MASSIVE®

VOLT SERIES FULL RANGE AMPLIFIERS

V500.2

V1000.4

V1000.1

Congratulations!

Thank you for purchasing a “Massive Audio” Volt Series amplifier for your car audio system. You now own an amplifier of uncompromised design and engineering incorporating the latest advances in circuitry. This handcrafted amplifier is designed to deliver the demands of serious sound quality enthusiasts and competitors alike. You will soon discover that the Volt Series amplifiers disply a fine balance between high quality, performance and reliability; all proven qualities of “Massive Audio” products.

“Massive Audio” amplifiers are the result of the latest advancements in technology using only the highest quality components and quality control standards. In order to provide you with many years of listening pleasure, we recommend you have your new amplifier installed by an authorized “Massive Audio Dealer”. This will ensure the proper installation of your amplifier and will increase the length of your warranty to One Year from the original purchase date.

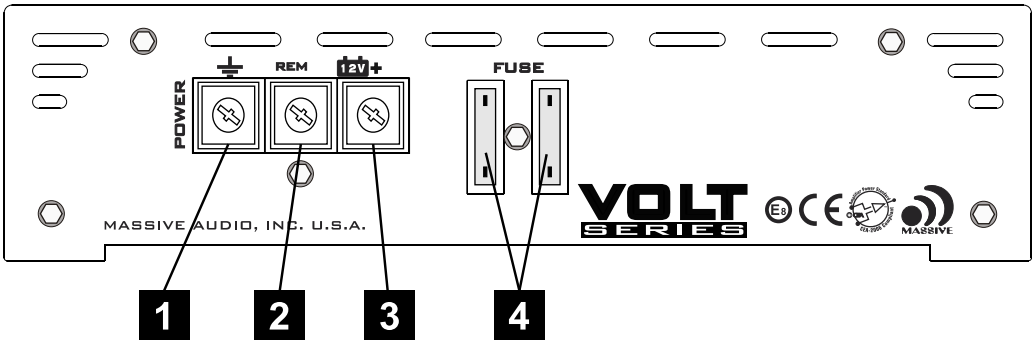
Please take a moment to thoroughly read this manual to ensure that you get the maximum benefit from this new addition to your car audio system. When installed properly this unit will provide years of trouble-free performance.

Model	**V500.2**	**V1000.4**	**V1000.1**
Channles	2	4	1
Peak Output Power @ 14.4V	250w x 2	250w x 4	1000w x 1
RMS @ 4 Ohms	80w x 2	80w x 4	250w x 1
RMS @ 2 Ohms	160w x 2	160w x 4	455 x 1
RMS Bridged @ 4 Ohm	320w x 1	320w x 2	N/A
Frequency Range -3dB	20Hz - 30kHz	20Hz - 30kHz	20Hz - 30kHz
Damping Factor	>200	>200	>200
S/N Ratio	>90 dB	>90 dB	>90 dB
THD	< 0.1%	< 0.1%	< 0.1%
Input Sensitivity	5v ~ 0.2V	5v ~ 0.2V	5v ~ 0.2V
Input Impendance	47 kOhm	47 kOhm	47 kOhm
Minimum Impedance	2 Ohm Stereo	2 Ohm Stereo	2 Ohm mono
CH 1 & 2 X-Over Modes	LPF - HPF - OFF	LPF - HPF - OFF	LPF - HPF - OFF
CH 1& 2 X-Over Frequency	50Hz - 750 Hz	50Hz - 750 Hz	50Hz - 750 Hz
CH 1 & 2 Bass Boost @ 45Hz	OFF / 6dB / 12dB	OFF / 6dB / 12dB	OFF / 6dB / 12dB
CH 3 & 4 X-Over Modes	-	LPF - HPF - OFF	-
CH 3 & 4 X-Over Frequency	-	50Hz - 750 Hz	-
CH 3 & 4 Bass Boost @ 45Hz	-	OFF / 6dB / 12dB	-
Fuse Rating	20A	2 x 25A	2 x 20A
Dimensions (LxHxW) mm	238 x 49 x 198	300 x 49 x 198	300 x 49 x 198
Dimensions (LxHxW) inches	9.3 x 1.9 x 7.8	11.8 x 1.9 x 7.8	11.8 x 1.9 x 7.8

SUBJECT TO TECHNICAL CHANGE

INSTALLATION INSTRUCTION

ELECTRICAL INTERCONNECTION



BEFORE THE CONNECTION
For the professional installation of a sound system appropriate wiring kits are available in car audio retailer stores. Observe the sufficient profile section (at least 8 AWG), the suitable fuse rating and the conductivity of the cables when you purchase your wiring kit. Clean and remove rust-streaked and oxidized areas on the contact points of the battery and the ground connection. Make sure that all screws are fixed tight after the installation, because loosely connections may cause malfunctions, unsufficient power supply or interferences.

