



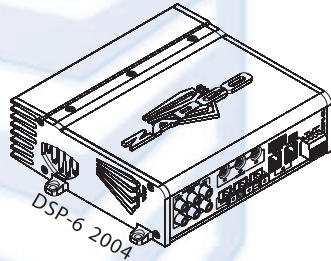
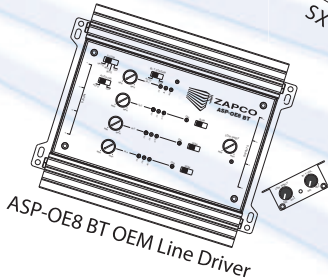
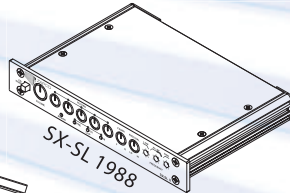
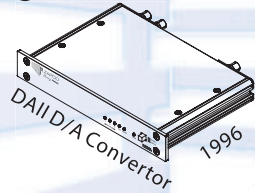
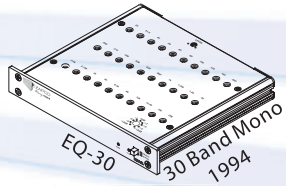
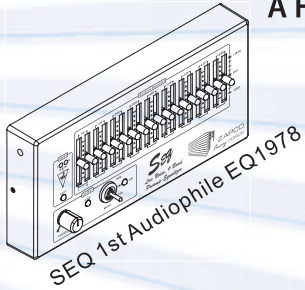
ZAPCO

ANALOG SOUND PROCESSORS Owner's Manual

Before operating the unit, please read this manual thoroughly and retain it for future reference.



A History of Car Audio Processing





ZAPCO

the **DRIVING FORCE**

in Car Audio Since 1974

MISSION STATEMENT 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 twenty-five 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.

Zapco



Contents

INTRODUCTION	1	Zapco OEM Signal Adaptors	38
ASP-Q1 EQUALIZER	4	Zapco ASP-OE8	40
Specifications & Features	5	Specifications & Features	41
Controls & Functions	6	Controls & Functions	42
System Diagrams	8	System Diagrams	43
ASP-X4	11	ASP-OE2	45
Specifications & Functions	12	Specifications & Features	46
Controls & Functions	13	Controls & Functions	47
System Diagrams	14	System Diagrams	48
ASP-X2	18	ASP-OEB	50
Specifications & Features	19	System Diagrams	52
Controls & Functions	20	The Driving Force in Car Audio	53
System Diagrams	21	Z-Series LX Amps	53
ASP-L6	24	Studio-D-BT Amps	54
Specifications & Features	25	Studio-X/XM Amps	55
Controls & Functions	26		
System Diagrams	27		
ASP-L2 BT	30		
Specifications & Features	32		
Controls & Functions	33		
System Diagrams	34		



Zapco Signal Processing

Welcome to the world of Zapco analog signal processing. For over 40 years Zapco signal processors have been known as the best that money can buy; a reputation that began with the PEQ in the late 70's, then the PX (the worlds first true audiophile quality EQ / Crossover) in the 80's, and the SX-SL, the EQ-30, and DAII, the combination that set the standards for the 90's and beyond.

In 2004, Zapco led the industry into the digital age by developing the first full function Digital Signal Processor (the DSP-6) for the car and a full line of amplifiers with on-board digital processing. This year Zapco is in its 3rd generation of digital processing.

Zapco recognizes though, that despite its many advantages, digital processing does come with a sonic price. Just as most audiophiles continue to buy vinyl records and turntables in the digital age, they prefer analog processing to digital for the same reason...sonic purity. Recorded music loses some of its essence in the digital domain. As a result, analog reproduction is simply more "musical" and life-like than digital.

So for 2015, Zapco introduces its line of Analog processors for the needs of today's audiophile listeners. These processors provide equalization, crossovers, line drivers and processors designed to take OEM signal from a factory stereo and adapt it for use in our high output processors.

Common Factors for Zapco Sound Quality

Note that we speak of audiophile listeners. These Zapco analog processors are not designed as toys or as jewelry for the dash. You will not find a \$50.00 in-dash equalizer in this line. These are serious processors for those who are serious about sound quality. The Zapco signal processors use top end audiophile components internally. They sport Elna Silmic II audio capacitors in the signal path, along with Analog Devices OP275 op-amps. The control pots in the Zapco processors are custom built to our specifications by the factory who has been making the finest pots available for years. Lastly, these processors have a high voltage power supply that provides plenty of juice for a true 9.5Volts RMS output with 14 Volt peaks so you get the best possible signal with the least noise.



Gain Setting - Getting the Most from your Zapco Processor

Proper gain setting is one of the most important factors in setting up a stereo system; at the same time, it is the setting most often done wrong. Turning up the gain of an amp is the very last thing you should ever do to a system. An amplifier is a step up transformer. Period! Anything you put in gets boosted by a fixed factor. Music, hiss, or any other noise. It doesn't matter! A large number of noise problems are simply a matter of improper gain settings. The goal of gain setting is to achieve the maximum amount of musical output from the amp while getting the least amount of hiss or noise from the system; you are attempting to find the "maximum unclipped" signal level.

The basic gain setting is very simple and requires no special tools. Advanced settings can be made with a digital volt meter and oscilloscope, but these should be left to an experienced installer.

Whether you have a system with a deck and an amp, or a system with a deck, line driver, eq, crossover, and amp, the procedure always is the same. Start at the deck! Not at the amp! First, hook up the system with all gain controls at minimum (turn all gain pots fully counter-clockwise with a small screwdriver). Then turn on the head unit and turn up the volume. If you get clean sound, and more volume than you want, you don't need to make any adjustments. However, if you turn up the volume and begin to hear distorted sound before it becomes loud, you are clipping (distorting) the deck (probably a little over $\frac{3}{4}$ volume). If this happens, turn the deck down just enough to hear clean sound again. This is your "Maximum Unclipped" volume. Now move to the next component in your system. With the deck playing at "maximum unclipped" volume, adjust the input gain of the next component in the system to its "maximum unclipped" volume. If you adjust your gains this way, always starting at the head unit and working down the line to the amp, you will get the most performance out of your amp with the least unwanted noise.

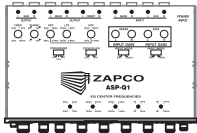
NOTE: You do not "feel" high volume sound in your ears, it's distortion that makes a system sound "loud" and become uncomfortable. Proper gain setting will allow the maximum volume with the minimum distortion so you can turn the system up till the windows rattle, and it will never sound "too loud".



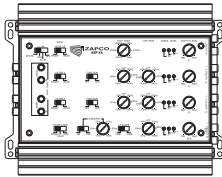
Use Safe Sound

Having properly set gains will allow you to comfortably play the system at a much higher SPL, the fact that it is now more comfortable to play at a higher SPL does not mean it is safer. The functioning devices in your ear do not have very good pain receptors so even if it does not “feel” like it hurts, excessively high SPL absolutely will damage your hearing. So, please practice safe sound!

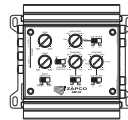
Again, welcome to the world of Zapco processing.



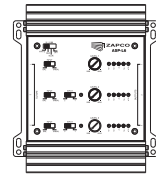
ASP-Q1 ... Pp 4



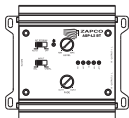
ASP-X4 ... Pp 11



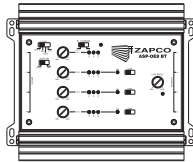
ASP-X2 ... Pp 18



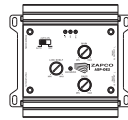
ASP-L6 ... Pp 24



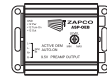
ASP-L2 BT Pp 30



ASP-OE8 BT ... Pp 40



ASP-OE2 ... Pp 45

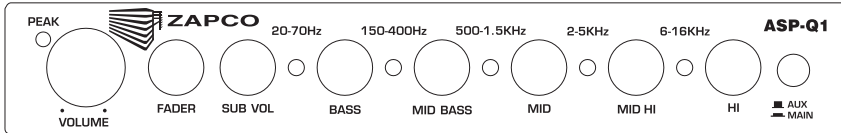


ASP-OEB ... Pp 50



Zapco ASP-Q1

System Control Preamp and Equalizer



The ASP-Q1 is the ultimate in-car audio control center. It is an in-dash signal processor, which combines several units into one compact chassis. The ASP-Q1 features a parametric equalizer, a two or three way electronic crossover, a front/rear fader, and a frequency balance control giving you total control over your audio system right from your listening position. The parametric equalizer featured in the ASP-Q1 can be programmed to meet the exact requirements of your audio system by changing center point of each eq band to control exactly the frequency needed. The ASP-Q1's electronic crossover can be configured for a variety of different possible installation scenarios. The front and rear outputs can be used as full range or high pass, and the rear outputs can also be band passed. The subwoofer has a low pass output whose phase can be adjusted to any point from 0° ~ 180° to match the specific needs of any installation. With these options, two way, three way, and other types of system layouts can be created while making all critical crossover adjustments from the dash, in the listening position. The front/rear fader adjusts the balance between the front and rear outputs and the Sub Level adjusts the balance between the subwoofer output and the front/rear outputs. Retractable knobs are featured on all of the main controls for a smoother look and to prevent knobs from being moved when not in use. An LED illumination system is included to allow ease of visibility and use at night.



