

RZR® DASH KIT FOR PMX COMPACT DIGITAL MEDIA RECEIVER

RFRZ-PMX2DK



Serial Number: _____

Date of Purchase: _____

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

Great product and competent installations are only a piece of the puzzle when it comes to your system. Make sure that your installer is using 100% authentic installation accessories from Rockford Fosgate in your installation. Rockford Fosgate has everything from RCA cables and speaker wire to power wire and battery connectors. Insist on it! After all, your new system deserves nothing but the best.

To add the finishing touch to your new Rockford Fosgate image order your Rockford accessories, which include everything from T-shirts to hats.

Visit our web site for the latest information on all Rockford products; www.rockfordfosgate.com

or, in the U.S. call 1-800-669-9899 or FAX 1-800-398-3985. For all other countries, call +001-480-967-3565 or FAX +001-480-966-3983.

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If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at **1-800-669-9899**. Be sure to have your serial number, model number and date of purchase available when you call.

PRACTICE SAFE SOUND

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

Safety

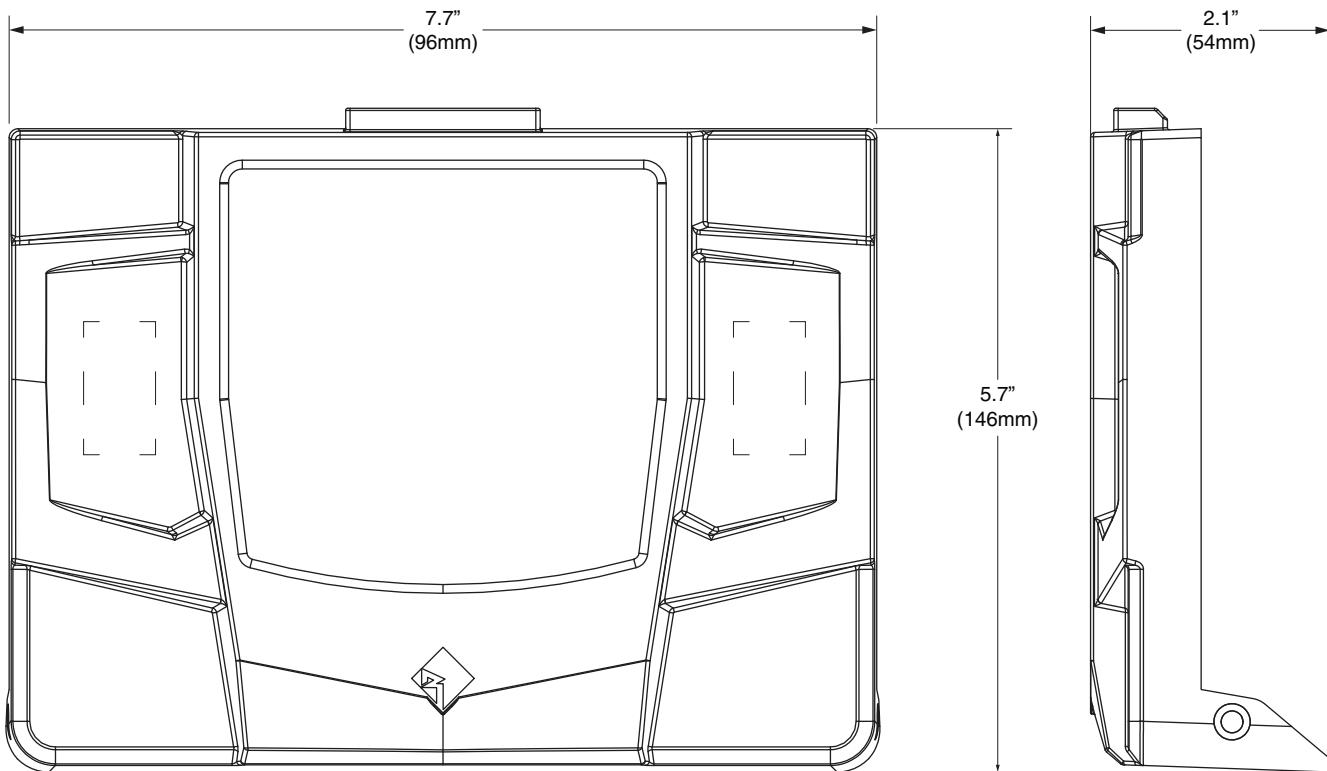
This symbol with "WARNING" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.



This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.



- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.



FRONT VIEW

SIDE VIEW

Fig. 1

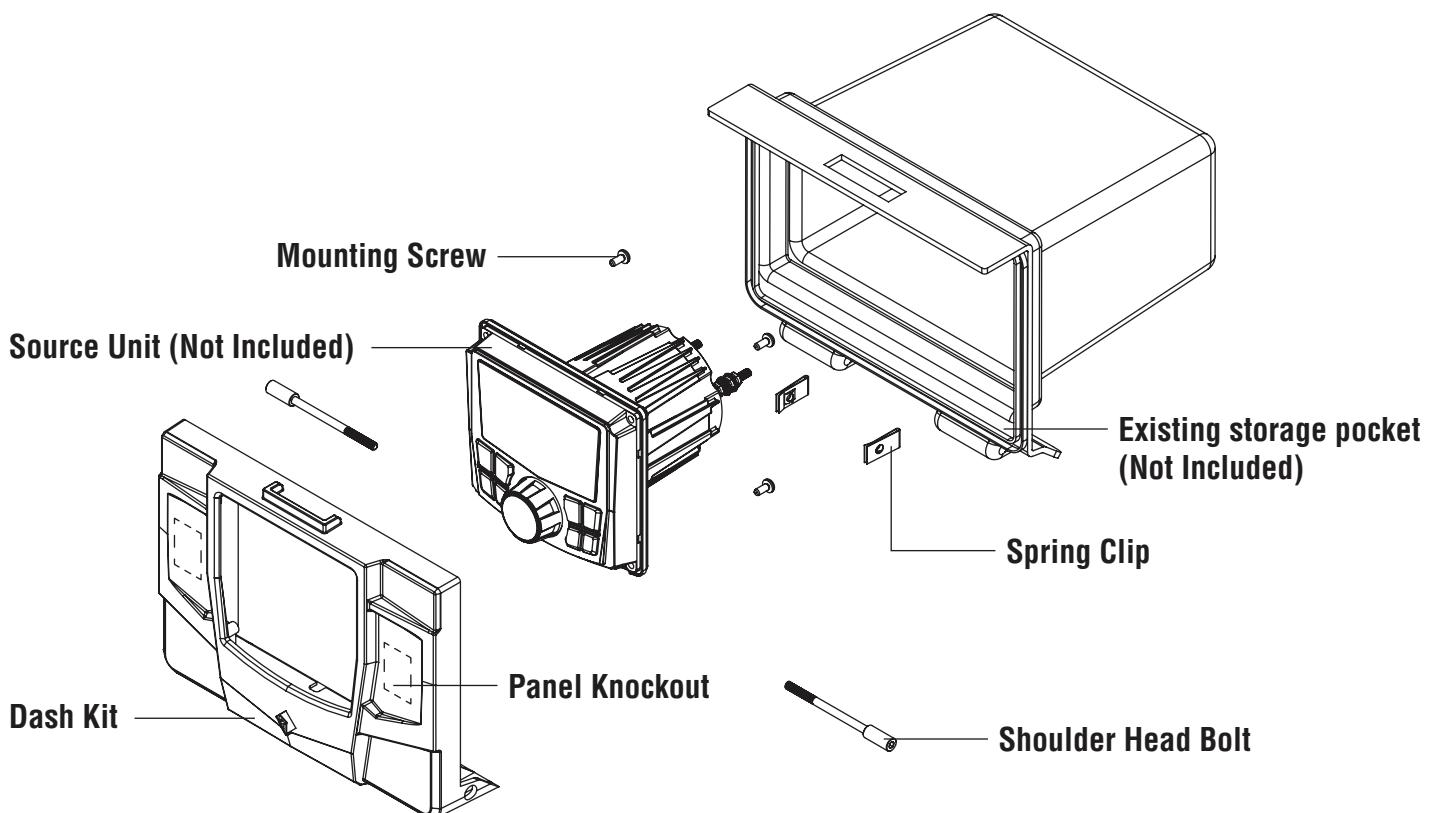


Fig. 2

Installation

Contents

- Dash Kit
- Allen Wrench
- (2) Shoulder Head Bolts
- (2) Speed Clips
- (4) Mounting Screws
- Installation Guide

Installation Tools

The following is a list of suggested tools needed for installation:

- Torx - T40
- Pry Tool or Small Flat Blade
- Screw Driver

Installation Considerations

This section focuses on some considerations for installing your Polaris RZR dash kit. This manual will illustrate the installation process with a 2014 Polaris RZR XP4 1000.

If you feel unsure about installing this system yourself, have it installed by a qualified technician.

CAUTION

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

CAUTION

Before beginning any installation, follow these simple rules:

- Be sure to carefully read and understand the instructions before attempting to install this motorcycle audio kit.
- Consult your UTV's service manual for model specific information. Models may differ from year to year depending on factory options and aftermarket accessories added.
- This dash kit is specifically designed to work with Rockford Fosgate's PMX series compact digital media receivers.
- With the addition of an amplifier or source unit, be sure that your current charging system is in proper working order.
- Visit rockfordfosgate.com for more comprehensive installation videos and product information.

2014 and up RZR® XP/XP4 1000

2016 and up RZR® XP/XP4 Turbo

*2015 and up RZR® XP/XP4 900

* Must purchase storage pocket from Polaris® for a 2014 and up RZR® XP/XP4 1000 to utilize this dash kit on 2015 and up RZR® XP/XP4 900 models.



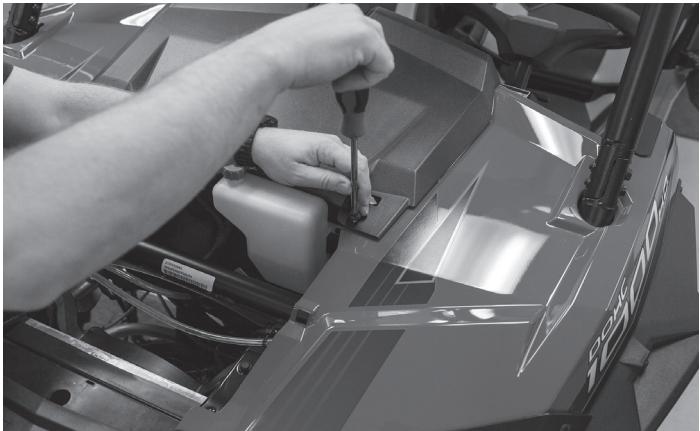
Step 1 - Remove Hood

To begin with, rotate the mounting clips to remove the hood.



Step 2 - Remove the Instrument Panel

Once the hood is removed, you can now access the bolts holding in the instrument panel that mounts on top of the dash. Using a Torx screwdriver, remove the two bolts holding the panel in place.



Lift off the panel once the bolts are removed. This will give you access to the center pocket support bracket.



Step 3 - Remove the Center Pocket Brace

Using a Torx screwdriver, remove the bolt that attaches the brace to the rear of the pocket.



Step 4 - Remove the Center Pocket

After the brace is disconnected from the center pocket, pull the pocket out of the dash.



Step 5 - Remove the Center Pocket Protective Cover

Turn the center pocket upside down to provide access to the protective cover pins. Using a pry tool, simply pry the two pins loose so you can remove the cover.

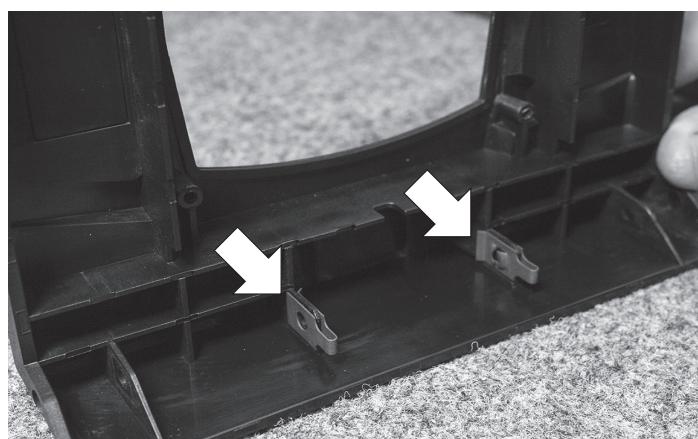


Step 6 - Apply Speed Clips to Dash Kit

Using the two speed clips that are included with the kit, you will need to slide them onto the rear of the dash piece.



Make sure the speed clips are orientated like the picture below.



Installation

Step 6a - Optional Knockout Panels for Accessory Switches



This dash kit also offers additional space to mount up to two rocker panel switches for accessories.

On the rear of the dash kit, grooves are provided to give you proper location and size for mounting additional switches.



Once you have these holes cut, simply insert your switch from the front side until it locks into place.



Step 7 - Mount the Source Unit to the Dash Kit

Before mounting the source unit to the dash kit, make sure that trim bezel that is included with the source unit is NOT attached. If it is attached, you will need to remove it. It will NOT be used.



Place the source unit onto the rear of the dash kit.



Attach the source unit using the four mounting screws that are included with the kit.



Step 8 - Attach the Dash Kit to the Center Pocket

On the rear of the pocket, you will need to remove one of the circular knockout panels providing an access hole to route wiring from your source to your vehicle.

**Step 9 - Attach the Dash Kit to the Center Pocket**

To attach the dash kit to the center pocket, insert the wiring into the pocket first. You will need to connect your wiring to the source unit and feed the wiring out the rear of the pocket hole that was cut. Next place the dash kit onto the front of the pocket. Insert the tab on top of the dash kit into the slot on the pocket.



Once the dash kit is locked in, you will need to use the two screws to attach the bottom of the dash kit to the pocket.



NOTE: Make sure the speed clips are lined up correctly or the screw will not be able to be tightened.

Step 10 - Reinstalling the Dash Kit

Slide the dash kit, source unit and wiring back into the dash.



Retattach the rear support bracket to the pocket.



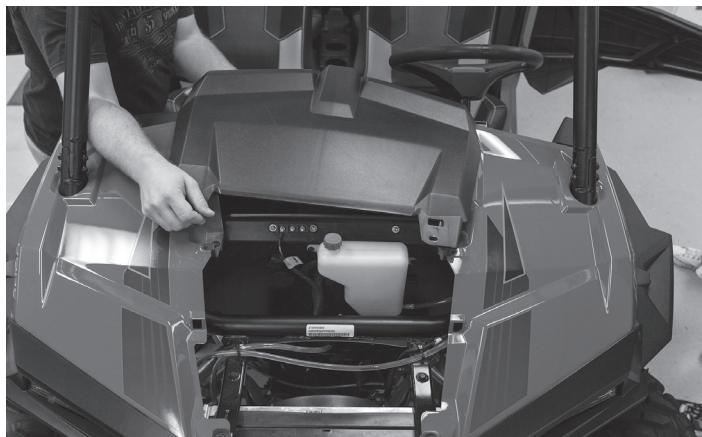
Once the the rear brace is secure the dash kit is installed and now the vehicle can be put back together



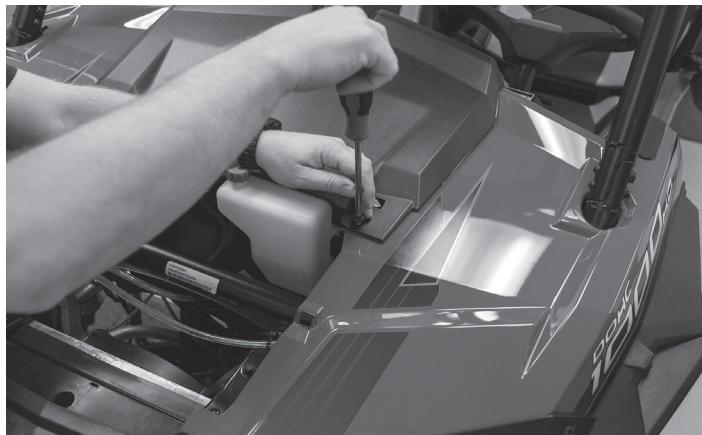
Installation

Step 11 - Reinstalling Instrument Panel

Place the instrument panel back on top of the dash.



Secure the panel with factory screws.



Step 12 - Attach Hood

Place the hood back on the vehicle and rotate the mounting clip to the lock the hood back into place.



Warranty

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

POWER Amplifiers – 2 Years
BMW® Direct Fit Speakers – 2 Years
All other products - 1 Year
Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

Who is Covered

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is Not Covered

1. Damage caused by accident, abuse, improper operations, water, theft, shipping.
2. Any cost or expense related to the removal or reinstallation of product.
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center.
4. Any product which has had the serial number defaced, altered, or removed.
5. Subsequent damage to other components.
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer.

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, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

How to Obtain Service

Contact the Authorized Rockford Fosgate Dealer you purchased this product from. If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You must obtain an RA# (Return Authorization number) to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements, see your Authorized dealer for details.

Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech

Printed in China

1230-60386-01-A

120315

600 South Rockford Drive • Tempe, Arizona 85281 United States
Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



PUNCH®

DIGITAL MEDIA
RECEIVER

PMX-2



WORKS WITH
PANDORA®

Made for
iPod iPhone

Bluetooth®

IPX6

MP3

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

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⚠ CAUTION

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If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide more reasonable protection against harmful interference in a residential installation.

Operation is subjected to the following two conditions: (1) This device may not cause harmful interference, and (2) the device must accept any interference received, including interference that may cause undesired operation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

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	Pandora®
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"Made for iPod" and "Made for iPhone" mean that an electronic accessory has been designed to connect specifically to iPod, or iPhone, respectively, and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards. Please note that the use of this accessory with iPod or iPhone may affect wireless performance.

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Model	PMX-2
Operating Voltage	10.5V - 16V
Fuse Rating	20A
Power Output	25 W X 4 @ 4 Ohms RMS 50 W x 4 @ 2 Ohms Peak
Max. RCA Output Voltage	4V
Output Impedance	500Ω
Frequency Response	20 - 20kHz
FM Frequency Range	87.5MHz - 107.9MHz
AM Frequency Range	530kHz - 1710kHz
WB Frequency Range	162.40 - 162.55 (US & Canada)
Tuner Presets	18 FM / 12 AM / 6 WB
Clock	No Clock
Display	2.7" Color TFT
Bluetooth	3.0+EDR, A2DP 1.3
USB Compatibility	2.0
USB Output	1A
Made for iPhone Model Names-	iPhone 6 Plus iPhone 6 iPhone 5S iPhone 5C iPhone 5 iPhone 4S iPhone 4 iPhone 3GS
Made for iPod Model Names	iPod Touch (5th generation) iPod Touch (4th generation) iPod Nano (7th generation) iPod Nano (6th generation)
Android Compatibility	Bluetooth® Only
Audio File Compatibility	MP3, WMA
Compatible Wired Remotes	PMX-1R, PMX-0R (3 Remote Limit, 100 ft Total Wired Distance)

CEA 2006

Power ratings on Rockford Fosgate source units conform to CEA-2006 industry standards. These guidelines mean your source unit's output power ratings are REAL POWER numbers, not inflated marketing ratings.



Design Features

Rotary Encoder

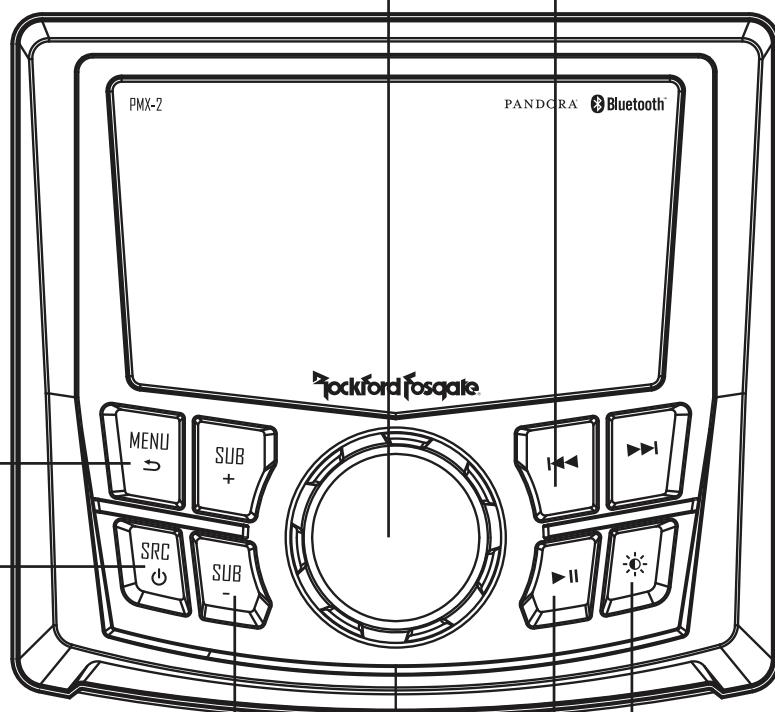
This knob is for adjusting main volume, zone volumes, menu navigation and setting adjustments.

REV / FWD button

Use this button to skip back and forward through channels or tracks with a short press. Long pressing will activate manual seek mode.

MENU button

This button gives you access to the main settings of the unit by long pressing. Short pressing will give you access to the settings for the active source.



SRC (Power) Button

This button allows you to switch between sources (short press) and power the unit ON and OFF (long press).

SUB Buttons

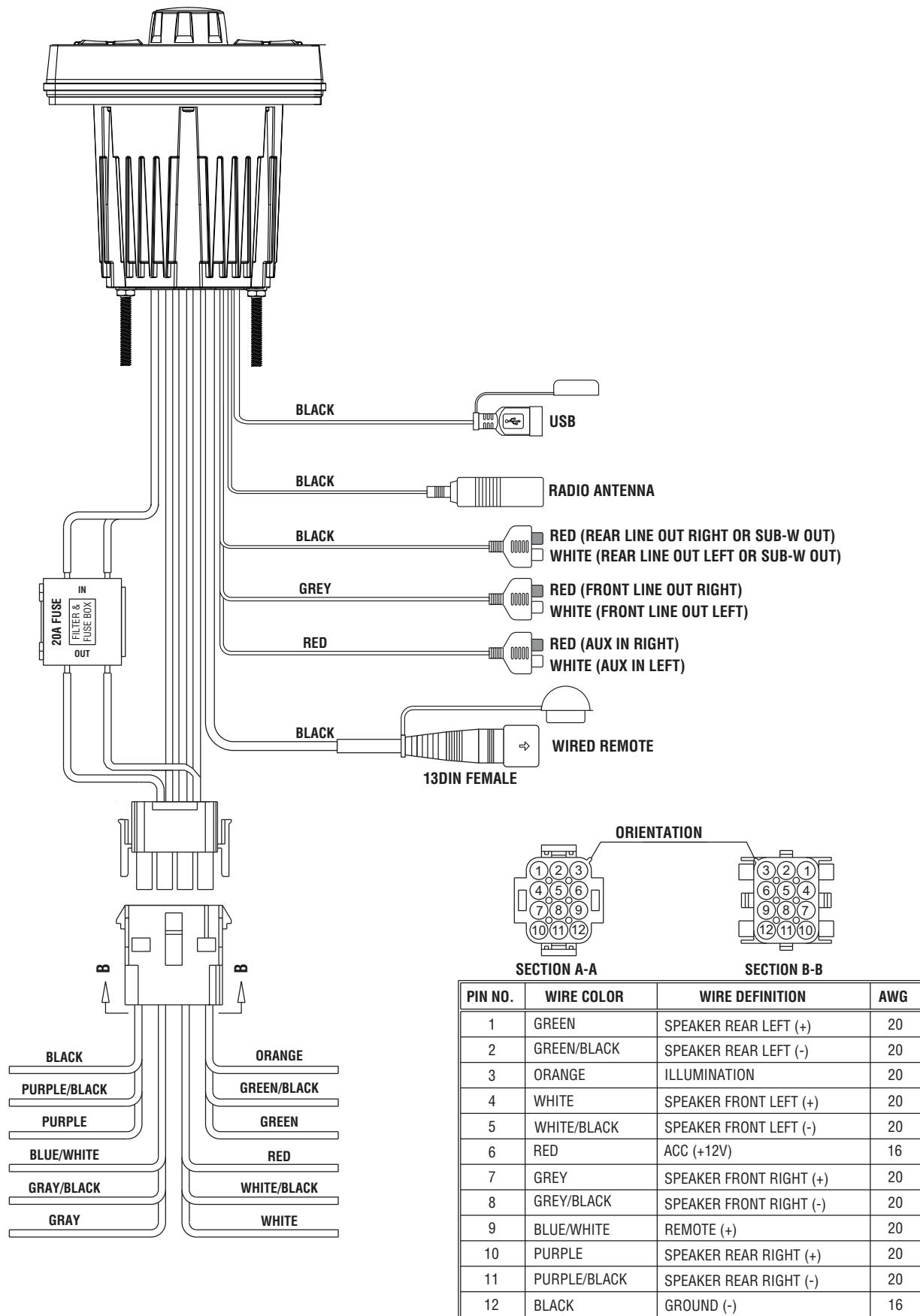
These buttons allow you to adjust the subwoofer output or rear line out UP or DOWN (0-20).

DIMMER button

Pressing this button will allow you to select between the two brightness values for the display.

PLAY / PAUSE button

Press this button to play or pause your music. This button also acts as a MUTE when the source is in AUX & TUNER mode.



Installation / Mounting

Contents

- Source Unit
- Trim Bezel
- Mounting Plate
- U Bracket
- Screws
- Power / Speaker Harness
- Installation & Operation Manual

Installation Considerations

The following is a basic list of tools needed for installation:

- Volt/Ohm meter
- Wire strippers
- Wire crimpers
- Wire cutters
- #2 Phillips screwdriver
- Battery post wrench
- Hand held drill w/ assorted bits
- Heat shrink tubing
- Soldering iron
- Solder
- Heat gun
- 7mm wrench

This section focuses on some of the vehicle considerations for installing your new source unit. Pre-planning your system layout and best wiring routes will save installation time. When deciding on the layout of your new system, be sure that each component will be easily accessible for making adjustments.

If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Audio technician.

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

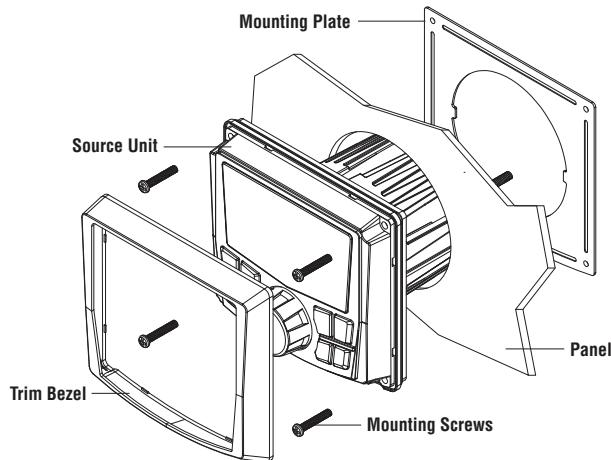
Before beginning any installation, follow these simple rules:

1. Be sure to carefully read and understand the instructions before attempting to install the unit.
2. For safety, disconnect the negative lead from the battery prior to beginning the installation.
3. For easier assembly, we suggest you run all wires prior to mounting your unit in place.
4. Route all of the RCA cables close together and away from any high current wires.
5. Use high quality connectors for a reliable installation and to minimize signal or power loss.
6. Think before you drill! Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle.
7. Never run wires underneath the vehicle. Running the wires inside the vehicle provides the best protection.
8. Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through metal, especially the firewall.
9. ALWAYS protect the battery and electrical system from damage with proper fusing. Install the appropriate fuse holder and fuse on the +12V power wire within 18" (45.7 cm) of the battery terminal.
10. When grounding to the chassis of the vehicle, scrape all paint from the metal to ensure a good, clean ground connection. Grounding connections should be as short as possible and always be connected to metal that is welded to the main body, or chassis, of the vehicle. Seatbelt bolts should never be used for connecting to ground.

Mounting (Using Mounting Plate)

To mount the unit, you will need to find a flat surface with adequate clearance behind it that provides enough clearance for the unit and all its necessary wiring.

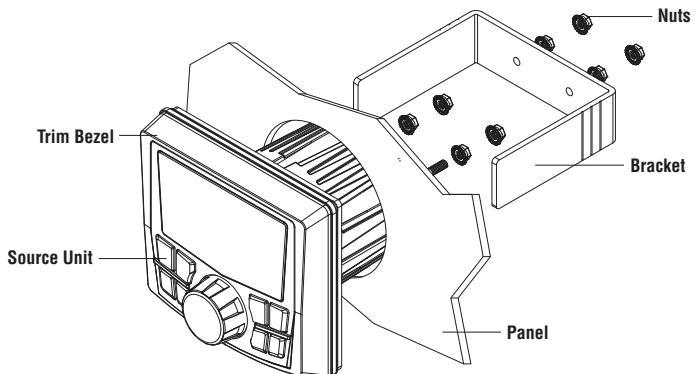
1. Once you have determined a mounting location, you will need to cut a circular hole 3" (77mm) in diameter.
2. After the hole is cut slide the unit and wiring through the hole.
3. Slide the mounting plate over the backside of the unit and secure with the supplied screws.
4. Press on the trim bezel to the front side of the unit.
5. Plug in all wiring harnesses and cables. Refer to the wiring diagram for wire harness connection types.

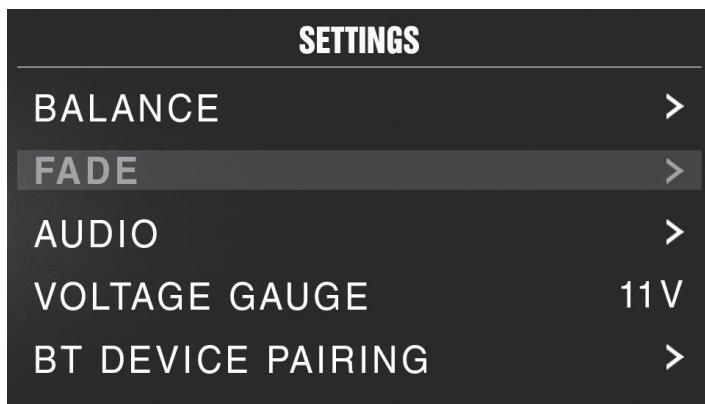


Mounting (Using U Bracket)

To mount the unit, you will need to find a flat surface with adequate clearance behind it that provides enough clearance for the unit and all its necessary wiring.

1. Once you have determined a mounting location, you will need to cut a circular hole 3" (77mm) in diameter.
2. After the hole is cut slide the unit and wiring through the hole.
3. Take the U bracket and slide over the two studs on the back of the unit. Tighten down with supplied nuts.
4. Press on the trim bezel to the front side of the unit.
5. Plug in all wiring harnesses and cables. Refer to the wiring diagram for wire harness connection types.





Source Unit Settings

To access the source unit's settings, long press the MENU button until the options appear. Rotate the encoder to scroll through the list of settings and short press the encoder button to select the setting you wish to change. (BALANCE>FADER>AUDIO>VOLTAGE GAUGE>BT PAIRING>BEEP>TUNER REGION>SOFTWARE>FACTORY DEFAULT)

This source unit has a zero current draw when turned off. All of your settings and presets will be saved along with your boat's battery during storage.

BALANCE

Short press the encoder button to access BALANCE adjustment settings. Rotate the encoder button to set output BALANCE.

FADER

Short press the encoder button to access FADER adjustment settings. Rotate the encoder button to set output FADER.

AUDIO

To access the AUDIO settings, short press the AUDIO option from the MENU screen. Rotate the encoder to scroll through the list of settings and short press the encoder button to select the setting you wish to change. (7 BAND EQ>CROSSOVER>PEQ>REAR RCA>AUX INPUT>SOURCE GAIN>INTERNAL AMPLIFIER)

7 BAND EQ

Short press the encoder button to access the 7 BAND EQ settings. Use the rotary encoder to scroll through the EQ settings. (FLAT > ROCK > CLASSIC > ACOUSTIC > DANCE > ELECTRONIC > HIP-HOP > CUSTOM) When setting up the CUSTOM EQ, short press the encoder button to set the first frequency. Once active, rotate the encoder to adjust the frequency settings. Short press encoder button again to access the next frequency. Repeat until all EQ settings are complete. Short press the MENU button to exit and go back up one level.

