
HIFONICS
CAR AUDIO
POWER FROM THE GODS
ANDROMEDA SERIES
AMPLIFIERS
SATURN
MARS
MERCURY
PLUTO
NEPTUNE
KRYPTON
VENUS
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ANDROMEDA

21st ANNIVERSARY EDITION HIGH PERFORMANCE AMPLIFI

As Hifonics celebrates it's 21st Anniversary of producing the finest high end car audio products available, we would like to t your continued support.

The Andromeda Series range of products have been designed to a very high level of performance, with features unavailable product. All of the amplifiers have variable crossovers built in, with added touches such as subsonic filter, bass equalizatior remote control module that allows subsonic bass control from reach of the drivers seat.

To insure years of listening pleasure, all amplifiers have a built in diagnostic mode that will detect shorted speaker leads, lo dangerous high temperatures, DC shorts and will shut down the amp to prevent serious damage.

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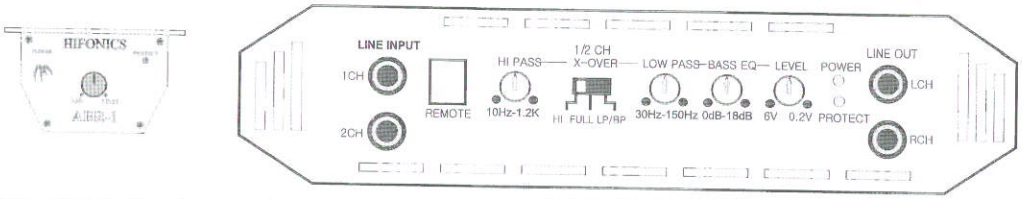
AMPLIFIER FEATURE DESCRIPTIONS

ANDROMEDA SERIES Amplifiers:

· Each model is capable of 4 & 2-Ohms stereo per channel, or 4-Ohms mono bridged operation.
· Tri-Mode operation with any stereo pair of amplifier channels is possible, as with all bridgeable amplifiers.
· The input sensitivities for rated output powers are variable from 0.2 volt to 6 volt.
· All crossovers are fully variable in their respective ranges.
· Crossover filters are 12dB/Octave for stereo filters, & 24dB/Octave for mono filters.
· A **POWER** LED indicates the powered up and turned on condition.
· All Hifonics amplifiers feature a comprehensive diagnostic system, with speaker lead short circuit, and amplifier DC faults indicated by the **DIAGNOSTIC, or PROTECT** LED.

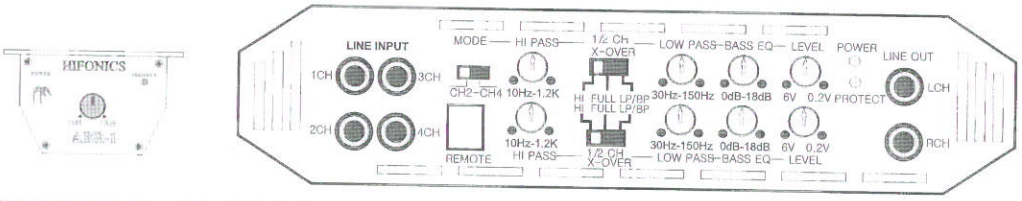
SATURN A4000 / MARS A6000 2 CHANNEL AMPLIFIERS



The **X-OVER** slide switch selects the internal crossover functions:
-The input signal is routed directly to the **LINE OUT** RCA jacks, regardless of the **X-OVER** setting simplifying daisy chaining of amplifiers.
-**HI:** Selects the built in **HIGH PASS** filter, variable from 10 Hz to 1.2 kHz.
-**FLAT:** Bypasses all crossovers for full frequency range operation.
-**LP/BP:** Selects the built in **LOW PASS** filter, variable from 30 Hz to 150 Hz.

Note that the LOW PASS signal is **MONO.**
-In the **LP/BP** position, the **HIGH PASS** filter acts as a subsonic filter.
-When the **LP/BP** mode is selected, a 0 to +18 dB, at 45 Hz, **BASS EQ** is also switched in.
The **REMOTE** jack enables dash mount level control of the LOW PASS signal.

MERCURY A4400 / PLUTO A6400 / KRYPTON A3500 4 CHANNEL AMPLIFIERS



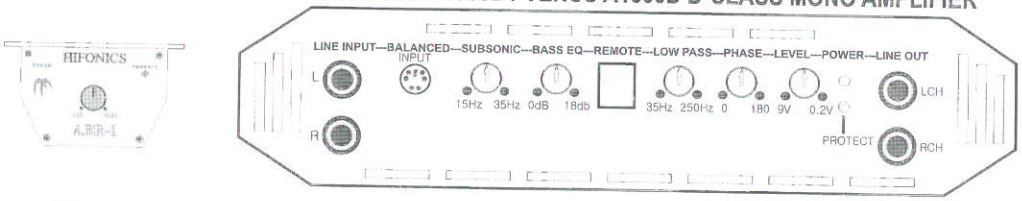
The **AMPLIFIER CH-1/2 X-OVER** slide switch selects the input signal for channel pair 1 & 2:
-**HI:** Selects the built-in **HIGH PASS** filter, variable from 10 Hz to 1.2 kHz.
-**FULL:** Bypasses all crossovers for full frequency range operation.
-**LP/BP:** Selects the built in **LOW PASS** filter, from 30 Hz to 150 Hz.
Note that the LOW PASS signal is **MONO.**
-In the **LP/BP** position, the **HIGH PASS** filter acts as a subsonic filter.
-When the **LP/BP** mode is selected, a 0 to +18 dB, at 45 Hz, **BASS EQ** is also switched in.

The **AMPLIFIER CH-3/4 X-OVER** slide switch selects the input signal for channel pair 3 & 4.
-**HI:** Selects the built-in HIGH PASS filter, variable from 10Hz to 1.2kHz.
-**FULL:** Bypasses all crossovers for full frequency range operation.
-Full range signal from channels 1 / 2 inputs are routed to the **Line OUT -RCA** jacks, regardless of the setting of the **X-OVER** switches.
-The **REMOTE** jack enables dash mount level control of the LOW PASS signal, CH3/4 only.

These amps are capable of 4, 2 & 1-Ohm loads.
The input sensitivities for rated output powers are variable from 0.2 volt to 9 volts.
All crossovers are fully variable in their respective ranges.
Crossover filter slopes are 24 dB/Octave for mono filters.

CAUTION: DO NOT OPERATE ANY AMPLIFIER BELOW THE INTENDED IMPEDANCE. YOU WILL CAUSE DAMAGE TO THE AMPLIFIER THAT WILL NOT BE COVERED UNDER THE WARRANTY PRINTED IN THE BACK OF THE MANUAL.
Mono amps: 4, 2 & 1-Ohms.

NEPTUNE A1000D / VENUS A1500D D-CLASS MONO AMPLIFIER



The 1-channel mono amplifiers are capable of 4, 2 and 1-Ohm.
The line input signal is routed directly to the line output RCA's jacks regardless of the crossover settings.

The REMOTE jack allows the addition of the ABR-1 bass remote module which controls the Bass EQ.

