional advice. By damage to supporting body structures the safety certificate may be withdrawn.

Table of contents

The amplifier is packed into an especially constructed protecting carton. Do not damage the packing and store it for future use in the case of possible damage. Upon receipt of the amplifier verify that: The packing is not damaged, the contents are according to specifications, the product shows no obvious damage. In the case of missing or damaged parts please contact immediately your dealer providing the model name as well as the serial number that is shown on the bottom of the amplifier.

Contents:

Power amplifier, operating instructions, mounting accessories with mounting feet, wired level remote control, Allen key, high level connectors, LS connectors, power connectors, spare spheric head screws.

Tools

We recommend to place the following tools ready for installation:

- Fuse-holder and fuse.
- Battery post wrench
- Hand held drill with assorted bits
- Wire strippers
- Wire cutters
- Hex key
- Additional tools which are probably needed to remove panels in your car
- Power- and remote wires in adequate lengths, widths and colours
- Speaker wires in adequate lengths, widths and colours

NOTE: We recommend to use power cable at least 4 AWG for (B+) and (GND) battery wiring.

Precautions – Read first

Caution! Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury. This is not possible in every modern vehicle. Please ask your carmaker or see your owners handbook regarding battery change.

Note: The installation and adjustment of the amplifier should only be entrusted to qualified personnel. Please carefully read the operation instructions and follow the given directions regarding connection and adjustment of the amplifier.

Warning! Before connecting external devices that do not belong to this amplifier, please refer to the corresponding directions contained in the operation instructions for this device.

- Under no circumstances should you open the amplifier or attempt any repairs. If required contact your dealer to obtain technical assistance. Unauthorized changes will result in the cancellation of warranty.
- The amplifiers are exclusively designed for the interior of vehicles with a power supply of +12 volt DC (Direct Current).

Caution! Install the amplifier only in the interior of the vehicle or in the trunk. Never install the amplifier in the motor compartment. Doing so will void your warranty.

- The amplifier must not be subjected to pressure and not be covered. Be careful that no foreign object or fluid can enter the amplifier. Be sure the amplifier is provided with sufficient air circulation to achieve proper cooling of the cabinet.
- The amplifier should be mounted in a vertical position within an area of the vehicle that allows good air circulation.
- The heat sinking device can reach a temperature over 80° Centigrade. Be careful to avoid contact with temperature sensitive surfaces or materials.

- Be sure that no components are close to the mounting position of the amplifier that could be damaged by the screws or during the mounting procedure. Damage to the vehicle can severely endanger the automobile safety as well as the safety of the passengers.
- Mount the amplifier using the four fastening points. Be careful that you choose a strong, stable surface that can carry the weight of the device. Avoid mounting on plastic parts or cardboard lining.

Warning! If reconnecting the amplifier after longer storage without voltage supply, we recommend to reconnect the +12 V over a resistor 10 Ohm 10 Watt first. This prevents the capacitor of the power supply from overloading. This procedure should be finished after 2 minutes.

Before Installation

This section focuses on some of the vehicle considerations for installing your new amplifier. Pre-planning your system layout and best wiring routes will save installation time.

When deciding on the layout of your new system, be sure that each component will be easily accessible for making adjustments.

Before beginning any installation, follow these simple rules:

1. Be sure to carefully read and understand the instructions before attempting to install the unit.
2. For easier assembly, we suggest you run all wires prior to mounting your unit in place.
Caution! Avoid running power wires near the low level input cables, antenna, power leads, sensitive equipment or harnesses. The power wires carry substantial current and could induce noise into the audio system.
3. Route all of the RCA cables close together and away from any high current wires.
4. Use high quality connectors for a reliable installation and to minimize signal or power loss.
5. Think before you drill!
 Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle.
6. Never run wires underneath the vehicle. Running the wires inside the vehicle provides the best protection.
7. Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through metal, especially the firewall.
8. ALWAYS protect the battery and electrical system from damage with proper fusing. Install the appropriate fuse holder and fuse on the +12 V power wire within 18" (45.7 cm) of the battery terminal. (Note example p. 18)
9. When grounding to the chassis of the vehicle, scrape all paint from the metal to ensure a good, clean ground connection. Grounding connections should be as short as possible and always be connected to metal that is welded to the main body, or chassis, of the vehicle. Seatbelt bolts should never be used for connecting to ground.

Installation and wiring

To access all connections and adjusters, it is necessary to remove the removable aluminum cover on the top. This can simply be pulled upwards with your hands. Hidden underneath are various controls and filters as well as the LED status lightbar, the adjustment tool and the hidden mounting points.

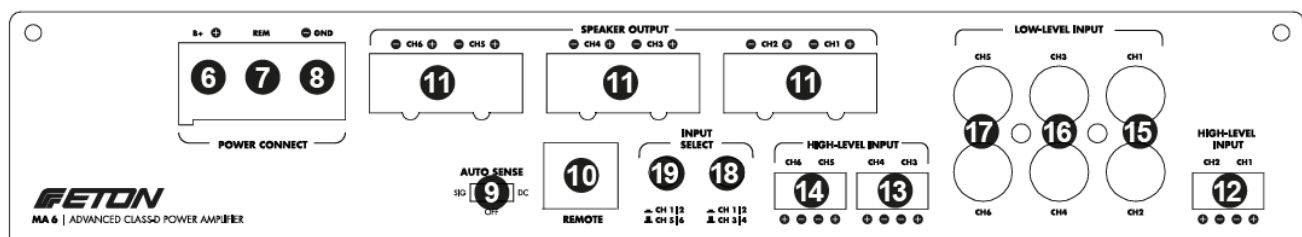
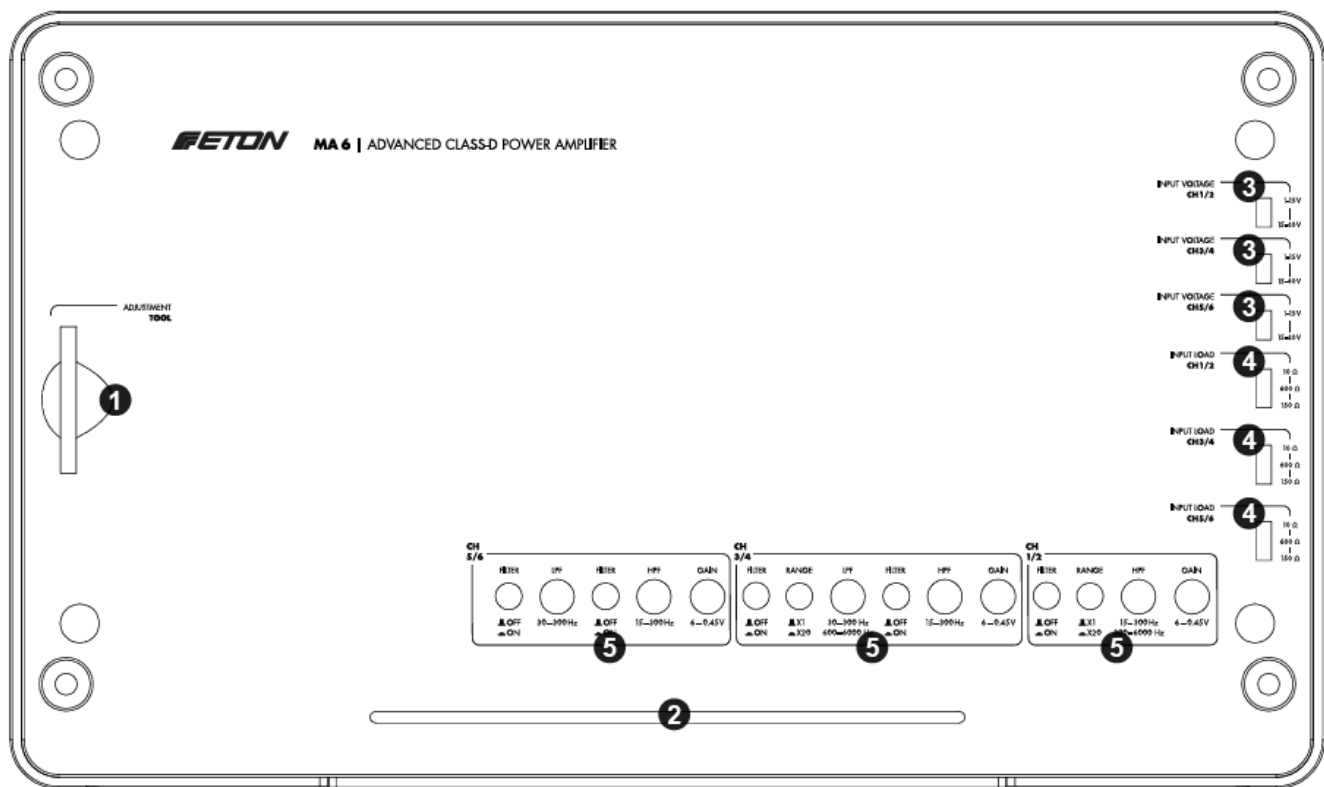


