

# ENCOUNTER

## AMPLIFIER MODELS

EN-AM6001, EN-AM8001, EN-AM3002  
EN-AM4502, EN-AM6004, EN-AM10005

**FUSION®**

## FUSION CULTURE

There's no point doing something if no one notices. We've always believed the way to make things happen is by getting noticed. From our product, to our demo cars, to our events, FUSION is about making some noise.

Now you are ready. Step out of the shadows and announce you've arrived in a world where the old limits are left behind. Where technology is creatively combined with the latest in product innovation. Where new levels of entertainment are delivered with outstanding performance and quality. Our development team create distinctively different products; subwoofers, amplifiers, speakers and peripherals that redefine what can be done in car audio.

Leave the old behind and push the limits of what can be achieved in car audio. Make some noise.

For more information about FUSION Car Audio visit our website at [www.fusionelectronics.com](http://www.fusionelectronics.com) or email [technical@fusionelectronics.co.nz](mailto:technical@fusionelectronics.co.nz)

## ENCOUNTER

Behold the power of green. The Encounter range is where you discover the potential of a FUSION Car Audio system. All FUSION products are engineered to the highest standards, delivering solid ongoing performance and Encounter puts that power in your hands.

To optimise your FUSION experience, we recommend you have your FUSION product installed by an Authorised FUSION Dealer. Please read the warranty policy, keep your purchase receipt and original packaging.

If after reading this manual you still have questions regarding this product, please contact Technical Customer Services via email [technical@fusionelectronics.co.nz](mailto:technical@fusionelectronics.co.nz)

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## RECORD YOUR PRODUCT DETAILS HERE:

MODEL NUMBER \_\_\_\_\_ DATE OF PURCHASE \_\_\_\_\_

AFFIX RECEIPT HERE

**WARNING!** Audio Systems can produce sound levels over 135dB. Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss!  
Please watch for emergency vehicles as warning signals may not be heard. USE COMMON SENSE!

## AMPLIFIER FEATURES

FUSION has designed and engineered a range of efficient amplifiers that display a unique Encounter green aluminium extrusion and black amplifier end caps with the Encounter super graphic. The Encounter amplifier range provide style and great sound reproduction from out of this world.

- 2 ohm stable MOSFET amplifier design
- Accurate stated amplifier ratings
- Nickel plated RCA input and output ports
- Variable LP and HP electronic x-over @ 6dB/octave
- 3 way protection circuitry (short circuit, overcurrent, thermal)
- Power and protection LED indicator
- Class A/B circuitry

# AMPLIFIER SPECIFICATIONS

Specifications	EN-AM6001	EN-AM8001	EN-AM3002	EN-AM4502	EN-AM6004	EN-AM10005
MAX Power Rating (Watts/Channel)	600	800	300	450	600	1000
THD @ Rated Power 1kHz/100Hz	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Channel Separation	—	—	50	50	50	50
Frequency Response Hz (-3dB)	10Hz – 250Hz	10Hz – 250Hz	10Hz – 40kHz	10Hz – 40kHz	10Hz – 40kHz	10 – 250Hz (5CH) 10 – 40kHz (1-4)
Signal To Noise	>90	>90	>90	>90	>90	>90
Variable High Pass Filters	—	—	6dB/Octave	6dB/Octave	6dB/Octave	6dB/Octave
Variable Low Pass Filter	6dB/Octave	6dB/Octave	6dB/Octave	6dB/Octave	6dB/Octave	6dB/Octave
Bass Boost @ 45Hz	0dB/6db/12dB	0dB/6db/12dB	—	—	—	—
Input Sensitivity	0.2 – 8V	0.2 – 8V	0.2 – 8V	0.2 – 8V	0.2 – 8V	0.2 – 8V
Input Impedance	20K	20K	20K	20K	20K	20K
Fuse Rating	30A	25A x 2	25A	35A	25A x 2	25A x 3

## AMPLIFIER RATINGS

### EN-AM6001 – MONOBLOCK AMPLIFIER

#### Power Ratings @ 14.4VDC

167 Watts RMS x 1 Channel @ 4 Ohms and 1%THD+N

247 Watts RMS x 1 Channel @ 2 Ohms and 1%THD+N

### EN-AM8001 – MONOBLOCK AMPLIFIER

#### Power Ratings @ 14.4VDC

262 Watts RMS x 1 Channel @ 4 Ohms and 1%THD+N

368 Watts RMS x 1 Channel @ 2 Ohms and 1%THD+N

### EN-AM3002 – 2 CHANNEL AMPLIFIER

#### Power Ratings @ 14.4VDC

69 Watts RMS per Channel @ 4 Ohms and 1%THD+N

92 Watts RMS per Channel @ 2 Ohms and 1%THD+N

180 Watts RMS Bridged Channels @ 4 Ohms and 1%THD+N

### EN-AM4502 – 2 CHANNEL AMPLIFIER

#### Power Ratings @ 14.4VDC

95 Watts RMS per Channel @ 4 Ohms and 1%THD+N

140 Watts RMS per Channel @ 2 Ohms and 1%THD+N

270 Watts RMS Bridged Channels @ 4 Ohms and 1%THD+N

### EN-AM6004 – 4 CHANNEL AMPLIFIER

#### Power Ratings @ 14.4VDC

76 Watts RMS per Channel @ 4 Ohms and 1%THD+N

98 Watts RMS per Channel @ 2 Ohms and 1%THD+N

195 Watts RMS Bridged Channels @ 4 Ohms and 1%THD+N

### EN-AM10005 – 5 CHANNEL AMPLIFIER

#### Power Ratings @ 14.4VDC

80 Watts RMS x 4 + 170 Watts x 1 @ 4 Ohms and 1%THD+N

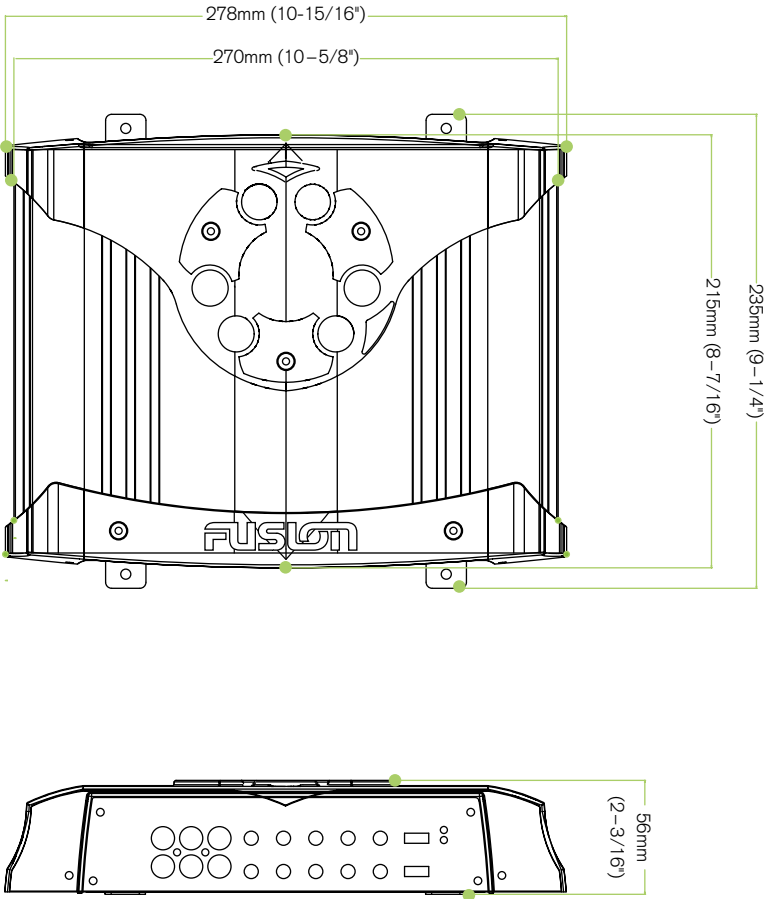
100 Watts RMS x 4 + 260 Watts x 1 @ 2 Ohms and 1%THD+N

