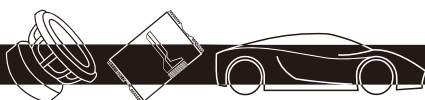


GLADEN[®]
GERMAN TECHNOLOGY

**User`s Guide
for amplifiers**

**SPL 5000c1 LV
SPL 5000c1 HV**



Installation

If you install the amplifiers by yourself, please read the user manual very carefully, and follow the outlined instructions.

Mounting Preparation

Disconnect the negative (-) battery cable before mounting or making any connections. Check the battery and alternator ground (-) connections. Make sure they are properly connected and free of corrosion. Before selecting a mounting location for the amplifiers, please take cooling and safety into consideration.

Avoid installing the amplifier on speaker boxes with excessive vibration !

The amplifiers have been designed with a good heat dissipation heatsink. In order to avoid excessive heating, it is recommended that the amplifier is installed in a well ventilated space.

+12V(B+), GND, REM CONNECTION

+12V / B+ (POWER CONNECTION)

Before mounting the amplifiers, disconnect the negative (-) wire from the battery to protect any accidental damage to the amplifiers or the audio systems. The amplifiers are equipped with 0 AWG or 4 AWG power and ground terminals. Connect the power cables to power terminal labeled as + 12V.

As the amplifier is not equipped with fuses, external fuses are required.

Connect one end of the fuse holder to the power cable and the other end of the fuse holder to the positive battery terminal within 20 cm of the same cable.

This fuse location will protect the system and the vehicle against the possibility of a short circuit in the power cable.

Make sure that the fuses and the fuse holder are adequate for the desired application.

GND (GROUND CONNECTION)

Locate a secure grounding connection as close as possible to the amplifier.

Make sure the location is clean and provides a direct electrical connection to the chassis of the vehicle.

Connect one end of an equal sized cable as the positive cable to the location of ground.

It is important that the ground cable is as short as possible, but not longer than 75 cm at maximum.

Conduct one end of the cable to the grounding point.

Conduct the other end of the cable to the mounting location.

Connect the ground cable to the terminal labeled as GND.

REM (REMOTE CONNECTION)

Conduct a remote turn on cable from the switched + 12V source.

This may be a toggle switch, a relay, the source unit's remote output cable or power antenna trigger cable.

Connect the remote turn on cable to the power terminal labeled as REM.

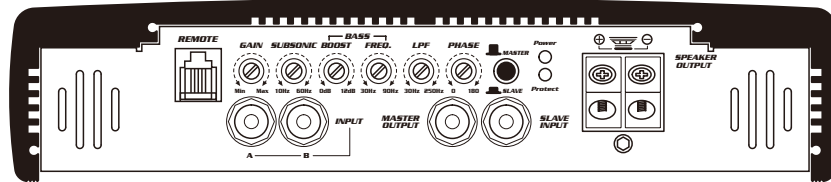
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Panel Layout

(Model : SPL 5000c1 LV / SPL 5000c1 HV)



1) INPUT

Connect preamp signal cables from head unit to RCA input of amplifier.
Minimum level input of 0.2V is essential for correct operation.

2) OUTPUT

Output RCA for signal routing to another amplifier.

3) GAIN

Match the output voltage of the head unit's RCA line-outs to the input section.

4) SUBSONIC FILTER

Control the high pass point for the speaker outputs to eliminate extreme low frequencies.

5) LOW PASS FILTER (30Hz ~ 250Hz @ 24dB OCTAVE SLOPE)

Control the low pass point for the speaker outputs.

8) BASS BOOST

Variable bass boost with 0-12 dB @ 30Hz ~ 90Hz.

9) PHASE CONTROL

Variable phase adjustment from 0~180 degrees

10) REMOTE LEVEL CONTROL PORT

Used for connecting to external wired remote controller.

11) REMOTE CONTROL (OPTIONAL ITEM)

Turn knob clockwise to increase level and likewise, turn knob counter clockwise decrease level.