CROSSOVER

Short press to access the CROSSOVER settings. Use the rotary encoder to select the crossover zone options (FRONT>REAR>SUB). Short press the encoder to adjust the frequency of the crossover (60Hz>80Hz>120Hz>APF). Short press MENU to exit and go back up one level.

REAR RCA

Short press to access the REAR RCA options. Use the rotary encoder to select options (LINE OUT>SUBWOOFER).

PUNCH EQ

Short press to access the PUNCH EQ settings. Use the rotary encoder to adjust the gain output (0-12). Short press MENU to exit and go back up one level.

Punch EQ is an onboard equalizer with up to +18dB @ 45Hz and/or up to +12dB boost at 12.5kHz

AUX INPUT

RENAME – To rename AUX, short press the encoder button to set the first letter of the new name. Once active, rotate encoder to adjust letters. Short press the encoder button again to set the next letter. Repeat until AUX has been renamed. Short press MENU to exit and go back up one level.

ENABLE - Short press the encoder button to access options. Rotate the encoder button to select if unit is discoverable. (ENABLE > DISABLE)

SOURCE GAIN

To adjust the level of device input gain, scroll through the inputs (FM TUNER>AM TUNER>WB TUNER>USB>AUX>BLUETOOTH>PANDORA) to the device you want to adjust, short press the encoder button to access the gain settings. Rotate the encoder button to set the level of gain. (-3dB > -2dB > -1dB > 0dB > +1dB > +2dB > +3dB)

INTERNAL AMPLIFIER

Short press to access the INTERNAL AMPLIFIER options. Use the rotary encoder to select options (ON>OFF). When using an amplifier to power your speakers, select OFF. If you are powering your speakers directly from the source unit, select the INTERNAL AMPLIFIER to ON.

VOLTAGE GAUGE

To display the vehicle voltage, short press the encoder button on the VOLTAGE GAUGE option.

BT DEVICE PAIRING

Short press the encoder button to access options. Rotate the encoder button to select if unit is discoverable for pairing. (ENABLE > DISABLE) Once enabled, the source unit is now discoverable and ready for pairing to your device. Open the Bluetooth settings on your device to find the source unit labeled "Rockford PMX" and select.

BEEP

Short press the encoder button to access the BEEP options. Rotate the encoder button to turn system beep ON/ OFF.

TUNER REGION

To adjust, short press the encoder button to access. Rotate the encoder button to select the TUNER REGION of your preference. (EUROPE > USA > RUSSIA > LATIN > ASIA > JAPAN > MIDEAST > AUSTRALIA)

SOFTWARE

VERSION - Short press the encoder button to display the current firmware version of the unit.

UPDATE - Short press the encoder button to update the firmware. Follow the instructions on the screen when updating.

FACTORY DEFAULT

AUDIO – Short press the encoder button to access. Rotate the encoder button to select YES/NO. Selecting YES will reset your unit back to factory default settings.

SYSTEM - Short press the encoder button to access. Rotate the encoder button to select YES/NO. Selecting YES will reset your unit back to factory default settings.

Basic Operation

TURNING THE UNIT ON / OFF

Long press the SRC (Power) button to turn the unit ON or OFF

ADJUSTING THE VOLUME

Rotate encoder knob left or right to desired volume level (0-40). The current volume level will be displayed during adjustment.

Settings

ADJUSTING THE SUBWOOFER OUTPUT

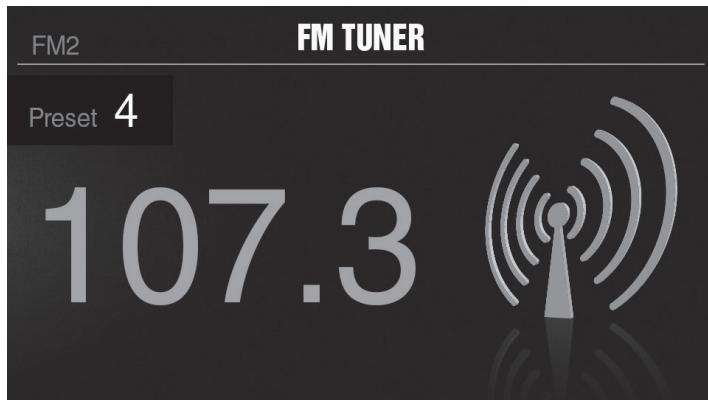
Press the SUB + or SUB- buttons to adjust the output level (0-20).

ADJUSTING THE SCREEN BRIGHTNESS

Short press the SCREEN BRIGHTNESS button to adjust the brightness level. There are two brightness levels.

SELECTING A SOURCE TO PLAY

Short press the SRC button to show the different source options (FM TUNER>AM TUNER>WB TUNER>USB>AUX>BLUETOOTH>PANDORA>SIRIUSXM). Use the rotary encoder or short press the SRC button to scroll through sources.



Tuner Operation (FM/AM/WB)

To operate, use the rotary encoder to select the tuner source you want to listen to (FM>AM>WB).

To AUTO SEEK stations, short press the FWD and REV buttons. To MANUAL SEEK stations, long press the FWD and REV buttons to tune to the desired frequency.

To MUTE the TUNER, short press the PLAY/PAUSE button.

FM BAND SETTINGS

To access the FM BAND SETTINGS, short press the MENU when using the FM TUNER source. This will give you access to the settings specific to the FM TUNER (FM>PRESETS>ADD PRESETS>REMOVE PRESETS>AUTO STORE>LOCAL).

PRESETS

Short press the encoder button to access the PRESETS list. Using this feature allows you to see what PRESETS are saved on the unit.

ADD PRESETS

Short press the encoder button on the ADD PRESETS option. You will need to be on both the station and PRESET group you want to add first (FM1>FM2>FM3). Using this feature allows you to save stations to the unit. Once selected, use the rotary encoder to select the PRESET number (1-6) you want the station saved to.

REMOVE PRESETS

Short press the encoder button on the REMOVE PRESETS option. You will need to be under the PRESET group you want to adjust first (FM1>FM2>FM3). Using this feature allows you to remove saved stations on the unit. Once selected, use the rotary encoder to select the PRESET number (1-6) of the station you want removed.

FM

Short press the encoder button to access the FM PRESET options (FM1>FM2>FM3). Using this feature allows you to have separate tuner preset groups to choose from. Use the rotary encoder button to scroll through the TUNER groups and short press to select the group.

AUTO STORE

Short press the encoder button to access the AUTO STORE function. You will need to be under the PRESET group you want to adjust first (FM1>FM2>FM3). This feature automatically stores presets on the unit. It will stop when presets 1-6 are set. Select the next PRESET group and repeat to fill next set.

LOCAL

Short press the encoder button to access the LOCAL options. Once selected, use the rotary encoder to select ON or OFF. The local option tunes to nearby radio stations with sufficiently strong signals for good reception. In areas where reception is poor, switching to distance tuning enables the unit to tune in to more distant stations. Distance tuning is the default.

AM BAND SETTINGS

To access the AM BAND SETTINGS, short press the MENU when using the AM TUNER source. This will give you access to the settings specific to the AM TUNER (AM>PRESETS>ADD PRESETS>REMOVE PRESETS>AUTO STORE>LOCAL).

PRESETS

Short press the encoder button to access the PRESETS list. Using this feature allows you to see what PRESETS are saved on the unit.

ADD PRESETS

Short press the encoder button on the ADD PRESETS option. You will need to be on both the station and PRESET group you want to add first (AM1>AM2). Using this feature allows you to save stations to the unit. Once selected, use the rotary encoder to select the PRESET number (1-6) you want the station saved to.

REMOVE PRESETS

Short press the encoder button on the REMOVE PRESETS option. You will need to be under the PRESET group you want to adjust first (AM1>AM2). Using this feature allows you to remove saved stations on the unit. Once selected, use the rotary encoder to select the PRESET number (1-6) of the station you want removed.

AM

Short press the encoder button to access the FM PRESET options (AM1>AM2). Using this feature allows you to have separate tuner preset groups to choose from. Use the rotary encoder button to scroll through the TUNER groups and short press to select the group.

AUTO STORE

Short press the encoder button to access the AUTO STORE function. You will need to be under the PRESET group you want to adjust first (AM1>AM2). This feature automatically stores presets on the unit. It will stop when presets 1-6 are set. Select the next PRESET group and repeat to fill next set.

LOCAL

Short press the encoder button to access the LOCAL options. Once selected, use the rotary encoder to select ON or OFF. The local option tunes to nearby radio stations with sufficiently strong signals for good reception. In areas where reception is poor, switching to distance tuning enables the unit to tune in to more distant stations. Distance tuning is the default.

WB BAND SETTINGS

To access the WB BAND SETTINGS, short press the MENU when using the WB TUNER source. This will give you access to the settings specific to the WB TUNER (PRESETS>ADD PRESETS>REMOVE PRESETS).

PRESETS

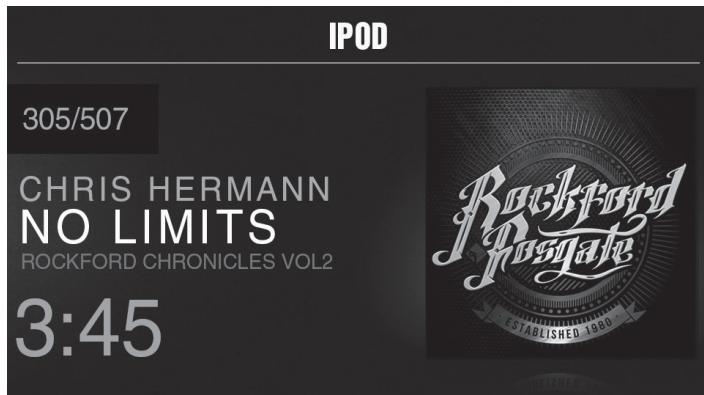
Short press the encoder button to access the PRESETS list. Using this feature allows you to see what PRESETS are saved on the unit.

ADD PRESETS

Short press the encoder button on the ADD PRESETS option. You will need to be on both the station you want to add first. Using this feature allows you to save stations to the unit. Once selected, use the rotary encoder to select the PRESET number (1-6) you want the station saved to.

REMOVE PRESETS

Short press the encoder button on the REMOVE PRESETS option. You will need to be under the PRESET group you want to adjust first (AM1>AM2). Using this feature allows you to remove saved stations on the unit. Once selected, use the rotary encoder to select the PRESET number (1-6) of the station you want removed.



USB (iPod) Operation

After your device is connected to the source unit, this feature allows you to control playback from your device directly from the unit. Select the USB source option on the source unit.

To play or pause a song, short press the PLAY/PAUSE button.

To skip a track forward, short press the FWD button. To skip a track backwards, short press the REV button.

To access USB specific settings, short press the MENU button for the list of settings (BROWSER>REPEAT>SHUFFLE). Use the encoder to select the option to change.

BROWSER

Short press the encoder button to access the BROWSER options (PLAYLISTS>ARTISTS>ALBUMS>GENRES>SONGS>COMPOSERS>AUDIOBOOKS>PODCASTS). Using this feature allows you to search for tracks or songs by different types of categories.

REPEAT

Short press the encoder button to access the REPEAT feature options (OFF>ONE>ALL).

SHUFFLE

Short press the encoder button to access the SHUFFLE feature options (OFF>ALL). This feature allows you to set your preference on shuffling tracks or songs.



AUX Operation

After your device is plugged into the source unit, this feature allows you to play music from your device. Select the AUX source option on the source unit and use your plugged in device to control song/track selection, PLAY/PAUSE and track skip FWD/REV.



Bluetooth® Operation

After your device is paired to the source unit, this feature allows you to control playback from your device directly from the unit. Select the BLUETOOTH source option on the source unit.

To play or pause a song, short press the PLAY/PAUSE button.

To skip a track forward, short press the FWD button. To skip a track backwards, short press the REV button.

To access BLUETOOTH specific settings, short press the MENU button for the list of settings (BROWSER>REPEAT>SHUFFLE). Use the encoder to select the option to change.

BROWSER

Short press the encoder button to access the BROWSER options (PLAYLISTS>ARTISTS>ALBUMS>GENRES>SONGS>COMPOSERS>AUDIOBOOKS>PODCASTS). Using this feature allows you to search for tracks or songs by different types of categories.

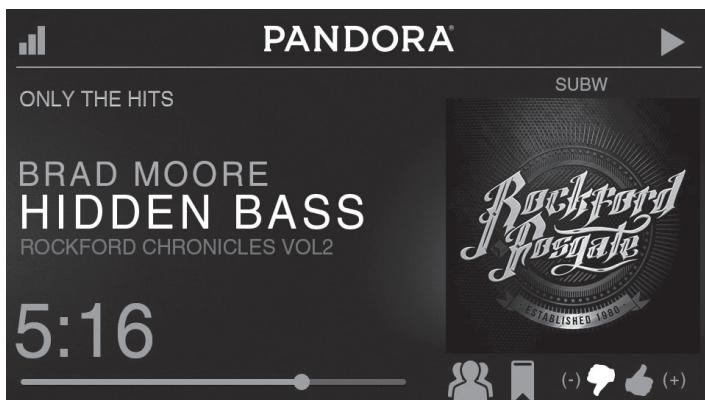
REPEAT

Short press the encoder button to access the REPEAT feature options (OFF>ONE>ALL). This feature allows you to set your preference on the amount of times a track or song will repeat.

SHUFFLE

Short press the encoder button to access the SHUFFLE feature options (OFF>ALL). This feature allows you to set your preference on shuffling tracks or songs.

Operation



Pandora®

This feature allows you to control the Pandora® app from the source unit directly (Android users will have to use Bluetooth only, iOS users can use both USB and Bluetooth). You will need to start the Pandora® app on your device first, then select the Pandora® source option on the source unit. To use the "Thumbs Up" feature, long press the SUB+ button. To use the "Thumbs down" feature, long press the SUB - button.

To play or pause a song, short press the PLAY/PAUSE button.

To skip a track forward, short press the FWD button.

To access Pandora® specific settings, short press the MENU button for the list of settings (STATIONS>BOOKMARKS>STATIONS MANAGE). Use the encoder to select the option to change.

STATIONS

To adjust, short press the encoder button to access. Rotate the encoder button to select your options (SHUFFLE>SORT DATE/A-Z>STATIONS). Selecting the SHUFFLE option will shuffle your stations and selecting the SORT feature will sort your stations by date added or alphabetically. You can also select your saved stations directly from this list.

BOOKMARKS

To BOOKMARK an artist or track that is playing, short press the encoder button to display your BOOKMARK options (ARTIST>TRACK). Select the option you wish to use for bookmarking.

STATIONS MANAGE

To create stations, short press the encoder button to display your STATION MANAGE options (CREATE FROM ARTIST> CREATE FROM TRACK> CREATE FROM GENRE>DELETE). Selecting the CREATE FROM ARTIST OPTION allows you to create a station from the artist that you are currently listening to. CREATE FROM TRACK works similarly by creating a station from the current track being played. If you create a station by selecting CREATE FROM GENRE, this will give you music genres to select from to create your station. Selecting DELETE will delete the now playing station.

Pandora, the Pandora logo, and the Pandora trade dress are trademarks or registered trademarks of Pandora Media, Inc. Used with permission. Pandora is only available in certain countries. Please visit <http://www.pandora.com/legal> for more information.

Symptom	Diagnosis	Remedy
Basic		
Source unit does not turn on.	Blown fuse	Check fuse of the unit, replace with correct rating.
	Vehicle's ignition is off	If connected following the instructions, the unit will not operate with ignition off.
	Voltage applied to Red wire is not between 10.5 & 16 volts or there is no voltage present	Check battery, connections and fuses and repair or replace as necessary. If voltage is above +16 volts, have the electrical system inspected by an authorized service center.
	Unit is not properly grounded	Check wiring and repair as necessary.
Radio Tuner		
Tuner fails to tune any stations	No antenna or disconnected or open connection in cable	Check all connections and repair as necessary.
Unable to tune stations in seek mode	You are in a weak signal area	Make sure the tuner LOC mode is off.
USB Devices		
USB device cannot be inserted	The USB device has been inserted in the wrong direction	Reversing the connection direction of the USB device, try reinserting.
	The USB device connector is broken	Replace with a new USB device.
USB device is not recognized	The USB device is damaged	Disconnect USB device and reconnect. If the device is still not recognized, try replacing with a different USB device. USB does not work with Android devices.
	Connectors are loose	
No sound heard with the display "No File" shown	No MP3/WMA files are stored on the USB device	Store these files properly on the USB device. USB does not work with Android devices.
Sound skips or is noisy	MP3/WMA files are not created properly	Use MP3/WMA files that are encoded correctly.
AUX		
MP3 is not playing back	Writing error occurred. The MP3 format is not compatible.	Make sure MP3 has been written in a supported format

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

POWER Amplifiers – 2 Years
BMW® Direct Fit Speakers – 2 Years
Source Units – 1 Year
All other products – 1 Year
Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

Who is Covered

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is Not Covered

1. Damage caused by accident, abuse, improper operations, water, theft, shipping.
2. Any cost or expense related to the removal or reinstallation of product.
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center.
4. Any product which has had the serial number defaced, altered, or removed.
5. Subsequent damage to other components.
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer.

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, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

How to Obtain Service

Contact the Authorized Rockford Fosgate Dealer you purchased this product from. If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You must obtain an RA# (Return Authorization number) to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements, see your Authorized dealer for details.

Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech

Printed in China

1230-59187-01-D

061115

600 South Rockford Drive • Tempe, Arizona 85281 United States
Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



RZR® FRONT SPEAKER ENCLOSURES

RFRZ-FSE

Serial Number: _____

Date of Purchase: _____

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

Great product and competent installations are only a piece of the puzzle when it comes to your system. Make sure that your installer is using 100% authentic installation accessories from Rockford Fosgate in your installation. Rockford Fosgate has everything from RCA cables and speaker wire to power wire and battery connectors. Insist on it! After all, your new system deserves nothing but the best.

To add the finishing touch to your new Rockford Fosgate image order your Rockford accessories, which include everything from T-shirts to hats.

Visit our web site for the latest information on all Rockford products; www.rockfordfosgate.com

or, in the U.S. call 1-800-669-9899 or FAX 1-800-398-3985. For all other countries, call +001-480-967-3565 or FAX +001-480-966-3983.

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- 2 Introduction
- 3 Enclosure Assembly
- 4-6 Installation
- 7 Blank
- 8 Warranty

If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at **1-800-669-9899**. Be sure to have your serial number, model number and date of purchase available when you call.

PRACTICE SAFE SOUND

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

Safety

This symbol with "WARNING" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.

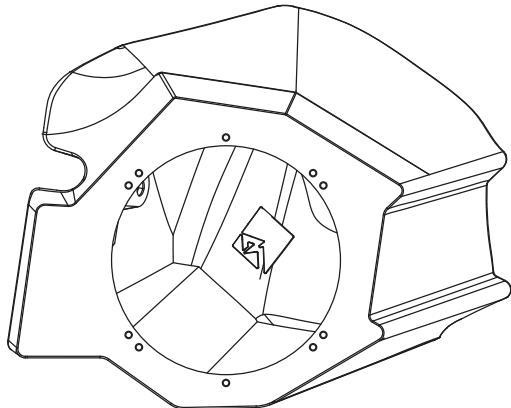


This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.

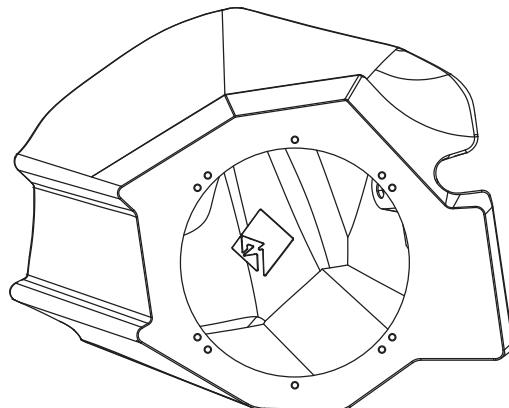


- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

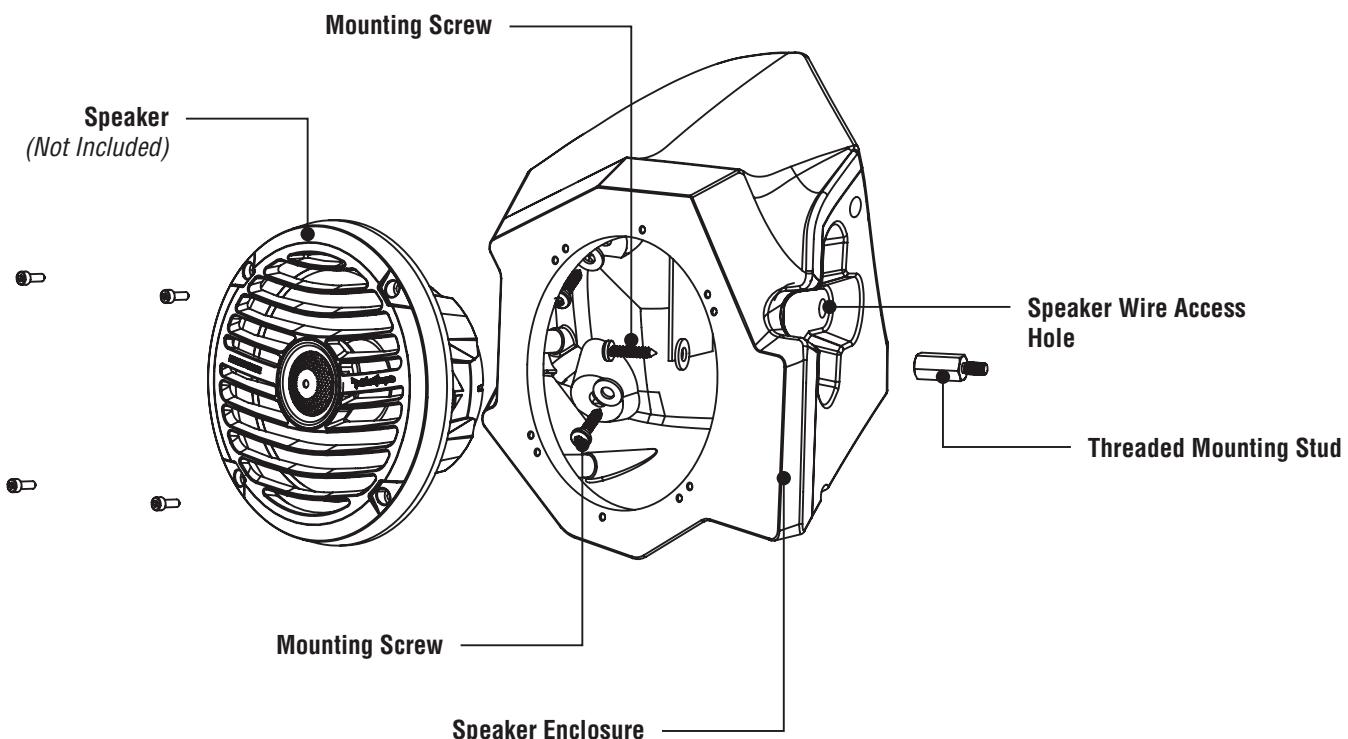
DRIVER SIDE (LEFT)



PASSENGER SIDE (RIGHT)



TYPICAL ASSEMBLY
(Passenger Side Shown)



Installation

Contents

- (1) Passenger Side Front Speaker Enclosure
- (1) Driver Side Front Speaker Enclosure
- (2) Foam Tape
- (2) Threaded Studs
- (4) Mounting Screws w/ Washers
- (2) Mounting Bolts w/ Washers
- Installation Guide

Installation Tools

The following is a list of suggested tools needed for installation:

- Ratchet
- 15mm Socket
- 13mm Socket
- 5/32" Allen Wrench

Installation Considerations

This section focuses on some considerations for installing your Polaris® RZR® Front Speaker Pod Enclosures. This manual will illustrate the installation process with a 2016 Polaris RZR XP4 Turbo.

If you feel unsure about installing this system yourself, have it installed by a qualified technician.

⚠ CAUTION

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

⚠ CAUTION

Before beginning any installation, follow these simple rules:

- Be sure to carefully read and understand the instructions before attempting to install this enclosure kit.
- Consult your UTV's service manual for model specific information. Models may differ from year to year depending on factory options and aftermarket accessories added.
- This dash kit is specifically designed to work with Rockford Fosgate's Element Ready 6.5" speakers.
- With the addition of an amplifier or source unit, be sure that your current charging system is in proper working order.
- Visit rockfordfosgate.com for more comprehensive installation videos and product information.



Applicable Models:

2014 and up RZR® XP/XP4 1000

2016 and up RZR® XP/XP4 Turbo

2015 and up RZR® S / XC / 4 900



The speaker pods are designed to work with Rockford Fosgate's RFRZ-PMXWH1 and RFRZ-K4D wire kits. After the front speaker wire is run threw both down tubes, you are ready to start the process of mounting the enclosure.

NOTE: There are factory plastic bosses located on the fire wall that the new pods will be mounted to.

NOTE: If you have purchased our front subwoofer enclosure (RFRZ-FWE, you must install it prior to installing this kit RFRZ-FSE).



Step 2 - Attach Threaded Stud

Once the bolt is removed, install the threaded stud back into the hole where the bolt was removed. This provides a new mounting point for the speaker enclosure.



Step 3 - Insert Speaker Wire

Feed the installed speaker wire through the hole on the pod before mounting.

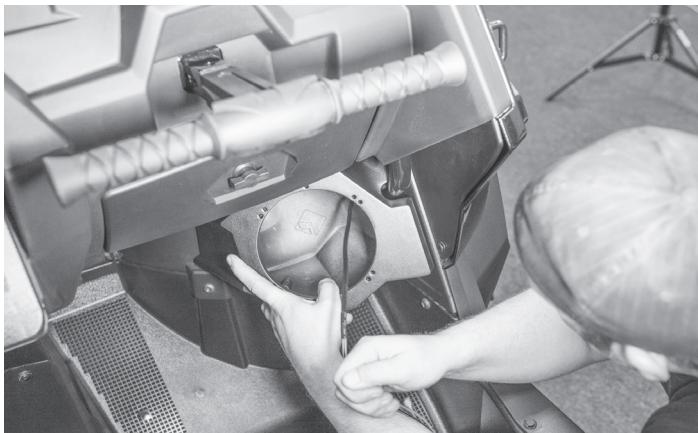


Step 1 - Bolt Removal

There are two bolts on the kick panel that attach the plastic floor panels to the chassis of the vehicle. The bottom bolt will need to be removed.

NOTE: This install shows the enclosure mounting to the passenger side of the vehicle for better visibility. The install process is the same for both sides of the vehicle.

Installation

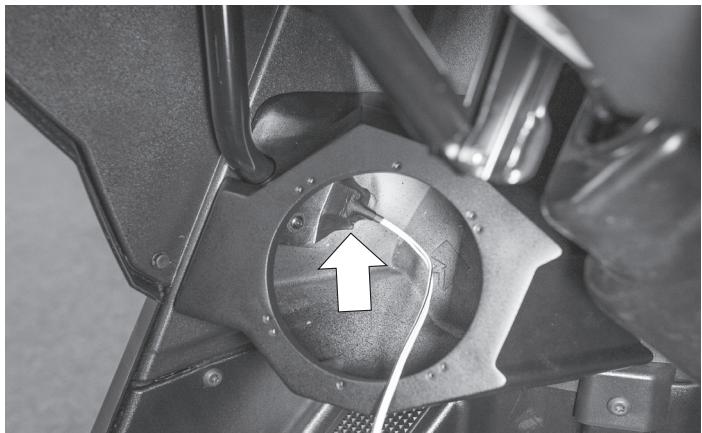


Step 4 - Mount the Speaker Enclosure

Position the enclosure over the threaded stud and plastic bosses. Be sure to line up the holes before inserting mounting screws and tightening.

NOTE: There are (2) mounting screws with washers, (1) mounting bolt that hold each speaker enclosure in place. Leaving the screws and bolts loose until all hardware in place makes final fitment easier. Once all hardware is in place, tighten to 8 ft. lbs. of torque to secure the pod.

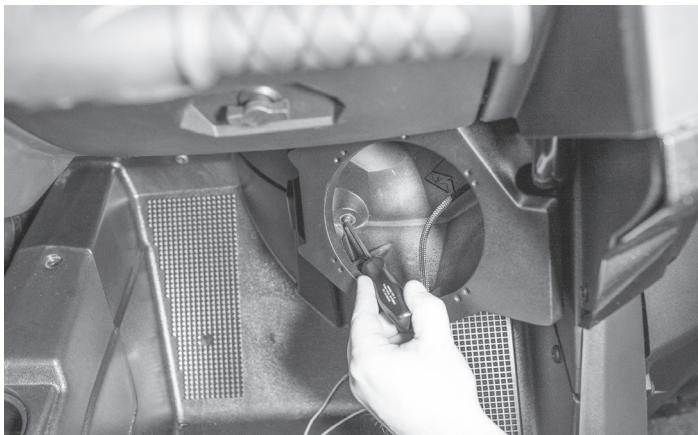
⚠️ WARNING Overtightening will cause damage to the plastic bosses and threads in stud.



Step 6 - Mount Speaker Into Enclosure

Connect the front speaker wires to the speaker by sliding the connectors over the speaker terminals. Be sure to maintain proper polarity when wiring up the speaker.

NOTE: The driver side speaker enclosure mounts the same way as the passenger side. It is recommended doing one side at a time.



Step 5 - Foam Tape Placement

Foam tape is provided to cover the speaker wire access hole after the wire is installed. This is to prevent moisture from getting inside the pod and air from escaping.

Warranty

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

POWER Amplifiers – 2 Years
BMW® Direct Fit Speakers – 2 Years
All other products - 1 Year
Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

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How to Obtain Service

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Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech

Printed in China

1230-60158-01-A

010216

600 South Rockford Drive • Tempe, Arizona 85281 United States
Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



RZR® REAR SPEAKER WIRE KIT

RFRZ-RSW16

Serial Number: _____

Date of Purchase: _____

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

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or, in the U.S. call 1-800-669-9899 or FAX 1-800-398-3985. For all other countries, call +001-480-967-3565 or FAX +001-480-966-3983.

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PRACTICE SAFE SOUND

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Safety

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⚠ WARNING

This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.

⚠ CAUTION

- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

Contents

- (2) Rear Speaker Wire Harnesses
- Plastic Wire Tie Wraps

Installation Tools

The following is a list of suggested tools needed for installation:

- Security Torx (supplied with Wake Cans)
- Wire Cutters
- Allen Wrench

Installation Considerations

This section focuses on some considerations for installing your Polaris® RZR® Rear Speaker Wire Harnesses. This manual will illustrate the installation process with a 2016 Polaris RZR XP4 Turbo.

If you feel unsure about installing this system yourself, have it installed by a qualified technician.

⚠ CAUTION

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

⚠ CAUTION

Before beginning any installation, follow these simple rules:

- Be sure to carefully read and understand the instructions before attempting to install this rear speaker wire kit.
- Consult your UTV's service manual for model specific information. Models may differ from year to year depending on factory options and aftermarket accessories added.
- This dash kit is specifically designed to work with Rockford Fosgate's Element Ready wake can speaker enclosures.
- With the addition of an amplifier or source unit, be sure that your current charging system is in proper working order.
- Visit rockfordfosgate.com for more comprehensive installation videos and product information.