Specifications and Features

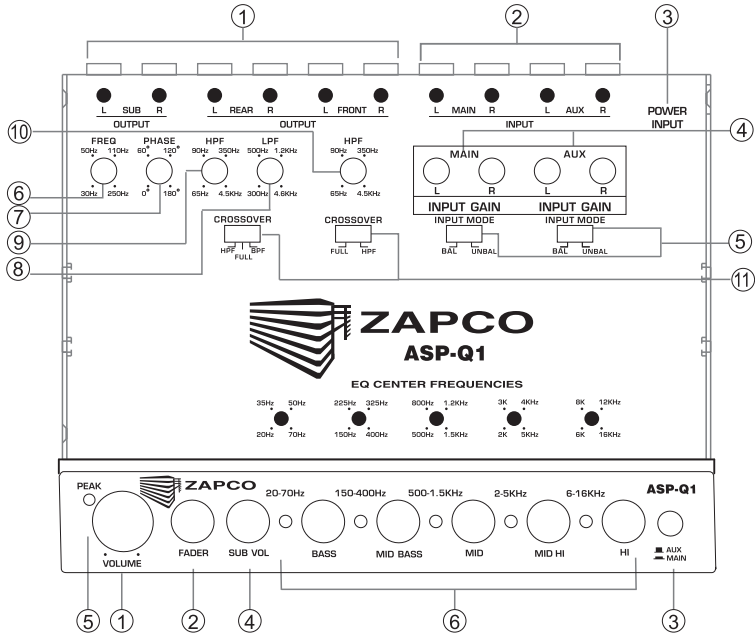
Maximum output level RMS	9.5V RMS
Maximum peak output level	14 Volts
THD+ Noise	0.01%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency Response	10Hz~30KHz +0/-1dB
Input Impedance	20K Ohms
Output Impedance	1K Ohms
Boost/Cut	18dB
Headroom	20dB
Input Sensitivity	1V for 9.5V out
Operating Voltage	11V ~ 16V

Key Features

- Front-Rear Fader
- Independent subwoofer output control
- Subwoofer phase control 0~180
- Auxiliary input
- Separate input gain controls for Main-in and Aux-in
- Copper chassis for noise rejection
- Remote power supply w/copper chassis
- 5 bands of parametric equalization with variable frequencies: Bass-20~70Hz, MidBass-150~400Hz, Mid Range 500~1.5KHz, MidHi-2K~5KHz, High-6K~16K
- Selectable 2-Way or 3-Way electronic crossover w/Bandpass
- Subwoofer crossover control 30Hz~250Hz
- Front-HP 65Hz~4.5KHz or Full range
- Rear-HP 65Hz~4.5KHz/LP 300Hz~4.6KHz or Full range



The Controls of the Zapco ASP-Q1





Top Panel Controls

1. Output RCAs (Subwoofer, Rear, Front)
2. Input RCAs (Main, Auxiliary)
3. Power input from remote power supply
4. Right and Left gain controls for Main and Aux inputs
5. Balanced or Un-Balanced input mode for Main and Aux inputs
6. Subwoofer crossover frequency control 30Hz~250Hz
7. Subwoofer phase control 0°~180°
8. Rear low pass filter (used only in bandpass mode)
9. Rear high pass filter
10. Front high pass filter
11. Front and rear crossover mode selectors

Front Panel Controls

- 1) Volume Control -ASP-Q1 volume control can be the system volume control for both main and Auxiliary inputs.
- 2) Fader Control - This balances front-to-rear or mids-to-highs, depending on the system setup
- 3) Main/Aux Input Selector
- 4) Subwoofer Output Level - This adjusts the subwoofer level independent of the mids/highs
- 5) LED Indicator for Power and Clipping
- 6) EQ controls for Boost/Cut (Knobs) and for Center Frequency control (inset slotted pots)

Tuning Tip

Boosting frequencies increases the power demand on your amplifier in that frequency area and can make distortion more likely. The better system is to set volume at a somewhat high listening level and reduce the frequency areas that are too loud or harsh. This will give a smooth response without distortion at higher listening levels

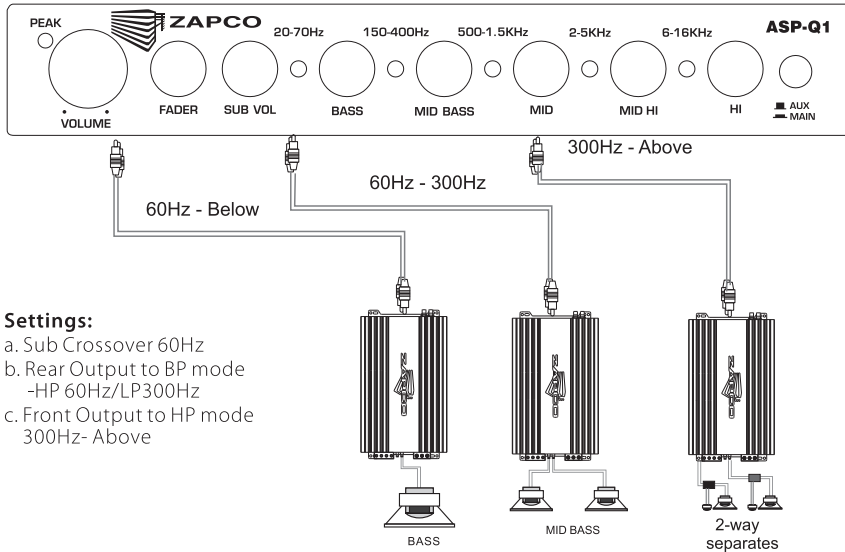
System Set-up Tip

For the best sounding system, turn the ASP-Q1 volume only 1/4 up. Turn the head unit up until it just starts to distort (usually a little over 3/4 volume). Back off just a little to get clean sound again and then use the ASP-Q1 as the system volume control. This will give you the best signal to noise ratio and also the best dynamic range in the music ... a more "live" sound.



Sample System Configurations: ASP-Q1

System: 4-way Front Stage, MidBass, Sub



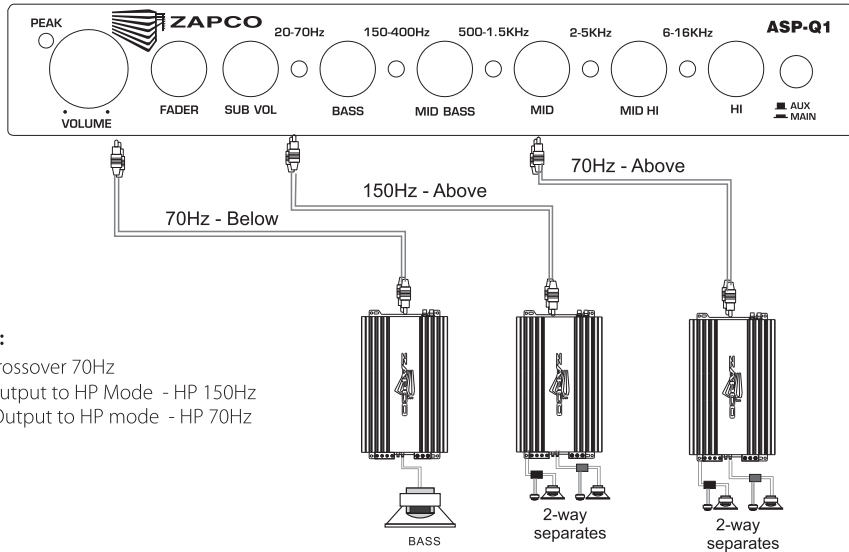
Settings:

- Sub Crossover 60Hz
- Rear Output to BP mode
-HP 60Hz/LP300Hz
- Front Output to HP mode
300Hz- Above



Sample System Configurations: ASP-Q1

System: 2-way Fading Front, Rear, Sub



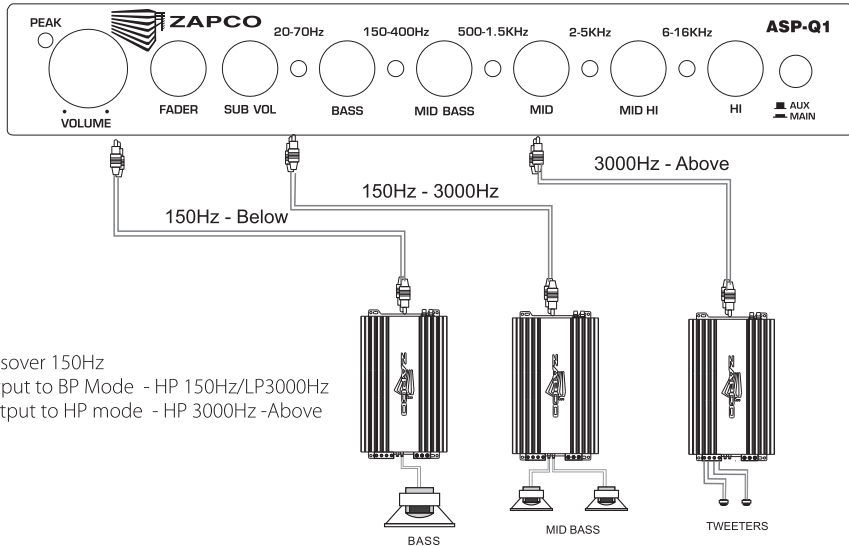
Settings:

- Sub Crossover 70Hz
- Rear Output to HP Mode - HP 150Hz
- Front Output to HP mode - HP 70Hz



Sample System Configurations: ASP-Q1

System: 3-way active Tweeter, Midrange, Bass



Settings:

- Sub Crossover 150Hz
- Rear Output to BP Mode - HP 150Hz/LP3000Hz
- Front Output to HP mode - HP 3000Hz -Above



The sound of the system is only as good as the weakest link and at Zapco, we don't want any weak links.

The ASP-X4 uses the same Elna Silmic capacitors, the same custom built pots, and has all the same quality construction as the Zapco competition amps and the ASP-Q1 equalizer. So the signal your amplifiers see will be clean and sonically pure.

With a high pass, a low pass, and 2 band pass outputs, the ASP-X4 will allow you to create and active 2-way, 3-way, or 4-way system. You can even have a active 3-way main system with a full range rear fill and be able to fade between them using the separate front and rear inputs.

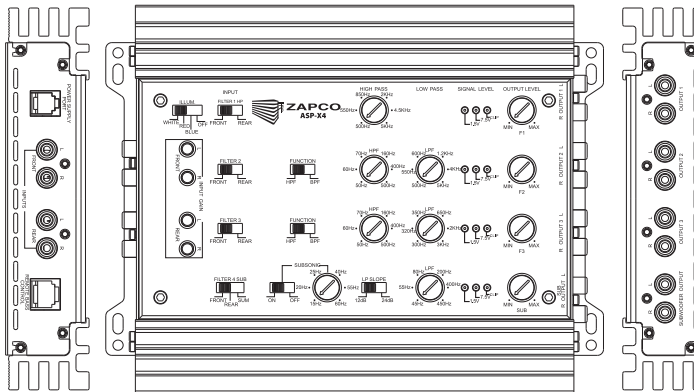
Specifications and Features

Maximum output level RMS	9.5V RMS
Maximum peak output level	14 Volts
THD+ Noise	0.01%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency Response	10Hz ~30KHz +0/-1dB
Input Impedance	20K Ohms
Output Impedance	1K Ohms
Headroom	20dB
Input Sensitivity	1V for 9.5V out
Operating Voltage	11V ~ 16V

