

DS18

**X Series
Ultra
Compact
Class D 1-2-4
Channel
Amplifier**



DS18 X Series Ultra Compact Class D 1-2-4 Channel Amplifier Owner's Manual

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DS18

DS18 X Series Ultra Compact Class D 1-2-4 Channel Amplifier



Specifications

- **Model:** X Series Ultra Compact Class D Amplifier
- **Channels:** 1-2-4
- **Variable Crossover:** Fully Variable
- **Protection Circuitry:** Overload, Short Circuits, Overheating, Low Voltage, High Voltage, Reverse Polarity

Product Information

The DS18 X Series Amplifier is designed for high-quality audio reproduction for both audiophiles and everyday listeners. It offers the ability to customize sound to best match your speakers and listening preferences with its Fully Variable Crossover. The amplifier can be used with outboard passive or active crossovers for more complex systems, providing a 12dB per octave slope for precise frequency control.

The amplifier is equipped with protection circuitry against various issues such as overload, short circuits, overheating, and more, ensuring longevity and performance. Professional installation by an authorized DS18 dealer is recommended to maximize performance and warranty coverage.

Installation Instructions

1. Choose a suitable location with adequate ventilation for the amplifier.
2. Avoid mounting the amplifier with the fins facing down; they should face up vertically or horizontally.
3. Secure the amplifier using the provided screws.

Input Section

There is no correct gain setting for the amplifier as different speakers have varying power demands. Adjust the gains based on individual speaker requirements to achieve optimal sound quality. Listening carefully to each speaker and using good judgement is key to tuning the system effectively.

FAQ

Q: Do I need professional installation for the DS18 X Series Amplifier?

A: Professional installation by an authorized DS18 dealer is highly recommended to ensure optimal performance and warranty coverage.

Q: Can the X Series Amplifier be used with outboard crossovers?

A: Yes, the amplifier can be used with outboard passive or active crossovers for more advanced system configurations.

WHERE ARE YOU HEADED?

Thank you for choosing DS18's X Series! Your choice of the X series indicates a desire for high quality audio reproduction in your vehicle. DS18's X amplifier is the product of years of car audio expertise. Whether you are a daily driver, music lover, or a serious car audio competitor; DS18's X amplifiers have got you covered.

To take full advantage of your new X Amplifier, please read and follow the instructions in this manual. As with all of our products, professional installation by one of our authorized dealers is highly recommended. If not, your amplifier's performance may not live up to our standards or your own.

In addition to the installation service and expertise offered by an authorized dealer and professional technician, the warranty of this product may be extended when installed by an authorized DS18 dealer. Ask your authorized DS18 dealer about whether your product qualifies for an extended warranty.

Your choice in DS18's X Series Amplifier suggests you are headed in the right direction!

INTRODUCTION

DS18's X Amplifier is designed for high quality audio reproduction for the audiophile and everyday listener alike. This amplifier offers the ability to tailor your sound to best fit your speakers and listening preferences with its Fully Variable Crossover.

This amplifier may also be used in conjunction with outboard passive or active crossovers, depending on the complexity of the system. The 12dB per octave slope offers steep roll-off above or below the selected frequency.

The X Series amplifiers come equipped with protection circuitry against overload, short circuits, overheating, low voltage, high voltage, and reverse polarity. These are designed to protect the amplifier from misuse and failure.

Professional installation by an authorized DS18/X Series amps dealer is highly recommended!

Otherwise, the performance of your new gear may not be satisfactory. In the event that you decide to do your own installation, please read and follow this manual very carefully. Failure to do so may compromise the integrity of this product, your automobile, and possibly void the product warranty.

Amplifiers are generally mounted in the hatch/trunk area of a car or SUV, and under or behind the seat of most pickup trucks.

Select a location that will provide adequate ventilation for the amplifier. Avoid mounting the amplifier with the fins facing down.

The fins should be facing up, either vertically or horizontally. Secure the amplifier with the screws provided.

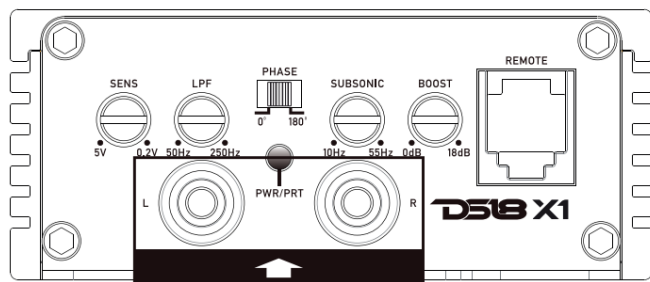
INPUT**INPUT SECTION**

Because of the wide range of head unit output configurations all DS18/X Series amps have an adjustable input sensitivity of "Gain". The gain is not a volume or a power limiting control like a throttle. It makes the amp more sensitive to input from the stereo. With the gain up the amp will reach full output at a lower volume setting on the deck. At higher gain settings the amp also becomes more sensitive to noise from the car's electrical system. Try to run the gain at the lowest setting possible for your system.

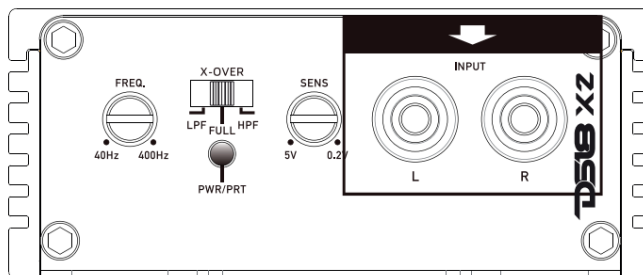
There is no correct gain setting. Because speakers require different power demands to reach the same output, the

gains most often need to be used to compensate for these differences. If you, tried to set all the gains at half way you would probably find the system didn't sound very good. Using good judgement and listening carefully to each speaker is still the best way to tune a system.