200 Watts RMS Bridged Channels x 2 + 170 Watts x 1 @ 4 Ohms and 1%THD+N

# AMPLIFIER DIMENSIONS

## MONOBLOCK AMPLIFIER

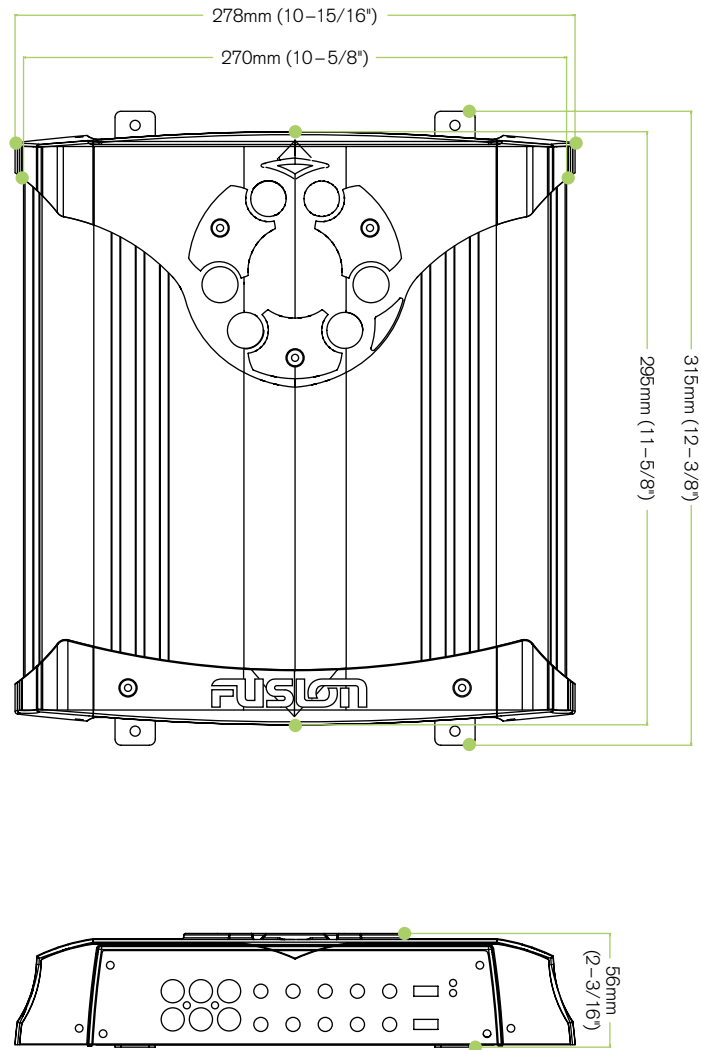
EN-AM6001



# AMPLIFIER DIMENSIONS

## MONOBLOCK AMPLIFIER

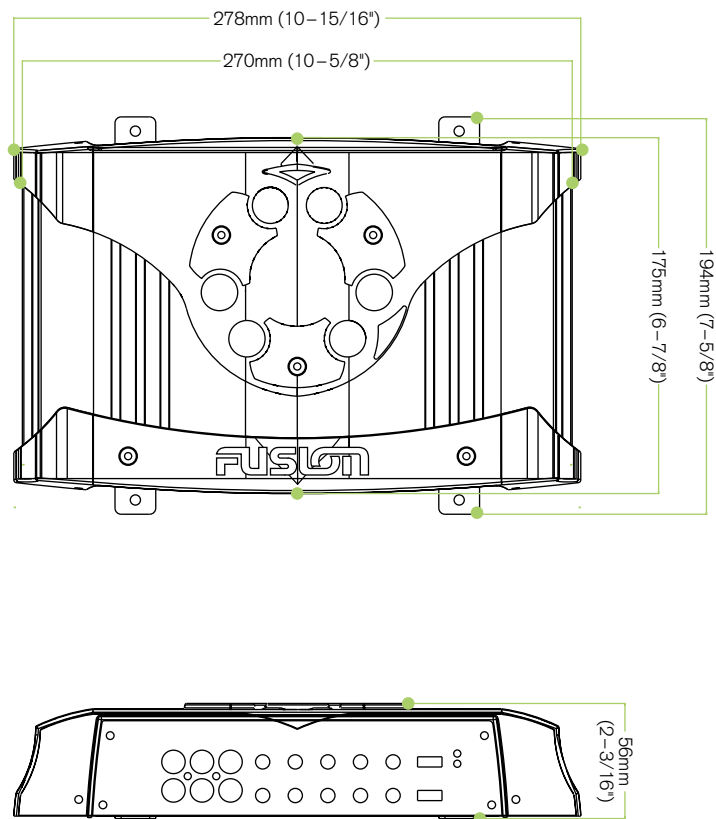
EN-AM8001



# AMPLIFIER DIMENSIONS

## 2 CHANNEL AMPLIFIER

EN-AM3002

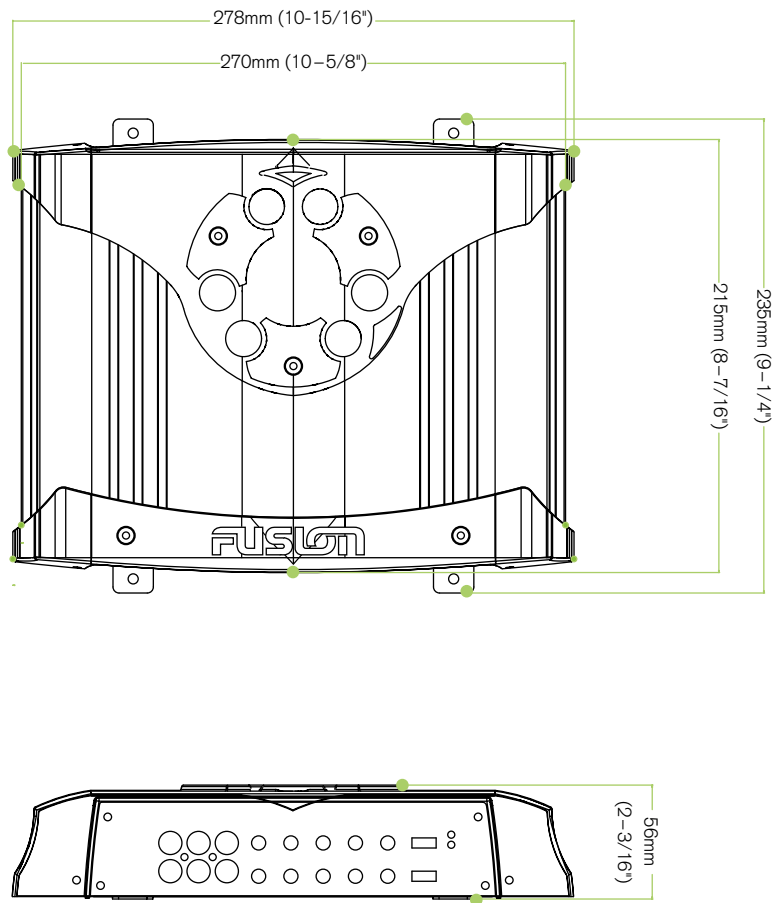




# AMPLIFIER DIMENSIONS

## 2 CHANNEL AMPLIFIER

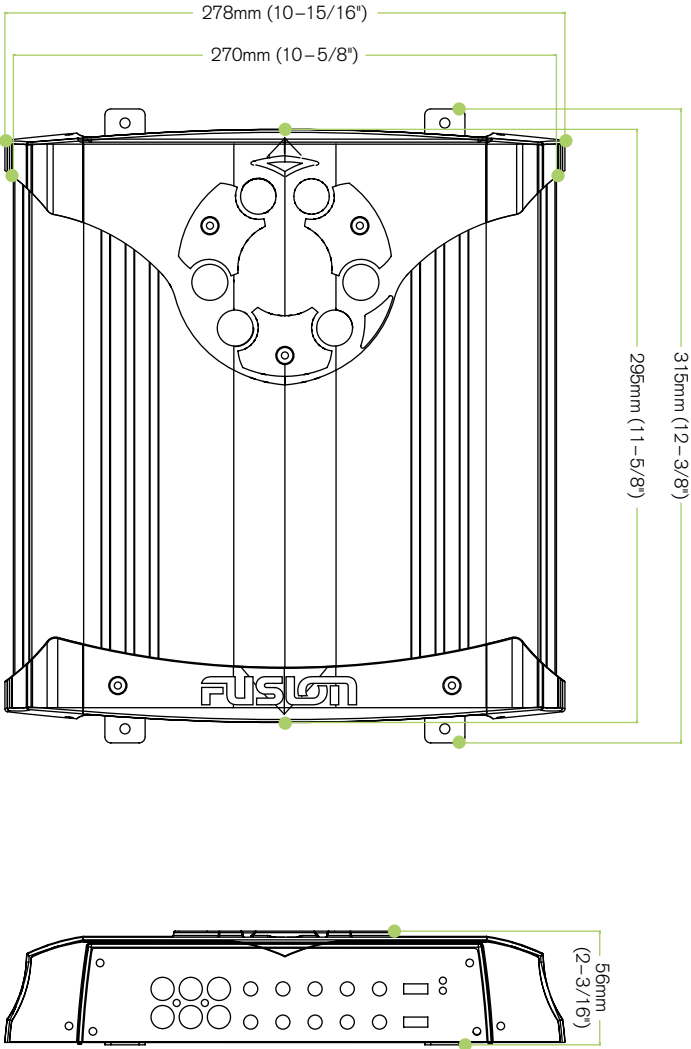
EN-AM4502



# AMPLIFIER DIMENSIONS

## 4 CHANNEL AMPLIFIER

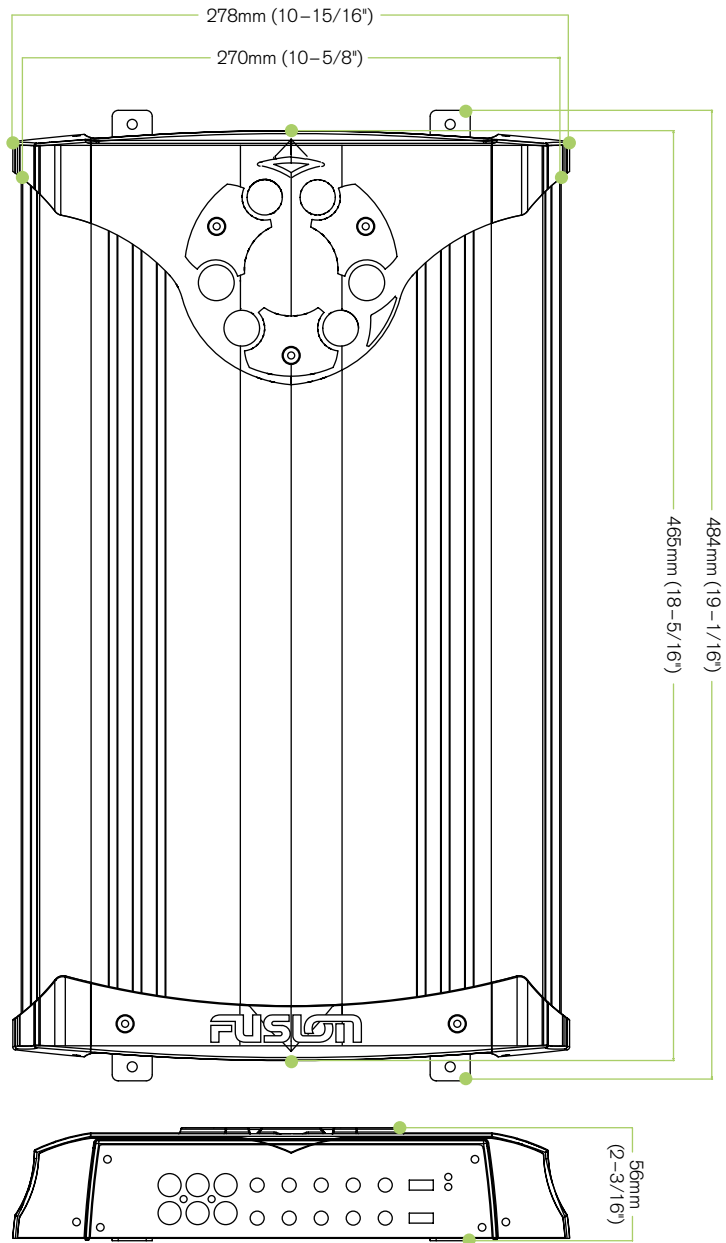
EN-AM6004



# AMPLIFIER DIMENSIONS

5 CHANNEL AMPLIFIER

EN-AM10005



## INSTALLATION

Before any wiring and installation is performed, FUSION recommends you first plan the complete installation. Look at wiring routing, amplifier location and fitment. Please re-check the installation at completion.

