

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.

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.

Table of Contents

2	Introduction
3	Specifications
4	Design Features
5	Wiring
6	Installation/Mounting
7-10	Operation
	Settings
	Tuner (AM/FM/WB)
	USB-iPod
	AUX (Auxiliary Input)
	Bluetooth®
	Pandora®
11	Troubleshooting
12	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.

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.



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.

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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"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

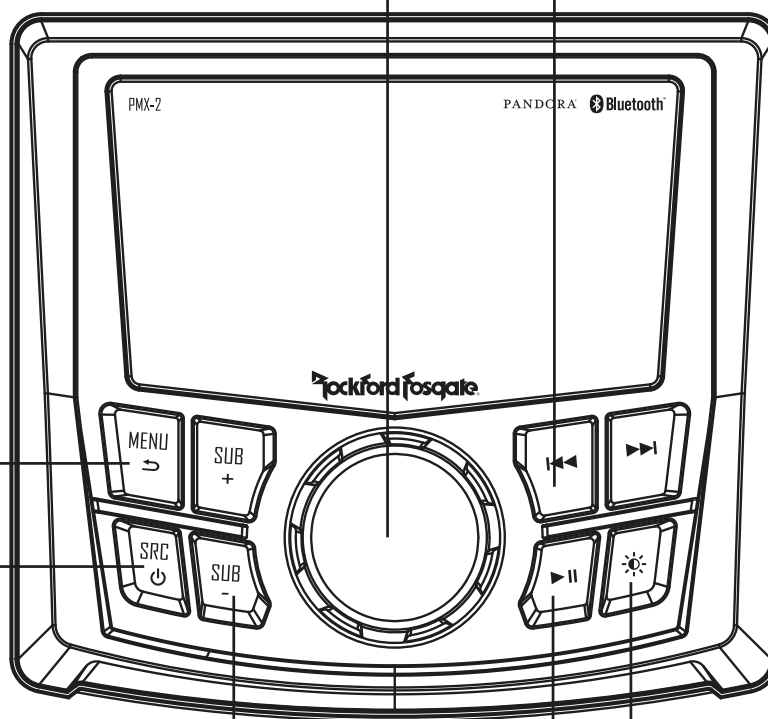
These buttons allow you to adjust the subwoofer output or rear line out UP or DOWN (0-20).

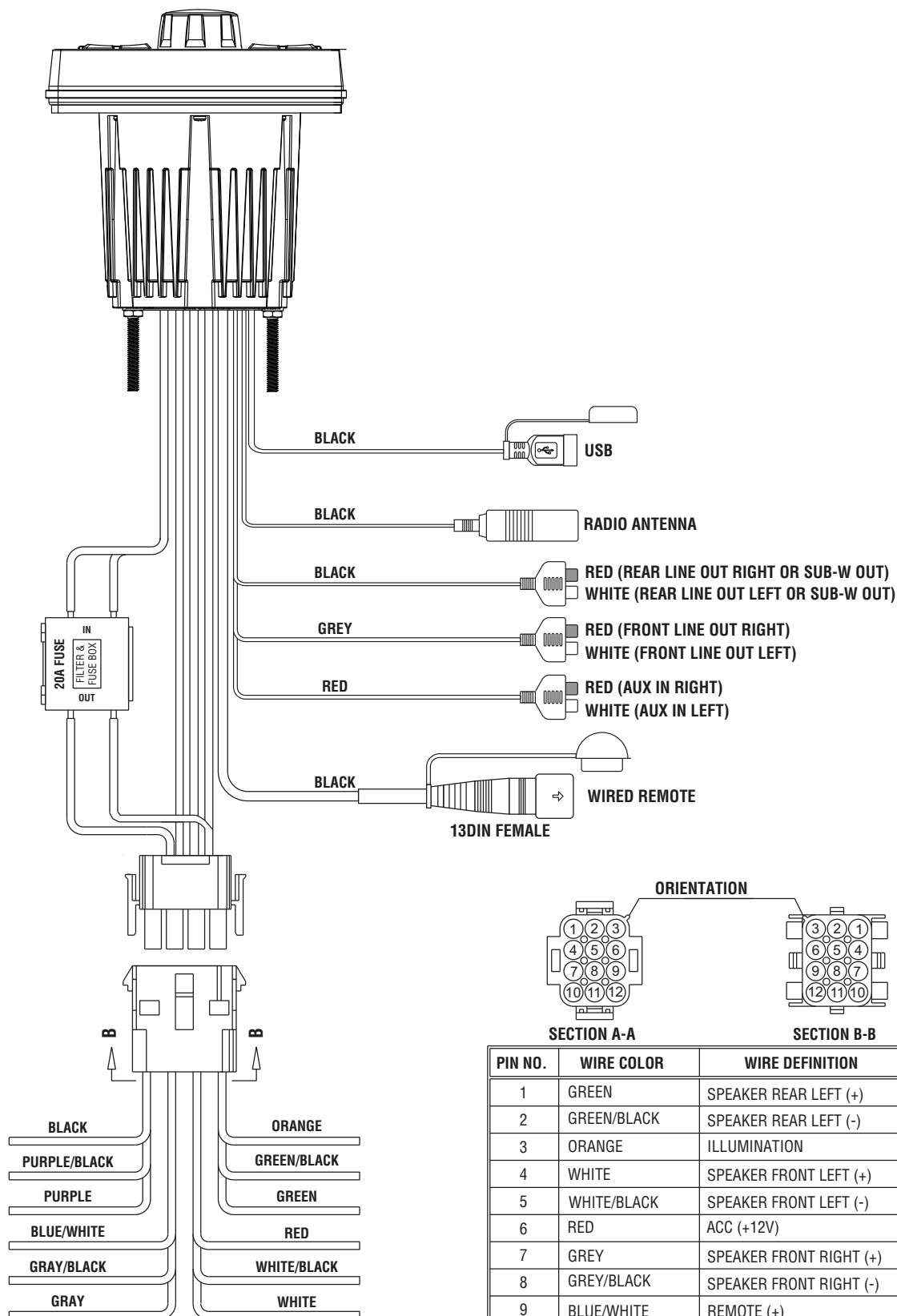
DIMMER button

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.





PIN NO.	WIRE COLOR	WIRE DEFINITION	AWG
1	GREEN	SPEAKER REAR LEFT (+)	20
2	GREEN/BLACK	SPEAKER REAR LEFT (-)	20
3	ORANGE	ILLUMINATION	20
4	WHITE	SPEAKER FRONT LEFT (+)	20
5	WHITE/BLACK	SPEAKER FRONT LEFT (-)	20
6	RED	ACC (+12V)	16
7	GREY	SPEAKER FRONT RIGHT (+)	20
8	GREY/BLACK	SPEAKER FRONT RIGHT (-)	20
9	BLUE/WHITE	REMOTE (+)	20
10	PURPLE	SPEAKER REAR RIGHT (+)	20
11	PURPLE/BLACK	SPEAKER REAR RIGHT (-)	20
12	BLACK	GROUND (-)	16

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.

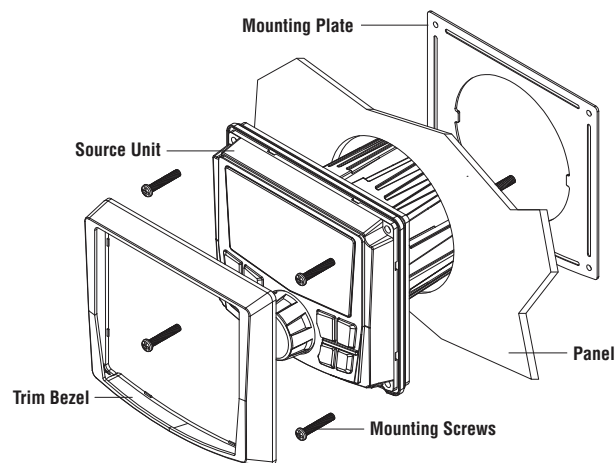
Before beginning any installation, follow these simple rules:

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.

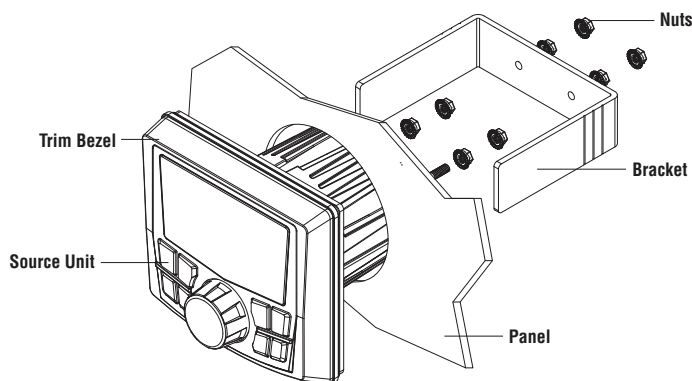
1. Once you have determined a mounting location, you will need to cut a circular hole 3" (77mm) in diameter.
2. After the hole is cut slide the unit and wiring through the hole.
3. Slide the mounting plate over the backside of the unit and secure with the supplied screws.
4. Press on the trim bezel to 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.



SETTINGS	
BALANCE	>
FADE	>
AUDIO	>
VOLTAGE GAUGE	11V
BT DEVICE PAIRING	>

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

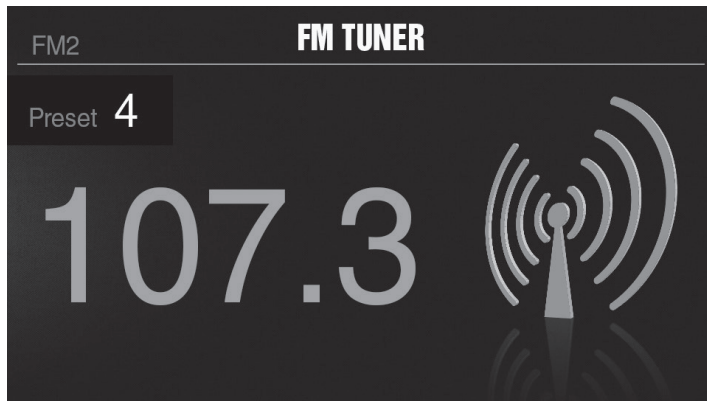
Press the SUB + or SUB- buttons to adjust the output level (0-20).

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

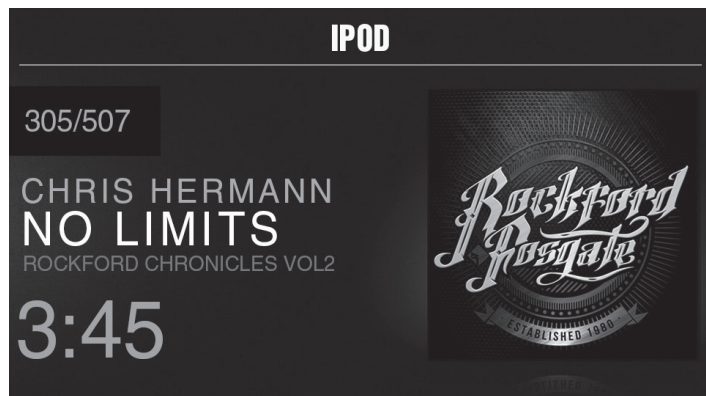
Short press the encoder button to access the PRESETS list. Using this feature allows you to see what PRESETS are saved on the unit.

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

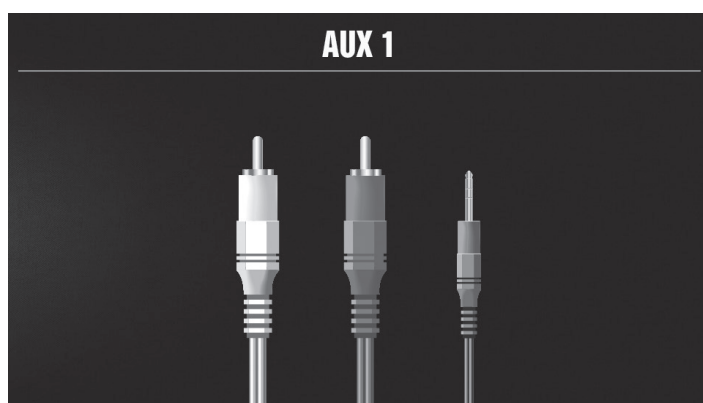
Short press the encoder button to access the BROWSER options (PLAYLISTS>ARTISTS>ALBUMS>GENRES>SONGS>COMPOSERS>AUDIOBOOKS>PODCASTS). Using this feature allows you to search for tracks or songs by different types of categories.