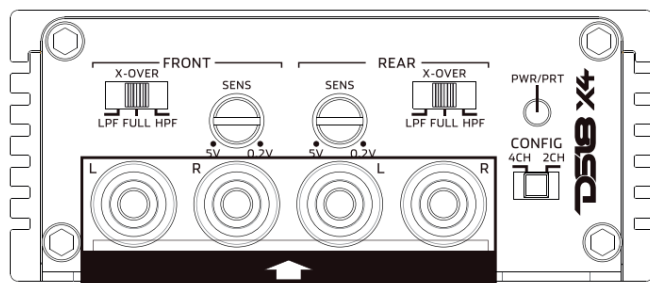
X1



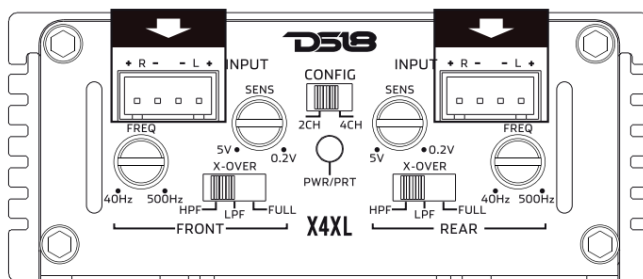
X2



X4



X4XL

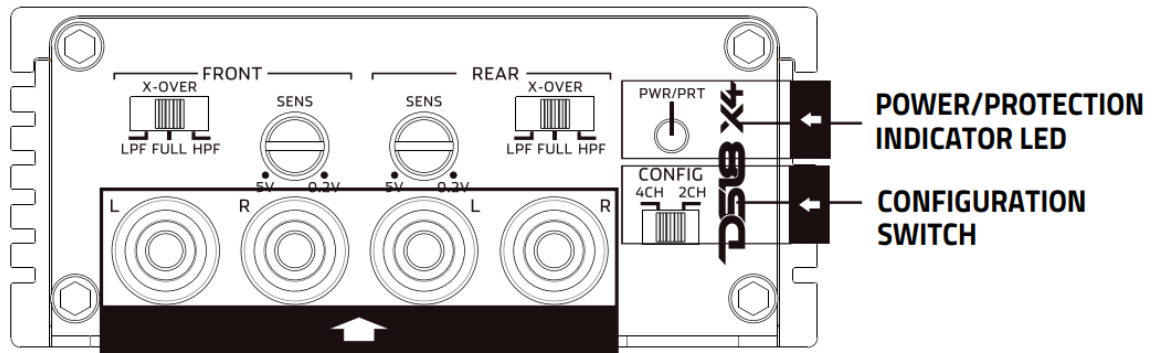
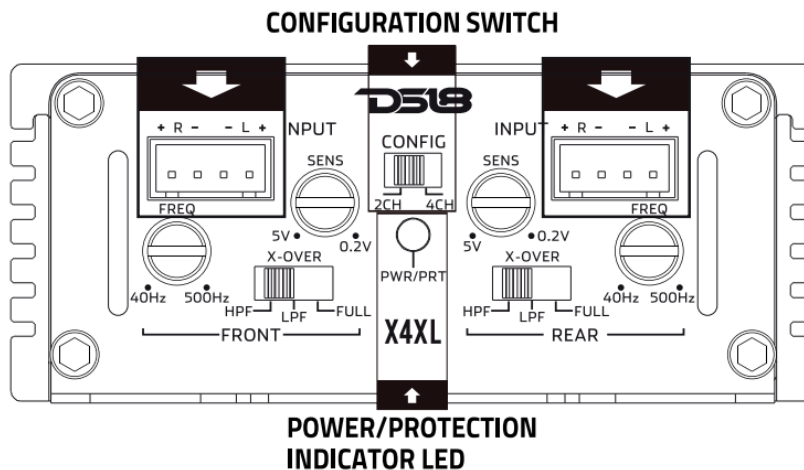


POWER/PROTECTION INDICATOR LED

When the amplifier is on and in proper working condition, the green LED will illuminate. If the amplifier activates its protection mode, the red LED will illuminate. If your amplifier enters Protection Mode refer to the troubleshooting guide for possible solutions.

CONFIGURATION SWITCH

The X4 and the X4XL can be used in a 2ch, or 4ch input configuration. The channel switch will make the amplifier functional on all channels using 2 or 4 RCA inputs.

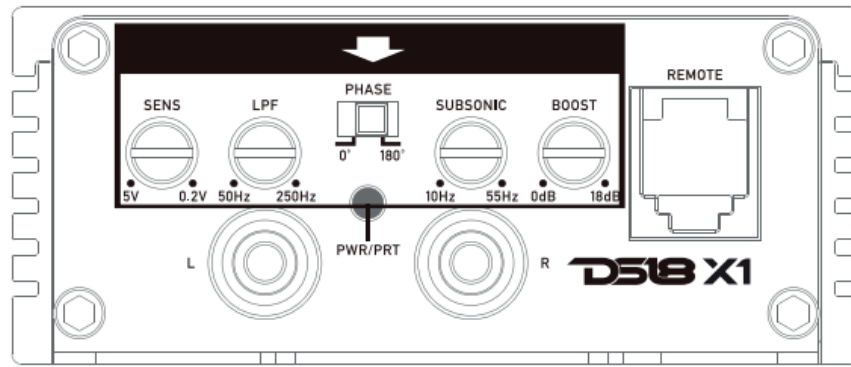
X4**X4XL**

CROSSOVER CONTROLS

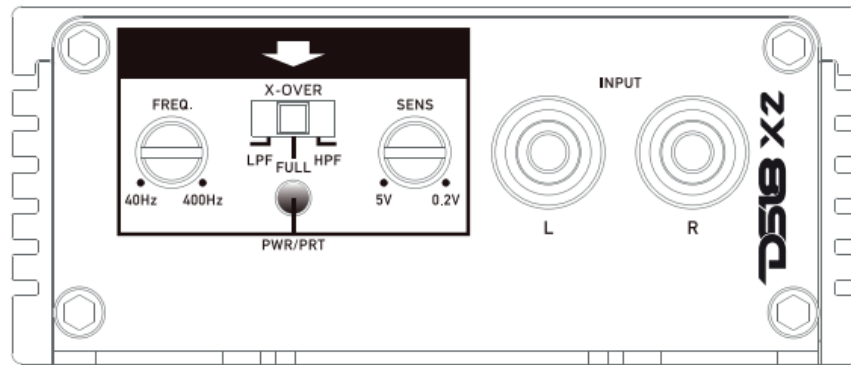
Without proper filtration, a tweeter is susceptible to damage from bass notes, while a subwoofer's performance may sound unnatural when playing midrange notes. The role of a crossover is to precisely remove these unwanted sounds from the speakers system.

As you might guess, this process requires meticulous adjustments to guarantee that each speaker is producing the appropriate sounds without any discernible "holes" or low spots in the audio spectrum.

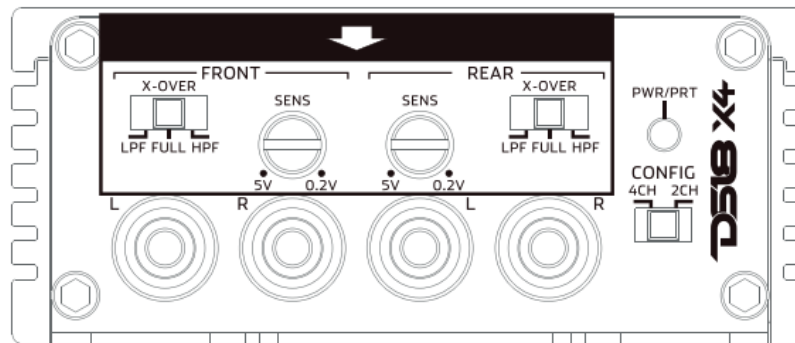
X1



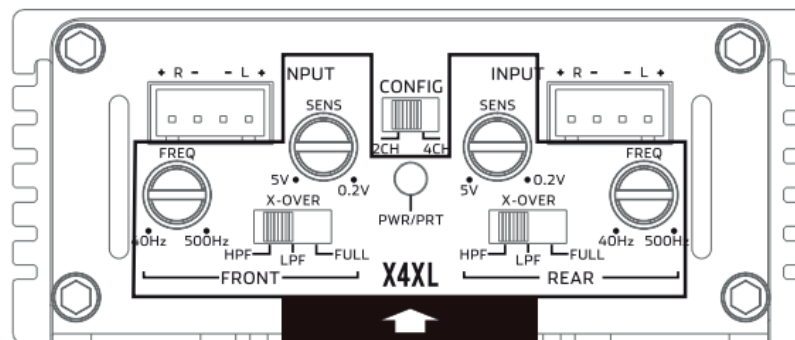
X2



X4



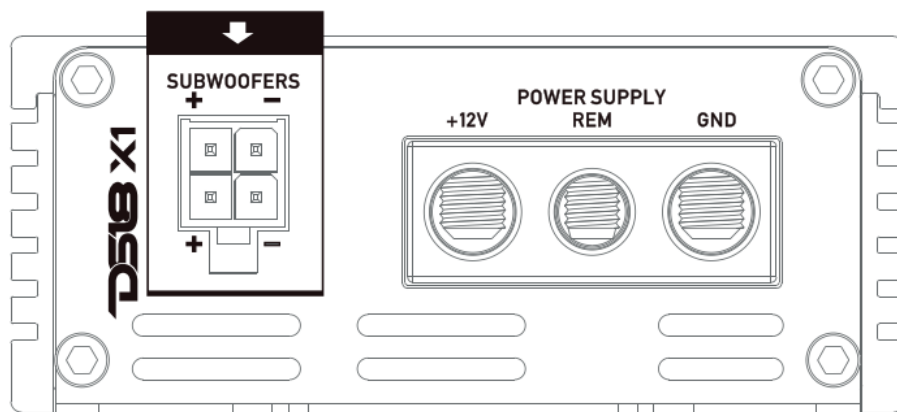
X4XL



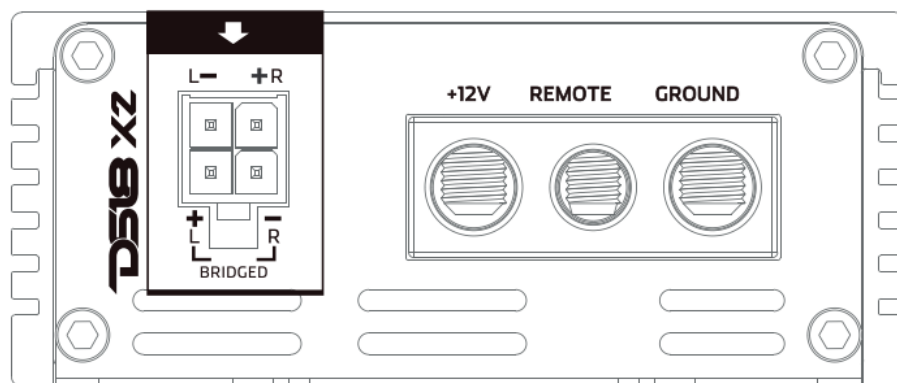
SPEAKER OUTPUTS

These amplifiers utilize multi-channel design, meaning it has multiple channels of speaker outputs for enhanced audio capabilities. The inclusion of quick-disconnect plugs for speaker connection streamlines the setup process.