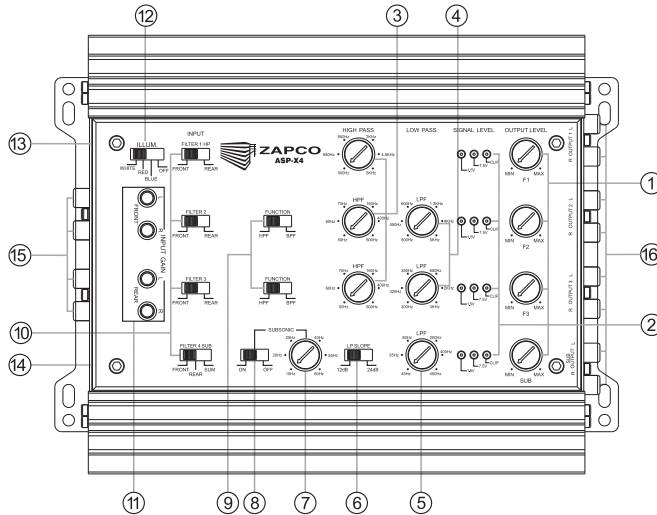
- Six precision crossover filters plus sub-sonic filter
- Two switchable band pass outputs
- Dual input capability to allow fading
- Clipping indicators for each input
- Dash remote for bass output
- Switchable 12/24dB per octave low pass filter
- High end Elna Silmic capacitors
- High end Analog Devices Op-Amps
- High precision, custom built pots
- Noise free remote power supply
- Extruded aluminum chassis to match Zapco amps
- LED illumination to accent custom installation



Zapco ASP-X4 4-Way Electronic Crossover w/Fade



The ASP-X4 is 2, 3, or 4 way electronic crossover designed to provide the best possible sound and maximum control when building an active multi-way sound system. The last component to have the signal before the amplifier is the crossover. It does not matter how good your deck is, or your EQ is, if a so-so crossover can't give your amp the quality of signal it needs to give you the best possible results. In fact most users don't pay enough attention to the internal quality of crossovers, they often think of the crossover only functionally. They don't consider the effect of the crossover on the sound quality of the signal, so they wind up with a so-so crossover even if they buy one in the after market. At Zapco we look at crossovers differently. It is critical that our crossovers maintain the same signal quality as our EQs and our amps.



ASP-X4 Controls

1. Output level controls to balance the outputs - Should be fully open (Max) for gain setting and then dominant channels can be reduced as needed
2. LED clipping indicators show the status of each channel
3. High pass frequency selector pots for outputs 1,2, and 3
4. Low pass frequency selector pots for outputs 2 and 3 are active when these outputs are used for band pass filtering
5. Low pass frequency selector pot for the sub output
6. 12dB/24dB per octave selector for the slope of the subwoofer output
7. Frequency selector pot for the

subsonic filter to protect the woofer. This is important when using a ported bass enclosure

8. Subsonic on/off control
9. Band pass on/off controls for outputs 2 and 3
10. Input selector (front/rear) for each input. Bass input can sum both front and rear inputs to provide constant bass regardless of fader position
11. Input gain controls allow the ASP-X4 to be matched to the head unit for best dynamic range and least noise.

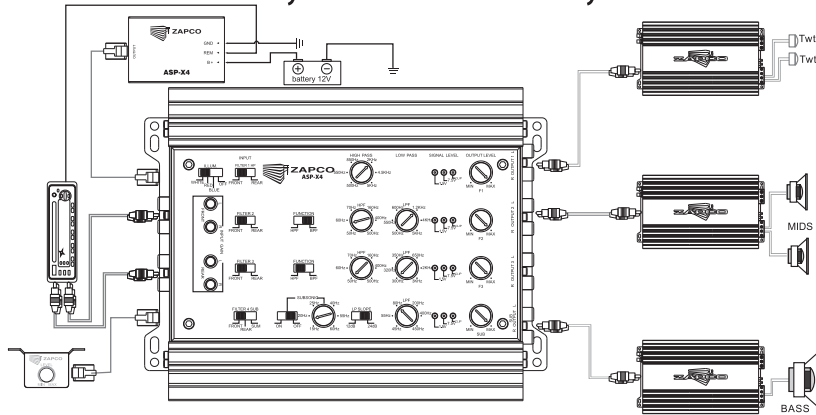


- 12. LED controls to set the color to the back lighting
- 14. Input port for remote power supply
- 16. Output RCAS for 9.5v preamp output to each amplifier

- 13. Port for optional bass output control
- 15. Dual inputs allow faded outputs if desired

Sample System Configurations-ASP-X4

System: Basic Active 3-way

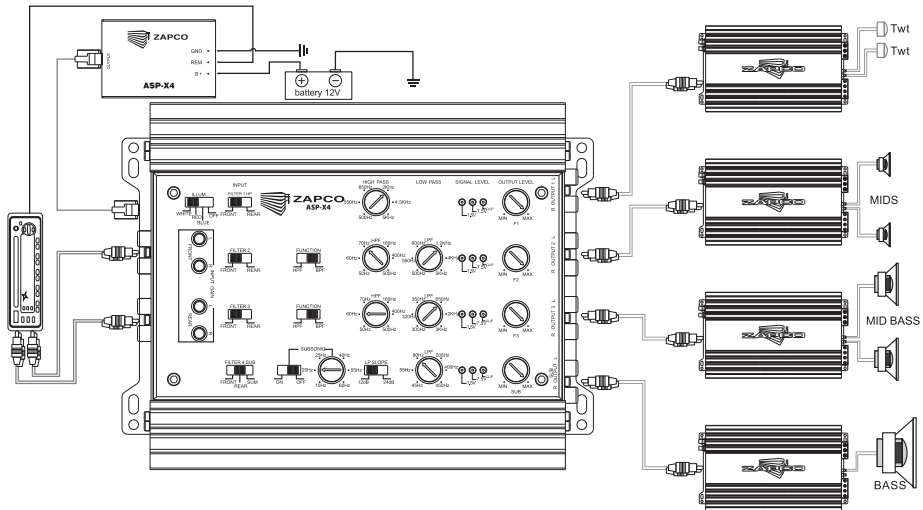


3-Way System: High Out (1) to tweeters, Output 2 Band-passed to Mids, Output 3 unused, Sub Out (4) using sub-sonic filter. All channels set to Front input and Dash Remote used for bass control ...Note position of function switches above.



Sample System Configurations: ASP-X4

System: Basic Active 4-way

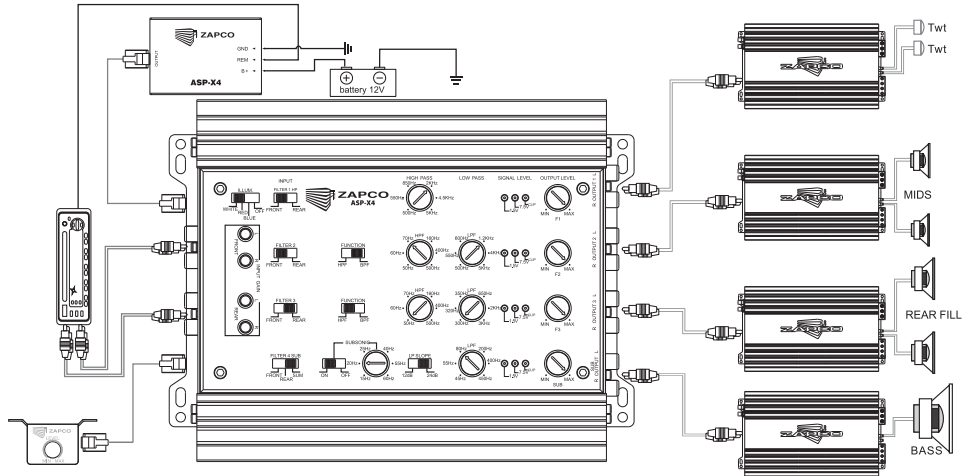


4-Way System: High out to tweeters, Out-2 band-passed to midrange, Out-3 band-passed to midbass, Sub Out to bass using sub-sonic filter. Outputs 1, 2, & 3 use Front In, Sub uses Rear In and Head unit bass our RCAs (or Fader) controls bass level ...Note position of function switches above.



Sample System Configurations: ASP-X4

System: 3-way w/Rear Fill - Constant Bass

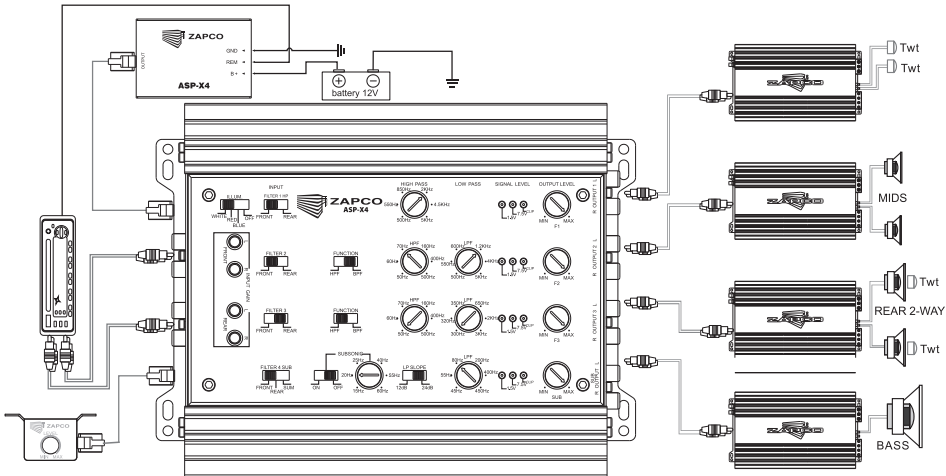


3-Way Plus Rear Fill : High out to tweeters, Out 2 band-passed to midrange, Out 3 High passed to rear fill, Sub out to woofer. Dash remote controls bass level. Bass uses summed input from front and rear. Bass is constant regardless of fader position ...Note position of function switches above



Sample System Configurations: ASP-X4

System: 3-way w/Rear Fill - Fading Bass

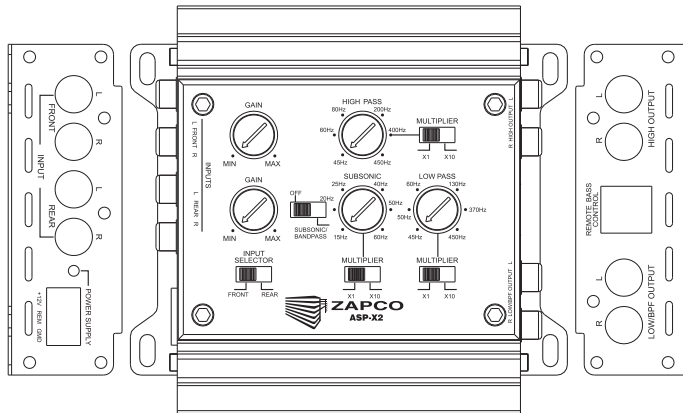


3-Way Plus Rear Fill (Background music): High out to tweeters, Out 2 band-passed to midrange, Out 3 High passed to rear fill, Sub out to woofer. Dash remote controls bass level. Bass uses front input only. Fading to rear removes bass ...*Note position of function switches above*



Zapco ASP-X2

2-Way Electronic Crossover w/Fade



The ASP-X2 is a 2-way electronic crossover which, like the ASP-X4 is designed to give you the very best in sound quality and reliability. The ASP-X2 uses the same high end Elna Silmic II caps and OP275 op-amps as the LX series competition amps and the other Zapco analog processors. The ASP-X2 has the same high voltage power supply as the other Zapco analog processors to put out a true 9.5Volts RMS and 14 volts peak signal output.