SUBSONIC: allows control from 15Hz to 35Hz
BASS EQ: allows control from 0dB to +18dB
LOW PASS: allows control from 35Hz to 250Hz
PHASE: shift allows 0 degrees to 180 degrees

LEVEL: allows you to match the amplifier input level (gain) to the Radio/CD output level.
POWER: The green LED indicates that the amp has power, ground and remote turn-on
PROTECT: indicates that the amplifier has detected a fault and will not operate.
-There are several possible problems that can cause the amplifier to go into the protect mode. See the trouble shooting guide in the back of the manual for details.
BALANCED INPUT: Accepts line level balanced input from 0.4v to 18v. The XX-BLD can be used as a balanced line driver.

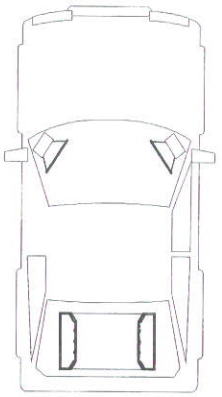
SATURN A4000 / MARS A6000 2 CHANNEL AMPLIFIER APPLICATIONS

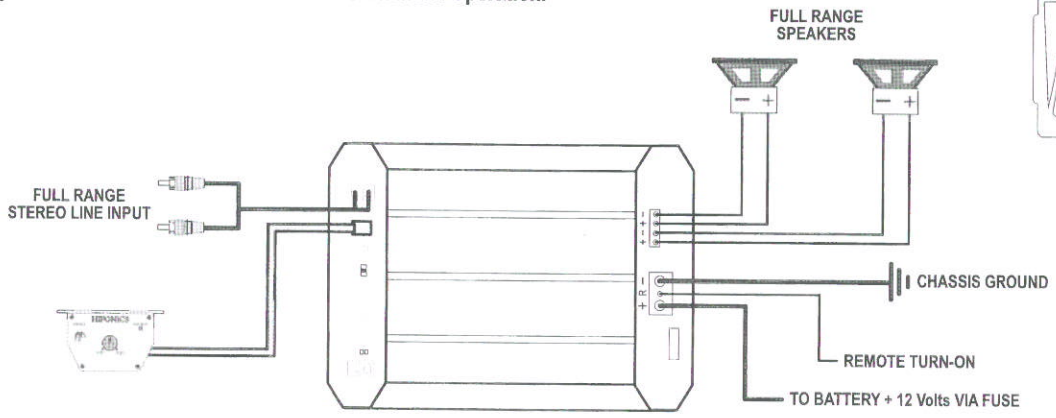
FULL RANGE STEREO

This is the most basic application for the Andromeda Series 2 channel amplifiers.

1. Interconnect cable checklist:
Connect the **LINE INPUTS** to the Radio/CD with good quality RCA cables.
2. Crossover Switch:
The **X-OVER** switch must be in the **FLAT** position.
3. Crossover frequency control checklist:
N/A for full range operation.
4. Line Level:
Refer to the section *"Setting up systems after installation for best performance"*
5. Bass Remote Module:
Plug in the Bass Remote Module to the amplifier "REMOTE" jack.

NOTE: Minimum final loudspeaker impedances:
4 & 2-Ohms stereo mode or 4-Ohms mono mode
This amplifier will not do 1-Ohm stereo or 2/1-Ohm mono operation.





FULL RANGE MONO

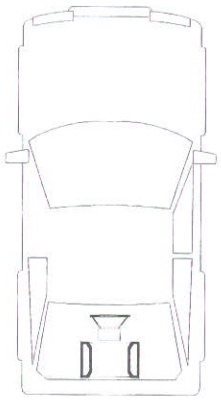
This application illustrates the basic mono bridging method for all Hifonics amplifiers.

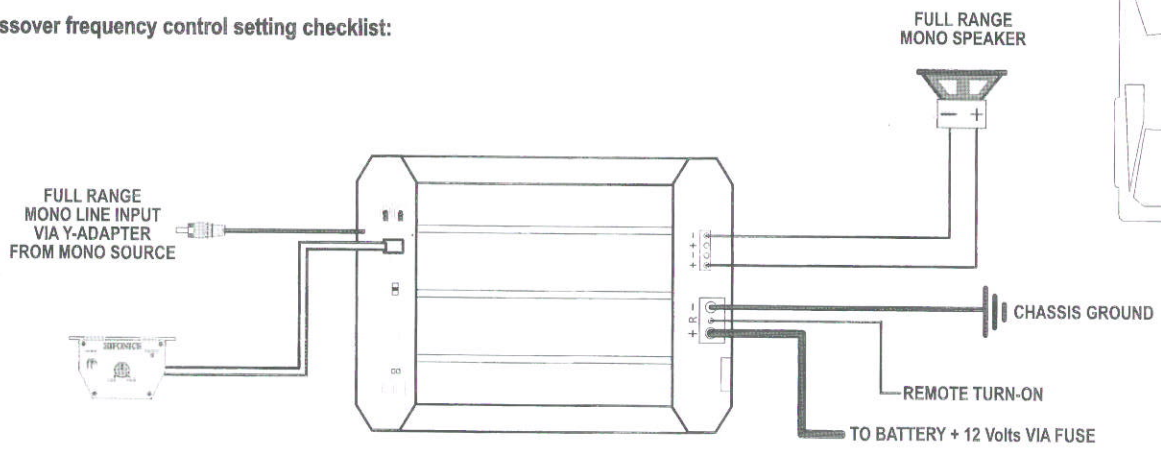
Interconnect cable checklist:
A MONO signal source is required, such as would be available from the mono sub bass output of an active crossover, whether stand alone, or built into a head unit or equalizer. **Important :** Do not be tempted to connect the hot, or positive outputs, from any source together to obtain a mono signal, as this could very well damage the output stage of that source.
It is necessary to feed the SAME signal to both left and right inputs via a Y-adapter RCA cable. Connect the mono speaker positive terminal to the LEFT +, and its negative terminal to RIGHT -.

Switch setting checklist:
- The **AMPLIFIER X-OVER** switch must be in the **FULL** position.

Crossover frequency control setting checklist:
N/A for full range operation.
TIP: If you are using the mono sub bass output of an active crossover, there is nothing wrong with switching in the low pass filter in these amplifiers for a steeper low pass rolloff.

Minimum final loudspeaker impedance:
- 4-Ohms mono.





SATURN A4000 / MARS A6000 2 CHANNEL AMPLIFIER APPLICATIONS

Stereo high pass with mono low-pass in a 2 way active, or bi-amplified system

In this application we will use a 2 channel amplifier for the high frequencies, and a second one for the low frequencies, or mono sub bass. Please consult the speaker specifications to determine maximum amplifier power requirements.

Interconnect cable checklist:
Connect the inputs of the bass amplifier to a Radio/CD with good quality RCA cables. Connect the LINE OUT of the bass amplifier to the inputs of the highs amplifier with a stereo RCA to RCA cable.

Mono bass woofer wiring:
Connect the mono speaker positive terminal to the LEFT +, and its negative terminal to RIGHT -.

Switch setting checklist:
- **Highs amplifier: X-OVER** switch in the **HI** position.
- **Lows amplifier: X-OVER** switch in the **LP/BP** position.