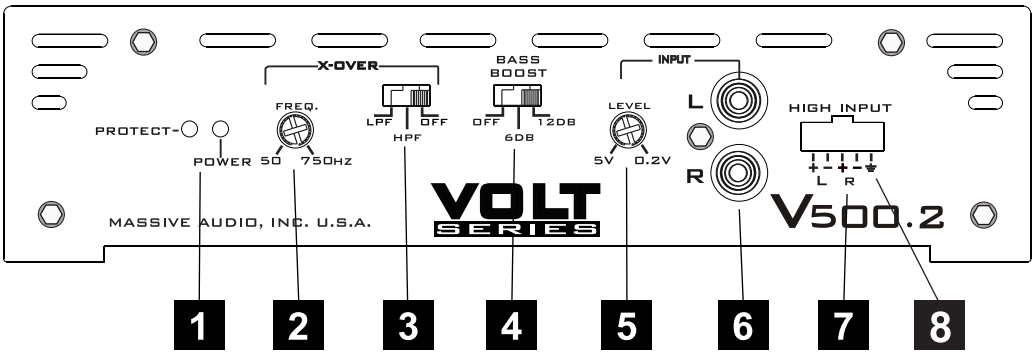
1 **GND**
Connect this GROUND terminal with a suitable contact ground point on the vehicle's chassis. The ground wire must be as short as possible and must be connected to a blank metallic point at the vehicle's chassis. Ensure that this ground point has a stable and safe electric connection to the negative "–"pole of the battery. Check this ground wire from the battery to the ground point if possible and enforce it, if required. Use a ground wire with a sufficient cross section (at least 8 AWG) and the same size like the plus (+12V) power supply wire.

2 **REM**
Connect the turn-on signal (e.g. automatic antenna) or the turn-on remote signal of your headunit with the REM-terminal of the amplifier. Use therefor a suitable cable with a sufficient cross section (at least 24 AWG).Thereby the amplifier will turn on or off automatically with your headunit.

3 **BATT+12V**
Connect the BATT+12V-terminal with the +12V pole of the vehicle's battery. Use therefor a suitable cable with a sufficient cross section (at least 8 AWG)and install a additional in-line fuse. For safety reasons the distance between the fuseblock and the battery must be shorter than 11.81 in. Do not install the fuse into the fuseblock until the installation is accomplished.

4 **FUSE**
The inserted fuses protect the amplifier from shorts and capacity overload. The equipped standard fuse is suitable for a 4 ohm speaker load. For a 2 ohm speaker load the current consumption increases by 50%, thereby the fuses may need to be replaced by fuses with a higer rating.

FUNCTIONS AND OPERATIONAL CONTROLS



1 **POWER/PROTECT**

If the POWER LED lights up, the amplifier is ready for operation.

If the PROTECT LED lights up, a malfunction is indicated.

2 The **FREQ controller** isadjustable from 50 Hz to 750 Hz.

3 The **CH1/2 X-OVER switch** selects the required operation mode of the amplifier.

Position LPF: Lowpass mode (the higher frequencies will be eliminated. Adjustable by the FREQcontroller.)

Position HPF: Highpass mode (the lower frequencies will be eliminated. Adjustable by the FREQcontroller.)

Position OFF: Fullrange mode (All frequencies will be amplified .)

4 The **BASS BOOST controller** adjusts the bass boost enhancement continuously from 0dB to +12dB at 45 Hz.

5 The Gain Control feature regulates the sensitivity of the amplifier to match the signal output of your source unit. The gain control is not intended for volume adjustment. Increase your source units gain to 75% and slowly increase the amplifiers gain (clockwise) until the first sign of distortion. Then lower the gain slightly and keep set until removal of amplifier.

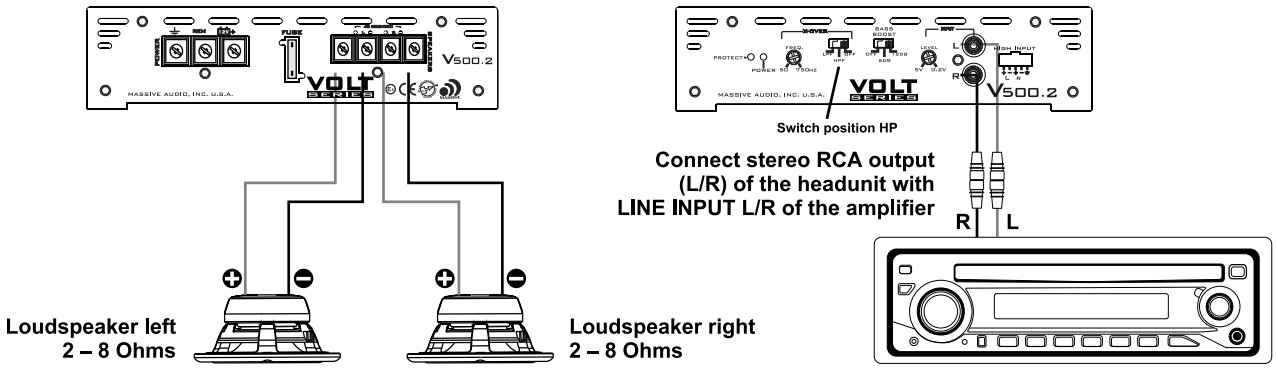
6 The **LINE INPUT RCA jacks** must be connected with the RCA output jacks of the headunit.

