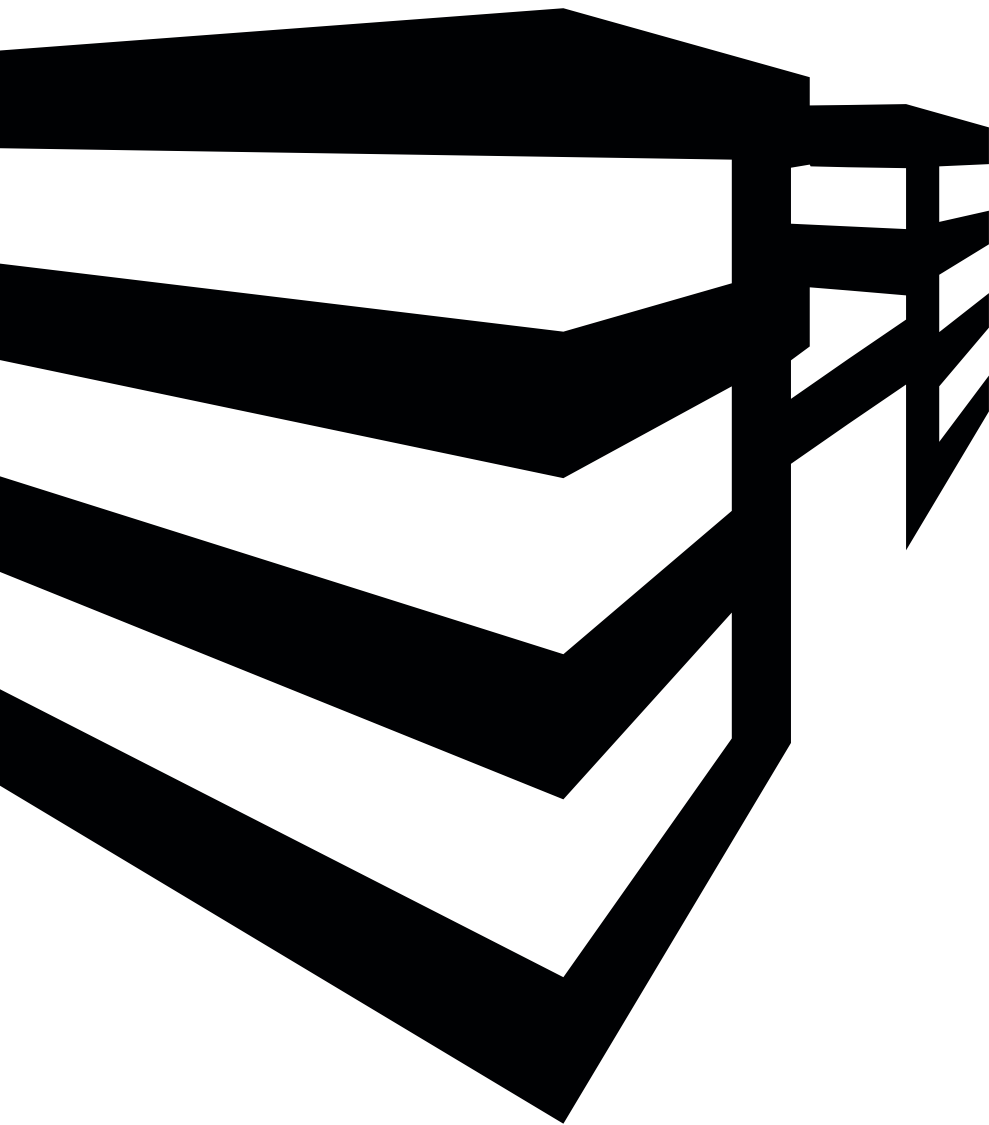




OWNER'S MANUAL
v1-2026

Reference
ZAPCO
HIGH-END AMPLIFIERS

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EN General Instructions

The installation of the product must be done by professional technicians. Always contact a ZAPCO Authorized Dealer.

Before you start your installation

ZAPCO highly recommends that a fuse or circuit breaker be placed within 18" of the battery. The protection device should be placed where it can be accessed easily and all wiring should be routed safely and correctly according to the following guidelines:

- Do not run wiring close to hot or spinning objects
- Always use wire grommets when routing wire through the firewall or any other metal panels
- Make sure that the potential for pinched wiring is avoided by routing all wires away from moving objects, including brake, gas and clutch pedals, etc.

Planning your power connections

- The +12V B is the main power input. This must be connected the vehicle battery's positive (+) terminal
- The GND is the main ground or negative connection. This must be securely attached to bare metal at the vehicle frame
- The terminal between the main power and ground is the +12 turn-on input (REM) and can be connected to the head unit turn-on output wire. If none is available it can be connected to an accessory (ACC) terminal

Mounting your amplifier

Mounting your Zapco amplifier is easy. Just keep in mind a few guidelines:

- The amplifier requires adequate ventilation. Creating power creates heat, and cooling requires air
- Keep the amplifier out of the engine compartment or other locations that may cause excessive heat or moisture
- Do not mount the amplifier to a subwoofer box or other place that may have excessive vibration

Setting Gains

Gain pots are not volume controls and should be used only if absolutely necessary. Turning up gain controls causes increased noise, makes distortion more likely and reduces the dynamic range of your system.

Continuous exposure to excessive sound pressure levels may cause hearing damage. ZAPCO strongly advises that you use common sense when setting volume levels. Everything written in this manual is for the proper use of the products. Some features or specifications could be modified during production to improve the product performance. The technical specifications and functionalities stated here are current as of the time of publication.

IT Istruzioni Generali

L'installazione del prodotto deve essere effettuata da tecnici professionisti. Rivolgersi sempre ad un Rivenditore Autorizzato ZAPCO.

