PURE CAR AUDIO ENGINES

RENEGADE

OWNER'S MANUAL
BEDIENUNGSANLEITUNG

Vers. 1.2

REN 550S
2-CHANNEL AMPLIFIER
550 WATTS

REN 1100S
4-CHANNEL AMPLIFIER
1100 WATTS

Content

Deutsche Bedienungsanleitung ab Seite 9

Specifications

REN 550 S

Output power 14.4 Volt	**2 x 75 Watts @ 4 Ohms RMS** **2 x 150 Watts @ 4 Ohms MAX** **2 x 135 Watts @ 2 Ohms RMS** **2 x 275 Watts @ 2 Ohms MAX**
Loudspeaker impedance (stereo)	**2-16 Ohm**
Frequency response	**20-30 kHz**
Total harmonic content (THD & N)	**>0,5%**
Channel separation	**>50 dB**
Signal to noise ratio	**>80 dB**
Input sensitivity	**0.1 - 4 Volts**
Input impedance	**10 kOhms**
Low-Passfilter	**50-250 Hz**
High-Passfilter	**80-2000 Hz**
Bass-Boost	**0 / +6 / + 18 dB**
Supply	**+12 V (10-15 V)**
Fuse	**1 x 30 A**
Dimensions	**255 x 55 x 200 mm**

REN 1100 S

Output power 14.4 Volt	**4 x 75 Watts @ 4 Ohms RMS** **4 x 150 Watts @ 4 Ohms MAX** **4 x 135 Watts @ 2 Ohms RMS** **4 x 275 Watts @ 2 Ohms MAX**
Loudspeaker impedance (stereo)	**2-16 Ohm**
Frequency response	**20-30 kHz**
Total harmonic content (THD & N)	**>0,5%**
Channel separation	**>50 dB**
Signal to noise ratio	**>80 dB**
Input sensitivity	**0.1 - 4 Volts**
Input impedance	**10 kOhms**
Low-Passfilter	**50-250 Hz**
High-Passfilter FRONT & REAR	**80-2000 Hz**
Bass-Boost	**0 / +6 / + 18 dB**
Supply	**+12 V (10-15 V)**
Fuse	**2 x 20 A**
Dimensions	**255 x 55 x 320 mm**

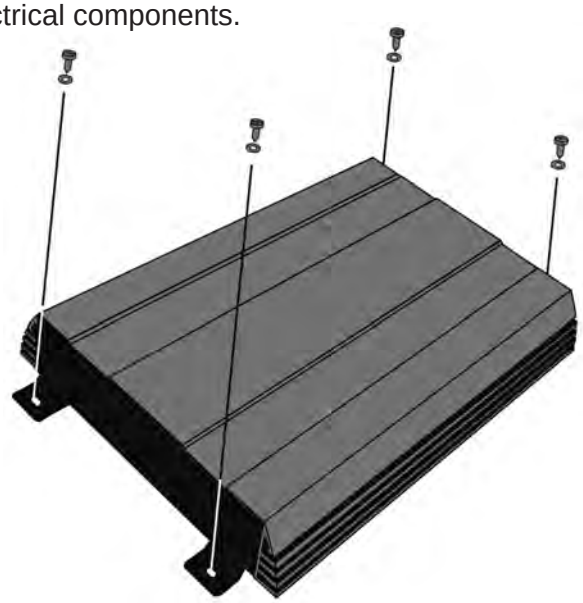
Subject to technical change

General Installation Notes

The amplifier is generally mounted in the rear trunk area but can be mounted in any convenient area such as beneath a seat. Please be sure to locate this unit where you have reasonable air circulation and protection from moisture. When considering the mounting location you should minimize the length of the power and speaker leads. Minimizing both leads will yield a more reliable installation. It is also important to ensure that the heat sink fins are not against a panel or a surface, preventing air circulation. Do not install the amplifier on a subwoofer box or on vibrating parts of the vehicle, since the vibrations can cause damage to the amplifiers electrical components.

