

# SOUNDSTREAM



## OWNER'S MANUAL

PA4. 700/PA4. 1000/  
PA1. 3500D/PA1. 5000D/PA1. 6000D

# Table of Contents

---

## Installation

Installation Notes, Installation of Amplifier, Electrical Connections	2
---	---

## 4-Channel Amplifiers PA4.700/PA4.1000

Functions & Controls	3
Speaker- & RCA Connections	4-5

## 1-Channel Mono Bass Amplifier PA1.3500D

Functions & Controls	6
Speaker- & RCA Connections	7

## 1-Channel Mono Bass Amplifier PA1.5000D/PA1.6000D

Functions & Controls	8
Speaker- & RCA Connections	9-10

Trouble Shooting	11
------------------	----

## Specifications

# Installation

## 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 of the amplifier

Before starting with the installation, mount the provided mounting brackets on the amplifier. Mark the location for the mounting screw holes by using the amplifier as a template. Drill holes at the marked locations as 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 Connection

### 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 since the threads cut into bare metal. Ensure that all paint or other insulation is removed from around the hole area, and using self tapping screw, securely affix the ground wire to the vehicle chassis using an appropriate ring terminal. 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 and stable.

### Remote (REM)

Connect the remote wire of your headunit with the remote turn-on of the power amplifier.

### Battery Connection (+12V Power)

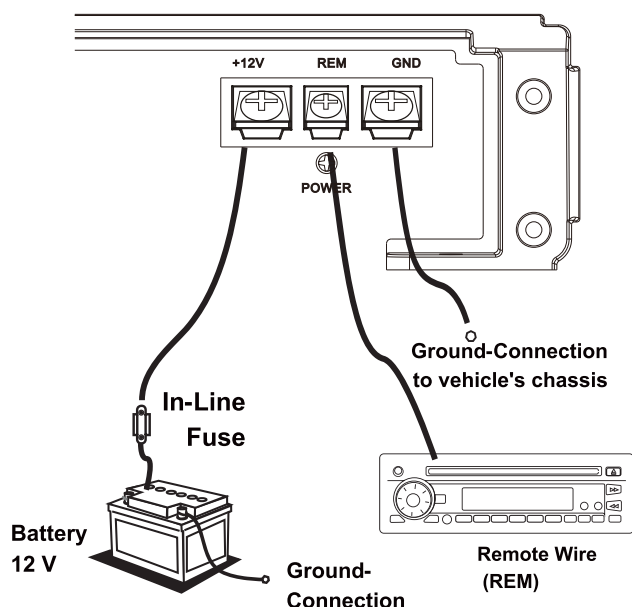
This wire is usually connected directly to the positive battery terminal. Ensure that the + power supply wire is fused via an in-line fuse near by the battery. Please use a sufficient gauge (min 4g) with spade lug with insulating sleeve.

The In-line fuse should have an amperage rating totaling the on-board fuse ratings of all amplifiers and processors receiving power...

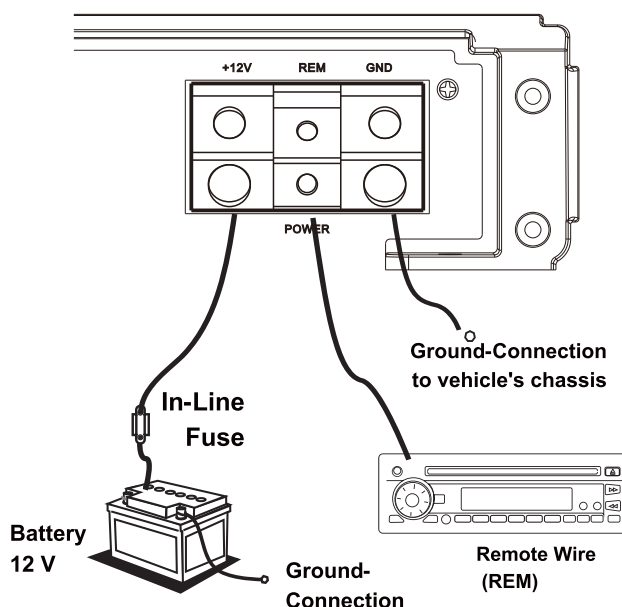
### Fuses

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 2/1 Ohm loads the fuses may have to get increased by up to 50%/100% in case of higher power consumption.

