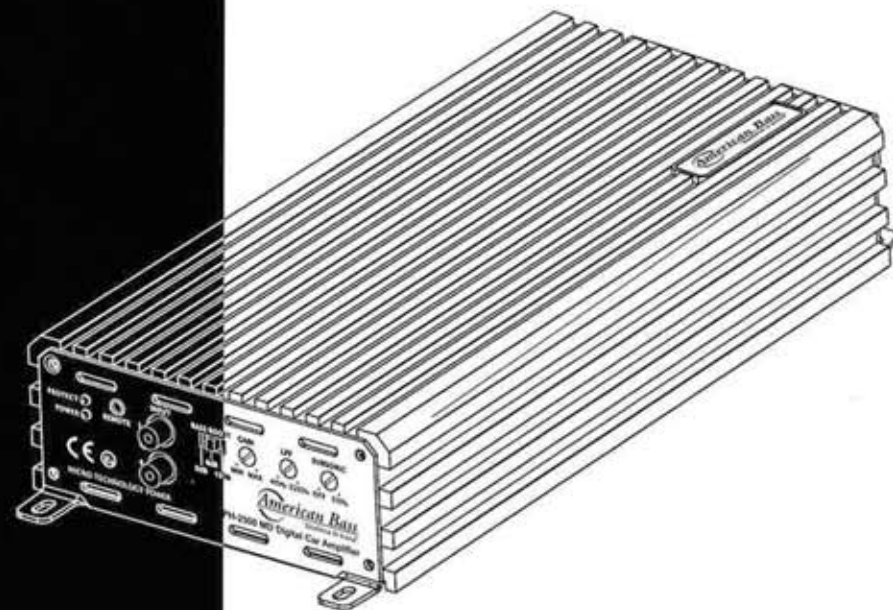
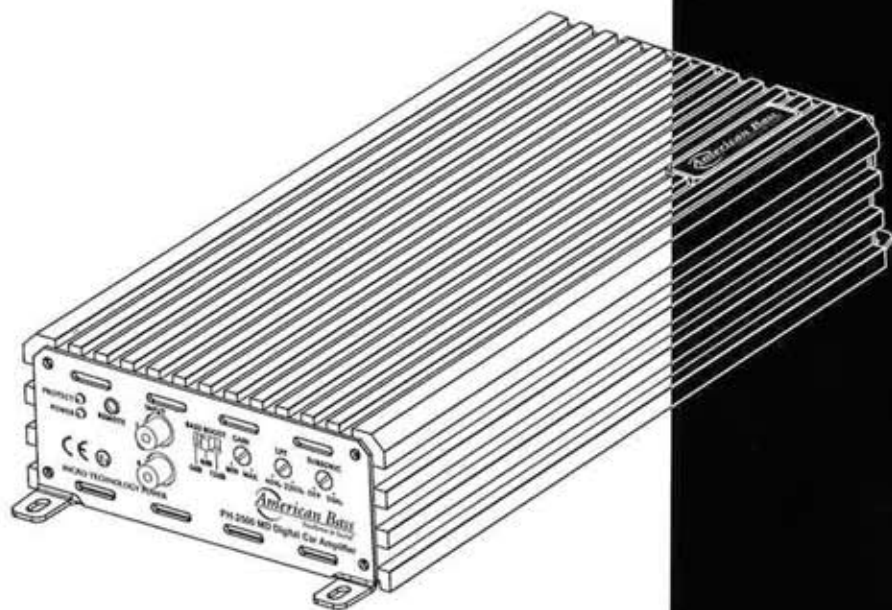




PH-Series
Compact
Amplifiers



www.americanbassusa.com

PH-Series
Compact
Amplifiers

PH-1600 MD
PH-2500 MD/PH-4000 MD
PH-4100 FR/PH-5100MD FR

Owner's Manual
PH-Series Compact Amplifiers

CONGRATULATIONS !

You now own a American Bass USA PH-series compact amplifier, the product of an uncompromising design and engineering philosophy. We suggest you take a moment to document the information below, which will be helpful in the event of theft or if service is needed. Please retain this manual and your sales receipt for future reference.