Installation

Mark the location for the mounting screw holes by using the amplifier as a template. Drill holes at the marked locations and firmly fasten the amplifier in place with the mounting screws supplied in the accessory kit.

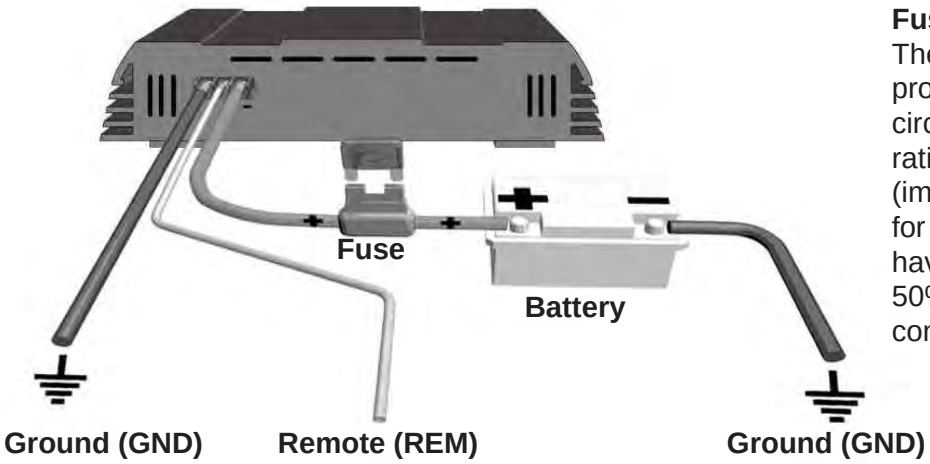


Before drilling or cutting any holes, investigate the layout of your automobile thoroughly: Take care when working near the gas lines or hydraulic lines and electrical wiring.

Electrical Connections

Ground (GND)

This wire is the electrical ground and must be fastened securely to the vehicle chassis. The best method is to use a threading sheet metal screw until the threads cut into bare metal. Ensure that all paint or other insulation is removed around the hole area, and using self tapping screw, securely affix the bare wire ends to the vehicle chassis. Use as short a piece of cable as possible - use the same gauge as was used for the +12V cable. Make sure that the connection is safe, a loose connection may result in amplifier noise and fault condition.



Fuses

The integrated amplifier fuses protect the units from short circuit and overload. The fuse rating is for 4 Ohm loads (impedance) of the speakers, for 2 Ohm loads the fuses may have to get increased by up to 50% in case of higher power consumption.

Remote (REM)

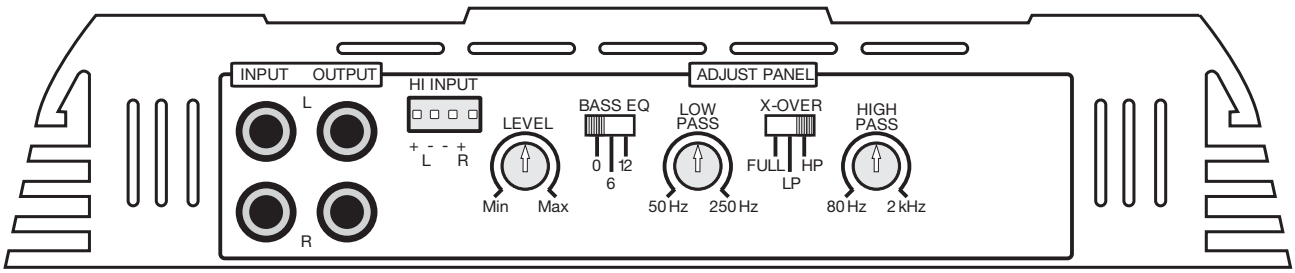
Please connect the remote turn-on cable of your car stereo decvice (head-unit) with the remote terminal of the amplifier. After the turn-on of the head unit, the amplifier will be activated automatic.

Battery Connection (+12V)

This wire is usually connected directly to the positive battery terminal. Ensure that the + power supply wire is fused via an assigned fuse in line with the + power supply wire. Please use a sufficient gauge for the installed amplifiers. A cable cross-section of 12mm^2 must be used to connect the battery with the amplifier.