PA4. 700/PA4. 1000/

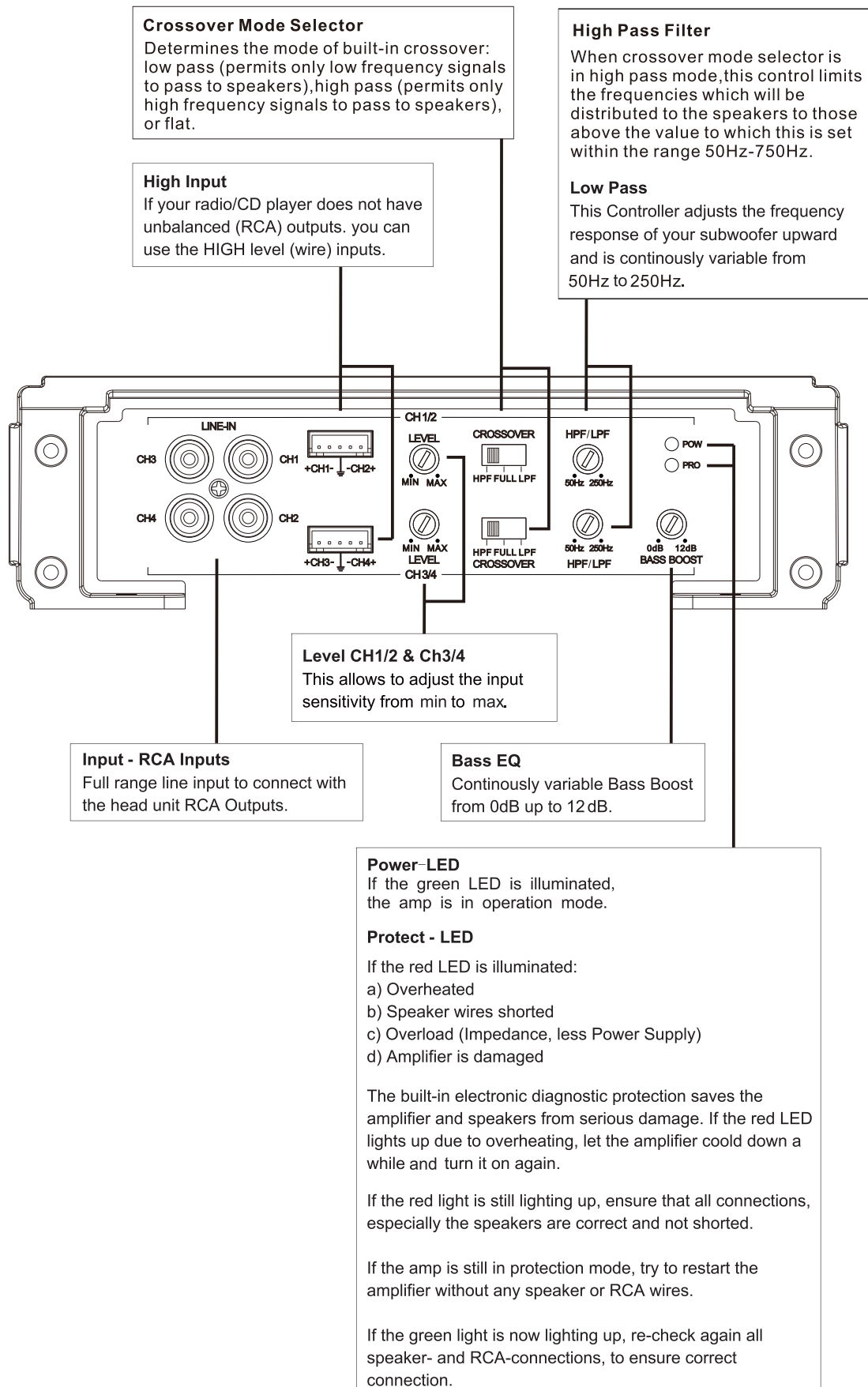


PA1. 3500D/PA1. 5000D/PA1. 6000D



# Functions & Controls

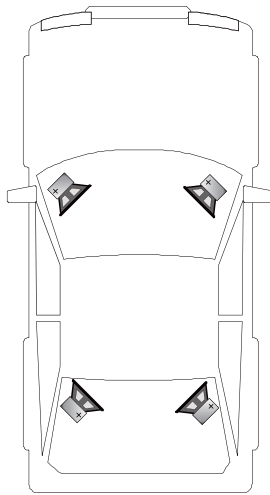
## PA4.700/PA4.1000



# Speaker & RCA Connections

## PA4.700/PA4.1000

### 4-Channel-Mode: 2 Frontspeakers / Stereo & 2 Rearspeakers /Stereo



#### Cable connection

- Connect INPUT of the amplifier to the head unit line output with good quality RCA cables. By connecting the RCA jacks OUTPUT with a additional amplifier, a full range signal will be provided to the amplifier.
- Connect the speakers with the terminal block (CH1 -/+ & CH2 -/+ SPEAKER) and (CH3 -/+ & CH4 -/+ SPEAKER) of the amplifier.
- The minimum final speaker impedance must not be below 2 Ohm per channel. Too low speaker loads result in too high heat dissipation and may cause the amplifier run into protection.
- 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.