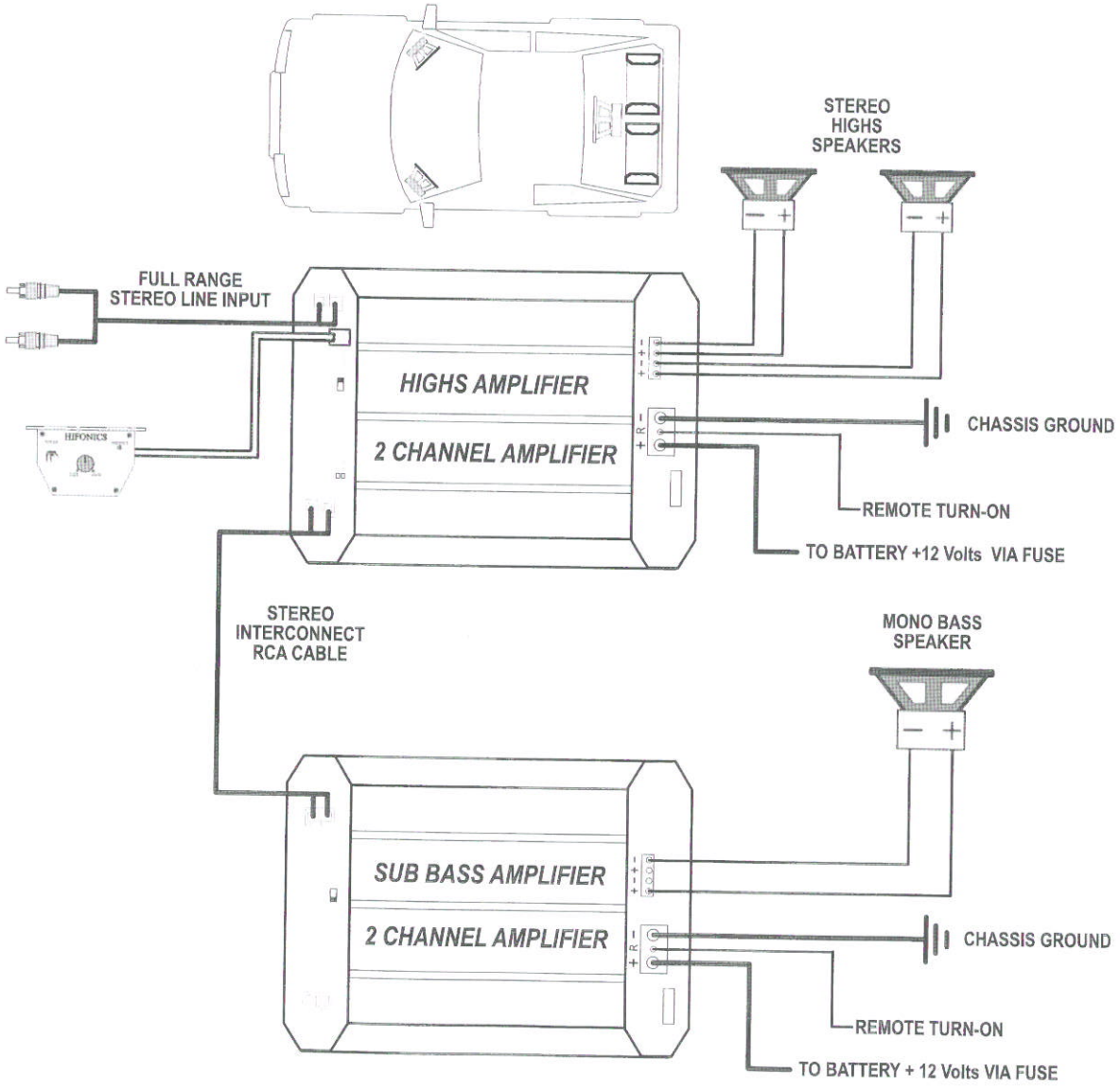
Crossover frequency control checklist:
Highs amplifier:
- **HI PASS: 100 Hz**
- **LOW PASS: N/A**

Lows amplifier:
- **HI PASS (Subsonic filter): 10 Hz to 40 Hz**
- **LOW PASS: 100 Hz**

Please note that these frequency points are suggestions only. Refer to the loudspeaker manufacturer specifications and the section *"Setting up systems after installation for best performance"*

Level control checklist:
- Refer to the section *"Setting up systems after installation for best performance"*

Minimum final loudspeaker impedances:
- **2 ohm per channel stereo.**
- **4 ohm mono bridged.**



MERCURY A4400 / PLUTO A6400 / KRYPTON A3500 4 CHANNEL AMPLIFIER APPLICATIONS

4 CHANNEL FULL RANGE SYSTEM

Here we show how to use the 4 channel amplifiers as straightforward discrete 4 channel full range units.

Interconnect cable checklist:
- Connect the four inputs of the amplifier to a Radio/CD with quality RCA cables.

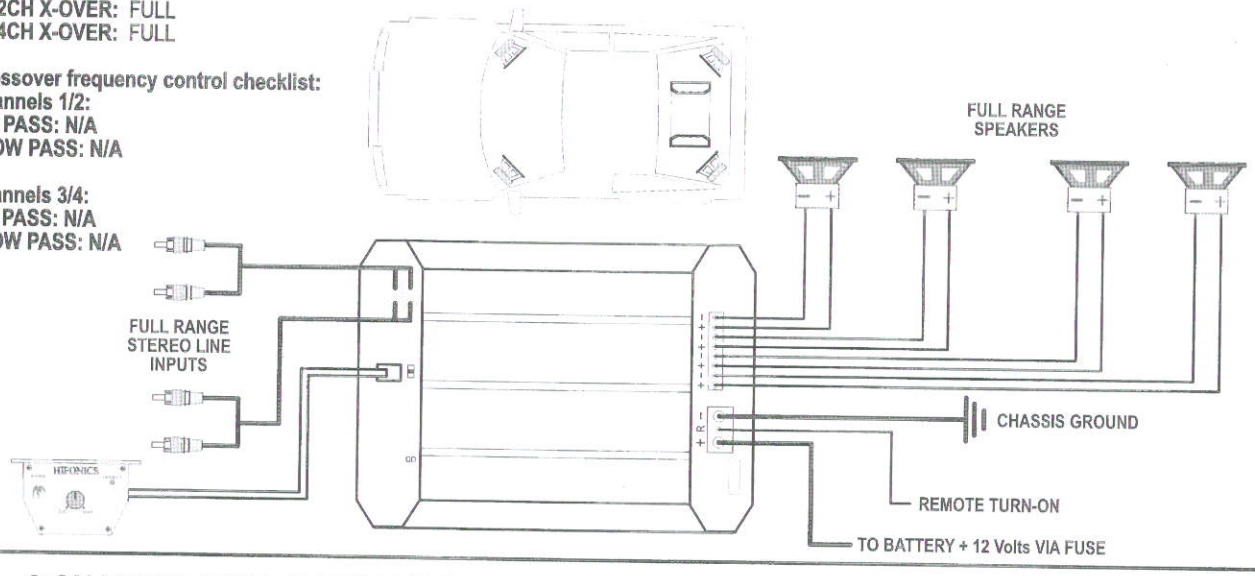
Switch setting checklist:
- **1/2CH X-OVER:** FULL
- **3/4CH X-OVER:** FULL

Crossover frequency control checklist:
Channels 1/2:
- **HI PASS: N/A**
- **LOW PASS: N/A**

Channels 3/4:
- **HI PASS: N/A**
- **LOW PASS: N/A**

I control checklist:
- Refer to the section *"Setting up systems after installation for best performance"*

LeveMinimum final loudspeaker impedances:
- **2-Ohms per channel.**



2 or 3 CHANNEL FULL RANGE SYSTEM

Here we show how to use the 4 channel amplifiers as full range 2 or 3 channel units by taking advantage of the mono bridging capability of all Hifonics amplifiers.