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Appropriate mounting is very important for prolonged life expectancy of any amplifier. Select a location that allows enough space so sufficient airflow is maintainable and a location that provides protection from moisture. Keep in mind that an amplifier should never be mounted upside down. Upside down mounting will compromise heat dissipation through the heatsink and could engage the thermal protection circuit.

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Excessive heat will shorten your amplifiers life. To maximise heat dissipation, be sure to leave at least 2.5 inches of clearance around the amplifier. If space is of the essence and the amplifier must be mounted in an enclosed or restricted area, a small 3 inch fan should be used in correspondence with a duct so the heat can flow past the heatsink.

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**WARNING:** Do not mount any amplifier on a subwoofer enclosure as extended exposure to vibration may cause malfunction of the amplifier.

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To avoid scratching your new FUSION Amplifier, pre-drill the mounting holes with either a 3mm or 9/64" diameter drill bit and use the screws supplied in the accessory kit.

## INSTALLATION WARNING

- 1: Ensure the vehicle 12 volt lead is removed from the battery before any equipment is connected
- 2: Investigate the vehicles gas tanks, brake lines and electrical wiring locations before you begin installation
- 3: Attach the product securely to the vehicle to prevent damage in the event of an accident
- 4: Ensure all wiring is protected to avoid damage or pinching of the cables

# WIRING

Make sure before any connection is made to the amplifier or source unit, ensure that you turn the audio system off. Failure to do so could result in either the stock system or your new FUSION product being damaged. FUSION will not warranty damaged amplifiers due to incorrect installation.

When wiring the FUSION amplifiers, ensure that the wires are away from sharp objects and that rubber grommets and insulated bungs are used when wiring through door jams and any other steel panels. FUSION recommends using 8 gauge power and ground wire for power installation. Please see power cable calculator (Fig.1).

Ensure that when connecting the wires to the speakers and audio system, the terminals and connections are protected from the vehicle chassis and shorting to each other. If the wires short

## POWER CABLE CALCULATOR

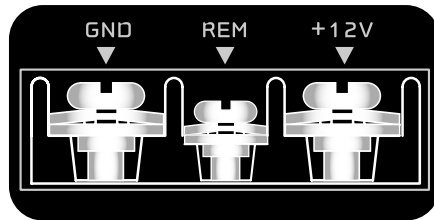
TOTAL AMPERAGE	0-4 FT	4-7 FT	7-10 FT	10 -13 FT	13-16 FT	16-19 FT	19-22 FT	22-28 FT
0 – 20	14	12	12	10	10	8	8	8
20 – 35	12	10	8	8	6	6	6	4
35 – 50	10	8	8	6	4	4	4	4
50 – 65	8	8	6	4	4	4	4	2
65 – 85	6	6	4	4	2	2	2	0
85 – 105	6	6	4	2	2	2	2	0
105 – 125	4	4	4	2	0	0	0	0
125 – 150	2	2	2	0	0	0	0	0

The above chart shows cable gauges to be used, if no less than a 0.5 volt drop is acceptable. If aluminium wire or tinned wired is used, the gauges should be of an even larger size to compensate. Cable gauge size calculation takes into account terminal connection resistance.

Fig.1

## CONNECTION

**Note:** Ensure the audio system is off during the installation of FUSION product. Once the installation is complete FUSION recommends that you turn the volume of the source unit up slowly so not to damage the speakers. Please recheck the complete installation prior to turning the audio system on.



POWER TERMINAL BLOCK

## POWER

FUSION amplifiers should be wired directly to the vehicle battery using the appropriate sized cable. Start at the vehicle battery and run the power cable through to the amplifier. FUSION recommends the use of grommets when passing the power cable through any metal wall, and to avoid sharp corners or sharp body parts that may easily cut through the insulation on the cable.

Avoid running the power cable over engine components or near heater cores. The use of an inline fuse or circuit breaker is essential. This will prevent the risk of a potential fire caused by a short circuit in your power cable. Connect the fuse holder or circuit breaker as close to the battery positive terminal as possible. Use a fuse or circuit breaker of equal value as that found on the chassis of your FUSION amplifier. You may now connect the cable to the battery, but remember to leave the fuse out or circuit breaker off until all other cable connections are made.

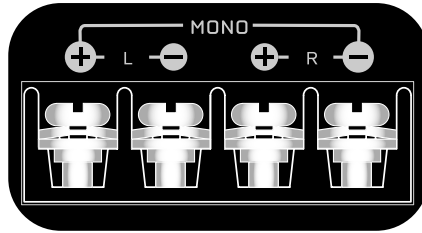
## GROUND

When grounding your FUSION Amplifier locate a metal area close to the amplifier that is a good source of ground (preferably the floor pan). Once again, investigate the area you wish to use for electrical wires, vacuum lines, and brake or fuel lines. Use either a wire brush or sandpaper to eliminate unwanted paint. This will allow a better contact for your ground. Use the same gauge cable for the ground as you did for the power. Secure the ground cable to the body using a bolt, star washer and nut. Spread silicon over the screw and bare metal to prevent rust and possible water leaks. Now it's time to connect the power and ground cables to the amplifier. Cut both cables to length. Use a #2 Phillips type screwdriver to loosen the +12V and the GND connections on the amplifier. Terminate the ground first, and then the +12V. Make sure that you terminate them into the correct terminals, now tighten the screws down securely.

## REMOTE TURN-ON

This terminal must be connected to a switched +12V source. Typically, remote turn-on leads are provided at the headunit which will turn on and off the amplifier in correspondence with the source. If the head unit does not have a remote turn-on lead, then a power antenna wire can be used. If neither of these leads are present on the head unit then a switched +12V supply must be used, like the ACC +12V.

Run a minimum of 18 gauge wire from the amplifier location to the source of the switched +12V lead. If possible, route this wire on the same side of the vehicle as your power cable. Connect the source remote output to the wire. Go back to the amplifier and cut the wire to length. Loosen the screw terminal marked REM on the amplifier using a #2 Phillips type screwdriver. Slip the wire into the connector and tighten the screw securely.



SPEAKER TERMINAL BLOCK

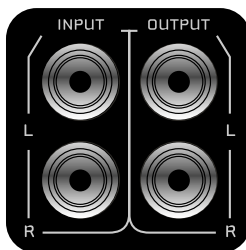
## SPEAKER LOAD

Keep in mind, FUSION Encounter series are high power amplifiers and not high current amplifiers. In other words they require a minimum impedance of 2 ohms STEREO and 4 ohms bridged MONO to operate trouble free. Too low an impedance could send your FUSION amplifier into protection mode and/or damage the amplifier.

## SPEAKER WIRING

Choose the correct speaker wire for your application. Most applications will require a minimum of 16 gauge. Route the speaker wire using the same precautions you did when you ran the power cables. Terminate these wires at the speaker end using insulated speaker terminals (not supplied) or by soldering the connection. Make sure the speaker connections are positive to positive and negative to negative. At the amplifier end, use a #2 Phillips screwdriver to loosen the speaker terminals on the amplifier. Connect the speaker wires and tighten the screws securely. Check to make sure you've maintained proper polarity and balance.





RCA INPUT CONNECTION

## LOW LEVEL INPUTS

Choose the correct length and style of RCA interconnects for your needs. The FUSION range of RCA's gives you a wide choice to suit your needs. These have multiple layers of shielding or are a twisted pair variety for better noise rejection (consult your FUSION dealer if unsure which to purchase).

Be extra careful with your RCA interconnects. Car environments are notorious for poorly insulated wires. This means that hiss, engine noise, and fan noise can easily be picked up through RCA cables if run incorrectly. Avoid running your RCA's near large wire looms and electric fans if possible. Run your RCA cables on the opposite side of the vehicle to the power cable. Be sure to check for correct balance. (Red is right and black or white is left).

## LEVEL CONTROL

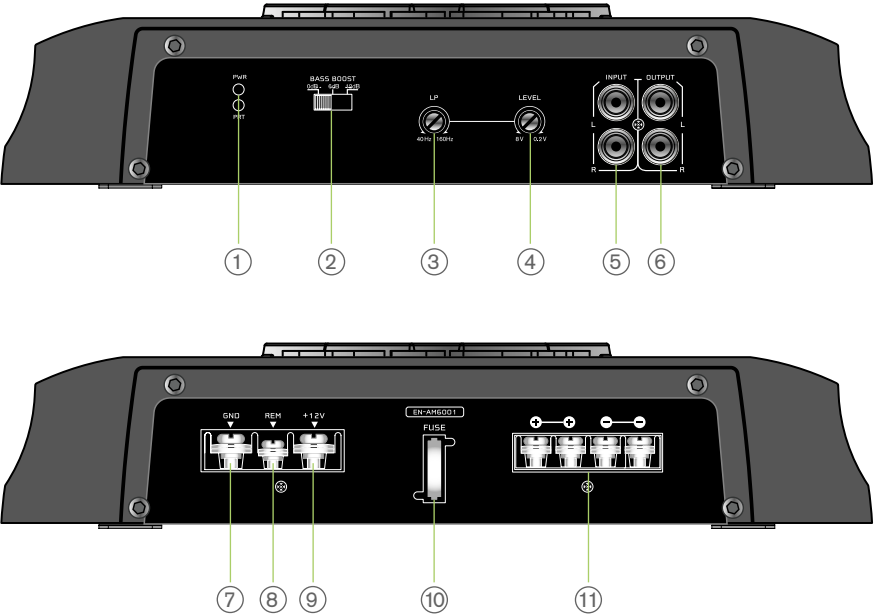
The LEVEL control on the amplifier allows you to match the input level of the amplifier to the output level of your head unit. Matching the input can be accomplished in three simple steps:

- 1: Turn the LEVEL control on the amplifier to minimum.
- 2: Turn up the headunit and adjust to 3/4 maximum volume ensuring that the BASS and TREBLE are set to zero.
- 3: Adjust the LEVEL control until desired volume is achieved without audible distortion. Remember, the gain control is not a volume control. Ignoring the three steps above may leave you with damaged speakers and/or a damaged amplifier.