You will not find another 2-way crossover like this anywhere in the market. This is not a crossover designed



for people who "have" to buy a crossover to get their system working. This is a crossover designed for people who aren't satisfied when a system just works. They want a system that takes them to the all the way to the concert. A system that sounds like live music.

Since that customer tends to have more involved needs, we designed the ASP-X2 to be the most versatile of 2-way crossovers. The ASP-X2 can be a 2-way crossover between the main speakers and the subwoofer, but it can also be a 2-way crossover between a band passed midrange and a tweeter.

The high output can range anywhere from 45 Hz to 4.5KHz so it's perfectly suited for an active tweeter.

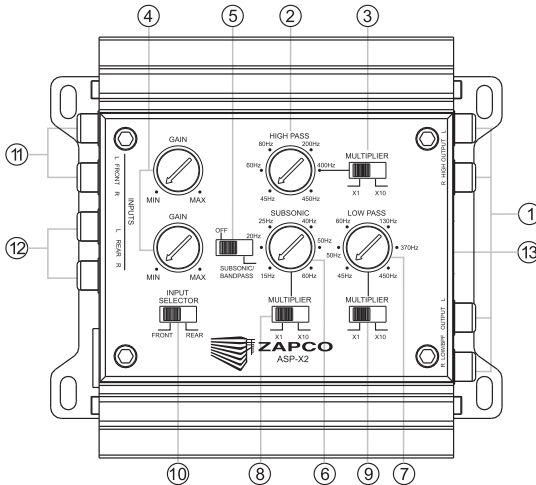
The low output of the ASP-2X can be used as a bass crossover with a sub sonic filter, but it can also be used to create an band passed signal for a midrange amplifier.

Specifications and Features

Maximum output level RMS	9.5V RMS
Maximum peak output level	14 Volts
THD+ Noise	0.01%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency Response	10Hz~30KHz +0/-1dB
Input Impedance	20K Ohms
Output Impedance	1K Ohms
Headroom	20dB
Input Sensitivity	1V for 9.5V out
Operating Voltage	11V ~ 16V

- Durable extruded aluminum chassis anodized to match Zapco amps
- High end Elna Silmic II capacitors
- High end Analog Devices Op-Amps
- Three precision crossover filters

- Switchable Sub-sonic/Band pass filter
- Dual input capability for fading
- Multiplier switches to extend filter ranges
- Optional dash remote for bass
- Tiffany style panel mount RCA connectors



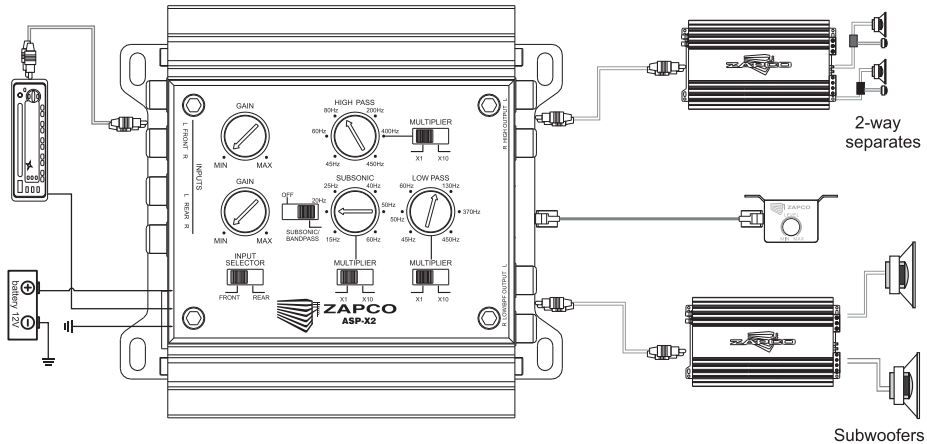
ASP-X2 Controls

1. Output RCAs for 9.5V RMS to each amplifier
2. High Pass frequency controls
3. Front (Output 1) "X10" frequency multiplier sets range to 45Hz~450Hz or 450Hz~4.5KHz
4. Input gain controls match crossover to head unit
5. On-Off Swt. for Rear (Output 2) high pass to create sub-sonic or band pass at output 2
6. Sub-sonic/ High Pass frequency control
7. Low pass frequency control
8. Rear (Output 2) frequency multiplier sets range of Sub sonic or High Pass to 15Hz~60HZ or 150Hz~600HZ
9. Rear Low Pass frequency multiplier sets range to 45Hz~450Hz or 450Hz~4.5KHz
10. Input selector (Front/Rear) for each crossover band(Output 1 and Output 2)
11. RCA inputs for front from head unit
12. RCA inputs for rear from head unit
13. Port for Dash Remote



Sample System Configurations: ASP-X2

Basic 2-Way Active System

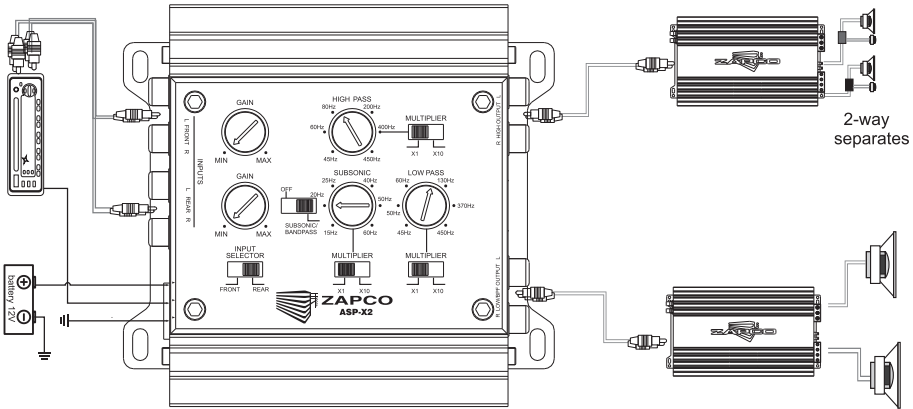


Note position of switches: Front stage at 100Hz up, Subwoofers at 100Hz down with 20Hz sub-sonic filter. Running off a single (Front) input. Multipliers set to X1 and bass level controlled by dash remote.



ASP-2X Sample System Configurations

Basic 2-Way System w/Fader control at head unit

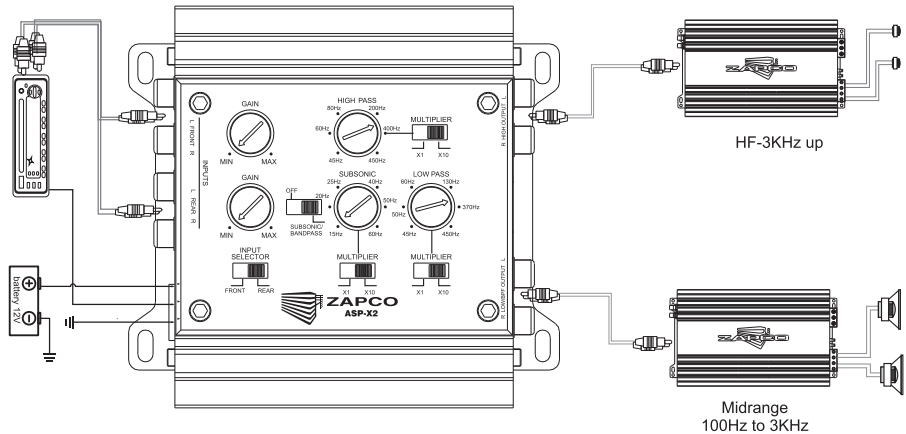


Note position of switches. Like System 1 but use of second (rear) input allows the head units sub out or rear out to fade between Front highs output and the subwoofer output.



Sample System Configurations: ASP-X2

Front Stage: 2-Way Tweeter/Midrange

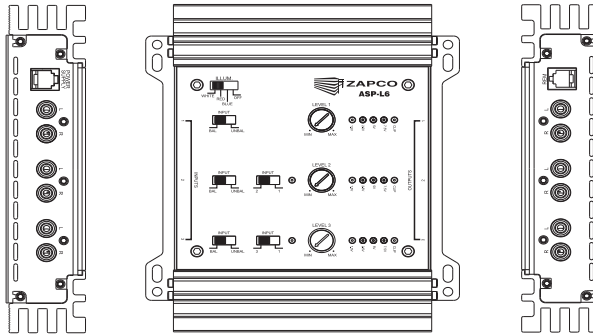


Note position of switches. Tweeter operates from 3KHz (300Hz x 10) and up. The midrange is band passed from 150Hz (15Hz x 10) to 3KHz (300Hz x 10). The dash remote can be added to balance between the tweeter and midrange.



Zapco ASP- L6

Multi Channel Line Driver / Distribution Preamp



The ASP-L6 is a 6-channel preamp line driver. The ASP-L6 will add 24dB of gain to the input signal to a maximum of 9.5Volts RMS with 14Volts peak output to each of its six channels.

Today, even the best head units have only 4V RMS and most are barely 2V, and that's 2 volts only at 1KHz at clipping. Ask the deck to produce preamp power at all frequencies (like when you're playing music) and that voltage drops by 1/2 and often even more. This low output means you have less signal going down your RCA cables so you need to gain your amp up. Then your system has more background hiss. Plus, when you gain up your amp, you are compressing the dynamic range of the music. You lose the deference between the quiet and the loud and the music sounds "canned". It doesn't sound live! The ASP-L6 boosts the signal so

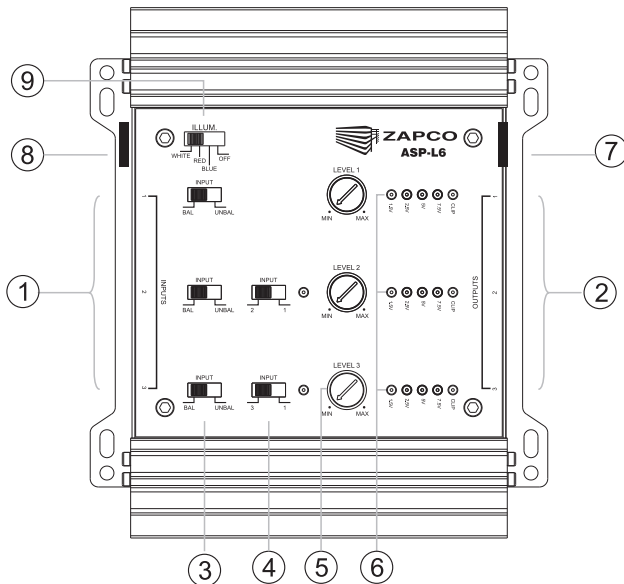


your amp gain can stay down and your deck volume stay at its ideal setting, and it does so without adding noise or distortion. The L6 uses the same high end Elna Silmic audiophile capacitors and OP275 op-amps as our LX competition amps and our other analog processors. This means you get the more powerful signal without adding noise or distortion. You also have signal ground options and a choice of balanced or unbalanced inputs. All this to make sure you get all the maximum signal for maximum dynamic range without noise or distortion. The live sound experience. A series of LEDs at each output let you know exactly where your signal level is, so you can easily set the gains without signal clipping. Input selectors at channels 3/4 and 5/6 let you choose to have six channels of input for six outputs or four channels or even only two channels of input to get six output channels, so you can set your system up exactly as needed for your particular situation. A dash remote will control the output of channels 5/6 so you can have a separate bass control.