7 The **High Level Input** is suitable to connect the amplifier inputs with speaker wires, if your headunit is not equipped with pre-amplifier RCA outputs. Never use the High Level Input and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.

8 ⏚ Ground Loop Isolator

The Ground loop isolator is only needed if you hear engine noise while listening to music. (Only applicable if the “High Level Input Terminal” is used instead of the RCA input) To eliminate engine noise, connect the ground loop terminal to the ground wire from your head unit. This will consist of splitting the wire from your head unit and connecting that directly to the ground loop terminal of the amplifier.

INTERCONNECTION EXAMPLE 2-Channel Mode: 2x Stereo System (Front or rear)



INTERCONNECTION

- Connect the RCA lineouts of the headunit with the RCA jacks LINE INPUT of the amplifier with appropriate high-value RCA cables.

  As alternative you can connect the loudspeaker outputs of your headunit with the HIGH LEVEL INPUT. Never use the High Level Input and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.

- Connect the front or rear speakers with the speaker outputs (SPEAKER OUTPUT + 1CH - and + 2CH -) by using appropriate wires.
- Ensure by any means, that the total impedance load of all speakers is not lower than 2 ohms. Impedance lower than 2 ohm stereo will cause a higher temperature and will shut down the amplifiers operation.
- Always ensure the correct polarity of the speakers. The interchange of plus and minus will cause a total loss of playback and could damage the speakers.

CROSSOVER SETTINGS

- By using bigger speakers (more than 7.8in) you can set the X-OVER switch to the FULL position (Full Range Signal).
- By using smaller speakers (3.4in - 6.3in) you must set the X-OVER switch to the HP Position (Highpass Mode) to avoid any damage by lower frequencies on the speakers. The cut-off frequency is adjustable with the HIGH PASS controller and should be set between 50Hz to 750Hz, depending on the size of the speakers.
- The LOW PASS Controller is not in use in this interconnecting example.

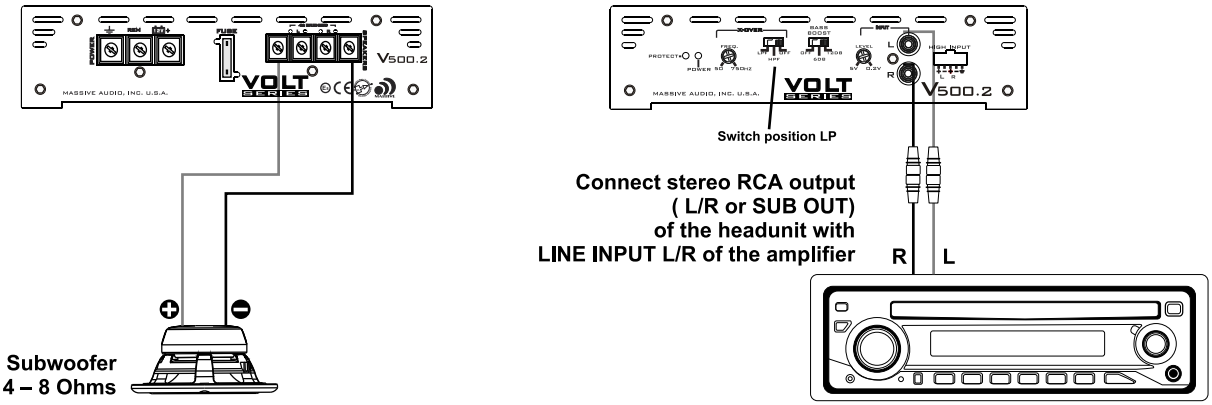
GAIN CONTROL

- Turn the LEVEL controller of the amplifier to the 5V position.
- Turn the volume controller of the headunit to 75% - 90% of its full setting.
- Turn the LEVEL controller clockwise until you hear some distortion.
- Then turn back the LEVEL controller slightly until you hear a cleaner sound.

BASS BOOST CONTROLLER

- The BASS BOOST controller must be turned to OFF position in this interconnecting example .

INTERCONNECTION EXAMPLE 1-Channel Mode: 1x Mono Subwoofer bridged



INTERCONNECTION

- Connect the RCA lineouts of the headunit with the RCA jacks LINE INPUT of the amplifier with appropriate high-value RCA cables. If your headunit is equipped with a additional subwoofer lineout (SUB OUT), it is recommended to use this lineout.

  As alternative you can connect the loudspeaker outputs of your headunit with the HIGH LEVEL INPUT. Never use the High Level Input and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.