Tip: You can mount the top cover rotated by 180°! To do this, unscrew the four mounting ball-head screws from the cover and screw them back into the alternative screw position. If all the screws are offset, the top cover plate can be mounted offset by 180°

Several amplifiers can also be stacked on top of each other: First screw the bottom amplifier to the base / mounting plate. Remove the cover plate from the bottom amplifier. Now un-screw the ball-head screws from the removed cover plate. Then screw the ball-head screws into the amplifier above in the base plate. The upper amplifier can then be plugged onto the lower one! Please ensure that this type of installation is horizontal! Vertical installation of several amplifiers stacked on top of each other is not supported!



Installation and wiring



TOP PANEL CONNECTIONS MA 6

1. Adjustment Tool
2. Status LED lightbar
3. Audio signal input voltage CH1-6 adjustment: 1 – 15 V | 15 – 40 V (Hi-Level)
4. Audio signal input load CH1-6 adjustment: 10 Ω | 600 Ω | 150 Ω (Hi-Level)
5. High & Low Pass Filter and Gain adjustment CH1-6 (GAIN 6 – 0.45V)

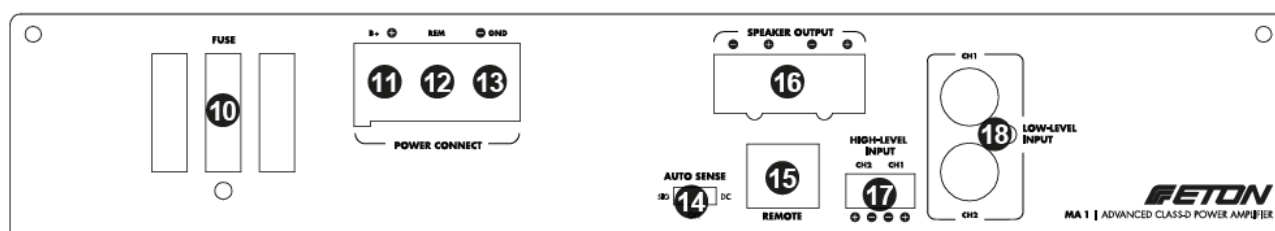
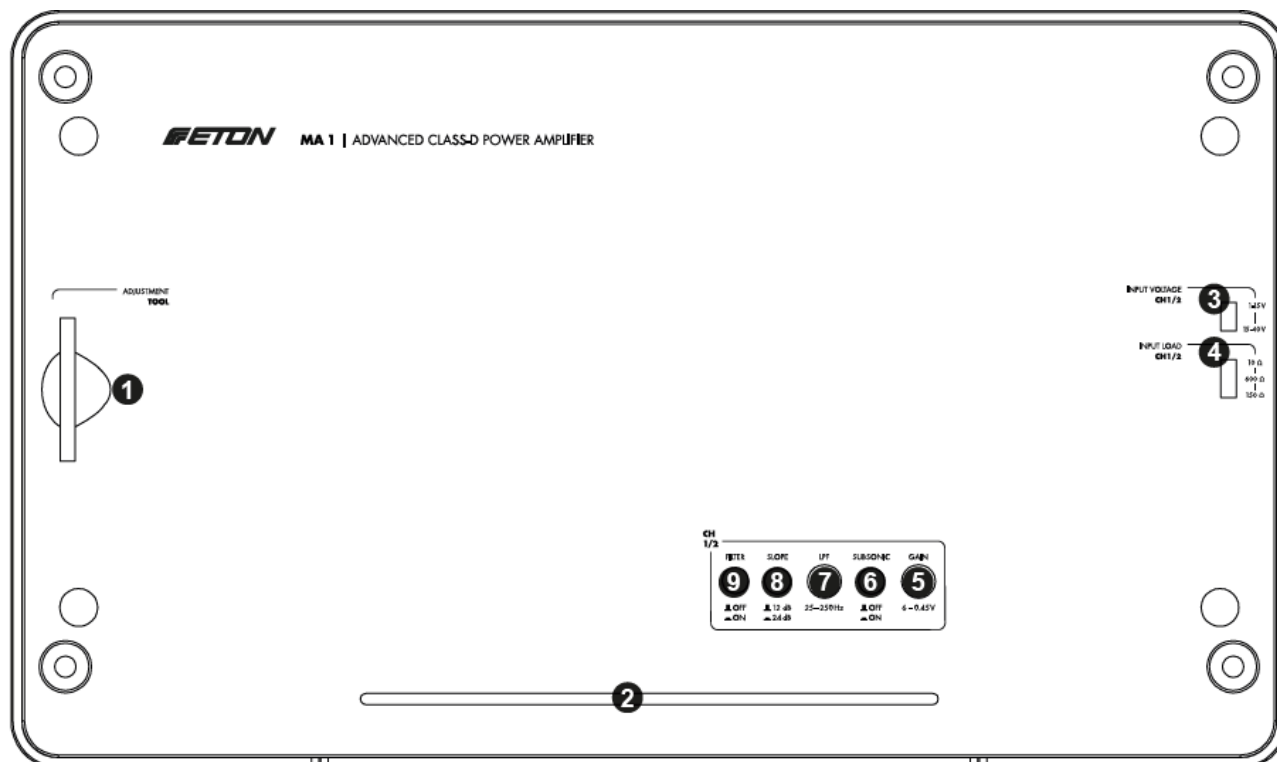
FRONT PANEL CONNECTIONS MA 6

6. B+ Terminal (+12V)
7. ACC remote in (REM)
8. Ground terminal current (-GND)
9. Auto Turn on function AUTO SENSE (SIG / OFF / DC detection)
10. Wired remote control input (REMOTE)
11. Loudspeaker output (AUDIO SIGNAL OUT)
12. High-Level audio input CH1/2 (HIGH LEVEL INPUT)
13. High-Level audio input CH3/4 (HIGH LEVEL INPUT)

14. High-Level audio input CH5/6 (HIGH LEVEL INPUT)
15. Low-Level audio input CH1/2 (LOW LEVEL INPUT)
16. Low-Level audio input CH3/4 (LOW LEVEL INPUT)
17. Low-Level audio input CH5/6 (LOW LEVEL INPUT)
18. Audio input signal switch CH1/2 to CH3/4
19. Audio input signal switch CH1/2 to CH5/6

WIRED REMOTE CONTROL MA 6

20. Wired remote control



TOP PANEL CONNECTIONS MA 1

1. Adjustment Tool
2. Status LED lightbar
3. Audio signal input voltage adjustment CH1/2: 1 – 15 V | 15 – 40 V (Hi-Level)