Prima di iniziare l'installazione

ZAPCO consiglia vivamente di posizionare un fusibile entro 18" dalla batteria. Il dispositivo di protezione deve essere posizionato in u punto di facile accesso e tutti i cablaggi devono essere instradati in modo sicuro e corretto secondo le seguenti linee guida:

- Non eseguire il cablaggio vicino ad oggetti caldi o taglienti
- Utilizzare sempre i passacavi quando si instrada il cavo attraverso pannelli metallici
- Assicurarsi che venga evitato il rischio di schiacciamento dei cavi allontanando tutti i cavi da oggetti in movimento, inclusi i pedali del freno, dell'acceleratore e della frizione, etc.

Pianificare l'alimentazione

- Il +12V B è l'ingresso di alimentazione principale. Questo deve essere collegato al terminale positivo (+) della batteria dell'auto
- Il GND è la massa principale o il collegamento negativo. Questo deve essere fissato saldamente al metallo del telaio del veicolo
- Il terminale tra l'alimentazione principale e la massa è l'ingresso di accensione +12 (REM) e può essere collegato al cavo di uscita di accensione dell'unità principale. Se non è disponibile, può essere collegato ad un terminale accessorio (ACC)

Installare l'amplificatore

Installare il tuo amplificatore Zapco è facile. Basta tenere a mente alcune linee guida:

- L'amplificatore richiede una ventilazione adeguata. Creare potenza crea calore ed il raffreddamento richiede aria
- Tenere l'amplificatore fuori dal vano motore o altri luoghi che potrebbero causare calore o umidità eccessivi
- Non installare l'amplificatore su un subwoofer o in un altro posto che potrebbe generare vibrazioni eccessive

Regolazione guadagni

I potenziometri di guadagno non sono controlli del volume dovrebbero essere usati solo se assolutamente necessario. Aumentare il guadagno provoca un aumento del rumore, distorsione e riduce la gamma dinamica.

L'esposizione continua a livelli di pressione sonora eccessivi può causare danni all'udito. ZAPCO consiglia vivamente di utilizzare il buon senso quando si impostano i livelli di volume. Tutto quanto scritto in questo manuale è finalizzato al corretto utilizzo dei prodotti. Alcune caratteristiche o specifiche possono essere modificate durante la produzione per migliorare il prodotto. Le specifiche tecniche e le funzionalità qui riportate sono aggiornate al momento della pubblicazione.

DE Allgemeine Anweisungen

Die Produktinstallation sollte von professionellen Technikern durchgeführt werden. Wenden Sie sich immer an einen Autorisierten ZAPCO-Händler.

Bevor Sie mit der Installation beginnen

ZAPCO empfiehlt dringend, eine Sicherung innerhalb von 18 Zoll von der Batterie zu platzieren. Der Schutz muss an einer leicht zugänglichen Stelle angebracht werden und die gesamte Verkabelung muss gemäß den folgenden Richtlinien sicher und korrekt verlegt werden:

- Verkabeln Sie das Gerät nicht in der Nähe von heißen oder scharfen Gegenständen
- Bei der Kabeldurchführung immer Kabelverschraubungen verwenden Metallplatten
- Stellen Sie sicher, dass die Gefahr eines Einklemmens des Kabels vermieden wird, indem Sie alle Kabel von sich bewegenden Objekten fernhalten, einschließlich Brems-, Gas- und Kupplungspedale usw

Planen Sie die Stromversorgung

- +12V B ist der Hauptstromeingang. Dieser muss an den Pluspol (+) der Autobatterie angeschlossen werden
- Der GND ist die Hauptmasse oder negative Verbindung. Dieser muss sicher am Metall des Fahrzeugchassis befestigt sein
- Der Anschluss zwischen Hauptstrom und Masse ist der Zündeingang +12 (REM) und kann an die Zündausgangsleitung des Hauptgeräts angeschlossen werden. Wenn es nicht verfügbar ist, kann es an ein Zubehörterminal (ACC) angeschlossen werden

Installieren Sie den Verstärker

Die Einrichtung Ihres Zapco-Verstärkers ist einfach. Beachten Sie einfach ein paar Richtlinien:

- Der Verstärker benötigt eine ausreichende Belüftung. Bei der Stromerzeugung entsteht Wärme, für die Kühlung ist Luft erforderlich
- Bewahren Sie den Verstärker außerhalb des Motorraums oder anderer Orte auf, an denen übermäßige Hitze oder Feuchtigkeit entstehen könnte
- Installieren Sie den Verstärker nicht auf einem Subwoofer oder an einem anderen Ort, der übermäßige Vibrationen erzeugen könnte

Verstärkungsanpassung

Gain-Potentiometer sind keine Lautstärkereglern, sie sollten es sein nur dann verwendet werden, wenn dies unbedingt erforderlich ist. Eine Erhöhung der Verstärkung führt zu mehr Rauschen und Verzerrungen und verringert den Dynamikbereich.

Ständige Einwirkung übermäßiger Schalldruckpegel kann zu Gehörschäden führen. ZAPCO empfiehlt dringend, beim Einstellen der Lautstärke den gesunden Menschenverstand zu nutzen. Alles, was in diesem Handbuch geschrieben wird, zielt auf die korrekte Verwendung der Produkte ab. Einige Funktionen oder Spezifikationen können während der Produktion geändert werden, um das Produkt zu verbessern. Die hier gezeigten technischen Spezifikationen und Funktionen sind zum Zeitpunkt der Veröffentlichung aktuell.

FR Instructions Générales

L'installation du produit doit être effectuée par des techniciens professionnels. Contactez toujours un Revendeur agréé ZAPCO.