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

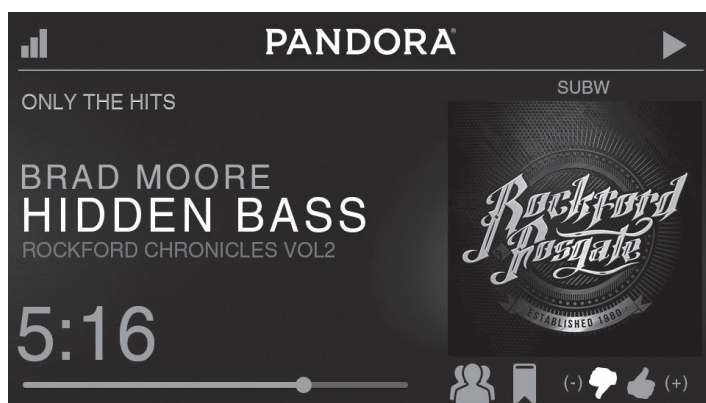
Short press the encoder button to access the BROWSER options (PLAYLISTS>ARTISTS>ALBUMS>GENRES>SONGS>COMPOSERS>AUDIOBOOKS>PODCASTS). Using this feature allows you to search for tracks or songs by different types of categories.

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.



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.

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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



POLARIS® RANGER® PMX DASH KIT

RFRNGR-PMXDK



Installation & Operation

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.

Table of Contents

2	Introduction
3	Installation
4	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.

Contents

- | | |
|-------------------------|-------------------------------|
| • (1) Main Dash Bezel | • PMX-0 Power Harness |
| • (1) PMX-2 Carrier | • (4) Butt Connectors |
| • (1) PMX-0 Carrier | • (8) Carrier Mounting Screws |
| • PMX-2 Vehicle Harness | • Plastic Wire Tie Wraps |
| • PMX-0 Vehicle Harness | • Grommet |

Installation Tools

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

- | | |
|-------------------------|----------------|
| • T-20 Torx Driver | • Wire Cutters |
| • 3 mm Allen Driver | • Panel Tool |
| • 10 mm Socket / Wrench | • Jigsaw |
| • 1.75" Hole Saw | • Masking Tape |
| • Drill | • File |
| • Drill Bit | |

Installation Considerations

This section focuses on some considerations for installing your Polaris RANGER dash kit. This dash kit is designed to work in conjunction with Rockford's other RANGER specific audio kits and parts.

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

When drilling holes, make sure what is on the other side. Be sure that any electrical, fuel lines or any other important components are free and clear from the area.

WARNING

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:

CAUTION

Be sure to carefully read and understand the instructions before attempting to install this wiring 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 compact source units.
- 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 product information.
- Visit our **YouTube** channel for comprehensive installation videos demonstrating complete installation guides and install tips.

NEED HELP WITH YOUR INSTALLATION?



YOUTUBE VISIT OUR CHANNEL FOR A COMPLETE INSTALLATION VIDEO AND OTHER TIPS
WWW.YOUTUBE.COM/USER/ROCKFORDFOSGATE

Applicable Models:

Full Size Polaris RANGER 900/1000/ 900 Crew/1000 Crew

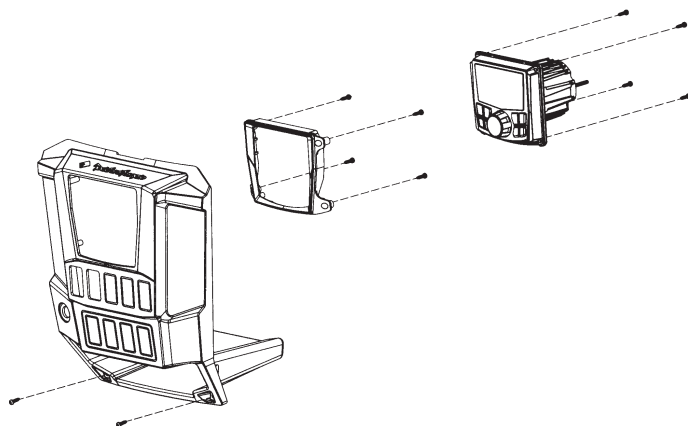
This dash kit enclosure is designed to work with Rockford Fosgate's RFRNGR-K8 amplifier kit and compact source units. The enclosure can be installed in both Crew and non-crew models on the passenger side of the vehicle.

- Step 1. Remove the top of the dash. This will give you access for installing the dash kit and wires.
- Step 2. Remove the existing factory dash bezel with your Torx driver.
- Step 3. Disconnect any existing switches or hardware on the original bezel.

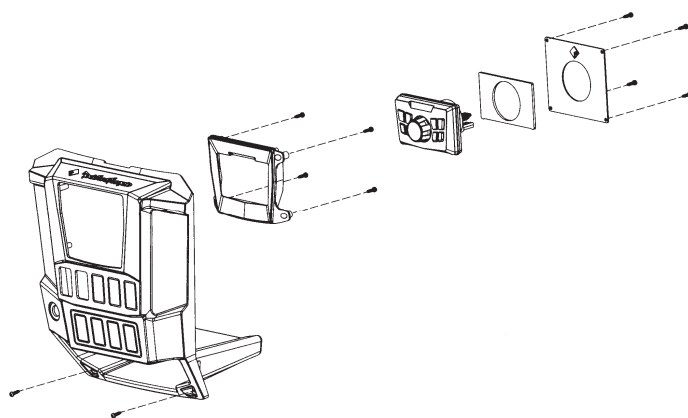
Step 4. Mount the source unit to the new dash bezel.

NOTE: If you have heater controls, vents or additional switches, use the guides on the back of the bezel as a guide to cut out holes. Be sure to cut your holes prior to mounting any source unit.

Dash Kit with PMX-2/PMX-3 Option



Dash Kit Assembly with PMX-0 Option



Step 5. Drill an access hole behind where the source will go in the firewall using a 1.75" hole saw.

Step 6. Install the supplied grommet into the access hole.

Step 7. Run the source unit harness through hole in firewall toward inside of the vehicle.

Step 8. Connect the RED and BLACK wires on the harness to the factory terminal block.

NOTE: When using the PMX-0 you will need to connect the YELLOW wire to the cigarette lighter.

Step 9. Plug the harness into the back of the source unit.

Step 10. Secure the dash using the (2) factory screws.

Step 11. Reinstall the dash top.

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
PUNCH® & PRIME® Amplifiers – 1 Year
Speakers, Signal Processors, Accessories and Capacitors – 1 Year
All marine, motorcycle, motorsport products - 2 Years
Any Factory Refurbished Product – 90 Days (receipt required)

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— Installation assistance available at: —

RFTECH

— www.rockfordfosgate.com/rftech —

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

ROCKFORDFOSGATE.COM



P R I M E



RM0652 • RM0652B

RM1652 • RM1652B



Serial Number: _____

Date of Purchase: _____

Introduction

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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.

Table of Content

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.

PRAKTIZIEREN SIE SICHEREN SOUND

Fortgesetzte Geräusdruckpegel von über 100 dB können beim Menschen zu permanentem Hörverlust führen. Leistungsstarke Autosoundsysteme können Geräusdruckpegel 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

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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.

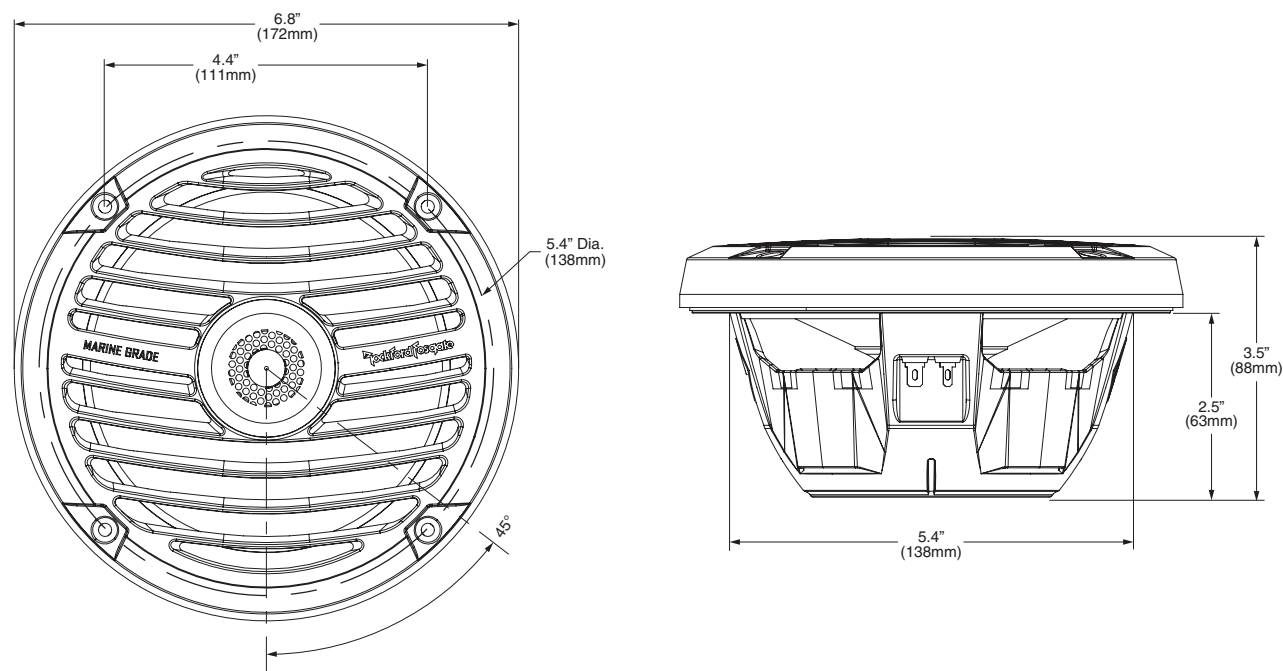


VERIFIED WITH KLIPPEL

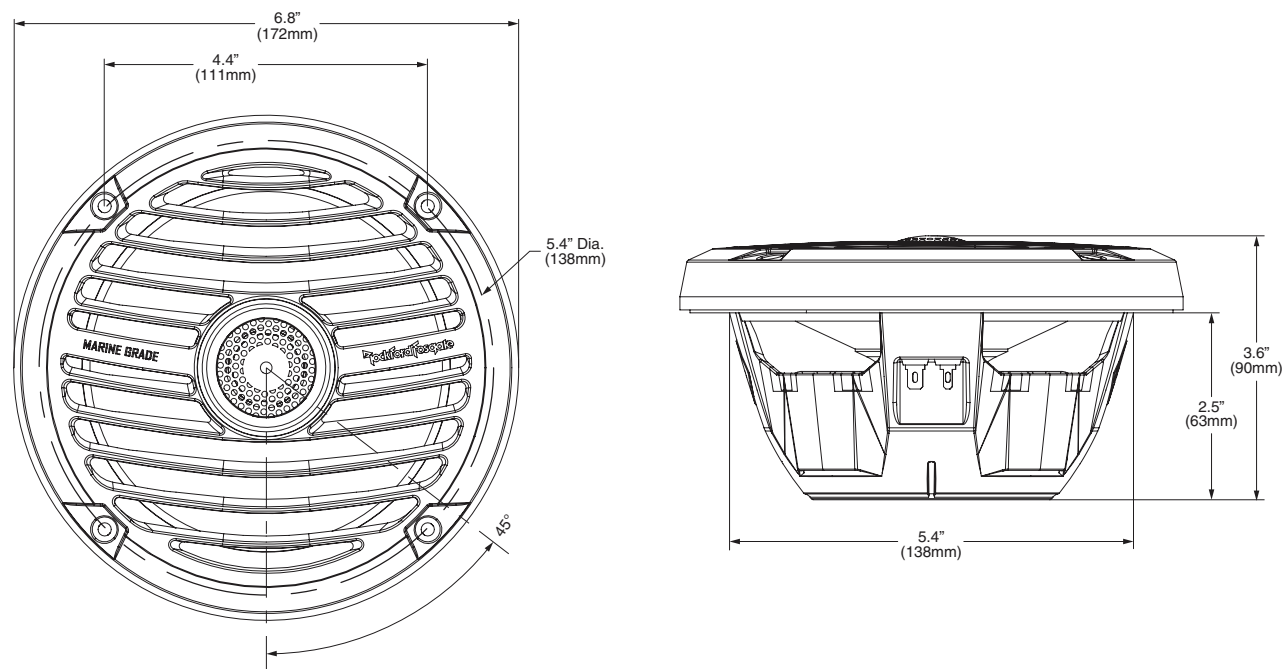
To adorn the 'Verified with Klippel' mark, the qualifying company's loudspeaker engineering personnel must be trained and certified by Klippel prior to using the three separate Klippel systems to design, develop and test. Rockford Fosgate has made the investment in Klippel to deliver the best possible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