4. Audio signal input load adjustment
CH1/2: 10 Ω | 600 Ω | 150 Ω (Hi-Level)
5. Gain / Level adjustment
CH1/2 (GAIN 6 – 0.45V)
6. Subsonic filter on / off
7. Low-pass filter LPF 25 – 250 Hz adjustment
8. Slope selector 12 / 24 dB Oct.
9. Filter On / Off

FRONT PANEL CONNECTIONS MA 1

10. Fuses 3 x 40 A ATC fuses
11. B+ Terminal (+12V)
12. ACC remote in (REM)
13. Ground terminal current (-GND)
14. Auto Turn on function AUTO SENSE
(SIG / OFF / DC detection)
15. Wired remote control input (REMOTE)
16. Loudspeaker output (Audio signal) CH1 (Double connection terminal for double voice coil subwoofers)
17. High-Level audio input
CH2 & CH1 (HIGH LEVEL INPUT)
18. Low-Level audio input
CH1/2 (LOW LEVEL INPUT)

WIRED REMOTE CONTROL MA 1

19. Wired remote control

Recommendations for all Class D amplifiers Class D amplifiers by the nature of their design emit a certain amount of RF (Radio Frequency) radiation. While we have optimized the design to reduce this to a minimum level there are still steps you can take to eliminate any unwanted FM radio interference. The tips below apply to any class D amplifier. Always try the amplifier as far as it will go. as far away from the antenna as possible. Furthermore, try to mount the amplifier as far away from the radio or other RF-sensitive devices as possible.

Keep the ground cable as short as possible. Consider the ground cable as the transmitting antenna. The shorter it is, the less interference radiation it can produce (transmit).

Use twisted wires. If possible both loudspeaker lines and also NF lines. If you do not have twisted pair wire you may be able to twist it yourself with 2 single cables. If you encounter a problem with FM interference you can try turning the amplifier 90 degrees or changing its location completely. Please keep in mind that RF radiation can be very directional.

Do not use your automobile until all components of the system have been secured to the interior framework. Failure to do so may turn a component into a dangerous, flying projectile during a sudden stop or accident.

MOUNTING LOCATIONS

Trunk mounting

Mounting the amplifier vertically or inverted will provide adequate cooling of the amplifier. Mounting the amplifier on the floor of the trunk will provide the best cooling of the amplifier. Horizontal installation when several amplifiers are plugged on top of each other!

Passenger Compartment Mounting

Mounting the amplifier in the passenger compartment will work as long as you provide a sufficient amount of air for the amplifier to cool itself. If you are going to mount the amplifier under the seat of the vehicle, you must have at least 1" (2.54 cm) of air gap around the amplifier's heatsink. Mounting the amplifier with less than 1" (2.54 cm) of

air gap around the amplifier's heatsink in the passenger compartment will not provide proper cooling and will severely affect the performance of the amplifier and is strongly not recommended.

Engine Compartment

Never mount this unit in the engine compartment. Mounting the unit in the engine compartment will void your warranty.

BATTERY AND CHARGING

Amplifiers will put an increased load on the vehicle's battery and charging system. We recommend checking your alternator and battery condition to ensure that the electrical system has enough capacity to handle the increased load of your stereo system. Stock electrical systems which are in good condition should be able to handle the extra load of any ETON amplifier without problems, although battery and alternator life can be reduced slightly. To maximize the performance of your amplifier, we suggest the use of a heavy duty battery and an energy storage capacitor.

WIRING THE SYSTEM

Caution! If you do not feel comfortable with wiring your new unit, please see your local authorized ETON Dealer for installation.

- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

Please ask your car dealer if disconnecting the battery is possible without any problem.

Plan the wire routing. Keep RCA cables close together but isolated from the amplifier's power cables and any high power auto accessories, especially electric motors. This is done to prevent coupling the noise from radiated electrical fields into the audio signal. If cables are routed through the splash-board or other metal barriers, the cables must be additionally protected with plastic or rubber rings to avoid short circuits. Leave the cables a little longer at first and only adjust them exactly later.

Note: We recommend cables with a cross-section of at least 4 AWG (approx. 20 mm²) for the current (B+) and ground (GND) connections and twisted 1.0 mm² copper cables for loudspeaker lines and high-level lines. Prepare the RED wire (power cable) for attachment to the amplifier by stripping 0.5 cm of insulation from the end of the wire. Insert the bared wire into the B+ terminal and tighten the set screw to secure the cable in place.

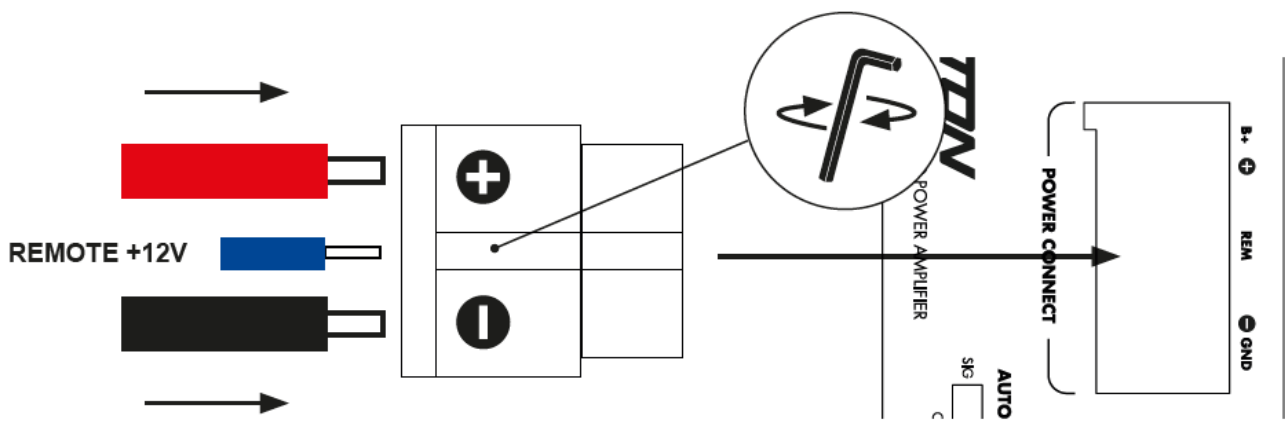
Note: The B+ cable MUST be fused from the vehicle's battery.

Trim the RED wire (power cable) within 18" of the battery and splice in a inline fuse holder (not supplied). See Specifications for the rating of the fuse to be used. Do NOT install the fuse at this time. Strip 1.2 cm from the battery end of the power cable and crimp an appropriate size ring terminal to the cable. Use the ring terminal to connect to the battery positive terminal. Prepare the BLACK wire (Ground cable) for attachment to the amplifier by stripping 0.5 cm of insulation from the end of the wire. Insert the bare wire into the GROUND terminal and tighten the set screw to secure the cable in place. Prepare the chassis ground by scraping any paint from the metal surface and thoroughly clean the area of all dirt and grease. Strip the other end of the wire and attach a ring connector. Fasten the cable to the chassis using a non-anodized screw and a star washer.

Note: Keep the length of the BLACK wire (Ground) as short as possible. Always less than 30" (76.2 cm). Make sure to use the same wire gauge for power and ground cable.

Prepare the remote turn-on wire for attachment to the amplifier by stripping 0.5 cm of insulation from the end of the wire.

Insert the bared wire into the REMOTE terminal (ACC/A) and tighten the set screw to secure the wire in place. Connect the other end of the Remote wire to a switched +12 volt positive source.

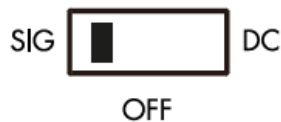


The switched voltage is usually taken from the external amplifier switch-on terminal on the source device (radio). If such a connection is not available on the source device, it is recommended to install a mechanical switch in a line with a +12 V source to activate the amplifier. The MA series amplifier has an automatic switch-on signal detection (SIG or DC), this can be used with high level connection, here the amplifier switches on automatically as soon as a music signal or a switch-on voltage is detected via the high level inputs. For this function, the amplifier must be set to "SIG" or "DC" under the connection plate.