Avant de commencer votre installation

ZAPCO recommande fortement qu'un fusible ou un disjoncteur soit placé à moins de 18 pouces (moins de 45 centimètres) de la batterie. Le dispositif de protection doit être placé là où il est facilement accessible et tout le câblage doit être acheminé en toute sécurité et correctement selon les directives suivantes:

- Ne faites pas passer le câblage à proximité d'objets chauds ou en rotation
- Utilisez toujours des passe-fils lorsque vous faites passer le fil à travers le pare-feu ou tout autre panneau métallique
- Assurez-vous que tout risque de pincement des câbles soit évité en acheminant tous les fils loin des objets en mouvement, y compris les pédales de frein, d'accélérateur, d'embrayage, etc.

Planification de vos connexions électriques

- Le +12V B est l'entrée d'alimentation principale. Celui-ci doit être connecté à la borne positive (+) de la batterie du véhicule
- Le GND est la masse principale ou connexion négative. Celui-ci doit être solidement fixé au métal nu sur le châssis du véhicule
- La borne entre l'alimentation principale (+12V B) et la masse (GND) est l'entrée de mise sous tension +12 (REM) et peut être connectée au fil de sortie de mise sous tension de l'unité principale. Si aucun n'est disponible, il peut être connecté à une borne accessoire (ACC). Vous devez éviter d'utiliser des fils d'allumage (IGN), car ils peuvent être bruyants

Montage de votre amplificateur

Le montage de votre amplificateur Zapco est facile. Gardez simplement à l'esprit quelques directives:

- L'amplificateur nécessite une ventilation adéquate. La création d'énergie crée de la chaleur et pour le refroidissement on nécessite de l'air
- Gardez l'amplificateur hors du compartiment moteur ou de tout autre endroit susceptible de provoquer une chaleur ou une humidité excessive
- Ne montez pas l'amplificateur sur un caisson de basses ou dans tout autre endroit susceptible de générer des vibrations excessives

Définition des gains

Les potentiomètres de gain ne sont pas des commandes de volume. Augmenter les commandes de gain entraîne une augmentation du bruit, rend la distorsion plus probable et réduit la plage dynamique de votre système.

Une exposition continue à des niveaux de pression sonore excessifs peut provoquer des lésions auditives. ZAPCO vous conseille fortement de faire preuve de bon sens lors du réglage des niveaux de volume. Tout ce qui est écrit dans ce manuel est destiné à la bonne utilisation des produits. Certaines caractéristiques ou spécifications pourraient être modifiées en cours de production pour améliorer les performances du produit. Les spécifications techniques et les fonctionnalités indiquées ici sont à jour au moment de la publication.

ES Instrucciones Generales

La instalación del producto debe ser realizada por técnicos profesionales. Comuníquese siempre con un Distribuidor Autorizado ZAPCO.

Antes de comenzar su instalación

ZAPCO recomienda encarecidamente colocar un fusible o disyuntor a 18 pulgadas (menos de 45 cm) de la batería. El dispositivo de protección debe colocarse en un lugar de fácil acceso y todo el cableado debe tenderse de forma segura y correcta de acuerdo con las siguientes pautas:

- No tienda cables cerca de objetos calientes o giratorios
- Utilice siempre pasacables cuando pase el cable a través del cortafuegos o cualquier otro panel metálico
- Asegúrese de evitar la posibilidad de que los cables queden atrapados colocando todos los cables lejos de objetos en movimiento, incluidos los pedales de freno, acelerador, embrague, etc.

Planificación de sus conexiones eléctricas

- El +12V B es la entrada de alimentación principal. Este debe conectarse al terminal positivo (+) de la batería del vehículo
- El GND es la conexión a tierra principal o negativa. Este debe estar firmemente sujeto al metal desnudo en el marco del vehículo
- El terminal entre la alimentación principal (+12V B) y tierra (GND) es la entrada de encendido +12 (REM) y se puede conectar al cable de salida de encendido de la unidad principal. Si no hay ninguno disponible, se puede conectar a un terminal accesorio (ACC). Debes evitar el uso de cualquier cable de encendido (IGN), ya que pueden ser ruidosos

Montaje de su amplificador

Montar su amplificador Zapco es fácil. Solo tenga en cuenta algunas pautas:

- El amplificador requiere una ventilación adecuada. La creación de energía genera calor y la para la refrigeración se requiere aire
- Mantenga el amplificador fuera del compartimiento del motor u otros lugares que puedan causar calor o humedad excesivos
- No monte el amplificador sobre una caja de subwoofer u otro lugar que pueda tener vibraciones excesivas

Configuración de ganancias

Los potenciómetros de ganancia no son controles de volumen. Antes de encender su sistema por primera vez, debe asegurarse de que todos los controles de ganancia estén configurados al mínimo. Los controles de ganancia deben usarse sólo si es absolutamente necesario. Subir los controles de ganancia provoca un aumento del ruido, aumenta la probabilidad de distorsión y reduce el rango dinámico de su sistema. Si su unidad principal no tiene suficiente salida, obtendrá resultados mucho mejores si invierte en un amplificador de línea para proporcionar más señal al amplificador.

La exposición continua a niveles excesivos de presión sonora puede causar daños auditivos. ZAPCO recomienda encarecidamente que utilice el sentido común al configurar los niveles de volumen. Todo lo escrito en este manual es para el uso adecuado de los productos. Algunas características o especificaciones podrían modificarse durante la producción para mejorar el rendimiento del producto. Las especificaciones técnicas y las funcionalidades aquí indicadas están actualizadas en el momento de la publicación.

CH 常规安装指引

产品的安装必须由熟练的技术人员完成. 请始終联系 ZAPCO 授权经销商.