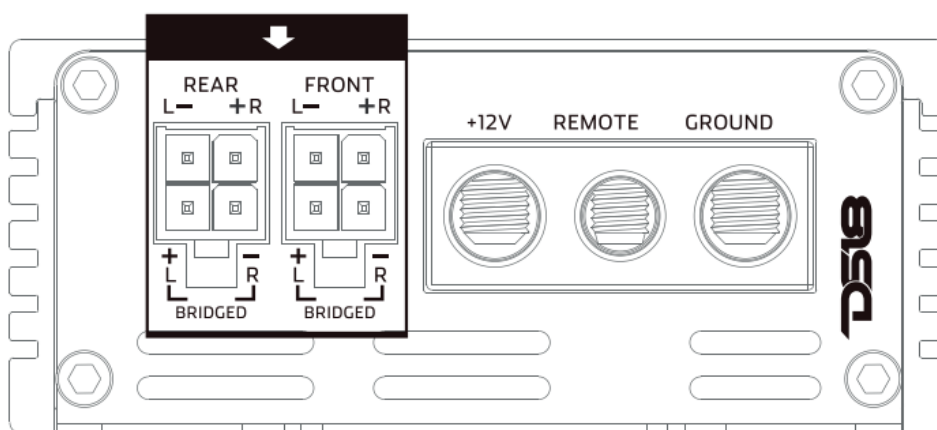
It's urgent you approach this connection with precision. Begin by stripping the wire back, twisting the exposed leads, and inserting them into the block terminal. Exercise caution to avoid any loose or frayed strands of wire, and firmly tighten the flat-head screw down on the terminal to securely hold the wire in place. Additionally, be mindful that if the wires ever encounter each other, the amplifier will automatically activate its protection mode. It is crucial to be well-versed in your total ohm load before initiating any connections.