#### Caution

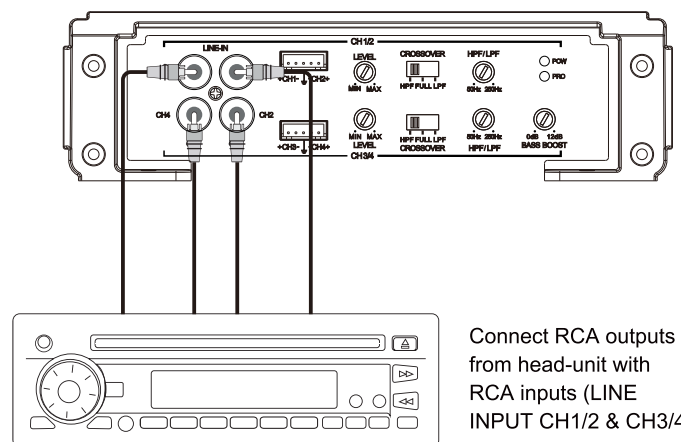
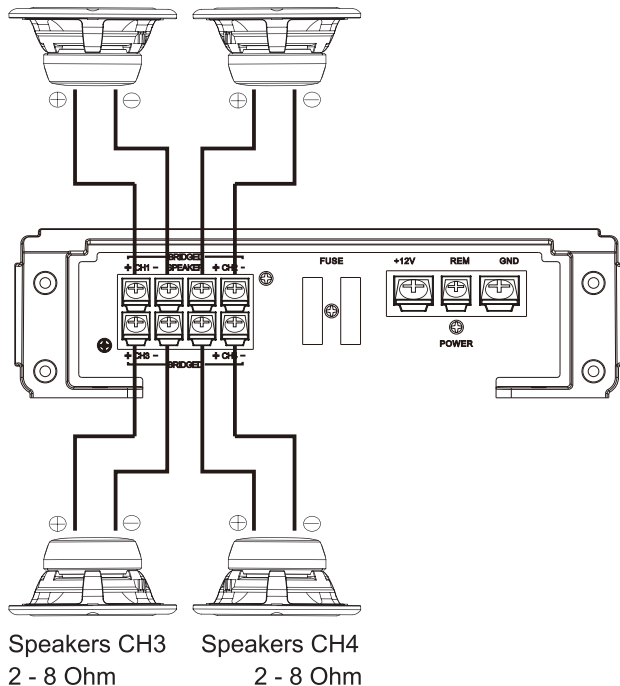
Please avoid to connect speaker (-) to the ground or vehicle chassis.

#### LEVEL INPUT - Control CH1/2 and CH3/4

- Turn the LEVEL INPUT - Control on the amplifier to "6V" position.
- Turn the head unit volume control to about 80-90% of its full setting.
- Turn the LEVEL INPUT - Control clockwise until you hear some distortion.
- Then turn back the LEVEL INPUT - Control slightly until you can hear clean sound.

Speakers CH1  
2 - 8 Ohm

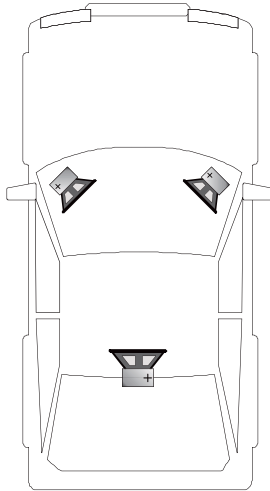
Speakers CH2  
2 - 8 Ohm



# Speaker & RCA Connections

## PA4.700/PA4.1000

### 3-Channel-Mode: 2 Speakers/Stereo & 1 Subwoofer / Mono bridged



#### Cable connection

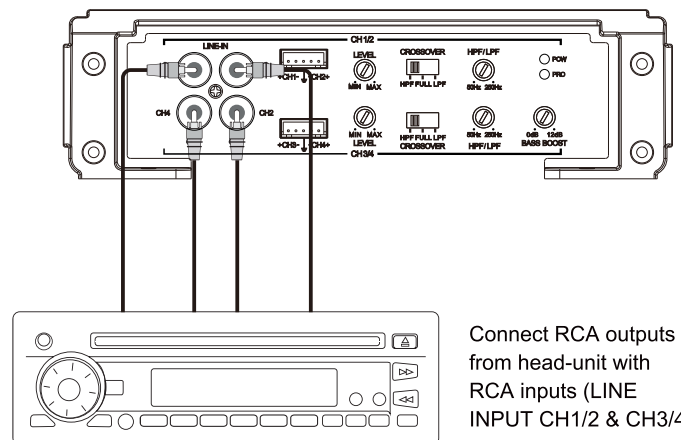
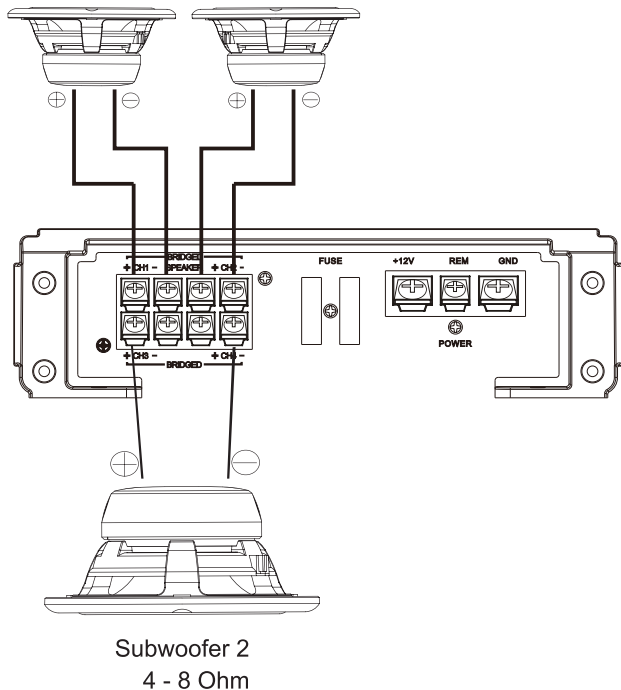
- Connect the INPUT of the amplifier to the head unit line output with good quality RCA cables. By connecting the RCA jacks OUTPUT with a additional amplifier, a full range signal will be provided to the amplifier.
- Connect the speakers with the terminal block (CH1 -/+ & CH2 -/+ SPEAKER OUTPUT and the subwoofer with CH3/4 - BRIDGED+ SPEAKER OUTPUT) of the amplifier.
- The minimum final speaker impedance must not be below 2 Ohm per channel and 4 Ohm (Subwoofer) per channelpair. Too low speaker loads result in too high heat dissipation and may cause the amplifier run into protection.
- 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.