American Bass USA amplifiers are the result of innovation and the highest quality control standards. When properly installed, they will provide you with many years of listening pleasure. Should your amplifier ever need service or replacement due to theft, Please record your information on the following lines to refer to in the event that you may need it later.

Serial# _____
Dealer's Name _____
Date of Purchase _____
Installation Shop _____
Installation Date _____

CAUTION !

Prolonged listening at extremely high levels may result in hearing loss. Even though your new American Bass amplifier sounds better than anything you've heard, exercise caution to prevent hearing damage .

FEATURES

- COMPACT SIZE AND TINY FOOTPRINT.
- DOUBLE SIDE PCB AND SMD COMPONENTS.
- FULL MOSFET DESIGN.
- LPF AND HPF CROSSOVER.
- ADJUSTABLE BASSBOOST.
- 1-OHM LOAD STABLE FOR PH-1600 MD & PH-2500 MD & PH-4000 MD.
- CLASS-D+CLASS-AB HYBRID DESIGN,BEST CONBINATIONOF STRONG BASS AND HI-FI PERFORMANCE. (PH-5100MD FR only) .
- NOISE FREE DESIGN.
- OVERLOAD, OVERHEAT, HIGH/LOW VOLTAGE PROTECTION.
- RoHS COMPLIANT.

CONTROL FUNCTIONS

1. SPEAKERS

Connect speakers/subwoofers to these terminals. Be sure to check wire for proper polarity. Never connect the speaker cables to chassis ground.

2. +12 Volt Power

Connect this terminal through a FUSE or CIRCUIT BREAKER to the positive terminal of the vehicle battery or the positive terminal of an isolated audio system battery.

Warning: Always protect this power cable by installing a fuse or circuit breaker of the appropriate size within 18 inches (45cm) of the battery terminal connection.

3. Remote Turn On

This terminal turns on the amplifier when (+)12 volt is applied to it. Connect it to the remote turn on lead of the head unit or signal source.

4. GND

Connect this cable directly to the frame of the vehicle. Make sure the metal frame has been stripped of all paint down to the bare metal. Use the shortest distance possible. It is always a good idea to replace the factory ground at this time with a larger cable equal to the new amplifier power cable or larger. **CAUTION:** Do not connect this terminal directly to the vehicle battery ground terminal or any other factory ground points.

5. RCA input jacks

These RCA input jacks are for use with source units that have RCA outputs. A source unit with a minimum level of 200mV is required for proper operation. The use of high quality twisted pair cables is recommended to decrease the possibility of radiated noise entering the system.

6. REMOTE

Connect the remote controller to control the subwoofer amplifier volume from the driver seat location, for ease of adjustment during playing.

7. Gain Control

The Gain control will match the amplifiers sensitivity to the source units signal voltage. The Operating range is 5V to 200mV. This is NOT a volume control

8. Low Pass Filter Control (Mono block)

This control is used to select the desired low pass x-over frequency. The frequency can be adjusted from 40Hz to 220Hz for all bass mono models.

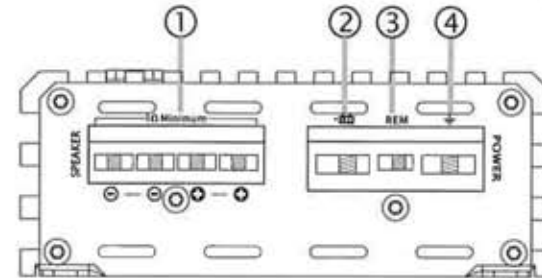
9. Subsonic Filter Control (Mono block)

This control can filter out unwanted low frequency from 10Hz (OFF) to 50Hz. This function will increase the power handling of your woofers.

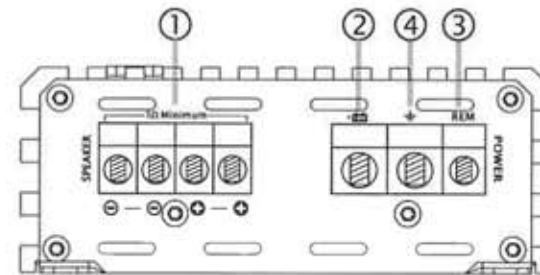
10. Bass Boost Level switch (Mono block)

This switch can boost bass level by 0dB, 6dB or 12dB. The boost frequency is centered at 50Hz.