- Connect the subwoofer with the speaker outputs (SPEAKER OUTPUT + Mono bridged -) by using appropriate wires.
- Ensure by any means, that the total impedance load of the channel-pair is not lower than 4 ohms. Impedance lower than 4 ohms will cause a higher temperature and will shut down the amplifiers operation.
- Always ensure the correct polarity of the speakers. The interchange of plus and minus will cause a total loss of playback and could damage the speakers.

CROSSOVER SETTINGS

- In the mono/subwoofer mode the X-OVER switch must set to the LP/BP position (Lowpass/Bandpass mode), thereby the higher frequencies will be eliminated. The cut-off frequency is adjustable with the LOW PASS controller and should be set between 50 to 750 Hz, depending on the size of the subwoofer.

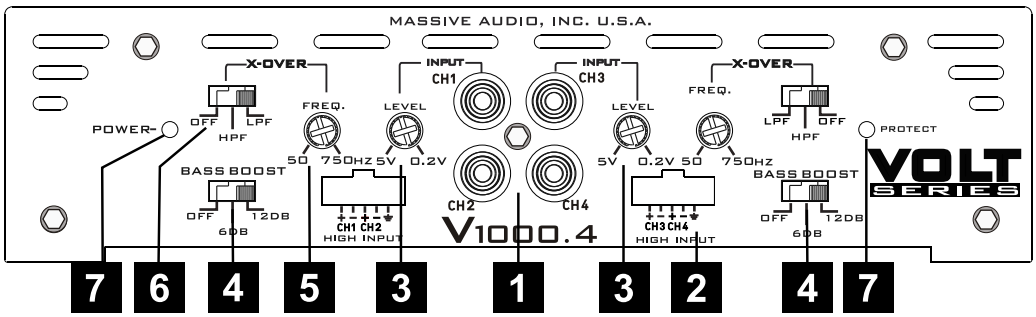
GAIN CONTROL

- Turn the LEVEL controller of the amplifier to the 5V position.
- Turn the volume controller of the headunit to 75% - 90% of its full setting.
- Turn the LEVEL controller clockwise until you hear some distortion.
- Then turn back the LEVEL controller slightly until you hear a cleaner sound.

BASS BOOST CONTROLLER

- The BASS BOOST controller adjusts the bass enhancement between 0db and +12dB.
- Too high of a bass boost setting may cause clipping/distortion and damage on the loudspeakers and also may harm your hearing abilities. **Use this controller carefully!**

FUNCTIONS AND OPERATIONAL CONTROLS



1 The **LINE INPUT RCA jacks** must be connected with the RCA output jacks of the headunit.

2 The **High Level Inputs** are suitable to connect the amplifier inputs with speaker wires, if your headunit is not equipped with pre-amplifier RCA outputs. Never use the High Level Inputs and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.

3 The **LEVEL CH1/2 and CH3/4 controllers** adjust the input sensitivity of the amplifier to align the audio signal of the head unit for the regarding channel pair (Channel 1/2 or Channel 3/4). The input sensitivity is adjustable from 5 to 0.2 Volts.

4 The **BASS BOOST CH1/2 and CH3/4 controllers** adjust the bass boost enhancement continuously from 0dB to +12dB at 45 Hz for the regarding channel pair (Channel 1/2 or Channel 3/4).

5 The **FREQ controller** is adjustable from 50 Hz to 750 Hz.

6 The **CH1/2 and CH3/4 X-OVER switch** selects the required operation mode of the amplifier on the regarding channel pair (Channel 1/2 or Channel 3/4).

Position LPF: Lowpass mode (the higher frequencies will be eliminated. Adjustable by the FREQcontroller.)

Position HPF: Highpass mode (the lower frequencies will be eliminated. Adjustable by the FREQcontroller.)

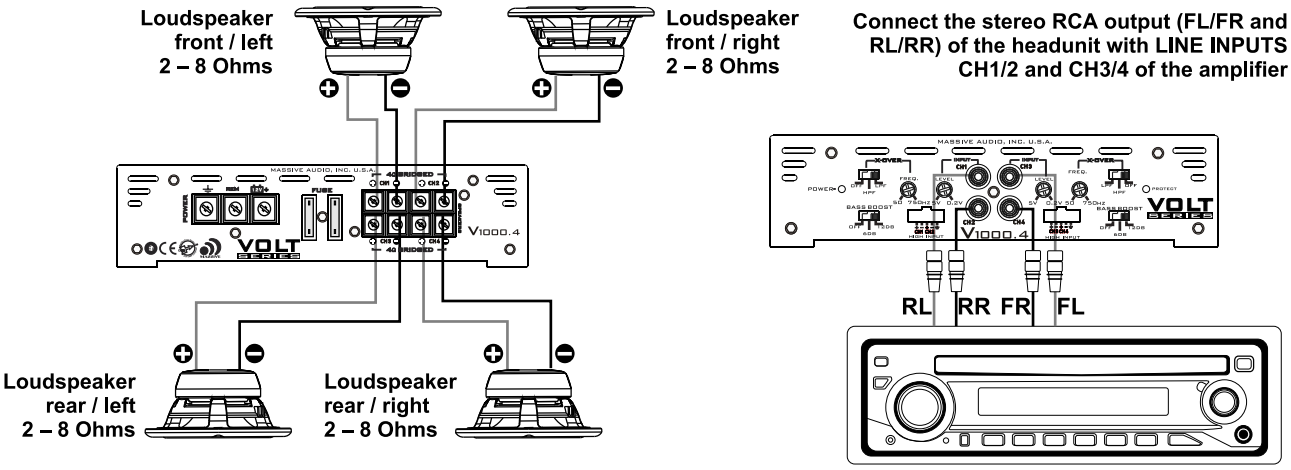
Position OFF: Fullrange mode (All frequencies will be amplified).