#### Caution

Please avoid to connect speaker (-) to the ground or vehicle chassis.

Speakers CH1  
2 - 8 Ohm

Speakers CH2  
2 - 8 Ohm



# Functions & Controls

## PA1.3500D

### Low Pass

This Controller adjusts the frequency response of your subwoofer upward and is continuously variable from 30Hz to 250Hz.

### Remote

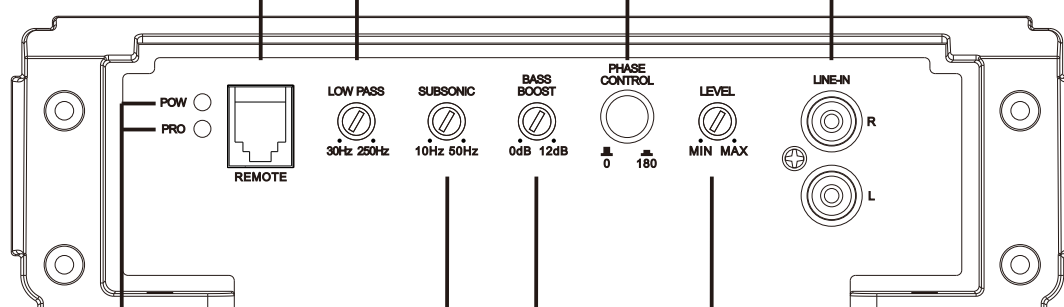
Connection for the provided bass remote control. Allows to adjust the subwoofer from f.i. the driver's seat.

### Phase

This Controller adjusts the Phase Shift from 0° to 180°, to match the subwoofer to the vehicle's acoustic environment.

### Input - RCA Inputs

Full range line input to connect with the head unit RCA Outputs.



### Sub Sonic

This Controller eliminates the lowest frequencies to protect the subwoofer from damages. These low frequencies can cause damages. The frequency is adjustable from 10Hz to 50Hz.

### Bass EQ

Continuously variable Bass Boost from 0dB up to 12dB.

### Level

This allows to adjust the input sensitivity from min to max.

### Power-LED

If the green LED is illuminated, the amp is in operation mode.

### Protect - LED

If the red LED is illuminated:

- a) Overheated
- b) Speaker wires shorted
- c) Overload (Impedance, less Power Supply)
- d) Amplifier is damaged

The built-in electronic diagnostic protection saves the amplifier and speakers from serious damage. If the red LED lights up due to overheating, let the amplifier cool down a while and turn it on again.

If the red light is still lighting up, ensure that all connections, especially the speakers are correct and not shorted.

If the amp is still in protection mode, try to restart the amplifier without any speaker or RCA wires.

If the green light is now lighting up, re-check again all speaker- and RCA-connections, to ensure correct connection.

