XFIRE AUDIO

XFR SERIES MULTI CHANNEL MOBILE POWER AMPLIFIERS OWNERS MANUAL

XFIREAUDIO.COM

Introduction

Welcome to **XFIRE AUDIO** "The New Breed Of Mobile Audio".

Congratulations on purchasing one of the finest autosound power amplifiers in existence.

Born in The U.S.A from rigorous pursuits of exceptional sound, strength, performance, and style delivering kick ass mobile audio! Relentless pride and passion with 30 plus years of experience and excellence in the 12 volt industry.

It's Your Music, It's Your Style, It's Your Life, AMPLIFIED!

Purchase and serial number information.
Record your New **XFIRE AUDIO** product information for future reference.

Purchase Date	
Retailer	
Model #	
Serial #	

Features

XFR series amplifiers raise the bar on amplification savagery with gut wrenching performance and quality producing pristine audio with discerning detail capable of unleashing profound sonic fury without breaking a sweat.

- Ultra efficient 2, 4 and 5 channel fullrange Class D topology designs with 8 volt inputs and 2 ohm stability.
- Extensive customization controls like HP/LP crossovers, subsonic filter, bass boost, and variable boost frequency make it easy to design the perfect soundstage.
- Heavy-duty all aluminum chassis, "Direct Device Mount" PCB's and tight tolerance components for improved signal to noise ratios for superior musical reproduction from the very first note.
- Input and output connectors direct PCB mounted ensuring maximum power and signal transfer while side panel secured terminals resist flex, twist or breakage for structural integrity and performance .

XFR series amplifiers are raw, rugged and road worthy workhorse powerhouses.

Peerless Amplification Unleashed!

This operating manual provides necessary information for the installation and use of your XFR amplifier. Please read it carefully to insure a lifetime of high fidelty autosound enjoyment.

Specifications

RMS power output (14.4V 0.15% THD)**:**

Model	@ 2Ω	@ 4Ω	@ 4Ω Bridged
XFR2000.5	4x 150 W 1x 400 W	4x 100 W 1x 250 W	2x 300 W 1x 400W
XFR2000.4	4x 250 W	4x 150 W	2x 500 W
XFR1800.2	2x 450 W	2x 300 W	1x 900 W
XFR1200.4	4x 150 W	4x 100 W	2x 300 W

Customization controls:

Model	LP X-over	HP X-over	Subsonic	Phase Shift	Bass Boost
XFR2000.5	50 - 250 Hz	50 - 250 Hz	N/A	0^0 - 180^0	0 - +18 dB 40 - 100 Hz
XFR2000.4	50 - 5000 Hz	20 - 5000 Hz	N/A	N/A	N/A
XFR1800.2	30 - 500 Hz	40 - 3000 Hz	10 - 50 Hz	N/A	0 - +12 dB @ 45 Hz
XFR1200.4	50 - 250 Hz	50 - 250 Hz	N/A	N/A	0 - +18 dB @ 45 Hz

Model	Input Sensitivity	Signal to Noise Ratio	Frequency Response	Fuse Rating	Dimensions LxWxH (mm)
XFR2000.5	200mV - 4V	>90dB (IEC-A)	10 - 30000Hz	90Amp	260x172x53
XFR2000.4	200mV - 8V	>90dB (IEC-A)	10 - 30000Hz	60Amp	260x172x53
XFR1800.2	200mV - 8V	>90dB (IEC-A)	10 - 30000Hz	60Amp	260x172x53
XFR1200.4	200mV - 4V	>90dB (IEC-A)	20 - 30000Hz	50Amp	180x172x53

All XFR amplifiers have a damping factor >200 !

All specifications are subject to change without notification due to continual product improvements.

Installation

Actual installation of an XFR amplifier is not a difficult task. However, it takes a few tools, considerable care and precise attention to the instructions in this manual. If you doubt that you are up to the task, or your car proves to require special installation skills, we recommend having the work done by an authorized XFIRE AUDIO installation professional.