Applicable Models:

2014 and up RZR® XP/XP4 1000

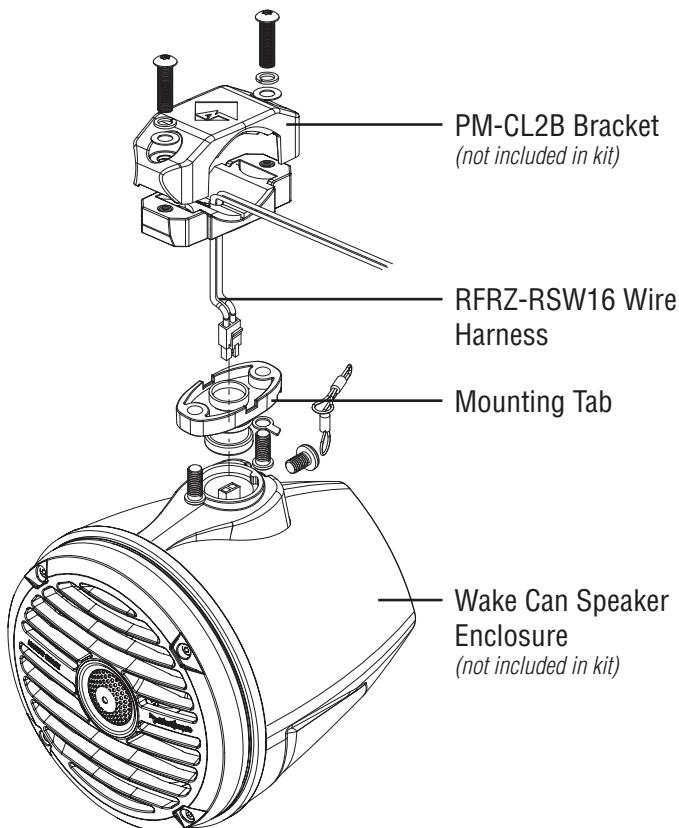
2016 and up RZR® XP/XP4 Turbo

2015 and up RZR® S / XC / 4 900

This rear speaker wire kit is designed to work with Rockford Fosgate's RFRZ-PMXWH1 and RFRZ-K4D wire kits. The wire harnesses plug directly into PM21652W-MB and RM1652W-MB wake tower speaker enclosures.

NOTE: Installation will be shown on passenger side of vehicle for the purpose of the installation guide. The driver's side wire harness mounts in a similar manner.

Installation



Step 1 - Mount Mini Wake Can Speaker Bracket

You will need to assemble the bottom half of the PM-CL2B to the wake can mount first. Once assembled, feed the white 2 pin connector through the mounting tab and lower bracket.



You will want to install the wake can bracket approximately 4-6 inches away from the top of the rear shock reservoir. Place the wire in the notch on the side of the clamp before tightening so the wire does not pinch.



NOTE: Be sure to leave enough slack so you can connect the speaker to the connector.



Step 2 - Attach Wake Can Speaker Enclosure to Bracket

Once the wire harness is connected to the wake can, slide the enclosure over the mounting post and secure it with using the security Torx wrench that came with the enclosures.

NOTE: A safety lanyard is supplied with the wake cans for additional safety. Refer to wake can instructions for a more detailed installation guide.



Step 3 - Route Speaker Wire Harness

This harness is designed to be run down the rear factory cage with the supplied plastic wire ties.

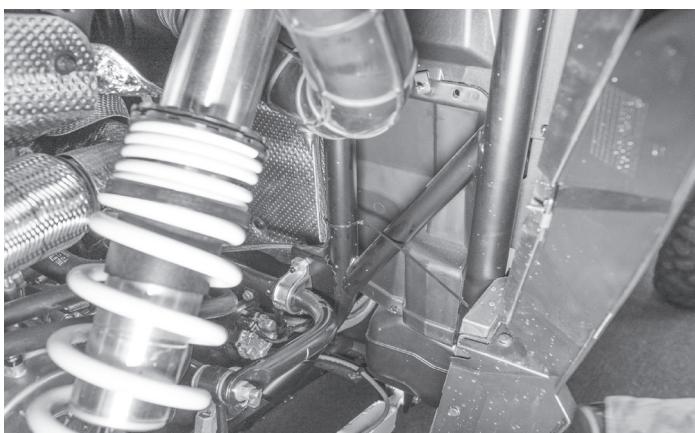


Continue to route the harness down the rear tube through the shock reservoir opening. The wire harness should follow the upper shock mounting tube.

NOTE: Be sure the wire harness is wire tied to the top side of this tube, away from moving components and heat.



Follow the tube down towards the front of the vehicle and attach with wire tie wraps.



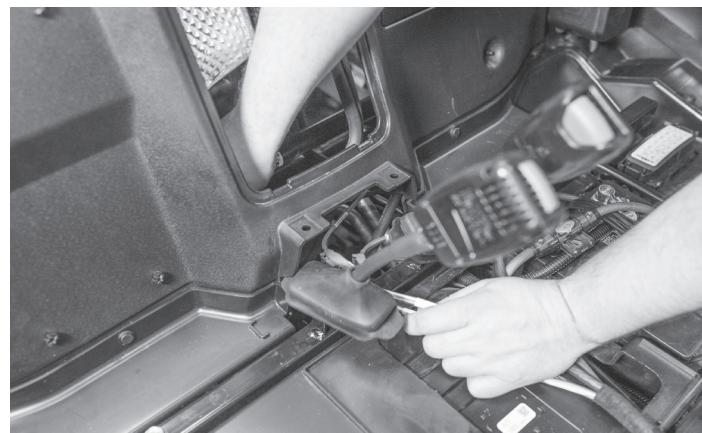
Route the harness toward the center of the vehicle toward the rear access panel.

NOTE: Be sure to keep away from exhaust and moving components when routing toward the center of the vehicle.



Step 4 - Connect to Rear Speaker Harness

Be sure that the center console is removed to gain access to the wire harness.



Feed both wires under the access panel and connect to RFRZ-4KD or RFRZ-PMXWH1 rear speaker harness.



Once connected, bundle up any slack in the harnesses and wire tie wrap to hold in place.

Install the center console and access panel.

Warranty

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

- POWER Amplifiers – 2 Years
- BMW® Direct Fit Speakers – 2 Years
- All other products - 1 Year
- Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

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1. Damage caused by accident, abuse, improper operations, water, theft, shipping.
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How to Obtain Service

Contact the Authorized Rockford Fosgate Dealer you purchased this product from. If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You must obtain an RA# (Return Authorization number) to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements, see your Authorized dealer for details.

Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech

Printed in China

1230-60563-01-A

010216

600 South Rockford Drive • Tempe, Arizona 85281 United States
Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



PRIME



RM0652 • **RM0652B**

RM1652 • **RM1652B**



Serial Number: _____

Date of Purchase: _____

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

Great product and competent installations are only a piece of the puzzle when it comes to your system. Make sure that your installer is using 100% authentic installation accessories from Rockford Fosgate in your installation. Rockford Fosgate has everything from RCA cables and speaker wire to power wire and battery connectors. Insist on it! After all, your new system deserves nothing but the best.

To add the finishing touch to your new Rockford Fosgate image, order your Rockford accessories, which include everything from T-shirts to hats.

Visit our web site for the latest information on all Rockford products; www.rockfordfosgate.com

or, in the U.S. call 1-800-669-9899 or FAX 1-800-398-3985. For all other countries, call +001-480-967-3565 or FAX +001-480-966-3983.

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2	Introduction
3-4	Specifications
5	Installation
	Installation Considerations
	Mounting
6-7	Additional Languages
	French
	Spanish
	German
	Italian
8	Limited Warranty Information

If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at **1-800-669-9899**. Be sure to have your serial number, model number and date of purchase available when you call.

PRACTICE SAFE SOUND

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

PRATIQUEZ UNE ÉCOUTE SANS RISQUES

Une exposition continue à des niveaux de pression acoustique supérieurs à 100 dB peut causer une perte d'acuité auditive permanente. Les systèmes audio de forte puissance pour auto peuvent produire des niveaux de pression acoustique bien au-delà de 130 dB. Faites preuve de bon sens et pratiquez une écoute sans risques

PRACTIQUE EL SONIDO SEGURO

El contacto continuo con niveles de presión de sonido superiores a 100 dB puede causar la pérdida permanente de la audición. Los sistemas de sonido de alta potencia para automóviles pueden producir niveles de presión de sonido superiores a los 130 dB. Aplique el sentido común y practique el sonido seguro.

PRAKТИЗИРЕН СИЕ СИЧЕРЕН SOUND

Fortgesetzte Geräuschdruckpegel von über 100 dB können beim Menschen zu permanentem Hörverlust führen. Leistungsstarke Autosoundsysteme können Geräuschdruckpegel erzeugen, die weit über 130 dB liegen. Bitte wenden Sie gesunden Menschenverstand an und praktizieren Sie sicheren Sound.

OSSERVATE LE REGOLE DEL SUONO SENZA PERICOLO

La costante esposizione a livelli di pressione acustica al di sopra dei 100dB possono causare la perdita permanente dell'udito. I sistemi audio ad alta potenza possono produrre livelli di pressione acustica ben superiori ai 130dB. Si consiglia il buon senso e l'osservanza delle regole del suono senza pericoli

Safety

This symbol with "WARNING" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.



This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.



- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

Model	RM0652	RM0652B	RM1652	RM1652B
Nominal Diameter - inch (mm)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)
Description	2-Way	2-Way	2-Way	2-Way
Nominal Impedance (Ohms)	4Ω	4Ω	4Ω	4Ω
Frequency Response (Hz)	52-20k	52-20k	49-20k	49-20k
Voice Coil Diameter - inch (mm)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
Power Handling - Watts (RMS/Peak)	50/100	50/100	75/150	75/150
Fs - Free Air Resonance (Hz)	70.0	70.0	64.5	64.5
Qts	1.08	1.08	0.93	0.93
Vas - cu. ft. (Liter)	0.38 (10.9)	0.38 (10.9)	0.39 (11.1)	0.39 (11.1)
Sensitivity (1W/1M)	88dB	88dB	89dB	89dB
Sensitivity (2.83V/1M)	91dB	91dB	92dB	92dB
Xmax - inch (mm)	0.16 (4)	0.16 (4)	0.2 (5)	0.2 (5)
Mounting Diameter - inch (mm)	5.4 (138)	5.4 (138)	5.4 (138)	5.4 (138)
Mounting Depth	2.5 (63)	2.5 (63)	2.5 (63)	2.5 (63)
Grille/Trim Ring	YES	YES	YES	YES

See page 4 for additional dimensions



CEA 2031

Power handling on Rockford Fosgate speakers conform to CEA-2031 industry standards. This means your speaker has the capacity to handle power under continuous demand, not instantaneous power handling that over time can damage voice coils.

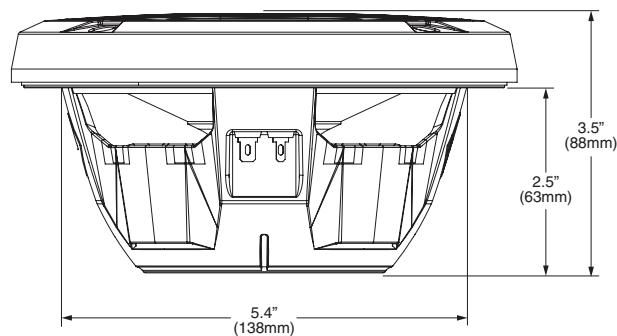
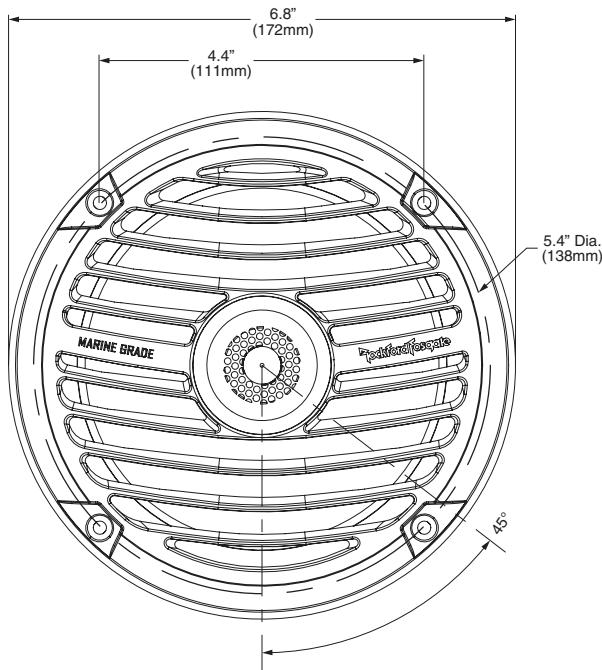


VERIFIED WITH KLIPPEL

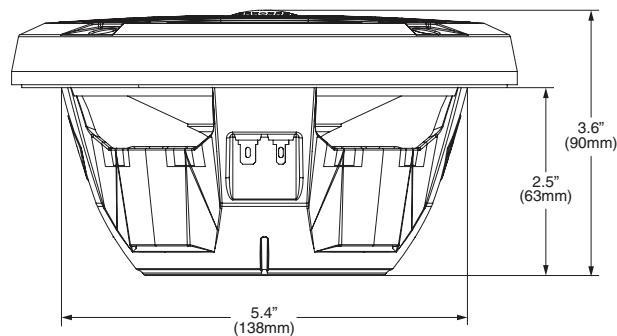
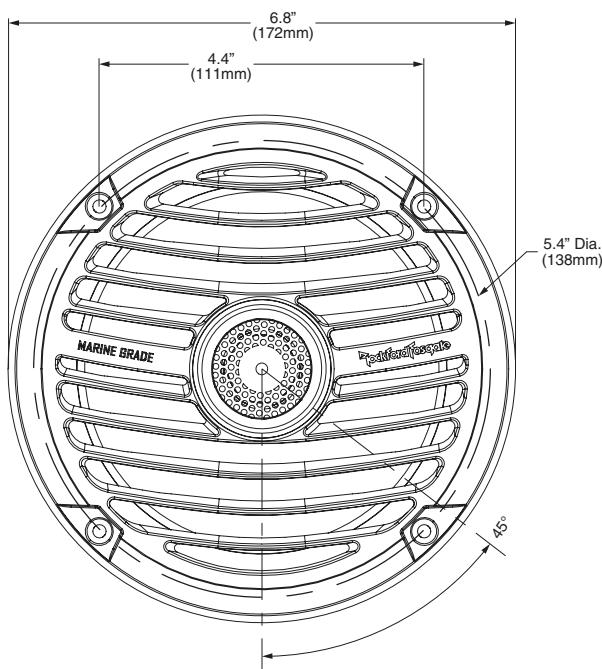
To adorn the 'Verified with Klippe' mark, the qualifying company's loudspeaker engineering personnel must be trained and certified by Klippe prior to using the three separate Klippe systems to design, develop and test. Rockford Fosgate has made the investment in Klippe to deliver the best possible speakers and subwoofers to their customers.

Specifications

RM0652/RM0652B



RM1652/RM1652B



Contents

- (1) Pair Marine Grade Speakers
- (8) Socket head stainless screws
- (1) Socket head driver bit

Installation Considerations

Before beginning any installation, follow these simple rules:

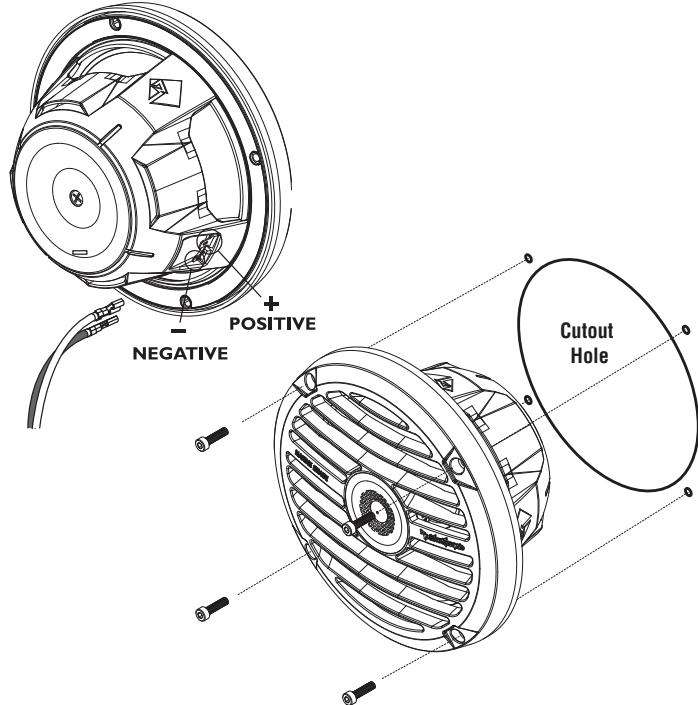
1. Be sure to carefully read and understand the instructions before attempting to install these speakers.
2. For safety, disconnect the negative lead from the battery prior to beginning the installation.
3. For easier assembly, we suggest you run all wires prior to mounting your speakers in place.
4. Use high quality connectors for a reliable installation and to minimize signal or power loss.
5. Think before you drill! Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle. If installation in a boat, take care not to cut or drill through the main hull.
6. Never run wires underneath the vehicle. Running the wires inside the vehicle or hull area provides the best protection.
7. Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through metal, especially the firewall.

Mounting

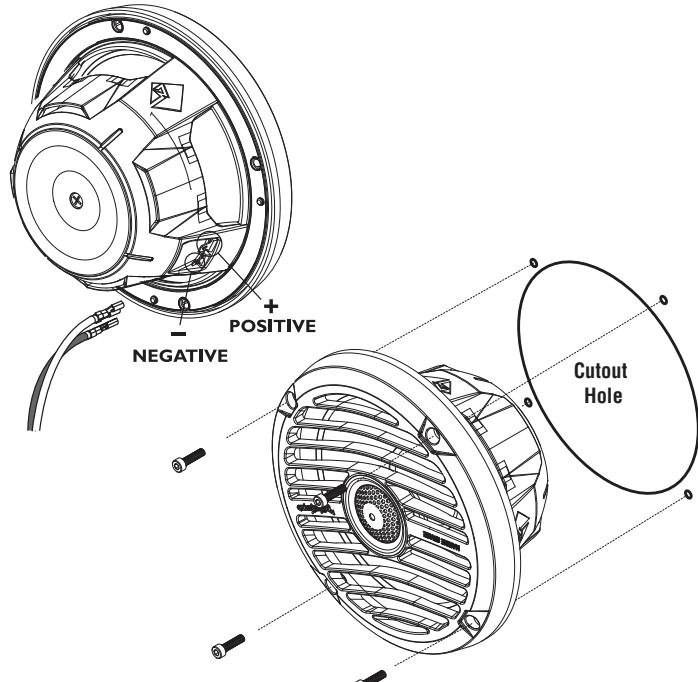
1. Determine where the speakers will be mounted. Ensure an area large enough for the speaker to mount evenly. Be sure that the mounting location is deep enough for the speaker to fit; if mounting in a door, operate all functions (windows, locks, etc.) through their entire operating range to ensure there is no obstruction.
2. Refer to the specification chart to determine the proper diameter hole to cut for your speaker model. Cutting and mounting templates can be found at www.rockfordfosgate.com.
3. Mark the locations for the mounting screws. Drill the holes with a 1/8" bit.
4. Feed the speaker wires through the cutout and connect to the speaker terminals. Be sure to observe proper polarity when connecting the wires. The speaker's positive terminal is indicated with a "+".
5. Fit the trim ring over the speaker and mount into place using four (4) screws.
6. Tighten the screws until the speaker is snug in place to prevent rattling. Do not over tighten the screws.

Example of standard installation

RM0652/RM0652B



RM1652/RM1652B



Considérations Concernant L'installation

Avant de commencer l'installation, suivez les règles ci-dessous:

1. Veillez à bien lire et comprendre les instructions avant d'essayer d'installer les haut-parleurs.
2. Par mesure de sécurité, débranchez le fil négatif de la batterie avant de commencer l'installation.
3. Pour faciliter le montage des haut-parleurs, il est conseillé d'installer tous les câbles au préalable.
4. Utilisez des connecteurs de haute qualité pour assurer une installation fiable et réduire au minimum la perte de signal ou de puissance.
5. Réfléchissez bien avant de percer. Veillez à ne pas couper ou percer le réservoir d'essence, le câblage électrique ou les conduites de carburant, de freinage hydraulique ou de dépression en travaillant sur un véhicule. En cas d'installation sur un bateau, veillez à ne pas couper ou percer la coque principale.
6. Ne jamais faire passer de fils sous le véhicule. Leur installation à l'intérieur du véhicule ou de la coque assure la meilleure protection.
7. Évitez de faire passer des fils sur des bords tranchants ou dans des orifices à arêtes vives. Utilisez des bagues en caoutchouc ou en plastique pour protéger les fils traversant une plaque de métal, notamment le tablier.

Emplacements De Montage

Montage

1. Déterminez l'emplacement des haut-parleurs. Veillez à ce que la surface plane soit assez grande pour assurer un contact uniforme du haut-parleur. Vérifiez que l'emplacement est assez profond pour le haut-parleur ; en cas de montage dans une portière, actionnez toutes les commandes (fenêtres, serrures, etc.) jusqu'aux extrémités de leurs courses pour vous assurer qu'il n'y a pas d'obstruction.
2. Consultez le tableau des caractéristiques pour déterminer le diamètre de l'orifice à découper pour votre modèle de haut-parleur. Le gabarit fourni donne aussi le bon diamètre de découpe. Les gabarits de coupe et de montage sont disponibles sur la page www.rockfordfosgate.com/rftech.
3. Marquez l'emplacement des vis de montage. Percez les trous avec une mèche de 1/8 de pouce (3,2 mm).
4. Faites passer les fils de haut-parleur à travers l'orifice découpé et branchez-les aux bornes du haut-parleur. Veillez à bien respecter la polarité lors du branchement. La borne positive du haut-parleur est indiquée par un « + ».
5. Disposez l'anneau de garniture sur le haut-parleur et fixez-le avec quatre (4) vis.
6. Serrez les vis jusqu'à ce que le haut-parleur soit bien ajusté, de façon à prévenir tout cliquetis, mais évitez tout serrage excessif..

Consideraciones para la instalación

Antes de comenzar cualquier instalación, siga estas simples normas:

1. Asegúrese de leer cuidadosamente y de entender las instrucciones antes de tratar de instalar estos altavoces.
2. Por seguridad, desconecte el conductor negativo de la batería antes de comenzar la instalación.
3. Para facilitar el montaje, sugerimos que tienda todos los cables antes de montar sus altavoces en su sitio.
4. Utilice conectores de alta calidad para tener una instalación confiable y para reducir al mínimo las pérdidas de señal o de potencia.
5. ¡Piense siempre antes de perforar! Tenga cuidado de no cortar ni perforar en tanques de combustible, tuberías de combustible, frenos o hidráulicas, tuberías de vacío o cableado eléctrico al trabajar en un vehículo. Si la instalación se hace en un bote, tenga cuidado de no cortar ni perforar a través del casco principal.
6. Nunca tienda cables abajo del vehículo. Tender los cables adentro del vehículo o casco proporciona la mejor protección.
7. Evite tender cables arriba o a través de bordes filosos. Use arandelas aislantes de caucho para proteger los cables tendidos a través de metal, especialmente la mampara cortafuegos. Montaje

Montaje

1. Determine adónde se montará los altavoces. Asegúrese de que haya un área suficientemente grande para montar de manera plana el altavoz. Asegúrese de que el lugar de montaje sea suficientemente profundo para que quupa el altavoz, si se monta en una puerta, accione todas las funciones (ventanas, cerradura, etc.) en toda su gama de funcionamiento para asegurarse de que no haya obstrucciones.
2. Consulte la tabla de especificaciones para determinar cuales son los diámetros correctos para el agujero a cortar para su modelo de altavoz. La plantilla proporcionada también le da la medida correcta del recorte. Se puede hallar las plantillas para el corte y el montaje en www.rockfordfosgate.com/fftech.
3. Marque las localidades para los tornillos de montaje. Perfore los agujeros usando una broca de 1/8 pulg.
4. Tienda los cables del altavoz a través del recorte y conecte a los terminales del altavoz. Asegúrese de usar la polaridad correcta al conectar los cables. El terminal positivo del altavoz está identificado con un símbolo « + ».
5. Coloque el anillo de acabado arriba del altavoz y móntelo en su sitio usando cuatro (4) tornillos.
6. Apriete los tornillos hasta que el altavoz esté ajustado en su sitio para evitar vibraciones. No apriete demasiado los tornillos.

Einbauüberlegungen

Befolgen Sie vor dem Einbau diese einfachen Regeln:

1. Lesen Sie die Anleitung sorgfältig, bevor Sie versuchen diese Lautsprecher einzubauen.
2. Entfernen Sie vor dem Einbau aus Sicherheitsgründen das negative Kabel von der Batterie.
3. Um die Montage zu erleichtern, empfehlen wir alle Kabel vor der Befestigung Ihrer Lautsprecher zu verlegen.
4. Verwenden Sie nur Qualitätsstecker, um einen zuverlässigen Einbau zu gewährleisten und Signal- und Stromverlust zu minimieren.
5. Denken Sie nach, bevor Sie bohren! Achten Sie darauf, nicht in den Benzintank, die Benzin-, Brems- oder hydraulischen Leitungen, Vakuumleitungen oder Elektrokabel zu schneiden oder zu bohren, wenn Sie am Fahrzeug arbeiten. Achten Sie beim Einbau in einem Boot darauf, nicht durch den Bootsrumpf zu schneiden oder zu bohren.
6. Verlegen Sie Kabel nie unter dem Fahrzeug. Die Kabel im Fahrzeug oder Bootsrumpf zu verlegen, bietet den besten Schutz.
7. Vermeiden Sie es, Kabel über scharfe Kanten zu verlegen. Verwenden Sie Gummi- oder Plastikringe, um Kabel zu schützen, die durch Metall verlegt werden (besonders die Feuerwand).

Befestigung

1. Entscheiden, wo die Lautsprecher befestigt werden sollen. Gewährleisten, dass der Platz ausreicht, um den Lautsprecher gleichmäßig zu befestigen. Gewährleisten, dass die Befestigungsstelle ausreichende Tiefe für den Lautsprecher hat; beim Einbau in einer Tür alle Funktionen (Fenster, Schloss usw.) in ihrem ganzen Bereich ausprobieren um zu gewährleisten, dass keine Blockierung eintritt.
2. Die Tabelle in den Technischen Daten gibt den richtigen Lochdurchmesser für Ihr Lautsprechermodell zum Ausschneiden an. Die beiliegende Schablone zeigt ebenfalls die richtige Ausschneidegröße an. Schneide- und Befestigungsschablonen finden Sie unter www.rockfordfosgate.com/rftech.
3. Die Stellen für die Befestigungsschrauben markieren. Die Löcher mit einer 1/8-Zoll (3,2 mm) Bohrerspitze bohren.
4. Die Lautsprecherkabel durch das Loch führen und an den Lautsprecherausgängen anschließen. Beim Anschließen der Kabel die ordnungsgemäße Polarität beachten. Der positive Anschluss des Lautsprechers ist mit einem „+“ markiert.
5. Den Zierring über den Lautsprecher legen und mit 4 (vier) Schrauben an seinem Platz befestigen.
6. Die Schrauben anziehen, bis der Lautsprecher eng an seinem Platz anliegt, um Klappern zu verhindern. Die Schrauben nicht zu fest anziehen..

Considerazioni sull'installazione

Prima di iniziare qualsiasi operazione d'installazione, vi consigliamo di seguire queste semplici regole:

1. Assicuratevi di aver letto tutte le istruzioni con cura e di averle capite prima di effettuare qualsiasi tentativo d'installazione neiconfronti dell'unità.
2. Per motivi di sicurezza, scollegate il cavo negativo dalla batteria prima di dare l'avvio all'installazione.
3. Per facilitare il montaggio, vi suggeriamo di far scorrere tutti i fili prima di montare la vostra unità nella sua ubicazione.
4. Usate connettori di alta qualità per garantire un'installazione che dà affidamento e per ridurre al minimo la perdita di segnali o di potenza.
5. State attenti prima di trapanare! Cercate di non trapanare e di non incidere i serbatoi della benzina; le condutture del carburante, dei freni, del sistema idraulico e a depressione; nonché i fili elettrici quando state lavorando su qualsiasi veicolo.
6. Non fate mai scorrere i fili sotto il veicolo. Avrete la protezione migliore facendo scorrere i fili all'interno del veicolo.
7. Evitate di far scorrere i fili sopra o attraverso delle estremità affilate. Usate guarnizioni di tenuta in gomma o in plastica per proteggere qualsiasi filo che passi attraverso del metallo, soprattutto il parafiamma.

Montaggio

1. Decidete dove montare gli altoparlanti. Assicuratevi che sia un'area abbastanza grande per poter montare l'altoparlante a livello e abbastanza profonda per poterlo collocare comodamente. Se lo montate all'interno di uno sportello, controllate tutte le funzioni (finestre, serrature, ecc.), una alla volta, per assicurarvi che non ci siano ostruzioni.
2. Fate riferimento alla tabella delle specifiche per stabilire il diametro corretto del foro che dovrete praticare per il modello del vostro altoparlante. Si possono trovare le sagome per il taglio e il montaggio presso www.rockfordfosgate.com/rftech.
3. Marcare le posizioni per le viti di montaggio. Praticare i fori con una punta da trapano di 1/8 di pollice (3,2 mm).
4. Passare i cavi del diffusore tramite l'apertura e collegarli ai terminali. Verificare che la polarità sia corretta quando si collegano i cavi. Il terminale positivo del diffusore è identificato dal “+”.
5. Adattare l'anello di finitura sul diffusore e montare in posizione servendosi delle quattro (4) viti.
6. Per evitare rumore dovuto a vibrazioni serrare le viti finché il diffusore non sia saldamente in posizione. Non serrare le viti in modo eccessivo..

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Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech

Printed in China

1230-58876-01

121514

600 South Rockford Drive • Tempe, Arizona 85281 United States
Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



PRIME



SUBWOOFERS

- RM18D2 • RM18D2B • RM18D4
- RM18D4B • RM110D2 • RM110D2B
- RM110D4 • RM110D4B • RM112D2
- RM112D2B • RM112D4 • RM112D4B



Serial Number: _____

Date of Purchase: _____

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of car audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

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To add the finishing touch to your new Rockford Fosgate image, order your Rockford accessories, which include everything from T-shirts to hats.

Visit our web site for the latest information on all Rockford products; www.rockfordfosgate.com

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If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at **1-800-669-9899**. Be sure to have your serial number, model number and date of purchase available when you call.

PRACTICE SAFE SOUND

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

PRATIQUEZ UNE ÉCOUTE SANS RISQUES

Une exposition continue à des niveaux de pression acoustique supérieurs à 100 dB peut causer une perte d'acuité auditive permanente. Les systèmes audio de forte puissance pour auto peuvent produire des niveaux de pression acoustique bien au-delà de 130 dB. Faites preuve de bon sens et pratiquez une écoute sans risques

PRACTIQUE EL SONIDO SEGURO

El contacto continuo con niveles de presión de sonido superiores a 100 dB puede causar la pérdida permanente de la audición. Los sistemas de sonido de alta potencia para automóviles pueden producir niveles de presión de sonido superiores a los 130 dB. Aplique el sentido común y practique el sonido seguro.

PRAKТИЗИРЕН СИЕ СИЧЕРЕН SOUND

Fortgesetzte Geräuschdruckpegel von über 100 dB können beim Menschen zu permanentem Hörverlust führen. Leistungsstarke Autosoundsysteme können Geräuschdruckpegel erzeugen, die weit über 130 dB liegen. Bitte wenden Sie gesunden Menschenverstand an und praktizieren Sie sicheren Sound.

OSSERVATE LE REGOLE DEL SUONO SENZA PERICOLI

La costante esposizione a livelli di pressione acustica al di sopra dei 100dB possono causare la perdita permanente dell'udito. I sistemi audio ad alta potenza possono produrre livelli di pressione acustica ben superiori ai 130dB. Si consiglia il buon senso e l'osservanza delle regole del suono senza pericoli

Safety

This symbol with "WARNING" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.



This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.



- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

Model	RM18D2 / RM18D2B	RM18D4 / RM18D4B	RM110D2 / RM110D2B	RM110D4 / RM110D4B	RM112D2 / RM112D2B	RM112D4 / RM112D4B
Nominal Impedance (Ohms)	2 Ω DVC	4 Ω DVC	2 Ω DVC	4 Ω DVC	2 Ω DVC	4 Ω DVC
Frequency Response (Hz)	30-250	31-250	25-250	26-250	21-250	22-250
Voice Coil Diameter - inch (mm)	1.5 (4-Layer) (38.6)	1.5 (4-Layer) (38.6)	2 (4-Layer) (50.8)	2 (4-Layer) (50.8)	2 (4-Layer) (50.8)	2 (4-Layer) (50.8)
Displacement - cu. ft. (Liter)	0.05 (1.41)	0.05 (1.41)	0.1 (2.83)	0.1 (2.83)	0.12 (3.4)	0.12 (3.4)
Fs - Free Air Resonance (Hz)	40.0	41.5	33.5	35	28.5	29
Qts	0.76	0.81	0.47	0.51	0.59	0.64
Vas - cu. ft. (Liter)	0.63 (17.9)	0.67 (19.0)	1.77 (50.2)	1.78 (50.38)	3.8 (107.75)	3.83 (108.62)
Xmax - inch (mm)	0.28 (7)	0.28 (7)	0.28 (7)	0.28 (7)	0.28 (7)	0.28 (7)
SPL (dB @ 1w/1m)	85	85	88	88	88	88
Power Handling - Watts (RMS/ Peak)	150/300	150/300	200/400	200/400	200/400	200/400

* All measurements taken with voice coils wired in series



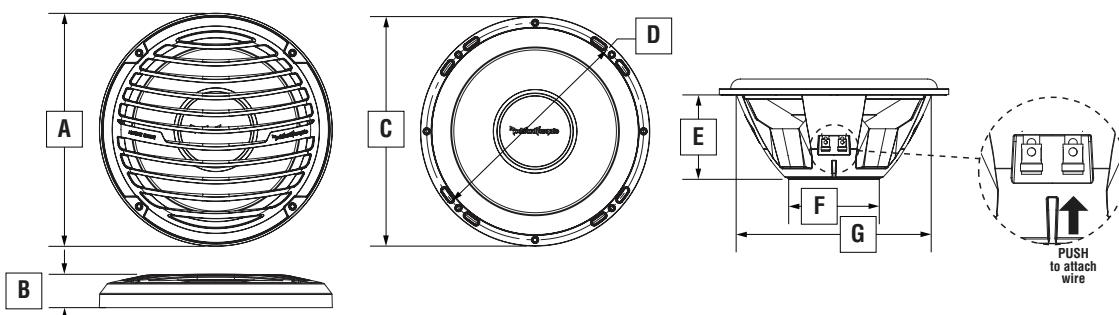
CEA 2031

Power handling on Rockford Fosgate speakers conform to CEA-2031 industry standards. This means your speaker has the capacity to handle power under continuous demand, not instantaneous power handling that over time can damage voice coils.



VERIFIED WITH KLIPPEL

To adorn the 'Verified with Klippe' mark, the qualifying company's loudspeaker engineering personnel must be trained and certified by Klippe prior to using the three separate Klippe systems to design, develop and test. Rockford Fosgate has made the investment in Klippe to deliver the best possible speakers and subwoofers to their customers.



Model	8"	10"	12"
A - Trim Ring Diameter - inch (mm)	8.8 (223)	11.0 (280)	13.2 (335)
B- Trim Ring Height- inch (mm)	1.4 (36)	1.6 (42)	1.7 (44)
C- Overall Diameter - inch (mm)	8.5 (217)	10.8 (274)	13.0 (330)
D - Screw Hole Diameter - inch (mm)	8.0 (204)	10.1 (258)	12.3 (312)
E - Mounting Depth- inch (mm)	3.6 (92)	4.4 (112)	4.8 (122)
F- Magnet Diameter - inch (mm)	4.1 (104)	5.3 (135)	5.1 (130)
G - Mounting Diameter - inch (mm)	7.0 (177)	9.0 (227)	10.9 (276)

Enclosures

Carton Contents

- (1) Marine Grade Subwoofer
- (1) Grille
- (8) Socket Head Stainless Screws
- (1) Socket head driver bit
- Installation and Operation Manual

Recommended Enclosures

This manual outlines two specific types of enclosures that provide distinctly different performance. This section is to help you decide which type is best for your application.

Sealed Enclosures

Sealed enclosures are the simplest to build. The most important part of building a sealed enclosure is to make sure that the enclosure is airtight. Using glue and some type of sealant on all seams will ensure solid construction and prevent air leaks. The box volume will directly impact the performance of the speaker. Larger enclosures will provide flatter response and deeper bass where smaller boxes will provide a bump in the response curve and generally higher output for greater SPL.

Advantages of sealed enclosures:

- Small enclosures
- Linear (Flat) response
- No port noise
- High power handling at all frequencies
- Excellent for sound quality
- Extended low frequency output when compared to vented enclosures

Vented Enclosures

Vented enclosures vary only from the sealed enclosure in that a vent or port is added to "tune" the enclosure. The enclosures recommended are designed for great overall performance. Larger boxes tend to be easy to tune to lower frequencies while medium and small boxes are easier to tune to higher frequencies. The vented design is less linear in response than the sealed box but with noticeably more output at the tuning frequency.

Advantages of vented enclosures:

- Higher average output than sealed
- Tuning frequency can be easily adjusted by changing port length
- Deep bass response with lower power requirements
- Great for high output with limited power

Infinite Baffle Design

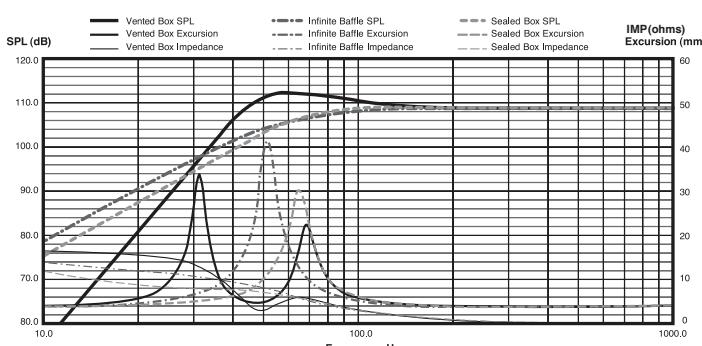
These designs typically called "IB", are the easiest enclosure types to build. The reason is that you are not actually building an enclosure, but rather simulating one. This is done by closing off a cavity area (ie: car trunk, enclosed area of a boat hull) with a baffle board. This creates your "IB" sub-woofer system. Essentially, an "IB" design can just be considered a large sealed enclosure design. Given that an "IB" design does not rely on a volume of air for its suspension, the low frequency output is driven by the speaker's inherent damping or "Qtc".

Advantages of infinite baffle design:

- Easy to build
- Light-weight
- Deep bass response with lower power requirements

Vented vs Sealed vs Infinite Baffle

The graph shown here is a sample of how SPL and Excursion differs between the various enclosures.



Building an Enclosure

To work properly, the walls of the enclosure must be rigid and not flex when subjected to the high pressures generated by the speaker's operation. For optimum performance, we recommend using 3/4" MDF (Medium Density Fiberboard) and internal bracing. The enclosure should be glued together and secured with nails or screws.

Calculating Volume

Calculating volume is merely a matter of measuring the dimensions in inches and using the formula: H x W x D divided by 1728 (cubic feet). See block below.

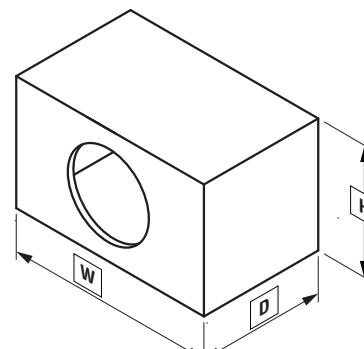
Box Volume Divided by (cubic feet)	Height" x Width" x Depth" 1728
---------------------------------------	-----------------------------------

If two facing sides are of uneven length, add them together and divide by two to take the average. Using this number will give you the volume without the necessity of calculating the box in sections and adding the sections together. The thickness of the baffle material reduces the internal volume so this must be subtracted from the outside dimensions to determine the internal volume. The speaker itself also reduces the internal volume. The amount of air displaced by each model is listed on the specification sheet and should also be subtracted from the gross volume calculation.

Sealed Enclosure

NOTE: V_b is the internal volume, before any speaker and/or port displacement is added. All external dimensions were based on the use of 3/4" (1.90cm) materials.

NOTE: When using enclosures other than recommended, call Technical Support for correct application.



Optimum Sealed Enclosure Recommendation

Sealed Enclosures	8"	10"	12"
Total Internal Volume cu. ft. (Liter)	0.55 (15.62)	1.1 (31.15)	1.65 (46.72)
Woofer Displacement cu. ft. (Liter)	0.05(1.41)	0.1 (2.83)	0.12 (3.4)
V_b - Net Internal Volume cu. ft. (Liter)	0.50 (14.2)	1.0 (28.32)	1.53 (43.32)
F_3 - 3dB Point (Hz)	47.7	58.4	43.1
Qtc - Enclosure Damping	1.19	0.66	0.88
H - Height - inch (cm)	12 (30.48)	14.0 (35.56)	15.0 (38.1)
W - Width - inch (cm)	12 (30.48)	16.0 (40.64)	16.0 (40.64)
D - Depth - inch (cm)	10 (25.4)	13.25 (33.66)	15.0 (38.1)

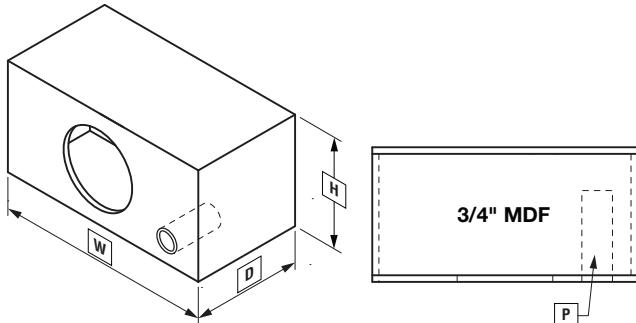
Recommended Sealed Enclosure Volume Range

Sealed Enclosures	8"	10"	12"
V_b - Volume range cu. ft. (Liter)	0.4 to 0.75 (11.34 - 21.24)	0.75 to 1.25 (21.24 - 35.4)	1.25 to 1.75 (35.4 - 49.55)

Vented Enclosures

NOTE: V_b is the internal volume, before any speaker and/or port displacement is added. All external dimensions were based on the use of 3/4" (1.90cm) materials.

NOTE: When using enclosures other than recommended, call Technical Support for correct application.

**Optimum Vented (Ported) Enclosure Sizes**

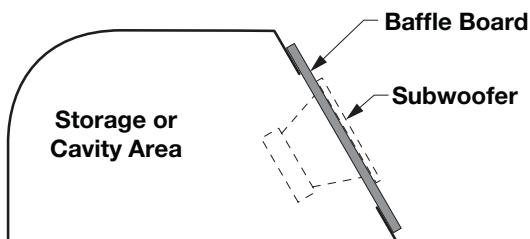
Vented Enclosures	8"	10"	12"
Total Internal Volume cu. ft. (Liter)	1.10 (31.15)	1.45 (41.06)	2.45 (69.38)
Woofer Displacement cu. ft. (Liter)	0.05 (1.41)	0.1 (2.83)	0.12 (3.4)
Port Displacement cu. ft. (Liter)	.03 (.85)	0.1 (2.83)	0.33 (9.35)
V_b - Net Internal Volume cu. ft. (Liter)	1.0 (28.3)	1.25 (35.4)	2.0 (56.63)
F_B - Tuning Frequency (Hz)	45	40	35
F_3 - 3dB Point (Hz)	34.7	39	36
H - Height - inch (cm)	12 (30.48)	15.0 (38.1)	16.0 (40.64)
W - Width - inch (cm)	16 (40.64)	15.0 (38.1)	20.0 (50.8)
D - Depth - inch (cm)	14 (35.56)	15.25 (38.74)	17.5 (44.45)
P - Port Diameter and Length - inch (cm)	3 x 9.4 (7.62 x 23.9)	3 x 9.5 (7.62 x 24.13)	4 x 14 (10.16 x 35.56)

NOTE: The port shown can be placed on any face of the enclosure as long as the port ends are not obstructed.

NOTE: When using vented enclosures, for maximum reliability and power handling ensure, that a subsonic or "infrasonic" filter is used so that only usable low frequency signal is sent to the subwoofer.

Infinite Baffle

An Infinite Baffle enclosure design represents an application where the compliance of the air volume within the enclosure is greater than the compliance on the speaker's suspension (V_{as}). An infrasonic filter is required for reliable performance.



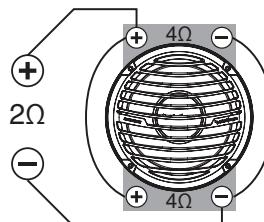
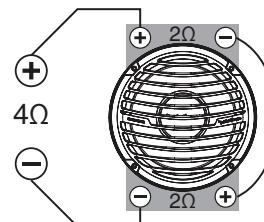
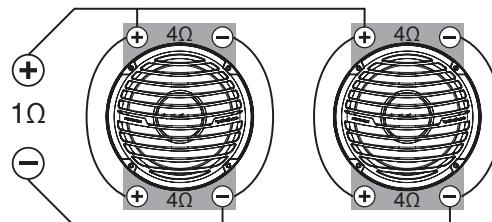
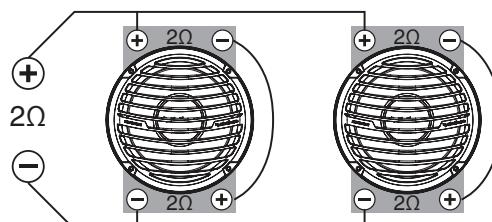
Infinite Baffle	8"	10"	12"
F_3 - 3dB Point (Hz)	42.7	69.4	43.3
V_{as} - cu. ft. (Liter)	0.63 (17.9)	1.77 (50.2)	3.80 (107.7)
Q _{tc} - Enclosure Damping	0.66	0.43	0.54

IMPORTANT: A subsonic or "infrasonic" filter at or above the resonant frequency (F_s) of the speaker is required.

NOTE: Infinite baffle installations will result in lower speaker power handling when compared to fully enclosed applications such as sealed or vented enclosures.

Wiring Configurations

By varying the wiring configuration of your speakers you can create an impedance load to match your system. Altering the wiring configurations gives a range of options for impedance loads. Series, Parallel, or Series-Parallel wiring configurations are different techniques for wiring speakers that provide different loads. Series configuration is a string method where speakers are wired end to end. Parallel configuration uses two or more speakers wired across common terminals. Series-Parallel configuration combines both techniques. Choose the wiring diagram that corresponds to the number of woofers and the impedance of your amplifier.

Parallel Wiring
(1) 4 ohm DVC Speaker = 2 ohm Load**Series Wiring**
(1) 2 ohm DVC Speaker = 4 ohm Load**Parallel Wiring**
(2) 4 ohm DVC Speaker = 1 ohm Load**Parallel/Series Wiring**
(2) 2 ohm DVC Speaker = 1 ohm Load**Subwoofer Crossovers**

There are two operational types of crossovers, passive and active. Passive crossovers (coils or inductors) are placed on the speaker leads between the amplifier and speaker. An active crossover is an electronic filter that separates the audio signal fed to different amplifiers. For optimum subwoofer performance, we recommend using an active 80-100Hz low-pass crossover at 12dB/octave.

Enceintes recommandées

Ce manuel décrit deux types particuliers d'enceintes aux performances tout à fait distinctes. Cette section vous permettra de décider celui qui vous conviendra le mieux.

Enceintes Étanches

Les enceintes étanches sont les plus faciles à fabriquer. À cet égard, la chose la plus importante dans leur fabrication est de vous assurer qu'elles sont vraiment hermétiques. Appliquez de la colle et un produit d'étanchéité sur tous les joints pour solidifier l'ensemble et empêcher toute fuite d'air. Le volume du caisson influe directement sur la performance du haut-parleur. Les enceintes de plus grande dimension délivrent une réponse uniforme en fréquence avec des graves profonds alors que les enceintes plus petites ont une courbe de réponse plus prononcée et un rendement généralement supérieur pour un niveau de pression acoustique plus élevé.

Avantage des enceintes étanches:

- Petites enceintes
- Réponse linéaire (uniforme)
- Pas de bruit d'évent
- Puissance élevée sur toutes les fréquences
- Excellentes en ce qui concerne la qualité du son

Enceintes À Évent

Les enceintes à événement se distinguent des enceintes étanches du fait qu'on y ajoute un événement ou port pour les « accorder ». Les enceintes recommandées sont conçues pour offrir d'excellentes performances. Il est généralement plus facile d'accorder les caissons plus grands pour l'obtention de basses fréquences et les caissons moyens et petits pour des fréquences plus élevées. Les enceintes à événement ont une réponse moins linéaire que les enceintes étanches mais dégagent nettement plus de puissance à la fréquence d'accord.

Avantages des enceintes à événement :

- Rendement moyen supérieur par rapport aux modèles étanches
- La fréquence d'accord peut être facilement réglée en changeant la forme de l'évent
- Reproduction profonde des basses avec une puissance d'entrée moindre
- Excellent choix pour un rendement élevé à faible puissance d'entrée

Construire Un Caisson

Pour fonctionner convenablement les parois du caisson doivent être rigides lorsqu'elles sont soumises aux hautes pressions dues au fonctionnement du haut-parleur. Nous vous recommandons d'utiliser des panneaux de bois aggloméré à haute ou moyenne densité de particules de type "MDF". Ces panneaux sont disponibles dans la plupart des magasins de bricolage. Pour un caisson de grand volume il est recommandé de placer des renforts à l'intérieur du caisson. Les différents côtés devront être collés (colle à bois) et vissés (ou éventuellement cloués). Il est recommandé de mettre un joint de silicone dans les arêtes internes du caisson afin d'éviter les fuites d'air.

Calcul du Volume

On calcule le volume en mesurant la dimension de chaque côté et en utilisant la formule suivante:

Volume du caisson	Hauteur (cm) x Longueur (cm) x Largeur (cm)
Divisé près (Litres)	1000

Si les deux côtés qui se font face n'ont pas la même longueur, additionnez les et divisez le résultat par deux pour obtenir la moyenne des deux longueurs. Utilisez le nombre ainsi obtenu dans la formule pour déterminer le litrage. Cette méthode permet d'obtenir le volume du caisson sans devoir faire de calculs compliqués de section de volume. L'épaisseur du matériau dont est fait le caisson réduit le volume interne de celui-ci. Lorsqu'on mesure les côtés du caisson il ne faut donc pas oublier d'ajouter des mesures l'épaisseur du matériau. Le haut-parleur lui-même diminue le volume interne du caisson. Le volume d'air déplacé par chaque modèle de haut-parleur est repris dans les spécifications techniques et doit également être soustrait du volume total.

Configuration du câblage

En variant la configuration du câblage de vos haut-parleurs, vous pouvez créer une charge d'impédance correspondant à votre système. La modification des configurations de câblage offre tout un choix d'options en ce qui concerne la charge d'impédance. Les câblages série, parallèle, ou série/parallèle sont des techniques permettant de câbler les haut-parleurs de manière à produire des charges différentes. La configuration série consiste à câbler les haut-parleurs à la chaîne, bout à bout. La configuration parallèle utilise deux ou plusieurs haut-parleurs branchés sur des bornes communes. La configuration série/parallèle combine les deux techniques. Choisissez le schéma ci-dessous qui correspond au nombre de haut-parleurs de graves et à l'impédance de votre ampli.

Montage en Baffle Infini

Les enceintes à baffle infini sont les plus faciles à construire. En effet, il ne s'agit pas vraiment de fabriquer une enceinte, mais plutôt d'en simuler une. Cela s'effectue en fermant une cavité (comme un coffre de voiture ou une partie de coque de bateau) avec une cloison, appelée écran acoustique. Cela crée un caisson de grave en baffle infini. En fait, le montage en baffle infini peut être considéré comme une grande enceinte close. Un montage en baffle infini ne dépendant pas d'un volume d'air pour la suspension, la réponse dans le grave est assurée par l'amortissement intrinsèque du haut-parleur ou Qtc.

Avantages du montage en baffle infini :

- Facile à construire
- Faible poids
- Réponse profonde dans le grave à une puissance relativement faible.

Filtres de subwoofer

On distingue deux types de filtres opérationnels : passif et actif. Les filtres passifs (bobines ou inducteurs) sont placés sur les fils de haut-parleur, entre l'ampli et le haut-parleur. Un filtre actif est un filtre électronique qui sépare le signal audio envoyé à différents amplis. Pour obtenir une performance optimale du subwoofer, nous recommandons l'utilisation d'un filtre actif passe-bas 80-100 Hz à 12 dB/octave.

Cajas recomendadas

Este manual delinea dos tipos específicos de cajas que producen rendimientos inconfundiblemente diferentes. Esta sección es para ayudarle a decidir cuál tipo es el mejor para su aplicación.

Cajas CERRADAS

Las cajas cerradas son las más fáciles de hacer. La parte más importante de la construcción de una caja cerrada es garantizar su hermetismo. El uso de pegante y algún tipo de sellador en todos los bordes garantizará una construcción sólida y evitará fugas de aire. El volumen de la caja impacta directamente el rendimiento del altavoz. Las cajas más grandes ofrecen una respuesta más plana y un bajo más profundo, mientras que las más pequeñas ofrecen un incremento en la curva de respuesta y generalmente una salida mayor, para un mayor NPS. Ventajas de las cajas cerradas:

- Cajas pequeñas
- Respuesta lineal (plana)
- No hay ruido del orificio
- Capacidad de alta potencia en todas las frecuencias
- Excelentes para la calidad del sonido

Cajas con Orificios

Las cajas con orificios sólo se diferencian de las cerradas en que se les hace un orificio para "sintonizarlas". Las cajas recomendadas son diseñadas para un gran rendimiento general. Las cajas grandes tienden a ser fáciles de sintonizar en las frecuencias graves, mientras que medianas y pequeñas son más fáciles de sintonizar en las frecuencias más altas. El diseño con orificios es de una respuesta menos lineal que el de la caja cerrada, pero tiene una salida notablemente mayor en la frecuencia de sintonización.

Ventajas de las cajas con orificios:

- Un promedio de salida mayor que las cerradas
- La frecuencia de sintonización se ajusta fácilmente al cambiar la longitud del orificio
- Respuesta de bajo profundo con menos exigencia de potencia
- Fabulosas para salida alta con potencia limitada

Construcción de una caja

Para un buen funcionamiento las paredes de la caja deben ser rígidas y no se deben doblar cuando sean sometidas a la gran presión que ejerce el funcionamiento del altavoz. Recomendamos usar madera comprimida de mediana densidad, de 1.9 cm o fibra de media densidad. Si la caja es muy grande es necesario reforzarla internamente. Las juntas deben ser encoladas y aseguradas con tornillos o grapas. Internamente los bordes deben ser sellados con silicona para prevenir las fugas de aire. La cola para madera es la mejor opción.

Cálculo de Volúmenes

Para calcular el volumen sólo se han de medir las dimensiones en centímetros y aplicar la fórmula:

Volumen de la caja	Alto(cm) x Ancho(cm) x Profundidad(cm)
Dividido por (en litros)	1000

Si dos caras opuestas son de diferente tamaño, sumélas y divide el total por dos para obtener el promedio. Usando esta técnica se ahorrará el cálculo por secciones. El espesor del material con que está construida la caja reduce el volumen interno, de manera que ha de restarse de las dimensiones exteriores para determinar el volumen interior. La cantidad de aire que ocupa cada modelo viene especificado en la hoja de características y también debe sustraerse para obtener el volumen neto interior.

Configuraciones del cableado

Al variar la configuración del cableado de los altavoces, usted puede crear una impedancia de carga que iguala a su sistema. La alteración de la configuración de los cables da una gama de opciones para impedancia de carga. Las configuraciones en serie, paralela o en serie-paralela son técnicas diferentes para el cableado de los altavoces que ofrecen cargas diferentes. La configuración en serie es un método en cadena en el que los altavoces se conectan de punta a punta. La configuración paralela usa dos o más altavoces conectados a lo largo de terminales en común. La configuración en serie-paralela combina ambas técnicas. Escoja el diagrama que corresponda al número de altavoces para sonidos graves y la impedancia de su amplificador

Diseño de Pantalla Acústica Infinita

A estos diseños normalmente se les llama "IB", son los tipos de caja más fáciles de construir. El motivo es que usted en realidad no está construyendo una caja, simplemente simulando una. Esto se hace cerrando el área de la cavidad (por ejemplo, cajuela del automóvil, área cerrada del casco de una embarcación) con una tabla de pantalla acústica. Esto crea su sistema de subwoofer "IB". Esencialmente, el diseño "IB" se puede considerar un diseño de caja grande sellada. Dado que el diseño "IB" no depende del volumen de aire para su suspensión, la salida de bajas frecuencias está impulsada por la amortiguación inherente del altavoz o "Qtc".

Ventajas del diseño de la pantalla acústica infinita:

- Fácil de construir
- Peso liviano
- Respuesta grave de bajos con menores requisitos de potencia

Filtros de Transición del altavoz para sonidos graves

(Subwoofer X-Over)

Hay dos tipos funcionales de filtros de transición, pasivos y activos. Los pasivos (bobinas o inductores) se conectan a los cables del altavoz, entre el amplificador y el altavoz. Un filtro de transición activo es un filtro electrónico que separa la señal de audio alimentada a diferentes amplificadores. Para un rendimiento óptimo del altavoz para sonidos graves, recomendamos el uso de un filtro de transición activo de 80-100Hz, paso bajo a 12dB/octava.

Empfohlene Gehäuse

Diese Anleitung beschreibt zwei spezifische Typen von Gehäusen, die grundsätzlich verschiedene Performancemerkmale bieten. Dieser Abschnitt soll Ihnen dabei helfen zu entscheiden, welcher der beste Typ für Ihre Anwendung ist.

Geschlossene Gehäuse

Geschlossene Gehäuse lassen sich am leichtesten bauen. Der wichtigste Aspekt beim Bau eines geschlossenen Gehäuses ist zu gewährleisten, dass es luftdicht ist. Die Verwendung von Klebstoff und anderen Dichtungsmitteln an allen Fugen gewährleistet eine solide Konstruktion und verhindert Luftverlust. Das Gehäusevolumen wirkt sich unmittelbar auf die Performance des Lautsprechers aus. Größere Gehäuse bieten eine flachere Reaktion und tiefere Bässe, wohingegen kleinere Gehäuse eine Abweichung in der Reaktionskurve bieten und im Allgemeinen durch höhere Leistung zu einem höheren Schalldruckpegel führen.

Vorteile von geschlossenen Gehäusen:

- Kleine Gehäuse
- Lineare (flache) Reaktion
- Keine Öffnungsgeräusche
- Hohe Nennbelastbarkeit in allen Frequenzbereichen
- Ausgezeichnete Klangqualität

Belüftete Gehäuse

Belüftete Gehäuse unterscheiden sich von geschlossenen Gehäusen nur insofern, als dass ein Luftschnitz bzw. eine Öffnung hinzugefügt wird, um das Gehäuse zu „stimmen“. Die empfohlenen Gehäuse sind für hervorragende Gesamtperformance konstruiert. Größere Gehäuse lassen sich in der Regel leichter auf niedrigere Frequenzen abstimmen, wohingegen sich mittlere und kleine Gehäuse leichter auf höhere Frequenzen abstimmen lassen. Das belüftete Design zeigt eine weniger lineare Reaktion als das geschlossene Gehäuse, erbringt jedoch eine feststellbar höhere Leistung auf der abgestimmten Frequenz.

Vorteile von belüfteten Gehäusen:

- Höher Durchschnittsleistung als geschlossene Gehäuse
- Abstimmfrequenz kann leicht durch Änderung der Öffnungsgröße angepasst werden
- Tiefes Bassverhalten bei geringerem Kraftbedarf
- Gut geeignet für hohe Leistung bei beschränkter Kraft

Bau des Gehäuses

Um ordnungsgemäß zu funktionieren, müssen die Gehäusewände steif sein und dürfen nicht nachgeben, wenn sie dem hohen Druck ausgesetzt sind, der bei Betrieb des Lautsprechers entsteht. Für optimale Performance empfehlen wir Faserplatte mittlerer Dichte (Stärke ca. 1,9 cm) und interne Aussteifungen. Das Gehäuse wird verleimt und mit Nägeln oder Schrauben befestigt. Da Faserplatte luftdurchlässig ist, wird geraten, das Gehäuse von außen mit Polyurethan zu behandeln.

Berechnung des Volumens

Zur Berechnung des Volumens einfach die Maße feststellen und folgende Formel anwenden:

Gehäuse-Volumen	Höhe (cm) x Breite (cm) x Tiefe (cm)
Vorbei geteilt (Liter)	1000

Sind zwei gegenüber liegende Seiten ungleich lang, die Durchschnittslänge der beiden Seiten berechnen. Das Volumen lässt sich mithilfe dieser Zahl berechnen, ohne das Gehäuse in Abschnitten berechnen zu müssen. Die Stärke des Resonanzwandmaterials reduziert das Innenvolumen und muss daher zur Feststellung des Innenvolumens vom Außenvolumen subtrahiert werden. Der Lautsprecher selbst reduziert das Innenvolumen ebenfalls. Die Luftverdrängung für jedes Modell ist unter Technische Daten aufgeführt und muss bei der Gesamtkalkulation des Volumens ebenfalls subtrahiert werden.

Verkabelungskonfigurationen

Durch Veränderung der Verkabelungskonfiguration Ihrer Lautsprecher können Sie eine Impedanzlast herstellen, die Ihrem System entspricht. Bietet die Veränderung der Verkabelungskonfigurationen eine Reihe von Optionen für die Impedanzlast. Reihen-, Parallel- oder Reihen-Parallel-Verkabelungen sind verschiedene Techniken für die Verkabelung von Lautsprechern, die unterschiedliche Belastungen bieten. Die Reihenkonfiguration ist eine Reihenmethode, bei der die Lautsprecher von Ende zu Ende verkabelt werden. Die Parallelkonfiguration verwendet mindestens zwei Lautsprecher, die über gemeinsame Anschlüsse verkabelt werden. Die Reihen- Parallel-Konfiguration kombiniert beide Techniken. Wählen Sie das nachfolgende Verkabelungsdiagramm aus, das der Zahl an Tieftönen und der Impedanz Ihres Verstärkers entspricht.

Infinite Baffle Design

Diese Designs, die typischerweise als „IB“ bezeichnet werden, sind die am leichtesten zu bauenden Gehäuse. Der Grund dafür ist, dass Sie nicht wirklich ein Gehäuse bauen sondern eins simulieren. Dies geschieht dadurch, dass Sie einen Hohlräum (d.h. den Kofferraum, einen geschlossenen Bereich eines Bootsrumpfs) mit einer Schallwand abtrennen. Dadurch entsteht Ihr „IB“-Subwoofer-System. Im Grunde kann das Design eines großen abgeschlossenen Gehäuses einfach als „IB“-Design betrachtet werden. Da ein „IB“-Design für seine Suspension nicht von einem Luftvolumen abhängig ist, wird der geringe Frequenzausgang von der natürlichen Dämpfung oder „Qtc“ des Lautsprechers getrieben.

Vorteile des Infinite Baffle Design:

- Leicht zu bauen
- Geringes Gewicht
- Tiefes Bassverhalten mit geringerem Stromverbrauch

Subwoofer-Crossover

Es gibt zwei Betriebsarten für Crossover, und zwar passive und aktive. Passive Crossover (Spulen oder Induktoren) werden auf den Lautsprecherkabeln zwischen Verstärker und Lautsprecher platziert. Ein aktiver Crossover ist ein elektronischer Filter, der das Audiosignal trennt, das verschiedenen Verstärkern zugeführt wird. Zur optimalen Subwoofer-Performance empfehlen wir die Verwendung von aktiven 80-100 Hz-Niedrigpass-Crossovern bei 12 dB/Oktav.