# Speaker & RCA Connections

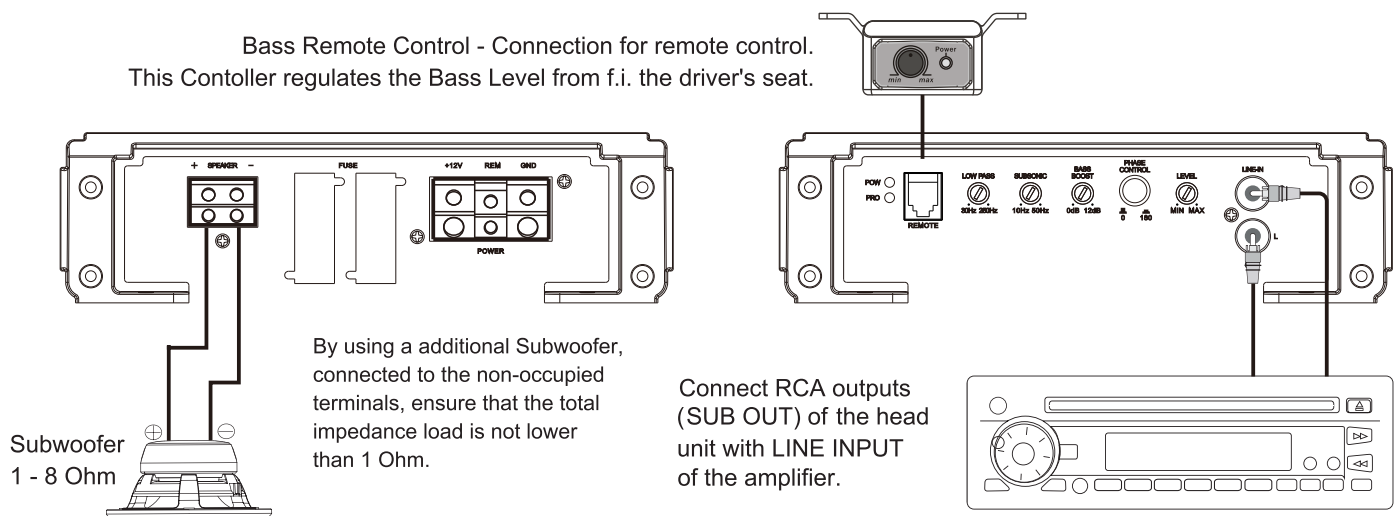
## PA1.3500D

### RCA & Speaker wiring:

- Connect the LINE INPUT of the amplifier to the head unit line output with appropriate good quality RCA cables. As optional feature the Balanced Inputs can be used. But therefor an signal transmitter with specific wires is required. Ask your specialist dealer for the required equipment.
- Connect the subwoofer with appropriate wires to the terminal block (SPEAKER OUTPUT - and +) of the amplifier. As optional feature a additional Subwoofer can be connected to the non-occupied terminals.
- The minimum final subwoofer impedance must not be lower than 1 Ohms in total. Too low speaker loads result in too high heat dissipation and may cause the amplifier run into protection.
- Please observe correct speaker channels and polarity as printed by the speaker terminal

### Caution!

**Do not connect speaker (-) to the ground or vehicle's chassis.**



### Low Pass

- This eliminates the higher frequencies. Set the crossover-frequency between 30Hz-250Hz, depending on the size of the installed subwoofer.

### Sub Sonic

- This eliminates the lowest frequencies and protects the speakers from damage. Set the frequency between 10Hz-50Hz, depending on the size of the installed subwoofer.

### Phase

- This Controller allows to adjust the Phase Shift 0° to 180°, to match the subwoofer to the vehicle's acoustic environment.

### Input Level

- Turn the LEVEL control of the amplifier to 6V position.
- Turn the head unit volume control to about 80 - 90% of its full setting.
- Turn the LEVEL control clockwise until you hear some distortion.
- Then turn back the LEVEL control slightly until you can hear a clean sound.

### Bass EQ

- This Controller regulates the Bass Boost from 0 - 12dB.

**Caution!** Please use the Bass-EQ carefully. The additional boost may result in clipping or overload.

### Bass Remote

- The provided Bass Remote regulates the Bass Level from f.i. the driver's seat.



# Functions & Controls

## PA1.5000D/PA1.6000D

### Low Pass

This Controller adjusts the frequency response of your subwoofer upwards and is continuously variable from 30Hz-250Hz .

### Sub Sonic

This Controller eliminates the lowest frequencies to protect the subwoofer from damages. These low frequencies can cause damages. The frequency is adjustable from 10Hz to 50Hz.

### Bass EQ

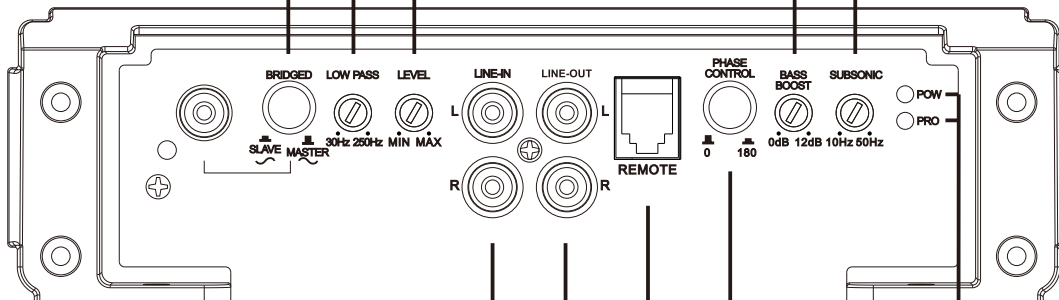
Continuously variable Bass Boost from 0dB up to + 12dB.