Specifications and Features

Maximum Output RMS	9.5V RMS
Maximum Peak Output	14 Volts
THD + Noise	0.01%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency response	10Hz~30Hz ± 0.5 dB
Input Impedance	20K Ω
Output Impedance	1K Ω
Headroom	20dBz

- Oversized power supply supplying 9.5Volts RMS and 14Volts peak preamp output
- Six channels of preamp input and Six channels of output @ 9.5V RMS
- Input selectors for use as a distribution preamp (2,4, or 6ch in /6ch out)
- High end audiophile internal components for a live musical experience
- Variable input gains to match to the head unit output
- Switchable backlighting to highlight installation
- Balanced/unbalanced input selectors
- Switchable signal ground reference for system noise prevention
- Dash remote for ch5/6 output
- Anodized extruded aluminum chassis/protective acrylic cover plate to keep dust and dirt out.



ASP-L6

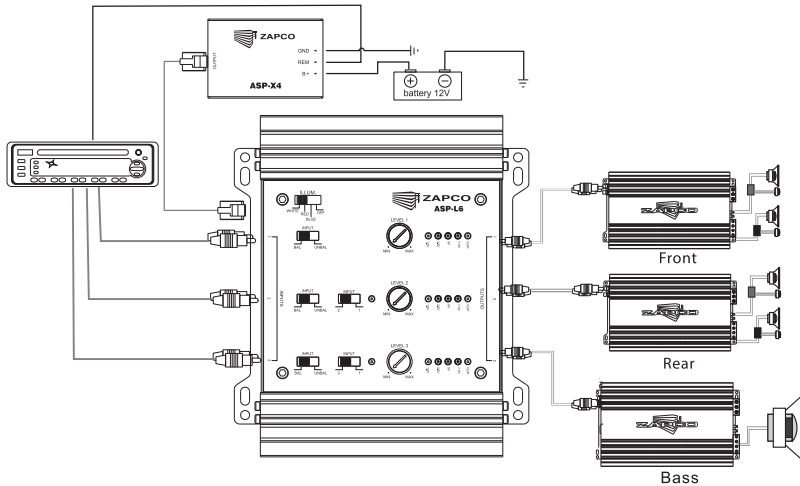
Controls and Connections

1. Input RCAs for 2, 4, or 6 channels (see item 4) from head unit
2. 6 channels of RCA outputs to amplifiers
3. Switches to choose balanced or unbalanced inputs
4. Input selectors for output pairs 2 and 3 to use separate inputs or to use the signal from input pair 1
5. Input gain controls
6. LED level indicators give the voltage and clipping status of each input pair
7. Port for dash remote to control level of Ch5/6 (output pair 3)
8. Port to connect ASP-L6 to remote power supply
9. Selector to turn back lighting on/off and for color selection



Sample System Configurations: ASP-L6

Basic 6 ch in - 6ch out Line Driver

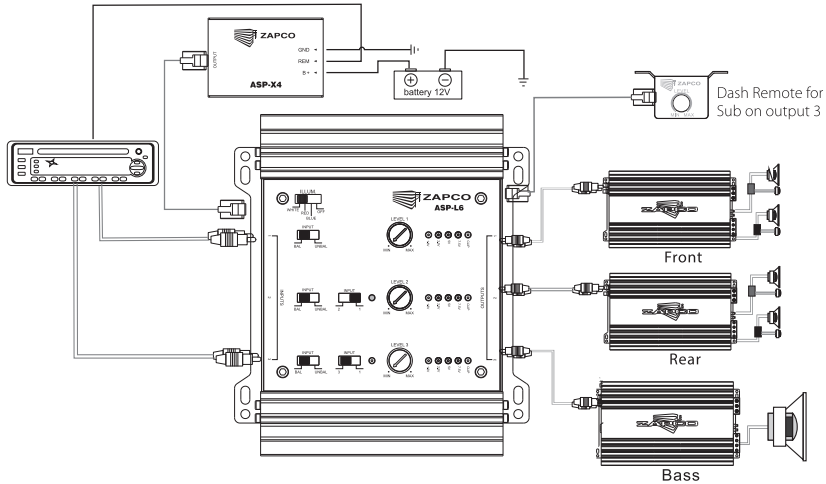


Head unit provides Front (1) , Rear (2), and Sub (3) inputs. Outputs 2 and 3 are switched to use dedicated inputs. The head unit controls fading and bass.



Sample System Configurations: ASP-L6

Two Channels + Sub from Head Unit / 6Ch Out

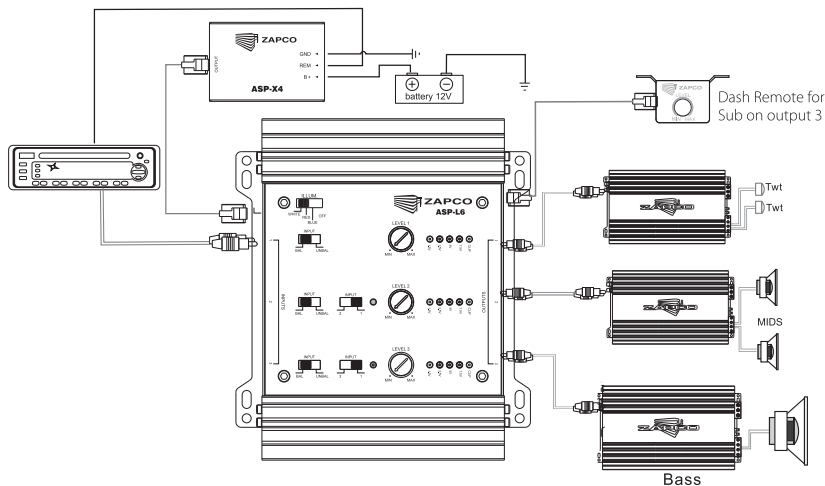


Head unit provides Front (1) Input and Sub (3) Input. Output 2 is switched to use input 1 while the sub output uses its own dedicated input



Sample System Configurations: ASP-L6

Full 6-channel System from a Single Stereo Input

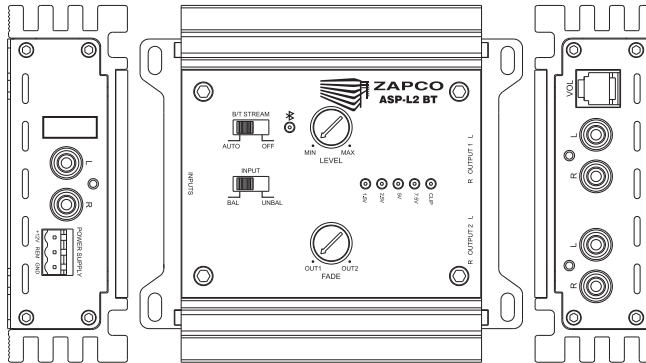


Head unit provides only one stereo input pair. Rear output (2) and Sub output (3) are both switched to use input 1. The Dash remote will control the bass on output 3.



Zapco ASP-L2 BT

2-Channel Line Driver Preamp/Bluetooth Streaming



The ASP-L2 BT is a 2-channel 9.5 Volt RMS preamp line driver with an internal signal splitter that gives 4 channels of output. Like the ASP-L6, the ASP-L2 BT takes the low power preamp signal of the head unit and boosts it by 24dB. This boost in the preamp output means you can now get full power from your amplifier without using the amp gains. To your sound system, this means less noise, less distortion, and more dynamic range so you can get the full impact of the recording, from the quietest cymbal brush to the loudest bass boom. With its oversized power supply, each output channel of the ASP-L2 BT can put out 9.5 volts RMS or 14



volts peak preamp power. **And**, the ASP-L2 BT has a Bluetooth receiver for music streaming so you can take your music with you when you leave your car as well as listen to music from any Bluetooth device in the car. The ASP-L2BT also has a dash mount remote level control.

Since your amplifier will amplify anything in the signal, be it music or noise it is critical that a line driver adds no noise or distortion of its own. That is why we designed the ASP-L2 BT like the ASP-L6 and the other Zapco analog processors, using the same Elna Silmic II audiophile level caps and OP275 op-amps in the signal path for clean distortion free signal.

With 2 sets of 9.5V preamp outputs, the ASP-L2 BT allows you to run 2 amps from the same set of preamp outputs so you can run a highs amp and a bass amp from a single L2 BT.

Bluetooth: The ASP-L2 BT gives you Bluetooth music streaming automatically. Just fire up a Bluetooth device and the L2 BT will pair up and override the RCA input. When you turn off the device the L2 BT will automatically switch back to the RCA inputs.

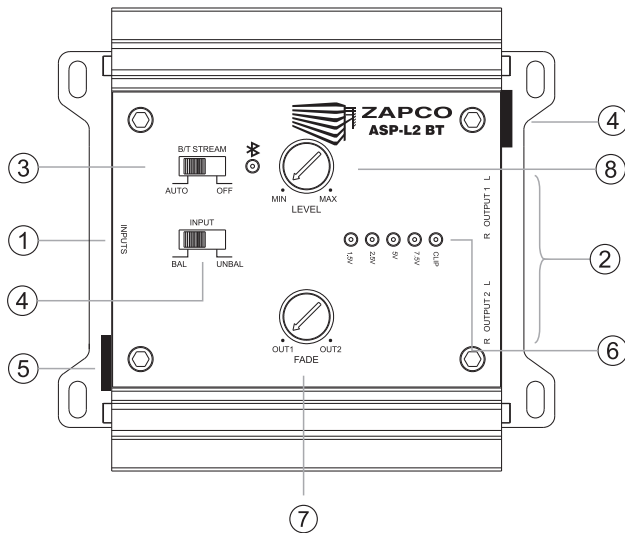
The Dash remote of the ASP-L2 BT will control both outputs so it will operate as a system volume control. What does this mean to you?