Casse acustiche consigliate

Il presente manuale descrive a grandi linee due tipi di cassa acustica che forniscono prestazioni distintamente diverse. La presente sezione mira ad aiutare a decidere quale sia il tipo migliore per la propria applicazione.

Casse a chiusura ermetica

Le casse a chiusura ermetica sono le più semplici da costruire. La cosa più importante in questo tipo di costruzione è di accertarsi che la chiusura sia a tenuta d'aria. L'uso di colla e di un qualche altro tipo di mastice in tutti i punti di giuntura garantirà che la costruzione sia solida ed eviterà le perdite d'aria. Il volume della cassa influirà in modo diretto sulle prestazioni del diffusore. Le casse più grandi forniranno una risposta più piatta e bassi più profondi, mentre quelle più piccole presenteranno una gobba nella curva di risposta e forniranno in generale un'uscita più alta per un maggiore livello SPL.

Vantaggi delle casse a chiusura ermetica:

- Casse di dimensioni ridotte
- Risposta lineare (piatta)
- Nessun disturbo da apertura
- Gestione di potenza alta a tutte le frequenze
- Eccellente qualità del suono
- Ottima uscita di bassa frequenza a confronto delle casse con sfiato

Casse con sfiato

Le casse con sfiato differiscono da quelle a chiusura ermetica solo per il fatto che in esse è praticata un'apertura o porta per "accordare" la cassa stessa. Le casse consigliate sono state progettate per fornire una buona prestazione nell'insieme. Le casse più grandi sono generalmente più facili da accordare alla frequenze più basse, mentre quelle piccole e di misura mediana sono più facili da accordare alle frequenze più alte. Il design con sfiato ha risposta meno lineare delle casse a chiusura ermetica, ma possiede un'uscita notevolmente maggiore alla frequenza di accordo.

Vantaggi delle casse con sfiato:

- Uscita media superiore alle casse chiuse
- La frequenza di accordo può essere regolata facilmente modificando la lunghezza dell'apertura
- Risposta di bassi profondi con minore potenza
- Ottime per uscita alta con potenza limitata

Costruzione della cassa

Perché la cassa possa funzionare in modo corretto è necessario che le pareti siano rigide e non si flettano quando sono assoggettate alle alte pressioni prodotte dal diffusore in operazione. Per ottenere i migliori risultati si consiglia di usare MDF (pannello di fibre di densità media) dello spessore di 3/4 di pollice. I pannelli della cassa dovrebbero essere uniti con colla e tenuti assieme in modo sicuro con chiodi o viti.

Calcolo del volume

Il calcolo del volume consiste semplicemente nel prendere le misure in pollici e usare la formula seguente:

Volume della casella	Altezza(cm) x Larghezza (cm) x Profondità (cm)
Diviso vicino (nei litri)	1000

Se due lati hanno lunghezze diverse, sommare i due valori e dividere per due per ottenere il valore medio. Il numero così ottenuto fornirà il volume senza doverlo calcolare dividendo la cassa in sezioni e quindi sommando assieme i volumi delle diverse sezioni. Lo spessore del materiale di diaframma riduce il volume interno e quindi lo si dovrà sottrarre alle dimensioni esterne per calcolare il volume. Anche l'altoparlante vero e proprio riduce il volume interno. Il volume d'aria occupato da ciascun modello è indicato nel foglio dei dati tecnici e dovrà essere sottratto dal volume lordo calcolato.

Configurazione d'impianto

Variano la configurazione d'impianto dei propri diffusori si può creare un carico d'impedenza accoppiato a quello del sistema. La modifica della configurazione d'impianto produce una gamma di scelte di carico d'impedenza. Le configurazioni d'impianto in serie, in parallelo, in serie-parallelo rappresentano diverse tecniche di collegamento dei fili che producono carichi diversi. La configurazione in serie rappresenta un metodo di collegamento in cui i diffusori sono collegati uno dopo l'altro. La configurazione in parallelo utilizza due o più diffusori collegati con terminali comuni. La configurazione in serie-parallelo unisce le due tecniche. Scegliere lo schema d'impianto che corrisponde al proprio numero di woofer e all'impedenza dell'amplificatore.

Infinite Baffle design

Questi disegni tipicamente chiamati "IB", sono i tipi di recinzione più facili da costruire. La ragione è che non sono in realtà costruendo un recinto, ma piuttosto simulando uno. Questo viene fatto chiudendo una zona cavità (ie; bagagliaio di un'auto, spazio chiuso di uno scafo) con una scheda deflettore. Questo crea il sistema sub-woofer "IB". In sostanza, un design "IB" può solo essere considerato un grande disegno contenitore sigillato. Dato che un motivo "IB" non si basa su un volume di aria per la sua sospensione, l'uscita bassa frequenza è guidata dalla smorzamento intrinseco del diffusore o "QTC".

Vantaggi di design deflettore infinito:

- Facile da costruire
- di peso leggero
- Risposta dei bassi profondi con requisiti di alimentazione inferiori

Crossover dei subwoofer

Ci sono due tipi di crossover, passivo e attivo. I crossover passivi (bobine o induttori) sono posti sui fili dei diffusori tra il diffusore e l'amplificatore. Il crossover attivo è un filtro elettronico che separa il segnale audio inviato a diversi amplificatori. Per ottimizzare le prestazioni dei subwoofer, si consiglia di usare un crossover attivo passa-basso da 80-100 Hz a 12 dB/Oktav.

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

POWER Amplifiers – 2 Years
BMW® Direct Fit Speakers – 2 Years
All other products - 1 Year
Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

Who is Covered

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is Not Covered

1. Damage caused by accident, abuse, improper operations, water, theft, shipping.
2. Any cost or expense related to the removal or reinstallation of product.
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center.
4. Any product which has had the serial number defaced, altered, or removed.
5. Subsequent damage to other components.
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer.

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, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

How to Obtain Service

Contact the Authorized Rockford Fosgate Dealer you purchased this product from. If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You must obtain an RA# (Return Authorization number) to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements, see your Authorized dealer for details.

Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech

1230-59130-02

012115

600 South Rockford Drive • Tempe, Arizona 85281 United States
Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



RZR® FRONT SUBWOOFER ENCLOSURE

RFRZ-FWE

Serial Number: _____

Date of Purchase: _____

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

Great product and competent installations are only a piece of the puzzle when it comes to your system. Make sure that your installer is using 100% authentic installation accessories from Rockford Fosgate in your installation. Rockford Fosgate has everything from RCA cables and speaker wire to power wire and battery connectors. Insist on it! After all, your new system deserves nothing but the best.

To add the finishing touch to your new Rockford Fosgate image order your Rockford accessories, which include everything from T-shirts to hats.

Visit our web site for the latest information on all Rockford products; www.rockfordfosgate.com

or, in the U.S. call 1-800-669-9899 or FAX 1-800-398-3985. For all other countries, call +001-480-967-3565 or FAX +001-480-966-3983.

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- 2 Introduction
- 3 Enclosure Assembly
- 4-10 Installation
- 11 Blank
- 12 Warranty

If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at **1-800-669-9899**. Be sure to have your serial number, model number and date of purchase available when you call.

PRACTICE SAFE SOUND

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

Safety

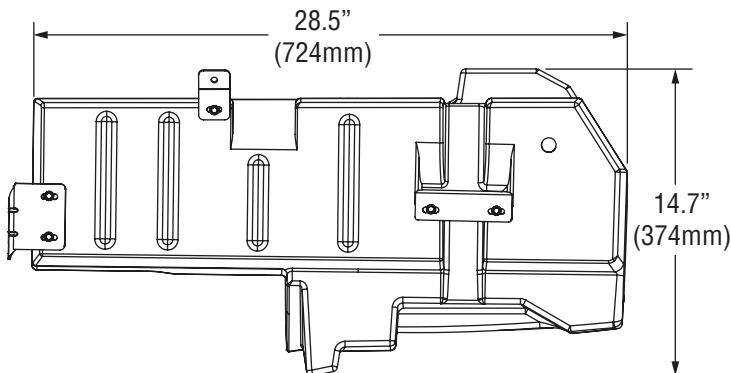
This symbol with "WARNING" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.



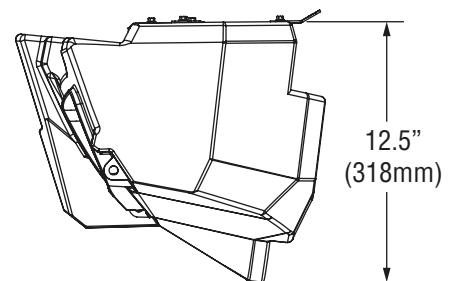
This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.



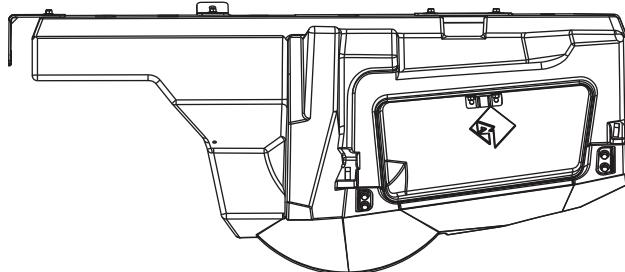
- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.



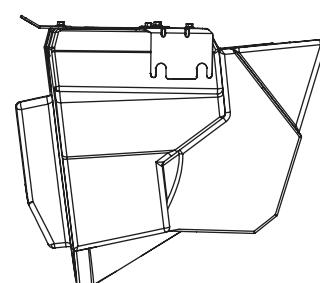
TOP VIEW



PASSENGER SIDE (RIGHT)

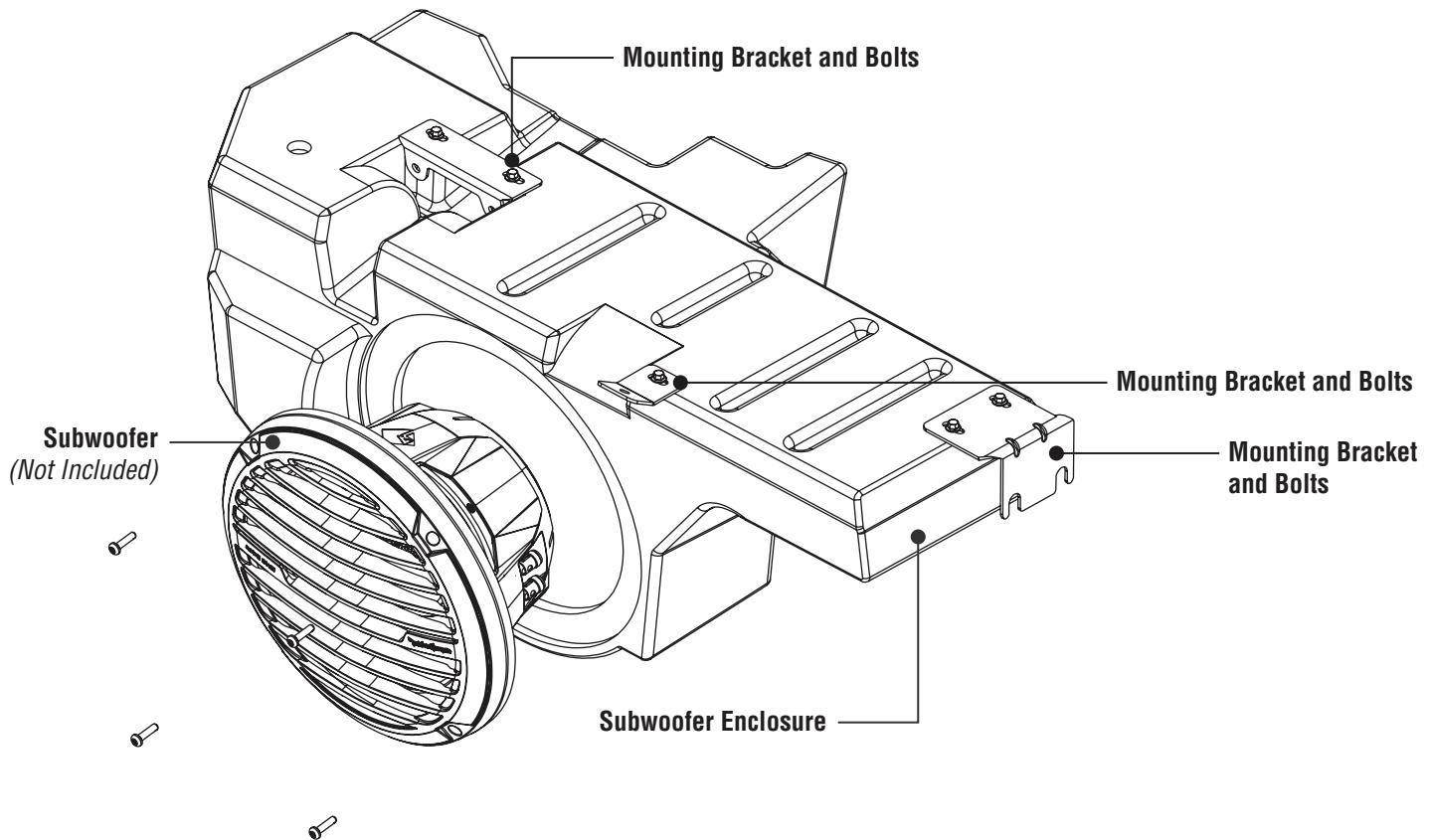


FRONT VIEW



DRIVER SIDE (LEFT)

TYPICAL ASSEMBLY



Installation

Contents

- (1) Front Subwoofer Enclosure
- (3) Enclosure Mounting Brackets
- (1) Subwoofer Spacer Ring
- (1) Mounting Screw Pack
- (1) Latch Mount & Screws
- (1) 12 AWG Subwoofer Wire
- (1) 12 AWG Jumper Wire
- Installation Guide

Installation Tools

The following is a list of suggested tools needed for installation:

- Ratchet
- 15mm Socket/Wrench
- 13mm Sock/Wrench
- Torx - T40

Installation Considerations

This section focuses on some considerations for installing your Polaris® RZR® Front Subwoofer Enclosure. This manual will illustrate the installation process with a 2016 Polaris RZR XP4 Turbo.

If you feel unsure about installing this system yourself, have it installed by a qualified technician.

⚠ CAUTION

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

⚠ CAUTION

Before beginning any installation, follow these simple rules:

- Be sure to carefully read and understand the instructions before attempting to install this motorcycle audio kit.
- Consult your UTV's service manual for model specific information. Models may differ from year to year depending on factory options and aftermarket accessories added.
- This front subwoofer enclosure is specifically designed to work with Rockford Fosgate's Element Ready 10" subwoofers.
- With the addition of an amplifier or source unit, be sure that your current charging system is in proper working order.
- Visit rockfordfosgate.com for more comprehensive installation videos and product information.

Applicable Models:

2014 and up RZR® XP/XP4 1000
2016 and up RZR® XP/XP4 Turbo
2015 and up RZR® S / XC / 4 900



The front subwoofer enclosure is designed to work with Rockford Fosgate's Element Ready 10" subwoofers, RFRZ-PMXWH1 and RFRZ-K4D wire kits.

Step 1 - Remove Hood

Twist the two hood latches and slide toward the front of the vehicle to release the hood.



Step 2 - Remove Top Dash Panel

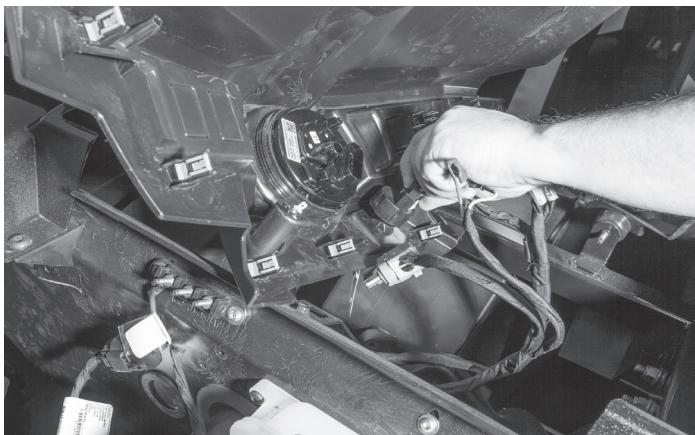
Using your Torx screwdriver, unbolt the two factory bolts.



Using your hands, pull the top dash piece toward the interior of the vehicle to release it from the dash.

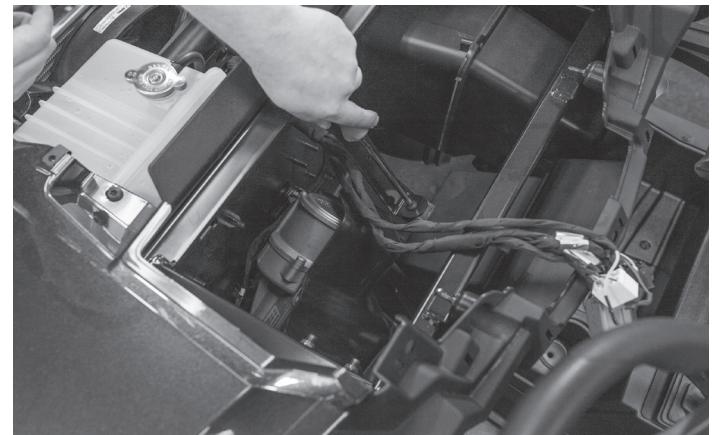


Disconnect all of the wires connectors and set aside.



Step 3 - Remove Passenger Grab Bar

To remove the grab bar, you will need to remove the retaining pin and pull the grab bar out of its mount.



Step 4 - Remove Center Pocket

Using a Torx screwdriver, remove the bolt that attaches the brace to the rear of the pocket.



After the brace is disconnected from the center pocket, pull the pocket out of the dash.

Step 5 - Remove Dash

Using your Torx screwdriver, remove the two bolts holding the dash onto the chassis. There are two and they are located above the center pocket.

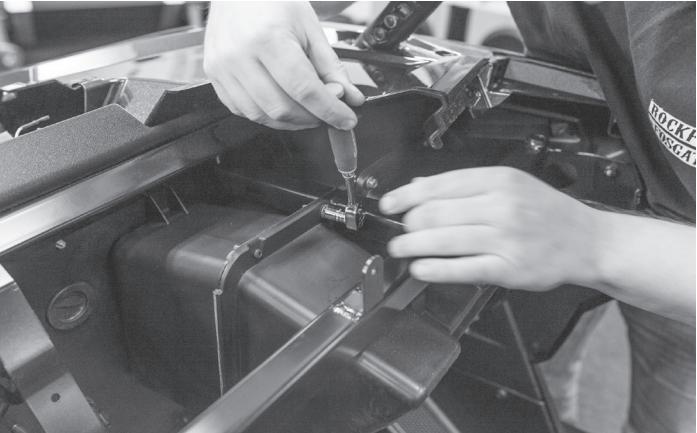


Installation



Once the bolts are removed you will need to pull the dash off of the chassis.

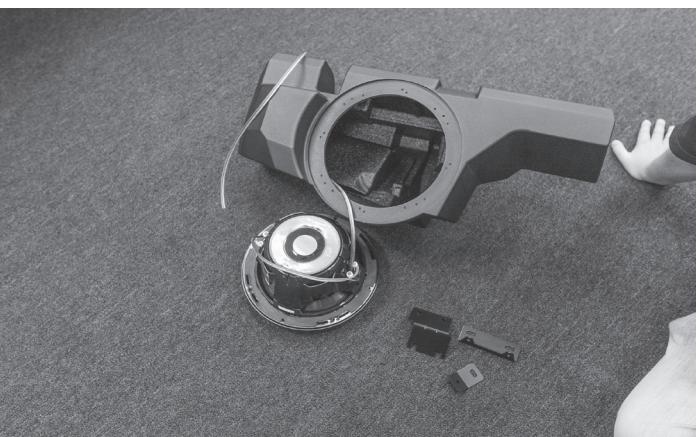
NOTE: When pulling the dash off you will notice that it still feels attached. It has several retaining clips on each side that are holding it in place. Just continue pulling toward the interior of the vehicle to release the dash from the chassis.



Once the glove box door is removed, remove the bolts holding the glove box in place. There are two above the chassis dash bar.



Remove the glove box from the vehicle once bolts are removed.



Step 6 - Remove Glove Box

To get the glove box removed, you will first need to remove the glove box door. Open the door and then push it to the passenger side of the vehicle. At the same time pull the driver's side of the door out to release the retaining stud.

NOTE: Bending the door slightly may be required to get the door removed.

Step 7 - Load Subwoofer Into Enclosure

Before mounting the subwoofer enclosure, you will need to load the subwoofer into the enclosure. The kit contains two wires for the subwoofer. A main wire that goes to an amplifier and the other is a jumper for dual voice coil subwoofers.

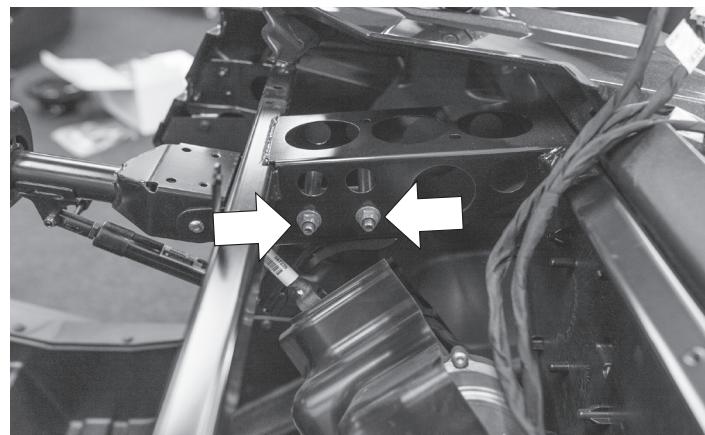
⚠️ WARNING Reference your subwoofer's manual for proper wiring. Failure to wire the subwoofer correctly can cause damage to the amplifier and/or subwoofer.



Place the subwoofer into the enclosure and line up the predrilled holes in the enclosure with the subwoofer's mounting holes.

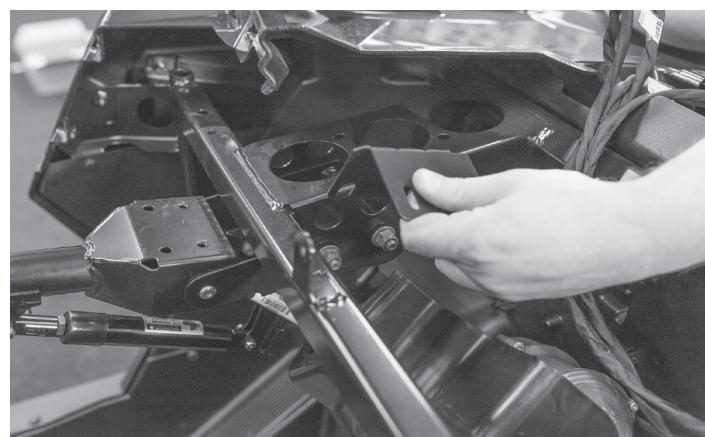
NOTE: If you subwoofer mounting holes do not line up, predrilling holes is suggested before screwing subwoofer to enclosure.

NOTE: When installing your subwoofer be sure to check for interference with the subwoofer and the inside of the enclosure. A spacer ring is included in the kit if you have a subwoofer that is touching the enclosure.



Step 8 - Install Steering Column Bracket

You will need to loosen the two nuts that are located above the steering column. One of the subwoofer enclosure brackets will be mounted in this location. It is not necessary to completely remove the nuts.



Slide the bracket between the nuts and the column support. Do not tighten yet.

NOTE: All of the brackets being installed should only be hand tightened. Leaving all of the fasteners loose will make installation process easier.



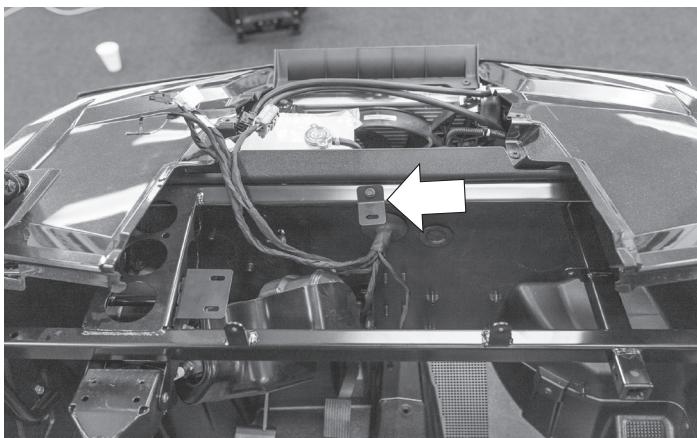
Install the subwoofer grille that was provided with your woofer.

Installation

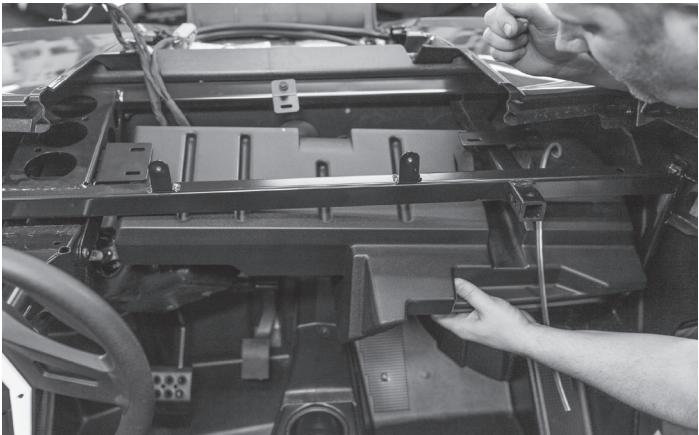


Step 9 - Replace Center Pocket Bracket

The center pocket bracket will need to be removed and replaced with a new bracket that comes with the kit.

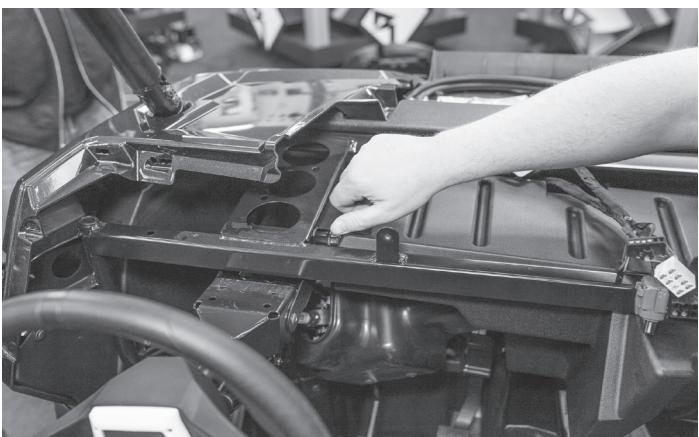


Attach the new bracket with the existing bolt that previously held the center pocket bracket.

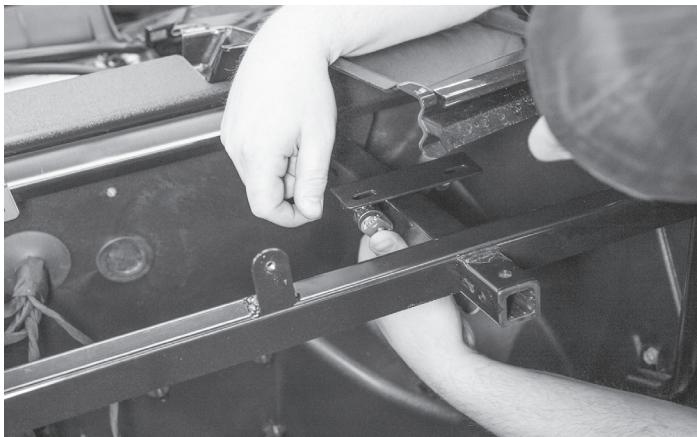


Step 11 - Install the Loaded Subwoofer Enclosure

Once all of the brackets are installed, the subwoofer enclosure can now be installed. The enclosure goes into the vehicle with the subwoofer facing the fire wall and the flat side of the enclosure is on top. The box needs to be inserted up towards the driver's side of the vehicle first.

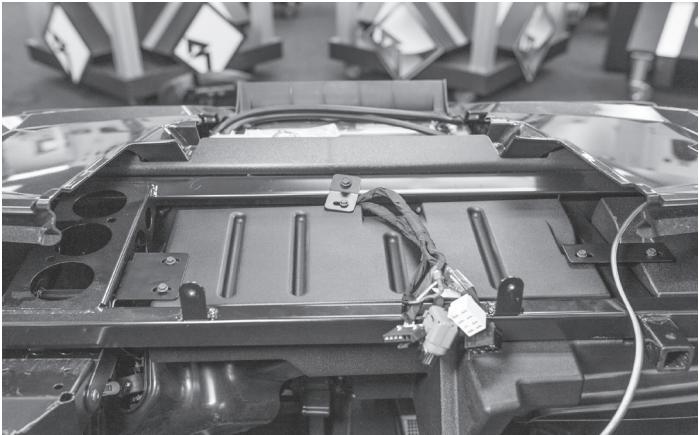


Line up the brackets with the mounting holes and insert supplied hardware into the enclosure's mounting holes. Keep everything hand tight until you get all of the hardware in place.



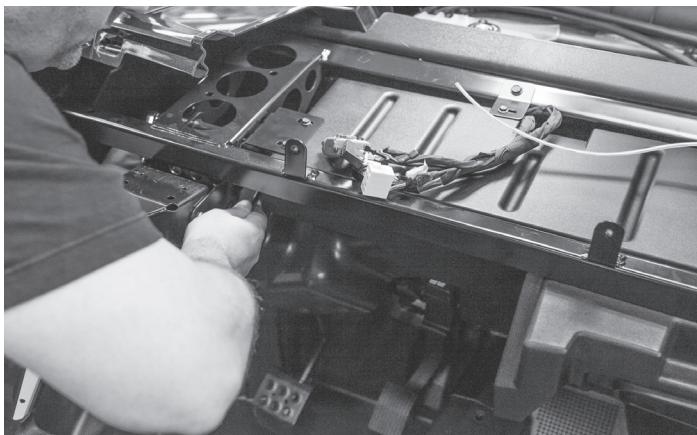
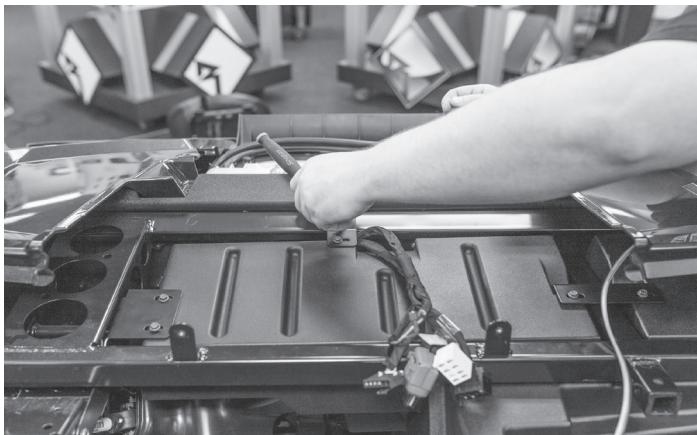
Step 10 - Install Grab Bar Enclosure Bracket

This next step requires another bracket to be mounted to the two holes where the factory glove box was mounted.



NOTE: The vehicle's wire harnesses that were removed from the dash top will go between the enclosure and the fire wall. There is a groove on the enclosure where the wires are to be routed.

NOTE: Due to the weight of the enclosure and subwoofer, an additional person to help is recommended.

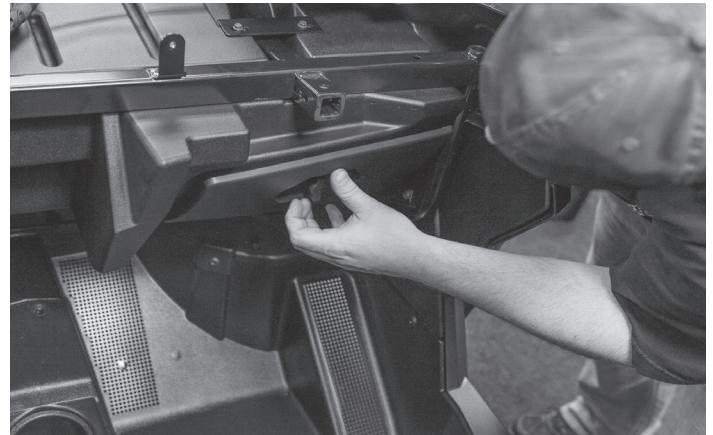


Once all of the hardware is in place, tighten all of the brackets down to the enclosure first, then to the chassis.