Input Connections & Functions

REN 550 S



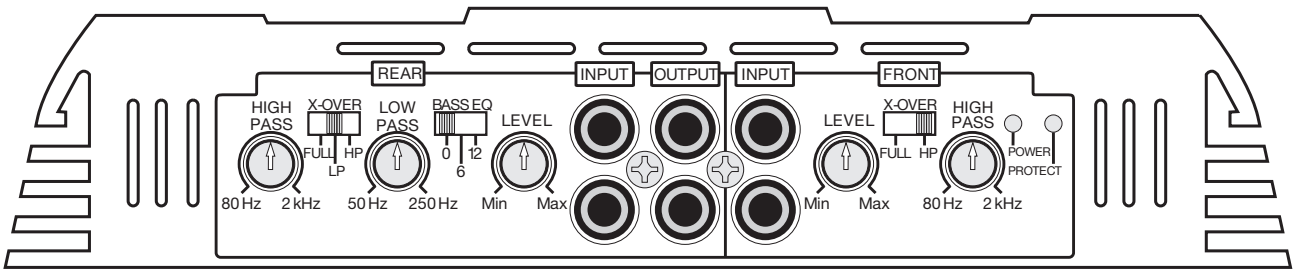
High-Level Inputs (HI INPUT)
This amplifier can be connected with the speaker outputs of any head unit .

Low Level RCA Cinch Inputs (INPUT)
This amplifier can be connected to any car stereo or head unit with low level RCA Cinch outputs.

Low Level RCA Cinch Outputs (OUTPUT)
Use this line output to send the fullrange audio signal to another amplifier.

CAUTION: Do not wire high and low inputs at the same time. This will result in damage to the amplifier and other units in the set up.

REN 1100 S



Low Level RCA Cinch Inputs (INPUT)
This amplifier can be connected to any car stereo or head unit with low level RCA Cinch outputs.

Low Level RCA Cinch Outputs (OUTPUT)
Use this line output to send the fullrange audio signal to another amplifier.

REN 550 S / REN 1100 S

Bass EQ:
The Bass-Boost-Switch ”BASS EQ” elevates the lower bass ranges. The desired elevation can be set on the ”BASS EQ” switch (0 dB / + 6 dB / + 12 dB).

Lowpass-Filters with adjustable crossover frequency
If the amplifier is used as subwoofer amplifier, set the switch ”X-OVER” to ”LP”. Then set the desired X-Over frequency with the control ”LOWPASS”.

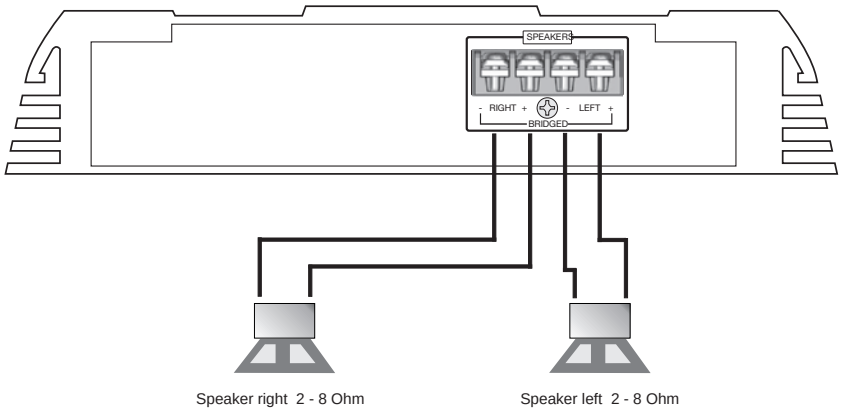
Highpass-Filters with adjustable crossover frequency
If the amplifiers is to be used for satellite loudspeaker (mid-range/tweeter) amplification, set switch ”X-OVER” to ”HP”. Set the desired X-Over frequency with the control ”HIGHPASS” and only the frequencies above the set will be amplified.