Safety instructions

- Always disconnect the negative ("-") battery terminal before making any connections to the amplifier.
- Fuse the positive ("+") power lead, with the right value fuse within 30cm of the battery connection, the fuse rating for each XFR amplifier is given in the specifications.
- Each XFR amplifier is designed for use with a 12Volt DC negative ground system.
- Mount the amplifier securely. Do not use unmounted.
- Make sure all wire connections are secure and protected so there is no danger of rips or pinches in the wire.
- Make sure your source unit is switched off when making input connections to the amplifier.
- Inspect your amplifier mounting location carefully to avoid damaging gas tanks, gas lines, brake or hydraulic lines and electrical wiring.
- Install the amplifier in a location where it will have enough ventilation, protection from engine heat, heaters or direct sunlight, rain and dirt. Do not install in the engine compartment.
- Avoid playing your car audio system for long periods of time at high volume when the engine is not running. This will prevent unneccesary battery drain.

An XFR amplifier needs a few things to be happy in a car : Ventilation and a "clean" source of power.

VENTILATION Is important with any mobile amplifier. An amplifier can generate a considerable amount of heat when driven hard, and car interiors can get quite hot in the summer. Be careful when choosing a spot to mount the amplifier. Make sure there is enough airflow along the hetasink of the amplifier.

CLEAN POWER Power connections are often overlooked as a source of noise and other frustrations in a mobile installation. Since mobile amplifiers are powered by a low-voltage car battery, the current required to reach max output power can be very high and the resistance of the power wires becomes very critical in minimizing power losses. Since the car's electrical system is powered by an inherently noisy alternator, you need a low-resistance ground to keep the high-powered mobile audio system "quiet". To reduce power loss, power wiring should be made directly to the battery, using proper gauge copper wire. For safety reasons an inline fuseholder with the recommended fuse rating needs to be installed within 18 inches of the battery. The heavier the wire, the less chance there is for power loss. Also, keep wire lenghts as short as possible.

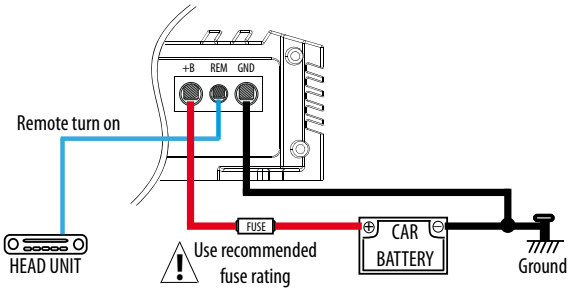
The ground lead serves double-duty. In addition to handling all the power (as much as the positive power lead), the ground is responsible for keeping noise to a minimum. The less the ground resistance, the less noise.
We recommend the same guage ground wire as the power wire. Ensure you have a single point of ground for the entire audio system to avoid groundloops and inducting noise into the system. Use the Power Wiring Selection Chart to determine the minimum wire guage for a given power output and length. Remember, there is no such thing as too little resistance!

Power wiring selection chart: Total ouput power Vs length of positive power wire

Length	100W	150W	200W	300W	600W	1000W	>1000W
5 ft.	10 AWG	10 AWG	8 AWG	8 AWG	4 AWG	2 AWG	1 AWG
10 ft.	10 AWG	10 AWG	8 AWG	8 AWG	4 AWG	2 AWG	1 AWG
15 ft.	10 AWG	8 AWG	8 AWG	8 AWG	4 AWG	2 AWG	0 AWG
20 ft.	10 AWG	8 AWG	8 AWG	4 AWG	4 AWG	2 AWG	0 AWG
25 ft.	10 AWG	8 AWG	8 AWG	4 AWG	2 AWG	1 AWG	2x 1 AWG
30 ft.	10 AWG	8 AWG	8 AWG	4 AWG	2 AWG	1 AWG	2x 1 AWG

Minimum recommended American Wire Gauge sizes for power and ground connections.

Connections



1 **GROUND (-)** Ground connection should be made to the vehicle's chassis with a clean, bare metal, strong connection keep the length of the ground wires as short as possible. Always use the same wire thickness as used for the positive 12V DC connection.

2 **REMOTE (REM)** This is the connection to turn the amplifier on and off. When a +12V DC voltage is applied to this terminal the amplifier will switch on, when this voltage is removed the amplifier will switch off. Usually this is done by the source unit's remote output. The source unit's remote output lead or power antenna lead will supply +12V DC when the unit is turned on.