Step 12 - Install Glove Box Door

After all of the brackets are tight and secure, the glove box door will need to be installed onto the enclosure. Insert the door stud towards the passenger side retainer first, then insert the stud on the passenger side.



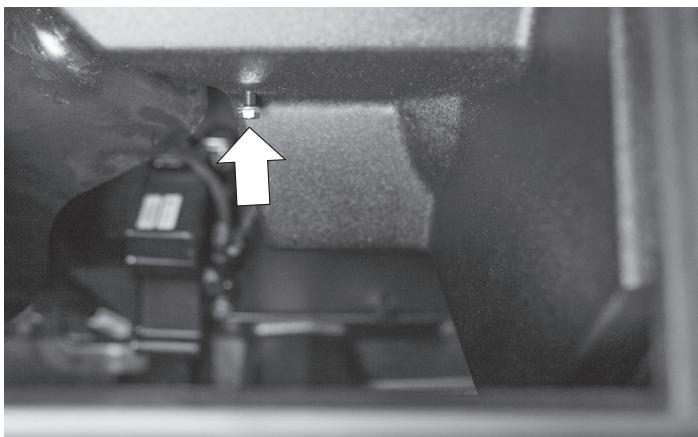
NOTE: The glove box latch mount that is pre installed on the enclosure is designed to work with 2015 and newer model latching systems. If you have a 2014 model, you will need to install the latch adapter onto the pre installed latch mount using the two supplied screws.

Installation



Step 13 - Install Dash

Now you can install the dash back into place.



Step 14 - Install Center Pocket

After you have the dash installed, the center pocket can go back in the vehicle. Be sure to slide the pocket support onto the new stud from the enclosure.

NOTE: This threaded stud replaces the factory installed center pocket bracket.

Step 15 - Install Top Dash, Hood and Grab Bar

You can reinstall the top dash panel, hood and grab bars after connecting your subwoofer to an amplifier. Using Rockford Fosgate's RFRZ-4KD dual amplifier installation kit is recommended but not necessary.

Warranty

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

POWER Amplifiers – 2 Years
BMW® Direct Fit Speakers – 2 Years
All other products - 1 Year
Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

Who is Covered

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is Not Covered

1. Damage caused by accident, abuse, improper operations, water, theft, shipping.
2. Any cost or expense related to the removal or reinstallation of product.
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center.
4. Any product which has had the serial number defaced, altered, or removed.
5. Subsequent damage to other components.
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer.

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, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

How to Obtain Service

Contact the Authorized Rockford Fosgate Dealer you purchased this product from. If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You must obtain an RA# (Return Authorization number) to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements, see your Authorized dealer for details.

Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech

Printed in China

1230-60159-01-A

010216

600 South Rockford Drive • Tempe, Arizona 85281 United States
Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



RZR® DUAL AMPLIFIER INSTALLATION KIT

RFRZ-K4D

Serial Number: _____

Date of Purchase: _____

Introduction

Dear Customer,

Congratulations on your purchase of the world's finest brand of audio products. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

Great product and competent installations are only a piece of the puzzle when it comes to your system. Make sure that your installer is using 100% authentic installation accessories from Rockford Fosgate in your installation. Rockford Fosgate has everything from RCA cables and speaker wire to power wire and battery connectors. Insist on it! After all, your new system deserves nothing but the best.

To add the finishing touch to your new Rockford Fosgate image order your Rockford accessories, which include everything from T-shirts to hats.

Visit our web site for the latest information on all Rockford products; www.rockfordfosgate.com

or, in the U.S. call 1-800-669-9899 or FAX 1-800-398-3985. For all other countries, call +001-480-967-3565 or FAX +001-480-966-3983.

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- 2 Introduction
- 3 Amplifier Bracket Assembly
- 4 Wire Harness Schematic
- 5-11 Installation
- 12 Warranty

If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at **1-800-669-9899**. Be sure to have your serial number, model number and date of purchase available when you call.

PRACTICE SAFE SOUND

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

Safety

This symbol with "WARNING" is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.

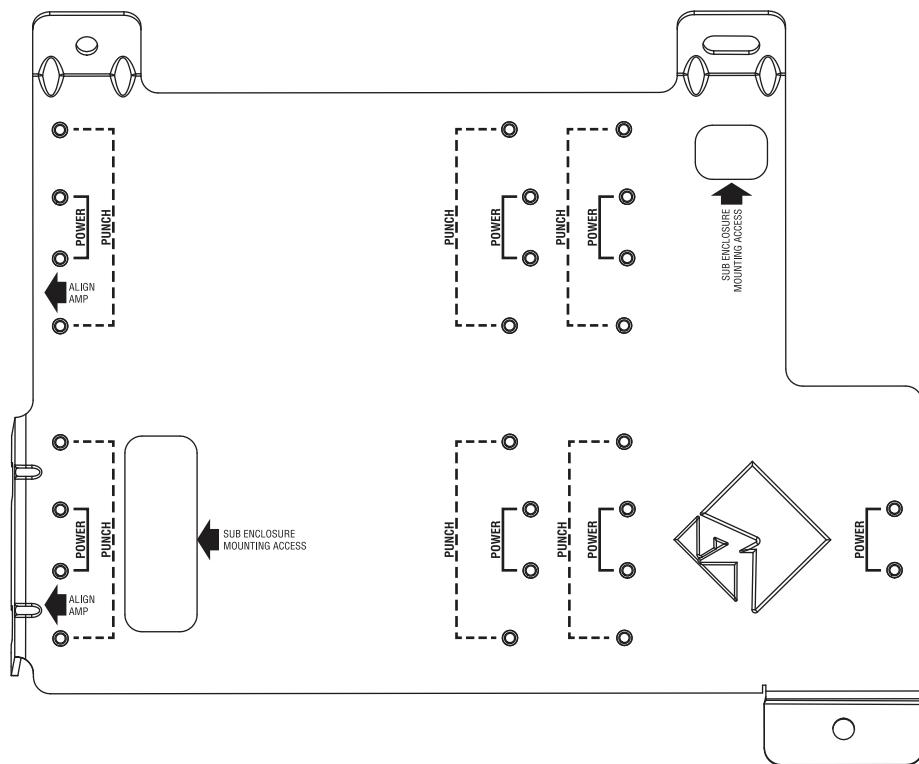


This symbol with "CAUTION" is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.

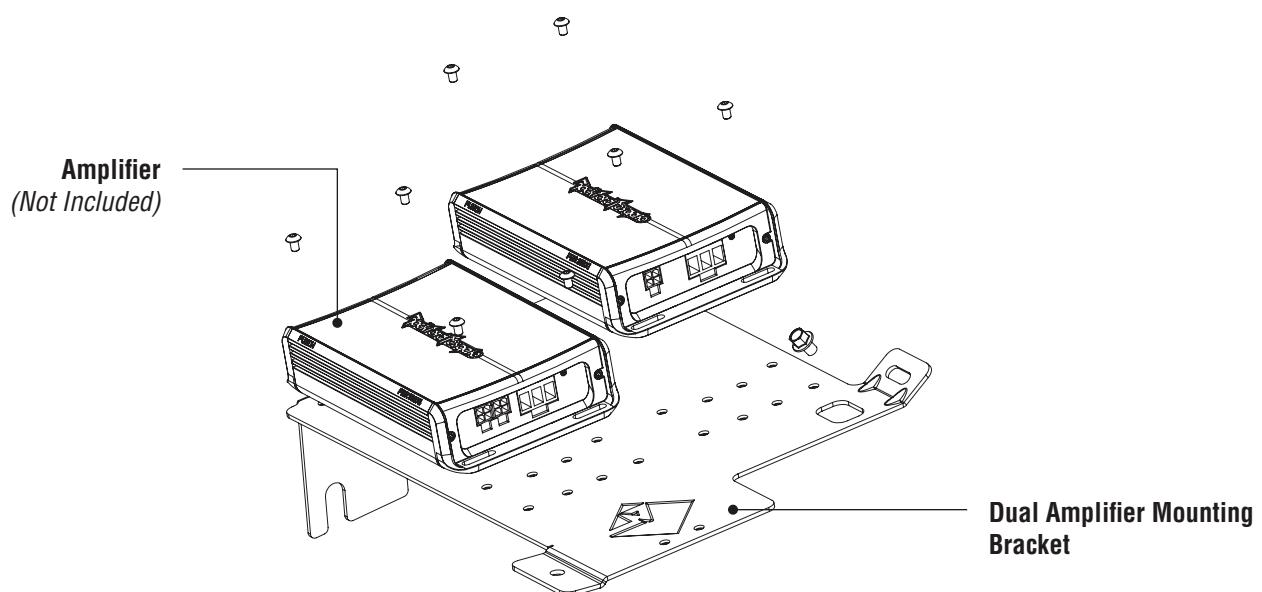


- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

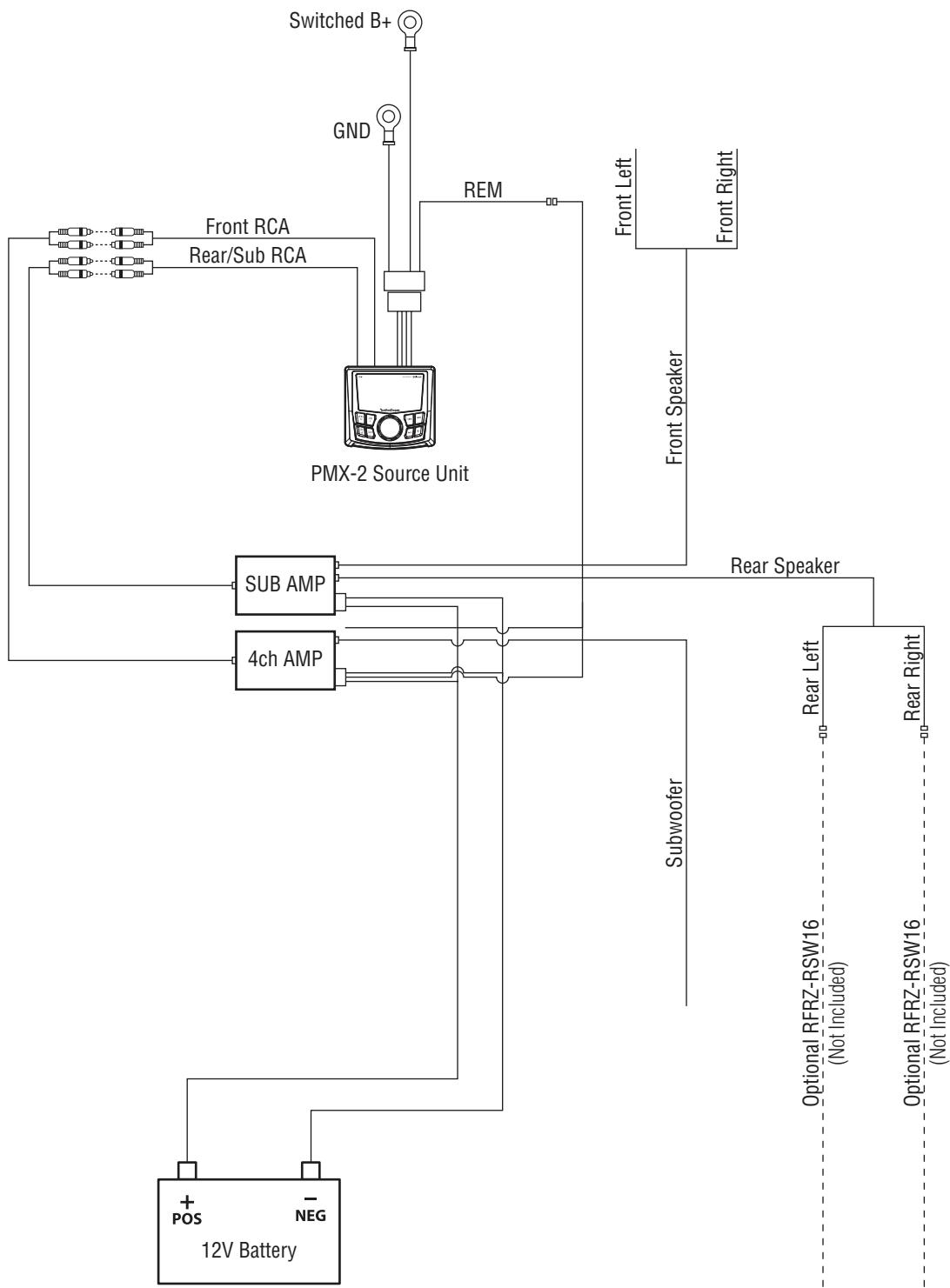
AMPLIFIER BRACKET



TYPICAL ASSEMBLY



Wire Harness Schematic



Contents

- (1) Amplifier Mounting Bracket
- (1) Main Power / Ground / Rear Speaker Harness w/ Fuse
- (1) Source Unit Power Harness
- (1) Front Speaker Harness
- (3) RCA Harnesses
- (2) Foam Tape Pads
- (1) Bolt / Screw Pack
- Plastic Wire Tie Wraps
- Installation Guide

Installation Tools

The following is a list of suggested tools needed for installation:

- Ratchet
- 15mm Socket / Wrench
- 13mm Socket / Wrench
- Torx - T40
- 5/32" Allen Wrench
- Small Flat Blade Screwdriver
- Wire Cutters

Installation Considerations

This section focuses on some considerations for installing your Polaris® RZR® Dual Amplifier Installation Kit. This manual will illustrate the installation process with a 2016 Polaris RZR XP4 Turbo.

If you feel unsure about installing this system yourself, have it installed by a qualified technician.

⚠ CAUTION

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

⚠ CAUTION

Before beginning any installation, follow these simple rules:

- Be sure to carefully read and understand the instructions before attempting to install this dual amplifier installation kit.
- Consult your UTV's service manual for model specific information. Models may differ from year to year depending on factory options and aftermarket accessories added.
- This dual amplifier installation kit is specifically designed to work with Rockford Fosgate's compact chassis Punch® and Power amplifiers.
- With the addition of an amplifier or source unit, be sure that your current charging system is in proper working order.
- Visit rockfordfosgate.com for more comprehensive installation videos and product information.

Applicable Models:

2014 and up RZR® XP/XP4 1000
2016 and up RZR® XP/XP4 Turbo
2015 and up RZR® S / XC / 4 900



The dual amplifier installation kit is designed to work with Rockford Fosgate's compact chassis Punch® and Power amplifiers, along with the RFRZ-RSW16 rear speaker wire kit.

Step 1 - Remove Hood

Twist the two hood latches and slide toward the front of the vehicle to release the hood.



Step 2 - Remove Top Dash Panel

Using your Torx screwdriver, unbolt the two factory bolts.



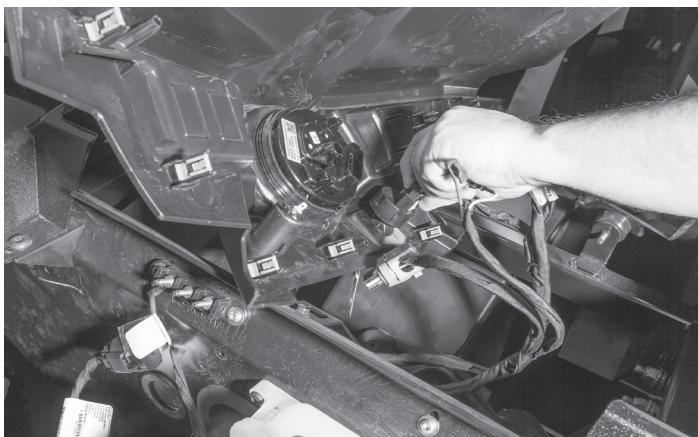
Installation



Using your hands, pull the top dash piece toward the interior of the vehicle to release it from the dash.



After the brace is disconnected from the center pocket, pull the pocket out of the dash.



Disconnect all of the wires connectors and set aside.



Step 4 - Remove Dash

Using your Torx screwdriver, remove the two bolts holding the dash onto the chassis. There are two and they are located above the center pocket.

Once the bolts are removed you will need to pull the dash off of the chassis.



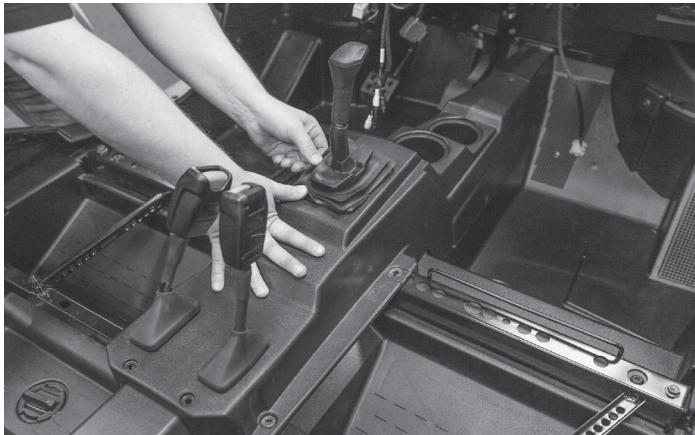
Step 3 - Remove Center Pocket

Using a Torx screwdriver, remove the bolt that attaches the brace to the rear of the pocket.

NOTE: This brace will need to be removed until the amplifier bracket gets installed.



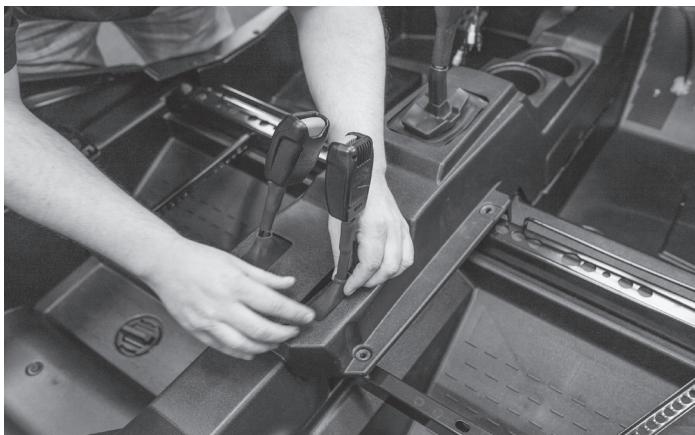
NOTE: When pulling the dash off you will notice that it still feels attached. It has several retaining clips on each side that are holding it in place. Just continue pulling toward the interior of the vehicle to release the dash from the chassis.



Step 5 - Remove Center Console

After all of the seats have been removed, you will need to remove the center consoles on the vehicle. This is necessary to route the wire harnesses down the vehicle.

NOTE: On the 4 seater that is shown, both the front and rear center consoles will be removed. For 2 seat vehicles, there is only one center console that needs to be removed.



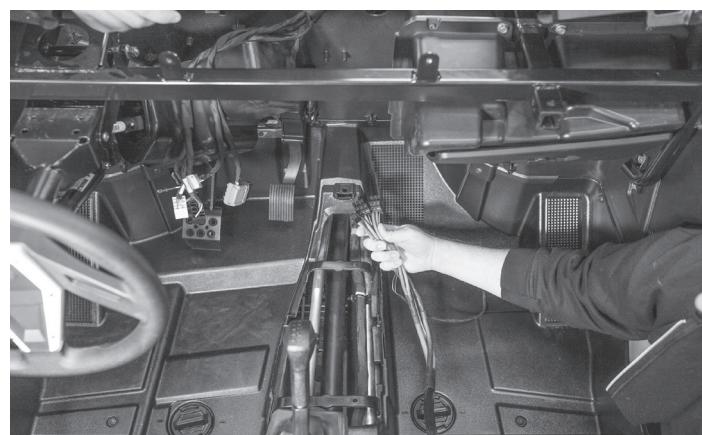
Disconnect the rubber boots on the shifter and seat belts by squeezing them inward to loosen them from the console.



Next remove the bolts and plastic retaining clips. Use a small flat blade screwdriver to pry the plug out of the retainer so it can be removed.

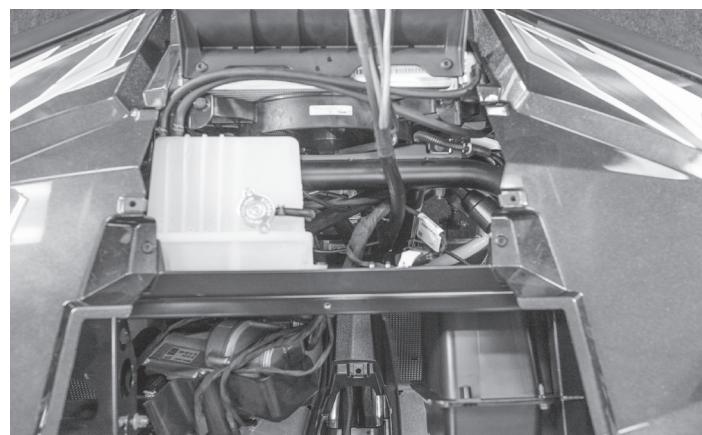


Next, remove the rear console if equipped (4 seater).



Step 6 - Routing Main Harness

Now that the center console is out of the way, take the main wire harness and place it through the fire wall (amplifier connectors side).

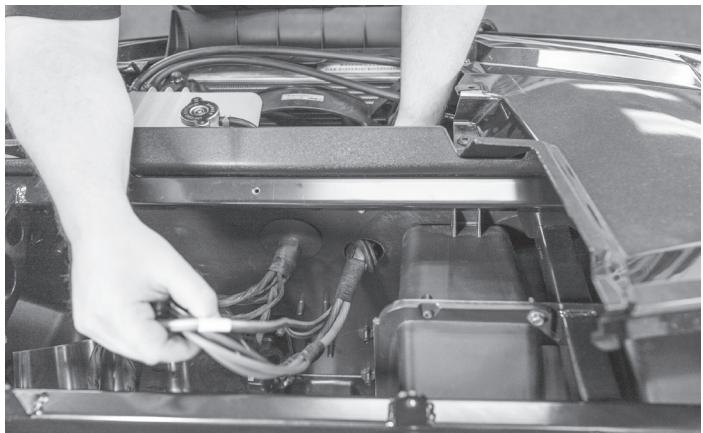


Once the wires are through, you will need to pull them up from the front of the vehicle.

Installation



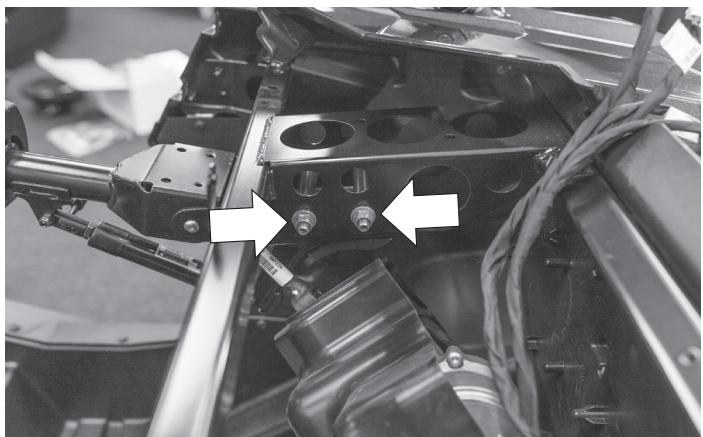
Remove the existing rubber grommet in the fire wall and cut along the score lines to open it up for the wire harness.



Pull the wire harness through to provide enough slack for when mounting the amplifiers.

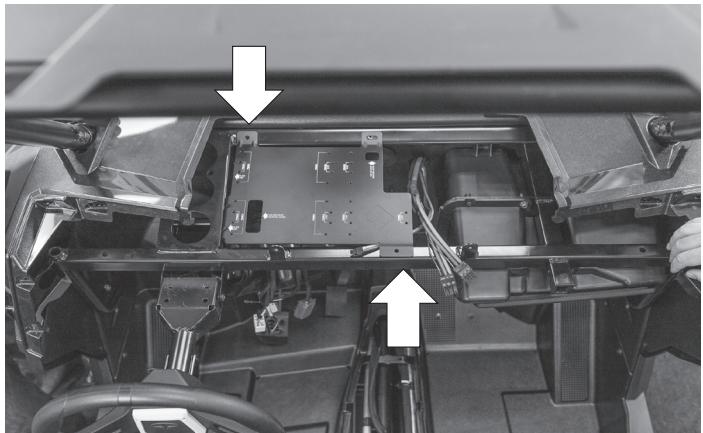


Place the grommet over the wire harness.



Step 7 - Install Amplifier Bracket

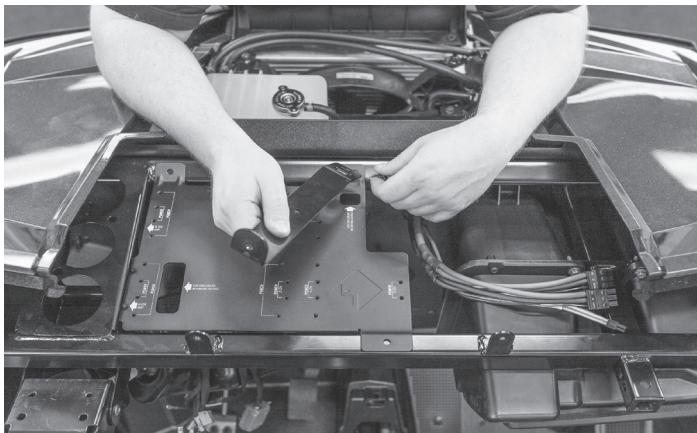
You will need to loosen the two nuts that are located above the steering column. These will hold one side of the bracket.



Lay the bracket on top of the dash bar and align the notches with the two bolts that were just loosened on the steering column.

NOTE: Before installing, apply foam pads to the bottom side of the bracket.

NOTE: All of the hardware should only be hand tightened. Leaving all of the fasteners loose will make installation process easier.



Now install the center pocket brace back into the vehicle in between the amplifier bracket and the fire wall support bar. Use the existing factory hardware.



Step 9 - Route Source Unit Power Harness

Next you will need to route the source unit power harness through the fire wall. Starting on the inside of the vehicle, take the end with the ring terminals and push them through the grommet where the main harness was just run.

NOTE: This harness is designed to work with Rockford Fosgate's PMX-2 Source Unit.



Connect the ring terminals to the factory accessory power distribution block. The power ring terminal gets connected to the ACC and the ground ring terminal gets mounted to the screw to the left.

NOTE: Some vehicle grounds are not connected at the distribution block from the factory. It is recommended connecting the ground to the screw like the picture above.

Tighten the two nuts on the steering column bracket.

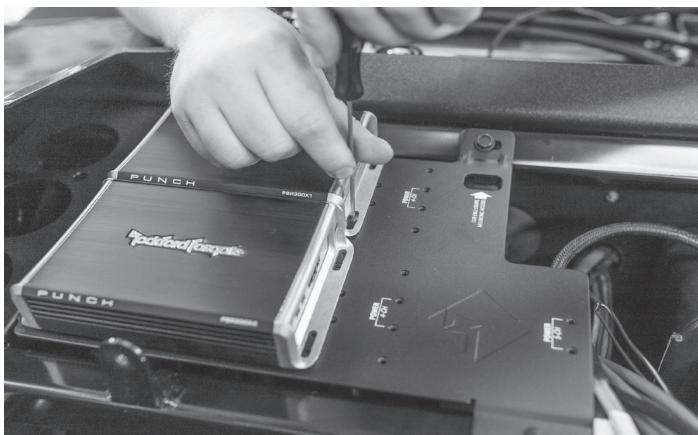


Step 8 - Route Front Speaker Wire Harness

Take the left front speaker harness and route it along the driver's side down tube. Next run the right front speaker harness down the passenger down tube behind the dash.

NOTE: It is recommended to run both front speaker harnesses through the down tubes when installing Rockford Fosgate's RFRZ-FSE front speaker pods.

Installation



Step 10 - Mount Amplifier(s)

Set the amplifier on top of the bracket and align it to the left. The bracket is labeled with indicators for the amplifier mounting screws. Simply slide the amplifier over to the left (driver's side) and line up the holes. Using the supplied hardware, secure the amplifier(s) to the bracket.



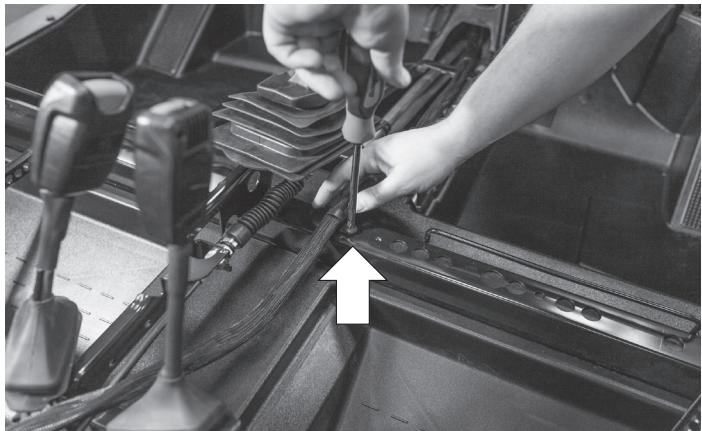
Step 11 - Connect Wires to Amplifier(s)

Each wire harness is labeled indicating what it is used for. Plug in each of the wire harnesses in to the amplifiers.



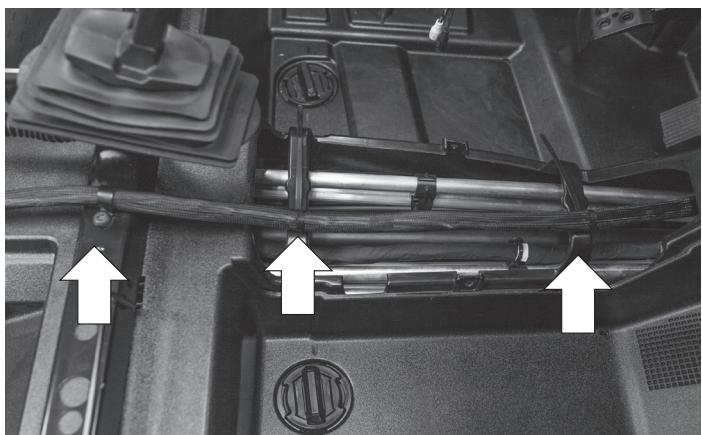
Plug in the RCA cables at this time as well. Route them in between the amplifier and the tab. Place the loose ends down toward the back of the center pocket location.

NOTE: Depending on the type of source unit being used. You may not use all three RCA cables that are included in the kit. If you are using the recommended PMX-2, you will only need to connect the Front and Sub RCAs to the appropriate amplifiers.

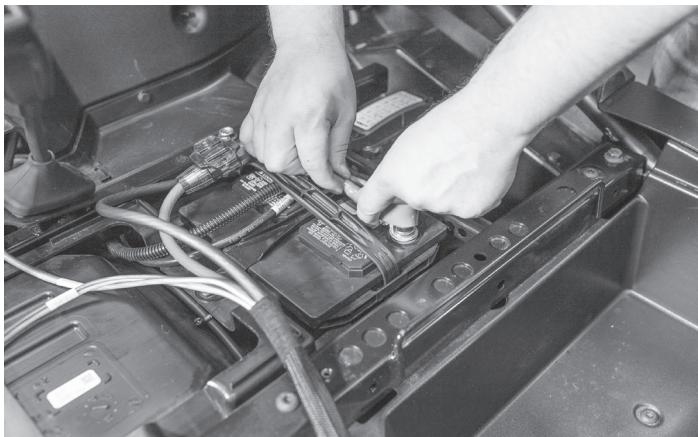


Step 12 - Attaching Main Wire Harness

Route the main harness to the passenger side of the shifter and between the seat belt latches. Using the plastic wire clip and wire ties, attach the harness to the chassis.