At a minimum, it means you now have a remote volume control that you can mount in any convenient location and once the Bluetooth device is engaged you won't have to go back the smart device to change the volume.

It also means that if you music is all on your iPad or other smart device, you don't even need a head unit at all.



The ASP-L2 BT Controls



1. Input RCAs from head unit or other source
2. Two sets of RCA outputs to run 2 amps from the same ASP-L2 BT
3. Bluetooth switch to defeat music streaming
4. Selector switch for Balanced or unbalanced inputs
5. Power, ground, and turn-on connections
6. LED level indicators and clipping indicator
7. Fader to balance input 1 to input 2
8. Input signal gain/level control

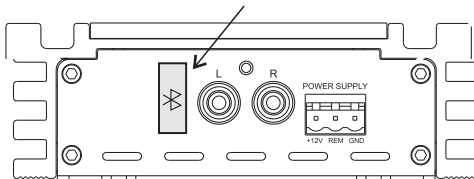


Specifications and Features

Maximum output level RMS	9.5V RMS
Maximum peak output level	14 Volts
THD+ Noise	0.01%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency Response	10Hz~30KHz +0/-1dB
Input Impedance	20K Ohms
Output Impedance	1K Ohms
Headroom	20dB
Input Sensitivity	1V for 9.5V out
Operating Voltage	11V ~ 16V

- Oversized power supply supplying 9.5Volts RMS and 14Volts peak preamp output
- 2-Channel inputs/4-Channel outputs
- Bluetooth music streaming
- Input gain control to match head unit or source output
- Fader control to balance output 1 to output 2
- Balanced/unbalanced input switching
- Switchable signal ground reference
- Dash Remote for volume control
- Anodized extruded aluminum chassis protective acrylic cover plate to keep dust and dirt out

Built-in Bluetooth Receiver

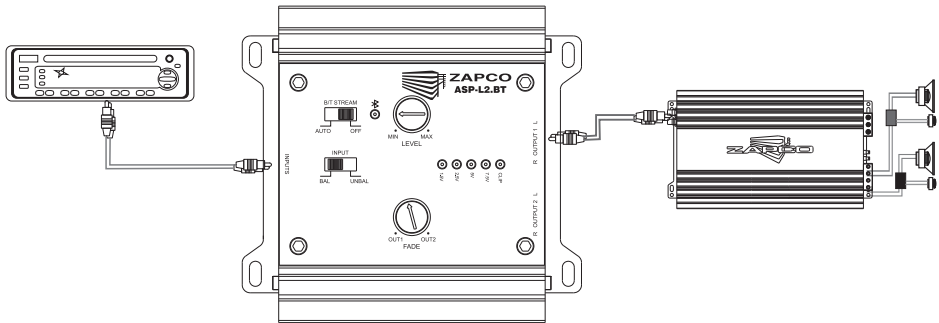


ASP-L2 BT Dash Remote



Sample System Configurations: ASP-L2 BT

Basic 2-Channel Line Driver Setup

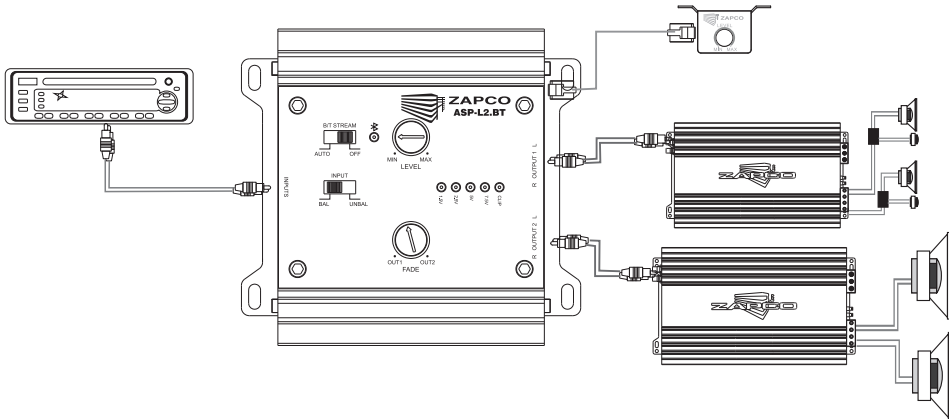


Basic 2-Channel line driver to boost head unit signal 24dB to 9.5 Volts RMS.



Sample System Configurations: ASP-L2 BT

2-ch In / 4-ch Out Dual Amplifier System

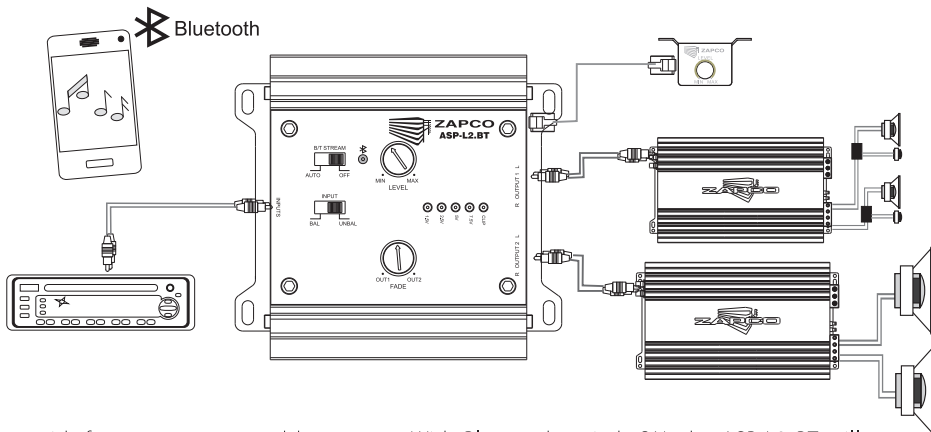


ASP-L2 BT splits the head unit signal to provide outputs for the Mid/Highs amp and the Bass amp. Gain controls balance bass to highs and dash remote functions as the system volume control



Sample System Configurations: ASP-L2 BT

2-Channel in, 4 Channels out w/ Music Streaming

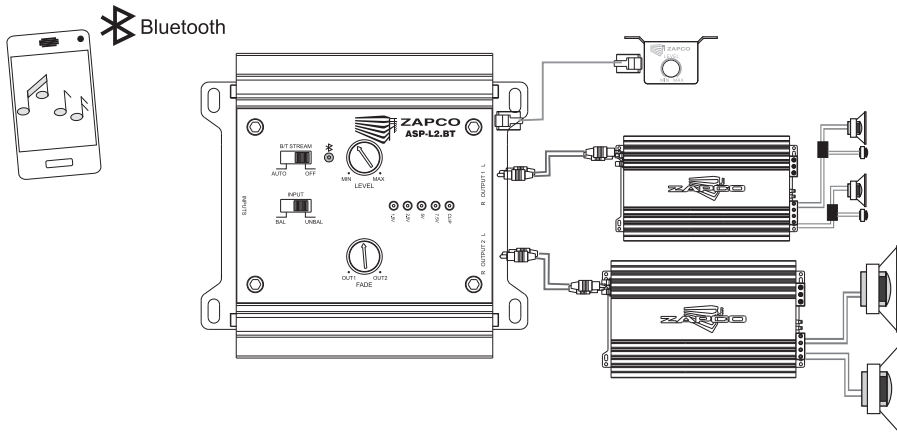


System with front stage amp and bass amp. With Bluetooth switch ON, the ASP-L2 BT will automatically pair with device for music streaming. Dash remote is a system volume control for both the head unit and the Bluetooth stream.



Sample System Configurations: ASP-L2 BT

Full System Without a Head Unit



Two amp system *with no head unit.*

An iPod or other Bluetooth device provides a streaming music source. When the Bluetooth device and ASP-L2 BT are set for top volume, the dash remote becomes the system volume control



Zapco OEM Processors Great Sound from Factory Stereos

At their simplest form, The Zapco OEM Adaptors convert the speaker output of a factory stereo system into a preamp level signal so you can add after market amplifiers and speakers to your stock stereo system. Of course there's nothing new about that. The old familiar "LOC" adaptor has been around since the '80s for that. The problem is that most often, after the job was done the system didn't sound any better than the factory system. Even today many installers think you can't put better amps and speakers behind a factory stereo because the factory signal is just not good enough to be amplified.

Well, here is a bit of news for all those doubters. There is nothing wrong with the signal from your factory stereo! The problem is the passive LOCs that installers have been using for years to convert the factory speaker signal to a preamp signal. Those LOCs are built from capacitors and resistors and placed in the speaker lead to reduce the signal power to preamp level. In a sense they do work. They do reduce the signal level. But they also remove bass information from the signal, add distortion to the signal and add noise to the signal. Fact: The signal you get out of a passive LOC adaptor will always be worse than the signal you put in.

So, how do you build a great sounding system using your factory head unit? You use a low noise, low distortion, active signal adaptor.

Zapco introduced the BLT adapter in 2004. It was an active preamp with a 4 ohm input to accept signal from factory stereos. The BTL did a superb job of providing a clean distortion free signal with no frequency loss. The only drawback was that it had only 2 channels, so a large system needed several adapters.

For 2015 Zapco introduces three now active OEM adaptors with features for the vehicles of 2015. The ASP-OEB is a basic adaptor like the BTL (with a couple of new features) for adapting a simple system to aftermarket. The ASP-OE2 is also 2 channels but has specific circuitry to overcome and correct the bass roll-off that so many car makers are building into their systems to take out the bass at high volume levels. They do this to protect the factory woofers and avoid bass distortion in the weak factory amps. The ASP-OE8 is an 8 channel OEM adaptor that can sum multiple actively crossed over channels into a full range signal and correct the factory bass roll-off. In addition the ASP-OE8 has Bluetooth music streaming so you can stream music from an iPad or other smart device into your sound system.