12) MASTER OUTPUT / SLAVE INPUT

For linkable connection of 2 same amplifiers. Minimum impedance is 2 Ω .

In this mode, the master amplifier will control gain settings on the subsequent slaved amplifier.

13) POWER & PROTECTION INDICATOR

Power LED, green-LED or blue-LED shows correct operation. Protect LED, Red-LED shows general malfunction, faulty connection or thermal protection.

14) SPEAKER OUTPUTS

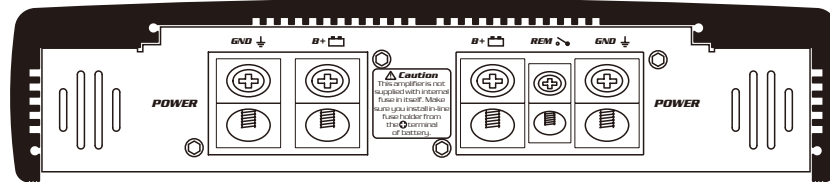
Amplifier connection to the loudspeakers. Minimum speaker cable is 12 gauge.

Minimum impedance for single unit is 1 Ω .

Minimum impedance in linked connections is 2 Ω .

+12V (B+), GND, REM

(Model : SPL 5000c1 LV / SPL 5000c1 HV)



GND (GROUND CONNECTION)

For connection to chassis ground. For optimum performance, 0 gauge cable is recommended.

REM (REMOTE)

Connect to switched +12V from the head unit.

+12V / B+ (POWER CONNECTION)

For connection to positive terminal of battery (+12).

For optimum performance, 0 gauge cable is recommended.

⚠ CAUTION

Before attempting to make any connections to power supply, input and output connectors, make sure the amplifier is in OFF state. Check polarity of cables carefully as using reversed polarity will cause damage to amplifier. And to prevent power loss and overheating of wiring, always use the recommended wire gauges.

⚠ CAUTION

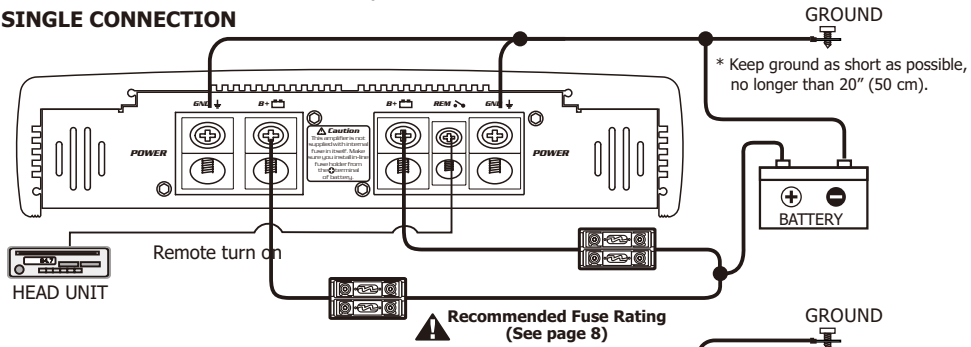
Installation of the amplifier should be done in the following steps:

1. Ensure that the ground is appropriate, then connect it to the amplifier.
2. Next step is to connect the +12V wire. Ensure all power terminals are used.
This cable has to be fused at the battery for safety precautions.
3. The final step is connecting the switched remote.