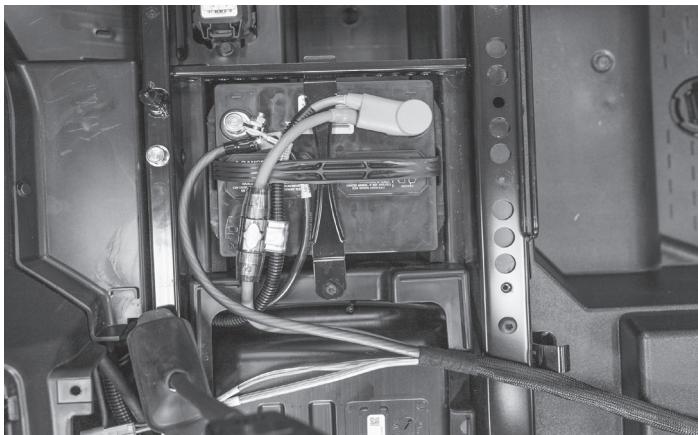


NOTE: Be careful to mount the wire harness on top of the center console supports so it will be clear of moving drive line components.

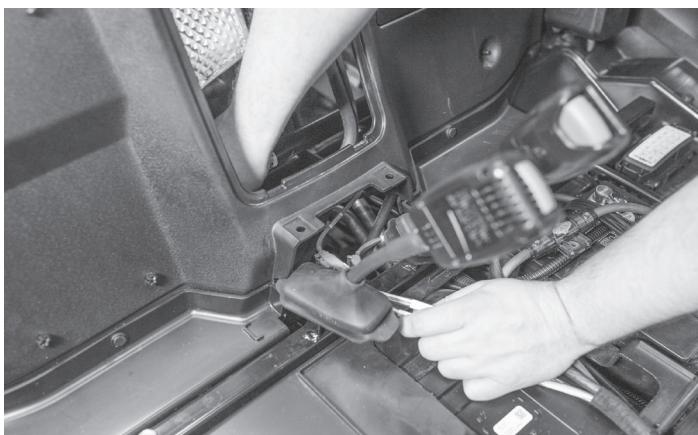


Step 13 - Connect to Battery

Once you have wire harness secured, connect the power and ground to the battery terminals.



NOTE: If you have a 2 seater, the wire harness will need to be bundled up and tie wrapped. Do not cut the harness. There is enough clearance with the extra wire length.



Step 14- Rear Speaker Connectors

This kit is designed to work with Rockford Fosgate's RFRZ-RSW16 rear speaker wire kit. If you are using the kit, you will route the under the rear access panel. If you are not using the kit, simply wire tie the harness out of the way of moving parts or heat.

Step 15 - Reassmble Vehicle

Once everything is secure, reassemble the vehicle. You will need to leave the top dash panel off so you can adjust the amplifiers. Once the system is tuned, install the top dash panel and hood.

Warranty

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

POWER Amplifiers – 2 Years
BMW® Direct Fit Speakers – 2 Years
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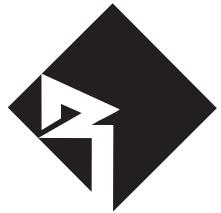
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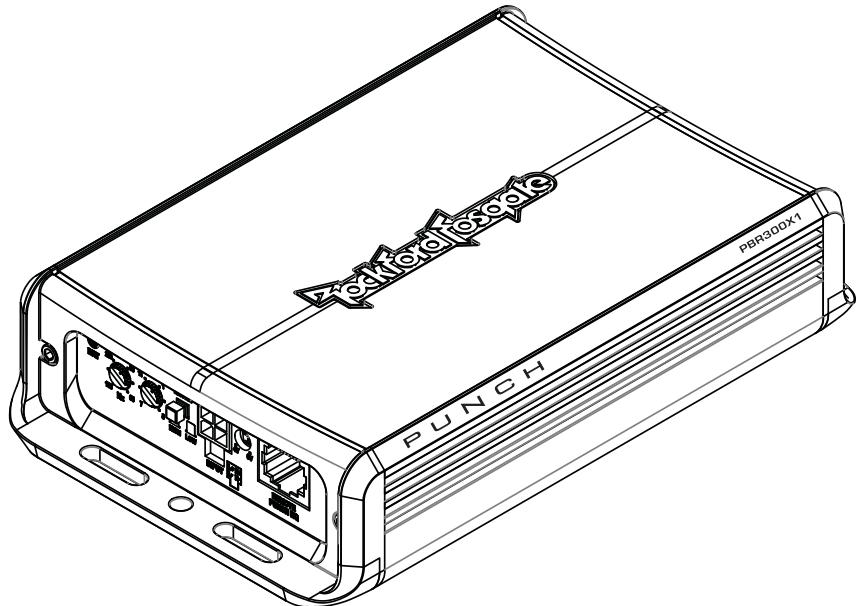
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Rockford Fosgate®



P U N C H™

BOOSTED RAIL Mono AMPLIFIER
PBR300X1

**Installation
& Operation**

Installation et fonctionnement
Instalación y funcionamiento
Einbau und Betrieb
Installazione e funzionamento

INTRODUCTION

Dear Customer,

Congratulations on your purchase of the world's finest brand of car audio amplifiers. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

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The serial number can be found on the outside of the box. Please record it in the space provided below as your permanent record. This will serve as verification of your factory warranty and may become useful in recovering your unit if it is ever stolen.

Serial Number: _____

Model Number: _____

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NOTE: Review each section for more detailed information.

GETTING STARTED

Welcome to Rockford Fosgate! This manual is designed to provide information for the owner, salesperson and installer. For those of you who want quick information on how to install this product, please turn to the **Installation Section** of this manual. Other information can be located by using the Table of Contents. We, at Rockford Fosgate, have worked very hard to make sure all the information in this manual is current. But, as we are constantly finding new ways to improve our product, this information is subject to change without notice.

SAFETY INSTRUCTIONS

WARNING

This symbol with “**WARNING**” is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.

CAUTION

This symbol with “**CAUTION**” is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.



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CONTENTS OF CARTON

Punch Boosted Rail Mono PBR300X1
Amplifier

Installation & Operation Manual

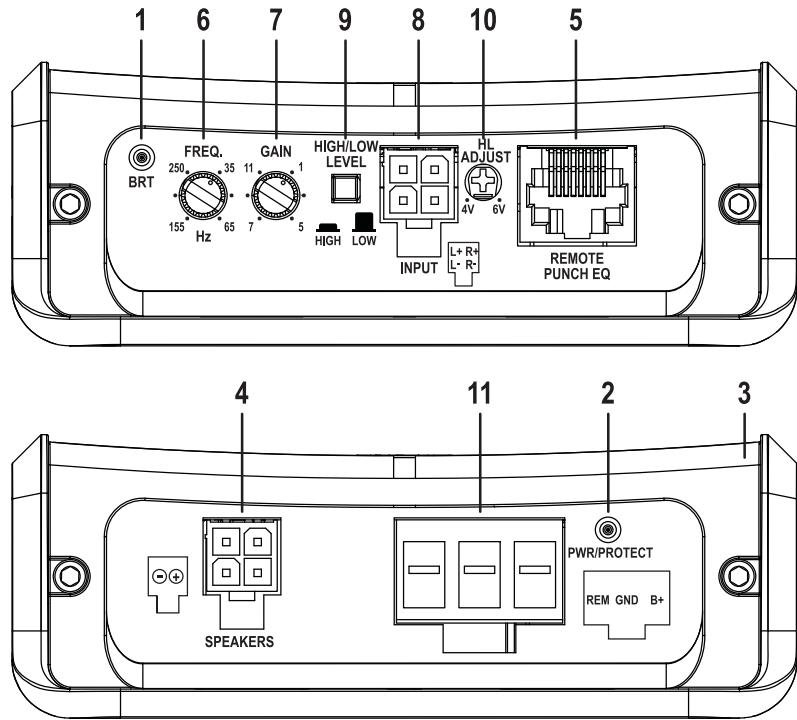
Mounting Hardware Kit

The hardware kit included with each amplifier contains the mounting hardware necessary to secure the amplifier to the vehicle.

Visit our web site for the latest information on all Rockford products.

www.rockfordfosgate.com

DESIGN FEATURES



1. **BRT(Boosted Rail Technology) LED** – This LED illuminates when the unit is in boost mode.
2. **Power/Protect LED** – This LED illuminates Blue when the unit is turned on and Red if a short circuit/low impedance is detected at the speaker connections or the amplifier's internal components become too hot engaging the protection. The amplifier will shut down to cool if this occurs.
3. **Extruded Aluminum Heatsink** – The extruded aluminum heatsink of the Punch amplifier dissipates heat generated by the amplifier's circuitry.
4. **Speaker Harness Connection (Output)** – The Molex connection port for the mating + and - speaker harness.
5. **Remote Punch EQ (Optional Controller)** – The Remote Punch EQ connection is made with a RJ-45 cable and can be installed in a variety of ways for easy control access. The control is used to boost low and/or high frequency information to overcome road noise.

NOTE: Punch EQ2 circuit is only active with the use of the OPTIONAL Remote Punch EQ.
(RF Model# - PEQ)

6. **Variable Crossover** – Is a built-in 12dB/octave Butterworth filter with a crossover point variable from 35Hz to 250Hz.
7. **Gain Control** – The input gain control is preset to match the output of most source units. It can be adjusted to match output levels from a variety of source units.
8. **RCA/Speaker Harness Connection (Input)** – The Molex connection port for the mating RCA/Speaker harness.
9. **High/Low Level Switch** – Allows for the selection of either High Level(Speaker) or Low Level(RCA) connection for the Input.
10. **Variable High Level Adjustment** – With the High Level Switch engaged a variable 4V to 6V DC(Direct Current) offset voltage input can be set.
11. **Power Terminals** – The Molex connection port for the mating Remote/Ground/Power plug.

INSTALLATION CONSIDERATIONS

The following is a list of tools needed for installation:

Fuse-holder and fuse. (See specifications for fuse rating)	Wire cutters	Assorted connectors
Volt/Ohm Meter	#1 Standard screwdriver	Adequate Length—Power Wire
Wire strippers	Battery post wrench	Adequate Length—Remote Turn-on Wire
Wire crimpers	Hand held drill w/assorted bits	Adequate Length—Ground Wire
	1/8" diameter heatshrink tubing	

NOTE: We recommend a 10 AWG wire for use on the power (B+) and ground (GND) connections.

This section focuses on some of the vehicle considerations for installing your new amplifier. Pre-planning your system layout and best wiring routes will save installation time. When deciding on the layout of your new system, be sure that each component will be easily accessible for making adjustments.

 **CAUTION:** If you feel unsure about installing this system yourself, have it installed by a qualified technician.

 **CAUTION:** Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

Before beginning any installation, follow these simple rules:

1. Be sure to carefully read and understand the instructions before attempting to install the unit.
2. For safety, disconnect the negative lead from the battery prior to beginning the installation.
3. For easier assembly, we suggest you run all wires prior to mounting your unit in place.
4. Route all of the RCA cables close together and away from any high current wires.
5. Use high quality connectors for a reliable installation and to minimize signal or power loss.
6. Think before you drill! Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle.
7. Never run wires underneath the vehicle. Running the wires inside the vehicle provides the best protection.
8. Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through metal, especially the firewall.
9. ALWAYS protect the battery and electrical system from damage with proper fusing. Install the appropriate fuse holder and fuse on the +12V power wire within 18" (45.7 cm) of the battery terminal.
10. When grounding to the chassis of the vehicle, scrape all paint from the metal to ensure a good, clean ground connection. Grounding connections should be as short as possible and always be connected to metal that is welded to the main body, or chassis, of the vehicle.

MOUNTING LOCATIONS

Engine Compartment

Never mount this unit in the engine compartment. Mounting the unit in the engine compartment will void your warranty.

Trunk Mounting

Mounting the amplifier vertically or inverted will provide adequate cooling of the amplifier.

Mounting the amplifier on the floor of the trunk will provide the best cooling of the amplifier.

Passenger Compartment Mounting

Mounting the amplifier in the passenger compartment will work as long as you provide a sufficient amount of air for the amplifier to cool itself. If you are going to mount the amplifier under the seat of the vehicle, you must have at least 1" (2.54cm) of air gap around the amplifier's heatsink.

Mounting the amplifier with less than 1" (2.54cm) of air gap around the amplifier's heatsink in the passenger compartment will not provide proper cooling and will severely affect the performance of the amplifier and is strongly not recommended.

INSTALLATION

BATTERY AND CHARGING

Amplifiers will put an increased load on the vehicle's battery and charging system. We recommend checking your alternator and battery condition to ensure that the electrical system has enough capacity to handle the increased load of your stereo system. Stock electrical systems which are in good condition should be able to handle the extra load of any Punch Series amplifier without problems, although battery and alternator life can be reduced slightly. To maximize the performance of your amplifier, we suggest the use of a heavy duty battery and an energy storage capacitor.

WIRING THE SYSTEM

! CAUTION: If you do not feel comfortable with wiring your new unit, please see your local Authorized Rockford Fosgate Dealer for installation.

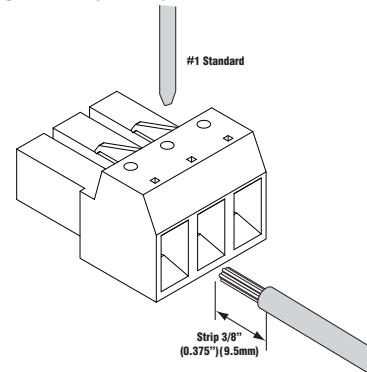
! CAUTION: Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

! CAUTION: Avoid running power wires near the low level input cables, antenna, power leads, sensitive equipment or harnesses. The power wires carry substantial current and could induce noise into the audio system.

1. Plan the wire routing. Keep RCA cables close together but isolated from the amplifier's power cables and any high power auto accessories, especially electric motors. This is done to prevent coupling the noise from radiated electrical fields into the audio signal. When feeding the wires through the firewall or any metal barrier, protect them with plastic or rubber grommets to prevent short circuits. Leave the wires long at this point to adjust for a precise fit at a later time.

NOTE: We recommend a 10 AWG wire for use on the power (B+) and ground (GND) connections.

2. Prepare the RED wire (power cable) for attachment to the amplifier by stripping 3/8" of insulation from the end of the wire. Insert the bared wire into the B+ terminal and tighten the set screw to secure the cable in place.



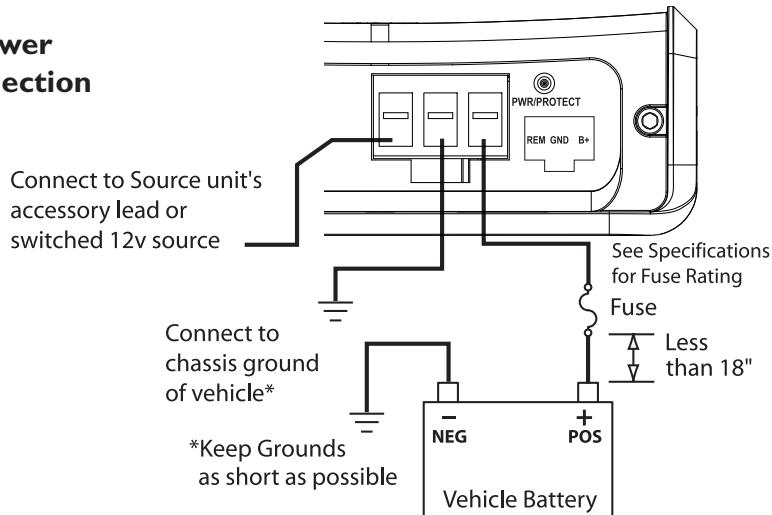
NOTE: The B+ cable MUST be fused 18" or less from the vehicle's battery. Install the fuseholder under the hood and ensure connections are water tight.

3. Trim the RED wire (power cable) within 18" of the battery and splice in a inline fuse holder (not supplied). See Specifications for the rating of the fuse to be used. **DO NOT install the fuse at this time.**
4. Strip 1/2" from the battery end of the power cable and crimp a large ring terminal to the cable. Use the ring terminal to connect to the battery positive terminal.
5. Prepare the BLACK wire (Ground cable) for attachment to the amplifier by stripping 3/8" of insulation from the end of the wire. Insert the bare wire into the GROUND terminal and tighten the set screw to secure the cable in place. Prepare the chassis ground by scraping any paint from the metal surface and thoroughly clean the area of all dirt and grease. Strip the other end of the wire and attach a ring connector. Fasten the cable to the chassis using a non-anodized screw and a star washer.

NOTE: Keep the length of the BLACK wire (Ground) as short as possible. Always less than 30" (76.2cm).

6. Prepare the Remote turn-on wire for attachment to the amplifier by stripping 3/8" of insulation from the end of the wire. Insert the bared wire into the REMOTE terminal and tighten the set screw to secure the wire in place. Connect the other end of the Remote wire to a switched 12 volt positive source. The switched voltage is usually taken from the source unit's remote amp on lead. If the source unit does not have this output available, the recommended solution is to wire a mechanical switch in line with a 12 volt source to activate the amplifier.

Power Connection

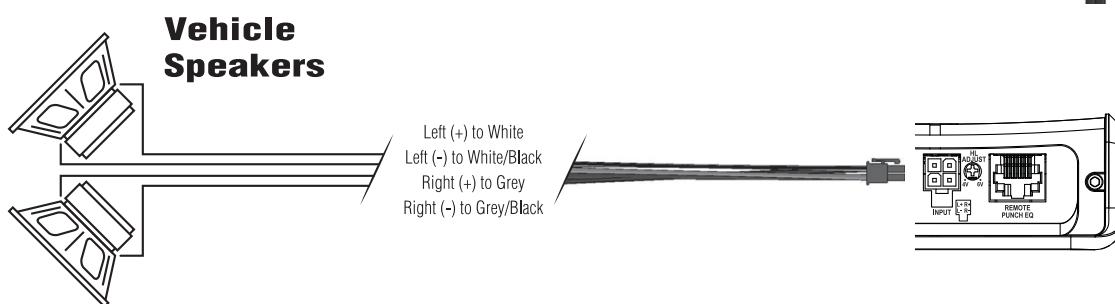


7. Securely mount the amplifier to the vehicle or amp rack. Be careful not to mount the amplifier on cardboard or plastic panels. Doing so may enable the screws to pull out from the panel due to road vibration or sudden vehicle stops.
8. Connect from source signal by plugging the RCA cables into the RCA/Speaker Harness input jacks, then insert the four pin Molex connector into the mating four pin INPUT connector at the amplifier.

From Source Unit



NOTE: When the installation requires a High Level(Speaker) input, the RCA/Speaker Harness will need to be cut on the speaker wire side of the y-splitter. Then connect the white to the left(+), white/black to the left(-), grey to the right(+), and grey/black to the right(-) corresponding vehicle wires.



CAUTION: Always ensure power is off or disconnected at the amplifier before connecting RCA cables. Failure to do so may cause injury, damage to the amplifier and/or connected components.

9. Connect the speakers. Strip the speaker wires 1/2" and connect to the Speaker Wire Harness, then insert the four pin Molex connector into the mating four pin SPEAKER connector at the amplifier. Be sure to maintain proper speaker polarity. DO NOT chassis ground any of the speaker leads as unstable operation may result.
10. Perform a final check of the completed system wiring to ensure that all connections are accurate. Check all power and ground connections for frayed wires and loose connections which could cause problems. Install inline fuse near battery connection.

NOTE: Follow the diagrams for proper signal polarity.

OPERATION

REMOTE PUNCH EQ (Option)

NOTE: Previous (prior to 2007) Punch Bass and Para-Punch remotes will not work with these amplifiers.

NOTE: Use the instructions that came with the remote for a variety of mountings that fit your preference.

Quick Install

1. Using the screws supplied, install the mounting clip.
2. Slip the remote onto the mounting clip until it snaps into place.
3. Route and connect the cable to the remote and amplifier.

Operation

4. Variable bass boost centered at 45Hz.

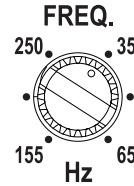
NOTE: Connecting the optional remote overrides the Punch EQ control on the amplifier.

! CAUTION: Overexcursion and subsequent damage may occur at high levels of boost.

ADJUSTING CROSSOVER FREQUENCY

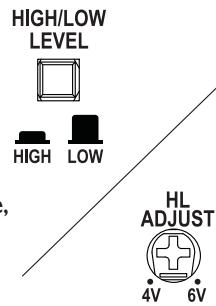
The crossover is set to Low Pass only, enabling frequencies below the cut-off point to pass, adjustable between 35-250Hz.

Turn the crossover adjustment knob to the minimum setting. With the system playing, turn the crossover adjustment knob up slowly until the desired crossover point is achieved.



VARIABLE HIGH LEVEL ADJUSTMENT

For a high level(speaker) input application the High/Low Level Switch needs to set to High.



With the switch set to High, utilizing a 6V DC(Direct Current) offset voltage, the Punch Boosted Rail amplifier can be turned on/off allowing the REM to be used as an output to turn on/off an amplifier or other accessory.

The variable high level adjustment can be used to delay the turn on eliminating induced noise, turn on/off pop.



ADJUSTING GAIN

To adjust the gain setting, turn the amplifier gains all the way down (counter-clockwise). Turn the source unit volume up until distortion is audible and then turn it down a bit until the distortion is inaudible. This will be about all the way up on most source units. Next, increase the amplifier gain setting until adequate volume is achieved.

NOTE: Best signal to noise and dynamic range are realized with the gain at minimum. Most users find adequate gain and volume is achieved at about halfway in the adjustment range.

! CAUTION: Avoid setting the amplifier gain very high as noise and distortion will increase significantly.

NOTE: For a more in depth setting procedure, contact Rockford Technical Support.

NOTE: If you are having problems after installation follow the Troubleshooting procedures below.

Procedure 1: Check Amplifier for proper connections.

Verify that POWER light is on. If POWER light is on skip to Step 3, if not continue.

1. Check in-line fuse on battery positive cable. Replace if necessary.
2. Verify that Ground connection is connected to clean metal on the vehicle's chassis. Repair/replace if necessary.
3. Verify there is 9 to 16 Volts present at the positive battery and remote turn-on cable. Verify quality connections for both cables at amplifier, stereo, and battery/fuseholder. Repair/replace if necessary.

Procedure 2: Protect light is on.

1. This is a sign of a possible short in the speaker connections. Check for proper speaker connections and use an ohm meter to check for possible shorts in the speaker wiring. Too low of a speaker impedance may also cause Protect to light.
2. In the event that the speaker connections are not the issue, check for proper speaker impedance and rewire if needed. This can also be a sign of driving the amplifier at very high power levels without adequate airflow around the amplifier. Shut off the system and allow amplifier to cool. Check that the vehicle charging system is maintaining proper voltage. If the previous items do not solve the problem, a fault may be in the amplifier, call customer service for support.

Procedure 3: Check Amplifier for audio output.

1. Verify good RCA/Speaker input connections at stereo and amplifier. Check entire length of cables for kinks, splices, etc. Test RCA/Speaker inputs for AC volts with stereo on. Repair/replace if necessary.
2. Disconnect RCA/Speaker input from amplifier. Connect RCA/Speaker input from test stereo directly to amplifier input.

Procedure 4: Check Amplifier if you experience Turn-on Pop.

1. Disconnect input signal to amplifier and turn amplifier on and off.
2. If the noise is eliminated, connect the REMOTE lead of amplifier to source unit with a delay turn-on module.

OR

1. Use a different 12 Volt source for REMOTE lead of amplifier (i.e. battery direct).
2. If the noise is eliminated, use a relay to isolate the amplifier from noisy turn-on output.

OR

1. In a high level(speaker) input application the Variable High Level Adjustment can be used to delay the turn on eliminating turn on/off pop.

Procedure 5: Check Amplifier if you experience excess Engine Noise.

1. Route all signal carrying wires (RCA, Speaker cables) away from power and ground wires.

OR

2. Bypass any and all electrical components between the stereo and the amplifier(s). Connect stereo directly to input of amplifier. If noise goes away the unit being bypassed is the cause of the noise.

OR

3. Remove existing ground wires for all electrical components. Reground wires to different locations. Verify that grounding location is clean, shiny metal free of paint, rust etc.

OR

4. Add secondary ground cable from negative battery terminal to the chassis metal or engine block of vehicle.

OR

5. Have alternator and battery load tested by your mechanic. Verify good working order of vehicle electrical system including distributor, spark plugs, spark plug wires, voltage regulator etc.

SPECIFICATIONS

MODEL- PUNCH

PBR300X I

Continuous Power Rating (RMS) - Measured at 14.4 Battery Volts

4Ω Load Mono	75 Watts x 1
2Ω Load Mono	150 Watts x 1
1Ω Load Mono	300 Watts x 1
Dimensions:	
Height	1.53" (3.90cm)
Width	4.25" (10.8cm)
Length	6.75" (17.2cm)
External Battery Fuse Rating	30A
“A” Weighted Signal to Noise Ratio Referenced to 1 Watt into 4 ohms	≥ 85 dB
“A” Weighted Signal to Noise Ratio Referenced to rated output into 4 ohms	≥ 105 dB
Crossover Slope	12dB/octave Butterworth
Crossover Frequency	variable from 35Hz to 250Hz
Frequency Response	20Hz to 250Hz ±1.0dB
Signal Voltage Adjustment Range(RCA Input)	Variable from 150mV to 4V
Signal Voltage Adjustment Range(Speaker Input)	Variable from 400mV to 11V
Protection	Short circuit protection shut downs the amplifier in case of very low impedance, shorted speaker wires, or shuts down the amplifier in case of overheating.
Equalization PEQ (Punch Equalization)	Variable from 0dB to +18dB @ 45Hz
Input Impedance	20K ohms
Operating Voltage	9 to 16 Volts DC
CMRR (Common Mode Rejection Ratio)	>55dB @ 1kHz
Damping Factor	>200
THD+N (Total Harmonic Distortion+Noise)	< 0.2% @ 4 ohm
These specifications are Amplifier Power Standard CEA-2006 Compliant	

Specifications subject to change without notice

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

Source Units, Speakers, Signal Processors and PUNCH Amplifiers – 1 Year

POWER Amplifiers – 2 Years

Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

Who is Covered

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is Not Covered

1. Damage caused by accident, abuse, improper operations, water, theft, shipping
2. Any cost or expense related to the removal or reinstallation of product
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center
4. Any product which has had the serial number defaced, altered, or removed
5. Subsequent damage to other components
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer

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, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

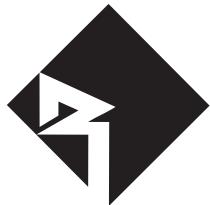
How to Obtain Service

Contact the Authorized Rockford Fosgate Dealer you purchased this product from.

If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You **must** obtain an **RA# (Return Authorization number)** to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements, see your Authorized dealer for details.



Rockford Fosgate®

Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech



Rockford Fosgate
Rockford Corporation
546 South Rockford Drive
Tempe, Arizona 85281 U.S.A.
In U.S.A., (480) 967-3565 - Customer Service 1-800-669-9899

www.rockfordfosgate.com

AMPLIFIER



Performance Verification Certificate

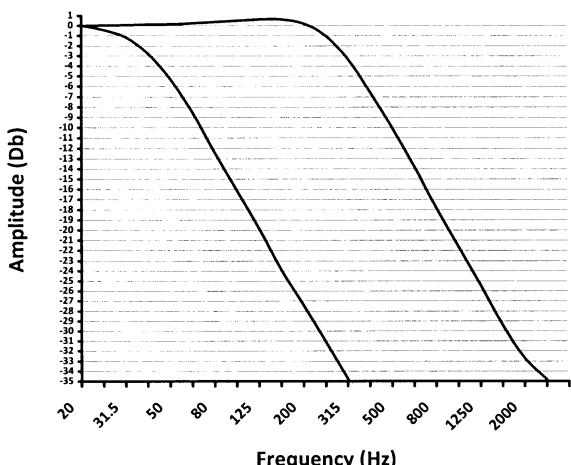
Model : PBR300X1 Rated Power : 300 Watts
Serial # : [REDACTED] Tested By : JASON BAKER
Birth Date : 02/16/2011

Engineering Inspection Data

CEA Test Voltage:	+14.4V	Actual Power
Channel Separation:	N/A	
THD+N @ Rated Power:	0.161 %	95 X 1 @ 4 Ohms
Frequency Response:	PASS	178 X @ 2 Ohms
Speaker Short Protection:	PASS	308 X @ 1 Ohms
Thermal Management:	PASS	
Punch® EQ Circuit:	PASS	
Final Inspection:	PASS	

Specifications

Crossover Frequency Response



Total RMS Power

308

Power measured in accordance with CEA-2006 Specifications.

Max Power: 924 Watts

MAX POWER DISCLAIMER: ALL Rockford Fosgate PUNCH series amplifiers are designed, developed, manufactured and tested in accordance with CEA-2006 amplifier rating requirements. Rockford Fosgate provides a Max Power rating for comparison purposes only. When comparing Rockford Fosgate PUNCH series amplifiers to other brands that adhere to the CEA-2006 requirements, use the Total RMS Power measurement. When comparing Rockford Fosgate amplifiers to brands that fail to meet the CEA-2006, use the Max Power number. Either way Rockford Fosgate Wins!

This Rockford Fosgate amplifier has been tested using state of the art equipment to ensure that it meets or exceeds its rated specifications.

Are You Engineered to Rock, Or Wired for Stock?

Get a One Year Extended Warranty when you use matching Rockford Fosgate or Lightning Audio Amplifier Installation kit with this Amplifier!

We want you to get the performance and reliability that made Rockford Fosgate Amplifiers Famous. Using poor-quality under-spec wiring is a guaranteed way to get less than you paid for from your system.

We are so certain that getting your system wired to rock with the right wire and cables will make a difference, that we will give you an additional 1 year warranty on your amp when you use the matching amplifier installation kit. See your dealer to determine the matching kit for this amplifier.

To extend your warranty under this program attach the amplifier installation kit serial number sticker or the UPC code removed from the original amplifier installation kit package in the box below. Keep this form along with your original purchase receipt.

One warranty extension per amplifier regardless of the number of amplifier kits purchased.

What is covered:

This warranty applies only to Rockford Fosgate products sold to customers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country is covered only by the country's Distributor and not by Rockford Corporation.

Who is covered:

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase. Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is not covered:

1. Damage caused by accident, abuse, improper operations, water, theft, shipping
2. Any cost or expense related to the removal or reinstallation of product
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center
4. Any product which has had the serial number defaced, altered, or removed
5. Subsequent damage to other components
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer

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 in the length of an implied warranty, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

How to Obtain Service Under the Extended Warranty Program:

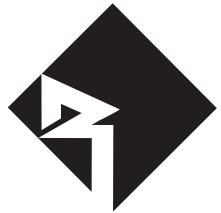
The amplifier must be returned by the customer (you) or an authorized Rockford Fosgate retailer with a copy of the original receipt and the ORIGINAL Performance Verification Certificate with the amplifier installation kit serial number sticker, or the UPC code from the original amplifier installation kit package, attached.

Contact the Authorized Rockford Fosgate Dealer you purchased this product from. If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You must obtain an RA# (Return Authorization number) to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

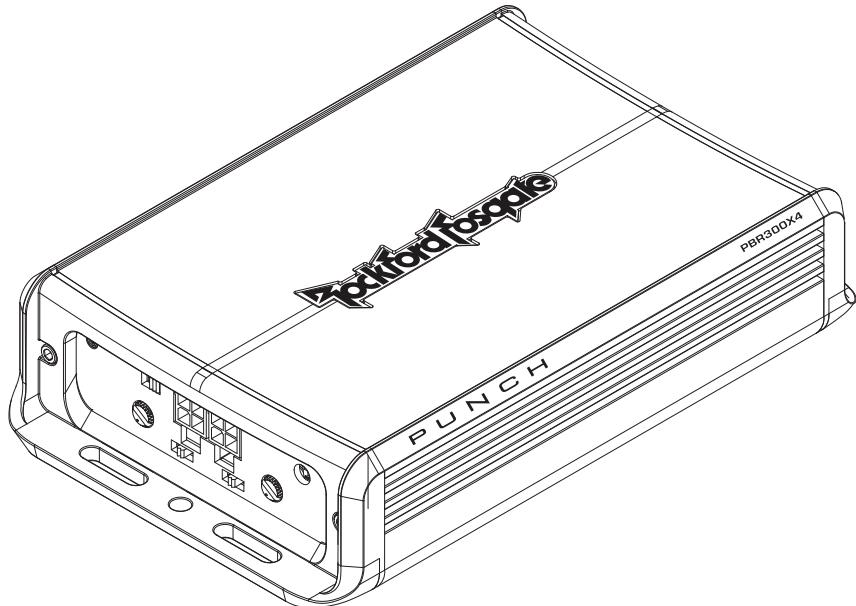
EU Warranty

This product meets the current EU warranty requirements; see your Authorized dealer for details.
"This Additional One-Year Warranty" is only available where allowed under local laws.