开始安装前

ZAPCO强烈建议在电池附近的18英寸 (约45.7厘米) 内放置一个保险丝或断路器. 保护装置应放置在易于触及的位置, 所有布线应根据以下准则安全正确地布置:

- 不要将电线靠近热源或旋转物体
- 在将电线引导穿越防火墙或任何其他金属面板时, 务必使用电线防护套
- 确保所有电线远离汽车可以移动的部件, 包括刹车, 油门和离合踏板等, 以避免电线被夹

电源连接的工作

- +12V B是主要的电源输入, 必须连接到车辆电池的正极 (+) 端
- GND是主要的接地或负极连接. 必须牢固地连接到车辆车架上的裸露金属部位
- 主电源和地之间的端子是+12转换输入 (REM), 可以连接到主机的开关输出线. 如果没有可用的线, 它可以连接到附件 (ACC) 终端. 应避免使用任何点火 (IGN) 线, 因为这可能会产生噪音

安装功放机

安装 ZAPCO 功放机非常简单. 只需记住一些准则:

- 功放机需要足够的通风. 因为产生功率会产生热量, 冷却需要空气
- 不要将功放机安装在发动机舱或可能产生过多热量或湿气的位置
- 不要将功放机安装在低音炮音箱或其他可能有过多振动的地方

设置增益

增益旋钮不是音量控制. 在首次启动系统之前, 应确保所有增益控制设置为最小值. 增益控制只应在绝对必要的情况下使用. 增大增益控制会导致噪音增加, 增加失真的可能性, 并降低系统的动态范围. 如果您的主机输出不足, 最好购买信号放大器以向功放机提供更多信号, 从而获得更好的音效.

长时间暴露于过高的声压级可能会导致听力损伤. ZAPCO强烈建议在设置音量水平时要注意保护听力. 本手册中的所有内容都是为了正确使用产品而编写的. 一些功能或规格可能会在生产过程中进行修改以提高产品性能. 此处陈述的技术规格和功能只针对本手册出版日期前的功放机产品

Committed to Excellence

ZAPCO is dedicated to the pursuit of audio fidelity. Our prime objectives are to design and manufacture audio products of unsurpassed quality, to provide unparalleled support and service for these products and to conduct business in a manner that will enhance the quality of life for all involved.

Experience: Knowledge from doing

There is absolutely no substitute for experience; that is a simple fact of life. Another simple fact is that ZAPCO has, for over fifty years, been the leader in defining quality standards for the car audio industry.

These years of experience have led to a thorough understanding of the challenges that are unique to the world of car audio. ZAPCO's relentless quest for sonic purity consistently yields imaginative designs that utilize the most innovative technologies. The resulting products set the criteria by which all others in the industry are judged.

Reference

The Reference Series

Conceived several years ago to replace the Studio Series, the first Reference Series amplifier range was completed in 2001. The Reference Series (originally called AG) marked ZAPCO's first attempt to bring the qualities that had built the ZAPCO legend to a line of amplifiers accessible to all. The response exceeded the company's wildest expectations. ZAPCO presents today the new Reference Series, not to offer an amplifier accessible to everyone, but to offer the best amplifier in its price range, with four new models of 1, 2, 4, and 6 channels, with a classy new design and selected internal components, to obtain the best audio performance. The new Reference Series amplifiers sound as good as, or better than, other companies' most expensive amps. Our dedication to sonic purity requires that the highest quality internal components are used, like high quality Bipolar-Input Audio OP for High-End Audio, High Quality Transistors with high transition frequency. The Capacitors are made with high density polypropylene base material, vacuum dustless steaming aluminum-tin alloy coating, and heat treatment. The Power Mosfets are N-type semiconductor field-effect transistors capable of handling high-power applications, utilizing advanced processing techniques to achieve extremely low on resistance per silicon area. Handmade for ZAPCO, the Transformers used are hand-wound to ensure maximum quality. This provides a guarantee that current capability, efficiency, and radiated noise are all kept within our demanding parameters. The chassis entirely made in solid aluminum guarantees high thermal dissipation, with a solid titanium plate with the logo for posterity.

Sonic Purity

Our Dedication to Sonic Purity Requires the Highest of Quality in Internal Component Parts

Resistors

All resistors (other than power resistors) are 0.1% precision, low noise metal film. This is a key reason why ZAPCO products have the industries’ best noise specifications, and why you won’t see as much fluctuation in our test certificates as you will in others. Precision resistors also reduce distortion and improve channel matching.

Capacitors

Capacitors are similar to batteries. Like a battery, they store energy and have an electrolyte (internal fluid). Also like a battery, a capacitor can have a very limited life. “Computer grade” capacitors for example, are reliable only in cool environments with very little current applied to them. Only the best high current and high temperature capacitors should be used in an autosound application. Although these capacitors typically cost five times as much as those used in our competitor’s products, ZAPCO insists that no audio degradation will occur over time.