# CONTROL DESCRIPTIONS

## MONOBLOCK AMPLIFIER

EN-AM6001, EN-AM8001

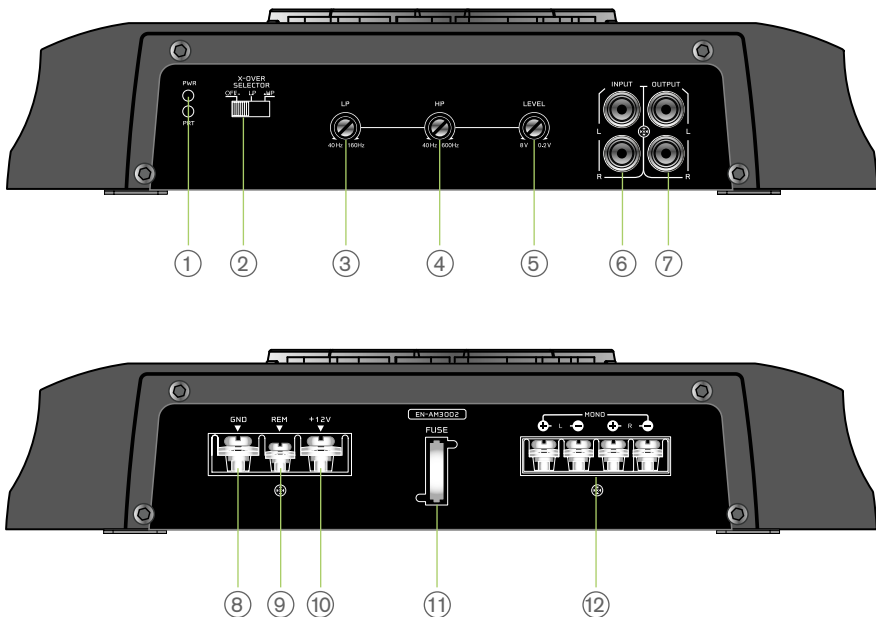


- 1 POWER AND STATUS LED'S:**  
This displays 'green' if the amplifier has been correctly powered up and 'red' if any faults are present.
- 2 BASS BOOST:**  
Set the bass boost switch to increase the bass at 45Hz. Selectable from 0dB, 6dB and 12dB gains
- 3 LOW PASS:**  
Ensure the crossover frequency is set at 100Hz or below. This feature is designed to filter out all mid to high frequencies that only full range speakers should produce. **Note:** Failure to do so could result in speaker damage.

- 4 LEVEL:**  
This allows level adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the bass and treble on zero, then slowly turn up this amplifier level control towards the MAX end of the control. **Note:** If the sound becomes distorted, turn this control down.
- 5 RCA INPUT:**  
Connect these RCA connectors to a head unit with a low level output connection.
- 6 RCA OUTPUT:**  
Use these RCA output connectors to connect to a secondary amplifier. This output is a pass-thru connection derived from the RCA input connector so the signal level and frequency response is the same as the original input signal.
- 7 GROUND INPUT:**  
Connect directly to the vehicle's chassis via an 8 gauge power cable.  
**Note:** This is the first wire to connect when wiring up an amplifier, damage could result if this is not done.
- 8 REMOTE INPUT:**  
This terminal is for turning the amplifier on and off. The remote input requires a switched positive (+12V) to power 'ON' the amplifier, this can be found on the rear of the head unit in the form of a electric antenna output, or a remote on output. If not available you can wire to the ACC position on the key.
- 9 +12V INPUT:**  
Connect directly to the vehicle battery positive (+) terminal via an 8 gauge power cable, with an inline fuse or circuit breaker at the battery end.  
**Note:** This is the last wire to connect up during installation, damage could result if this is not done .
- 10 FUSES:**  
Please ensure correct type of fuse is fitted, as specified in this manual.  
**Note:** EN-AM6001 has 1 x 30A fuse and the EN-AM8001 has 2 x 25A fuses.
- 11 SPEAKER OUTPUT:**  
See 2/1 channel installation diagrams on **page 26** for correct speaker connection.

## CONTROL DESCRIPTIONS

### 2 CHANNEL AMPLIFIER EN-AM3002, EN-AM4502



#### 1 POWER AND STATUS LED'S:

This displays 'green' if the amplifier has been correctly powered up and 'red' if any faults are present.

#### 2 CROSSOVER SELECTOR:

Set the appropriate mode of operation. The three positions available are OFF, LP and HP. See points 3 and 4 below.

#### 3 LOW PASS:

Set the crossover switch 2 to LP when a subwoofer is connected. Ensure the crossover frequency is set at 100Hz or below. This feature is designed to filter out all mid to high frequencies that only full range speakers should produce.

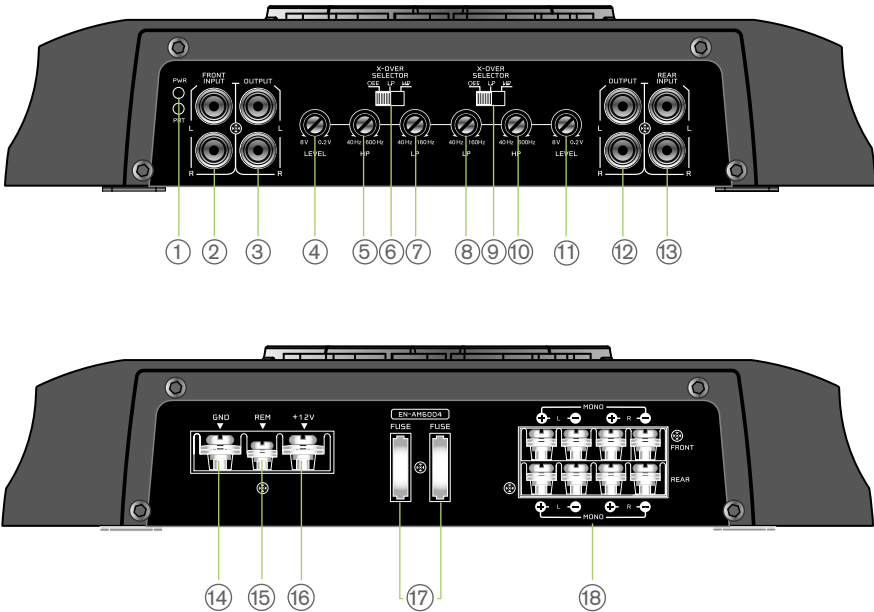
**Note:** Failure to do so could result in speaker damage.

- 4 HIGH PASS:**  
Set the crossover switch 2 to HP and turn this control to 65Hz or above when using speakers smaller than 6 x 9". This feature is designed to filter out all low bass frequencies that only subwoofers should produce.  
**Note:** Failure to do so could result in speaker damage.
- 5 LEVEL:**  
This allows level adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the bass and treble on zero, then slowly turn up this amplifier level control towards the MAX end of the control. **Note:** If the sound becomes distorted, turn this control down.
- 6 RCA INPUT:**  
Connect these RCA connectors to a head unit with a low level output connection.
- 7 RCA OUTPUT:**  
Use these RCA output connectors to connect to a secondary amplifier. This output is a pass-thru connection derived from the RCA input connector so the signal level and frequency response is the same as the original input signal.
- 8 GROUND INPUT:**  
Connect directly to the vehicle's chassis via a 8 gauge power cable.  
**Note:** This is to be the first wire to connect when wiring up an amplifier, damage could result if this is not done.
- 9 REMOTE INPUT:**  
This terminal is for turning the amplifier on and off. This requires a switched positive (+12V) to power 'ON' the amplifier, this can be found on the rear of the head unit in the form of a electric antenna output, or a remote on output. If not available you can wire to the ACC position on the key.
- 10 +12V INPUT:**  
This must be connected to the vehicle battery positive (+) terminal via an 8 gauge power cable and with an inline fuse or circuit breaker at the battery end.  
**Note:** This is the last wire to connect up during installation as damage could result.
- 11 FUSES:**  
Please ensure correct type of fuse is fitted, as specified in this manual.  
**Note:** EN-AM3002 has 1 x 25A fuse, EN-AM4502 has 1 x 35A fuse.
- 12 SPEAKER OUTPUT:**  
See 2/1 channel installation diagrams on **page 28** for correct speaker connection.

# CONTROL DESCRIPTIONS

## 4 CHANNEL AMPLIFIER

EN-AM6004



### 1 POWER AND STATUS LED'S:

This displays 'green' if the amplifier has been correctly powered up and 'red' if any faults are present.

### 2 FRONT RCA INPUT:

Connect these RCA connectors to the front low level output connection from the headunit.

### 3 RCA OUTPUT:

Use these RCA output connectors to connect to a secondary amplifier.

### 4 LEVEL:

This allows level adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the bass and treble on zero, then slowly turn up this amplifier level control towards the MAX end of the control. **Note:** If the sound becomes distorted, turn this control down.

### 5 HIGH PASS:

Set the crossover switch 6 to HP and turn this control to 65Hz or above when using speakers smaller than 6 x 9". This feature is designed to filter out all low bass frequencies that only subwoofers should produce.

**Note:** Failure to do so could result in speaker damage.

## 6 CROSSOVER SELECTOR

Set the appropriate mode of operation. The three positions available are OFF, LP and HP.  
See points 5 and 7.

## 7 LOW PASS:

Set the crossover switch 6 to LP when a subwoofer is connected. Ensure the crossover frequency is set at 100Hz or below. This feature is designed to filter out all mid to high frequencies that only full range speakers should produce. **Note:** Failure to do so could result in speaker damage.

## 8 LOW PASS:

Set the crossover switch 9 to LP when a subwoofer is connected. Ensure the crossover frequency is set at 100Hz or below. This feature is designed to filter out all mid to high frequencies that only full range speakers should produce. **Note:** Failure to do so could result in speaker damage.

## 9 CROSSOVER SELECTOR

Set the appropriate mode of operation. The three positions available are OFF, LP and HP.  
See points 8 and 10.

## 10 HIGH PASS:

Set the crossover switch 9 to HP and turn this control to 65Hz or above when using speakers smaller than 6 x 9". This feature is designed to filter out all low bass frequencies that only subwoofers should produce. **Note:** Failure to do so could result in speaker damage.

## 11 LEVEL:

This allows level adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the bass and treble on zero, then slowly turn up this amplifier level control towards the MAX end of the control. **Note:** If the sound becomes distorted, turn this control down.

## 12 RCA OUTPUT:

Use these RCA output connectors to connect to a secondary amplifier.