3 **POSITIVE (+12V)** Positive power connection should be made directly to the vehicle's battery positive ("+") terminal. Use the proper wire thickness (see Power Wiring Connection chart) and make sure you install an inline fuseholder within 18 inches of the battery connection, the fuse rating for each XFR amplifier is given in the specifications.

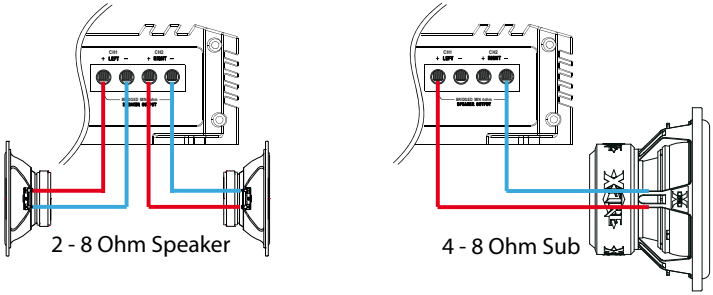
4 **LOUDSPEAKER OUTPUTS** This is where you connect your speakers. When connecting loudspeakers to an XFR amplifier, please be sure to observe proper polarity. Do not load the amplifier with so many speakers that the minimum impedance capacity is exceeded.

Speaker wiring selection chart: Ouput power to speaker Vs length of speaker wire

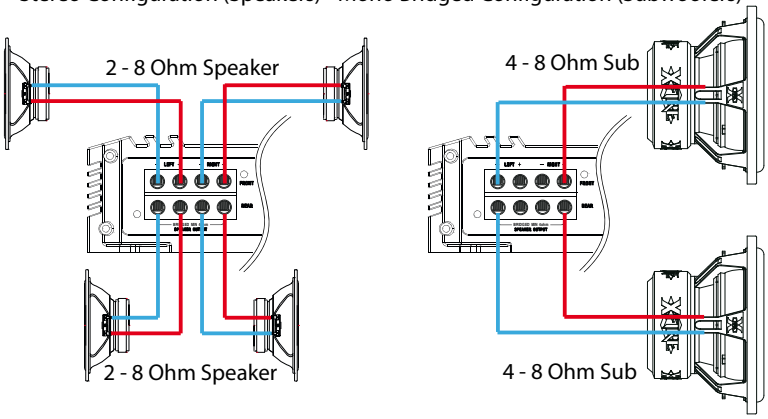
Length	80W	100W	150W	200W	300W	500W
5 ft.	14 AWG	12 AWG	12 AWG	10 AWG	10 AWG	8 AWG
10 ft.	12 AWG	12 AWG	10 AWG	10 AWG	10 AWG	8 AWG
15 ft.	12 AWG	12 AWG	10 AWG	10 AWG	10 AWG	8 AWG
20 ft.	12 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG

Minimum recommended American Wire Gauge sizes for speaker connections.

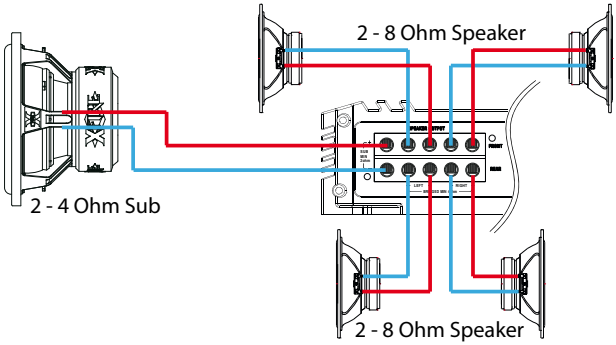
XFR1800.2 - Speakerwiring
Stereo Configuration (Speakers) - Mono Bridged Configuration (Subwoofer)



XFR200.4 / XFR1200.4 - Speakerwiring
Stereo Configuration (Speakers) - Mono Bridged Configuration (Subwoofers)