Audio Signal

Audio signal
detection

AUTO SENSE

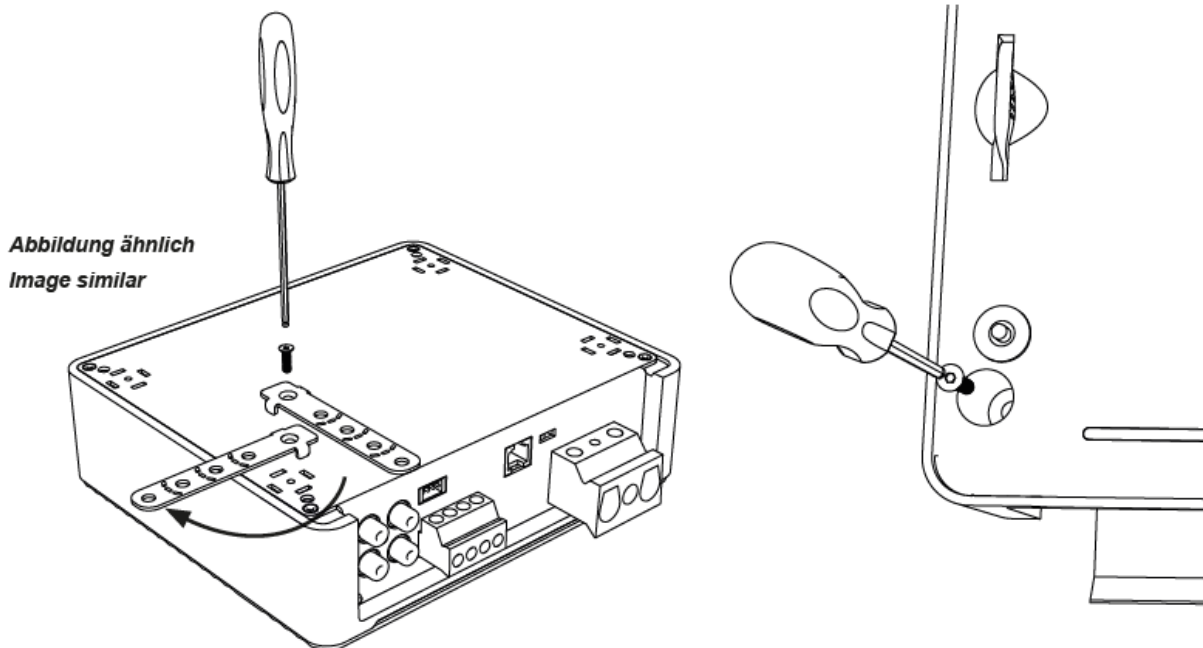


DC Spannungs-

DC voltage
detection



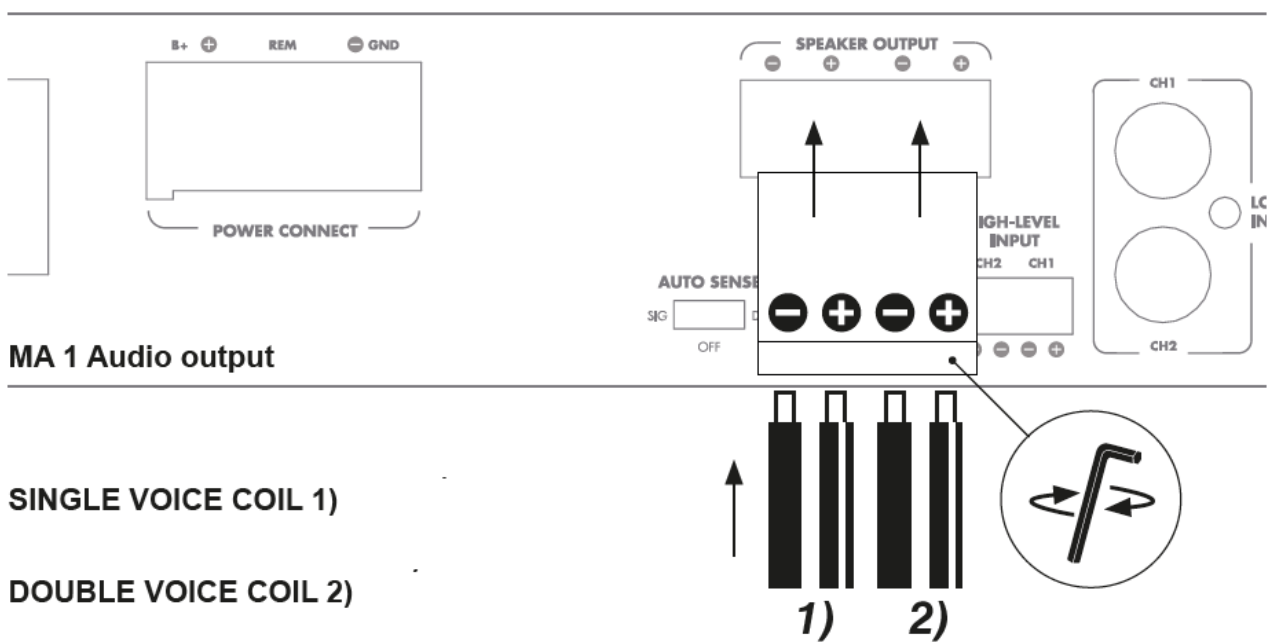
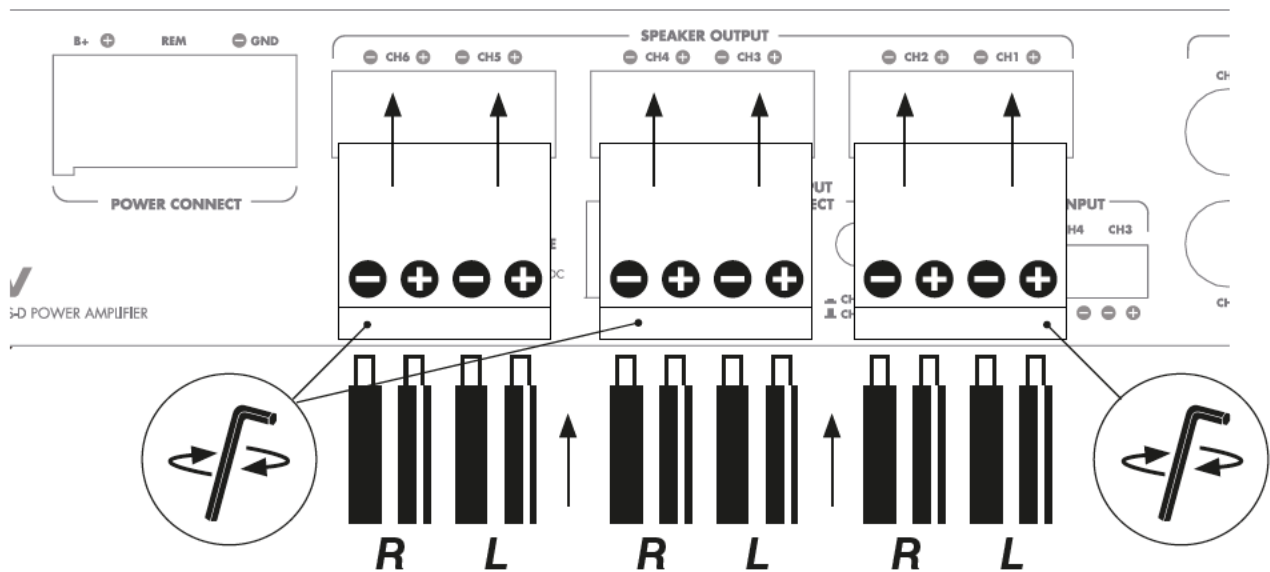
Installation and wiring



Securely mount the amplifier to the vehicle or amp rack. Be careful not to mount the amplifier on cardboard or plastic panels. Doing so may enable the screws to pull out from the panel due to road vibration or sudden vehicle stops. Never mount the amplifier directly to vehicle sheet metal. Always use an insulating mounting plate (wood). Use the supplied mounting feet for optimum fastening, these can be adapted to the mounting location, use suitable tools to cut the feet to length. Alternatively, screw the amplifier through the blind holes under the cover using suitable fixing screws (not included). This is particularly helpful in cramped installation situations and is

advantageous for show and shine installation. connect the speakers. Remove 0.5 cm of insulation from the ends of the speaker cables, then insert the cables into the speaker connector plugs and tighten the fastening screws. Do not ground the speaker cables through the vehicle chassis as this may cause unstable operation. Make sure that the polarity of the wires is correct.