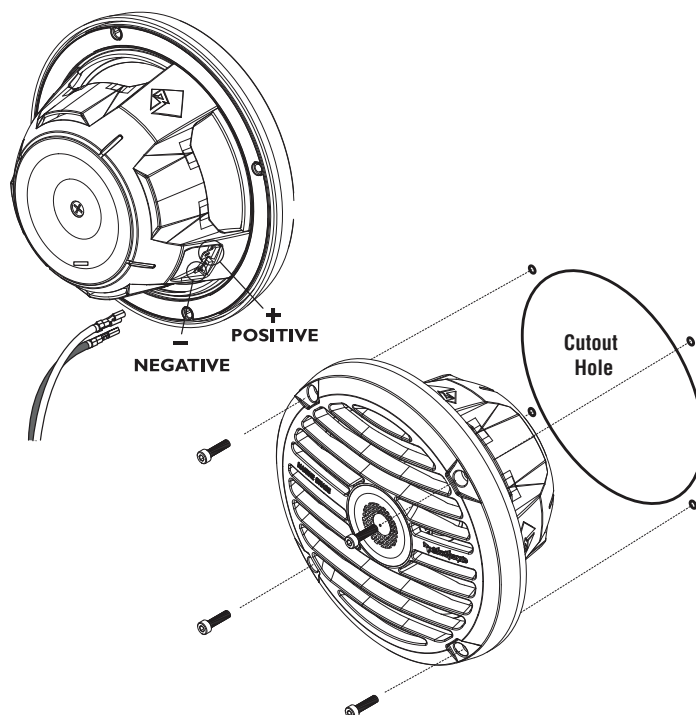
1. Be sure to carefully read and understand the instructions before attempting to install these speakers.
2. For safety, disconnect the negative lead from the battery prior to beginning the installation.
3. For easier assembly, we suggest you run all wires prior to mounting your speakers in place.
4. 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

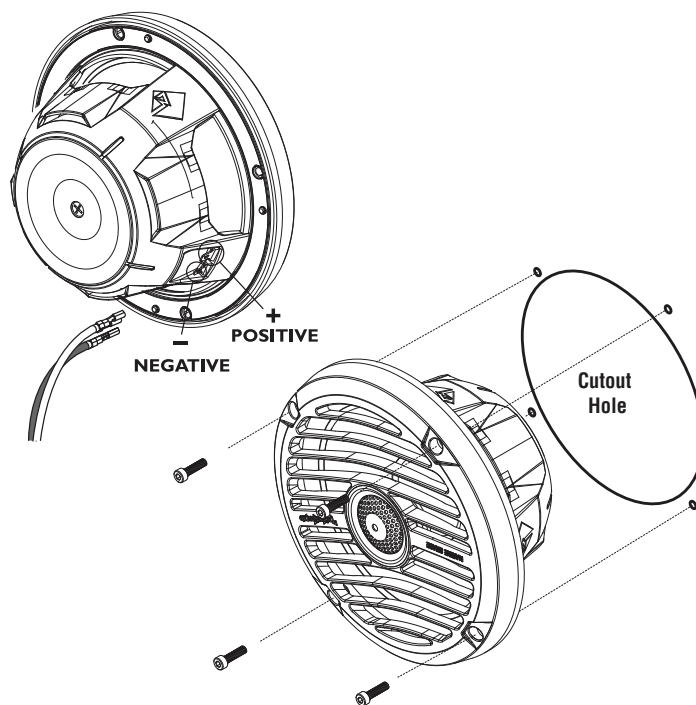
1. Determine where the speakers will be mounted. Ensure an area large enough for the speaker to mount evenly. Be sure that the mounting location is deep enough for the speaker to fit; if mounting in a door, operate all functions (windows, locks, etc.) through their entire operating range to ensure there 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/rfttech.
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 quepa 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/rfttech.
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 Türe 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/rfttech.
3. Die Stellen für die Befestigungsschrauben markieren. Die Löcher mit einer 1/8-Zoll (3,2 mm) Bohrspitze bohren.
4. Die Lautsprecherkabel durch das Loch führen und an den Lautsprecheranschlüssen 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 nei confronti 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 paraframma.

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/rfttech.
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..

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

1230-58876-01

121514

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

ROCKFORDFOSGATE.COM



POLARIS® RANGER® FRONT SPEAKER ENCLOSURES

RFRNGR-FSE



Installation & Operation

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.

Table of Contents

2	Introduction
3	Installation
4	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.

Contents

- (2) Front Speaker Enclosures
- Plastic Wire Tie Wraps
- (1) Ball End Allen Driver
- Foam Pads
- Mounting Hardware

Installation Tools

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

- 3 mm Allen Driver
- Wire Cutters
- 10 mm Wrench
- Panel Tool
- 10 mm Socket

Installation Considerations

This section focuses on some considerations for installing your Polaris RANGER front speaker enclosures. These speaker enclosures are designed to work in conjunction with Rockford's other RANGER specific audio kits and parts.

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

When drilling holes, make sure what is on the other side. Be sure that any electrical, fuel lines or any other important components are free and clear from the area.

WARNING

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:

CAUTION

Be sure to carefully read and understand the instructions before attempting to install these speaker enclosures.

- 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 subwoofer kit is specifically designed to work with Rockford Fosgate's PM and RM series of 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 product information.
- Visit our **YouTube** channel for comprehensive installation videos demonstrating complete installation guides and install tips.

NEED HELP WITH YOUR INSTALLATION?

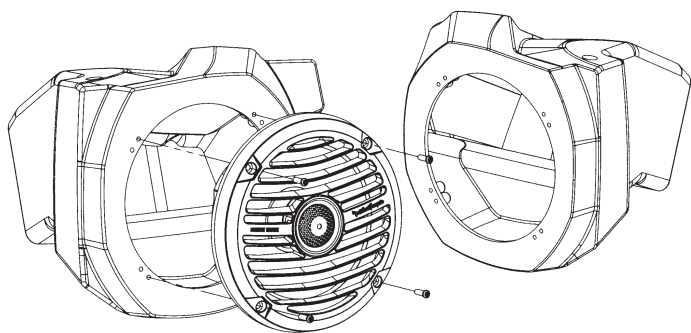


YOUTUBE VISIT OUR CHANNEL FOR A COMPLETE INSTALLATION VIDEO AND OTHER TIPS
WWW.YOUTUBE.COM/USER/ROCKFORDFOSGATE

Applicable Models:

Full Size Polaris RANGER 900/1000/ 900 Crew/1000 Crew

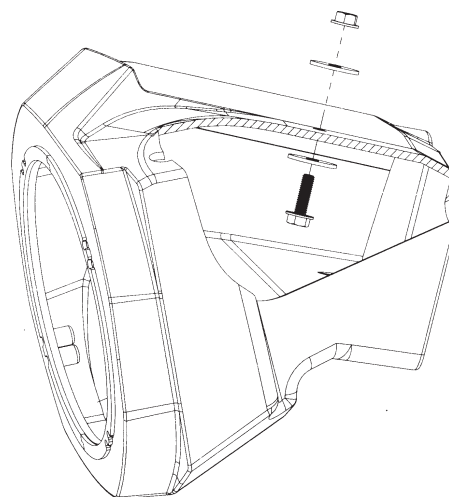
These front speaker enclosures are designed to work with Rockford Fosgate's RFRNGR-K8 amplifier kit and RFRNGR-PMXDK dash kit. The enclosure can be installed in both Crew and non-crew models in the kick panels on the vehicle.



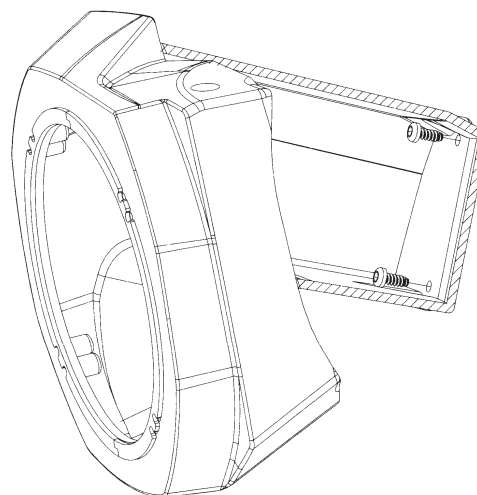
Step 1. Remove the top of the dash. This will give you access for bolting in both speaker enclosures.

Step 2. Set the speaker enclosure into place.

NOTE: The enclosures get installed below the dash, up against the firewall of the vehicle. There are existing bosses that they will bolt to.



Step 3. Secure the enclosure using supplied hardware.



NOTE: You will need to use the supplied tool to tighten the bolts that go into the existing factory bosses on the firewall.

Step 4. Insert the spade connector side of the speaker harness into the top hole of the enclosure.

Step 5. Install the supplied foam pad to seal up the enclosure. Be sure to leave enough wire to connect the speaker.

Step 6. Connect the speaker harness to the speaker.

Step 7. Secure the speaker with the supplied speaker hardware.

Step 8. Repeat steps for the enclosure on the other side.

Step 9. Reinstall the dash piece.

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

PUNCH® & PRIME® Amplifiers – 1 Year

Speakers, Signal Processors, Accessories and Capacitors – 1 Year

All marine, motorcycle, motorsport products - 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. Products 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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What is Not Covered

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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.
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7. Any product not purchased from an authorized Rockford Fosgate dealer. Refer to rockfordfosgate.com dealer locator for more detail.

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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 —

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Direct: (480) 967-3565 • Toll Free: (800) 669-9899

ROCKFORDFOSGATE.COM



PRIME

R1 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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Table of Content

2	Introduction
3	Specifications
4-5	Enclosures
	Sealed or Vented
	Wiring
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.

PRAKTIZIEREN SIE SICHEREN SOUND

Fortgesetzte Geräuschkdruckpegel von über 100 dB können beim Menschen zu permanentem Hörverlust führen. Leistungsstarke Autosoundsysteme können Geräuschkdruckpegel 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

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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

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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.

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**

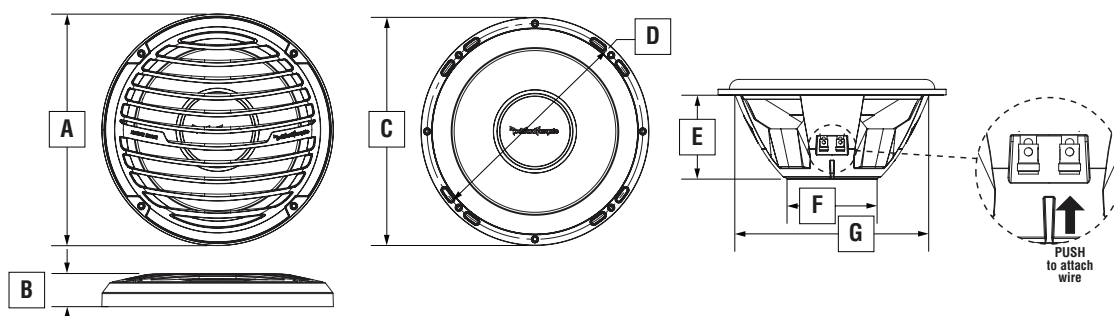


CEA 2031

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 Klippel' mark, the qualifying company's loudspeaker engineering personnel must be trained and certified by Klippel prior to using the three separate Klippel systems to design, develop and test. Rockford Fosgate has made the investment in Klippel 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)

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

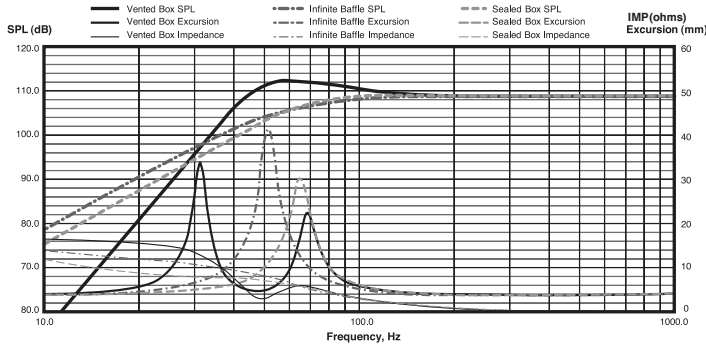
These designs typically called “IB”, are the easiest enclosure types to build. The reason is that you are not actually building an enclosure, but rather simulating one. This is done by closing off a cavity area (ie; car trunk, enclosed area of a boat hull) with a baffle board. This creates your “IB” 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

Height” x Width” x Depth”

Divided by (cubic feet)

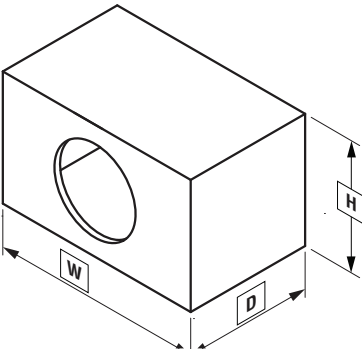
1728

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: Vb 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)

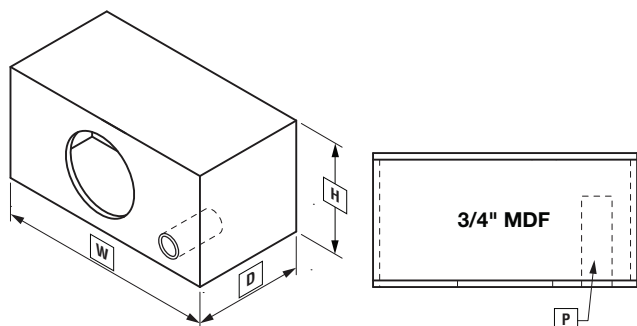
Recommended Sealed Enclosure Volume Range

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

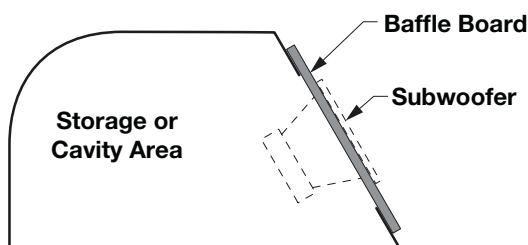
Vented Enclosures	8"	10"	12"
Total Internal Volume cu. ft. (Liter)	1.10 (31.15)	1.45 (41.06)	2.45 (69.38)
Woofer Displacement cu. ft. (Liter)	0.05 (1.41)	0.1 (2.83)	0.12 (3.4)
Port Displacement cu. ft. (Liter)	.03 (.85)	0.1 (2.83)	0.33 (9.35)
V_b - Net Internal Volume cu. ft. (Liter)	1.0 (28.3)	1.25 (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.