## 13 REAR RCA INPUT:

Connect these RCA connectors to the rear low level output connection from the headunit.

## 14 GROUND INPUT:

Connect directly to the vehicle's chassis via an 8 gauge power cable.

**Note:** This is the first wire to connect when wiring up an amplifier, damage could result if this is not done.

## 15 REMOTE INPUT:

This terminal is for turning the amplifier on and off. The remote input requires a switched positive (+12V) to power 'ON' the amplifier, this can be found on the rear of the head unit in the form of a electric antenna output, or a remote on output. If not available you can wire to the ACC position on the key.

## 16 +12V INPUT:

Connect directly to the vehicle battery positive (+) terminal via an 8 gauge power cable, with an inline fuse or circuit breaker at the battery end.

**Note:** This is the last wire to connect up during installation, damage could result if this is not done.

## 17 FUSES:

Please ensure the correct type of fuse is fitted, as specified in this manual.

**Note:** the EN-AM6004 has 2 x 25A fuses.

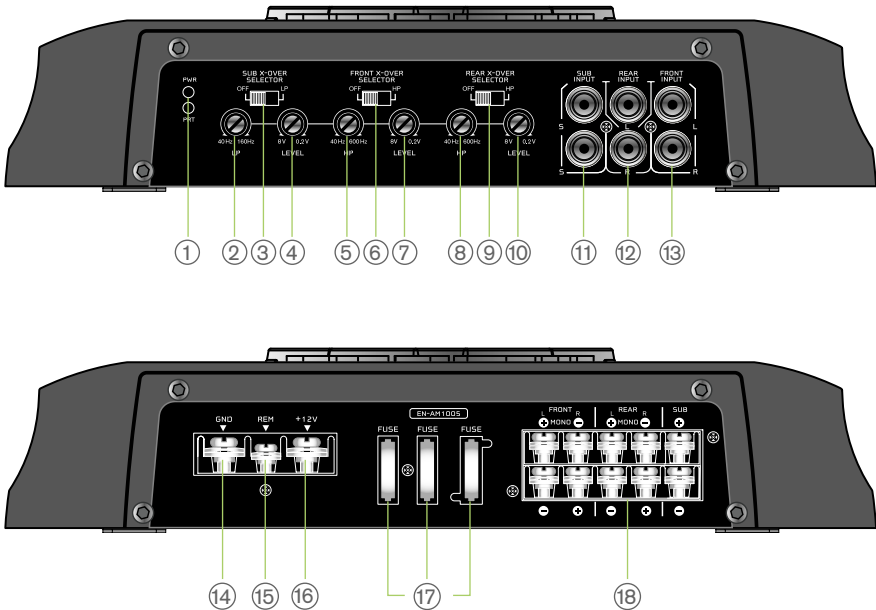
## 18 SPEAKER OUTPUT:

See 4/3/2 channel installation diagrams on **page 30** for correct speaker connection.

# CONTROL DESCRIPTIONS

## 5 CHANNEL AMPLIFIER

EN-AM10005



### 1 POWER AND STATUS LED'S:

This displays 'green' if the amplifier has been correctly powered up and 'red' if any faults are present.

### 2 LOW PASS:

Set the crossover switch 3 to LP when a subwoofer is connected. Ensure the crossover frequency is set at 160Hz or below. This feature is designed to filter out all mid to high frequencies that only full range speakers should produce. **Note:** Failure to do so could result in speaker damage.

### 3 CROSSOVER SELECTOR:

Set the appropriate mode of operation. The two positions available are OFF and LP (subwoofer channel). See points 2 and 4.

### 4 LEVEL:

This allows level adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the bass and treble on zero, then slowly turn up this amplifier level control towards the MAX end of the control. **Note:** If the sound becomes distorted, turn this control down.

### 5 HIGH PASS:

Set the crossover switch 6 to HP and turn this control to 40Hz or above when using speakers smaller than 6 x 9". This feature is designed to filter out all low bass frequencies that only subwoofers should produce. **Note:** Failure to do so could result in speaker damage.



**6 CROSSOVER SELECTOR:**

Set the appropriate mode of operation. The two positions available are OFF and HP (front channel). See points **5** and **7**.

**7 LEVEL:**

This allows level adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the bass and treble on zero, then slowly turn up this amplifier level control towards the MAX end of the control. **Note:** If the sound becomes distorted, turn this control down.

**8 HIGH PASS:**

Set the crossover switch 9 to HP and turn this control to 40Hz or above when using speakers smaller than 6 x 9". This feature is designed to filter out all low bass frequencies that only subwoofers should produce. **Note:** Failure to do so could result in speaker damage.

**9 CROSSOVER SELECTOR:**

Set the appropriate mode of operation. The two positions available are OFF and HP (rear channels). See points **8** and **10**.

**10 LEVEL:**

This allows level adjustment of the input signal. Use this control to correctly match the head unit to the amplifier. To set this control correctly, turn the amplifier level to MIN and the head unit to 3/4 volume, with the bass and treble on zero, then slowly turn up this amplifier level control towards the MAX end of the control. **Note:** If the sound becomes distorted, turn this control down.

**11 SUBWOOFER RCA INPUT:**

Connect these RCA connectors to the rear or subwoofer low level output connection from the headunit.

**12 REAR RCA INPUT:**

Connect these RCA connectors to the rear low level output connection from the headunit.

**13 FRONT RCA INPUT:**

Connect these RCA connectors to the front low level output connection from the headunit.

**14 GROUND INPUT:**

Connect directly to the vehicle's chassis via an 8 gauge power cable.

**Note:** This is the first wire to connect when wiring up a amplifiers, damage could result if this is not done.

**15 REMOTE INPUT:**

This terminal is for turning the amplifier on and off. The remote input requires a switched positive (+12V) to power 'ON' the amplifier, this can be found on the rear of the head unit in the form of a electric antenna output, or a remote on output. If not available you can wire to the ACC position on the key.

**16 +12V INPUT:**

Connect directly to the vehicle battery positive (+) terminal via an 8 gauge power cable, with an inline fuse or circuit breaker at the battery end.

**Note:** This is the last wire to connect up during installation, damage could result if this is not done.

**17 FUSES:**

Please ensure the correct type of fuse is fitted, as specified in this manual.

**Note:** the EN-AM10005 has 3 x 25A fuse.

**18 SPEAKER OUTPUT:**

See 5/3 channel installation diagrams on **page 33** for correct speaker connection.