Transistors

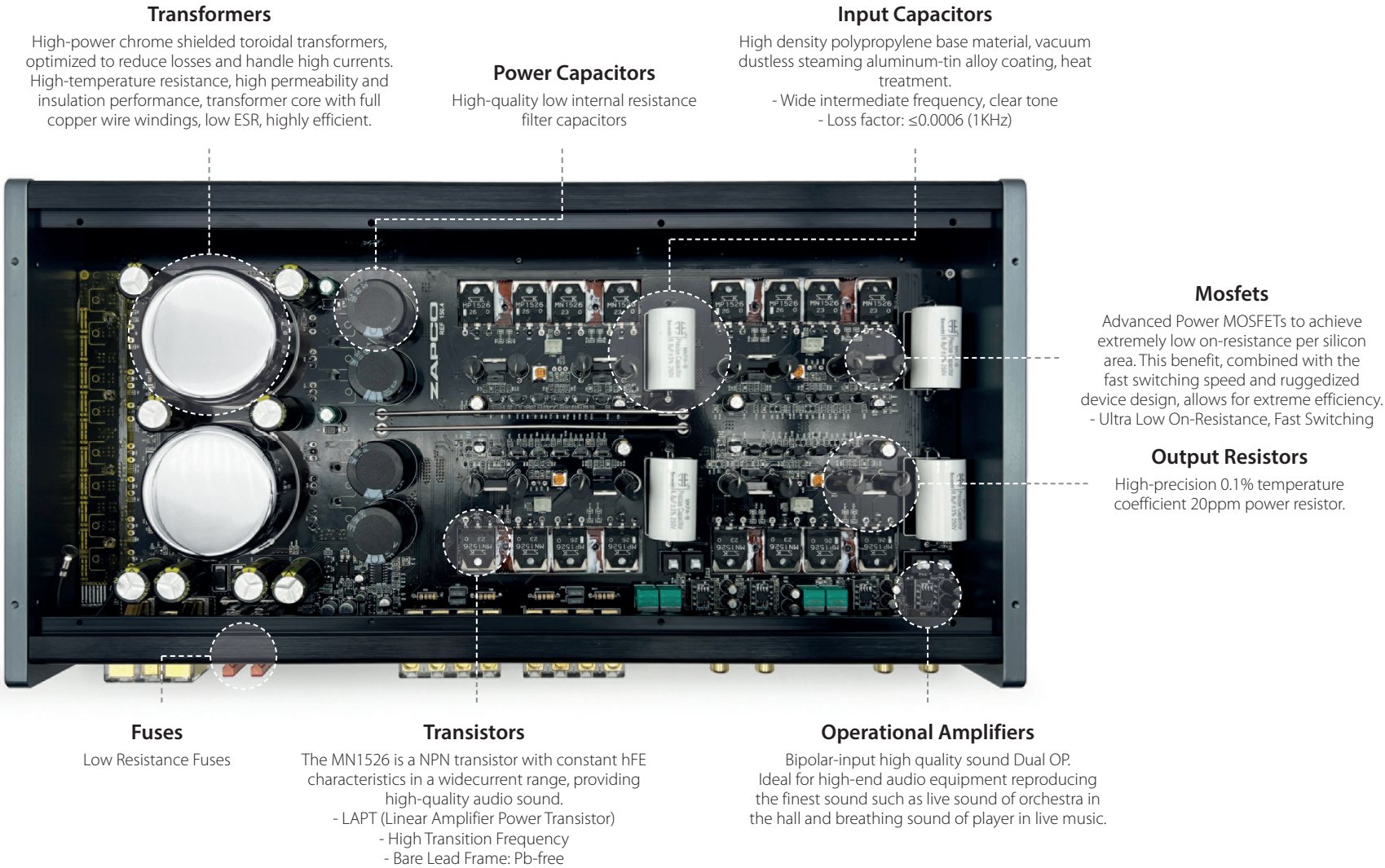
Two types of transistors are used in ZAPCO products, bi-polar and MOSFET. MOSFET transistors are rugged, high current devices that are suitably used as switches. They are the choice for switching power supplies. They are however, very non-linear and are not suitable for use as audio outputs. They cannot be matched and their inherent distortion requires too much feedback to achieve reasonable distortion levels. Bipolar transistors are used exclusively in our outputs. The audio performance of a bipolar transistor heavily outweighs any minor advantages a MOSFET might offer in durability. We solve the durability question by simply using considerably more output devices than the amp needs. This gives us a bulletproof amp with the sound we demand of a ZAPCO product.

Transformers

Most of the transformers used in our products are hand-wound in our own facility to ensure maximum quality. This is the only way that current capability, efficiency, and radiated noise can all be kept within our demanding parameters. All transformers are securely mounted in their respective chassis. Transformers are massive, and if not securely mounted can cause failure among internal components due to vibration.

Power Supplies

Regulated or Un-regulated? For years amplifier designers have debated which type of power supply is best. What’s the truth about power supplies? They each have advantages and disadvantages and there is no, one, best type. Limiting yourself to one type of power supply limits your amplifier design components. ZAPCO uses both types of supplies depending on the intended use of each amp, as well as expected current demands and operating environment.

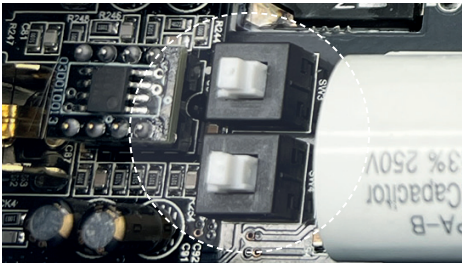


Balanced & Unbalanced System

From SymbiLink to actual systems

The most natural configuration for an audio system in the automobile places the signal source in the dash with the amplifiers located some distance away, usually under the seat or in the trunk of the vehicle. The reality of this arrangement dictates the necessity to make long runs of low level signal cable usually from the front to the back of the car. The electrical environment in an automobile is one that is inherently noisy and filled with conditions that threaten to degrade signal fidelity at every turn. Capacitive loading due to the long cable lengths, the potential for ground loops, alternator charging currents or currents generated by the amplifiers themselves are all factors that induce noise and distortion into the signal cables. By no means is this an ideal situation. Thankfully, ZAPCO has found the solution. SymbiLink components convert a standard unbalanced audio signal into the fully balanced domain usually reserved for expensive professional audio equipment found in recording studios or at your local concert venue. After this conversion is made, the audio cabling becomes virtually immune to electrical interference in the surrounding environment and is much less susceptible to signal degradation over long cable runs. It is for this reason that balanced signal cables are common in professional or industrial applications. ZAPCO has made this technology available for your car. ZAPCO engineers also discovered that the pulsating D.C. current in the automobile chassis and amplifier power wiring caused a significant amount of low frequency distortion. ZAPCO's balanced SymbiLink technology completely eliminates this distortion.