X1



X2

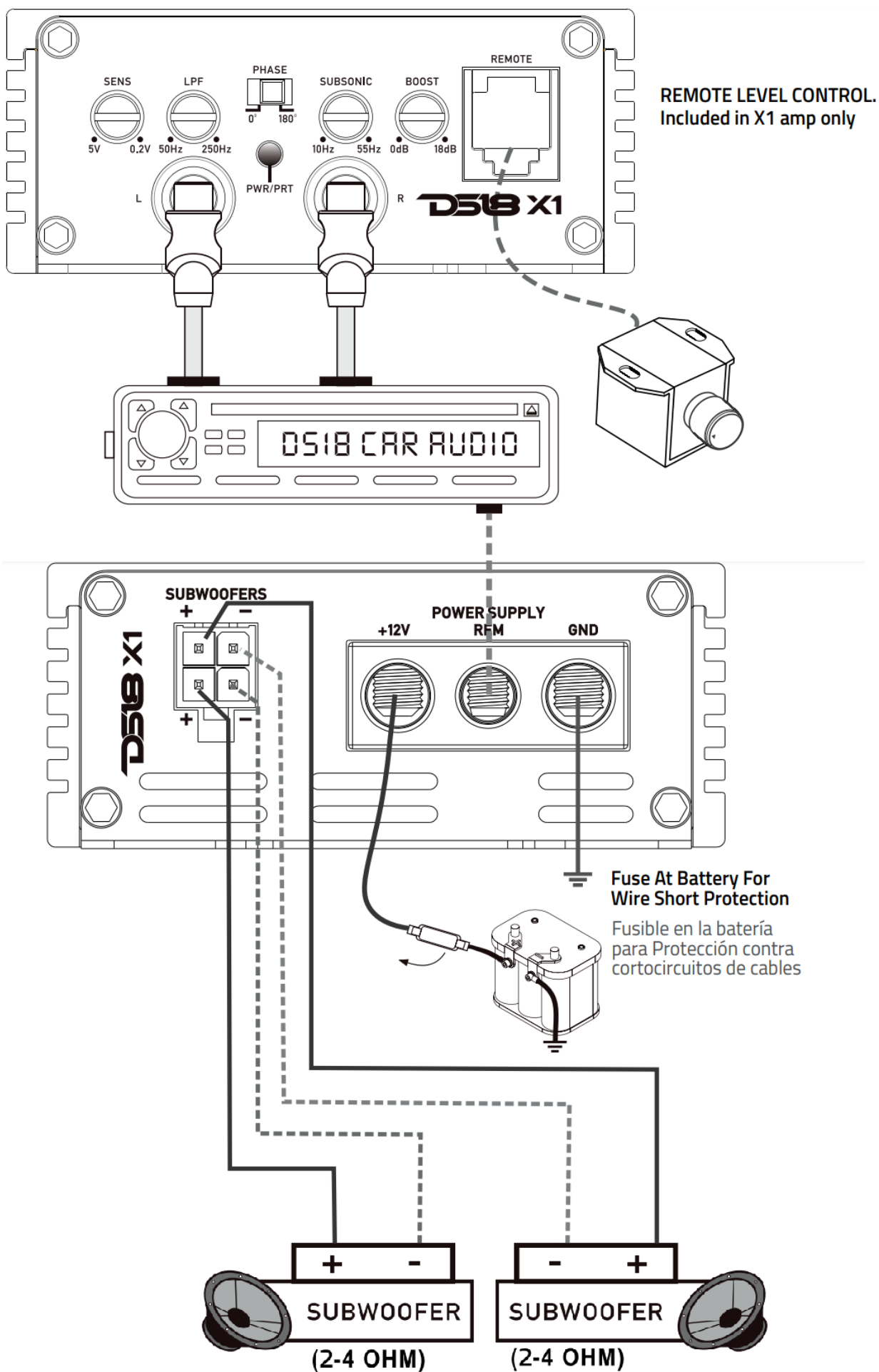


X4
X4XL

INSTALLATION

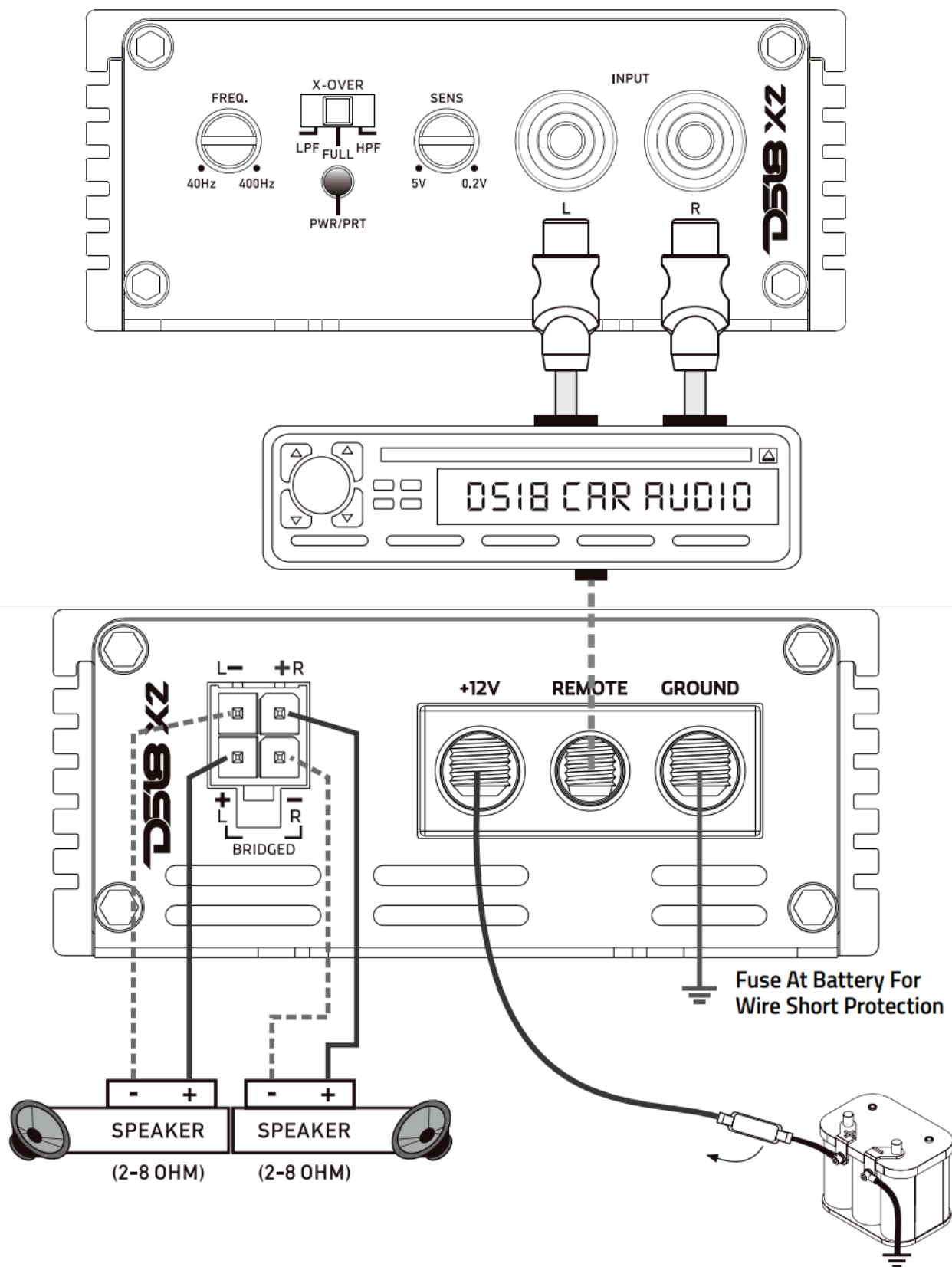
1. Before you start disconnect the negative cable from the battery. Tape up the end so it is isolated from the battery.
2. Run an appropriate gauge wire from the battery to the amplifier. Plan this part of the installation carefully. This cable will carry very high current. If it should short to the body and it is not properly fused it could catch fire.
3. Connect the power wire to the battery using a fuse capable of the total current load of all amplifiers connected. Don't install the fuse yet. Wait until the end. Locate the fuse as close as possible to the battery. If the fuse is further than 18 inches (wire length) from the battery you should reevaluate the wire and fuse placement.
4. Find the closest clear metal area to the amp for a ground. Sand, grind or scrape all paint and undercoating from the body and screw the ground securely in place. It is advisable to test the ground with an ohmmeter between the ground cable and the negative battery cable to ensure a good low resistance connection. Some alloys used in some modern cars do not offer the best ground. If you believe this is the case, consult with the vehicle manufacturer.

5. Run the speaker wire to the speakers. it is advised that you leave some extra wire at this point! You can clean it up later.
6. If you haven't already done so, mount the amp now.
7. Connect the power and ground to the amplifier (only after this step should you install the fuse at the battery).
8. Connect the remote wire from the head unit to the amplifier. Now is a good time to turn on the amplifier for the first time and make sure it turns on properly and does not go into protection.
9. Connect the speaker wires to the amp and speakers (make sure the amp is off first) make sure the polarity (+ and -) are correct.
10. Connect the RCA's to the amp.
11. Double check the amplifier's control at this time. Make sure everything is set correctly for your system.
12. Now you are ready to play it for the first time. It is best to leave the gain all the way down at first. Start with the head unit volume low and make your way up.
13. Now you can tune the amp. Take your time and make only one adjustment at a time. It may take some time to get the system fully adjusted. During this time the amp is drawing current from the battery. You should check the battery voltage from time to time and recharge it if it gets low . That's it . You are done, have fun!

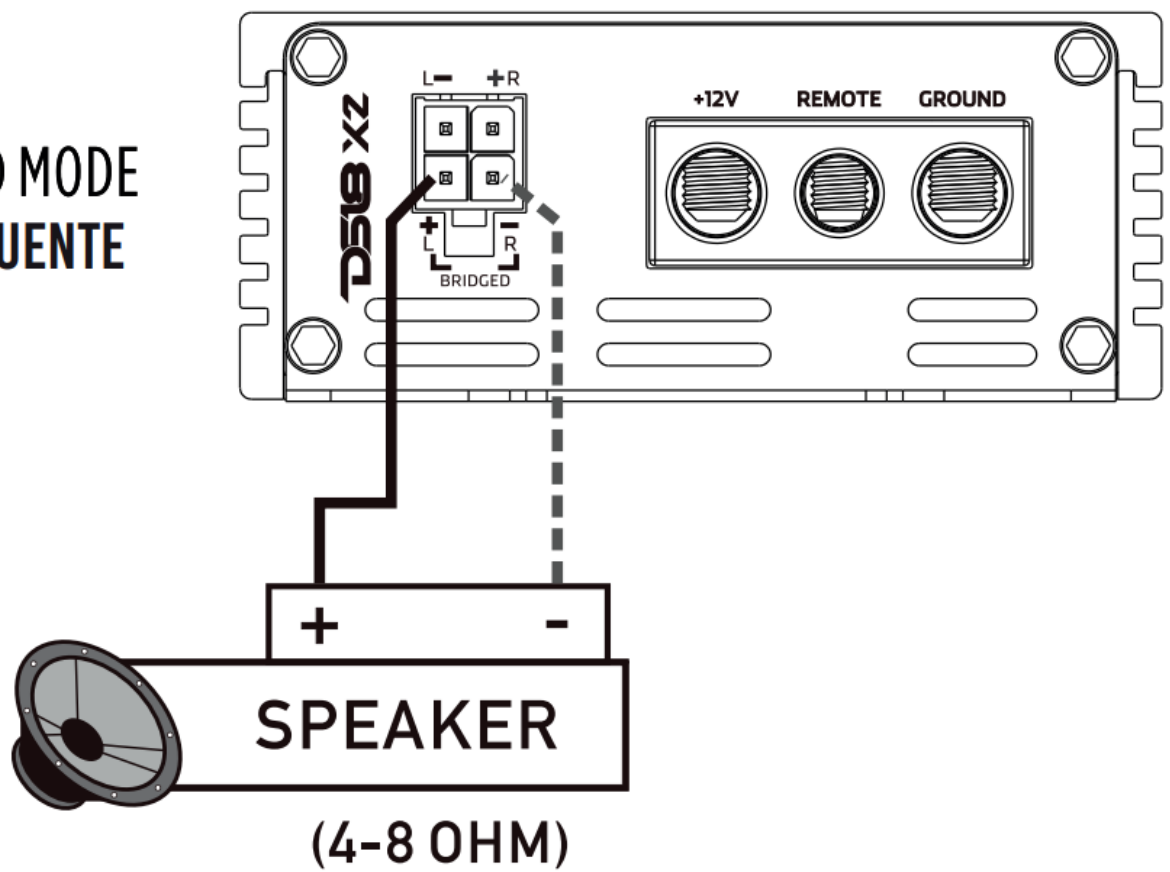


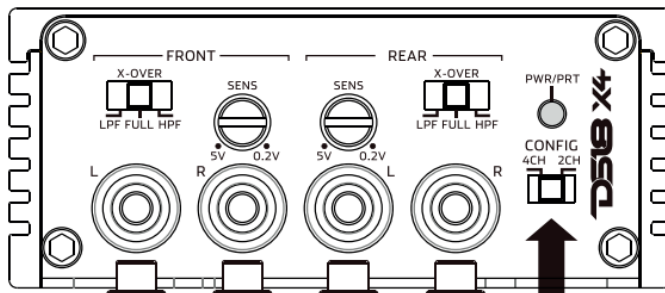
impedance of each subwoofer required should not exceed 2 ohm.