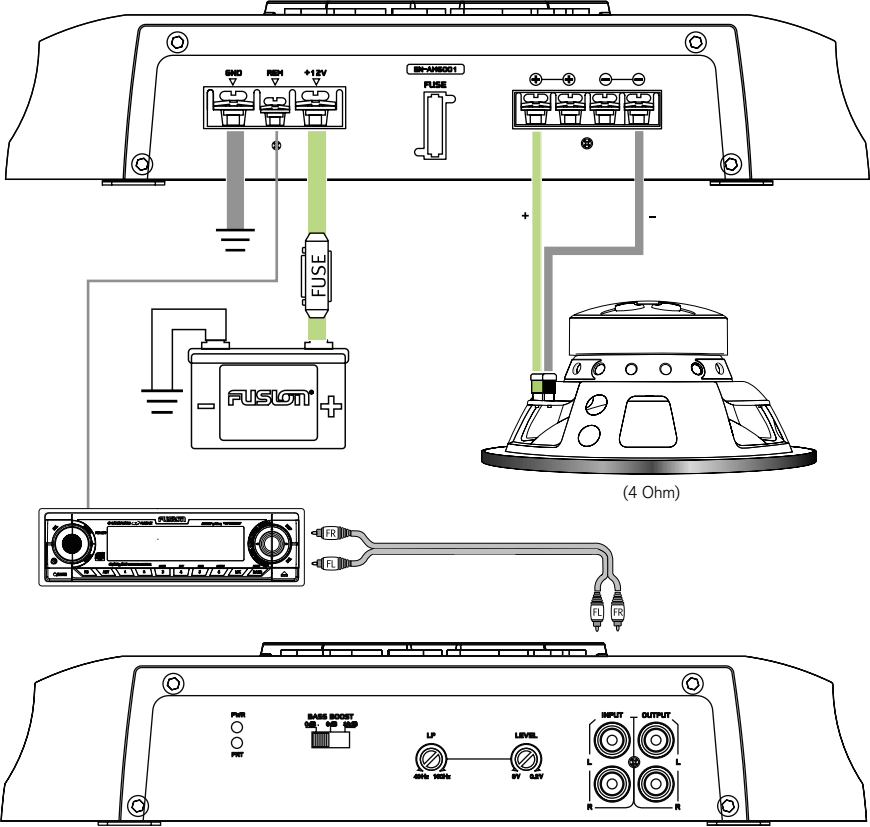
# WIRING DIAGRAM

## MONOBLOCK AMPLIFIER

EN-AM6001, EN-AM8001

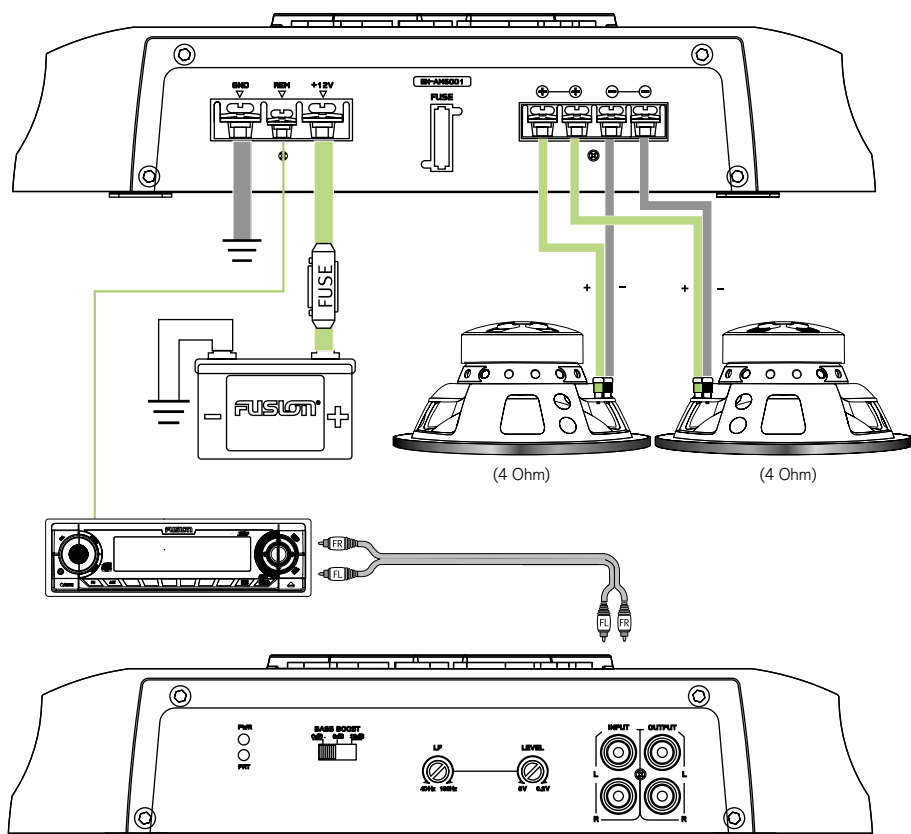
### 1 CHANNEL INSTALLATION

CAUTION:  INTERNALLY LINKED  
 INTERNALLY LINKED



## 2 CHANNEL INSTALLATION

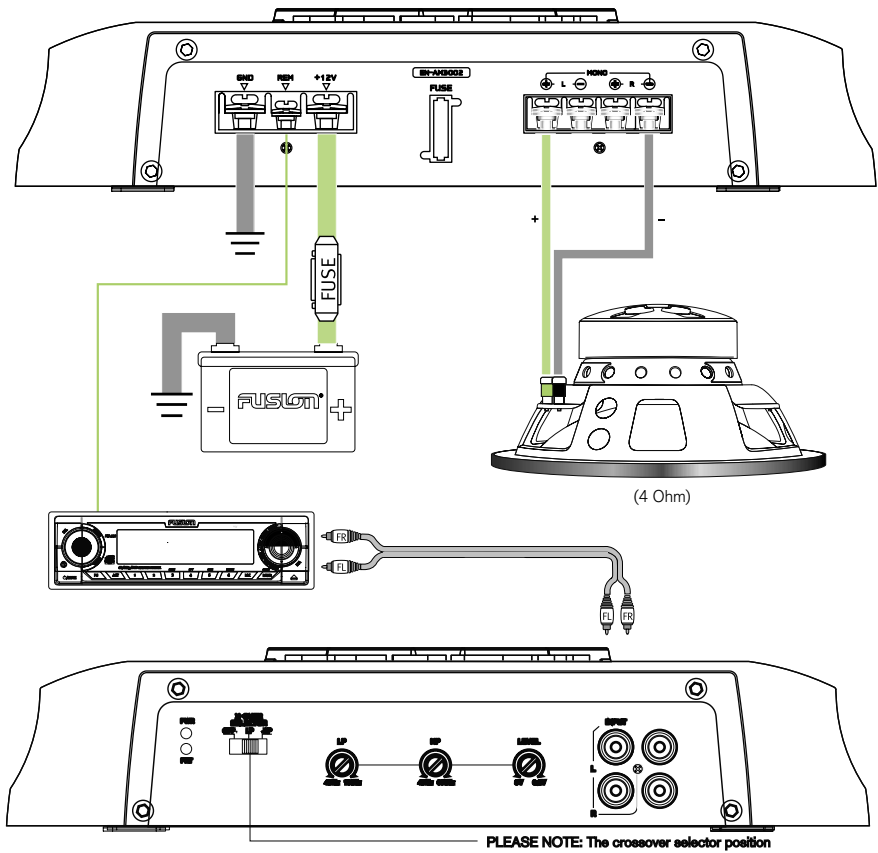
CAUTION:   INTERNALLY LINKED  
  INTERNALLY LINKED