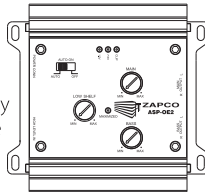
Zapco Sound from Factory Stereos

ASP-OEB



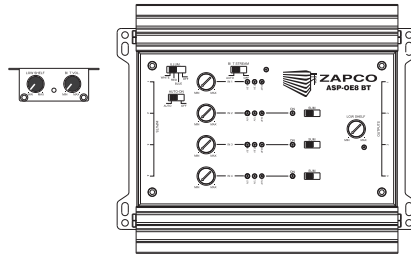
Basic 2-Ch
9.5V Preout

ASP-OE2



2-Ch Advanced
9.5V Preout
Factory Bass Recovery
Dash mount Remote

ASP-OE8 BT



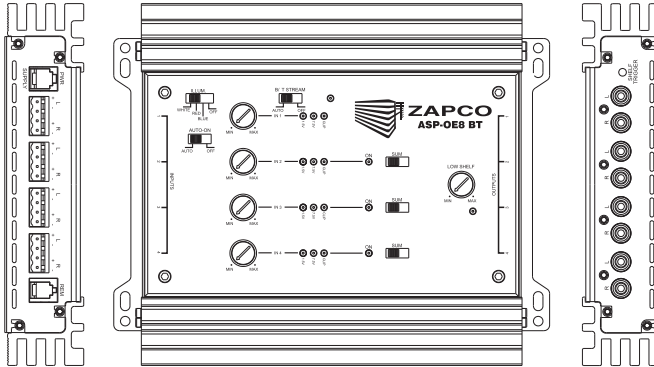
8-Ch Advanced Adapter
9.5V RMS Preout
Factory Bass Recovery
Bluetooth Music Streaming

So, now there is no reason to suffer mediocre sound just because you want to keep your factory head unit and not destroy the look of the factory dash panel!



Zapco ASP-OE8 BT

8 Channel OEM Signal Adapter



The ASP-OE8 BT is a sophisticated processor with low impedance, high voltage inputs designed to accept the high power speaker level signal from a factory stereo head unit, and send out a clean, distortion free preamp level signal. With the ASP-OE8 the consumer can create a true high-end sound system without the limitations of the factory amplifier and speakers. To assure that you get audiophile level sound with the ASP-OE8, we use the same Elna Silmic II caps and OP275

op-amps that we use in the Pro-Competition Z-series LX amplifiers. The remote mounted power supply assures you the best possible signal with the least noise. With the ASP-OE8, your car can sound every bit as good as it would sound if you used a top grade after market head unit... And your dash remains absolutely stock.



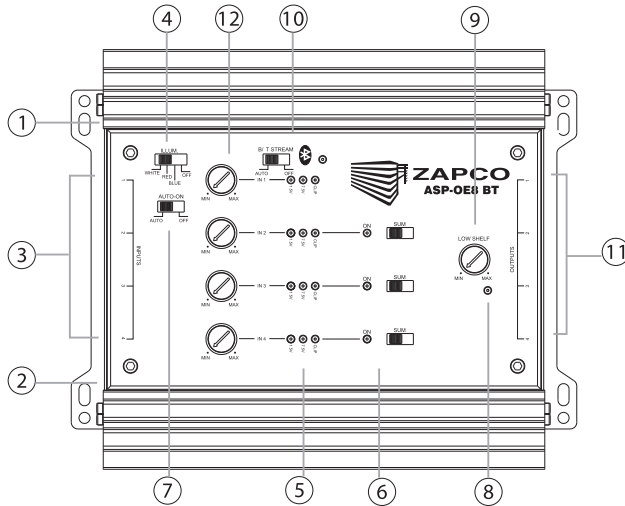
Specifications and Features

Maximum output level RMS	9.5V RMS
Maximum peak output level	14 Volts
THD+ Noise	0.01%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency Response	10Hz~30KHz +0/-1dB
Input Impedance	20K Ohms
Output Impedance	1K Ohms
Headroom	20dB
Input Sensitivity	1V for 9.5V out
Operating Voltage	11V ~ 16V

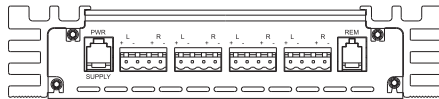
- **Bluetooth music streaming**
- 8 Channels Speaker Level Input
- Input signal summing by channel pair
- Remote power supply supplying 9.5Volts RMS and 14Volts peak preamp output
- Input gain control to match head unit or source output
- **Active bass recovery system**
- Switchable signal ground reference
- Dash Remote for Volume Control and for Bass Recovery Level
- Anodized extruded aluminum chassis / protective acrylic cover plate to keep dust and dirt out



ASP-OE8 BT Controls



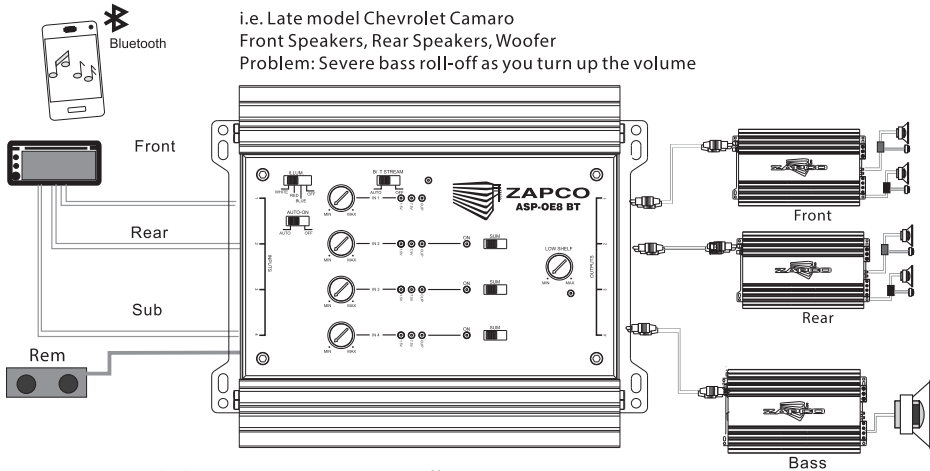
- 1 Port for connection to remote power supply
- 2 Port for dash remote
- 3 8 Channels Speaker level input connectors
- 4 Illumination switch for on/off and for color of back lighting
- 5 Signal level / Clipping LED's
- 6 Signal summing switches and LED indicators
- 7 Auto-on selector switch
- 8 Maximized Indicator for bass recovery
- 9 Bass Recovery level control
- 10 Bluetooth Music Streaming on-off switch
- 11 8 Channels RCA outputs
- 12 Individual Gain controls for each channel pair





Sample System Configurations: ASP-OE8

Simple Head unit Front, Rear, System



i.e. Late model Chevrolet Camaro
Front Speakers, Rear Speakers, Woofer
Problem: Severe bass roll-off as you turn up the volume

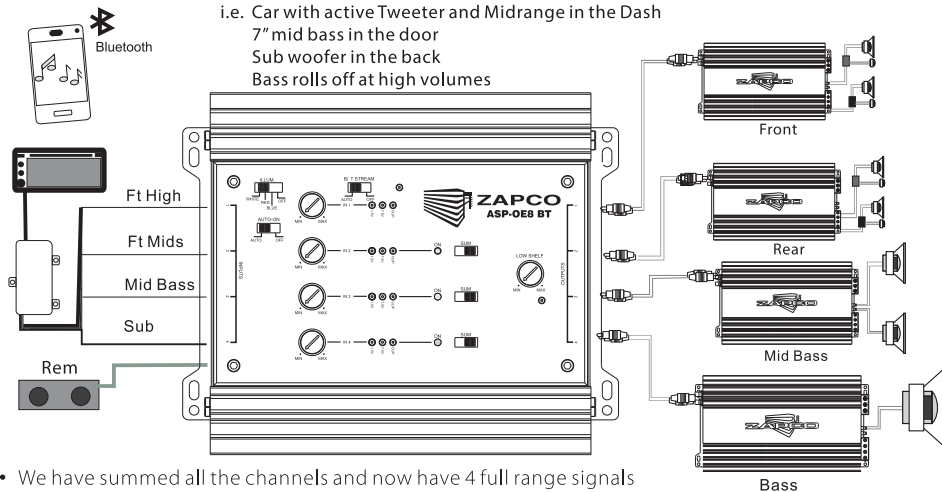
No summing is needed so sum switches remain off
Bass Recovery system is used to correct the bass roll-off
Bluetooth Streaming lets even passengers to play their music through the system
Dash remote controls Bass Recovery level and Bluetooth Volume



Sample System Configurations: ASP-OE8

Factory 4-way to 4 Full Range Outputs

i.e. Car with active Tweeter and Midrange in the Dash
7" mid bass in the door
Sub woofer in the back
Bass rolls off at high volumes

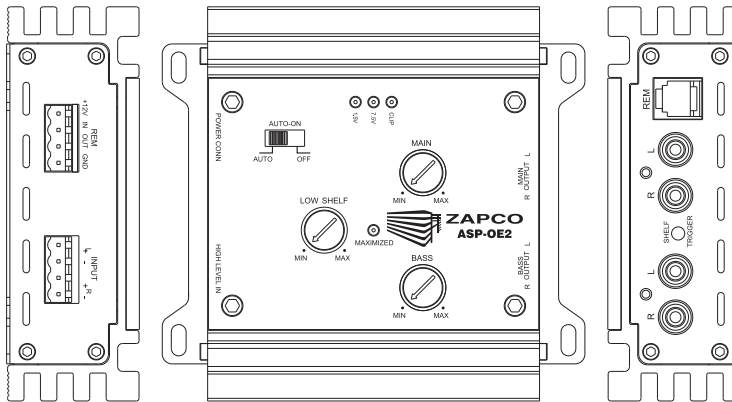


- We have summed all the channels and now have 4 full range signals
- We run a 2-way system up front with crossovers that come with the separates
- We determine our own crossover points for the mid-bass and woofer
- We use the Bass Recovery to correct the factory roll-off
- We now have Bluetooth Music streaming



Zapco ASP-OE2

2-Channel OEM Adaptor/Bass recovery



The ASP-OE2 is an advanced 2-channel OEM adaptor that converts speaker level signal to RCA level signal to add an aftermarket amplifier to a factory stereo system. The OE2 also provides you the tools to reverse the roll-off of the bass frequencies that so many car makers are building into their sound systems. This is to protect the factory woofer from being over driven and to prevent the factory amp from clipping on the loud bass notes and causing distortion. The ASP-OE2 also gives you 2 sets of outputs so you can run an amp for



bass and an amp for mids and highs. Individual gain controls let you balance the bass amp to the mids/highs amp. For bass recovery the ASP-OE2 has a low-Q shelf filter to put the bass back into the signal and a shelf threshold control to set the volume where the filter becomes active.