7 **POWER/PROTECT**

If the POWER LED lights up, the amplifier is ready for operation.

If the PROTECT LED lights up, a malfunction is indicated.

INTERCONNECTION EXAMPLE 4-Channel Mode: 4 x Stereo System (Front & rear)



INTERCONNECTION

- Connect the RCA lineouts of the headunit with the RCA jacks LINE INPUT of the amplifier with appropriate high-value RCA cables.

  As alternative you can connect the loudspeaker outputs of your headunit with the HIGH LEVEL INPUTS. Never use the High Level Inputs and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.
- Connect the front- and rear speakers with the speaker outputs (SPEAKER OUTPUT + 1CH -, + 2CH - and + 3CH -, + 4CH -).
- Ensure by any means, that the total impedance load of all speakers is not lower than 2 ohms. Impedance lower than 2 ohm stereo will cause a higher temperature and will shut down the amplifiers operation.
- Always ensure the correct polarity of the speakers. The interchange of plus and minus will cause a total loss of playback and could damage the speakers.

CROSSOVER SETTINGS CH1/2 & CH3/4

- By using bigger speakers (more than 7.8in) you can set the X-OVER switch to the FULL position (Full Range Signal).
- By using smaller speakers (3.4in - 6.3in) you must set the X-OVER switch to the HP Position (Highpass Mode) to avoid any damage by lower frequencies on the speakers. The cut-off frequency is adjustable with the HIGH PASS controller and should be set between 60Hz to 150Hz, depending on the size of the speakers.
- The LOW PASS Controller is not in use in this interconnecting example.

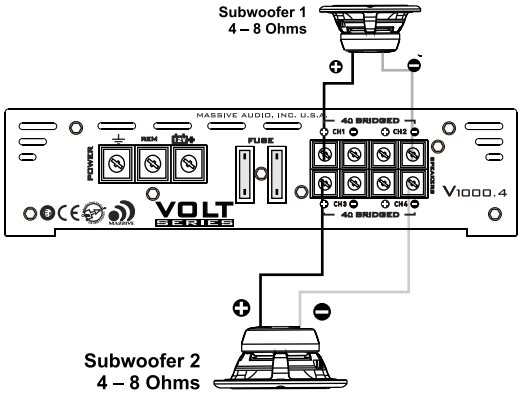
GAIN CONTROL CH1/2 & CH3/4

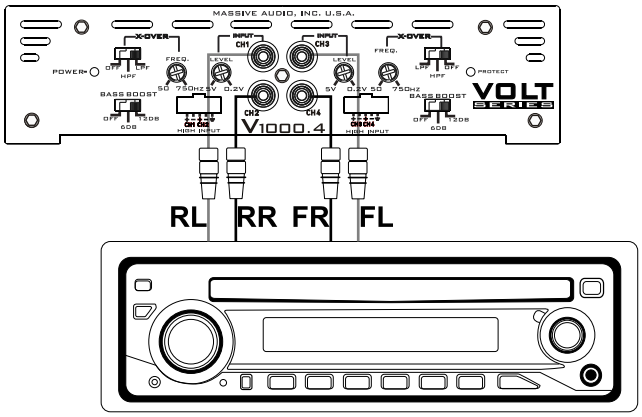
- Turn the LEVEL controller of the amplifier to the 5V position.
- Turn the volume controller of the headunit to 75 - 90% of its full setting.
- Turn the LEVEL controller clockwise until you hear some distortion.
- Then turn back the LEVEL controller slightly until you hear a cleaner sound.

BASS BOOST CONTROLLER

- The BASS BOOST controller must be turned to OFF position in this interconnecting example .

EXAMPLE 2-Channel Mode: 2 x Mono Subwoofer bridged





INTERCONNECTION

- Connect the RCA lineouts of the headunit with the RCA jacks LINE INPUT of the amplifier with appropriate high-value RCA cables. If your headunit is equipped with a additional subwoofer lineout (SUB OUT), it is recommended to use this lineout.

  As alternative you can connect the loudspeaker outputs of your headunit with the HIGH LEVEL INPUT. Never use the High Level Inputs and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.

- Connect the subwoofers with the speaker outputs of CH1/2 and CH3/4 (SPEAKER OUTPUT + BRIDGED -) by using appropriate wires.
- Ensure by any means, that the total impedance load of the channel-pair is not lower than 4 ohms. Impedance lower than 4 ohms will cause a higher temperature and will shut down the amplifiers operation.
- Always ensure the correct polarity of the speakers. The interchange of plus and minus will cause a total loss of playback and could damage the speakers.