### Bridged

Allowed you select MASTER or SLAVE.

### Level

This allows to adjust the input sensitivity from min to max.



### Input - RCA Inputs

Accepts line level(RCA)inputs from 0.2 to 6 volts

### Output-RCA Outputs

Allows you to connect additional amplifier

### Remote

Connection for the provided bass remote control. Allows to adjust the subwoofer from f.i. the driver's seat.

### Phase

This Controller adjusts the Phase Shift from 0° to 180°, to match the subwoofer to the vehicle's acoustic enviroment.

### Power-LED

If the green LED is illuminated, the amp is in operation mode.

### Protect - LED

If the red LED is illuminated:

- a) Overheated
- b) Speaker wires shorted
- c) Overload (Impedance, less Power Supply)
- d) Amplifier is damaged

The built-in electronic diagnostic protection saves the amplifier and speakers from serious damage. If the red LED lights up due to overheating, let the amplifier coold down a while and turn it on again.

If the red light is still lighting up, ensure that all connections, especially the speakers are correct and not shorted.

If the amp is still in protection mode, try to restart the amplifier without any speaker or RCA wires.

If the green light is now lighting up, re-check again all speaker- and RCA-connections, to ensure correct connection.

# Speaker & RCA Connections

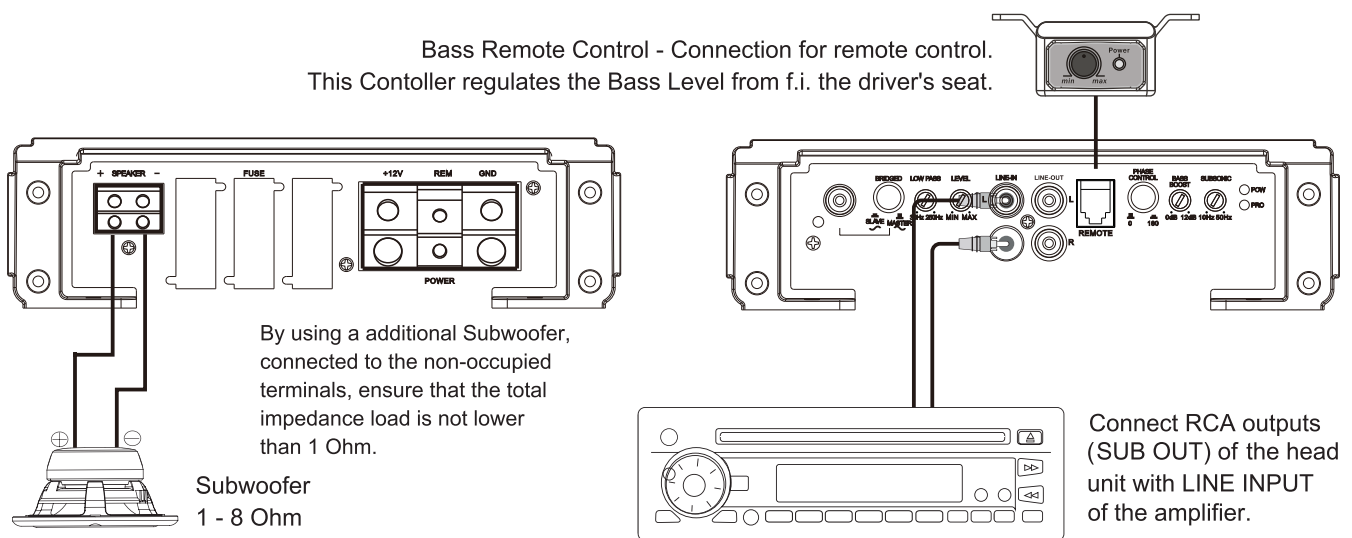
## PA1.5000D/PA1.6000D

### RCA & Speaker wiring:

- Connect the LINE INPUT of the amplifier to the head unit line output with appropriate good quality RCA cables. As optional feature the Balanced Inputs can be used. But therefor an signal transmitter with specific wires is required. Ask your specialist dealer for the required equipment.
- Connect the subwoofer with appropriate wires to the terminal block (SPEAKER OUTPUT+ and - ) of the amplifier. As optional feature a additional Subwoofer can be connected to the non-occupied terminals.
- The minimum final subwoofer impedance must not be lower than 1 Ohms in total. Too low speaker loads result in too high heat dissipation and may cause the amplifier run into protection.
- Please observe correct speaker channels and polarity as printed by the speaker terminal

### Caution!

**Do not connect speaker (-) to the ground or vehicle's chassis.**



### Low Pass

- This eliminates the higher frequencies. Set the crossover-frequency between 30Hz-250Hz, depending on the size of the installed subwoofer.

### Sub Sonic

- This eliminates the lowest frequencies and protects the speakers from damage. Set the frequency between 10Hz- 50Hz depending on the size of the installed subwoofer.