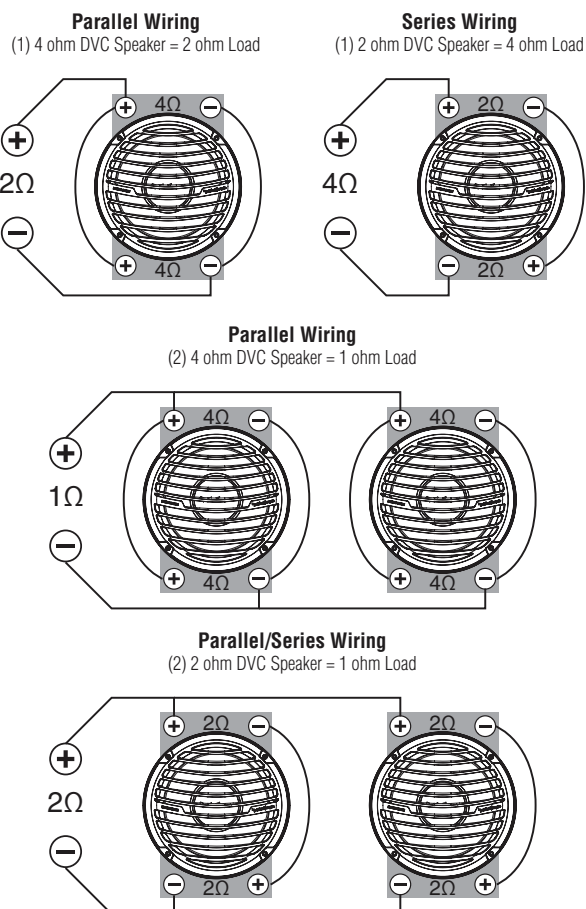
Infinite Baffle	8"	10"	12"
F_3 - 3dB Point (Hz)	42.7	69.4	43.3
V_{as} - cu. ft. (Liter)	0.63 (17.9)	1.77 (50.2)	3.80 (107.7)
Q_{tc} - Enclosure Damping	0.66	0.43	0.54

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.



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 Événement

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 longueur du caisson
- 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'oter 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 dépend 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 define 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)xAncho(cm) x Profundidad(cm)
Dividido por (en litros)	1000

Si dos caras opuestas son de diferente tamaño, súmelas y divida el total por dos para obtener el promedio. Usando esta técnica se ahorra 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 iguale 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 Leistungsmerkmale 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 Luftschlitzz bzw. eine Öffnung hinzugefügt wird, um das Gehäuse zu „stimmen“. Die empfohlenen Gehäuse sind für hervorragende Gesamtleistung 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 feststellbare höhere Leistung auf der abgestimmten Frequenz.

Vorteile von belüfteten Gehäusen:

- Höhere Durchschnittsleistung als geschlossene Gehäuse
- Abstimmfrequenz kann leicht durch Änderung der Öffnungslänge 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 Reihenschaltung, 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 Tieftönern 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 Hohlraum (d.h. den Kofferraum, einen geschlossenen Bereich eines Bootsrumpfs) mit einer Schallwand abtrennen. Dadurch entsteht Ihr „IB“-Subwoofersystem. 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 Frequenzgang 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 Betriebstypen für Crossover, und zwar passive und aktive. Passive Crossover (Spulen oder Induktoren) werden auf den Lautsprecherkabeln zwischen Verstärker und Lautsprecher platziert. Ein aktives 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-Crossovers 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 sfianto

Casse con sfianto

Le casse con sfianto 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 frequenza più basse, mentre quelle piccole e di misura mediana sono più facili da accordare alle frequenze più alte. Il design con sfianto ha risposta meno lineare delle casse a chiusura ermetica, ma possiede un'uscita notevolmente maggiore alla frequenza di accordo.

Vantaggi delle casse con sfianto:

- 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
- Ottimo 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

Variando 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 guidato 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/ottava.

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

1230-59130-02

012115

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

ROCKFORDFOSGATE.COM



POLARIS® RANGER® FRONT SUBWOOFER ENCLOSURE

RFRNGR-FWE



Installation & Operation

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.

Table of Contents

2	Introduction
3	Installation
4	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.

Contents

- | | |
|---------------------------------|--------------------------|
| • (1) Front Subwoofer Enclosure | • Mounting Hardware |
| • (1) Wire Harness | • Plastic Wire Tie Wraps |
| • (1) Bracket for Crew model | • Foam Tape |

Installation Tools

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

- T-40 Torx Driver
- Wire Cutters

Installation Considerations

This section focuses on some considerations for installing your Polaris RANGER subwoofer kit. This subwoofer enclosure is designed to work in conjunction with Rockford's other RANGER specific audio kits and parts. If you feel unsure about installing this system yourself, have it installed by a qualified technician.

When drilling holes, make sure what is on the other side. Be sure that any electrical, fuel lines or any other important components are free and clear from the area.

⚠ WARNING

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:

⚠ CAUTION

Be sure to carefully read and understand the instructions before attempting to install this wiring 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 subwoofer kit is specifically designed to work with Rockford Fosgate's PM and RM series of 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 product information.
- Visit our **YouTube** channel for comprehensive installation videos demonstrating complete installation guides and install tips.

NEED HELP WITH YOUR INSTALLATION?

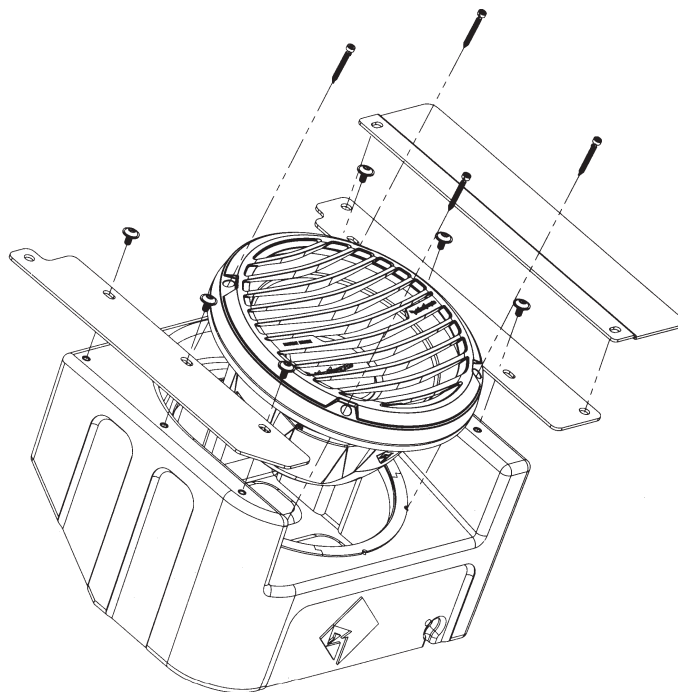


YOUTUBE VISIT OUR CHANNEL FOR A COMPLETE
INSTALLATION VIDEO AND OTHER TIPS
WWW.YOUTUBE.COM/USER/ROCKFORDFOSGATE

Applicable Models:

Full Size Polaris RANGER 900/1000/ 900 Crew/1000 Crew

This front subwoofer enclosure is designed to work with Rockford Fosgate's RFRNGR-K8 amplifier kit. The enclosure can be installed in both Crew and non-crew models under the seat on the passenger side of the vehicle.



Step 1. Wire the subwoofer to the enclosure.

NOTE: Be sure to maintain proper polarity and impedance rating for the amplifier being used for this installation. Refer to the subwoofer manufacturer's manual for wiring schematics.

Step 2. Load the subwoofer into the enclosure using the supplied screws that came with the woofer. If the subwoofer came with a protective grille, install it at this time.

Step 3. Lift up the seat bottom on the passenger side of the vehicle.

Step 4. Remove the plastic storage tray.

Step 5. Route the supplied wire harness to the front of the vehicle along the center under the floor. Be sure to secure to the main vehicle harness with the supplied plastic wire ties.

Step 6. Connect the supplied wire harness to the enclosure harness pigtail.

Step 7. Place the enclosure into the passenger side of the vehicle and secure with the existing vehicle bolts/screws.

NOTE: If installing into a Crew model, the enclosure gets installed under the front bench. An additional bracket will need to be used for the application.

NOTE: Supplied foam tape is for the storage compartments if needed.

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
PUNCH® & PRIME® Amplifiers – 1 Year
Speakers, Signal Processors, Accessories and Capacitors – 1 Year
All marine, motorcycle, motorsport products - 2 Years
Any Factory Refurbished Product – 90 Days (receipt required)

What is Covered

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5. Subsequent damage to other components.
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7. Any product not purchased from an authorized Rockford Fosgate dealer. Refer to rockfordfosgate.com dealer locator for more detail.

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— Installation assistance available at: —

RFTECH

— www.rockfordfosgate.com/rftech —



P O W E R



T400X2ad • T400X4ad
T500X1br

Introduction

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Table of Content

- 2 Introduction
- 3 Specifications
- 4-5 Design Features
- 6-13 Installation
 - Installation Considerations
 - Mounting Locations
 - Battery and Charging
 - Wiring the System
- 14-15 Operation
 - Clip Indicator Setup
 - Adjusting Crossover Frequency
 - 2/4 Channel Switch
 - Punch EQ
- 16 Troubleshooting
- 17 Limited Warranty Information

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Specifications

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.