The following example shows how to create a 3 channel system by mono bridging channel pair 3 / 4. In order to create a 2 channel system, simply follow the example to also mono bridge channel pair 1 / 2.

Interconnect cable checklist:
- Connect the inputs of channel pair 1/2 to a suitable stereo source, e.g. a head unit with good quality RCA cables.
- A MONO signal source is required to bridge channel pair 3/4, such as would be available from the mono sub bass output of an active crossover, whether standalone, or built into a head unit or equalizer.

Important: Do not be tempted to connect the hot, or positive outputs, from any source together to obtain a mono signal, as this could very well damage the output stage of that source.
- It is necessary to feed the SAME signal to both left and right inputs via a Y-adapter RCA cable.
- Connect the mono speaker positive terminal to the LEFT +, and its negative terminal to RIGHT - as shown.

Switch setting checklist:
- **1/2CH X-OVER:** FULL
- **3/4CH X-OVER:** FULL

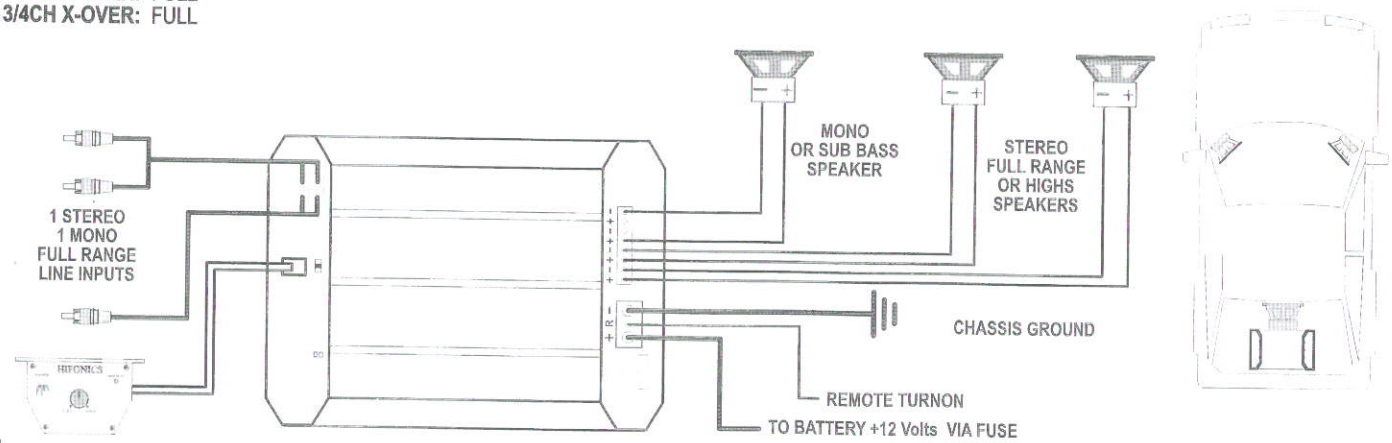
Crossover frequency control checklist:
Channels 1/2:
- **HI PASS: N/A**
- **LOW PASS: N/A**

Channels 3/4:
- **HI PASS: N/A**
- **LOW PASS: N/A**

TIP: If you are using the mono sub bass output of an active crossover, there is nothing wrong with switching in the low pass filter in these amplifiers for a steeper low pass rolloff.

Level control checklist:
- Refer to the section *"Setting up systems after installation for best performance"*

Minimum final loudspeaker impedances:
- **2 ohm per channel in stereo mode.**
- **4 ohm mono bridged.**



MERCURY A4000 / PLUTO A6400 / KRYPTON A3500 4 CHANNEL AMPLIFIER APPLICATIONS

2 way active, or bi-amplified system with mono bass

This application shows how easily a 2 way active system can be implemented using an Andromeda 4 channel amplifier. Channels 1 and 2 will be used for highs, and channels 3 and 4 for mono bass.

Interconnect cable checklist:
- We need to feed the same signal to both sets of channels, so must use 2 Y-adapters, one to feed the LEFT signal to channels 1 and 3, and the right signal to channels 2 and 4, as shown.

Mono bass woofer wiring:
- Connect the mono speaker positive terminal to the LEFT +, and its negative t erminal to RIGHT -.

Switch setting checklist:
- **1/2CH X-OVER:** HI
- **3/4CH X-OVER:** LP/BP

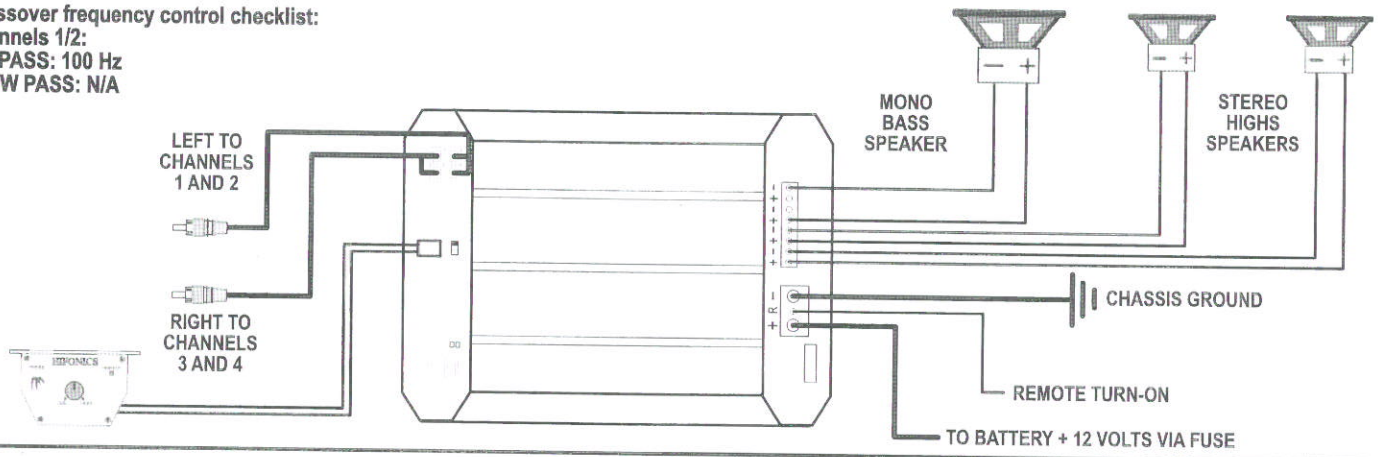
Crossover frequency control checklist:
Channels 1/2:
- **HI PASS: 100 Hz**
- **LOW PASS: N/A**