X2

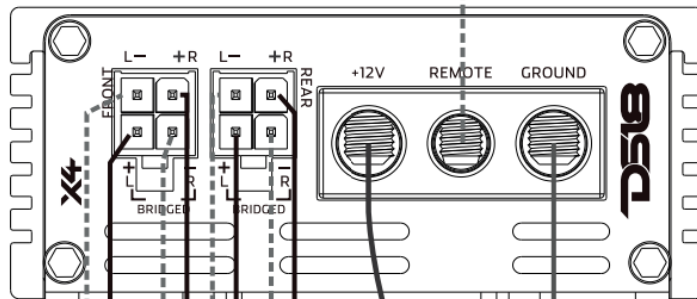


BRIDGED MODE
MODO PUENTE

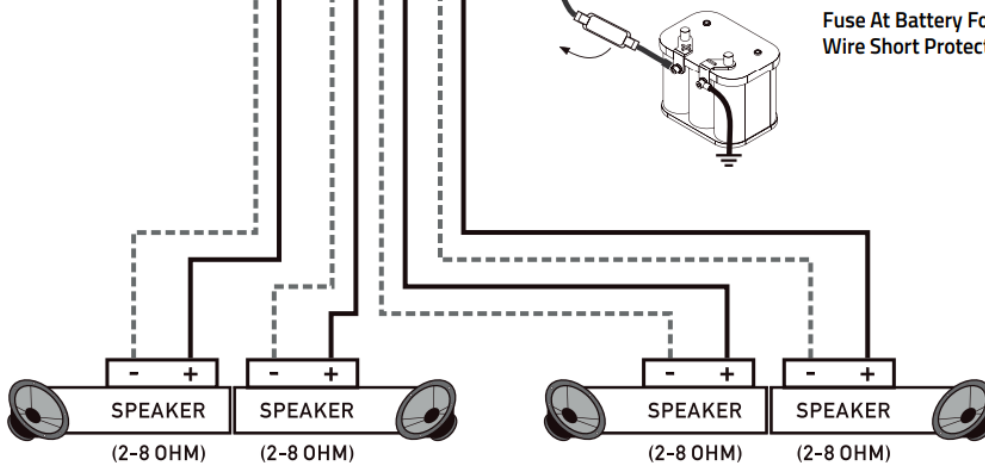




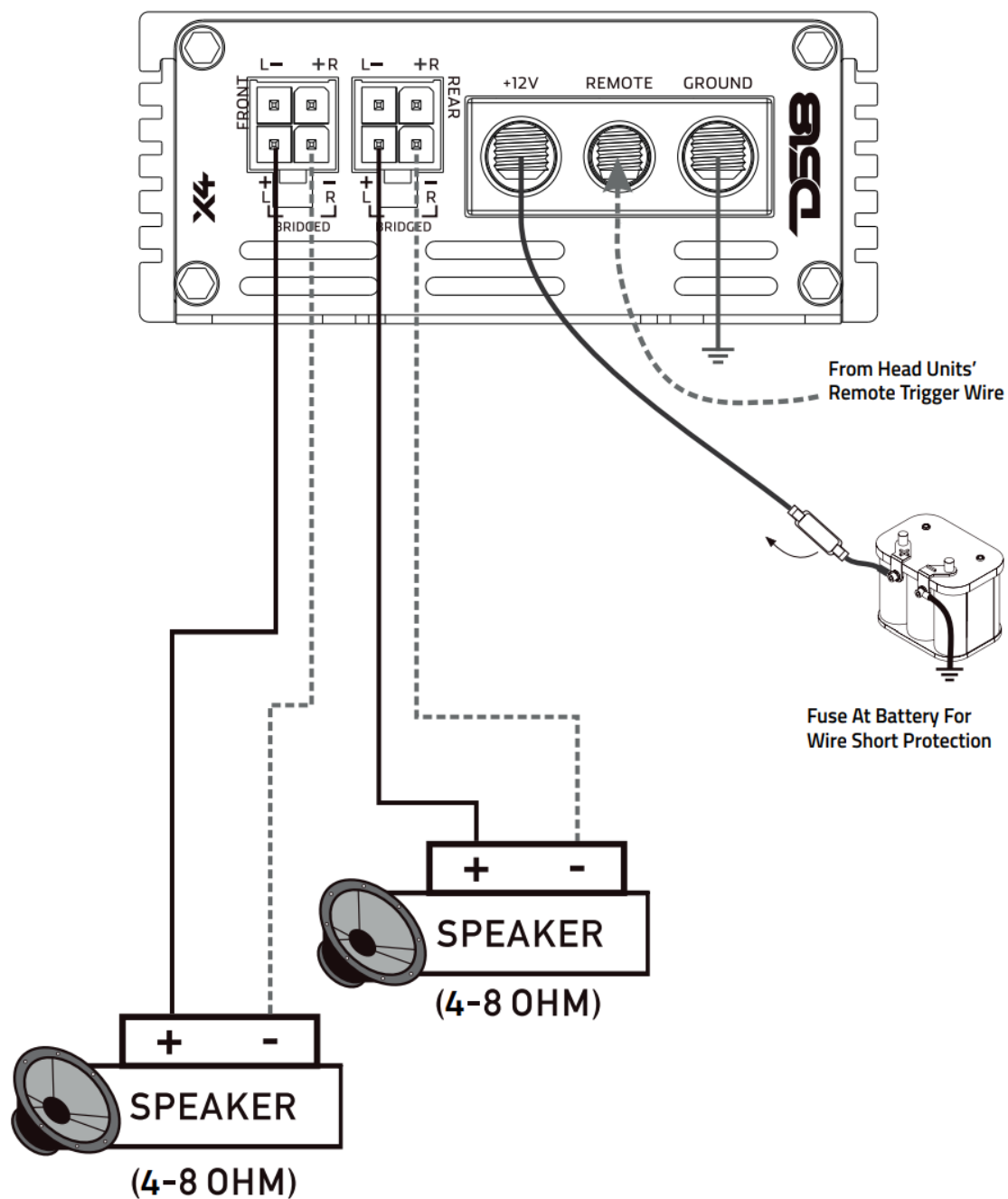
Use the "4CH" position when you have a 4 channel RCA input connected
Use the "2CH" position when you have a 2 channel RCA input connected