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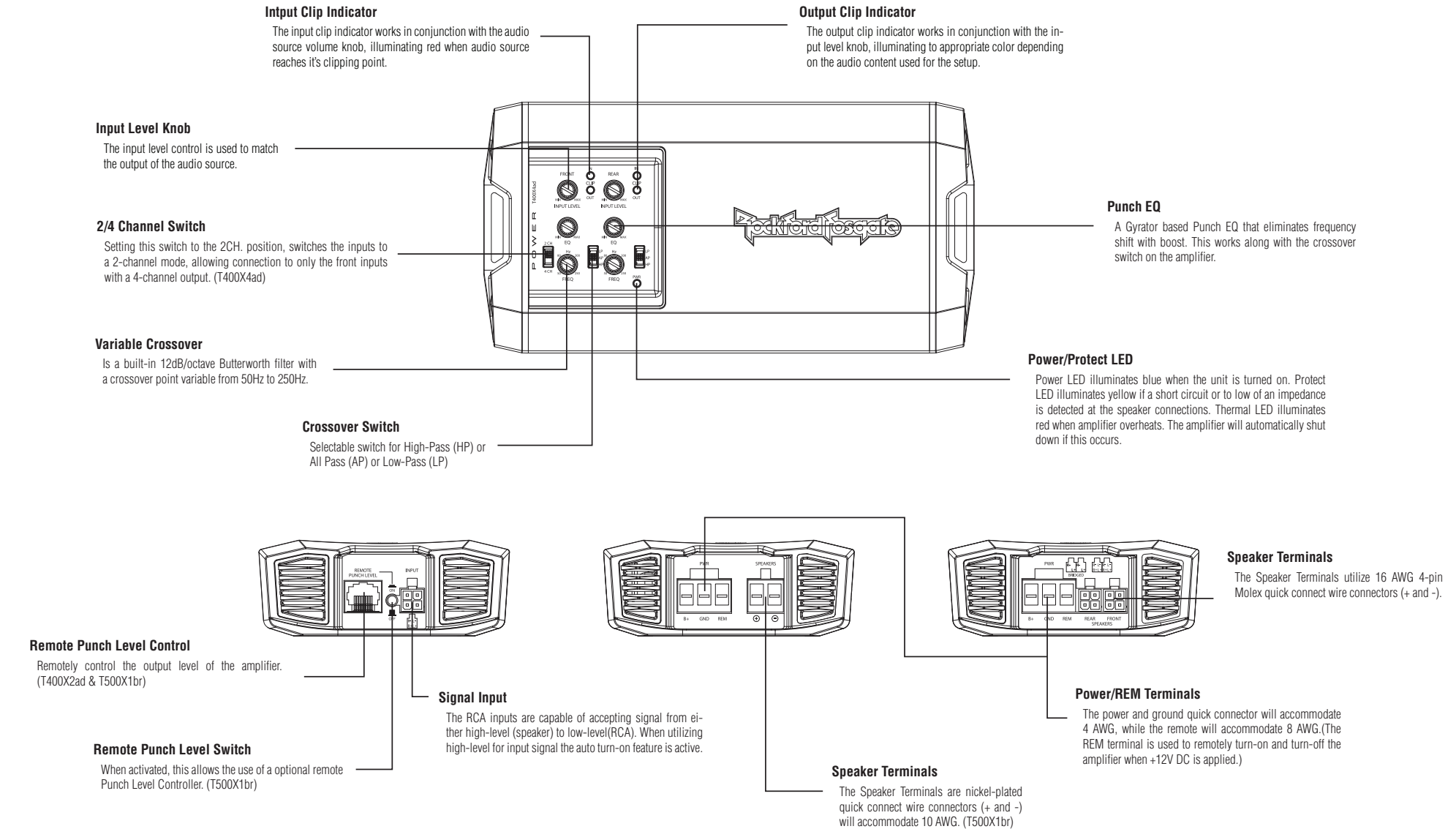
- To prevent injury and damage to the unit, please read and follow the instructions in this manual. We want you to enjoy this system, not get a headache.
- If you feel unsure about installing this system yourself, have it installed by a qualified Rockford Fosgate technician.
- Before installation, disconnect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

Mode	T400X2ad	T400X4ad	T500X1br
Rated Power - Continuous Power Rating (RMS) Measured @ 14.4V	200x2 @ 4 ohm 200x2 @ 2 ohm 400x1 @ 4 ohm*	100x4 @ 4 ohm 100x4 @ 2 ohm 200x2 @ 4 ohm*	175x1 @ 4 ohm 300x1 @ 2 ohm 500x1 @ 1 ohm
Crossover Slope	12 dB/Oct	12 dB/Oct	12 dB/Oct
Crossover Frequency	Variable 50Hz-250Hz	Variable 50Hz-250Hz	Variable 50Hz-250Hz,
Punch EQ	Variable 0 -14dB @ 12.5kHz and 0-18dB @ 45Hz	Variable 0 -14dB @ 12.5kHz and 0-18dB @ 45Hz	Variable 0-18dB @ 45Hz
Operating Voltage	9-16VDC	9-16VDC	9-16VDC
Frequency Response	20Hz-20kHz	20Hz-20kHz	20Hz-250Hz
Battery Fuse Rating (not supplied)	60A	60A	60A
THD+N @ Rated Power	<1.0% @ 4 ohm <1.0% @ 2 ohm	<1.0% @ 4 ohm <1.0% @ 2 ohm	<1.0% @ 4 ohm <1.0% @ 2 ohm <1.0% @ 1 ohm
Input Sensitivity	150mV-12V	150mV-12V	Low 150mV-5V High 300mV-12V
Input Impedance	20k	20k	20k
S/N Ratio CEA 2006	>90dB	>90dB	>90dB
S/N Ratio @ Rated Power	>110dB	>110dB	>110dB
Channel Separation	>60dB	>60dB	N/A
Common Mode Rejection Ratio	>60dB	>60dB	>60dB
Dimensions (LxWxH)	7" x 4.3" x 1.6" (17.8cm x 10.8cm x 4.1 cm)	8.3" x 4.3" x 1.6" (21.1cm x 10.8cm x 4.1 cm)	8.3" x 4.3" x 1.6" (21.1cm x 10.8cm x 4.1 cm)

* Rated power when amplifier is wired in a bridged configuration.



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



Installation

Contents

- Power Amplifier
- RCA to 4-pin Molex Input Connector(s)
- 16 AWG 4-pin Molex Speaker Connector(s) - (T400X2ad & T4004ad)
- 10 AWG Speaker Connector (T500X1br)
- Power Connector
- Quick Setup Guide
- Installation & Operation Manual
- Operation CD- (Test Tones & Installation Manual)

Installation Considerations

The following is a list of tools needed for installation:

- Fuse-holder and fuse. (See specifications for fuse rating)
- Hand held drill w/assorted bits
- Assorted connectors
- Volt/Ohm Meter
- Adequate Length—Red Power Wire
- Wire strippers
- Adequate Length—Remote Turn-on Wire
- Wire crimpers
- Adequate Length—Black Grounding Wire
- Wire cutters
- #2 Phillips screwdriver
- Battery post wrench

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. Seatbelt bolts should never be used for connecting to ground.

Mounting Locations

To ensure optimal performance, mount the amplifier with at least 1" (2.54cm) of air gap around the amplifier's heat sink to provide proper cooling.

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 heat sink.

CAUTION

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

ATVs, Golf Carts or Motorcycle

When using amplifiers on ATVs, Golf Carts or Motorcycles, Rockford Fosgate recommends to run both GND (negative) and B+ (positive) cables from the amplifier directly to the battery. We have determined that bushings between frame parts cause an excessively high resistance and is not considered a good electrical ground.

WARNING

This is especially true with motorcycles. DO NOT ground the amplifier to the radio chassis, headlamp or forks because the difference in ground potential may cause unstable operation.

CAUTION

Be sure all ground connections are properly terminated for optimum electrical continuity.

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 Prime 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.
2. Prepare the RED wire (power cable) for attachment to the amplifier by stripping 1/2" 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 fuse holder under the hood and ensure connections are water tight.
3. Trim the RED wire (power cable) within 18" of the battery and splice in an 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 an appropriate size 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 1/2" 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.

Installation

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

6. Prepare the Remote turn-on wire for attachment to the amplifier by stripping 1/2" 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.

NOTE: When utilizing high-level for input signal the auto turn-on feature is active. With the auto turn-on active, the REM becomes an output to turn on/off up to two additional amplifiers or other accessories.

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 into the RCA input jacks at the amplifier. The input sensitivity ranges from 150mV-12V to accommodate signal from either high-level(speaker) to low-level (RCA).

NOTE: All "ACTIVE" inputs must have quick connectors connected. Switch in 2CH. position, "ACTIVE" - Front channel inputs only. Switch in 4CH. position, "ACTIVE" - All Front and Rear channel inputs. Be sure to route front and rear RCA cables tightly together.

CAUTION

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

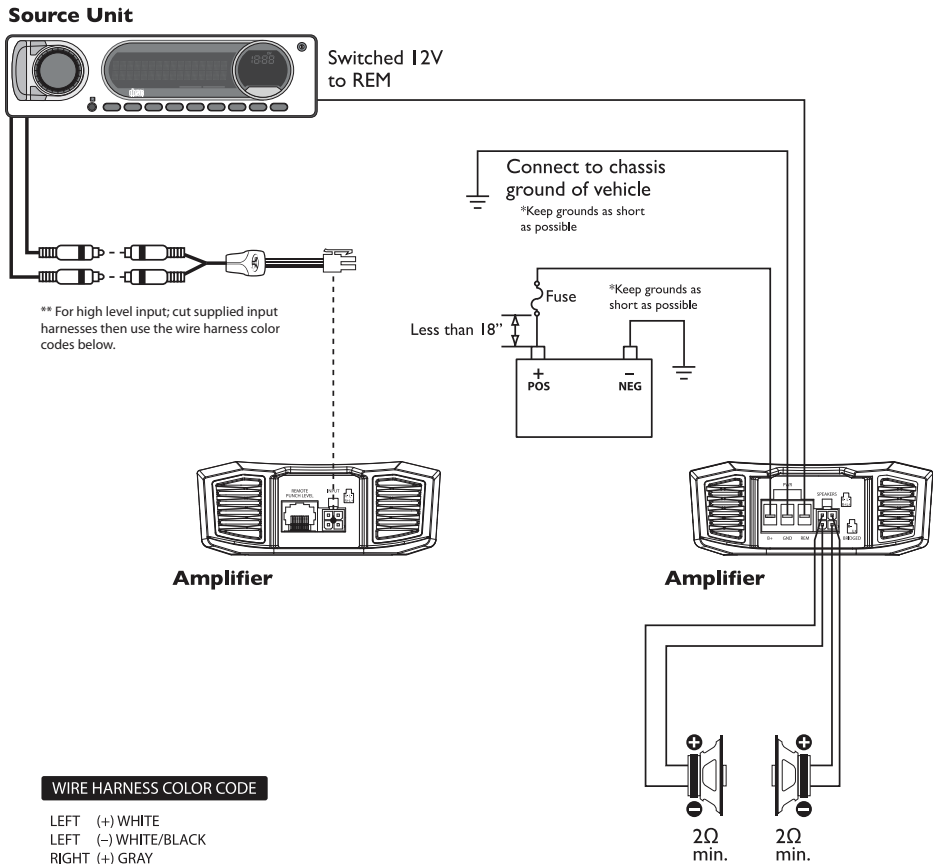
9. Connect the speakers. Strip the speaker wires 1/2" and insert into the speaker terminal and tighten the set screw to secure into place. Be sure to maintain proper speaker polarity. DO NOT chassis ground any of the speaker leads as unstable operation may result.
10. Perform a final check of the completed 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.

CAUTION

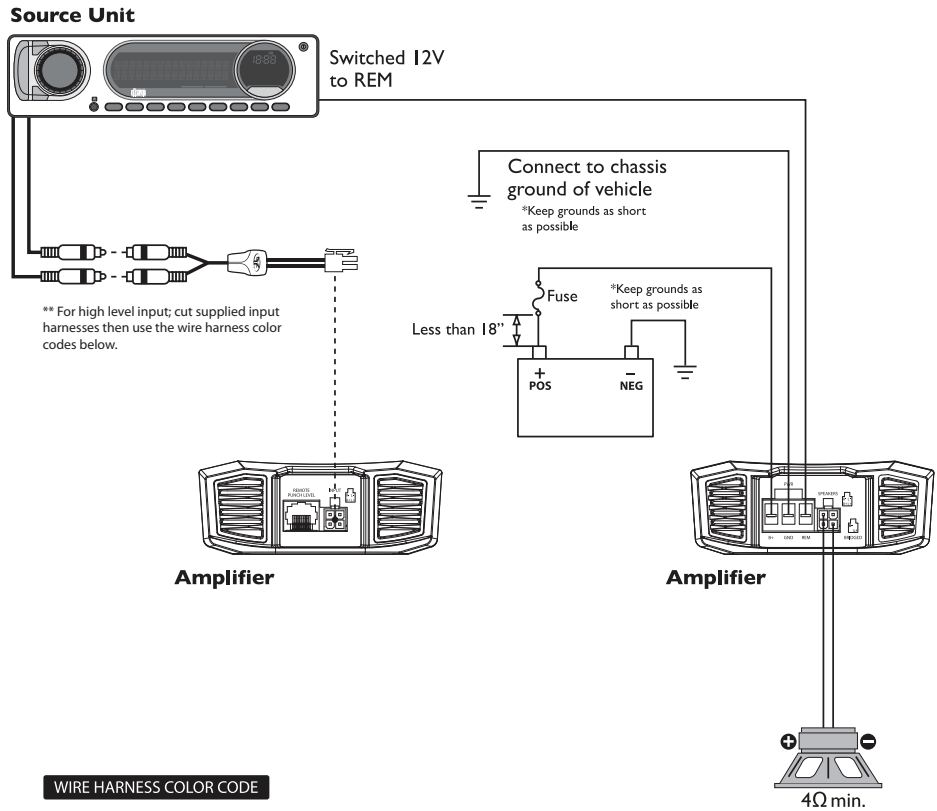
This amplifier is not recommended for impedance loads below 2-Ohm stereo/4-Ohm bridged for the multi-channel amplifiers and 1-ohm for mono amplifiers.

2-Channel (Stereo)
T400X2ad



⚠ WARNING
ATVs, Golf Carts or Motorcycle
When using amplifiers on ATVs, Golf Carts or Motorcycles, Rockford Fosgate recommends to run both GND (negative) and B+ (positive) cables from the amplifier directly to the battery.