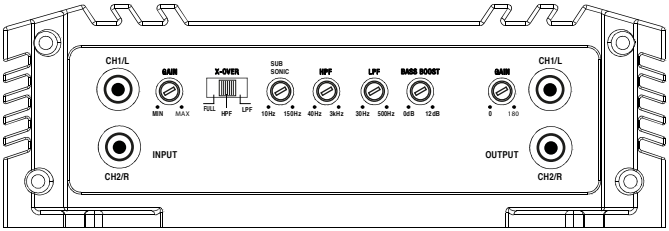


XFR2000.5 - Speakerwiring
Stereo (Speakers) + Mono (Subwoofer)

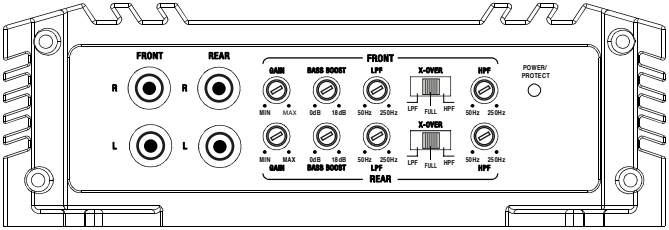


Controls

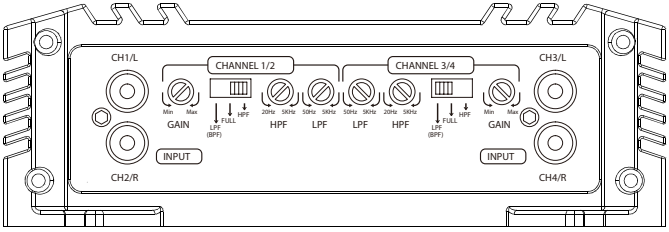
XFR1800.2



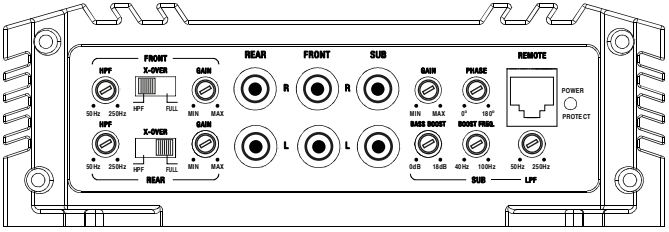
XFR1200.4



XFR2000.4



XFR2000.5



5 **LINE LEVEL INPUTS (RCA)** These inputs are connectd to the source unit's line level RCA outputs.

6 **GAIN** This control is used to match the amplifier's input sensitivity to the source unit's output.

7 **SUBSONIC** This control is used to limit the amount of extreme low frequencies. With this control you can protect your speakers from damage of excessive excursion.

8 **X-OVER SWITCH** This switch is used to select the filter for the respective amplifier channels, Low Pass (LPF)/ Band Pass (BPF), Fullrange (FULL) or High Pass (HPF).

9 **LOW PASS FREQ.** This control is used to set the Low Pass filter frequency for the speaker outputs.

10 **HIGH PASS FREQ.** This control is used to set the High Pass filter frequency for the speaker outputs.

11 **BASS BOOST** This control is used to set a boost around a center frequency. (45Hz for XFR1200.4/1800.2)

12 **BOOST FREQ.** This control is used to set the center boost frequency of the bass boost (XFR2000.5 only).

13 **PHASE** This control is used to adjust the phase of the output signal.

14 **LINE LEVEL OUTPUTS (RCA)** These outputs can be used to route the input signal to a second amplifier.

15 **REMOTE LEVEL CONTROL PORT** Port to connect the external level control.

16 **POWER & PROTECTION LEDS** The Power LED shows if the amplifier is ON (LED is green- or blue-lit), the protection LED shows if the amplifier is in protection (LED is red-lit).

Signal Input

Tp to prevent noise and RF inductance, use only high quality shielded audio cables that are no longer than necessary. Try to avoid running these low-level cables near cellular phone equipment, electronic management systems or other potential interference sources.

Setting the controls

Turn the gain level on your amplifier to minimum and set the x-over switch to the FULL position, turn down the bass boost. Turn the volume on the source unit down before you turn on the power (this will save your speakers if something isn't right!). Turn the system on, check if the power LED on your amplifier is ON and the protection LED remains OFF.