Channels 3/4:
- **HI PASS (subsonic): 20 Hz**
- **LOW PASS: 100 Hz**

Please note that these frequency points are suggestions only. Refer to the loudspeaker manufacturer specifications and the section *"Setting up systems after installation for best performance"*

Level control checklist:
Refer to the section *"Setting up systems after installation for best performance"*

Minimum final loudspeaker impedances:
- **2 ohm per channel in stereo mode.**
- **4 ohm mono bridged.**

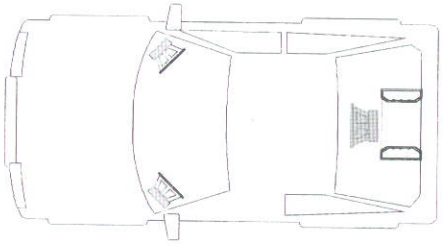


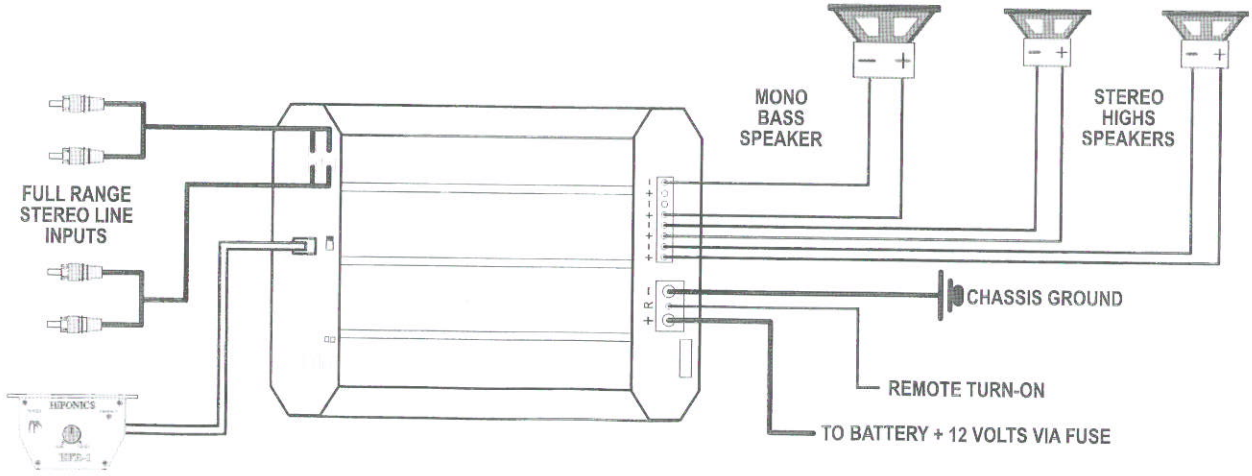
2 way active, or bi-amplified system with mono bass, and faded highs/lows

Here we present a variation of the previous system. Since this is a 2 way system, we can use the front outputs from a head unit to drive the highs, and the rear output to drive the bass This method allows the listener to easily adjust the relative levels of bass to highs, with the front to rear fade on the head unit. Channels 1 and 2 will be used for highs, and channels 3 and 4 for mono bass.

Interconnect cable checklist:
- Use good quality RCA leads to connect the inputs of the amplifier to the source as shown.

- Follow the instructions as per the previous system for switch and crossover settings.





Front/rear high pass, using a 2 channel amplifier for mono sub bass

The combination of a 2 and a 4 channel amplifier, utilizing their built in crossovers, makes it a snap to put together a full system with front and rear highs, with mono sub bass.

Interconnect cable checklist:
- Using good quality RCA cables, feed the front and rear outputs of a head unit to the inputs of the 4 channel amplifier as shown.
- Also connect the **LINE OUT** of the 4 channel amplifier to the **LINE INPUT** of the 2 channel amplifier as shown.

Mono bass woofer wiring:
Connect the mono speaker positive terminal to the LEFT +, and its negative terminal to RIGHT -.

Switch setting checklist:
4 channel highs amplifier:
- 1/2CH X-OVER: HI
- 3/4CH X-OVER: HI

2 channel bass amplifier:
- X-OVER switch: LP/BP

Crossover frequency control checklist:
- 4 channel highs amplifier:

Channels 1/2:
- HI PASS: 100 Hz
LOW PASS: N/A

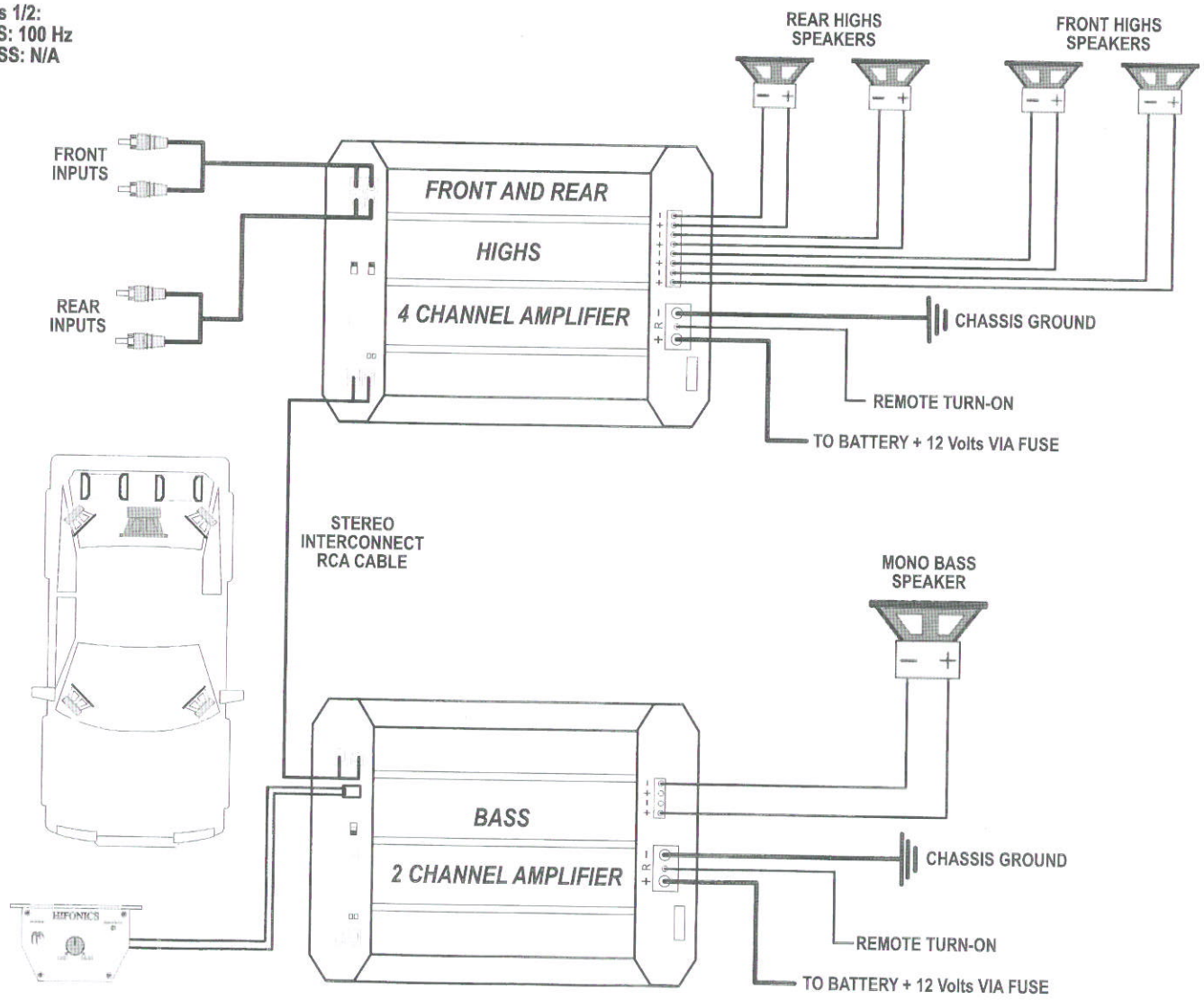
Channels 3/4:
- HI PASS: 100 Hz
- LOW PASS: N/A