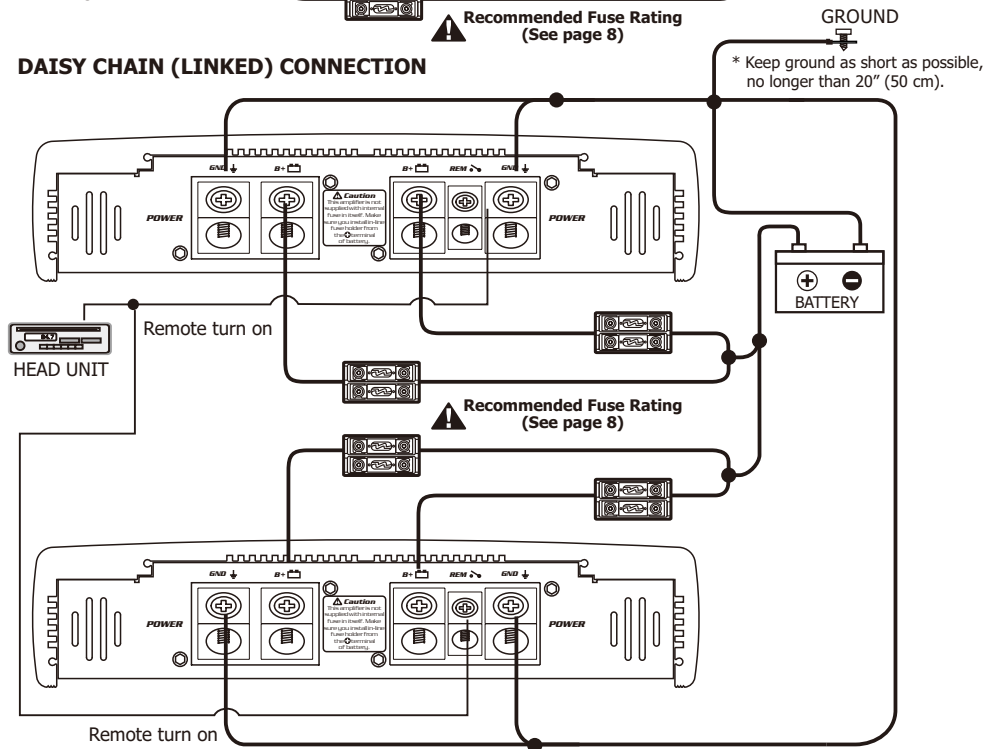
+12V(B+), GND, REM Connection

(Model : SPL 5000c1 LV / SPL 5000c1 HV)

SINGLE CONNECTION



DAISY CHAIN (LINKED) CONNECTION



CAUTION

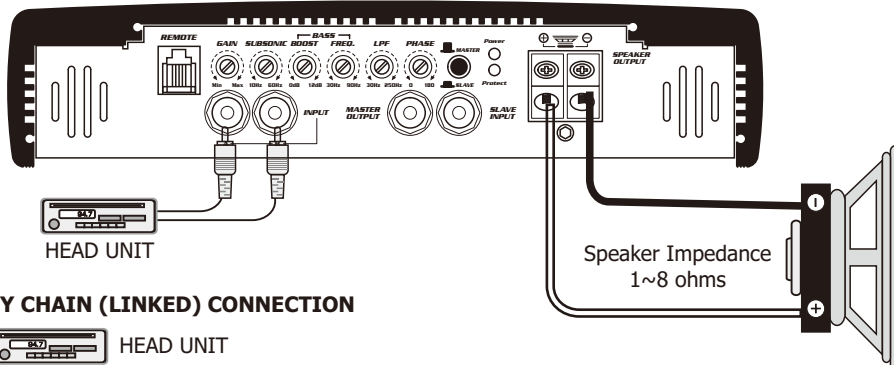
Keep GROUND of equal length. This drawing is for illustration purpose only.

We recommend using 12 AWG speaker cables to obtain intended performance.
 Conduct 12 AWG speaker cables from your speakers to the amplifier's mounting location
 Keep the speaker cables separate from the power cables and the amplifier's input cables.
 Use grommets where the cables have to penetrate the vehicle chassis.
 Connect the speaker wires according to the terminals on each speaker.
 Strip 1cm, 3/8" of insulation of the end of each cable and twist the cables strands together tightly.
 Make sure there are no stray strands that might touch other cables or terminals and cause short circuit.
 Connect the cable ends to the amplifier as shown in the speaker wiring diagram.