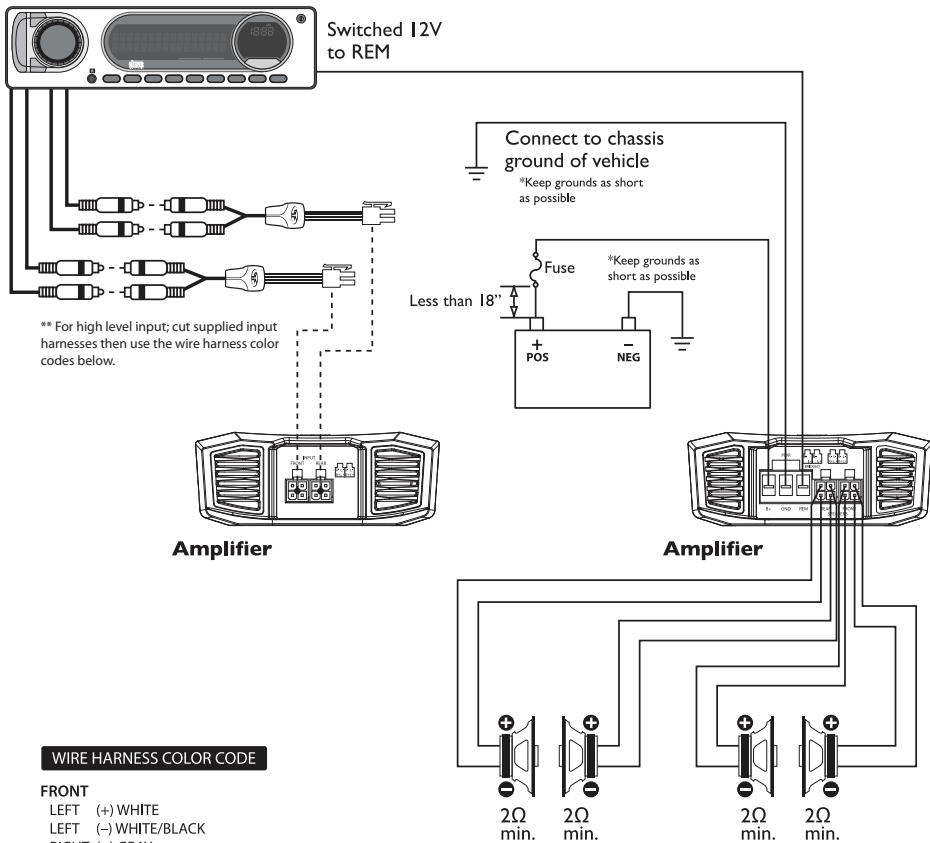
2-Channel (Mono)
T400X2ad



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When using amplifiers on ATVs, Golf Carts or Motorcycles, Rockford Fosgate recommends to run both GND (negative) and B+ (positive) cables from the amplifier directly to the battery.

4-Channel (Stereo)
T400X4ad

Source Unit



WIRE HARNESS COLOR CODE

- FRONT
LEFT (+) WHITE
LEFT (-) WHITE/BLACK
RIGHT (+) GRAY
RIGHT (-) GRAY/BLACK
- REAR
LEFT (+) GREEN
LEFT (-) GREEN/BLACK
RIGHT (+) PURPLE
RIGHT (-) PURPLE/BLACK

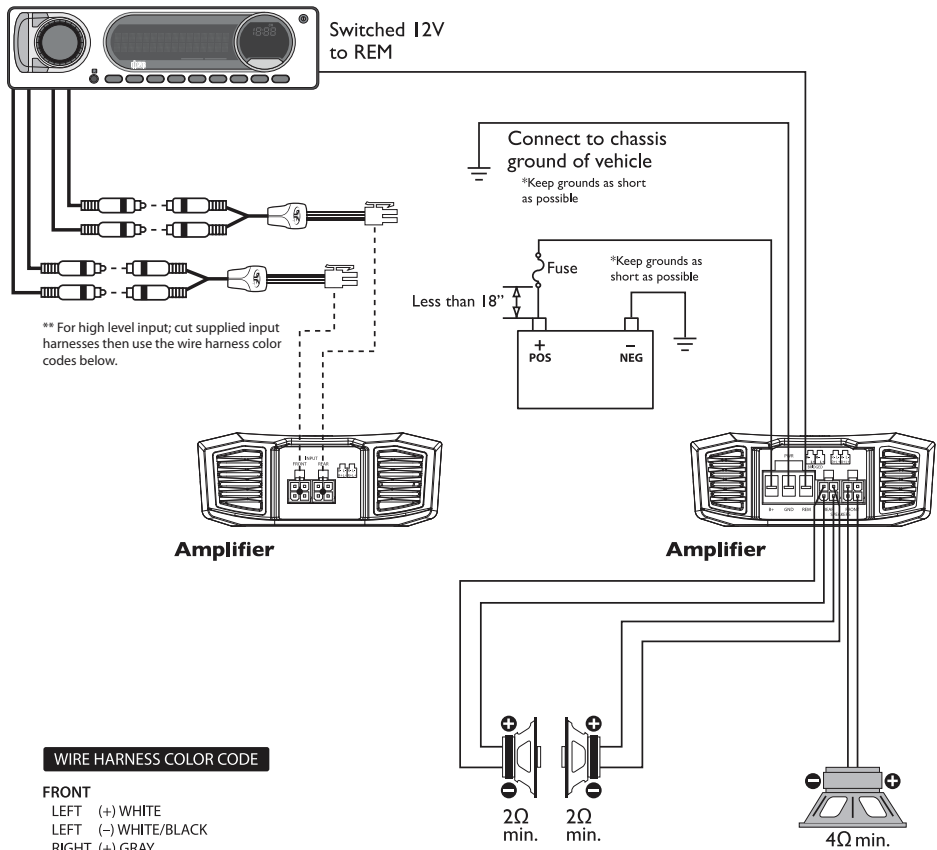
WARNING

ATVs, Golf Carts or Motorcycle

When using amplifiers on ATVs, Golf Carts or Motorcycles, Rockford Fosgate recommends to run both GND (negative) and B+ (positive) cables from the amplifier directly to the battery.

4-Channel (2ch Stereo & 1ch Mono-Bridged)
T400X4ad

Source Unit



WIRE HARNESS COLOR CODE

- FRONT
LEFT (+) WHITE
LEFT (-) WHITE/BLACK
RIGHT (+) GRAY
RIGHT (-) GRAY/BLACK
- REAR
LEFT (+) GREEN
LEFT (-) GREEN/BLACK
RIGHT (+) PURPLE
RIGHT (-) PURPLE/BLACK

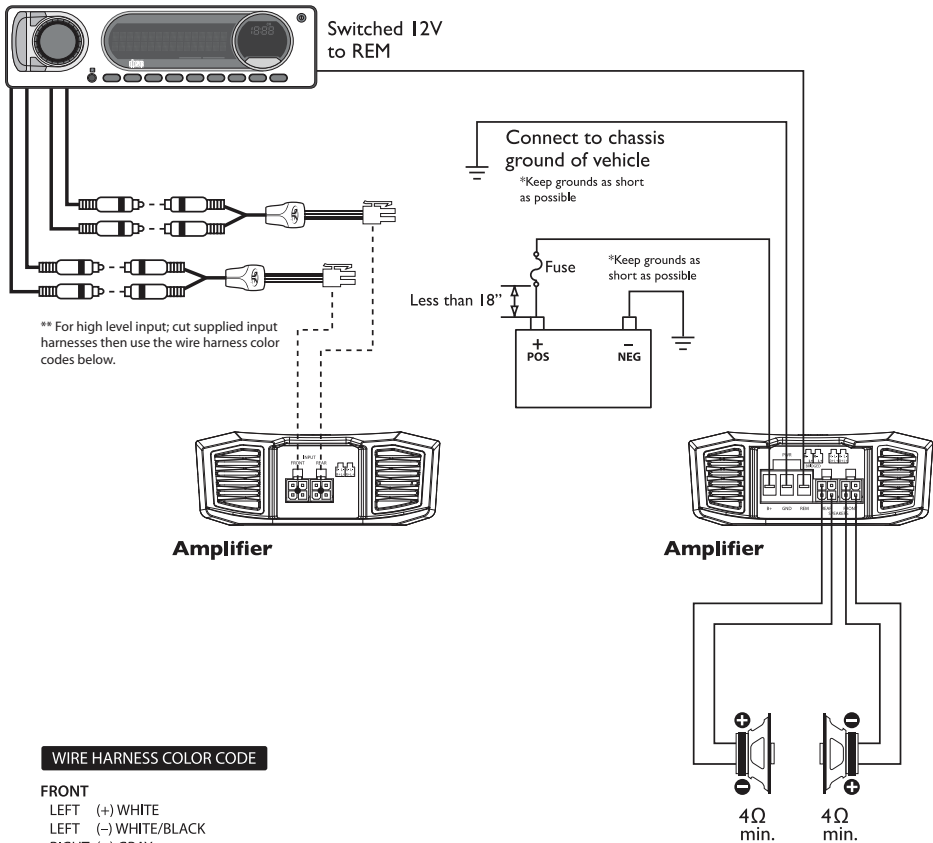
WARNING

ATVs, Golf Carts or Motorcycle

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4-Channel (2ch Mono-Bridged)
T400X4ad

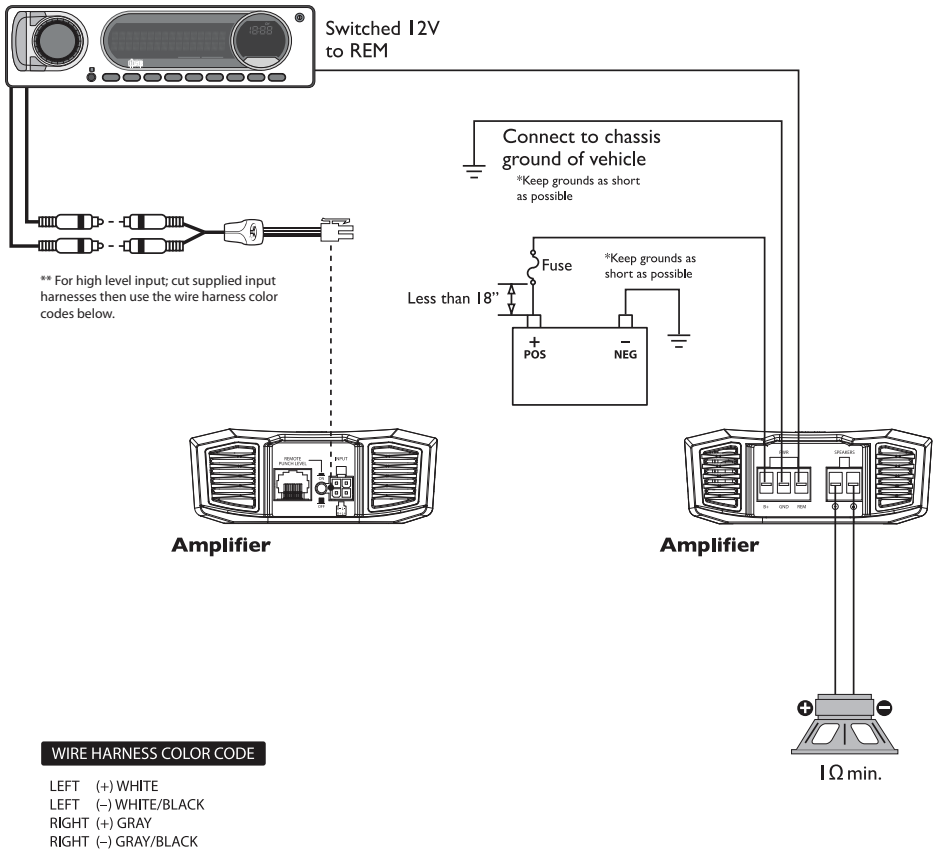
Source Unit



WARNING
ATVs, Golf Carts or Motorcycle
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Mono Wiring
T500X1br

Source Unit



WARNING
ATVs, Golf Carts or Motorcycle
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Operation

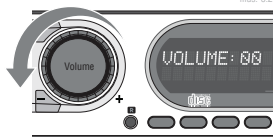
Input Clip Indicator Setup

Step 1. Be sure to disconnect all speakers from the amplifier.

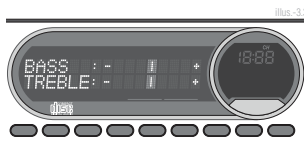


CAUTION Failure to comply may cause damage to connected components and/or amplifier.

Step 2. Turn on the source unit with volume set to zero.



Step 3. Adjust the Bass & Treble levels on the source unit to flat.