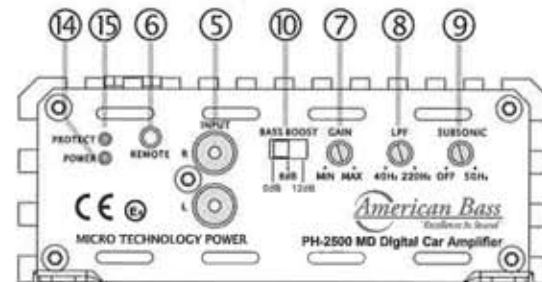
PANEL LAYOUT



PH-1600 MD



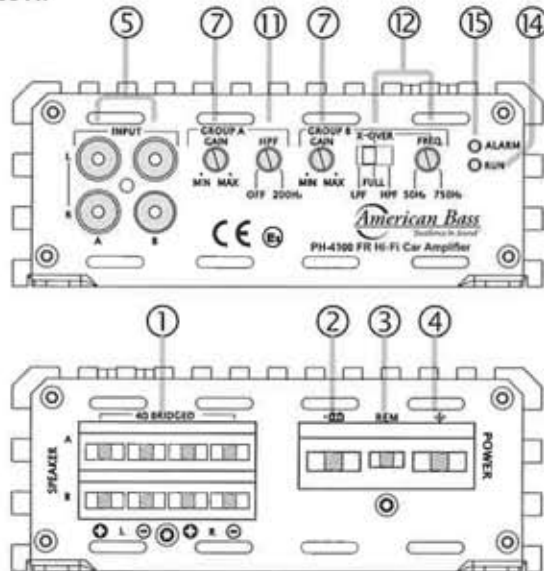
PH-4000 MD/PH-2500 MD



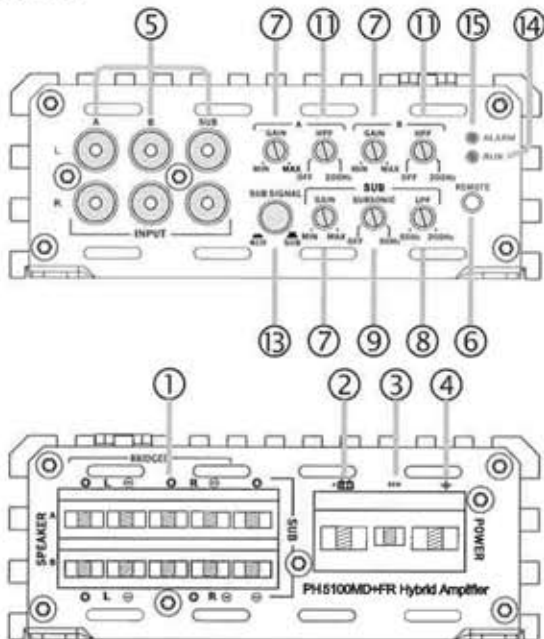
PH-1600 MD
PH-2500MD
PH-4000MD

PANEL LAYOUT

PH-4100 FR



PH-5100MD FR



11. Hi-pass filter (Full range)

This knob controls the frequencies played for the front channels. Low frequencies can be cut out from OFF to 200Hz. At OFF position, none low frequency cut out, that means full pass.

12. X-over mode and frequency Control (Full range)

These controls allow control over the frequencies played for the rear channels. There is an option for Low Pass, Full Range or High Pass. In LP or HP mode, the crossover frequency can be tuned from 50Hz to 750Hz by the frequency knob.

13. Woofer channel signal selector

The button select the signal source for subwoofer channel. When the button is up, subwoofer signal switched to the subwoofer channel's RCA input jack. when the button is down, it mix up 4x full frequency channel's bass signal and pass to subwoofer channel.

14. Power Indicator

This LED will light up when amplifier works properly.

15. Protection Indicator

The red LED will light up and will be flashing if there is a fault presented to the amplifier. Please disconnect the amplifier and resolve the fault before reconnecting the amplifier.