CROSSOVER SETTINGS CH 1/2 & CH3/4

- In the mono/subwoofer mode the X-OVER switch must set to the LP/BP position (Lowpass/Bandpass mode), thereby the higher frequencies will be eliminated. The cut-off frequency ist adjustable with the LOW PASS controller and should be set between 50 to 750Hz, depending on the size of the subwoofer.

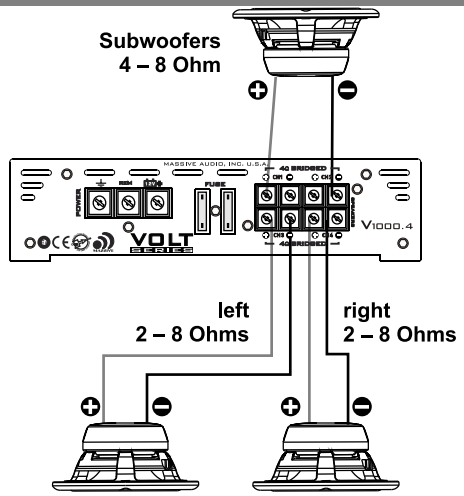
GAIN CONTROL CH1/2 & CH3/4

- Turn the LEVEL controller of the amplifier to the 5V position.
- Turn the volume controller of the headunit to 75 - 90% of its full setting.
- Turn the LEVEL controller clockwise until you hear some distortion.
- Then turn back the LEVEL controller slightly until you hear a cleaner sound.

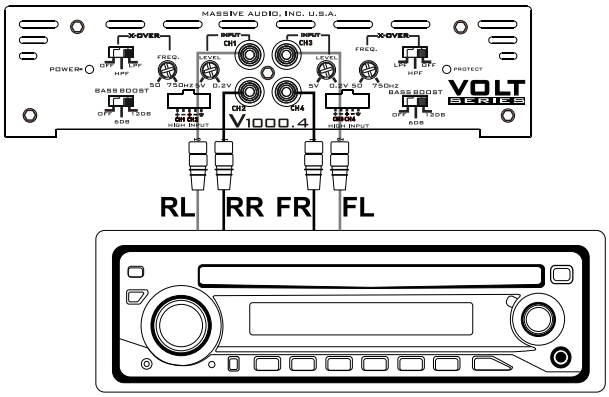
BASS BOOST CONTROLLER CH 1/2 & CH3/4

- The BASS BOOST controller adjusts the bass enhancement between 0db and +12dB.
- Too high of a bass boost setting may cause clipping/distortion and damage on the loudspeakers and also may harm your hearing abilities. **Use this controller carefully!**

EXAMPLE 3-Channel Mode: 2 x Stereo System & 1 x Mono Subwoofer bridged



Connect the stereo RCA output (FL/FR or SUB OUT and RL/RR) of the headunit with LINE INPUTS CH1/2 and CH3/4 of the amplifier



INTERCONNECTION

- Connect the RCA lineouts of the headunit with the RCA jacks LINE INPUT of the amplifier with appropriate high-value RCA cables. If a separate SUB OUT from your headunit is available, use this for the LINE INPUT CH1/2 on the amplifier.

  As alternative you can connect the loudspeaker outputs of your headunit with the HIGH LEVEL INPUT. Never use the High Level Inputs and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.

- Connect the speakers with SPEAKER OUTPUT + CH 3 - and + CH 4 - and the subwoofer with the SPEAKER OUTPUT CH1/2 + BRIDGED - of the amplifier.
- Ensure by any means, that the total impedance load of all speakers per channelpair (CH3 & CH4) is not lower than 2 ohms and the total impedance load of the subwoofer (CH1 & CH2) is not lower than 4 ohms. Impedance lower than 2 ohm stereo will cause a higher temperature and will shut down the amplifiers operation.

CROSSOVER SETTINGS CH1/2 (SUBWOOFER)

- Attend the regarding notes on page 8.

LEVER CONTROLLER CH1/2 (SUBWOOFER)

- Attend the regarding notes on page 8.

BASS BOOST CONTROLLER CH1/2 (SUBWOOFER)

- Attend the regarding notes on page 8.

CROSSOVER SETTINGS CH3/4 (STEREO SYSTEM)

- Attend the regarding notes on page 7.