Turn the volume of your source unit 3/4 of the way up (this is your maximum volume without distortion).
Slowly turn up the gain on your amplifier to the point when your speakers just start to distort, now turn the gain a little down untill the distortion is gone. Turn down the volume on the source unit.
Now it is time to set the x-over switch to the right setting : LPF for subwoofer(s) and HPF for speakers and select the desired x-over frequency.
Listen to the system and fine tune the gain on the amplifier if needed.

In case of difficulty

Almost all problems can be eliminated by re-checking connections and settings in your system. Follow the steps below as a guide. If you cannot solve the problem, consult your XFIRE AUDIO installation professional.

NO SOUND - POWER LED IS OFF

1. Check the inline fuse(s) in the positive power cable, replace these if needed.
2. Check the negative power cable connections.
3. Check if the system operating voltage is between 8.5V - 16V DC, our amplifiers have a high and low voltage protection.
4. Verify source unit operation.
5. Check connection of REMOTE TURN ON wire. If steps 1-4 are OK your amplifier should switch ON and the power LED should light up.

NO SOUND - POWER LED IS ON

1. Check the RCA cables are properly connected on the source unit and amplifier.
2. Check the RCA cables for damages and replace the cables if needed.
3. Check the speaker cables for damages and if they are connected properly, replace cables if needed.
4. Check if the speakers are damaged and replace if needed.

NO SOUND - PROTECTION LED IS ON

1. The speakers connected have an impedance under the specified load or the speakers/speaker cables have a short circuit.
2. The amplifier runs really hot, mount the amplifier as recommended in the INSTALLATION section, check the impedance of the speakers and measure if the operating voltage is within 8.5V - 16V DC.
3. Check for DC offset on the RCA inputs, if so check the source unit and RCA cables for damages.

POOR BASS RESPONSE

1. Check if all speakers are connected with the right polarity, speakers connected out of phase will cancel each other resulting in a poor bass response.
2. Check if the connected speakers/subwoofer(s) are OK, replace if needed.

ENGINE NOISE

1. Use only high quality shielded RCA cables.
2. Ensure that all signal transfer wires (RCA, speaker cables etc.) are kept separately and away from power and ground wires.
3. Ensure you have only ONE ground connection (star ground) for all your audio components.
4. Ensure that the point of ground is 100% metal which has been sanded free of rust, paint etc.
5. "Optional" Replace the OEM ground cable from the battery with the proper gauge wire (see Power Wiring Selection Chart).

XFIRE AUDIO limited warranty.

U.S.A. warranty: 90 days. (1 year if installed by an authorized dealer.)

What is covered: This warranty applies only to XFIRE AUDIO products sold to consumers by authorized dealers in the U.S.A. Products purchased by consumers from an authorized dealer in another country are covered only by that country's distributor.

Who is covered: The original purchaser of XFIRE AUDIO product bought from an authorized dealer in the U.S.A. To receive warranty, the original purchaser must provide a copy of the receipt with customer name, dealer, XFIRE model purchased with the date of purchase. Please retain all receipts for warranty purposes should they be needed. Warranty is not transferable.

Products found to be defective during the warranty period will be replaced (with a product deemed equivalent) at the discretion of XFIRE AUDIO.

What is NOT covered:

- Abuse (including burnt voice coils) improper installation, operating product other than which it was designed, water damage, theft, product damage from vehicle accidents, or shipping damages.
- Any costs incurred for removal or reinstallation.
- Any product with altered, defaced or removed serial numbers.
- Damage to other components.
- Products purchased from unauthorized dealers, retailers or internet sites.

Buyers beware of the internet. ANY XFIRE AUDIO product bought online that is NOT from and authorized dealer will void any and all warranty.
Limit on implied warranties: Any implied warranties including warranties of fitness for use and merchantability are limited in duration to the period of the express warranty set forth above. Some states do not allow limitations on the length of an implied warranty, thus limitations may not apply. No person shall assume for XFIRE AUDIO any other liability in connection with the sale of products.

Obtaining warranty: Contact your local authorized dealer.
Should you need additional assistance please email XFIRE AUDIO : salesusa@xfireaudio.com