INSTALLATION PRECAUTIONS

Before you install the amplifier, investigate your car's layout very carefully. Take special care when you work near the gas tank, fuel lines, hydraulic lines and electrical wiring. Before making or breaking power connections in your system, disconnect the vehicle battery. Confirm that your head unit or other equipment is turned off while connecting the input jacks and speaker terminals. If you need to replace the power fuse, replace it only with a fuse identical to that suggested by this manual. Using a fuse of a different type or rating may result in damage to your audio system or your amplifier which is not covered by warranty.

CONNECTING THE AMPLIFIER

1. Select cable and fuse according to the following table.

MODEL	PH-4100 FR	PH-1600 MD	PH-2500 MD	PH-4000 MD	PH-5100MD FR
CABLE	6-4	6-4	4	4-2	2-4
FUSE	60A	60A	100A	150A	100A

2. Connect the amplifiers ground cable to a close, bare metal part of the frame or chassis. Use a nut and bolt, NOT a screw! The ground cable must be at least the same size as the +12volt cable.

3. Connect the remote terminal to remote output of the head unit using 16 gauge (or heavier) wire.

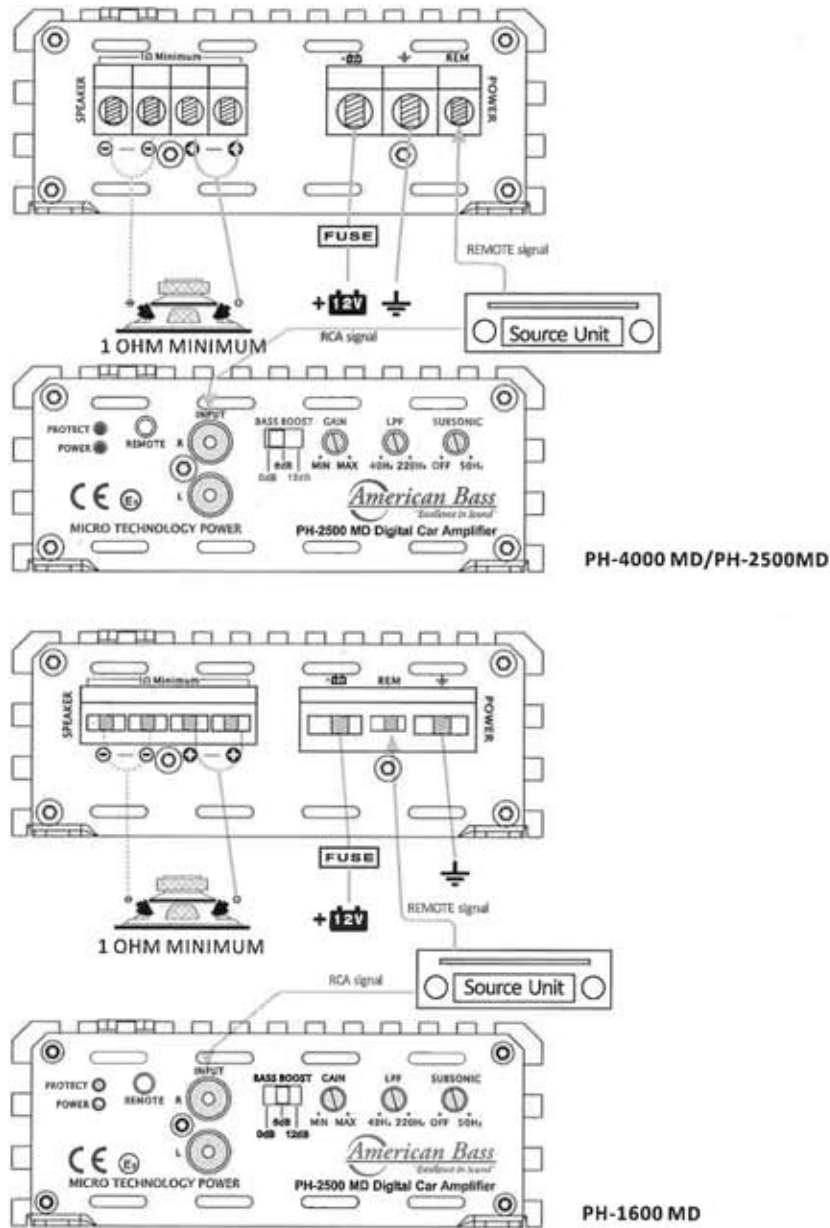
4. Connect the fuse holder within 18"(45cm) of the car battery, and run the selected cable from this fuse to the amplifier.