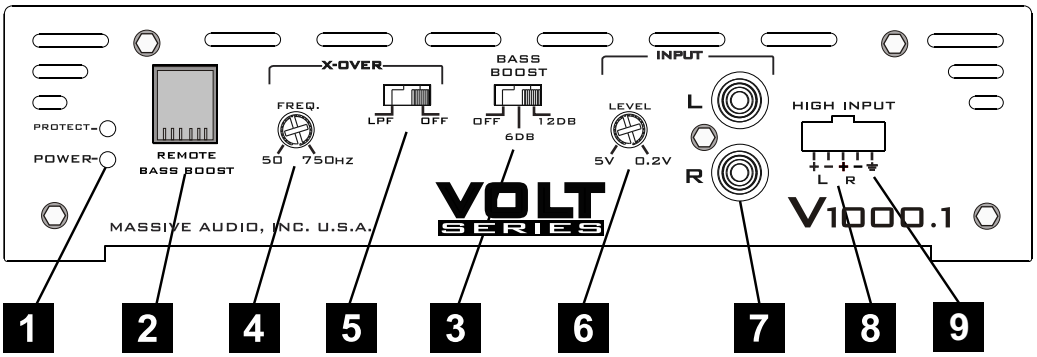
LEVER INPUT CONTROLLER CH3/4 (STEREO SYSTEM)

- Attend the regarding notes on page 7.

BASS BOOST CONTROLLER CH3/4 (STEREO SYSTEM)

- The BASS BOOST controller must be turned to OFF position in this interconnecting example .

FUNCTIONS AND OPERATIONAL CONTROLS



1 **POWER/PROTECT**

If the POWER LED lights up, the amplifier is ready to operate.

If the PROTECT LED lights up, a malfunction is indicated.

2 The **REMOTE port** is for the cable of the matching bass remote controller and only to use in the LP/BP mode. With this bass remote controller, you are able to adjust the bass level e.g. out of the driver s' seat. Please use only the matching bass remote controller and cable. **This is not a gain remote.**

3 The **BASS BOOST controller** adjusts the bass boost enhancement continuously from 0dB to +12dB at 45 Hz.

4 The **FREQ controller** is adjustable from 50 Hz to 750 Hz.

5 The **X-OVER switch** selects the required operation mode of the amplifier on the regarding channel pair

Position LP: Lowpass mode (the higher frequencies will be eliminated. Adjustable by the FREQcontroller.)

Position FULL: Fullrange mode (All frequencies will be amplified .)

6 The Gain Control feature regulates the sensitivity of the amplifier to match the signal output of your source unit.
The gain control is not intended for volume adjustment. Increase your source units gain to 75% and slowly increase the amplifiers gain (clockwise) until the first sign of distortion. Then lower the gain slightly and keep set until removal of amplifier.

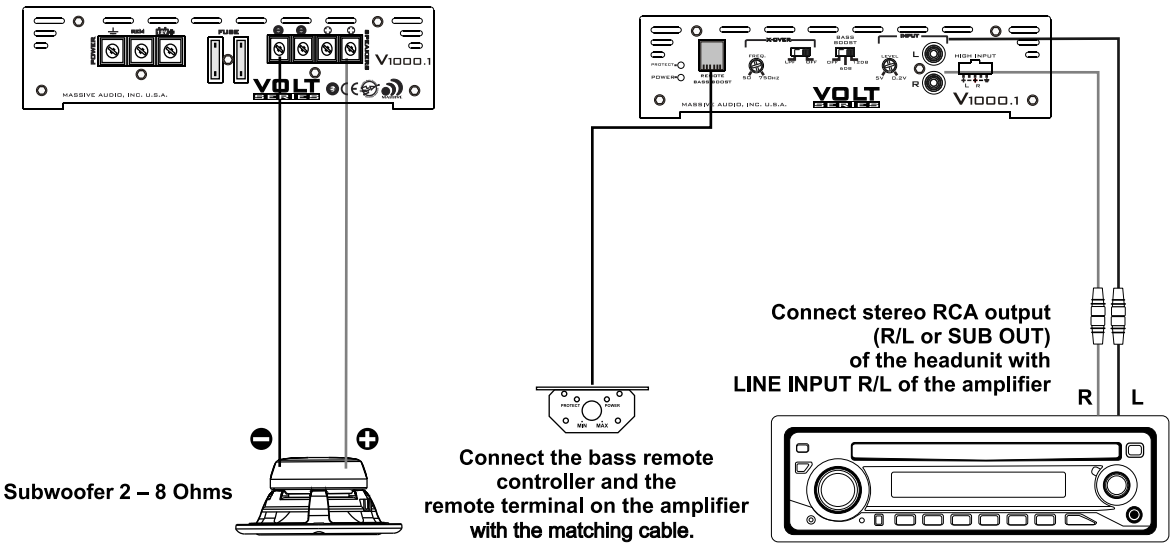
7 The **LINE INPUT RCA jacks** must be connected with the RCA output jacks of the headunit.

8 The **High Level Input** is suitable to connect the amplifier inputs with speaker wires, if your headunit is not equipped with pre-amplifier RCA outputs. Never use the High Level Input and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.

9 ⏚ Ground Loop Isolator

The Ground loop isolator is only needed if you hear engine noise while listening to music. (Only applicable if the "High Level Input Terminal" is used instead of the RCA input) To eliminate engine noise, connect the ground loop terminal to the ground wire from your head unit. This will consist of splitting the wire from your head unit and connecting that directly to the ground loop terminal of the amplifier.