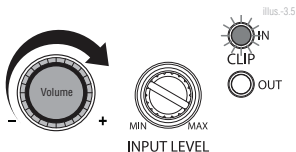


Step 4. Insert test tone or music CD to play for setup.



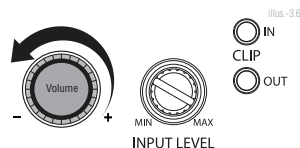
Note: Use the 40Hz @ 0dB tone (Track 5) for mono amplifier applications or the 1kHz @ 0dB tone (Track 7) for multi-channel amplifier applications. Be sure your x-over is switched to the appropriate filter setting.

Step 5. Increase the source unit volume until the Input Clip Indicator illuminates red.



Note: Input Clip can be viewed remotely with optional PLC2.

Step 6. Decrease the source unit volume slightly until the light turns completely off. This establishes your maximum source unit volume for adjusting the Output Clip Indicator.

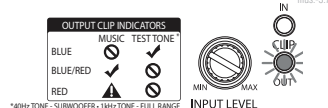


Note: Some source units will not clip.

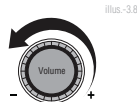
Output Clip Indicator Setup

Step 7. Be sure to disconnect Punch Level Control - PLC (if equipped) from the amplifier.

Step 8. Adjust the Input Level knob until the Output Clip Indicator illuminates to the appropriate color. Repeat for all channel levels of input.



Step 9. Turn the source unit volume down.

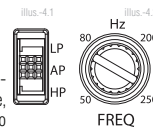


Step 10. Reconnect all speakers and Punch Level Control - PLC (if equipped) to the amplifier. Be sure to maintain proper speaker polarity.



Adjusting Crossover Frequency

Do the following individually for each channel.



Placing the crossover switch in the HP position sets the amplifier to the High Pass mode, enabling frequencies above the cut-off point to pass, adjustable between 50-250Hz.

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 Low Pass mode, enabling frequencies below the cut-off point to pass, adjustable between 50-250Hz.

Turn the crossover adjustment knob all the way down. With the system playing, turn the crossover adjustment knob up slowly until the desired crossover point is achieved.

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.

Output controls function the same as if the amplifier was in 4-channel mode.

All "ACTIVE" inputs must have RCA jacks connected. Switch in 2CH. position, "ACTIVE" - Front channel inputs only. Switch in 4CH. position, "ACTIVE" - All Front and Rear channel inputs.

NOTE: When connecting to the 4-Channel inputs, be sure to route both front and rear RCA cables tightly together.

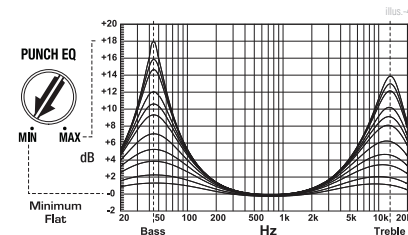
High Level Input

Connect from source signal by plugging into the RCA input jacks at the amplifier. The input sensitivity ranges from 150mV-12V to accommodate signal from high-level (speaker) input. When utilizing high-level for input signal the auto turn-on feature is active. With the auto turn-on active, the REM becomes an output to turn on/off up to two additional amplifiers or other accessories.

Operation

Punch EQ

This works along with the crossover switch on the amplifier. When set to Low-Pass (LP) operation, this is a variable Bass Boost. When set to High-Pass (HP) operation, this is a variable Mid-Bass and Treble Boost. When set to All-Pass (AP) operation, both the Bass and Treble frequencies are boosted. Set this to your personal preference while listening to the system.



CAUTION Over excursion and subsequent damage may occur at high levels of boost.

Remote Punch Level Control (Option)

NOTE: Previous (prior to 2013) PEQ, Punch Bass and Para-Punch remotes will not work with these amplifiers.

Quick Install:

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

Operation:

- When connected, the "Subwoofer Level Control" is linked and allows you to remotely control the output level of the amplifier from the dash or center console.

For the T500X1br, the Remote Punch Level Control needs to be switched to the "ON" position for this feature to be active. The T400X2ad needs to be switched to "Low-Pass" for this feature to be active. This feature is not available on the T400X4ad.

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

Troubleshooting

Troubleshooting

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

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. Check fuse(s) on amplifier. Replace if necessary.
3. Verify that Ground connection is connected to clean metal on the vehicle's chassis. Repair/replace if necessary.
4. Verify there is 9 to 14.4 Volts present at the positive battery and remote turn-on cable. Verify quality connections for both cables at amplifier, stereo, and battery/fuse holder. Repair/replace if necessary.

Protect light is on.

1. If the Protect light is on, this is a sign of a possible short in the speaker connections. Check for proper speaker connections and use a volt/ohm meter to check for possible shorts in the speaker wiring. Too low of a speaker impedance may also cause Protect to light.

Check Amplifier for audio output.

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

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.

Check Amplifier if you experience excess Engine Noise.

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

OR

1. 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

1. 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

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

OR

1. 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.

Remote not functioning.

1. BD amplifiers remote switch in "ON" position.

OR

2. Remote plugged into remote PLC "IN" port

Remote Lights not functioning.

1. Remote plugged into remote PLC "IN" port

Warranty

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

Length of Warranty

Speakers, Signal Processors, PRIME 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.

Installation assistance available at:

RFTECH

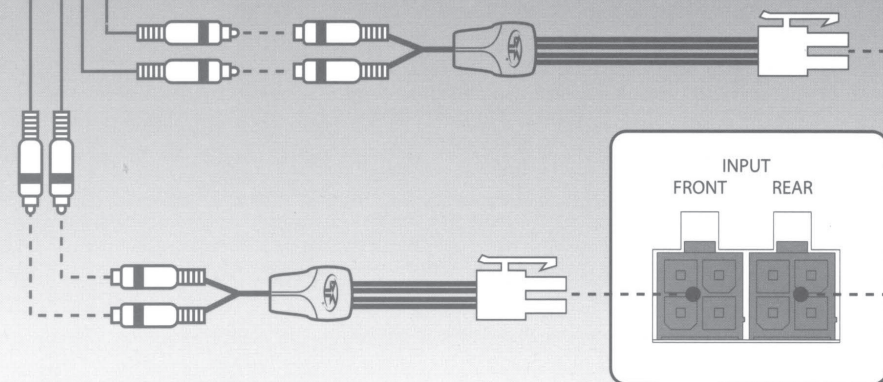
www.rockfordfosgate.com/rftech

Source Unit



Switched 12V to REM

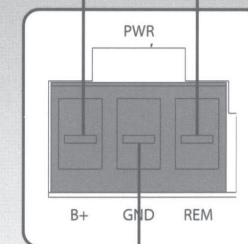
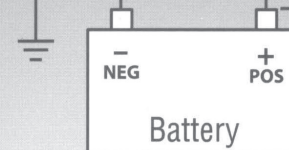
(NOT Required if using high level inputs.
Refer to manual for more information.)



*Keep grounds as short as possible

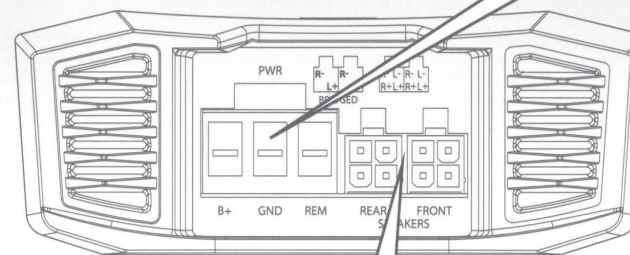
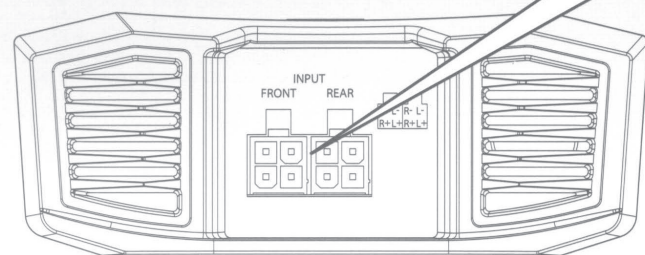
Fuse

Less than 18"



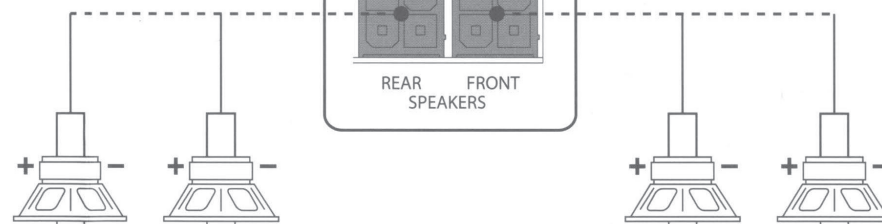
Connect to chassis ground of vehicle

*Keep grounds as short as possible.
For Motorsport and Boat applications,
the ground wire should go directly
to the negative battery terminal.

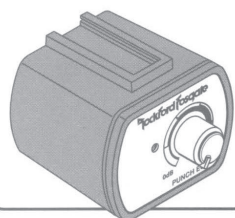


REAR
LEFT (+) GREEN
LEFT (-) GREEN/BLACK
RIGHT (+) PURPLE
RIGHT (-) PURPLE/BLACK

FRONT
LEFT (+) WHITE
LEFT (-) WHITE/BLACK
RIGHT (+) GRAY
RIGHT (-) GRAY/BLACK



Optional Accessory
PLC2 (T400X2ad/T500X1bd)



CAUTION

Be sure to connect speakers and
Punch Level Control - PLC
(if equipped) after amplifier
output clip adjustment.
(see reverse)

* Specifications subject to change without notice. Images depict typical setup.
Refer to manual for additional wiring options.

WIRE HARNESS COLOR CODE

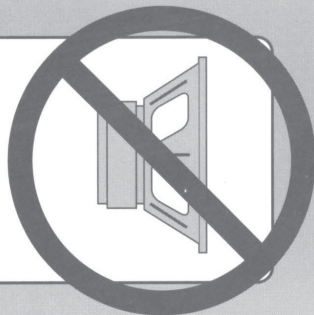
Step 1 - Input

Input Clip Indicator Setup

Be sure to disconnect all speakers from the amplifier.

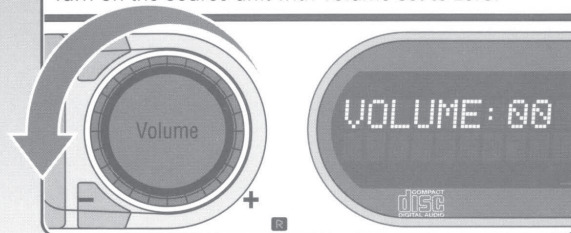
CAUTION

Failure to comply may cause damage to connected components and/or amplifier.



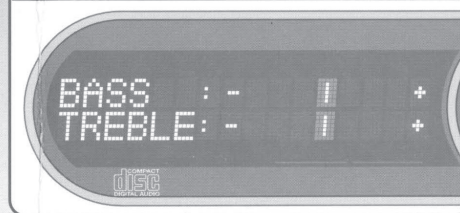
Step 2 - Input

Turn on the source unit with volume set to zero.



Step 3 - Input

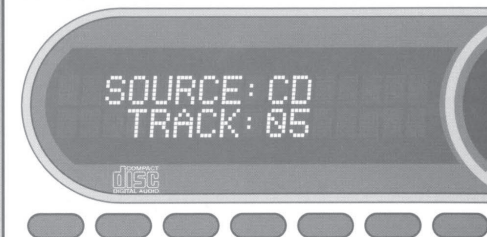
Adjust the Bass & Treble levels on the source unit to flat.



Amplifier Clip Indicator Setup

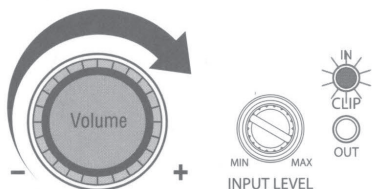
Step 4 - Input

Insert test tone or music CD to play for setup.



Note: Use the 40Hz @ 0dB tone (Track 5) for mono amplifier applications or the 1kHz @ 0dB tone (Track 7) for multi-channel amplifier applications. Be sure your x-over is switched to the appropriate filter setting.

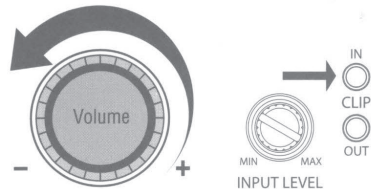
Step 5 - Input



Increase the source unit volume until the Input Clip Indicator illuminates red.

Note: Input Clip can be viewed remotely with optional PLC2.

Step 6 - Input



Decrease the source unit volume slightly until the light turns completely off. This establishes your maximum source unit volume for adjusting the Output Clip Indicator.

Note: Some source units will not clip.