5. Connect all the inputs with high-quality cables. Connect Remote Control if necessary.

6. Insert fuse(s) into the battery fuse holder(s).

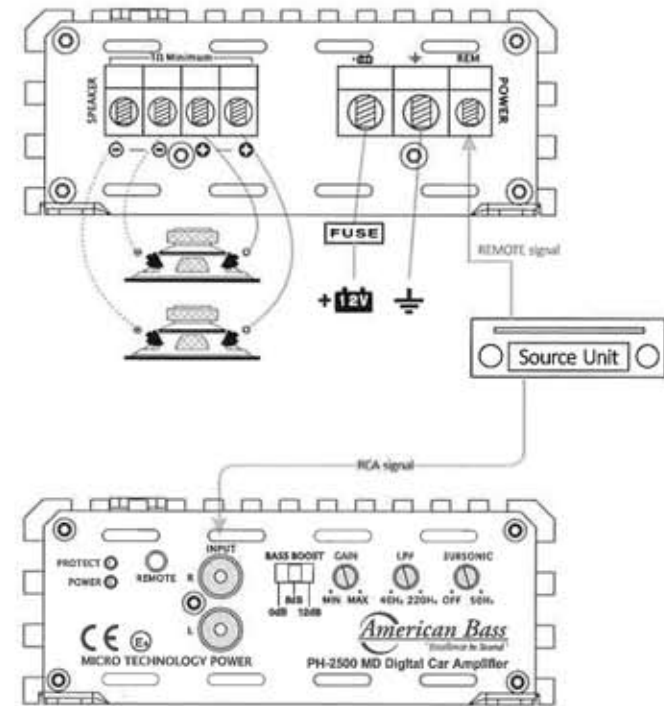
WIRING DIAGRAM

Mono amplifier wiring (single woofer load)



WIRING DIAGRAM

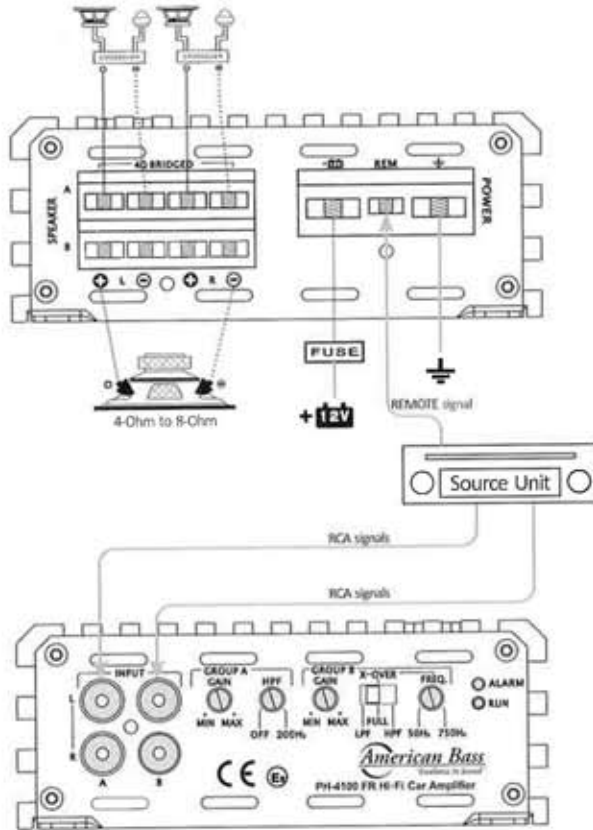
Mono amplifier wiring (Multi-woofer load)



*Equivalent parallel woofer load cannot be less than the minimum load rating. The 2 negative terminals are paralleled inside the amplifiers, as are the 2 positive terminals. These are monoblock amplifiers, not multi-channel amplifiers.