2 channel bass amplifier:
- HI PASS (Subsonic filter): 10 Hz to 40 Hz
- LOW PASS: 100 Hz

Please note that these frequency points are suggestions only. Refer to the loudspeaker manufacturer specifications and the section *"Setting up systems after installation for best performance"*

Level control checklist:
- Refer to the section *"Setting up systems after installation for best performance"*

Minimum final loudspeaker impedances:
- 2 ohm per channel in stereo mode.
- 4 ohm mono bridged.

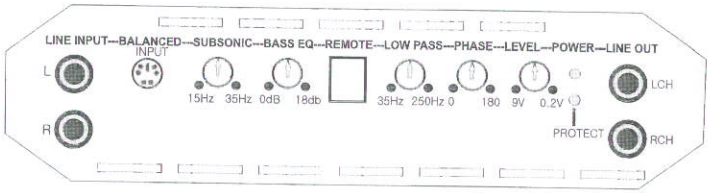


NEPTUNE A1000D / VENUS A1500D D-CLASS AMPLIFIER FEATURE DESCRIPTIONS

ANDROMEDA SERIES amplifiers:

- Each model is capable of 4, 2 & 1-Ohm loads.
- The input sensitivities for rated output powers are variable from 0.2 volt to 9 volts.
- All crossovers are fully variable in their respective ranges.
- Crossover filter slopes are 24dB/Octave for mono filters.
- A **POWER** LED indicates the powered up and turned on condition.
- All Hifonics amplifiers feature a comprehensive diagnostic system, with speaker lead short circuit, and amplifier DC faults indicated by the **DIAGNOSTIC, or PROTECT** LED.

CAUTION: DO NOT OPERATE ANY AMPLIFIER BELOW THE INTENDED IMPEDANCE. YOU WILL CAUSE DAMAGE TO THE AMPLIFIER THAT WILL NOT BE COVERED UNDER THE WARRANTY PRINTED IN THE BACK OF THE MANUAL.
Mono amps: 4, 2 & 1-Ohm.



The 1 channel mono amplifiers are capable of 4, 2 & 1-Ohm loads and can be used in any of the "bi-amplifier" systems described in the 2 and 4 channel Zeus, Titan and GEN XX installation manuals.

The **line input** signal is routed directly to the **line output** RCA's jacks regardless of the crossover settings.
The **REMOTE** jack allows the addition of the Bass Remote module which controls the BASS EQ signal.

- **SUBSONIC** allows control from 15Hz to 35Hz
- **BASS EQ** allows control from 0dB to 18dB
- **LOW PASS** allows control from 35Hz to 250Hz
- **PHASE** shift allows 0 degrees to 180 degrees

- **LEVEL:** allows you to match the amplifier input level (gain) to the Radio/CD player output level.
- **POWER:** indicates that the amp has power, ground and remote turn-on input via a green L.E.D.
- **PROTECT:** indicates that the amplifier has detected a fault and will not operate. There are several possible problems that can cause the amplifier to go into the protect mode. See the **trouble shooting guide** in the back of the manual for details.
- **BALANCED INPUT**: Accepts line level balanced input from 0.4V to 18Volts. The **XX-BLD** can be used as a balanced line driver.

NEPTUNE A1000D / VENUS A1500D MONO AMPLIFIER APPLICATIONS

Basic application

Interconnect cable checklist:
- Connect the line inputs to a Radio/CD RCA outputs or line output of the full range primary amplifier with good quality RCA cables. A "Y" adapter may be needed as shown in the diagram.

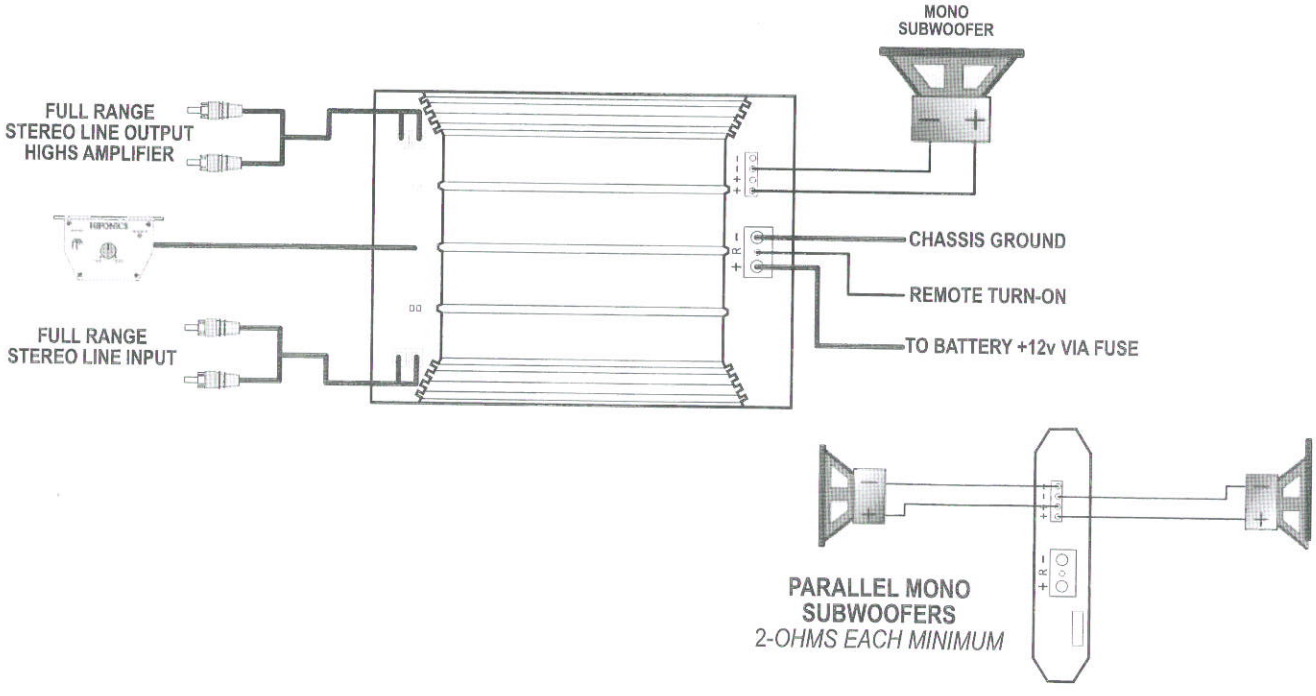
- Use at least 16 gauge speaker wiring. These amplifiers have dual speaker terminals, simplifying the hookup of multiple speakers

Crossover frequency control checklist:
- LOW PASS: 35Hz to 250Hz

- SUBSONIC:15Hz to 35Hz
- BASS EQ: 0 to +18dB
- PHASE: 0 to 180 degrees

Level control checklist:
- Refer to the section *"Setting up systems after installation for best performance"*

Minimum final loudspeaker impedance:
- 1-Ohm.