At that time the SymbiLink connection was realized by two separate inputs. Today the same solution is realized with balanced input by RCA and unbalanced input through a button that is collocated inside the amplifier, as you can see here (original is Balanced, press the button to switch to Unbalanced).



This is an innovation respect the actual Zapco series that today are all with Balanced inputs, but, in same situation, the connection with units still have not balanced output can introduce noises and distortions. Then in this cases (that are not rares) is enough to switch on the PCB, removing the bottom cover.

Class, Power, Heat

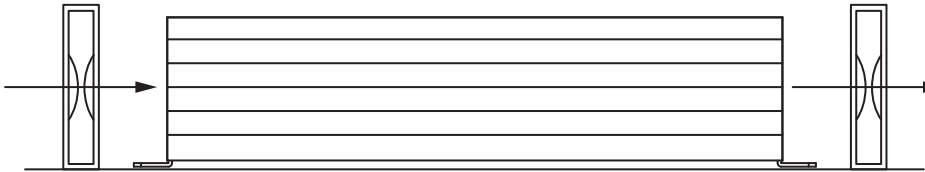
When buying or selling a car audio amplifier you need to consider more than just the power output. The basic design platform of the amplifier (Amplifier Class) will influence how the amp will work in any given situation, for any given user. All amplifiers make small signals bigger and in doing so create heat. Class A produces the most heat and Class D produces the least. If the amplifiers are not properly cooled, they will get too hot and problems will arise. Either the amp will be damaged, or protection circuits will engage to shut the amp off until it has cooled down enough to safely work again. Conversely, better cooling will allow an amp to make more power, longer, without damage or thermal shut down.

Class A/B amplifiers are used when audio fidelity is the primary goal and efficiency is of secondary concern. Class A/B amps have superior sound quality but with lower efficiency, they generate more heat and need more cooling.

Sound Quality and Dynamic Range: Our amps are designed solely for the best possible sound quality, so we do not current limit the amps. This gives Zapco amps more Dynamic Range than other amplifiers. Dynamic range, the ability to go from very quiet to extremely loud without distortion, is a major reason Zapco amps sound better than others. So, with Z-AP amplifiers, consumers have more dynamics plus the sound quality of class A/B amplifiers. If the Zapco Class A/B are used at the maximum dynamic range without distortion, they don't need so much cooling and never will shut down. But if they are driven into its distortion the amplifier will more easily reach maximum temperature and will shut down.

Critical: Volume does not make a system sound loud. Distortion sounds loud. With clean sound it is easy to drive an amp to full power and not know it because it still sounds clean. But when the power requested of the amplifier takes it into distortion the amplifier will overheat and shut down... and possibly be damaged. Zapco offers both Class A/B and Class D amps. Class A/B for the user who puts sound quality and dynamics first, and Class D for the user who wants big power in a small box.

Installation and Cooling: All the amplifiers need cooling, whether they are class A/B or class D. For cooling, the heatsink of the amplifier needs to exchange heat with air around it. So, the amplifier cannot be covered or put in a space where there is not enough air or ventilation. As noted above, in many cases a good installation needs to use external fans to make the ventilation more efficient. Some amplifiers have fans inside, but the problem is not solved if the fans cannot have an exchange of air with the environment.



All Wire is not created equal

Because CCA wire can not conduct DC electrical current like copper wire can, your amp will not get the current it needs to produce its rated power. That means you get less power and more distortion. It also taxes the amplifier that is trying to make its power, shortening the life of the amp. CCA wire corrodes quickly and causes terminals that used to be tight to become loose. This causes arcing when electrons to fly around all the open space lookin for more copper. This causes heat that damages connections and can even eventually melt the terminal blocks on your amplifier