Fuse At Battery For Wire Short Protection



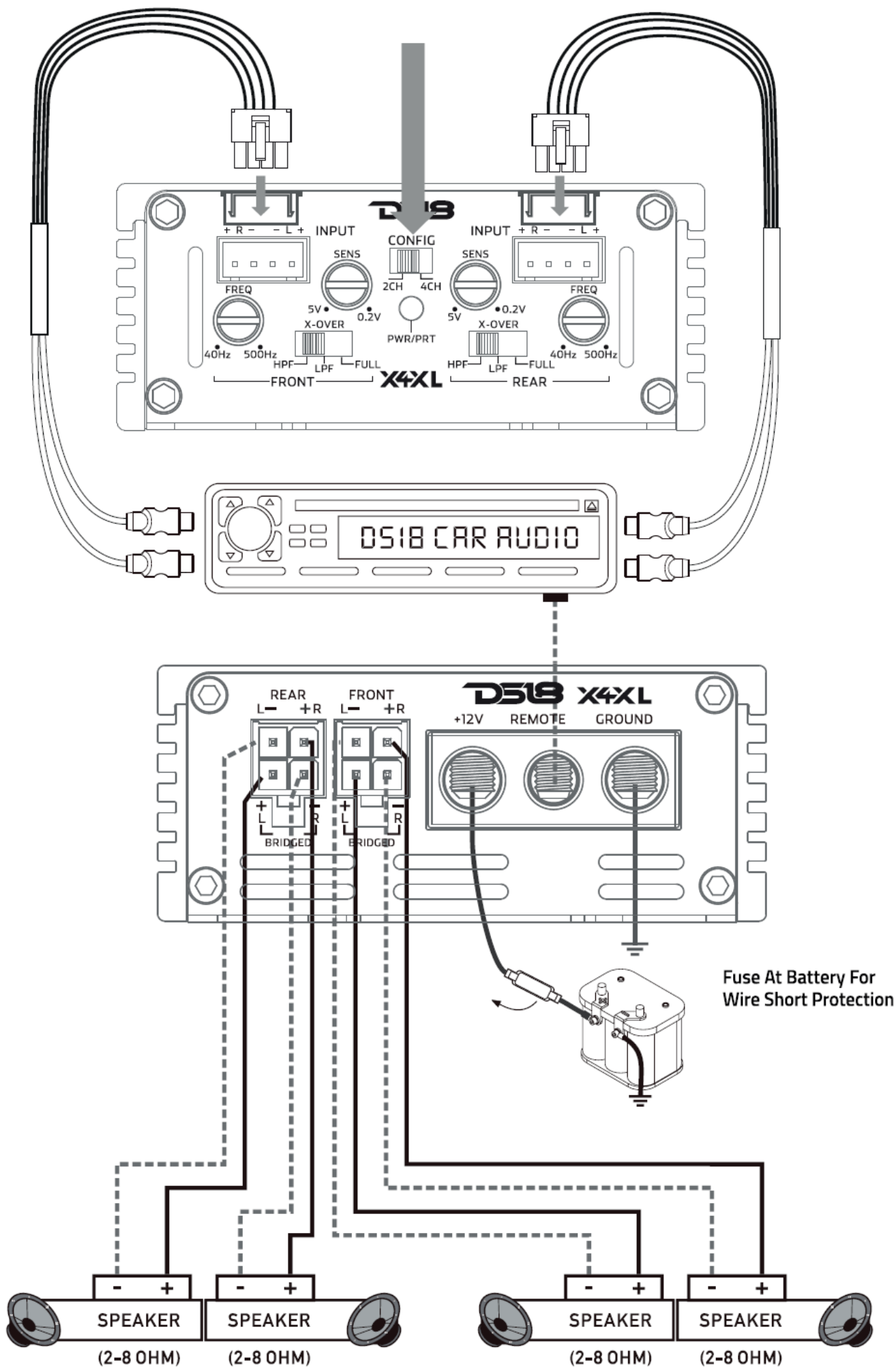
BRIDGED MODE



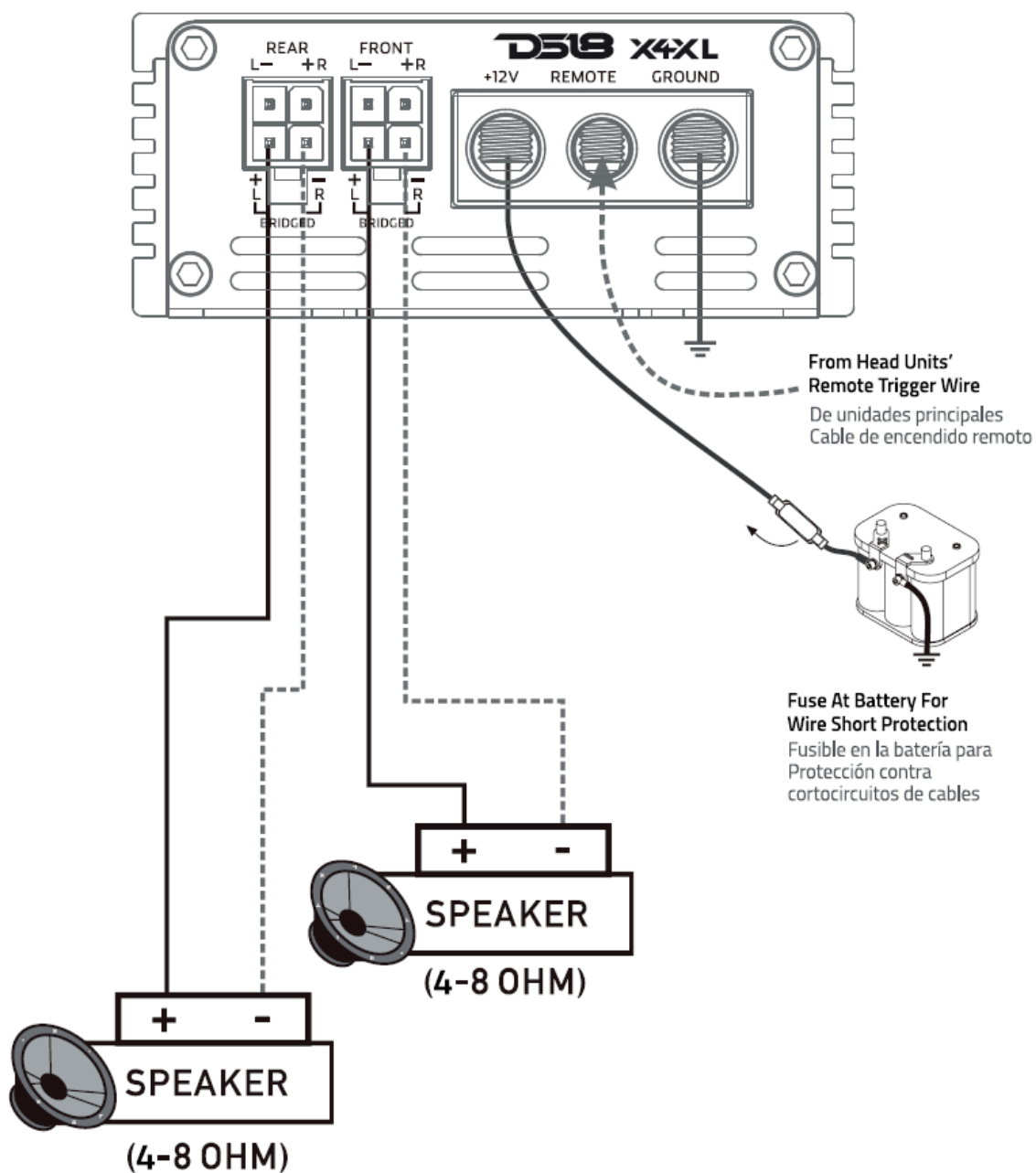
X4XL

Use the "4CH" position when you have a 4 channel RCA input connected

Use the "2CH" position when you have a 2 channel RCA input connected



BRIDGED MODE



SPECIFICATIONS

X1

POWER

- Total Watts (Peak) 900W
- RMS Power @ 4 ohm 140W
- RMS Power @ 2 ohm 220W
- RMS Power @ 1 ohm 300W

AUDIO

• Frequency Response	20Hz-500Hz
• Signal to Noise Ratio.....	90dB
• Efficiency @ 4 ohm	80%
• Damping Factor	200
• Total Harmonic Distortion (THD)	<0.2%
• Low-Level Input Range	0.2-5V
• Selectable X-Over	Fixed LPF
• X-Over Filter Range	50Hz-250Hz
• Bass Boost Range	0-18dB
• Bass Boost Frequency	40Hz
• Infrasonic Filter	10Hz-55Hz
• Phase Selector	0/180°

FEATURES

• Amplifier Class	Digital (D)
• Amplifier Type	Monoblock Subwoofer
• Number of Channels	1 Channel
• Minimum Impedance	1 ohm
• Led Indicator	Power / Protect
• Power Input Terminal Size	8Ga
• Fuse Size.....	30A
• Remote Level Control	Yes (Dash Mount)
• Thermal Protection	Yes
• Over-Load Protection	Yes
• DC Output Protection	Yes
• Short Circuit Output Protection	Yes
• Voltage Input Protection	Yes
• Ultra Compact Size for easy Installation in any application	Yes
• Stable/Reliable Four Layers Traces PCB Design	Yes
• Surface Mount Component Technology	Yes
• Audio Precision Quality Control Verification.....	Yes
• Body Color	Brushed Black Aluminum

MEASUREMENTS

- Overall Length.....5.54" / 140.8mm
- Overall Width 3.24" / 82.4mm
- Overall Height
- Heatsink Length4.75" / 120.8mm

X2

• POWER / POTENCIA

- Total Watts (Peak) / Vatios Totales (Pico)1140W
- RMS Power @ 4 ohm / Poder Continuo @ 4 OHM2 x 140W
- RMS Power @ 2 ohm / Poder Continuo @ 2 OHM2 x 230W
- RMS Power @ 4 ohm Bridge / Poder Continuo @ a puente de 4 OHM 380W