Speaker Connection MA 6 Audio output



MA 1 Audio output

SINGLE VOICE COIL 1)

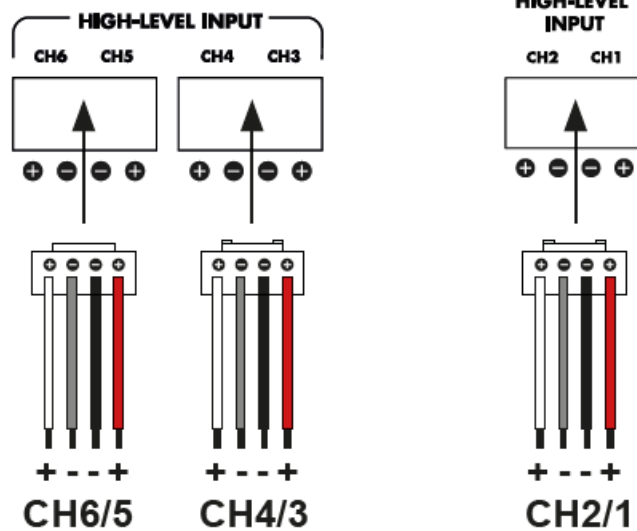
DOUBLE VOICE COIL 2)

Perform a final check of the completed system wiring to ensure that all connections are accurate. Check all power and ground connections for frayed wires and loose connections which could cause problems. Install inline fuse near battery connection.

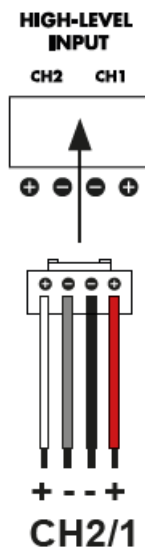
Hi-Level connection

High-Level/Hi-Level

3 pcs. included



High-Level/Hi-Level 1 pcs. included



High-Level In: Various sound sources, especially original car radios / OEM head units, do not have separate low-level (cinch) outputs. In this case, the audio signal must be fed into the high-level inputs of the amplifier via loudspeaker lines. We recommend a cable cross-section of approx. 1 – 1.5 mm². Access the audio signal from your original head unit or speakers / OEM amplifier (with commercially available adapters or signal thieves). Lead the cables to the amplifier and connect them to the connectors for the High-Level In. Pay attention to the polarity, also check the correct routing of the cables and a tight fit of the plugs. The MA amplifier series also features state-of-the-art control technology, allowing the high-level signal to be optimally processed by means of adjustable input voltage and input resistance settings. This gives you maximum sound quality and prevents premature distortion.

INPUT LOAD (Hi-Level)

If your amplifier is connected via the high-level input signal, the EPS load (input resistance) should now be set. This can be set between 10 Ω , 150 Ω and 600 Ω .

Set as follows:

10 Ω

If a loudspeaker was connected to the head unit / control unit or amplifier.

150 Ω

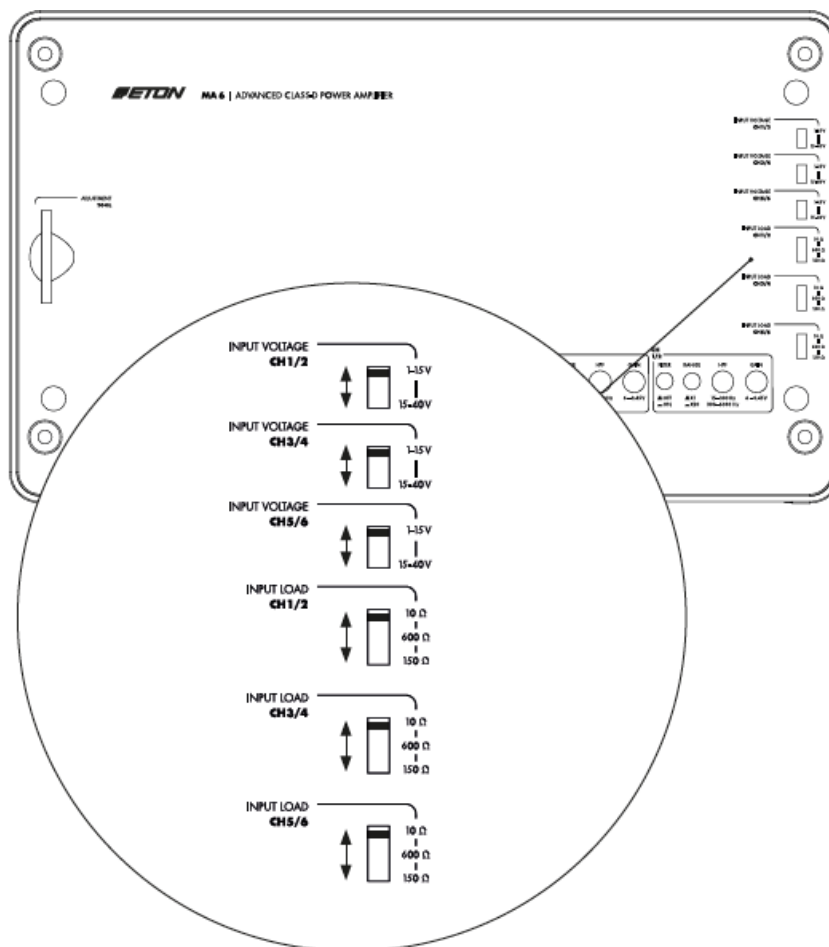
If an amplifier / booster was connected to the output at the factory / previously. Recommended for VW / Audi / Skoda.

600 Ω

If an amplifier / booster was connected to the output at the factory / previously. Recommended for BMW.

INPUT VOLTAGE (Hi-Level)

If you use the audio signal via the high-level tap, the signal should be filtered against distortion. If the signal is tapped from a factory amplifier or aftermarket amplifier, this is assigned a higher voltage: to achieve the best possible input quality, the toggle switch should be set to 40 V input voltage. If the audio signal in the high-level input is tapped from a normal radio / head unit without an additional amplifier, the switch should be set to 15 V input voltage. Since this audio signal has less voltage..