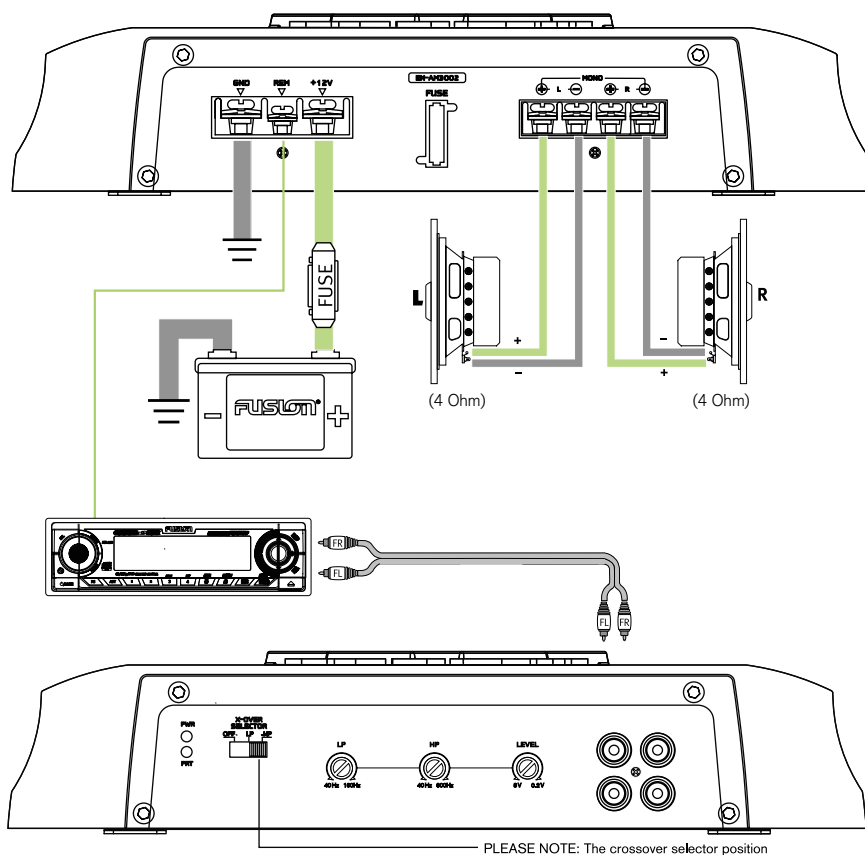
# WIRING DIAGRAM

## 2 CHANNEL AMPLIFIER EN-AM3002, EN-AM4502

### 1 CHANNEL INSTALLATION



## 2 CHANNEL INSTALLATION

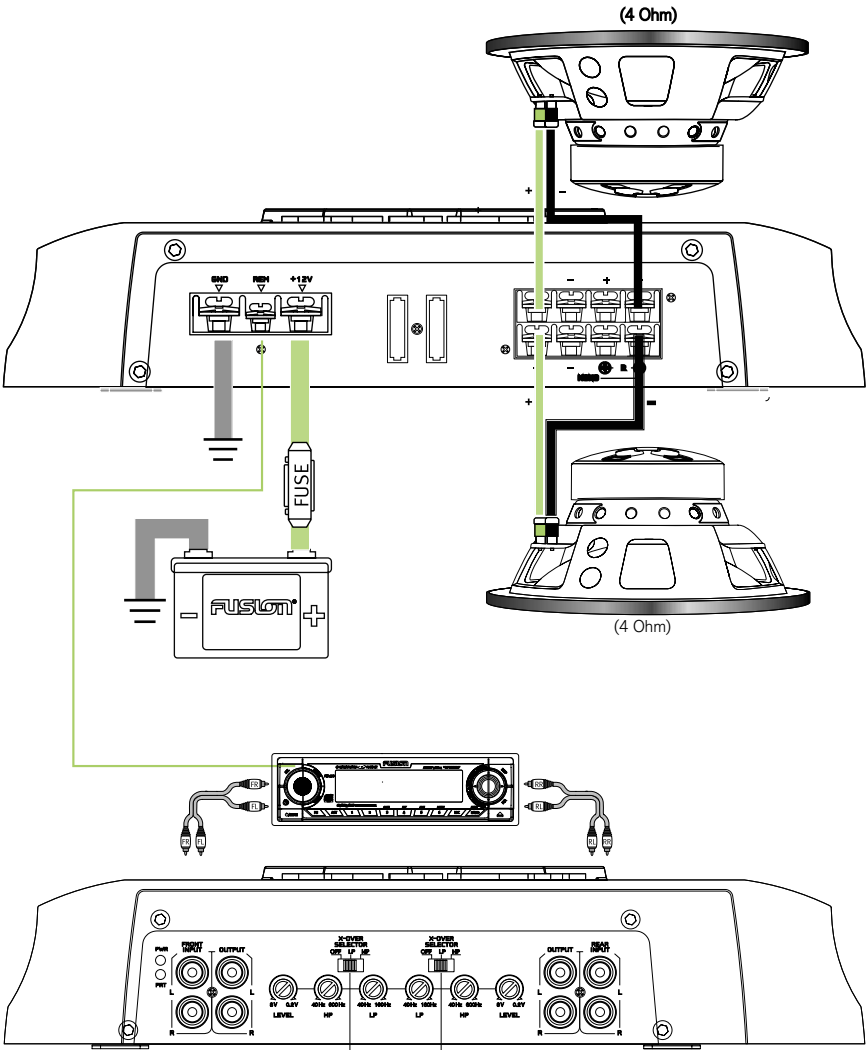


# WIRING DIAGRAM

## 4 CHANNEL AMPLIFIER

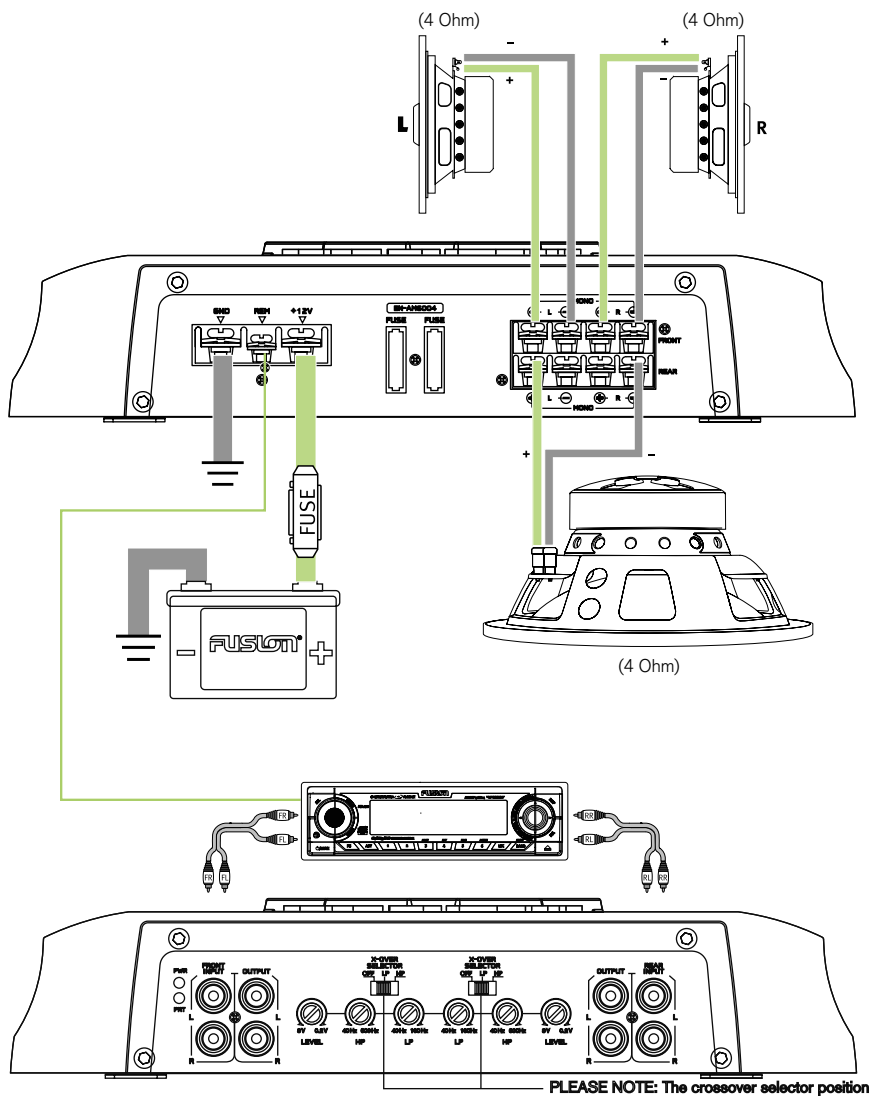
EN-AM6004

### 2 CHANNEL INSTALLATION

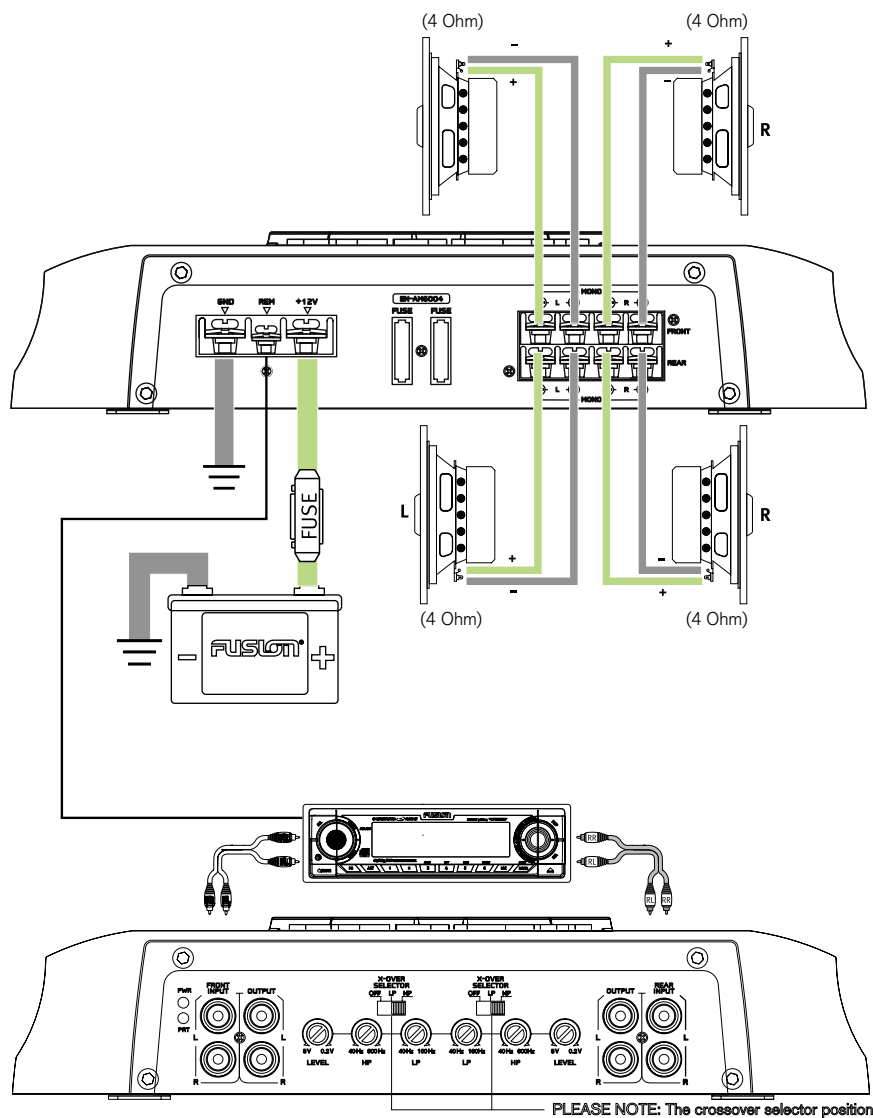


PLEASE NOTE: The crossover selector position

### 3 CHANNEL INSTALLATION



## 4 CHANNEL INSTALLATION



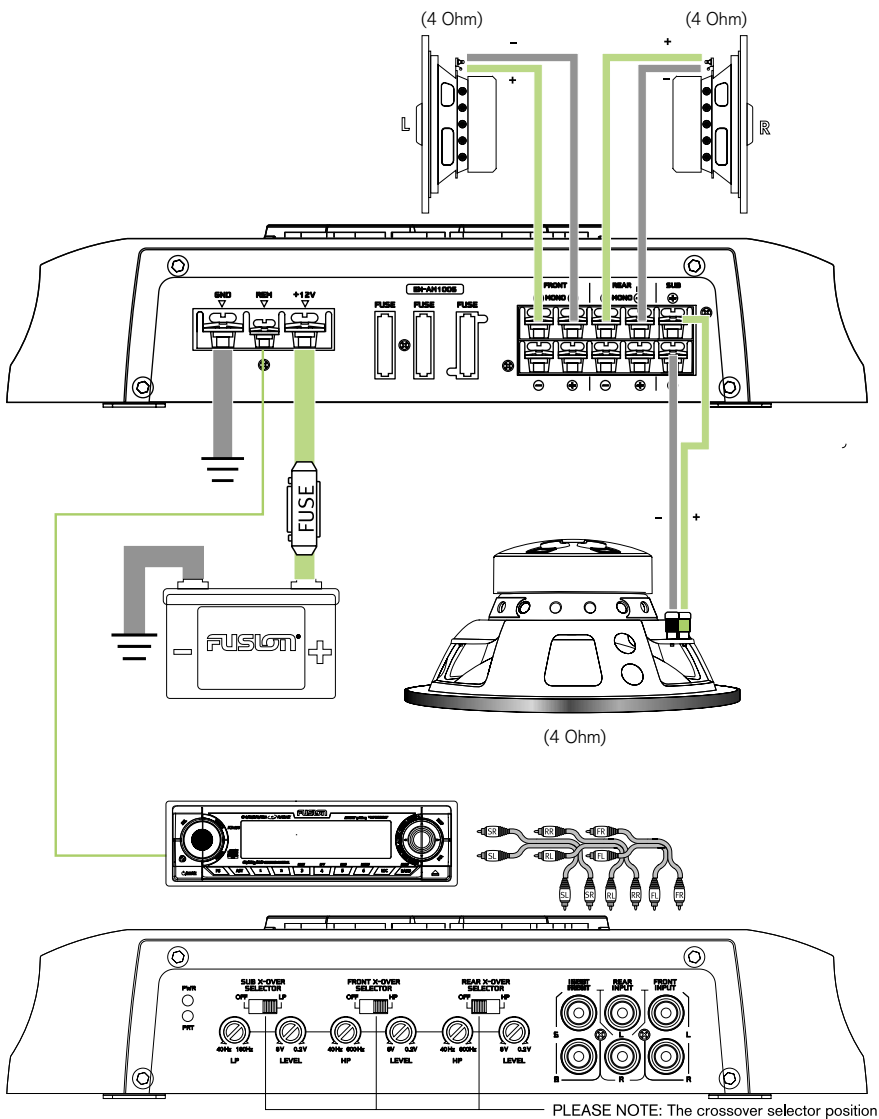


# WIRING DIAGRAM

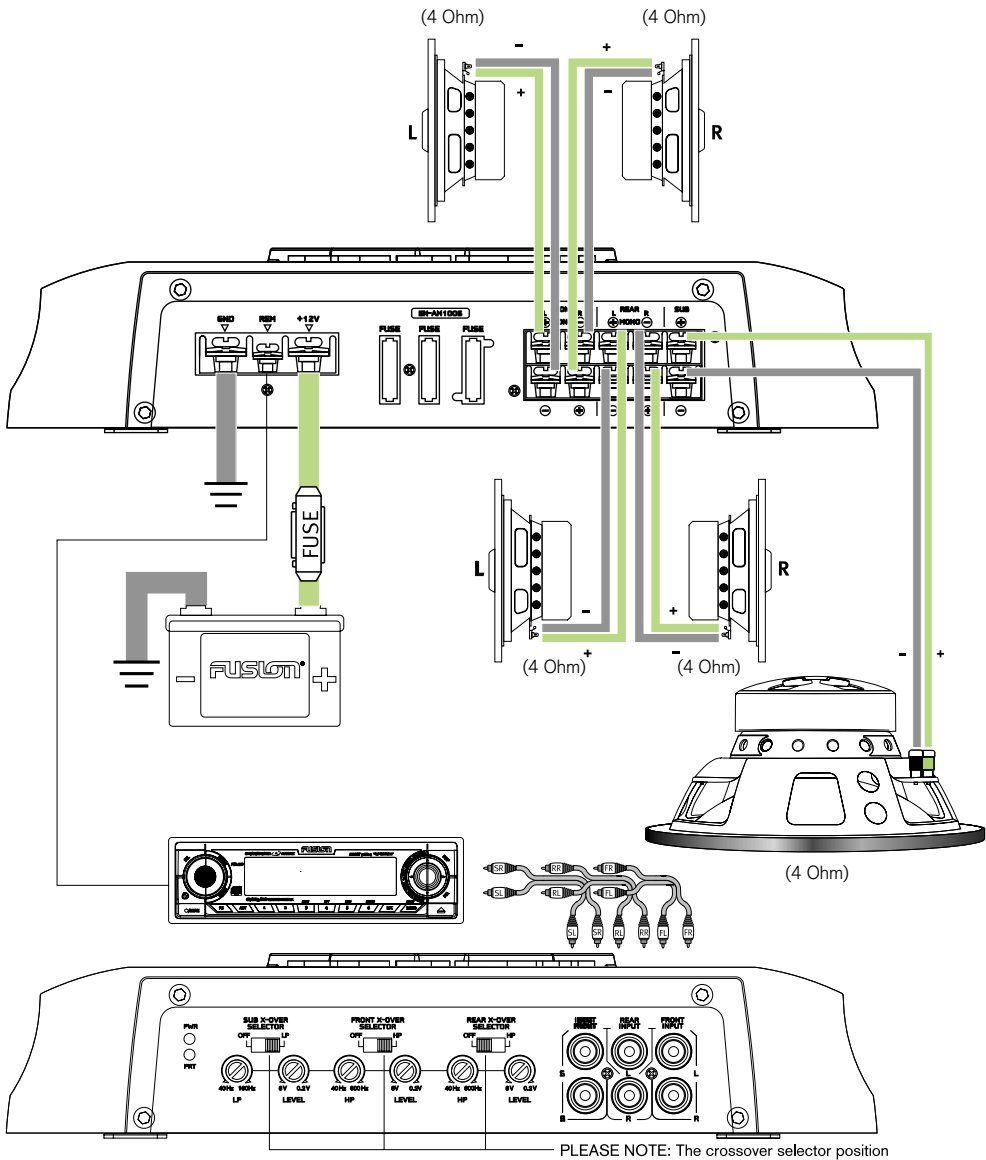
## 5 CHANNEL AMPLIFIER

EN-AM10005

### 3 CHANNEL INSTALLATION



# 5 CHANNEL INSTALLATION



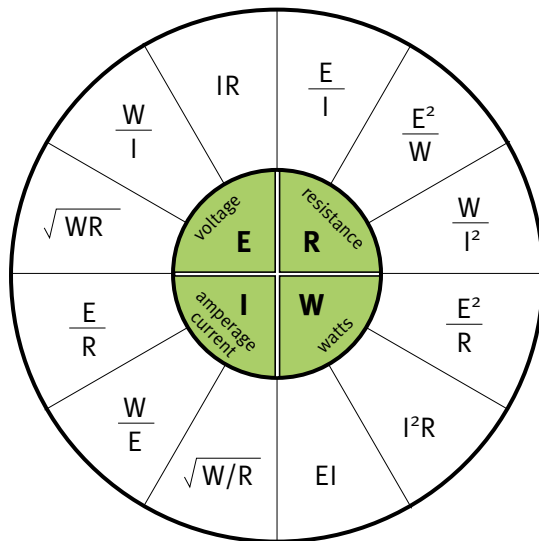
## TECH TIPS

### BASIC TOOLS

In any installation these basic tools may be required. For custom type installations, additional tools may be necessary.

- Electric drill
- Flat blade screwdrivers
- Crimping tool
- Electrical tape
- Phillips screwdriver
- Wire strippers
- Utility knife, sabre saw, jigsaw, nibbler
- Silicon sealant

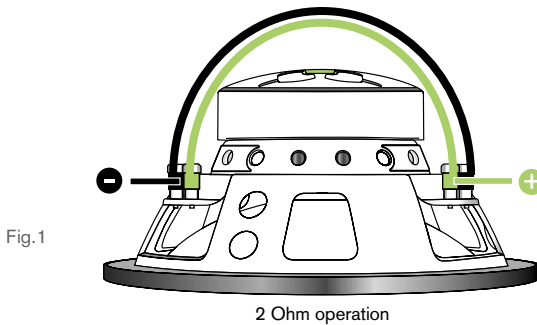
### OHMS LAW SIMPLIFIED



## SERIES AND PARALLEL SUBWOOFER WIRING FOR DUAL VOICE COIL SUBS

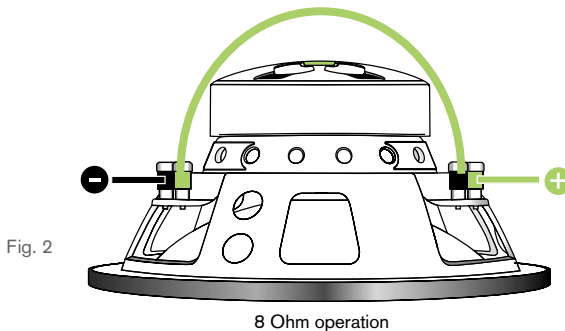
### Parallel Voice Coil Wiring

To wire a DVC subwoofer in parallel in order to get 2 Ohms, use two short pieces of speaker wire and link the positive from one coil to the positive of the second coil and do the same for the negative as shown in fig 1. Then wire the amplifier to opposite sides of the subwoofer in order to equalise any connection resistance.

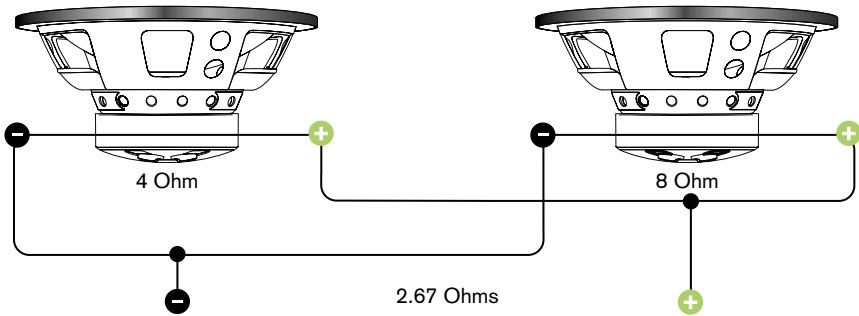


### Series Voice Coil Wiring

To wire a DVC subwoofer in series in order to get 8 Ohms, use one short piece of speaker wire and link the positive from one voice coil to the negative of the second coil as shown in fig 2. Then wire the amplifier to opposite sides of the subwoofer.



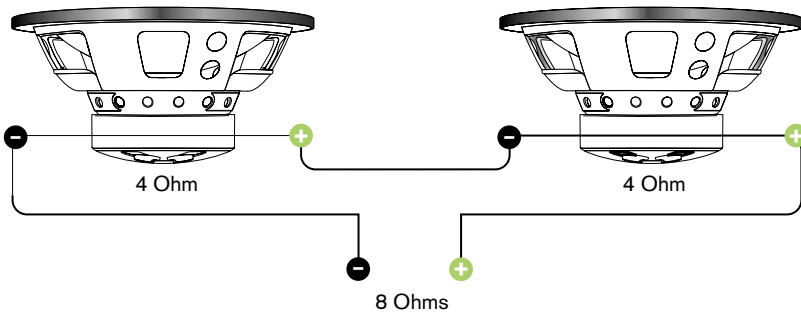
## PARALLEL WIRING FORMULA FOR 2 SPEAKERS



$$\frac{R1 \times R2}{R1 + R2} = \text{LOAD IMPEDANCE}$$

$$\frac{4 \text{ Ohms} \times 8 \text{ Ohms}}{4 \text{ Ohms} + 8 \text{ Ohms}} = \frac{32}{12} = 2.67 \text{ Ohms}$$

## SERIES WIRING FORMULA FOR 2 SPEAKERS



$$R1 + R2 = \text{LOAD IMPEDANCE}$$

# TROUBLE SHOOTING

Before you contact your FUSION dealer or service centre FUSION requires that you do some simple trouble shooting to help to diagnose the problem.