Attach Amplifier Installation Kit
Serial Number or UPC Code
from original packaging here.



Rockford Fosgate®



P U N C H™

BOOSTED RAIL 4 CHANNEL AMPLIFIER

PBR300X4

Installation & Operation

Installation et fonctionnement
Instalación y funcionamiento
Einbau und Betrieb
Installazione e funzionamento

INTRODUCTION

Dear Customer,

Congratulations on your purchase of the world's finest brand of car audio amplifiers. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

Great product and competent installations are only a piece of the puzzle when it comes to your system. Make sure that your installer is using 100% authentic installation accessories from Rockford Fosgate in your installation. Rockford Fosgate has everything from RCA cables and speaker wire to Power line and battery connectors. Insist on it! After all, your new system deserves nothing but the best.

To add the finishing touch to your new Rockford Fosgate image order your Rockford accessories, which include everything from T-shirts to jackets and hats.

To get a free brochure on Rockford Fosgate products and Rockford accessories,

visit our web site at: www.rockfordfosgate.com

or, in the U.S. call 1-800-669-9899 or FAX 1-800-398-3985.

For all other countries, call +001-480-967-3565 or FAX +001-480-967-8132.

PRACTICE SAFE SOUND™

Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered auto sound systems may produce sound pressure levels well over 130dB. Use common sense and practice safe sound.

If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at 1-800-669-9899. Be sure to have your serial number, model number and date of purchase available when you call.

The serial number can be found on the outside of the box. Please record it in the space provided below as your permanent record. This will serve as verification of your factory warranty and may become useful in recovering your unit if it is ever stolen.

Serial Number: _____

Model Number: _____

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NOTE: Review each section for more detailed information.

GETTING STARTED

Welcome to Rockford Fosgate! This manual is designed to provide information for the owner, salesperson and installer. For those of you who want quick information on how to install this product, please turn to the **Installation Section** of this manual. Other information can be located by using the Table of Contents. We, at Rockford Fosgate, have worked very hard to make sure all the information in this manual is current. But, as we are constantly finding new ways to improve our product, this information is subject to change without notice.

SAFETY INSTRUCTIONS

WARNING

This symbol with “**WARNING**” is intended to alert the user to the presence of important instructions. Failure to heed the instructions will result in severe injury or death.

CAUTION

This symbol with “**CAUTION**” is intended to alert the user to the presence of important instructions. Failure to heed the instructions can result in injury or unit damage.



CAUTION: To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.



CAUTION: If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.



CAUTION: Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

CONTENTS OF CARTON

Punch Boosted Rail Mono PBR300X4
Amplifier

Installation & Operation Manual

Mounting Hardware Kit

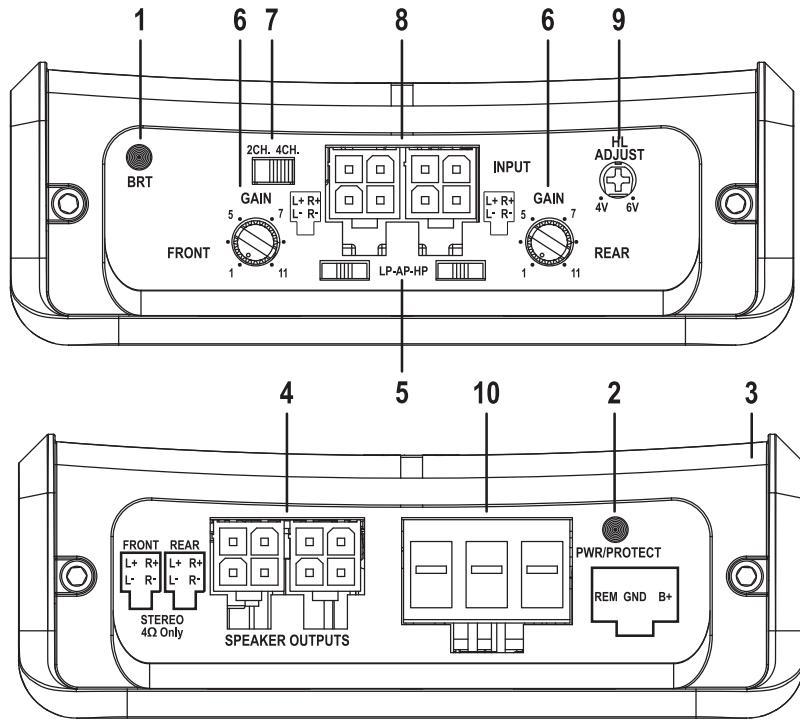
RCA/Speaker Input Harness (Front and Rear)
Speaker Output Harness (Front and Rear)

The hardware kit included with each amplifier contains the mounting hardware necessary to secure the amplifier to the vehicle.

Visit our web site for the latest information on all Rockford products.

www.rockfordfosgate.com

DESIGN FEATURES



1. **BRT(Boosted Rail Technology) LED** – This LED illuminates when the unit is in boost mode.
2. **Power/Protect LED** – This LED illuminates Blue when the unit is turned on and Red if a short circuit/low impedance is detected at the speaker connections or the amplifier's internal components become too hot engaging the protection. The amplifier will shut down to cool if this occurs.
3. **Extruded Aluminum Heatsink** – The extruded aluminum heatsink of the Punch amplifier dissipates heat generated by the amplifier's circuitry.
4. **Speaker Harness Connection (Output)** – The Molex connection port for the mating + and - speaker harness.
5. **Crossover Switch** – Selectable switch for 80Hz High-Pass (HP),All Pass (AP), or Low-Pass (LP) operation.
6. **Gain Control** – The input gain control is preset to match the output of most source units. It can be adjusted to match output levels from a variety of source units.
7. **2/4 Channel Switch** – Setting this switch to the 2CH. position, switches the inputs to a 2-channel mode, allowing connection to only the front inputs with a 4-channel output.
8. **RCA/Speaker Harness Connection (Input)** – The Molex connection port for the mating RCA/Speaker harness.
9. **Variable High Level Adjustment** – With the High Level Switch engaged a variable 4V to 6V DC(Direct Current) offset voltage input can be set.
10. **Power Terminals** – The Molex connection port for the mating Remote/Ground/Power plug.

INSTALLATION CONSIDERATIONS

The following is a list of tools needed for installation:

Fuse-holder and fuse. (See specifications for fuse rating)	Wire cutters	Assorted connectors
Volt/Ohm Meter	#1 Standard screwdriver	Adequate Length—Power Wire
Wire strippers	Battery post wrench	Adequate Length—Remote Turn-on Wire
Wire crimpers	Hand held drill w/assorted bits	Adequate Length—Ground Wire
	1/8" diameter heatshrink tubing	

NOTE: We recommend a 10 AWG wire for use on the power (B+) and ground (GND) connections.

This section focuses on some of the vehicle considerations for installing your new amplifier.

Pre-planning your system layout and best wiring routes will save installation time. When deciding on the layout of your new system, be sure that each component will be easily accessible for making adjustments.

 **CAUTION:** If you feel unsure about installing this system yourself, have it installed by a qualified technician.

 **CAUTION:** Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

Before beginning any installation, follow these simple rules:

1. Be sure to carefully read and understand the instructions before attempting to install the unit.
2. For safety, disconnect the negative lead from the battery prior to beginning the installation.
3. For easier assembly, we suggest you run all wires prior to mounting your unit in place.
4. Route all of the RCA cables close together and away from any high current wires.
5. Use high quality connectors for a reliable installation and to minimize signal or power loss.
6. Think before you drill! Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle.
7. Never run wires underneath the vehicle. Running the wires inside the vehicle provides the best protection.
8. Avoid running wires over or through sharp edges. Use rubber or plastic grommets to protect any wires routed through metal, especially the firewall.
9. ALWAYS protect the battery and electrical system from damage with proper fusing. Install the appropriate fuse holder and fuse on the +12V power wire within 18" (45.7 cm) of the battery terminal.
10. When grounding to the chassis of the vehicle, scrape all paint from the metal to ensure a good, clean ground connection. Grounding connections should be as short as possible and always be connected to metal that is welded to the main body, or chassis, of the vehicle.

MOUNTING LOCATIONS

Engine Compartment

Never mount this unit in the engine compartment. Mounting the unit in the engine compartment will void your warranty.

Trunk Mounting

Mounting the amplifier vertically or inverted will provide adequate cooling of the amplifier.

Mounting the amplifier on the floor of the trunk will provide the best cooling of the amplifier.

Passenger Compartment Mounting

Mounting the amplifier in the passenger compartment will work as long as you provide a sufficient amount of air for the amplifier to cool itself. If you are going to mount the amplifier under the seat of the vehicle, you must have at least 1" (2.54cm) of air gap around the amplifier's heatsink.

Mounting the amplifier with less than 1" (2.54cm) of air gap around the amplifier's heatsink in the passenger compartment will not provide proper cooling and will severely affect the performance of the amplifier and is strongly not recommended.

INSTALLATION

BATTERY AND CHARGING

Amplifiers will put an increased load on the vehicle's battery and charging system. We recommend checking your alternator and battery condition to ensure that the electrical system has enough capacity to handle the increased load of your stereo system. Stock electrical systems which are in good condition should be able to handle the extra load of any Punch Series amplifier without problems, although battery and alternator life can be reduced slightly. To maximize the performance of your amplifier, we suggest the use of a heavy duty battery and an energy storage capacitor.

WIRING THE SYSTEM

! CAUTION: If you do not feel comfortable with wiring your new unit, please see your local Authorized Rockford Fosgate Dealer for installation.

! CAUTION: Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.

! CAUTION: Avoid running power wires near the low level input cables, antenna, power leads, sensitive equipment or harnesses. The power wires carry substantial current and could induce noise into the audio system.

- I. Plan the wire routing. Keep RCA cables close together but isolated from the amplifier's power cables and any high power auto accessories, especially electric motors. This is done to prevent coupling the noise from radiated electrical fields into the audio signal. When feeding the wires through the firewall or any metal barrier, protect them with plastic or rubber grommets to prevent short circuits. Leave the wires long at this point to adjust for a precise fit at a later time.

NOTE: We recommend a 10 AWG wire for use on the power (B+) and ground (GND) connections.

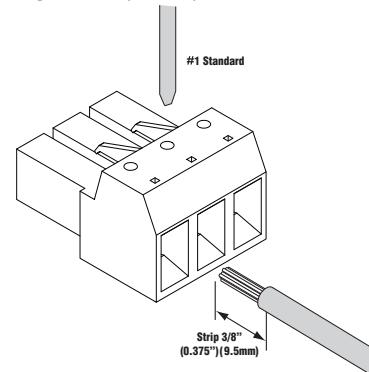
2. Prepare the RED wire (power cable) for attachment to the amplifier by stripping 3/8" of insulation from the end of the wire. Insert the bared wire into the B+ terminal and tighten the set screw to secure the cable in place.

NOTE: The B+ cable MUST be fused 18" or less from the vehicle's battery. Install the fuseholder under the hood and ensure connections are water tight.

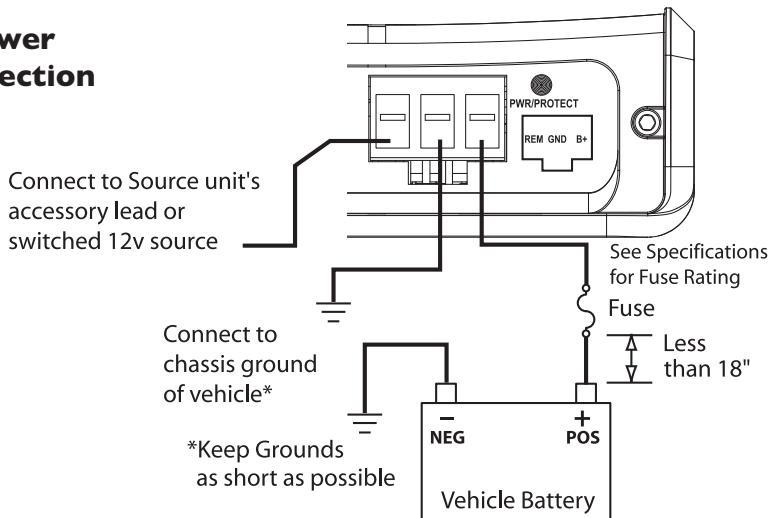
3. Trim the RED wire (power cable) within 18" of the battery and splice in a inline fuse holder (not supplied). See Specifications for the rating of the fuse to be used. **DO NOT install the fuse at this time.**
4. Strip 1/2" from the battery end of the power cable and crimp a large ring terminal to the cable. Use the ring terminal to connect to the battery positive terminal.
5. Prepare the BLACK wire (Ground cable) for attachment to the amplifier by stripping 3/8" of insulation from the end of the wire. Insert the bare wire into the GROUND terminal and tighten the set screw to secure the cable in place. Prepare the chassis ground by scraping any paint from the metal surface and thoroughly clean the area of all dirt and grease. Strip the other end of the wire and attach a ring connector. Fasten the cable to the chassis using a non-anodized screw and a star washer.

NOTE: Keep the length of the BLACK wire (Ground) as short as possible. Always less than 30"(76.2cm).

6. Prepare the Remote turn-on wire for attachment to the amplifier by stripping 3/8" of insulation from the end of the wire. Insert the bared wire into the REMOTE terminal and tighten the set screw to secure the wire in place. Connect the other end of the Remote wire to a switched 12 volt positive source. The switched voltage is usually taken from the source unit's remote amp on lead. If the source unit does not have this output available, the recommended solution is to wire a mechanical switch in line with a 12 volt source to activate the amplifier.



Power Connection

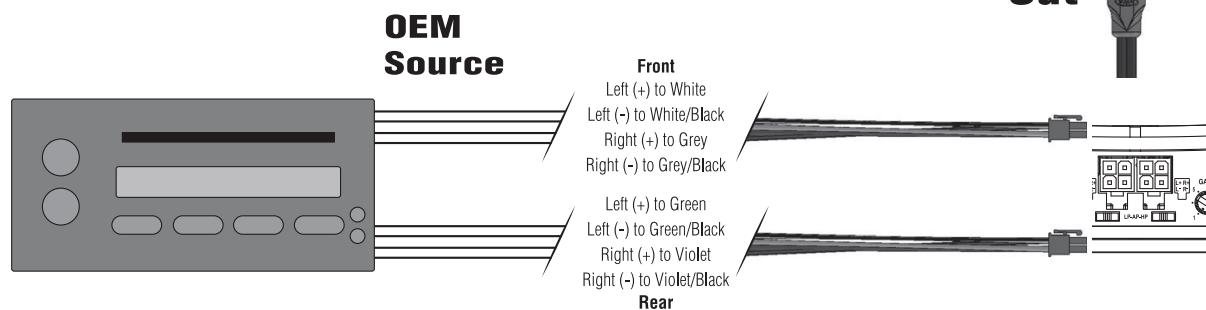


- Securely mount the amplifier to the vehicle or amp rack. Be careful not to mount the amplifier on cardboard or plastic panels. Doing so may enable the screws to pull out from the panel due to road vibration or sudden vehicle stops.
- Connect from source signal by plugging the RCA cables into the RCA/Speaker Harness input jacks, then insert the four pin Molex connector into the mating four pin INPUT connector at the amplifier.

From Source Unit



NOTE: When the installation requires a High Level(Speaker) input, the RCA/Speaker Harness will need to be cut on the speaker wire side of the y-splitter. Then connect the harness(s) to the corresponding vehicle wires.



CAUTION: Always ensure power is off or disconnected at the amplifier before connecting RCA cables. Failure to do so may cause injury, damage to the amplifier and/or connected components.

- Connect the speakers. Strip the speaker wires 1/2" and connect to the Speaker Wire Harness, then insert the four pin Molex connector into the mating four pin SPEAKER connector at the amplifier. Be sure to maintain proper speaker polarity. DO NOT chassis ground any of the speaker leads as unstable operation may result.

NOTE: 4 ohm Stereo ONLY.

- Perform a final check of the completed system wiring to ensure that all connections are accurate. Check all power and ground connections for frayed wires and loose connections which could cause problems. Install inline fuse near battery connection.

NOTE: Follow the diagrams for proper signal polarity.

OPERATION

ADJUSTING CROSSOVER

Placing the crossover switch in the HP position sets the amplifier to the 80Hz High Pass mode, enabling frequencies above the cut-off point to pass.



Placing the crossover switch in the AP position sets the amplifier to the All Pass mode, preventing any crossover adjustment, allowing all frequencies to pass.

Placing the crossover switch in the LP position sets the amplifier to the 80Hz Low Pass mode, enabling frequencies below the cut-off point to pass.

VARIABLE HIGH LEVEL ADJUSTMENT



The variable high level adjustment can be used to delay the turn on eliminating induced noise, turn on/off pop.

In a high level(speaker) input application, utilizing a 6V DC(Direct Current) offset voltage, the Punch Boosted Rail amplifier can be turned on/off allowing the REM to be used as an output to turn on/off an amplifier or other accessory.

ADJUSTING GAIN

To adjust the gain setting, turn the amplifier gains all the way down (counter-clockwise). Turn the source unit volume up until distortion is audible and then turn it down a bit until the distortion is inaudible. This will be about all the way up on most source units. Next, increase the amplifier gain setting until adequate volume is achieved.

NOTE: Best signal to noise and dynamic range are realized with the gain at minimum. Most users find adequate gain and volume is achieved at about halfway in the adjustment range.

 **CAUTION:** Avoid setting the amplifier gain very high as noise and distortion will increase significantly.

NOTE: For a more in depth setting procedure, contact Rockford Technical Support.

NOTE: If you are having problems after installation follow the Troubleshooting procedures below.

Procedure 1: Check Amplifier for proper connections.

Verify that POWER light is on. If POWER light is on skip to Step 3, if not continue.

1. Check in-line fuse on battery positive cable. Replace if necessary.
2. Verify that Ground connection is connected to clean metal on the vehicle's chassis. Repair/replace if necessary.
3. Verify there is 9 to 16 Volts present at the positive battery and remote turn-on cable. Verify quality connections for both cables at amplifier, stereo, and battery/fuseholder. Repair/replace if necessary.

Procedure 2: Protect light is on.

1. This is a sign of a possible short in the speaker connections. Check for proper speaker connections and use an ohm meter to check for possible shorts in the speaker wiring. Too low of a speaker impedance may also cause Protect to light.
2. In the event that the speaker connections are not the issue, check for proper speaker impedance and rewire if needed. This can also be a sign of driving the amplifier at very high power levels without adequate airflow around the amplifier. Shut off the system and allow amplifier to cool. Check that the vehicle charging system is maintaining proper voltage. If the previous items do not solve the problem, a fault may be in the amplifier, call customer service for support.

Procedure 3: Check Amplifier for audio output.

1. Verify good RCA/Speaker input connections at stereo and amplifier. Check entire length of cables for kinks, splices, etc. Test RCA/Speaker inputs for AC volts with stereo on. Repair/replace if necessary.
2. Disconnect RCA/Speaker input from amplifier. Connect RCA/Speaker input from test stereo directly to amplifier input.

Procedure 4: Check Amplifier if you experience Turn-on Pop.

1. Disconnect input signal to amplifier and turn amplifier on and off.
2. If the noise is eliminated, connect the REMOTE lead of amplifier to source unit with a delay turn-on module.

OR

1. Use a different 12 Volt source for REMOTE lead of amplifier (i.e. battery direct).
2. If the noise is eliminated, use a relay to isolate the amplifier from noisy turn-on output.

OR

1. In a high level(speaker) input application the Variable High Level Adjustment can be used to delay the turn on eliminating turn on/off pop.

Procedure 5: Check Amplifier if you experience excess Engine Noise.

1. Route all signal carrying wires (RCA, Speaker cables) away from power and ground wires.

OR

2. Bypass any and all electrical components between the stereo and the amplifier(s). Connect stereo directly to input of amplifier. If noise goes away the unit being bypassed is the cause of the noise.

OR

3. Remove existing ground wires for all electrical components. Reground wires to different locations. Verify that grounding location is clean, shiny metal free of paint, rust etc.

OR

4. Add secondary ground cable from negative battery terminal to the chassis metal or engine block of vehicle.

OR

5. Have alternator and battery load tested by your mechanic. Verify good working order of vehicle electrical system including distributor, spark plugs, spark plug wires, voltage regulator etc.

SPECIFICATIONS

MODEL- PUNCH

PBR300X4

Continuous Power Rating (RMS) - Measured at 14.4 Battery Volts

4Ω Load Stereo	75 Watts x 4
Dimensions:	Height 1.53" (3.90cm)
	Width 4.25" (10.8cm)
	Length 6.75" (17.2cm)

External Battery Fuse Rating 30A

“A” Weighted Signal to Noise Ratio

Referenced to 1 Watt into 4 ohms

≥ 80 dB

“A” Weighted Signal to Noise Ratio

Referenced to rated output into 4 ohms

≥ 100 dB

Crossover Slope

12dB/octave Butterworth

Crossover Frequency

80Hz LP/AP/HP

Frequency Response

20Hz to 20kHz ±1.0dB

Signal Voltage Adjustment Range

Variable from 150mV to 11V

Protection

Short circuit protection shut downs the amplifier in
case of very low impedance, shorted speaker wires, or
shuts down the amplifier in case of overheating.

Input Impedance

20K ohms

Operating Voltage

9 to 16 Volts DC

CMRR (Common Mode Rejection Ratio)

>55dB @ 1kHz

Damping Factor

>200

THD+N (Total Harmonic Distortion+Noise)

< 0.5% @ 4 ohm

These specifications are Amplifier Power Standard CEA-2006 Compliant

Specifications subject to change without notice

Rockford Corporation offers a limited warranty on Rockford Fosgate products on the following terms:

Length of Warranty

Source Units, Speakers, Signal Processors and PUNCH Amplifiers – 1 Year

POWER Amplifiers – 2 Years

Any Factory Refurbished Product – 90 days (receipt required)

What is Covered

This warranty applies only to Rockford Fosgate products sold to consumers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country are covered only by that country's Distributor and not by Rockford Corporation.

Who is Covered

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is Not Covered

1. Damage caused by accident, abuse, improper operations, water, theft, shipping
2. Any cost or expense related to the removal or reinstallation of product
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center
4. Any product which has had the serial number defaced, altered, or removed
5. Subsequent damage to other components
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer

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, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

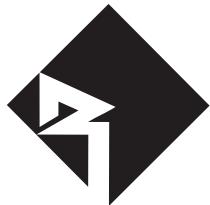
How to Obtain Service

Contact the Authorized Rockford Fosgate Dealer you purchased this product from.

If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You **must** obtain an **RA# (Return Authorization number)** to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements, see your Authorized dealer for details.



Rockford Fosgate®

Installation assistance available at:

RFTECH

www.rockfordfosgate.com/rftech



Rockford Fosgate
Rockford Corporation
546 South Rockford Drive
Tempe, Arizona 85281 U.S.A.
In U.S.A., (480) 967-3565 - Customer Service 1-800-669-9899

www.rockfordfosgate.com

AMPLIFIER



Performance Verification Certificate

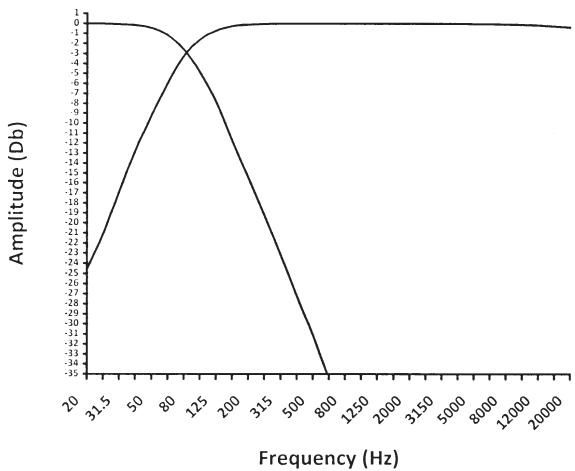
Model : PBR300X4 Rated Power : 300 Watts
Serial # : [REDACTED] Tested By : JASON BAKER
Birth Date : 05/18/2011

Engineering Inspection Data

CEA Test Voltage:	+14.4V	Actual Power
Channel Separation:	N/A	
THD+N @ Rated Power:	0.197 %	84 X 4 @ 4 Ohms
Frequency Response:	PASS	
Speaker Short Protection:	PASS	
Thermal Management:	PASS	
Punch® EQ Circuit:	PASS	
Final Inspection:	PASS	

Specifications

Crossover Frequency Response



Total RMS Power

335

Power measured in accordance with CEA-2006 Specifications.

Max Power: 1005 Watts

MAX POWER DISCLAIMER: ALL Rockford PUNCH series amplifiers are designed, developed, manufactured and tested in accordance with CEA-2006 amplifier rating requirements. Rockford Fosgate provides a Max Power rating for comparison purposes only. When comparing Rockford Fosgate PUNCH series amplifiers to other brands that adhere to the CEA-2006 requirements, use the Max Power number. Otherwise, use Rockford Fosgate Winstar.

This Rockford Fosgate amplifier has been tested using state of the art equipment to ensure that it meets or exceeds its rated specifications.

Are You Engineered to Rock, Or Wired for Stock?

Get a One Year Extended Warranty when you use matching Rockford Fosgate or Lightning Audio Amplifier Installation kit with this Amplifier!

We want you to get the performance and reliability that made Rockford Fosgate Amplifiers Famous. Using poor-quality under-spec wiring is a guaranteed way to get less than you paid for from your system.

We are so certain that getting your system wired to rock with the right wire and cables will make a difference, that we will give you an additional 1 year warranty on your amp when you use the matching amplifier installation kit. See your dealer to determine the matching kit for this amplifier.

To extend your warranty under this program attach the amplifier installation kit serial number sticker or the UPC code removed from the original amplifier installation kit package in the box below. Keep this form along with your original purchase receipt.

One warranty extension per amplifier regardless of the number of amplifier kits purchased.

What is covered:

This warranty applies only to Rockford Fosgate products sold to customers by Authorized Rockford Fosgate Dealers in the United States of America or its possessions. Product purchased by consumers from an Authorized Rockford Fosgate Dealer in another country is covered only by the country's Distributor and not by Rockford Corporation.

Who is covered:

This warranty covers only the original purchaser of Rockford product purchased from an Authorized Rockford Fosgate Dealer in the United States. In order to receive service, the purchaser must provide Rockford with a copy of the receipt stating the customer name, dealer name, product purchased and date of purchase. Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Rockford's discretion.

What is not covered:

1. Damage caused by accident, abuse, improper operations, water, theft, shipping
2. Any cost or expense related to the removal or reinstallation of product
3. Service performed by anyone other than Rockford or an Authorized Rockford Fosgate Service Center
4. Any product which has had the serial number defaced, altered, or removed
5. Subsequent damage to other components
6. Any product purchased outside the U.S.
7. Any product not purchased from an Authorized Rockford Fosgate Dealer

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 in the length of an implied warranty, so this limitation may not apply. No person is authorized to assume for Rockford Fosgate any other liability in connection with the sale of the product.

How to Obtain Service Under the Extended Warranty Program:

The amplifier must be returned by the customer (you) or an authorized Rockford Fosgate retailer with a copy of the original receipt and the ORIGINAL Performance Verification Certificate with the amplifier installation kit serial number sticker, or the UPC code from the original amplifier installation kit package, attached.

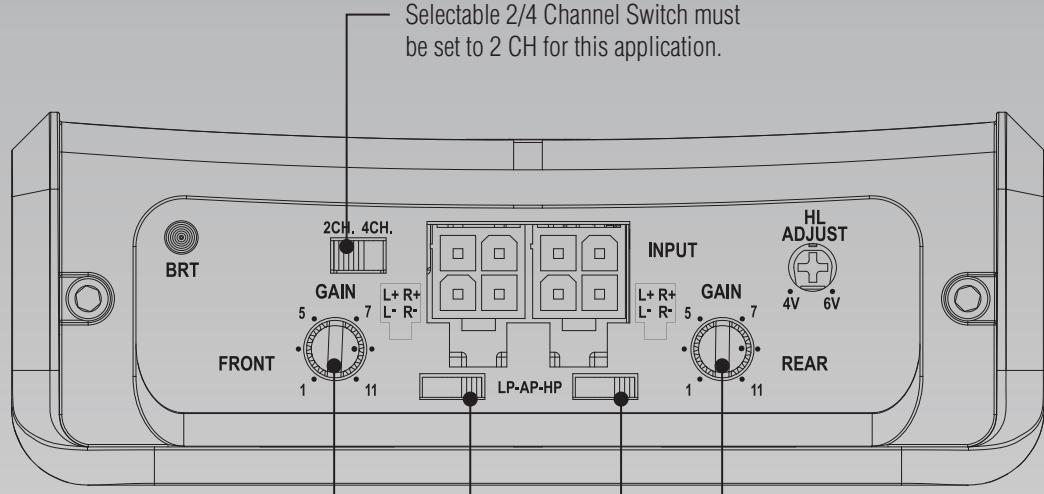
Contact the Authorized Rockford Fosgate Dealer you purchased this product from. If you need further assistance, call 1-800-669-9899 for Rockford Customer Service. You must obtain an RA# (Return Authorization number) to return any product to Rockford Fosgate. You are responsible for shipment of product to Rockford.

EU Warranty

This product meets the current EU warranty requirements; see your Authorized dealer for details.
"This Additional One-Year Warranty" is only available where allowed under local laws.

Attach Amplifier Installation Kit
Serial Number or UPC Code
from original packaging here.

RZR STAGE 3/4 AMPLIFIER SETTINGS

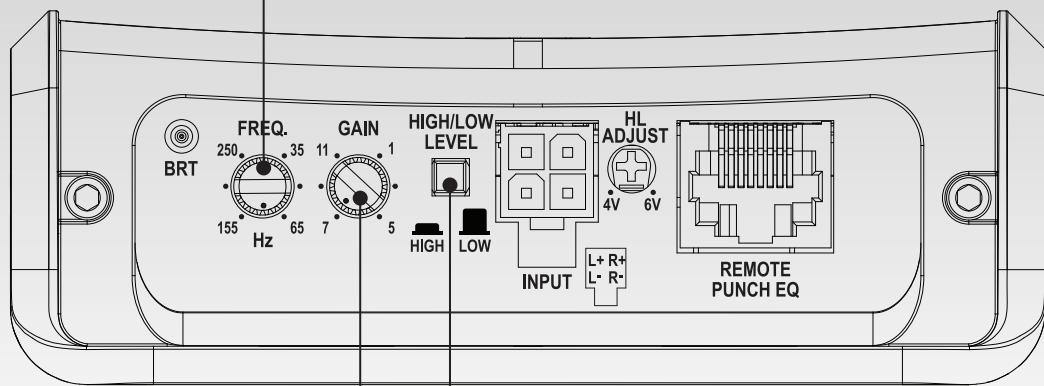


Variable FRONT gain setting need to be at 9 for this application.

Variable REAR gain setting need to be at 9 for this application.

Selectable CROSSOVER switches gain setting need to be set to HP for this application.

Variable CROSSOVER FREQ. setting needs to be positioned toward the "z" in Hz for this application.



Variable GAIN setting needs to be positioned toward the "7" in this application.

The HIGH/LOW LEVEL switch needs to be set to LOW. This means the switch is extended out all of the way.