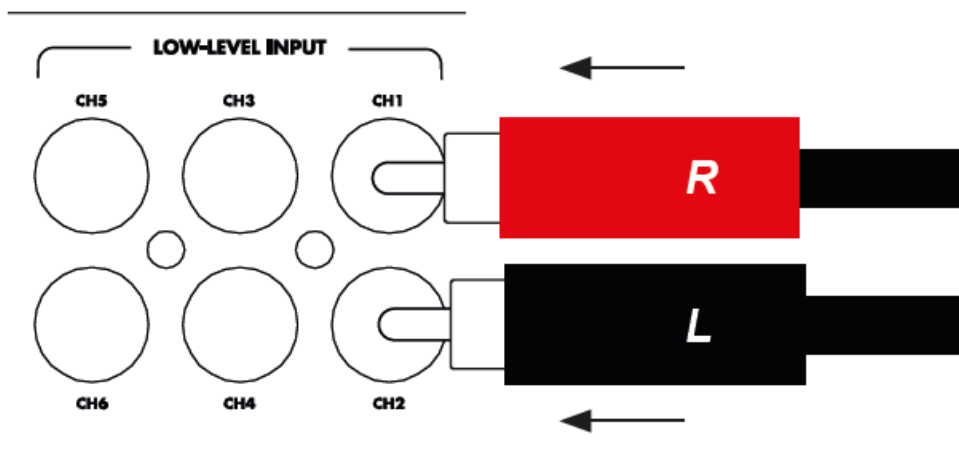


Installation and wiring

RCA connection

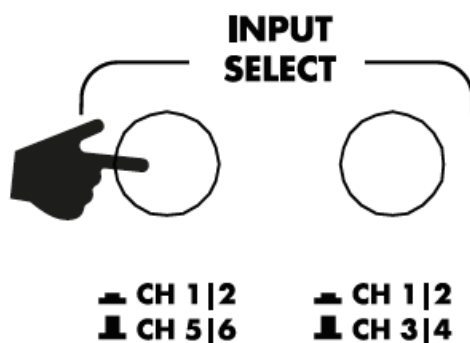
MA 6 6-channel amplifier

red =
right
black
white
= left



If you are not using a high-level / hi-level signal tap, you can feed the audio source signal conventionally via the RCA / cinch sockets on the device. The MA 6 power amplifier provides three RCA / cinch input channel pairs for this purpose, but NO RCA / cinch output (CH1/CH2, CH3/CH4 & CH5/6). Note that CH1 = RED = right, CH2 = WHITE / BLACK = left .

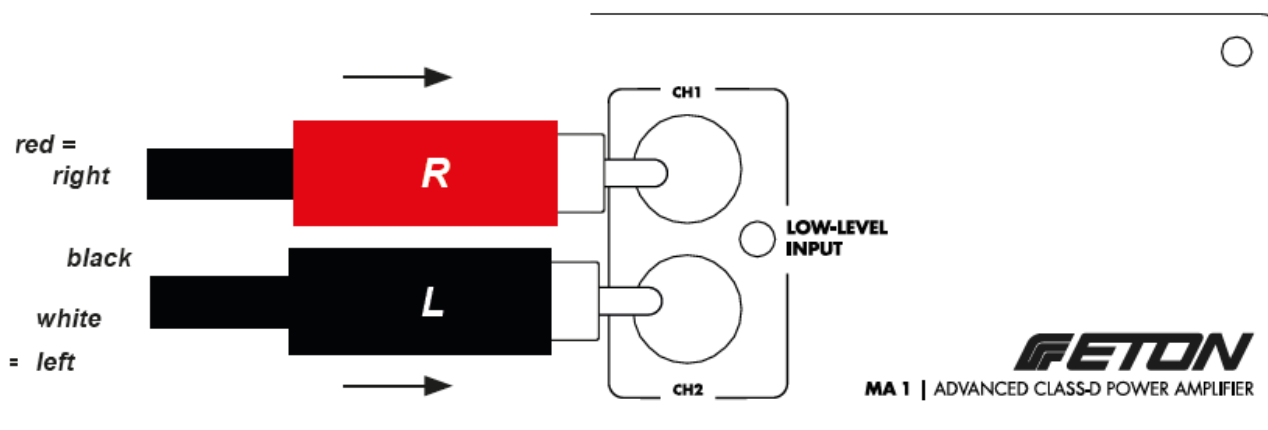
You can amplify two different input signals (CH 3|4 & CH 5|6) or a uniform audio signal for all 6 channels (default CH 1|2) using the push-button switch on the connection side of the amplifier. To do this, select INPUT SELECT.



Caution! Always ensure power is off or disconnected at the amplifier before connecting RCA cables. Failure to do so may cause damage to the amplifier and/or connected components.

RCA connection

MA 1 1-channel amplifier

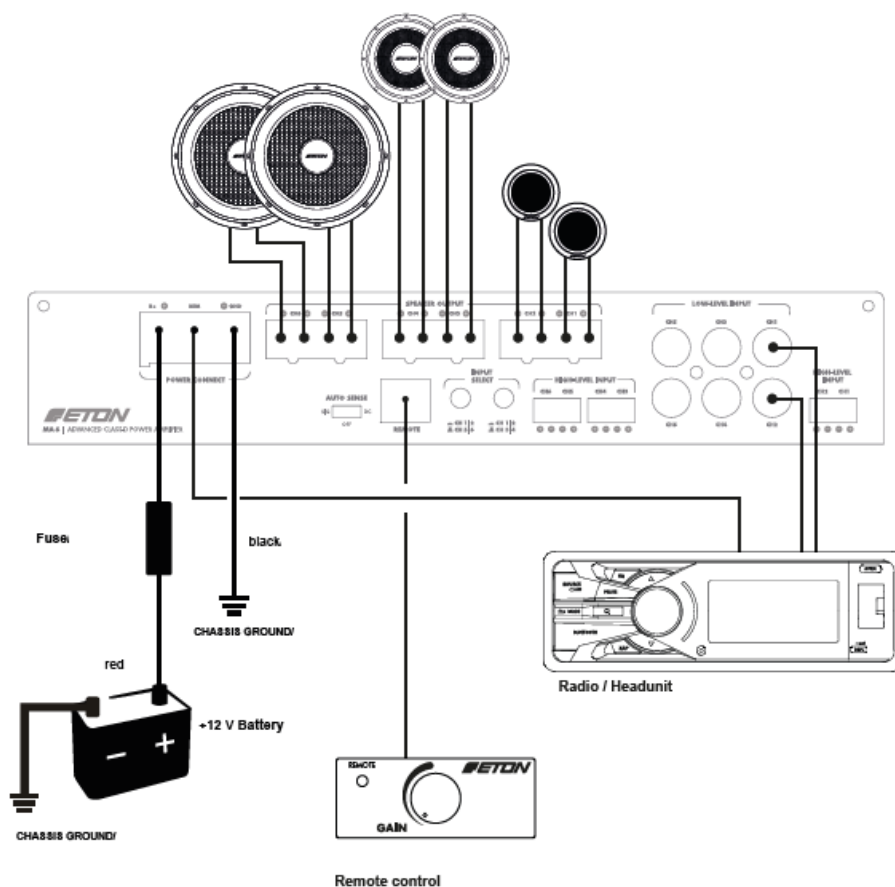


The MA1 power amplifier has one RCA / Cinch input channel pair. Note that CH1 = RED = right, CH2 = WHITE/BLACK = left.

Caution! Always ensure power is off or disconnected at the amplifier before connecting RCA cables. Failure to do so may cause damage to the amplifier and/or connected components.