AUDIO / AUDIO

- Frequency Response / Respuesta de Frecuencia.....20Hz-20KHz
- Signal to Noise Ratio / Relación Señal / Ruido..... 90dB
- Efficiency @ 4 ohm / Eficiencia @ 4 OHM80%
- Damping Factor / Factor de Amortiguamiento200
- Total Harmonic Distortion (THD) / Distorsión Armónica Total (THD)<0.2%
- Low Level Input Range / 5DQJRGH(QWUDGDGH%DMR1LYHO0.2-5V
- Selectable X-Over / Cruze Seleccionable LPF/FLAT/HPF
- X-Over Filter Range / Rango de Filtro de cruce40Hz-400Hz

FEATURES / CARACTERÍSTICAS

- Amplifier Class / Clase de Amplificadores Digital (D)
- Amplifier Type / Tipo de Amplificador.....Stereo Full Range / Rango Completo Estéreo
- Number of Channels / Número de Canales2 Channel / 2 Canal
- Minimum Impedance / Impedancia Mínima..... 2 Ohm

Stereo / 4 Ohm Bridge	
Led Indicator / Indicador Led	Power Protect / Encendido Protección
Power Input Terminal Size / Tamaño de Entrada de Alimentación	
.....	8Ga
Fuse Size / Tamaño de Fusible.....	4
Thermal Protection / Protección Térmica.....	Yes / Si
Over-Load Protection / Protección Contra la Sobrecarga	
.....	Yes / Si
DC Output Protection / Protección de Salida de DC	
.....	Yes / Si
Short Circuit Output Protection / Protección de Salida de Cortocircuito.....	Yes / Si
Voltage Input Protection / Protección de Entrada de Voltaje.....	Yes / Si
Ultra Compact Size for easy Installation in any application	
.....	Yes / Si
Stable/Reliable Four Layers Traces PCB Design	
.....	Yes / Si
‘LVH²RGH3&%GHWUD]DVGHFWDWURFDSDVHVWDEOHFRQILDEOH	
Surface Mount Component Technology / Tecnología de componentes de montaje en superficie	
Yes / Si	
Audio Precision Quality Control Verification / Verificación del control de calidad de precisión de audio.....	Yes
/ Si	
Body Color / Color de la carcasa	Brushed Black Aluminum / Aluminio Negro Cepillado

MEASUREMENTS / MEDIDAS

Overall Lengh/ Longitud total.....	5.54" / 140.8mm
Overall Width / Ancho general	
.....	3.24" / 82.4mm
Overall Height / Altura total	
.....	1.37" / 34.8mm
Heatsink Length / Longitud de Disipador de Calor.....	4.75" / 120.8mm

X4

POWER

- Total Watts (Peak)

.....1320W

- RMS Power @ 4 ohm 4 x 70W
- RMS Power @ 2 ohm4 x 140W
- RMS Power @ 4 ohm Bridge2 x 220W

AUDIO

- Frequency Response20Hz-20KHz
- Signal to Noise Ratio
90dB
- Efficiency @ 4 ohm
80%
- Damping Factor200
- Total Harmonic Distortion (THD)<0.2%
- Low Level Input Range0.2-5V
- Selectable X-Over
LPF/FLAT/HPF
- X-Over Filter Range Fixed 80Hz

FEATURES

- Amplifier Class Digital (D)
- Amplifier TypeStereo Full Range
- Number of Channels4 Channel
- Minimum Impedance 2 Ohm Stereo / 4 Ohm Bridge
- Led IndicatorPower | Protect
- Power Input Terminal Size8Ga
- Fuse Size
.....25A
- Thermal Protection.....Yes
- Over-Load ProtectionYes
- DC Output ProtectionYes
- Short Circuit Output ProtectionYes
- Voltage Input Protection.....Yes
- Ultra Compact Size for easy Installation in any application
.....Yes
- Stable/Reliable Four Layers Traces PCB Design
.....Yes
- Surface Mount Component TechnologyYes
- Configuration 2ch/4ch input selectorYes
- Audio Precision Quality Control VerificationYes
- Body Color Brushed Black Aluminum
- MEASUREMENTS
- Overall Length.....5.54" /
140.8mm

- Overall Width 3.24"
/ 82.4mm
- Overall Height
1.37" / 34.8mm
- Heatsink Length4.75" / 120.8mm

X4XL

POWER

- Total Watts (Peak)1800W
- RMS Power @ 4 ohm4 x 120W
- RMS Power @ 2 ohm4 x 180W
- RMS Power @ 4 ohm Bridge 2 x 300W

AUDIO

- Frequency Response20Hz-20KHz
- Signal to Noise Ratio 90dB
- Efficiency @ 4 ohm
80%
- Damping Factor200
- Total Harmonic Distortion (THD)<.10%
- Low Level Input Range / 5DQJRGH(QWUDGDGH%DMR1LYHO
.....0.2-5V
- Selectable X-Over
LPF/FLAT/HPF
- X-Over Filter Range40Hz-500Hz

FEATURES

- Amplifier Class Digital (D)
- Amplifier TypeStereo Full Range / Rango Completo Estéreo
- Number of Channels4 Channel / 4 Canal
- Minimum Impedance..... 2 Ohm Stereo / 4 Ohm Bridge
- Led IndicatorPower | Protect / Encendido |
Protección
- Power Input Terminal Size8Ga
- Fuse Size45A
- Thermal ProtectionYes
/ Si
- Over-Load ProtectionYes / Si

- DC Output ProtectionYes / Si
- Short Circuit Output ProtectionYes / Si
- Voltage Input ProtectionYes / Si
- Ultra Compact Size for easy Installation in any application
.....Yes / Si
- Stable/Reliable Four Layers Traces PCB Design
.....Yes / Si
- Surface Mount Component TechnologyYes / Si
- Configuration 2ch/4ch input selector.....Yes / Si
- Audio Precision Quality Control VerificationYes / Si
- Body Color Brushed Black Aluminum

MEASUREMENTS

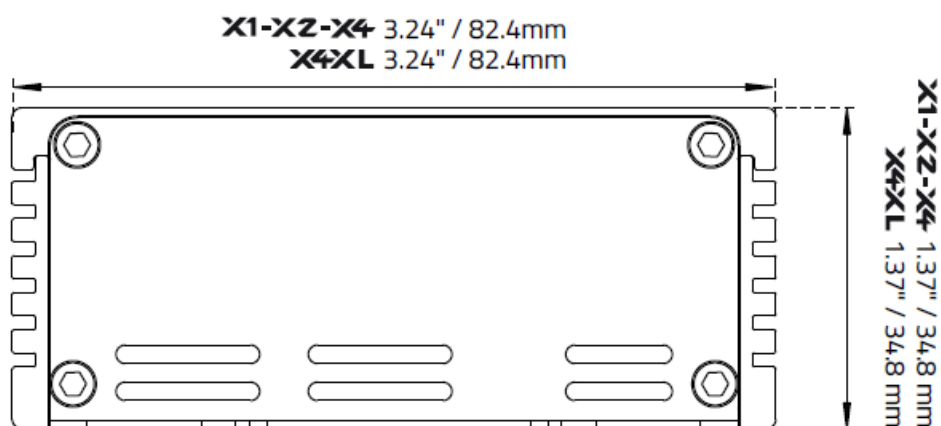
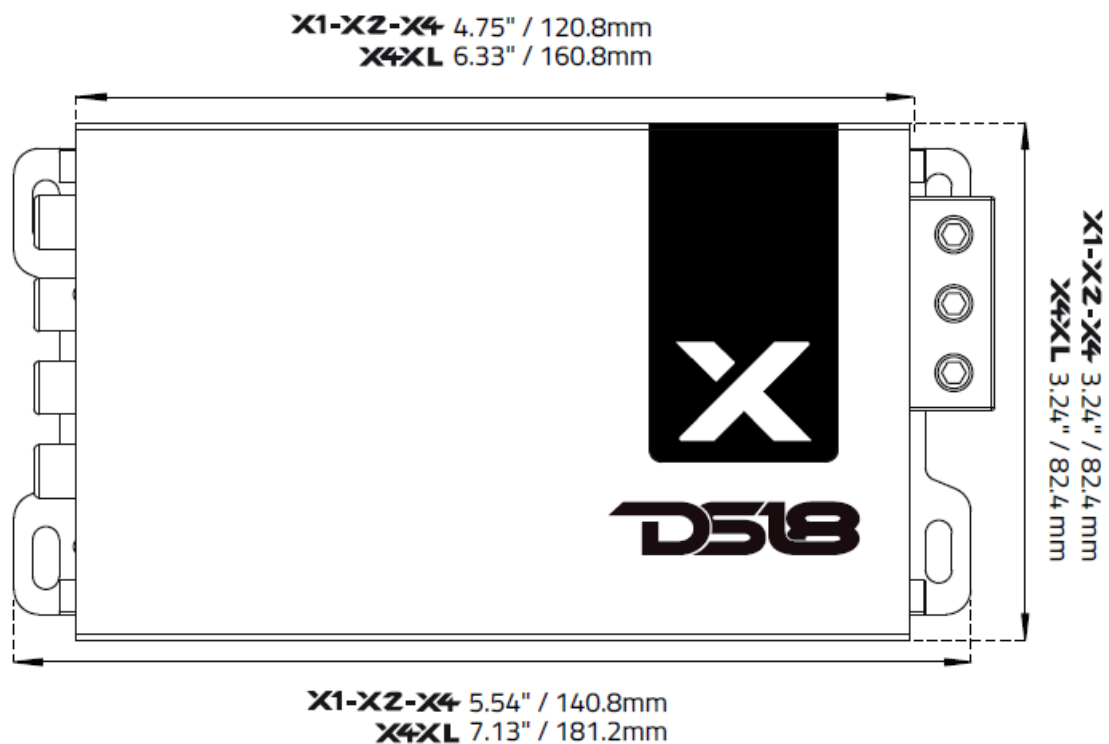
- Overall Lengh.....7.13" /
181.2mm
- Overall Width 3.24" /
82.4mm
- Overall Height
1.37" / 34.8mm
- Heatsink Length.....6.33" / 160.8mm