### Phase

- This Controller allows to adjust the Phase Shift 0° to 180°, to match the subwoofer to the vehicle's acoustic enviroment.

### Input Level

- Turn the LEVEL control of the amplifier to 6V position.
- Turn the head unit volume control to about 80 - 90% of its full setting.
- Turn the LEVEL control clockwise until you hear some distortion.
- Then turn back the LEVEL control slightly until you can hear a clean sound.

### Bass EQ

- This Controller regulates the Bass Boost from 0 - 12dB.

**Caution!** Please use the Bass-EQ carefully. The additional boost may result in clipping or overload.

### Bass Remote

- The provided Bass Remote regulates the Bass Level from f.i. the driver's seat.

# Speaker & RCA Connections

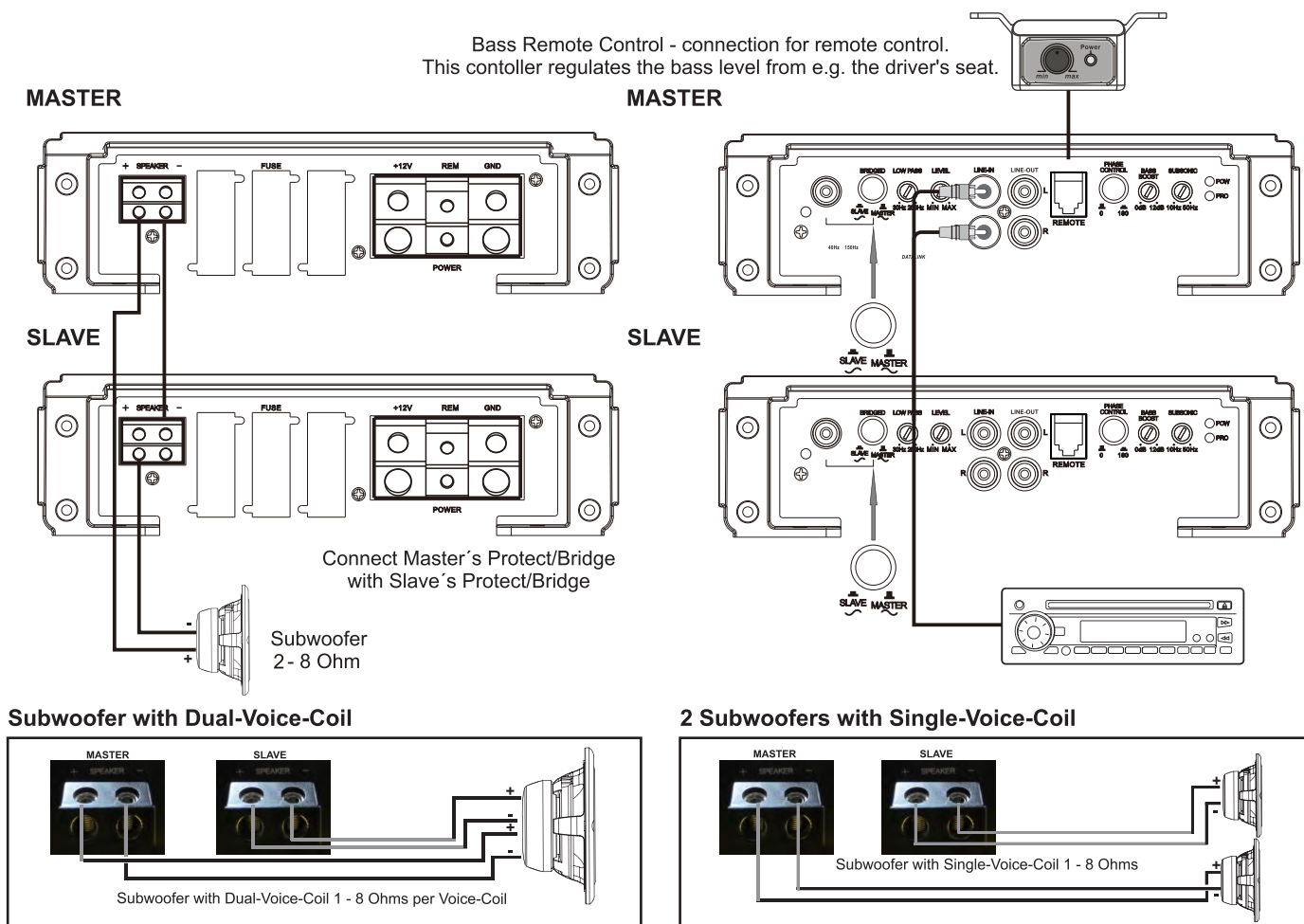
## PA1.5000D/PA1.6000D

### MASTER/SLAVE-MODE / Subwoofer-Mode with two Amplifiers

- Connect the "LINE IN" (L & R) of the MASTER-amplifier to the head unit's line output with appropriate good quality RCA cables.
- Connect the "SLAVE OUT" RCA Output of the MASTER-Amp with the "LINE IN" RCA Input of the SLAVE-AMP.
- Connect the "REMOTE"-Terminal of the MASTER-Amp with the supplied BASS REMOTE.
- Connect the "REMOTE"-Wire of your head unit with the REM-Terminals of both Amplifiers.
- Connect the subwoofer with appropriate wires to the terminal block (SPEAKER OUTPUT+ and -) of both amplifiers. As optional feature an additional Subwoofer can be connected to the non-occupied terminals.
- Connect the Protect/Bridge Connection of the Master with the Protect/Bridge Connection of the Slave.  
This connection warrants if there is an operation fault both amps, Master and Slave, would go into protection mode so the amps are prevented for any possible damages.
- The minimum final subwoofer impedance must not be lower than 2 Ohms in total (1 Ohm for each Amplifier) or 2 Ohms bridged. Too low speaker loads result in too high heat dissipation and may cause the amplifier run into protection.
- Please observe correct speaker channels and polarity as printed by the speaker terminal.

#### Caution!

Do not connect speaker (-) to the ground or vehicle's chassis.



Caution: Please observe the right polarity. Master's + to Loudspeaker's + and Slave's + to Loudspeaker's -.

# Troubleshooting

---

## System does not turn on

1. Check all fuses.
2. Check all connections.
3. Measure the +12 volt and remote turn on voltages at the amplifier terminals. If these are non-existent or low, take voltage measurements at fuse holders, distribution blocks, the head unit's +12 volt and remote leads to localize the problem.

## Noise problems

1. Check the speaker wiring
2. Speakers are damaged

## No Signal at all Channels

1. Set Balance and Fader from head unit on Zero-Position
2. Check wiring (Amplifier, Speakers)
3. Speakers are damaged
4. Subsonic Filter is adjusted too high or Lowpass Filter is adjusted too low