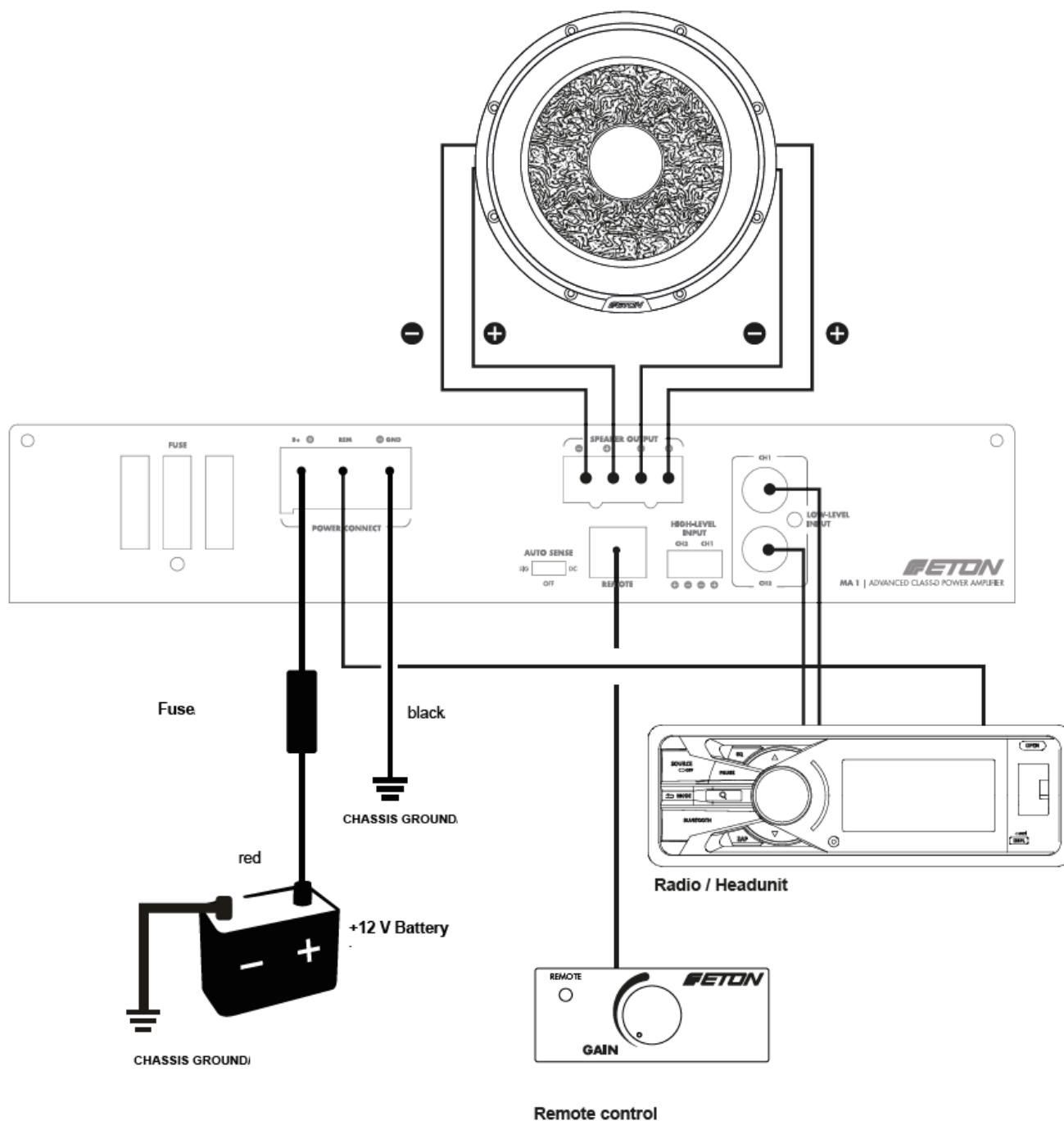
Connection sample 6-channel MA 6

3-way fully active with active filters



Connection sample 1-channel MA 1

Double voice coil subwoofer

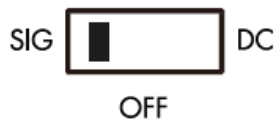


Adjustment

Audio Signal

Audio signal detection

AUTO SENSE



DC voltage detection



AUTO SENSE ON REMOTE INPUT

3-Way switch Auto On. DC – OFF – SIG Here you can choose the turn on detection mode.

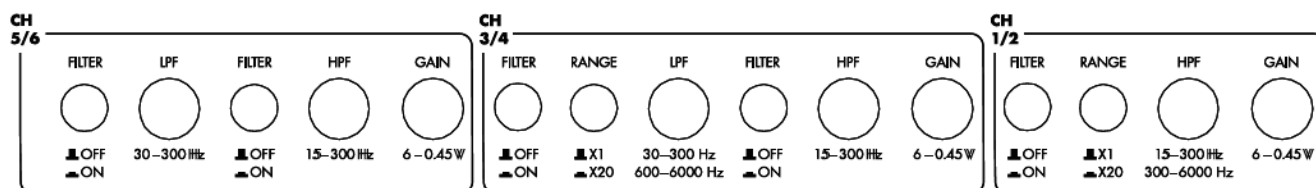
- DC= Used with most source units. The amplifier detects DC voltage on speaker output of source unit if high level input and the original adaptor cable is used and turns on the amplifier.

- OFF= The amplifier will only turn on via +12 V remote wire. No detection of high level signal will happen.
- SIG= The amplifier detect a signal on speaker output of source unit if high level input and turns on. If signal is paused it is possible that amplifier shuts off (after 68 sec.). We recommend to use this detection only in case if DC detection is not working and Auto sense is requested.

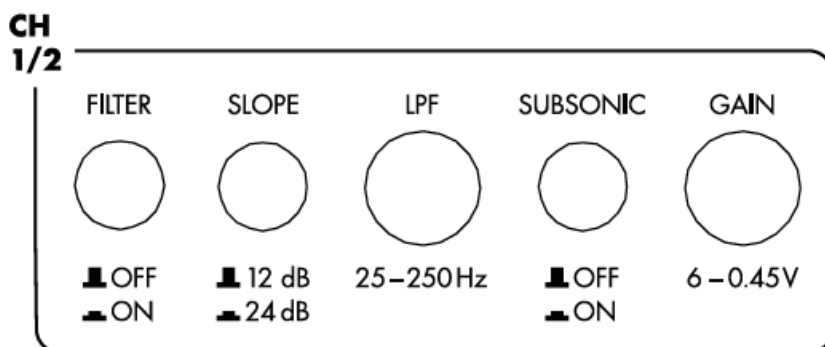
ACTIVE FILTERS & GAIN ADJUSTMENT

To adjust the filters and the input sensitivity (GAIN), first remove the housing cover on the top of the amplifier. To adjust the filters, use the ETON adjustment tool located in the power amplifier (page 10 & 12 point 1). Depending on the model (MA 6 or MA 1), you can set various filters and the input sensitivity (GAIN / SENSITIVITY / LEVEL) for each channel.

MA 6



MA 1



GAIN

Audio signal input voltage setting between 6 V and 0.45 V. The so-called "Gain" control is NOT a volume control!

GAIN ADJUSTMENT HINT:

The easiest way to set the GAIN correctly is by listening. To do this, set your audio source / car radio to 3/4 of the maximum volume. Play songs that you know well. Then set the GAIN knob to minimum, turn the GAIN knob until the music doesn't get louder or the music starts to distort. Pay attention to details in your piece of music. Once you have reached this point, turn the gain knob back a little. Repeat this test with other songs.

HPF High-pass filter

This filter separates the speaker connected to the channel by means of a high-pass filter. This means that frequencies above the set crossover frequency of 15 – 6000 Hz are only played back. (Please note for MA 6 model RANGE X1 and X20).

LPF Low Pass Filter

This filter cuts off the speaker connected to the channel by means of a low-pass filter. This means that frequencies below the set crossover frequency 15 – 300 Hz & 300 – 6000 Hz (MA 6 model with RANGE setting X20 only) & 25 – 250 Hz (MA 1 only) are only played back.

RANGE X1 | X20 (only MA 6)

The "RANGE X1" / "X20" switch is directly related to the LPF or HPF and only affects the respective channel pair

and its active filter. It controls the LPF or HPF filter, so when it is not pressed it is active between 15 – 300 Hz, when it is pressed the control range shifts by a factor of 20 to 300 – 6000 Hz. This allows the low-pass filter and the high-pass filter to be perfectly adapted to the application.

SUBSONIC (only MA 1)

The “SUBSONIC ON/OFF” switch triggers the subsonic filter. This cuts off all frequencies below 30 Hz. This is particularly recommended for subwoofers.

SLOPE (nur MA 1)

“SLOPE” changes the slope of the LPF filter from 12 dB to 24 dB / oct.