Step 7 - Output

Be sure to disconnect Punch Level Control - PLC (if equipped) from the amplifier.

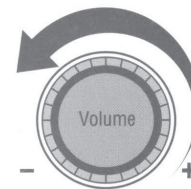
Step 8 - Output Output Clip Indicator Setup



Adjust the Input Level knob until the Output Clip Indicator illuminates to the appropriate color. Repeat for all channel levels of input.

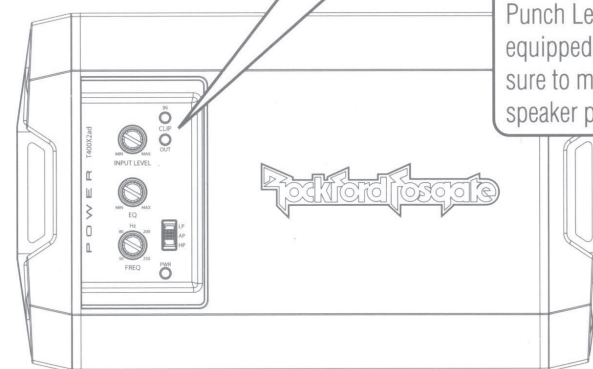
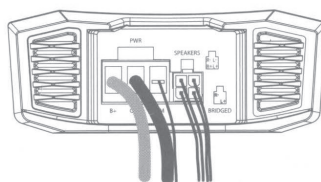
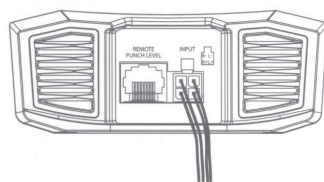
Step 9 - Output

Turn the source unit volume down.



Step 10 - Output

Reconnect all speakers and Punch Level Control - PLC (if equipped) to the amplifier. Be sure to maintain proper speaker polarity.





SETUP DISC



rockfordfosgate.com • 800.669.9899

AUDIO TRACKS

- | | | |
|---------------------------------|-------------------|----------------------------------|
| 1. 3Sixty Level Set | 11. 1kHz / -5dB | 21. Slow Sine Sweep 20Hz – 200Hz |
| 2. 3Sixty OEM Integration | 12. 4kHz / -5dB | 22. Slow Sine Sweep 200Hz – 2kHz |
| 3. Left/Right/Center Channel ID | 13. 40Hz / -10dB | 23. Slow Sine Sweep 2kHz – 20kHz |
| 4. Polarity Pulses | 14. 400Hz / -10dB | 24. Log Swept Chirp |
| 5. 40Hz / 0dB | 15. 1kHz / -10dB | 25. Uncorrelated Pink Noise |
| 6. 400Hz / 0dB | 16. 4kHz / -10dB | 26. Correlated Pink Noise |
| 7. 1kHz / 0dB | 17. 40Hz / -15dB | 27. All Bits High |
| 8. 4kHz / 0dB | 18. 400Hz / -15dB | |
| 9. 40Hz / -5dB | 19. 1kHz / -15dB | |
| 10. 400Hz / -5dB | 20. 4kHz / -15dB | |

CD-ROM CONTAINS:

Product Manual(s)

1600-58530-01

Rockford Fosgate Tempe, AZ, United States

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SETUP DISC

1. 3Sixty Level Set
2. 3Sixty OEM Integration
3. Left/Right/Center Channel ID
4. Polarity Pulses
5. 40Hz / 0dB
6. 400Hz / 0dB
7. 1kHz / 0dB
8. 4kHz / 0dB
9. 40Hz / -5dB
10. 400Hz / -5dB
11. 1kHz / -5dB
12. 4kHz / -5dB
13. 40Hz / -10dB
14. 400Hz / -10dB

15. 1kHz / -10dB
16. 4kHz / -10dB
17. 40Hz / -15dB
18. 400Hz / -15dB
19. 1kHz / -15dB
20. 4kHz / -15dB
21. Slow Sine Sweep 20Hz-200Hz
22. Slow Sine Sweep 200Hz-2kHz
23. Slow Sine Sweep 2kHz-20kHz
24. Log Swept Chirp
25. Uncorrelated Pink Noise
26. Correlated Pink Noise
27. All Bits High

CD-ROM

Product Manual(s)



COMPACT
disc
DIGITAL DATA

rockfordfosgate.com • 600 S. Rockford Drive • Tempe, AZ 85281 • 1-800-669-9899

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CERTIFICATE OF PERFORMANCE VERIFICATION



Model #: **TM400X4AD** Serial #: **[REDACTED]** Birth Date: **04/16/2015** Test System: **RF-RATS-4**

SYSTEM OPERATION	Idle Current Measure Current Draw at Idle				System Voltage Check System Reference Voltages			
	A	PASS			V1	4.954	V2	N/A
	Bias Set Output Channel Bias				High Rail Voltage Check Amplifier Rail Voltages			
	CH1	N/A	CH2	N/A	CH3	N/A	CH4	N/A
	V1	39.64	V2	-39.44	V3	N/A		
SYSTEM OPERATION	DC Offset Check for No DC Voltage on Outputs				Low Rail Voltage Check Amplifier Rail Voltages			
	CH1	.003	CH2	.004	CH3	.004	CH4	.001
	CH5	N/A			V1	15.19	V2	-15.59
	Dark Current Current Draw < 100uA				Gain Tracking Check Gain Tracking Between Channels (dB)			
	A	PASS			CH1	0.948	CH2	0.948
					CH3	0.178	CH4	0.178

SIGNAL	Frequency Response 20Hz-20kHz Sweep @ 1W RMS				High Pass Crossover Check 20Hz-20kHz Sweep @ 1W RMS			
	CH1	PASS	CH2	PASS	CH3	PASS	CH4	PASS
	CH5	N/A			CH1	PASS	CH2	PASS
	Remote Level & 2/4/5 Ch. Select Check 20Hz-20kHz Sweep @ 1W RMS				Low Pass Crossover & Punch EQ Check 20Hz-20kHz Sweep @ 1W RMS			
	CH1	N/A	CH2	N/A	CH3	N/A	CH4	N/A
SIGNAL	Common Mode Rejection Rated 20Hz-20kHz Sweep @ 1W RMS				Channel Separation from Left to Right 20Hz-20kHz Sweep @ Rated RMS Power			
	CH1	PASS	CH2	PASS	CH3	PASS	CH4	PASS
	CH5	N/A			CH1	PASS	CH2	PASS
	Signal to Noise Ratio 20Hz-20kHz Sweep @ Rated RMS Power				Total Harmonic Distortion 20Hz-20kHz Sweep @ 1W RMS (%)			
	CH1	PASS	CH2	PASS	CH3	PASS	CH4	PASS
SIGNAL	Input Sensitivity Check Sensitivity @ Minimum				Total Harmonic Distortion Rated (%) 20Hz-20kHz Sweep @ Rated RMS Power			
	CH1	PASS	CH2	PASS	CH3	PASS	CH4	PASS
	CH5	N/A			CH1	0.032	CH2	0.021
					CH3	0.031	CH4	0.026
					CH5	N/A		

RELIABILITY	Short Protect Short All Channels Sequentially @ 1% THD				Thermal Test Thermistor Voltage Check			
	CH1	PASS	CH2	PASS	CH3	PASS	CH4	PASS
	CH5	N/A			TH1	0.545	TH2	6.460
	Burn-In Amplifier Accelerated Life Monitor (45 sec. @ 1% THD)				TH3	0.009	TH4	0.569
	CH	PASS	TH	PASS	TH5	N/A		

POWER

Channel Power								Total Power	
Individual Channel Power @ 1% THD								Total RMS Power @ 1% THD	
CH1	139	CH2	139	CH3	135	CH4	135	CH5	N/A
Total Power								546 watts	
Total RMS Power @ Each Impedance @ 1% THD									
4Ω	461	2Ω	546	1Ω	N/A	2/1Ω	N/A		

ALL Rockford Fosgate amplifiers are designed, developed, manufactured and tested in accordance with the CEA-2006 amplifier rating requirements. All tests conducted at 14.4Vdc, Min. Impedance, 1kHz(ab/ad) or 100Hz (bd) unless otherwise stated.
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Are You Engineered to Rock?

Get a One-Year Extended Warranty when you use a matching Rockford Fosgate Amplifier Installation kit with your 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 your amplifier.

To extend your warranty under this program attach the serial number sticker or 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. Amplifier and wiring kit must be purchased at the same time.

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

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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 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 serial number or UPC code from the amp installation kit. Contact your Authorized Rockford Fosgate Dealer or our Customer Support Specialists (1-800-669-9899) for assistance.

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.

POLARIS® RANGER® AMPLIFIER INSTALLATION KIT

RFRNGR-K8



Installation & Operation

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.

Table of Contents

2	Introduction
3	Installation
4	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.

Contents

- (1) Amplifier Bracket
- Plastic Wire Tie Wraps
- (1) Wire Harnesses
- Mounting Screws

Installation Tools

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

- Small Flat Blade Screwdriver
- 13 mm Wrench
- Large Ratchet
- 2.5 mm Allen Driver
- 15 mm Wrench
- Wire Cutters
- 15 mm Socket
- Panel Tool

Installation Considerations

This section focuses on some considerations for installing your Polaris RANGER amplifier installation kit. This kit is designed to work in conjunction with Rockford's other RANGER specific audio kits and parts. If you feel unsure about installing this system yourself, have it installed by a qualified technician.

When drilling holes, make sure what is on the other side. Be sure that any electrical, fuel lines or any other important components are free and clear from the area.

⚠ WARNING

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:

⚠ CAUTION

Be sure to carefully read and understand the instructions before attempting to install this wiring 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 amplifier installation kit is specifically designed to work with Rockford Fosgate's compact chassis 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 product information.
- Visit our **YouTube** channel for comprehensive installation videos demonstrating complete installation guides and install tips.

NEED HELP WITH YOUR INSTALLATION?

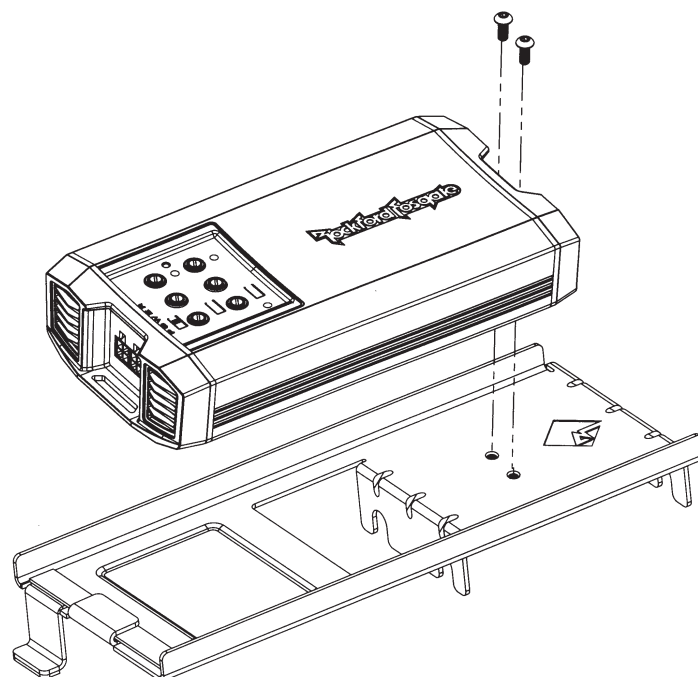


YOUTUBE VISIT OUR CHANNEL FOR A COMPLETE
INSTALLATION VIDEO AND OTHER TIPS
WWW.YOUTUBE.COM/USER/ROCKFORDFOSGATE

Applicable Models:

Full Size Polaris RANGER 900/1000/ 900 Crew/1000 Crew

This amplifier installation kit is designed to work with Rockford Fosgate's RANGER specific enclosures and dash kits. The amp kit can be installed in both Crew and non-crew models under the dash above the steering column.



Step 1. Remove the top dash panel.

Step 2. Loosen the (2) nuts on the steering column support using a 15 mm wrench and socket.

NOTE: You do not need to completely remove the nuts.

Step 3. To mount the bracket, line up the (2) notches on the bracket and slide them over the bolts that were just loosened. The tab faces toward outside of the vehicle.

Step 4. Plug the input, output and power/ground harnesses into the amplifier before attaching to the bracket.

Step 5. Mount the amplifier to the bracket using the (2) supplied screws.

Step 6. Connect the power and ground to the battery terminals.

Step 7. Connect input connector(s) from the radio.

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

PUNCH® & PRIME® Amplifiers – 1 Year

Speakers, Signal Processors, Accessories and Capacitors – 1 Year

All marine, motorcycle, motorsport products - 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. Products 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 installation, operations, theft, water (on non-Element Ready products).
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. Refer to rockfordfosgate.com dealer locator for more detail.

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

Please 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/rfttech —

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