System Design

The success of any car stereo system relies on several factors, such as the system design, execution of the installation, and system setup. This section is intended to assist the installer by offering several tips and hints about good installation practice. Please remember that any system is only as good as its weakest link.

Determine the system format, e.g., single amplifier, active, front/rear and so on. Then choose the amplifier size to according to personal taste. Please remember that higher power systems are not necessarily useful purely for high sound pressure levels, but also to establish a headroom capability, to reproduce musical peaks cleanly without distortion. Lower power amplifiers will clip earlier than their more powerful cousins, and cause loudspeaker failure when overdrive, due to the harmonics generated by a clipped signal, thus overheating voice coils.

Choose loudspeaker and amplifier mounting locations. Loudspeaker location is always a matter of compromise between space and sound stage imaging. Amplifiers should be mounted with the fins running vertically for best convection cooling, to minimize overheating. Purchase the best quality RCA cables you can afford, for reliability and less engine noise interference in the audio system.

Installation

General:
Mount the amplifiers in the chosen location.
Run the wiring so that RCA cables are at least 18" away from power and speaker cables. Keep RCA cables away from electrical devices in the vehicle that can cause electrical noise, such as fuel pumps.

Power and ground connections:
Use a sufficient gauge power cable, at least # 8 per amplifier. In a multi amplifier system, it is advisable to mount a large enough fuse right at the battery, and run a master +12 volt power cable to a fused distribution block near the amplifiers. It is then a simple matter to connect the +12 volt terminal of each amplifier to the distribution block.

Ground each amplifier with as short a ground lead, again at least # 8 gauge, directly to the vehicle chassis. Use a ground distribution block, if you wish, but it is extremely important to keep the main ground lead from this distribution block to the chassis as short as possible , not more than 12". The ground connection integrity to the chassis is very important, and the best way to achieve a good, solid electrical and mechanical contact is to use a large round crimp lug, crimped and soldered to the ground cable. The next step is to scrape the paint off the vehicle chassis , slightly larger than the ground lug, at the connection point. Drill a clearance hole in the chassis, the same size as the lug hole, and use a bolt, spring washer and nut to securely fasten the ground lug. Use petroleum jelly to coat the bolt/lug connection, to prevent oxidization with time.

TIP: Use the same approach when installing head units, equalizers or any audio equipment for that matter - run short individual grounds from each piece directly to the vehicle chassis, to minimize ground loops and system noise.
All power, ground and speaker connections should be crimped and soldered for reliability. Make sure that none of the cable insulation can chafe against exposed metal in the vehicle, causing short circuits to the chassis.

Safe connection sequence:
After all cables are run, connect speaker wires to the speakers and amplifiers, then run and plug in RCA cables. Next, connect all power grounds and remote turn on leads. Now connect all +12 volt cables to the amplifier/s and distribution blocks and fuse holders. Finally, connect the main +12 volt cable to the battery, with the main fuse removed, and we are almost ready to power up the system.

Power up the system:
The following procedure may seem like overkill, but there is nothing more frustrating when turning on a system for the first time, and it does not work properly immediately.
First, make sure the head unit is off, and turn all level controls to minimum (anticlockwise), including the head unit volume control. Set all equalizers to 0 dB (no boost), and all crossover frequency controls at approximate frequencies, as recommended by the loudspeaker manufacturer. Set all input selector and crossover switches as required for the application. Remove all amplifier fuses, and insert the main fuse at the battery. If the fuse does not blow, you can insert the fuse in one of the amplifiers, and we are ready to turn on the system. Turn the head unit on, insert a CD, or select a radio station, and increase the head unit volume control. If the system sounds fine, turn off the head unit, and install fuses in the remaining amplifiers, one by one, till the complete system is powered up and functioning properly.

HIFONICS

21st ANNIVERSARY EDITION

ANDROMEDA SERIES

General:
As mentioned in the *"General Installation Notes"* section, the system should now be powered up, and working. At this point, all crossover frequency and input selection switches should be properly set for the application, and all volume, level and equalizer controls turned to minimum.

Level control setup:
Insert a CD or cassette that you are familiar with to use as a reference, and turn the head unit volume control to about 80% of its full setting. The system sound level will of course be very low, and the following procedures will help you to match the amplifier input sensitivities properly to the head unit output signal level.

Single 2 channel amplifier systems (SATURN A4000 / MARS A6000):
Turn the level control up slowly, till you hear distortion, then back off a few degrees on the control.

Single 4 channel amplifier systems (MERCURY A4400 / PLUTO A6400 / KRYPTON A3500):
Turn the channel 1&2 level control up slowly, till you hear distortion, then back off a few degrees on the control.
Repeat for channel 3&4.

2 or 3 way active systems (all):
Always start with the bass, or low frequency amplifier as a reference, by turning its control up to the point where distortion is audible, and back it off some.
Now adjust the level control for the highs or tweeter channels in a 2 way active system, to balance the highs to lows.
In a 3 way active system, match the midrange level to the bass, and then the highs to the midrange and bass. It may be necessary to perform a few iterations of the midrange and highs level control settings to achieve a satisfactory sound balance.

Crossover frequency fine tuning:
We had started off in the "General Installation Notes" section by setting crossover frequency controls to approximate positions, and now you can adjust these for best sound quality. Be careful not to stray too far from those crossover frequencies as recommended by the loudspeaker manufacturer, as it is quite possible to damage midrange and tweeters with excess power outside their nominal operating frequency ranges.

Equalizer setup:
Once all levels and crossover frequencies have been set for a pleasant sound balance, we can start equalizing the system frequency response. It is important to remember that a boost applied at any frequency, or range of frequencies, will cause severe amplifier clipping. The following comments apply to ALL equalizers and tone controls on the amplifiers, as well as those on head units and dash mount equalizers. Use the head unit volume control to adjust the system to an intermediate level, and proceed to adjust equalizers and tone controls to personal taste. Now go back to the Level control setup above, and readjust all level controls.

Sit back and enjoy the music!

TROUBLESHOOTING A SYSTEM

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.

Description of the Diagnostic system built into all Hifonics amplifiers
The diagnostic system will shut down the amplifier, until reset by turning the head unit off, and back on. This state of affairs will be indicated by the front panel PROTECT LED lighting up under the following conditions:
1 - A sort circuit on the loudspeaker leads.
2 - An internal amplifier fault that causes a DC offset on the loudspeaker output.