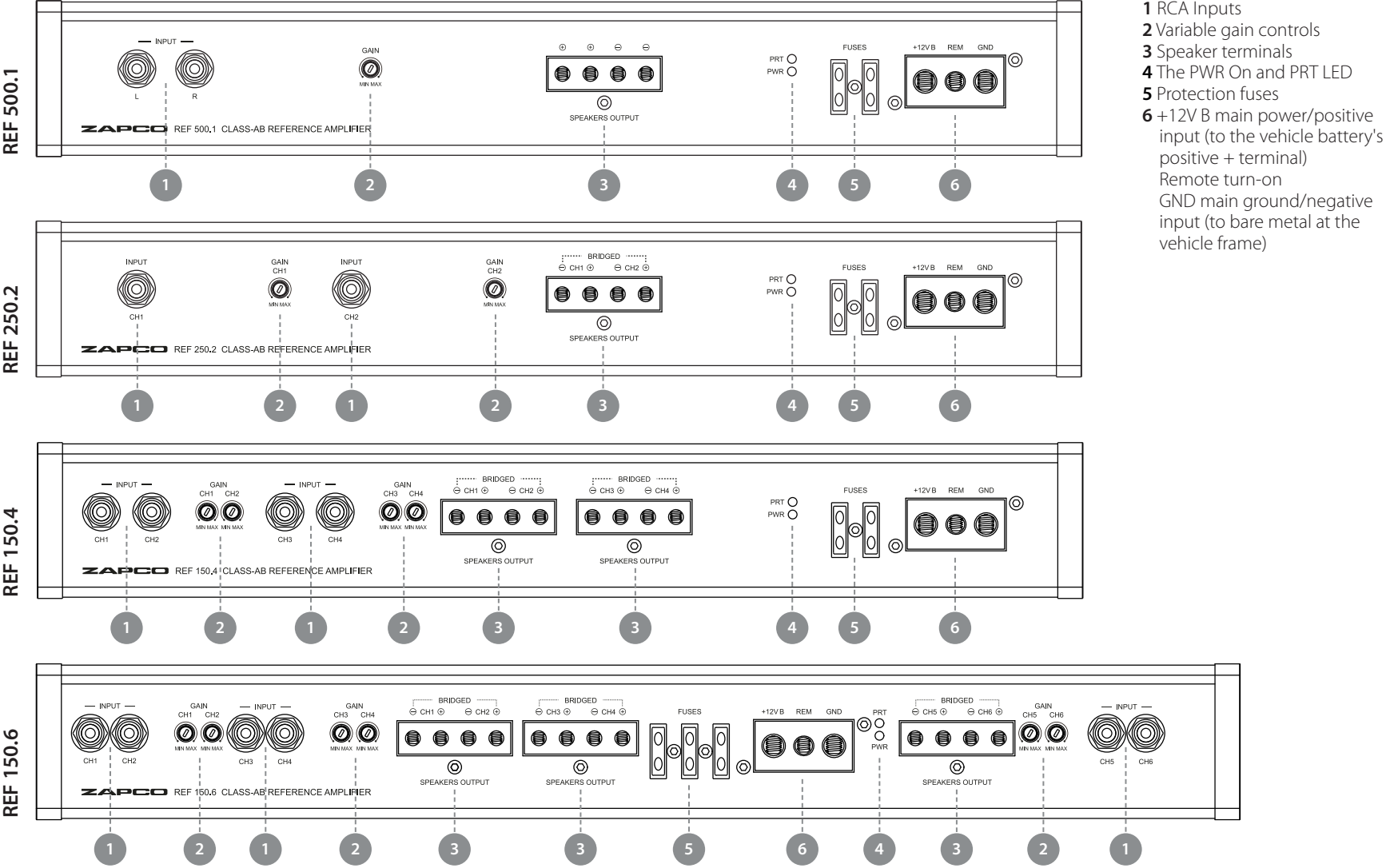
In short: While CCA wire is excellent for high frequency AC current (like tweeter voice coils), it is absolutely bad for high current 12V DC like power and ground for a car audio amplifier. So always look at the description of the contents of wire that you purchase. Protect your investment with real copper wire.

Wire Size

The second most common cause of under performing amplifiers is insufficient power current or a poor power connection. The most common cause of under performing amplifiers is insufficient ground current or a bad ground connection. 12-volt current: Battery power works only if it travels in a complete circuit from the battery positive terminal to the battery negative terminal. Main power input, of course, is attached to the battery positive terminal. Ground current is returned to the battery through the chassis to the point where the battery is grounded. The current available for your amplifier to use to produce power will be restricted by the smallest gauge of wire in the circuit and by the weakest physical connection in the circuit. Use the Wire Sizing Chart. Add up the fuse values on the amplifier(s) then choose the proper size wire based on the distance from the car battery to the amplifier location. Always use the same gauge wire for the main ground as you do for the main power. Always make your ground as short as possible and secure it to a clean solid surface, preferably the vehicle frame.

Wire Sizing Chart	Length							
	4 ft	7 ft	10 ft	13 ft	16 ft	19 ft	22 ft	28 ft
0-20 amps	14	12	12	10	10	8	8	8
20-35 amps	12	10	8	8	6	6	6	4
35-50 amps	10	8	8	6	6	4	4	4
50-60 amps	8	8	6	4	4	4	4	2
65-85 amps	6	6	4	4	2	2	2	0
85 -105amps	6	6	4	2	2	2	2	0
105-125 amps	4	4	4	2	2	0	0	0
125-150 amps	2	2	2	2	0	0	0	0

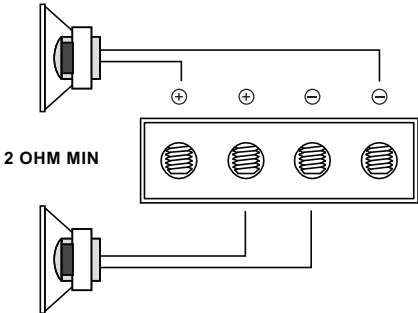
Amplifier Panels



Speaker Wiring

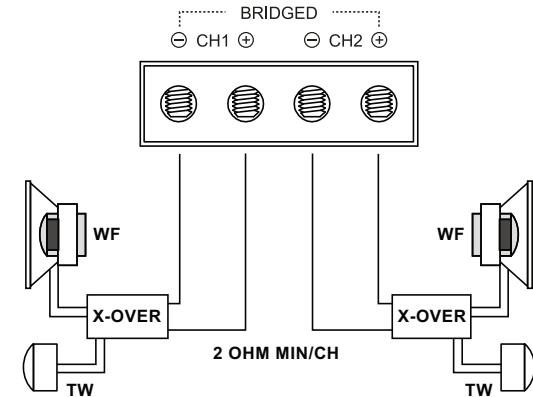
1-Ch. Amplifier

A simple 1 channel hookup for a single speaker or two speakers. The speakers must be 2Ω minimum.



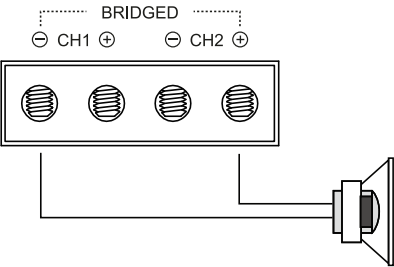
2-Ch. Amplifier - Stereo Mode

A simple 2 channels hookup for a right and left stereo pair.