Speaker Connections

REN 550 S

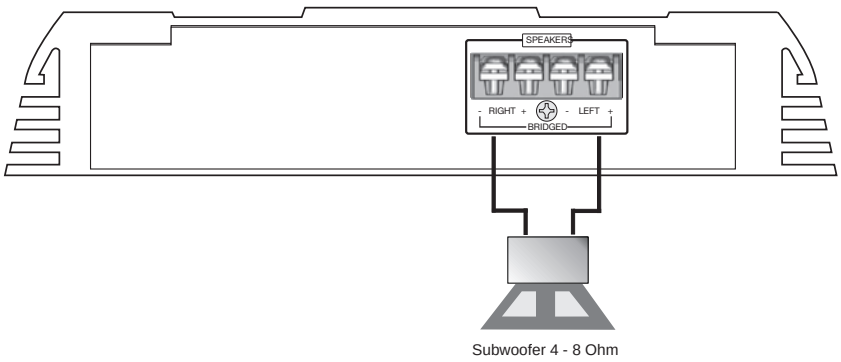
2-Channel Mode with Front or Rear-Speakers

Connect the speakers
with the terminals
SPEAKERS
- RIGHT +, - LEFT +,
of the amplifier.



Mono/Subwoofer Mode with 1 Subwoofer

Connect the subwoofer with
the terminal SPEAKERS
- BRIDGED +
of the amplifier.



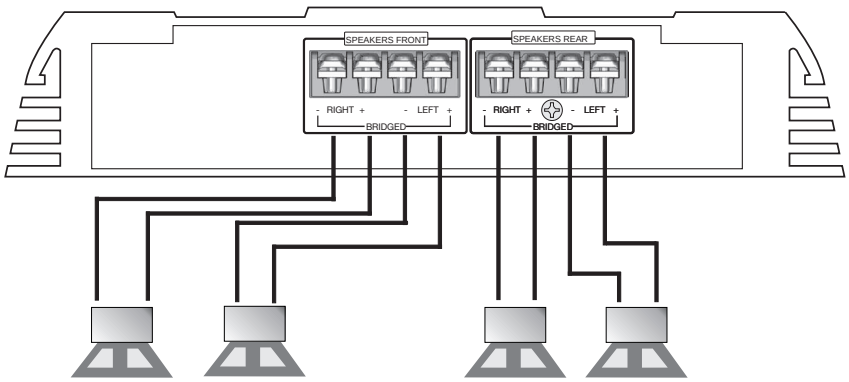
CAUTION: Please observe speaker channel and polarity as printed by the speaker terminal block. Incorrect phasing of the speakers results in total loss of bass response.

Speaker Connections

REN 1100 S

4-Channel Mode with Front-/ Rear-Speaker

Connect the front-speakers
with the terminals
SPEAKERS FRONT
- RIGHT +, - LEFT +
and the rear-speakers with
SPEAKERS REAR
- RIGHT +, - LEFT +,
of the amplifier.



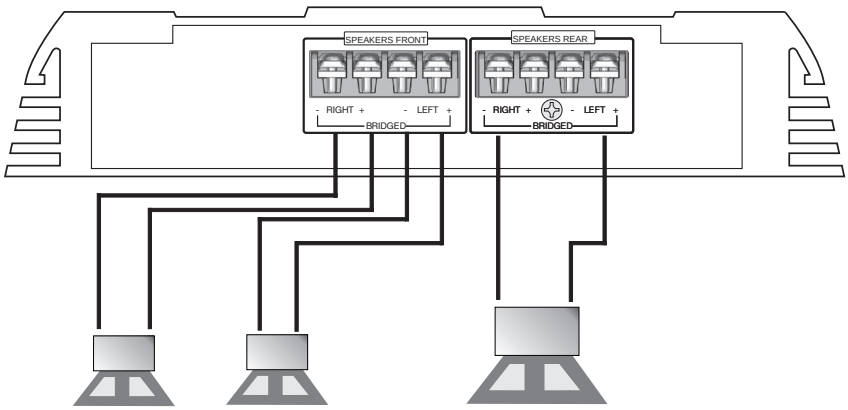
Speakers front 2 - 8 Ohm

Speakers rear 2 - 8 Ohm

3-Channel Mode with Stereo Front Speakers and Mono/Subwoofer

Connect the front speakers
with the terminals
SPEAKERS FRONT
- RIGHT + and - LEFT +
of the amplifier.