## Hiss or white noise

1. Speakers are overload
2. High levels of white noise usually occurs when amplifier level controls are turned up too high - readjust according to the procedures in section "Setting up systems after installation for best performance"
3. Another 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.

## No Stereo-Sound or Low Output

1. Check speaker wiring (- and +)

## Amplifier Protection-Mode (red LED is illuminated)

1. Speaker cables are shorted
2. Inadequate cooling - relocate or remount to provide better natural airflow over the fins.  
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.
3. Make sure that the battery voltage, as measured at the amplifier's +12 volt and ground terminals, is 11 volts or more.

## 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.  
This type of noise can be more difficult to pinpoint, but is usually caused by some kind of instability, causing oscillations in the system.

## A constant whine:

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.

### **Caution!**

In this amplifier are integrated protection circuits. Short Circuit Protection engaged: The amplifier will turn off and try to come back on immediately. The amplifier will cycle like this indefinitely, with "blips" of sound each time. If this is the case, check your speakers and wiring for low impedance and short circuits. Thermal Protection engaged: The amplifier will turn off and several minutes later will come back on. In this case, ensure that there is nothing blocking the normal convective airflow of the amplifier. No obstruction should be within 2" of the amplifier on all sides. NOTE: Low battery voltage will cause the amplifier to run warmer and possibly damage the amplifier. If the red LED is still lighting up after all re-checking, the amplifier is damaged. Please send then a detailed malfunction description and a copy of the invoice of purchase together with the device to your car audio retailer.

# Specifications

---

Model	PA4.700	PA4.1000	PA1.3500D	PA1.5000D	PA1.6000D
RMS Power 4	35w x 4	55w x 4	550w x 1	600w x 1	750w x 1
RMS Power 2	175w x 4	250w x 4	930w x 1	1000w x 1	1300w x 1
RMS Power 4 Bridged	70w x 2	400w x 2	—	—	—
RMS Power 1	—	—	1200w x 1	1700w x 1	2000w x 1
Damping Factor	≥200	≥200	≥200	≥200	≥200
Signal-to-Noise Ratio	≥85dB	≥85dB	≥90dB	≥104dB	≥104dB
Channel Separation	≥55dB	≥55dB	—	—	—
Variable High Pass (1 & 2)	50-250Hz	50-250Hz	—	—	—
Variable High Pass (3 & 4)	50-250Hz	50-250Hz	—	—	—
Variable Low Pass (1 & 2)	50-250Hz	50-250Hz	30-250Hz	50-250Hz	50-250Hz
Variable Low Pass (3 & 4)	50-250Hz	50-250Hz	—	—	—
Variable Bass Boost 45Hz	0 – 12dB	0 – 12dB	0 – 12dB	0 – 12dB	0 – 12dB
Variable Subsonic Filter	—	—	10-50Hz	10-50Hz	10-50Hz
Remote Gain Control	—	—	Included	Included	Included
On-Board Fusing	2 x 25A	2 x 35A	2 x 120A	3 x 100A	3 x 120A
Dimension (8.25"Wx2"H)	10.2"	11.0"	14.6"	19.7"	21.7"