If the amplifier go into diagnostic mode, simply disconnect all RCA and speaker leads, while keeping +12 volt, power ground and remote leads connected.
1. Now turn the amplifier back on, and if the diagnostic LED lights, the amplifier has an internal fault.
2. 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.
3. If the amplifier seems fine with RCA cables plugged in, connect the speakers, one at a time, and if a speaker or its wiring is faulty, it will activate the diagnostic system.

Amplifier heatsink overheating
The amplifiers will shut down when the heatsink temperature reaches 80 degrees centigrade, 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.
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
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 according to the procedures in section *"Setting up systems after installation for best performance"*
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.

21st ANNIVERSARY EDITION ANDROMEDA SERIES AMPLIFIER FEATURES

FEATURES	2-CHANNEL AMPLIFIERS		4-CHANNEL AMPLIFIERS			MONO AMPLIFIER	
	SATURN A4000	MARS A6000	KRYPTON A3500	MERCURY A4400	PLUTO A6400	NEPTUNE A1000D	VENUS A1500D
Output Power Rating							
4-Ohms load	100 x 2	150 x 2	35 x 4	55 x 4	85 x 4	250 x 1	500 x 1
2-Ohms load	200 x 2	300 x 2	70 x 4	110 x 4	170 x 4	500 x 1	1000 x 1
1-Ohms load	-	-	-	-	-	1000 x 1	1500 x 1
Mono bridged into 4-Ohms	400 x 1	600 x 1	140 x 2	220 x 2	340 x 2	-	-
Miscellaneous Specifications:							
Slow unmute at turn on (Soft start)	YES	YES	YES	YES	YES	YES	YES
Frequency Response, -3dB	10 Hz - 50 khz	10 Hz - 50 kHz	10 Hz - 50 kHz	10Hz - 50 kHz	10Hz - 50 kHz	15Hz - 250Hz	15Hz - 250Hz
Damping Factor	>200	>200	>200	>200	>200	>250	>250
Signal to Noise Ratio (A-weighted)	>95dB	>95dB	>95dB	>95dB	>95dB	>95dB	>95dB
THD&Noise	< 0.05%	< 0.05%	< 0.03%	< 0.03%	< 0.03%	< 0.1%	< 0.1%
Channel separation at 1kHz	>70dB	>70dB	>70dB	>70dB	>70dB	-	-
Variable input level control	0.2V - 6Volts	0.2V - 6Volts	0.2V - 6Volts	0.2V - 6Volts	0.2V - 6Volts	0.2V - 9Volts	0.2V - 9Volts
Input Impedance	47k-Ohms	47k-Ohms	47k-Ohms	47k-Ohms	47k-Ohms	47k-Ohms	47k-Ohms
Power and Diagnostic LED	YES	YES	YES	YES	YES	YES	YES
Protection:							
DC, short, thermal, overload	YES	YES	YES	YES	YES	YES	YES
Power Supply, all MOSFET PWM	YES	YES	YES	YES	YES	YES	YES
Audio Output all MOSFET		-	-	-	-	YES	YES
Audio Output all BIPOLAR	YES	YES	YES	YES	YES	-	-
Crossover and Switching:							
Input selector switch							
Channels 1 / 2	HI/FULL/LP-BP	HI/FULL/LP-BP	HI/FULL/LP-BP	HI/FULL/LP-BP	HI/FULL/LP-BP	-	-
Variable High Pass, 12 db/Octave	10Hz - 1.2kHz	10Hz - 1.2kHz	10Hz - 1.2kHz	10Hz - 1.2 kHz	10Hz - 1.2 kHz	-	-
Variable Mono Low Pass, 24 dB/Octave	30Hz - 150Hz	30Hz - 150Hz	30Hz - 150Hz	30Hz - 150Hz	30Hz - 150Hz	35Hz - 250Hz	35Hz - 250Hz
Bass Boost at 45Hz	0 - +18dB	0 - +18dB	0 - +18dB	0 - +18dB	0 - +18dB	0 - +18dB	0 - +18dB
Channels 3 / 4			HI/FULL/LP-BP	HI/FULL/LP-BP	HI/FULL/LP-BP	-	-
Variable High Pass, 12db/Octave	-	-	10Hz - 1.2kHz	10Hz - 1.2kHz	10Hz - 1.2kHz	-	-
Variable Mono Low Pass, 24dB/Octave	-	-	30Hz - 150Hz	30Hz - 150Hz	30Hz - 150Hz	-	-
Bass Boost	-	-	0 - +18dB	0 - +18dB	0 - +18dB	-	-
Connector Types:							
Unbalanced Inputs (RCA)	YES	YES	YES	YES	YES	YES	YES
Line Output (RCA)	Full-Range	Full-Range	Full-Range	Full-Range	Full-Range	Full-Range	Full-Range
Remote control (RJ11)	YES	YES	YES (CH3&4)	YES (CH3&4)	YES (CH3&4)	YES	YES
Mechanical:							
Molded power terminal	4-GA	4-GA	4-GA	4-GA	4-GA	4-GA	4-GA
Molded speaker terminals	12-GA	12-GA	12-GA	12-GA	12-GA	12-GA	12-GA
Fuse type	MAXI	MAXI	MAXI	MAXI	MAXI	MAXI	MAXI
Fuse size	50 Amp	70 Amp	30 Amp	50 Amp	60 Amp	60 Amp	2 x 60 Amp
Accessories Included:	ABR-1 Remote Control	ABR-1 Remote Control	ABR-1 Remote Control	ABR-1 Remote Control	ABR-1 Remote Control	ABR-1 Remote Control	ABR-1 Remote Control

Note: All features and specifications subject to change without notice

HIFONICS

21st ANNIVERSARY EDITION

ANDROMEDA
SERIES

Maxxsonics Limited Warranty

As the manufacturer of Maxxsonics, Crunch and Hifonics car audio products, Maxxsonics USA Inc. Warrants to the original consumer purchaser the amplifier to be free from defects in material and workmanship for one (1) Year from date of purchase.

All other parts and accessories of the system are warrantied to be free from defects in material and workmanship for one (1) year from date of purchase. Maxxsonics will repair or replace at it's option and free of charge during the warranty period, any system component that proves defective in materials and workmanship under normal installation, use and service provided that the product is returned to the authorized Maxxsonics dealer from where it was purchased. A photo copy of the original receipt must accompany the product being returned.

Valid purchase receipts will contain the name and address of the authorized reseller.

Any damage to the product as a result of misuse, abuse, accident, incorrect wiring, improper installation, alteration of date code or bar code labels, revolution, natural disaster, or any sneaky stuff because someone messed up, repair or alteration out side of our factory or authorized service centers and any thing else you have done that you should not have done is not covered.

This warranty is limited to defective parts and specifically excludes any incidental or consequential damages connected therewith. This warranty is not to be construed as an insurance policy.

Warranty on installation labor, removal, re-installation and freight charges are not the responsibility of Maxxsonics USA Inc.

Warranty products damaged as a result of insufficient or improper packing materials are not covered by this limited warranty and such damaged product will be returned "as is" at the expense of the owner.

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