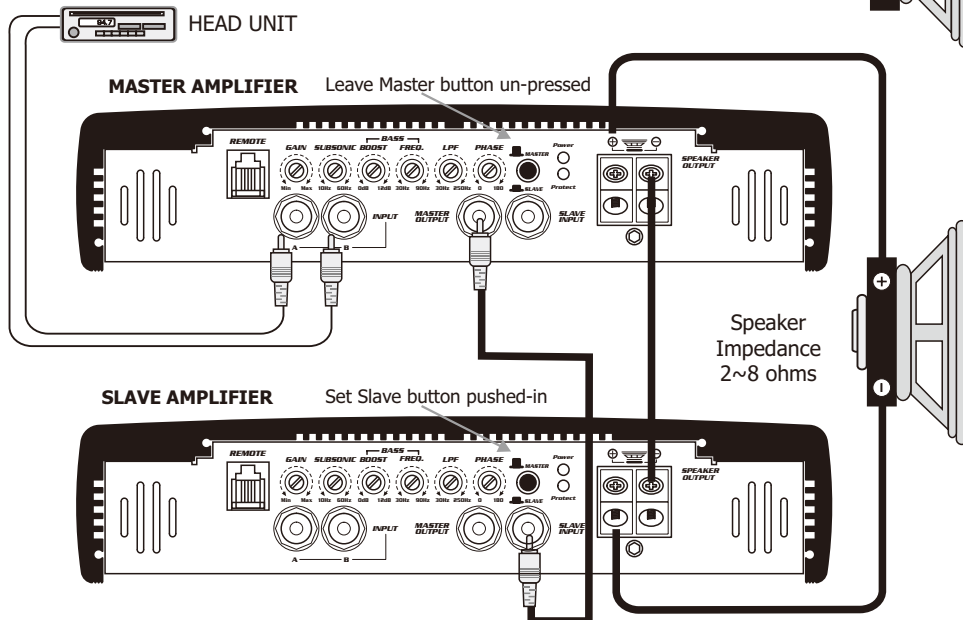
Speaker Connection

(Model : SPL 5000c1 LV / SPL 5000c1 HV)

SINGLE CONNECTION



DAISY CHAIN (LINKED) CONNECTION



- Daisy chain connection allows linking of 2 same amplifiers to work as 1 single amplifier.
Please read the following connection diagram cautiously to ensure the correct connection.
- Step 1. Connect the master amplifier to the head unit and set its output master and input slave switch to output master position (MASTER)
 - Step 2. Connect the master and slave amplifier in daisy chain RCA jack as shown in the diagram.
 - Step 3. Set **slave** amplifier output master & input slave switch to **slave input** position (SLAVE)
 - Step 4. Connect speaker cable (+) on master amplifier to subwoofer (+)
 - Step 5. Connect speaker cable (+) on slave amplifier to subwoofer (-)
 - Step 6. Connect speaker cable (-) on master amplifier to speaker cable (-) on slave amplifier using 8 AWG wire cable.



The minimum impedance as 1 unit is 1Ω.
In a daisy chain configuration the minimum impedance is 2Ω.

Troubleshooting

Assure that the Power LED is on, if so please proceed with step # 3, if not, continue with the steps below;

1. Check the in line fuse (s) on the battery's positive cable, and replace if needed.
2. Assure that the Ground is properly attached to the vehicle chassis on a clean metal point, tighten or grind the connection point once again.
3. The amplifiers have high voltage protection. Make sure that the operating voltage is between 8.5V~18V and voltages above this range will cause the amplifier to go into protect.

Protect LED is on

1. The Protect LED will light up under the possible circumstances;
 - a) The impedance connected is lower than specified rating.
 - b) Thermal PT can be activated if the impedance is lower than specified rating or if the supplied voltage is insufficient.
 - c) Short circuitry, voltage and DC offset.
For short circuitry, check all cables including speaker wires, GND, battery's positive cable.
For voltage, please check step # 3, for DC offset, make sure that voltage of no more than 4V is available. Remove the RCA from the input and check if the amplifier is released from protection. If so, check if the output from the Head unit has a DC of 4V and replace / repair if needed.