TROUBLESHOOTING

PROBLEM / PROBLEMAS	CHECK / REVISAR	TROUBLESHOOT / SOLUCIÓN
<u>No sound</u> Sin sonido	<u>Is the power LED illuminated? (NO)</u> ¿Está iluminado el LED de diagnóstico? (NO)	<u>Check all fuses to amplifier.</u> Revise todos los fusibles del amplificador. <u>Be sure turn-on lead is connected</u> Asegúrese de que el encendido esté conectado. <u>Check signal leads.</u> Revise los cables de señal. <u>Check gain control.</u> Compruebe el control de ganancia. <u>Check Tuner / Deck volume level.</u> Compruebe el nivel de volumen de Turner / Deck. <u>Clean contacta en fuse holders.</u> Limpiar los contactos de los portafusibles.
	<u>Is the Diagnostic LED illuminated? (YES)</u> ¿Está iluminado el LED de diagnóstico? (SI)	<u>Check for speaker short or amplifier overheating.</u> Compruebe si hay cortocircuitos en los altavoces o sobrecalentamiento del amplificador.
<u>Protection LED on</u> LED de proteccion encendido	<u>Shut Down</u> Apagado	<u>Turn radio down.</u> <u>Wait for AMP to cool.</u> Apague la radio. Espere a que el AMP se enfríe.
	<u>Speaker wires shorted</u> Cables de altavoz en corto	<u>Separate speaker wires and insulate</u> Separe los cables de los altavoces y aíslalo

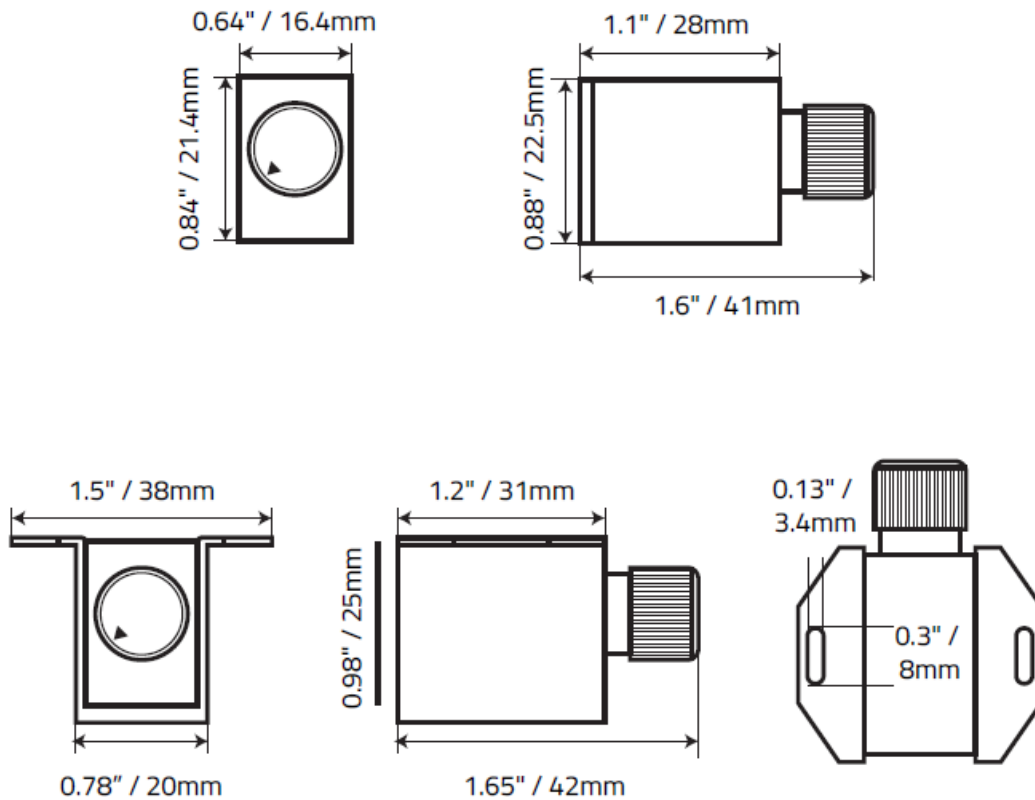
Amp does not turn on Amplificador no enciende	No power to power wire No hay energía en el cable de alimentación	Repair power wire or connections. Repare el cable de alimentación o las conexiones.
	No power to remote wire with receiver on No hay energía en el cable remoto con el receptor encendido	Check connections to radio Verifique las conexiones a la radio.
	Burnt or broken fuse Fusible quemado o roto	Replace fuse Reemplace el fusible.
No sound, on one channel Sin sonido en un canal	Check speaker leads Compruebe los cables de los altavoces	Inspect for short circuit or an open connection Inspeccione si hay un cortocircuito o una conexión abierta.
	Check audio leads Verifique los cables de audio	Reverse Left and Right RCA inputs to determine if the problem is occurring before the amp. Invierta las entradas RCA izquierda y derecha para determinar si el problema ocurre antes del amplificador.
Amp turning off medium high volume Amplificador se apaga en el volumen medio alto	Check speaker load impedance Verifique la impedancia de carga de los altavoces	Be sure proper speaker load impedance recommendations are observed Asegúrese de que se sigan las recomendaciones adecuadas de impedancia de carga de los altavoces. (If you use an ohmmeter to check speaker resistance, please remember that DC resistance and AC impedance may not be the same.) (Si usa un ohmímetro para verificar la resistencia del altavoz, recuerde que la resistencia de DC y la impedancia de AC pueden no ser iguales)

DIMENSIONS



REMOTE LEVEL CONTROL.

Included in X1 amp only



WARRANTY

Please visit our website DS18.com for more information on our warranty policy.

We reserve the right to change products and specifications at any time without notice.


Images may or may not include optional equipment.

WARNING:

Cancer and Reproductive Harm.

www.P65Warning.ca.gov

Documents / Resources

	<p>DS18 DS18 X Series Ultra Compact Class D 1-2-4 Channel Amplifier [pdf] Owner's Manual DS18 X Series, DS18 X Series Ultra Compact Class D 1-2-4 Channel Amplifier, Ultra Compact Class D 1-2-4 Channel Amplifier, Class D 1-2-4 Channel Amplifier, 1-2-4 Channel Amplifier, Amplifier</p>
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References

- [Official DS18 Pro Audio Store - Speakers, Subwoofers, Amps & More!](#)
- [User Manual](#)

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