If the FUSION Amplifier has been installed by a professional installation company, then we recommend that you return to the company so that the technician can assess the problem and advise.

Problem	Possible reason	Solution
<b>Amplifier not switching on. Power LED not 'on'</b>	<ul style="list-style-type: none"> <li>No +12v to power wire</li> </ul>	<ul style="list-style-type: none"> <li>Check fuses and connections to battery</li> </ul>
	<ul style="list-style-type: none"> <li>No power to remote wire</li> </ul>	<ul style="list-style-type: none"> <li>Check remote on connections to head unit</li> </ul>
	<ul style="list-style-type: none"> <li>Fuse broken</li> </ul>	<ul style="list-style-type: none"> <li>Replace fuse with correct type and amperage</li> </ul>
<b>Amplifier not working, but status LED 'on'</b>	<ul style="list-style-type: none"> <li>Fuse on amplifier blown</li> </ul>	<ul style="list-style-type: none"> <li>Replace fuse with correct type and amperage</li> </ul>
	<ul style="list-style-type: none"> <li>Amplifier too hot</li> </ul>	<ul style="list-style-type: none"> <li>Move amplifier to vented area</li> <li>Turn head unit down</li> </ul>
	<ul style="list-style-type: none"> <li>Speaker wires shorted</li> </ul>	<ul style="list-style-type: none"> <li>Check that there are no speaker wires shorted to another wire or to the vehicle chassis</li> </ul>
<b>No sound</b>	<ul style="list-style-type: none"> <li>RCA Signal</li> </ul>	<ul style="list-style-type: none"> <li>Check RCA connection to head unit</li> </ul>
	<ul style="list-style-type: none"> <li>Gain control not set up</li> </ul>	<ul style="list-style-type: none"> <li>Ensure you have set up the amplifier gain level control</li> </ul>
	<ul style="list-style-type: none"> <li>Head Unit</li> </ul>	<ul style="list-style-type: none"> <li>Check head unit volume level</li> </ul>
	<ul style="list-style-type: none"> <li>Amplifier</li> </ul>	<ul style="list-style-type: none"> <li>Check all power, remote on and ground connections</li> </ul>
	<ul style="list-style-type: none"> <li>Speakers</li> </ul>	<ul style="list-style-type: none"> <li>Check speakers for wire shorts</li> </ul>

[illegible]

Please remember to respect the local regulations:  
Hand in the non-working electrical equipment  
to an appropriate waste disposal center.



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Specifications and design are subject to change without notice.