FILTER ON / OFF

The “FILTER ON / OFF” switch activates the set filter (HPF or LPF) and has a direct effect on the filter per channel pair.

not pressed = OFF (default)

pressed = ON

Caution with fully active operation of tweeters! If the filter is set incorrectly / or is not active, tweeters can receive an unfiltered signal and be damaged! ETON accepts no liability for damage to loudspeakers due to incorrectly adjusted filters!

Start-Up

Check the wiring before operating the amplifier for the first time:

- Is the amplifier firmly bolted to the surface? Loose components can become dangerous projectiles in the event of an accident! Therefore, pay particular attention to correct fastening!
- Are all current-carrying cables correctly and firmly connected? - Are the battery terminals firmly screwed on and is the positive terminal cover correctly fitted?
- Is the fuse holder properly and firmly fixed in the power cable (max. 45 cm length to positive terminal)?
- Is the positive terminal cable protected against a short circuit and are all open points properly insulated (cable lug, fuse holder, power connection plug for output stage)?
- Is the ground cable (GND-) properly laid, does the ground point have sufficient contact surface? Is there proper insulation here too (cable lug / power connection plug power amplifier)
- Are all audio plugs firmly seated in the connection sockets of the amplifier (High-Level In / Audio Out / RCA cable)
- For MA4: Check the input select switch of the cinch input signal
- Is the power-on remote cable firmly installed or is the power-on remote cable not connected? Please note the Auto
- Turn On function (SIG / DC switch position)
- Pay attention to the correct polarity of the speaker cables and the correct left/right arrangement
- For fully active operation, pay attention to the correct setting of the active filters, especially for tweeters without additional crossover components! For high-level signal taps, ensure that the input voltage settings and input resistance settings are correct
- After successful testing, you can now switch on the amplifier, paying attention to the LED status light bar.

Trouble shooting

Note: If you are having problems after installation follow the Troubleshooting procedures below.

Procedure 1:

Check Amplifier for proper connections. Verify that POWER light is on. If POWER light is on skip to Step 3, if not continue.

1. Check in-line fuse on battery positive cable. Replace if necessary.
2. Check fuse(s) on amplifier. Replace if necessary.
3. Verify that Ground connection is connected to clean metal on the vehicle's chassis. Repair/replace if necessary.
4. Verify there is 10 V to 14.4 V present at the positive battery and remote turn-on cable. Verify quality connections for both cables at amplifier, stereo, and battery/fuse holder. Repair/replace if necessary. Verify there is 10 to 14.4 Volts present at the remote wire when system/ radio is on.

Procedure 2:

Malfunction LED lights up (red with pulse):

1. If the Protect LED (red/protect) is lit, this means that there may be a short circuit in the speaker terminals or lines. Check that the speakers are properly connected. Test for possible short circuits in the speaker cables with a voltage/resistance meter. To do this, disconnect the cable from the amplifier. A speaker impedance that is too low can also cause the protective light to illuminate.
2. If the interference LED lights up, this may also indicate thermal problems: check the loudspeaker impedance and rewire if necessary.

Make sure that alternator and battery are able to provide the system with required voltage. If no steps above have been taken effect, the amplifier is possibly damaged. Please call your local dealer for further information.

Procedure 3:

Check Amplifier for audio output.

1. Verify good RCA input connections at stereo and amplifier. Check entire length of cables for kinks, splices, etc. Test RCA inputs for AC volts with stereo on. Repair/replace if necessary.
2. Disconnect RCA input from amplifier. Connect RCA input from test stereo directly to amplifier input.

Procedure 4:

Check Amplifier if you experience Turn-on Pop.

1. Disconnect input signal to amplifier and turn amplifier on and off.
2. If the noise is eliminated, connect the REMOTE lead of amplifier to source unit with a delay turn-on module.

OR

1. Use a different 12 V source for REMOTE lead of amplifier.
2. If noise is eliminated, use a relais to isolate the amplifier from source unit to avoid noise.

Procedure 5:

Check Amplifier if you experience excess Engine Noise.

1. Route all signal carrying wires (RCA, Speaker cables) away from power and ground wires.
OR
2. Bypass any and all electrical components between the stereo and the amplifier(s). Connect stereo directly to input of amplifier. If noise goes away the unit being bypassed is the cause of the noise.
OR
3. Remove existing ground wires for all electrical components. Reground wires to different locations. Verify that grounding location is clean, shiny metal free of paint, rust etc.
OR
4. Add secondary ground cable from negative battery terminal to the chassis metal or engine block of vehicle.
OR
5. Have alternator and battery load tested by your mechanic. Verify good working order of vehicle electrical system including distributor, spark plugs, spark plug wires, voltage regulator etc.

Technical Data

Model	MA 6	MA 1
Amplifier power at 4 Ω	6 x 120 W RMS (14,4V/1%THD)	1 x 690 W RMS (14,4V/1%THD)
Amplifier power at 2 Ω	6 x 225 W RMS (14,4V/1%THD)	1 x 1120 W RMS (14,4V/1%THD)
Amplifier power at 1 Ω	– not supported	1 x 1510 W RMS (14,4V/1%THD)
Amplifier power at 4 Ω bridged	3 x 450 W RMS (14,4V/1%THD)	–
Damping factor @ 4 Ω	>165	>340
THD+N	0.003 % @ 5W 1 kHz	0.003 % @ 100 W / 60 Hz
Signal/noise ratio	91 dB	96.5 dB
HPF / high pass filter CH 1/2	15 – 300 Hz 300 – 6000 Hz	–
HPF / high pass filter CH 3/4 & CH 5/6	15 – 300 Hz	–
LPF / lowpass filter CH 1/2	–	25 – 250 Hz mit 12 / 24 dB Okt.
LPF / lowpass filter CH 3/4 LPF / low pass filter CH 5/6	30 – 300 Hz 300 – 6000 Hz 30 – 300 Hz	–
Subsonic filter	–	30 Hz
High-Level inputs	6 CH (EPS + Eingangsspannung)	2 CH (EPS + Eingangsspannung)
Low-Level inputs	6 CH (RCA / Cinch)	2 CH (RCA / Cinch)
Gain / Level adjustment per channel pair	6 V – 0.45 V	6 V – 0.45 V
Suitable for vehicles with start stop function (7,5 V – 15,8 V)	Yes	Yes
Auto-turn on function / signal detection	Yes / DC & AC/SIG	Yes / DC & AC/SIG
Remote control	Yes / wired	Yes / wired
Removable connection plugs	Yes: Power / +12 V Remote / High-Level input / audio cable	Yes: Power / +12 V Remote / High-Level input / audio cable
Dimensions (LxWxH)	270 x 160 x 51 mm	270 x 160 x 51 mm

Minimum cross-sections for power cables

We always recommend highly conductive, 100% oxygen-free, fine-stranded solid copper cables. (ETON PCC 20 cable kit) MINI ANL or ATC fuse holder with corresponding fuse. Please use at least 1.0 mm² twisted, solid copper cable for loudspeaker systems and 1.5 – 2.5 mm² for subwoofers. 0.5 mm² twisted audio cable per channel is recommended as the feed line for the high-level signal.

Cable length	Section	Fuse
1 – 2 m	10 mm ² / AWG 7	40 A
2 – 4 m	16 mm ² / AWG 6	60 A
4 – 6 m	20 mm ² / AWG 4	80 A

Notes

Conformity



ETON MA 6



ETON MA 1



Correct elimination of this product

This marking indicates that within the EU this product should not be disposed of with other household wastes. To prevent any risk to the environment or human health, please recycle them responsibly to encourage the reuse of material resources. To return your used device, please use the return and collection systems available, or contact the retailer where you purchased the product. They can recycle this product safely.

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Documents / Resources



[ETON MA6 6- and 1 Channel Class D Amplifier](#) [pdf] Installation Guide

MA6 6- and 1 Channel Class D Amplifier, MA6 6- and 1, Channel Class D Amplifier, Class D Amplifier, Amplifier

References

- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

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