Audio output (no sound)

1. Assure that RCA connections from the Head unit and the amplifier are properly connected. Check the entire cables for damages. Test the RCA inputs for DC volts with the source unit on, and replace / repair if needed.
2. Check the routing of the cables, fuses and verify that all connections are connected properly.
3. Check if the speakers are functioning properly.

Turn on Thump

1. Disconnect the signal input to the amplifier, then turn it on and off.
 - a) If the noise is cancelled, then connect a delay turn on module on the REM wire running from the source unit to the amplifier.
 - b) Use another 12V source for REM lead to the amplifier. If the noise is cancelled, use a relay to isolate the amplifier from the turn on thump.

Poor bass response

1. Check that the polarity of the speaker cables are correct. Speakers connected in anti-phase will cancel out each other, thus the bass response will be absent.

Engine noise

1. Ensure that all signal transferring wires (RCA, speaker cables etc) are kept well isolated from power and ground wires.
2. Bypass all electrical components between the Head unit and the amplifier.
Connect the Head unit directly to the amplifier's input. If the noise is eliminated, the unit bypassed is the one creating the noise.
3. Remove the existing ground wires for all electrical components installed. Ensure that the ground point is 100% metal which has been grinded and free of rust, paint, impurities etc.
4. Replace the ground cable of OEM battery / alternator and ensure it is grounded properly.
5. Test the battery and alternator load.
Ensure that the vehicle's electrical system is in a good condition including distributor, spark plugs / wires, voltage regulators etc.

Specifications

MODEL CODE

SPL 5000c1 LV, as the letters LV (low voltage) implies, is an 14.4V optimized amplifier

Continuous power output @14.4V Input

-RMS power, 4 ohms mono	: 1350W x 1CH
-RMS power, 2 ohms mono	: 2700W x 1CH
-RMS power, 1 ohm mono	: 5000W x 1CH
Signal to noise ratio	: >100dB
Low pass frequency crossover	: 30Hz~250Hz
Subsonic filter	: 10Hz~60Hz
Bass boost	: 0~12dB
Bass boost Frequency	: 30Hz~90Hz
Phase shift control	: 0~180 degree
Frequency response	: 10Hz~350Hz (+/- 1dB)
T.H.D Continuous @ 4 ohm, 100Hz	: <0.15%
Efficiency @ 4 ohm, 100Hz	: 90%
Input sensitivity	: 8V ~ 200mV (+/- 5%)
Dimensions (Length)	: 235(W) x 52(H) x 654(L) mm
Operating Voltage	: DC 8.5V~18V
Recommended Fuse rating	: 450A (linked: 900A)

SPL 5000c1 LV

MODEL CODE

SPL 5000c1 HV, as the letters HV (high voltage) implies, is an 18V optimized amplifier

Continuous power output @18V Input

-RMS power, 4 ohms mono	: 1350W x 1CH
-RMS power, 2 ohms mono	: 2700W x 1CH
-RMS power, 1 ohm mono	: 5000W x 1CH
Signal to noise ratio	: >100dB
Low pass frequency crossover	: 30Hz~250Hz
Subsonic filter	: 10Hz~60Hz
Bass boost	: 0~12dB
Bass boost Frequency	: 30Hz~90Hz
Phase shift control	: 0~180 degree
Frequency response	: 10Hz~350Hz (+/- 1dB)
T.H.D Continuous @ 4 ohm, 100Hz	: <0.15%
Efficiency @ 4 ohm, 100Hz	: 90%
Input sensitivity	: 8V ~ 200mV (+/- 5%)
Dimensions (Length)	: 235(W) x 52(H) x 654(L) mm
Operating Voltage	: DC 8.5V~18V
Recommended Fuse rating	: 450A (linked: 900A)

SPL 5000c1 HV

The above specifications are subject to modifications for improvement without prior notice.