INTERCONNECTION EXAMPLE Low-Pass Mode with 1 Subwoofer



INTERCONNECTION

- Connect the RCA lineouts of the headunit with the RCA jacks LINE INPUT of the amplifier with appropriate high-value RCA cables. If your headunit is equipped with an additional subwoofer lineout (SUB OUT), it is recommended to use this lineout.
- Connect the subwoofer with the speaker outputs (SPEAKER OUTPUT + / -) by using appropriate wires.
- As alternative you can connect the loudspeaker outputs of your headunit with the HIGH LEVEL INPUT. Never use the High Level Inputs and the RCA inputs at the same time. This may damage the amplifier seriously. Observe therefor the descriptions on page 12.
- Ensure by any means, that the total impedance load of subwoofer is not lower than 2 ohms. Impedance lower than 2 ohm stereo will cause a higher temperature and will shut down the amplifiers operation.
- Always ensure the correct polarity of the speakers. The interchange of plus and minus will cause a total loss of playback and could damage the speakers.

GAIN CONTROL

- Turn the LEVEL controller of the amplifier to the 5V position.
- Turn the volume controller of the headunit to 75% - 90% of its full setting.
- Turn the LEVEL controller clockwise until you hear some distortion.
- Then turn back the LEVEL controller slightly until you hear a cleaner sound.

BASS BOOST CONTROLLER

- The BASS BOOST controller adjusts the bass enhancement between 0db and +12dB.
- Too high of a bass boost setting may cause clipping/distortion and damage on the loudspeakers and also may harm your hearing abilities. **Use this controller carefully!**

BASS REMOTE

- The matching **BASS REMOTE** Controller adjusts the bass-level e.g. from the driver's seat. Please use only the matching bass remote controller and cable.

LOW PASS CONTROLLER

- Adjust a frequency between 50Hz - 750Hz, depending on the size and response of the Subwoofer.

HIGH LEVEL INPUTS

The **High Level Inputs** are suitable to connect the amplifier inputs with speaker wires, if your headunit is not equipped with pre-amplifier RCA outputs.

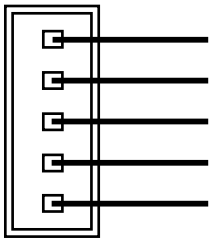
Extend therefor every regarding speaker cable from your headunit with appropriate speaker cables from your car audio retailer to the mounting location of the amplifier.

Then connect the each matching loudspeaker cable with the cables of the included HIGH LEVEL INPUT jack like described below. Observe therefor, that a ground cable (black cable, GND) for each HIGH LEVEL INPUT must be connected, which you can branch from the ground terminal of the amplifier (GND).

After you have connected the cables of the HIGH LEVEL INPUT jack with the speaker cables, you can insert the jack into the amplifier.

NOTE: Never use the High Level Inputs and the RCA inputs at the same time. This may damage the amplifier seriously. The loudspeaker cables of the HIGH LEVEL INPUT may not be have contact to the ground (GND) by any means.

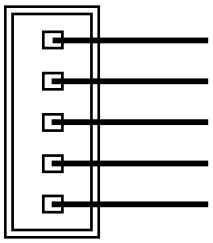
2-Channel Amplifier V500.2



-	white	= speaker - rear right - negative
+	white and black	= speaker - rear right - positive
-	grey	= speaker - rear left - negative
+	grey and black	= speaker - rear left - positive
⏚	black	= ground connection (GND)

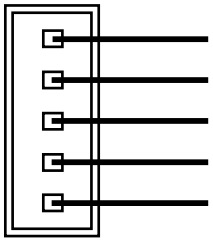
4-Channel Amplifier V1000.4

CH 1 & CH 2



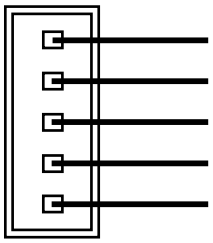
-	white	= speaker - rear right - negative
+	white and black	= speaker - rear right - positive
-	grey	= speaker - rear left - negative
+	grey and black	= speaker - rear left - positive
⏚	black	= ground connection (GND)

CH 3 & CH 4



-	white	= speaker - rear right - negative
+	white and black	= speaker - rear right - positive
-	grey	= speaker - rear left - negative
+	grey and black	= speaker - rear left - positive
⏚	black	= ground connection (GND)

1-Channel Amplifier V1000.1



-	white	= speaker - rear right - negative
+	white and black	= speaker - rear right - positive
-	grey	= speaker - rear left - negative
+	grey and black	= speaker - rear left - positive
⏚	black	= ground connection (GND)

⏚ Ground Loop Isolator

The Ground loop isolator is only needed if you hear engine noise while listening to music. (Only applicable if the “High Level Input Terminal” is used instead of the RCA input) To eliminate engine noise, connect the ground loop terminal to the ground wire from your head unit. This will consist of splitting the wire from your head unit and connecting that directly to the ground loop terminal of the amplifier.

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