Connect the subwoofer
with the terminal
SPEAKERS REAR
- BRIDGED +
of the amplifier.



Speakers front 2 - 8 Ohm

Subwoofer 4 - 8 Ohm

CAUTION: Please observe speaker channel and polarity as printed by the speaker terminal block. Incorrect phasing of the speakers results in total loss of bass response.

Troubleshooting

The key to finding the problem in a misbehaving sound system is to isolate parts of that system in a logical fashion to track down the fault.

The Protect-LED lighting up under the following conditions (only for REN 1100 S)
1 - A short circuit on the loudspeaker leads.
2 - An internal amplifier fault that causes a DC offset on the loudspeaker output.

Should the amplifier go into diagnostic mode, simply disconnect all RCA and speaker leads, while keeping +12 volt, power ground and remote leads connected. Now turn the amplifier back on, and if the Protect-LED lights, the amplifier has an internal fault. If not, plug the RCA cables back, and reset the amplifier. If it goes into diagnostic now, the fault lies in the input, either with bad cables or source unit. If the amplifier seems fine with RCA cables plugged in, connect the speakers, one at a time, and if one of the speakers or its wiring is faulty, it will activate the protection system.

Amplifier heatsink overheating
The amplifiers will shut down when the heatsink temperature reaches 80 degrees centigrade (180 degrees Fahrenheit), and turn back on once the unit has cooled down below that point.

Causes of overheating
1 - Inadequate cooling - relocate or remount to provide better natural airflow over the fins.
2 - Driving high power levels into low impedances - back off on the volume control, and/or make sure you are not loading the amplifier with less than the recommended loudspeaker impedance.

Low output power
1 - Check that level controls have been set up properly.
2 - Make sure that the battery voltage, as measured at the amplifier's +12 volt and ground terminals, is 11 volts or more.
3 - Check all +12 volt and ground connections.

Fuses blowing
1 - The use of loudspeaker impedances below the recommended minimums will draw more current - check.
2 - A short on the main +12 volt cable from the battery to the vehicle chassis will cause the main fuse to blow.
3 - If an amplifier fuse blows continually, with only +12 volt, ground and remote leads connected, the amplifier may be faulty.

System does not turn on
1 - Check all fuses.

Noise problems
System noise can be divided into two categories, hiss, and electrical interference.

Hiss, or white noise
1 - High levels of white noise usually occurs when amplifier level controls are turned up too high - readjust all controls to zero position
2 - Another major problem that can cause excessive hiss, is a noisy head unit - unplug the amplifier input RCA cables, and if the hiss level reduces, the source unit is at fault.

Electrical interference
The inside of an automobile is a very hostile electrical environment. The multitude of electrical systems, such as the ignition system, alternator, fuel pumps, air conditioners, to mention just a few, create radiated electrical fields, as well as noise on the +12 volt supply and ground. Remember to isolate the problem - first unplug amplifier input RCA cables, if the noise is still present, check the speaker leads, if not, plug the RCA's back, and investigate the source driving the amplifier, one component at a time.

A ticking or whine that changes with engine RPM
1 - This problem could be caused by radiation pickup of RCA cables too near to a fuel pump or a distributor, for instance, - relocate cables.
2 - Check that the head unit ground is connected straight to the vehicle chassis, and does not use factory wiring for ground.
3 - Try to supply the head unit with a clean +12 volt supply directly from the battery +, instead of using a supply from the in dash wiring/fusebox.

A constant whine
This type of noise can be more difficult to pinpoint, but is usually caused by some kind of instability, causing oscillations in the system.
1 - Check all connections, especially for good grounds.
2 - Make sure that no speaker leads are shorting to exposed metal on the vehicle chassis.
3 - RCA cables are notorious for their problematic nature, so check that these are good, in particular the shield connections.