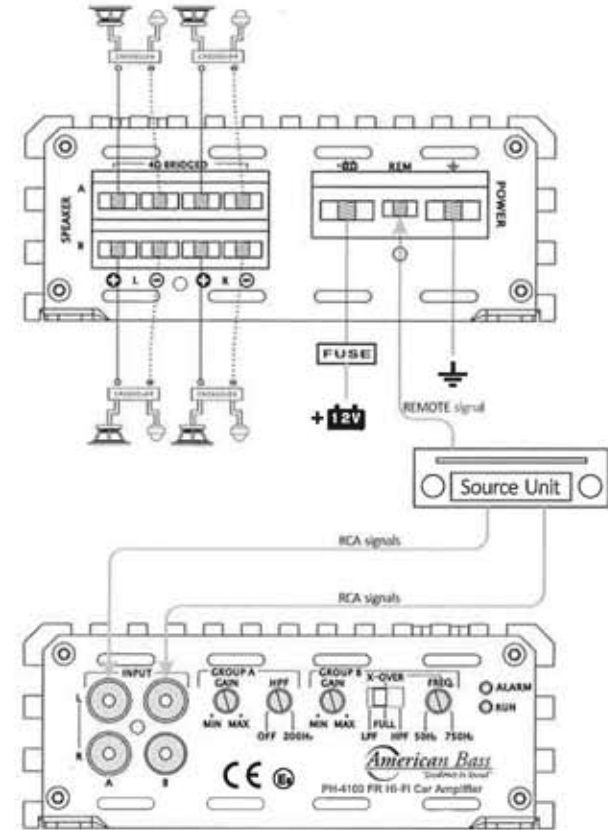
WIRING DIAGRAM

PH-4100 FR amplifier wiring (3-channel mode)



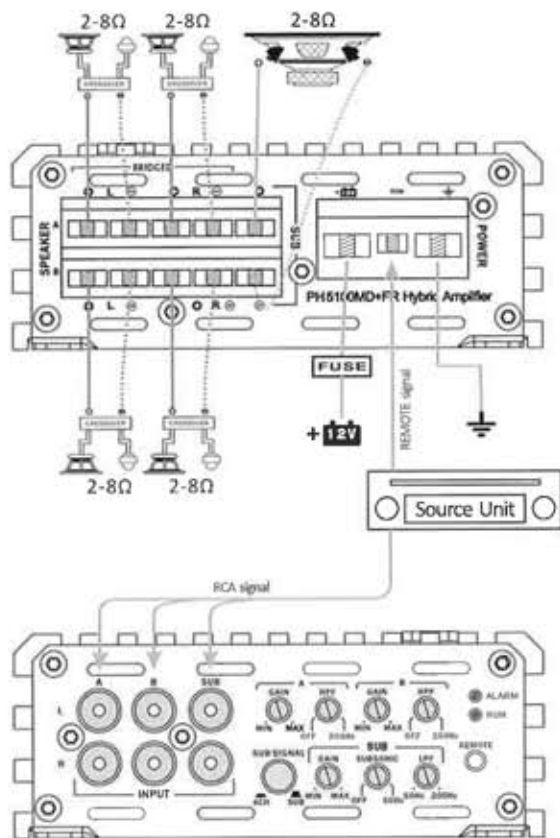
WIRING DIAGRAM

PH-4100 FR amplifier wiring (4-channel mode)



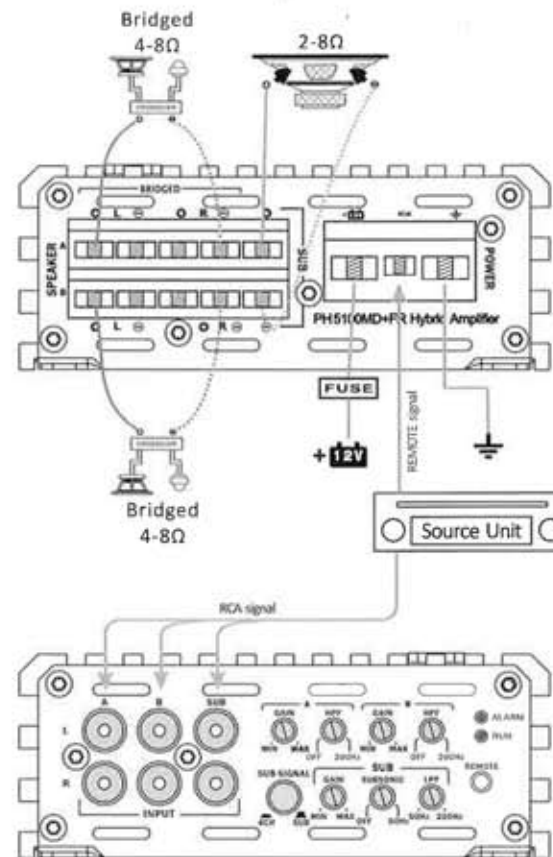
WIRING DIAGRAM

PH-5100MD FR amplifier wiring (5-Channel mode)