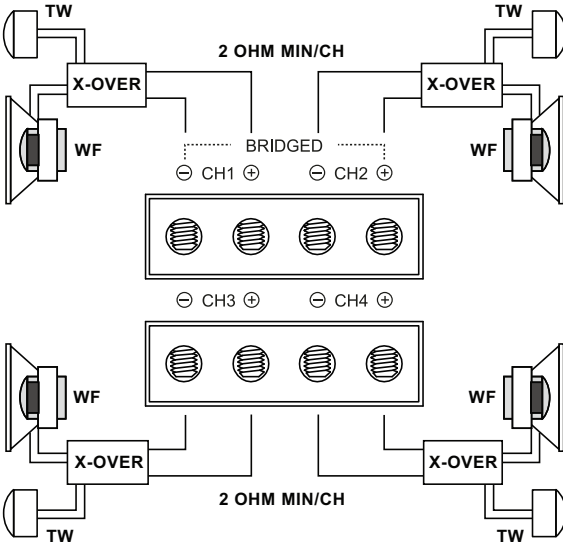
2-Ch. Amplifier - Single Channel Mode

This method is used most often to drive a mono woofer but can also be used to run separate amplifiers for the right and left channel. The bridged speaker must be of 4Ω minimum impedance.



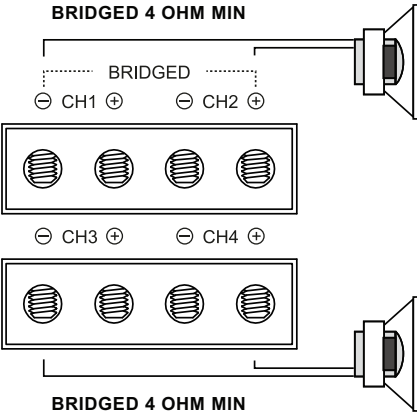
4-Ch. Amplifier - Stereo Mode

A simple 4 channels hookup for a right and left stereo pair. This is the standard hookup for full range front and rear speakers.



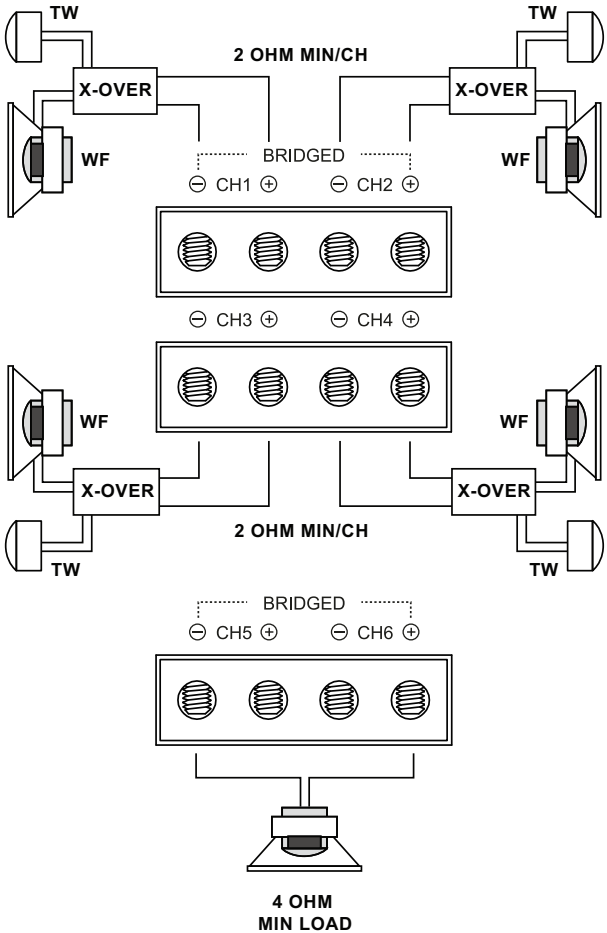
4-Ch. Amplifier - High Power 2-Ch. Mode

Want more power? Instead of 4 channels of 150 watts, you can have two channels of 500W each by bridging both front and rear amp sections to one speaker each.



6-Ch. Amplifier - 5-Ch. Mode

The most popular system for a six channel amplifier is right/left front, right/left rear, and a mono sub. Note the hookup especially of the sub. This gives the sub the combined power of the 2 channels. Note that since the sub is a bridged hookup the sub must be 4Ω minimum.



Technical Specifications

	REF 250.2	REF 150.4	REF 150.6	REF 500.1
Type	2-Ch., Class-AB	4-Ch., Class-AB	6-Ch, Class-AB	1-Ch., Class-AB
S/N Ratio (A-Weig. @ Full Power)	> 104dB	> 102dB	> 102dB	> 103dB
THD (1 KHz, 4Ω, 70% Rated Power)	< 0.02%	< 0.02%	< 0.02%	< 0.02%
Channel Separation	63dB	63dB	64dB	63dB
Frequency Response (± 3 dB)	10Hz ~ 40KHz	10Hz ~ 40KHz	10Hz ~ 40KHz	10Hz ~ 40KHz
RMS Power (@ 14.4V, THD 1%)	2 x 250W (4Ω)	4 x 150W (4Ω)	6 x 150W (4Ω)	1 x 320W (4Ω)
	2 x 350W (2Ω)	4 x 230W (2Ω)	6 x 220W (2Ω)	1 x 550W (2Ω)
	1 x 800 (4Ω/Bridged)	2 x 470 (4Ω/Bridged)	3 x 450 (4Ω/Bridged)	-
Low-Level Input Channels	2	4	6	2
Input Sensitivity	0.5V ~ 8V	0.5V ~ 8V	0.5V ~ 8V	0.5V ~ 8V
Input Impedance	> 20KΩ	> 20KΩ	> 20KΩ	> 20KΩ
Working Voltage	9 ~ 16V	9 ~ 16V	9 ~ 16V	9 ~ 16V
Fuse Rating	2 x 40A	2 x 40A	3 x 40A	2 x 40A
Dimensions (mm)	416 x 210 x 62	416 x 210 x 62	480 x 210 x 62	416 x 210 x 62



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