WIRING DIAGRAM

PH-5100MD FR amplifier wiring (3-Channel mode)



TROUBLE SHOOTING

Symptom	Possible Remedy
Amplifier will not power up	Check to make sure you have a good ground connection. Check that there is battery power on the (+)terminal . Check all fuses, replace if necessary . Make sure that the Protection LED is not illuminated.
Protection LED Comes on	Check for short circuits on speaker leads. Check the speaker load not beyond the minimum load. Remove speaker lead, and reset the amplifier. If the protection LED still Comes on, then the amplifier is faulty and needs servicing .
No output	Check that the RCA audio cables are plugged into the proper inputs. Check all speakers wiring. Check the headunit output and the amplifier level setting.
Low output	Reset the level Control. Check the Crossover Control settings.
High hiss in The speakers	Check the RCA cable is not shorted to power ground at amplifier side. Check the amplifier grounding.
Distorted sound	Check that the Input level control is set to match the signal level of the head unit. Always try to set the Input level as low as possible. Check that all crossover frequencies are properly set. Check for short circuits on the speaker leads.
Amplifier gets Very hot	Check that the minimum load impedance for the amplifier model is correct. Check that there is good air circulation around the amplifier. In some applications, It may be necessary to add an external cooling fan.

SPECIFICATIONS 1

PH-5100MD FR	
RMS@2Ω (Power supplier14. 4V) -----	4 X 120W + 600W
RMS@4Ω (Power supplier14. 4V) -----	4 X 90W + 300W
RMS@4Ω Bridged (power supplier 14. 4V) -----	2 X 200W + 300W
Input Level -----	0. 2V-5V
4x channel Frequency Response -----	20Hz-25KHz
4x channel HPF Frequency -----	20Hz-200Hz
Subwoofer Channel frequency response -----	8Hz-200Hz
Subsonic Filter Frequency -----	8Hz-50Hz
LPF frequency-----	40Hz-200Hz
THD at 4ohm load 30% rated power -----	<0. 05%
S/N Ratio -----	>89dB
Optional remote control -----	YES
4x Channel Bridged -----	Enable in same group
Overload protect system -----	YES
Overheat protect system -----	YES
The size of the whole machine Dimension -----	385mm(15.2")x140mm(5.5")x54mm(2.1")

SPECIFICATIONS 2

Model	PH-4000 MD	PH-2500 MD	PH-1600 MD	PH-4100 RF
Description	4000 Watts MAX @ 14.4 V	2500 Watts MAX @ 14.4 V	1600 Watts MAX @ 14.4 V	120 x 4 Watts Max @ 14.4 V
RMS power at 14.4V				
1Ohm Load	2000W	1250W	800W	NA
2Ohm Load	NA	NA	NA	4 X 120W
4Ohm Load	NA	NA	NA	4x80 W
Features				
Input Level	0.2-5V			
Frequency Response	10-220Hz		15Hz-25KHz	
LPF	40-220Hz		50Hz-750Hz	
SubSonic Filter(HPF)	10-50Hz		50Hz-750Hz	
THD at 4Ohm load	<0.3%		<0.05%	
30% Rated Power				
S/N Ratio	>80dB			
BassBoost	0-6dB-12dB switchable			NA
Best Efficiency @ 4ohm	>80%		>60%	
Minimum Load	1Ohm		2Ohm	
Optional Remote	YES		NA	
Low voltage protection	Yes, protect < 8V			
ShortCircuit Test @ max power	Pass			
Overheat protect temperature	Protect at 80C / 176F			
Components & PCB	SMD parts / double side FR-4 pcb			
DIMENSION(mm)				
Height	54mm/2.1"			
Width	140mm/5.5"			
Length	341mm/13.4"	261mm/10.3"	184mm/7.2"	255mm/10.0"