Specifications and Features

Maximum output level RMS	9.5V RMS
Maximum peak output level	14 Volts
THD+ Noise	0.01%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency Response	10Hz~30KHz +0/-1dB
Operating Voltage	11V ~ 16V
Output Impedance	1K Ohms

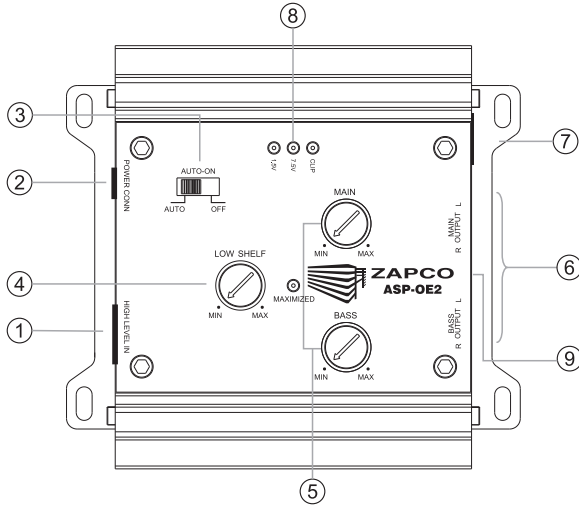
- Speaker level input to RCA preamp output
- 9.5Volt RMS preamp with 14Volts peak output
- Bass recovery system to correct factory bass roll-off
- High-end internal parts for top sound quality
- Switchable Auto-on circuitry
- Dual outputs with separate gain controls
- Dash bass remote for level of bass recovery
- 3 level LED clipping indicators
- Clear acrylic cover plate to keep dust and dirt out

Setting the Bass Recovery

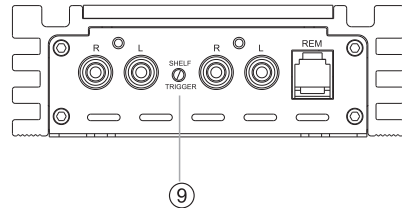
For the bass recovery to be seamless, you will need to set the threshold point so the bass shelf filter engages when the factory system starts to roll off the bass. To do this you should turn on the system at low volume. Turn the "Low Shelf" control fully up so the bass change will be easy to hear. Now turn the volume up until you hear the bass start to roll off and stop. Now turn the Shelf Threshold in the end of the ASP-OE2 clockwise slowly until you hear the bass come back in. Now you can turn the Low Shelf control down to get the right level of bass recovery so the relationship of the bass to the mids and highs is same a low volume as it is at high volume. It may take some back and forth balancing of the Low Shelf amount and the Shelf Threshold to get it to match soothly, but once the recovery is properly set you'll never have to re-set it. If you want to change the volume of bass recovered you can do that right from the dash mounted remote.



ASP-OE2 Controls



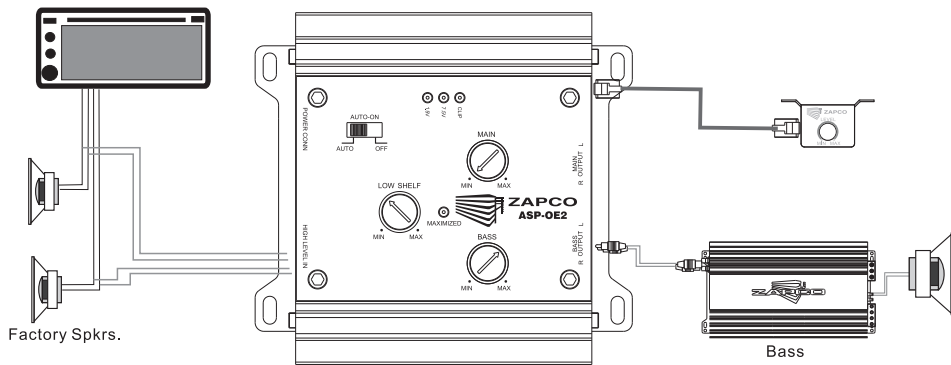
1. Speaker level input to 22 Volts
2. Power, ground, turn-on in and turn-on out connector
3. Auto-on selector switch
4. Bass recovery level
5. Preamp gain/level controls
6. Output RCAs to aftermarket amplifiers
7. Port for dash mount Bass remote
8. LED clipping/level indicators
9. Recessed adjustment for recovery trigger threshold





Sample System Configurations: ASP-OE2

Standard Bass Only Ad-On

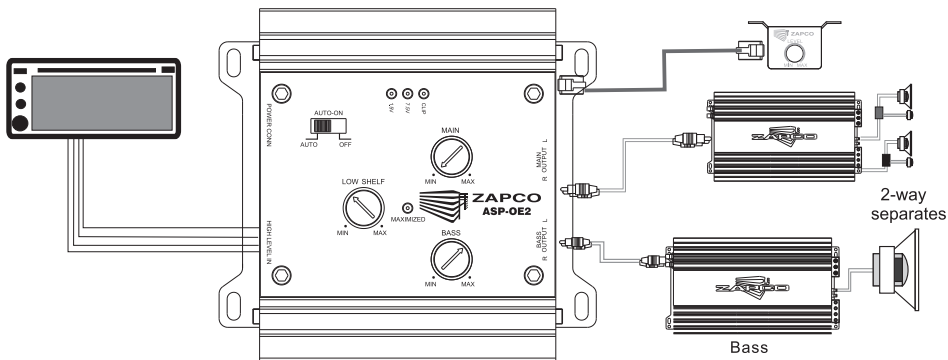


The ASP-OE2 takes 2 channels of speaker level input from the factory stereo, up to 24V and converts it to preamp level signal. The bass control determines the output level. The Bass Freq control determines how much bass recovery will be used. This function can also be controlled by the dash remote.



Sample System Configurations: ASP-OE2

ASP-OE2 Dual Amplifier System



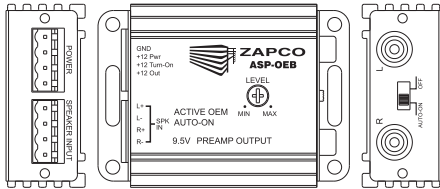
The ASP-OE2 takes 2 channels of speaker level input from the factory stereo (up to 24V) and converts it to preamp level signal. It then splits the signal so you can run a bass amp and a full range amp from the single input. The bass control determines the output level. The Bass Freq control determines how much bass recovery will be used. This function can also be controlled by the dash remote.



Zapco ASP-OEB

Basic 2-Channel Active 9.5V OEM Signal Level Adaptor

Specifications



Maximum output level RMS	9.5V RMS
Maximum peak output level	14 Volts
THD+ Noise	.001%
Signal to Noise ratio	110dB
Stereo Separation	90dB
Frequency Response	10Hz ~ 30KHz +0/-1dB
Input Sensitivity	1V for 9.5V out

The ASP-OEB is just what the world has been missing. It is a very small OEM adaptor with a big difference. The ASP-OEB is a true active Adapter with 9.5V RMS and 14 Volts Peak preamp voltage. The OEB is really a variable gain preamp with a 4 Ohm Input.

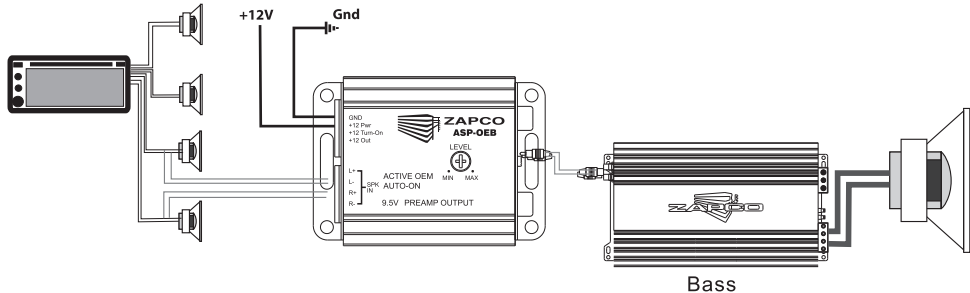
Why does this matter?

The number one OEM sale in car audio today is a woofer/amp combination to add bass to a system. All too often these sales include a passive LOC to convert the factory speaker output to a preamp level signal to drive the amplifier. Passive LOC actually remove bass from the signal. The ASP-OEB Active speaker level preamp gives you a signal with no bass loss, no added noise and no added distortion. And it has the industry's strongest output at 9.5V RMS.



Sample System Configurations: ASP-OEB

Bass Add-on System

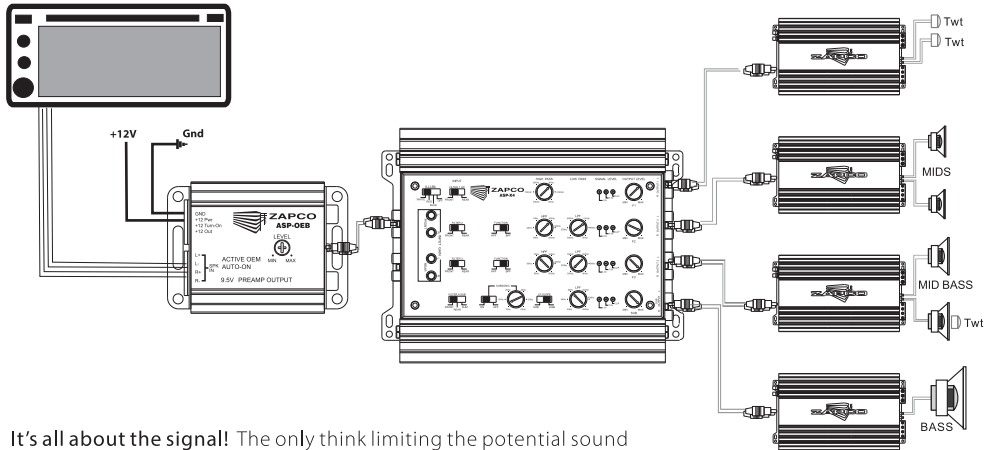


Rear speaker wires provide input for ASP-OEB.
The OEB converts to preamp signal to drive the bass amplifier
Current in the factory speaker input wires provides auto turn-on
for OEB and the amp



How good can a system really be with a factory head unit?

A Competition Level OEM System



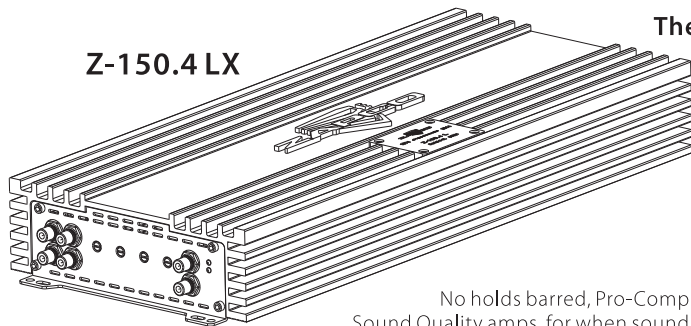
It's all about the signal! The only thing limiting the potential sound quality is the source signal. In this case the Zapco ASP-OEB converts the factory head unit's speaker output into a clean, noise and distortion free signal so you can add an audiophile crossover and top sound quality amps to the vehicle and get sound as good and any of the top after market head units.



ZAPCO
the Driving Force

We hope you will get many years of enjoyment from your new processor, and we hope you will consider these other fine Zapco products for your next audio purchase.

All Zapco products are made with the same dedication to sonic purity to recreating the live musical experience in the 12-Volt environment.



Z-150.4 LX

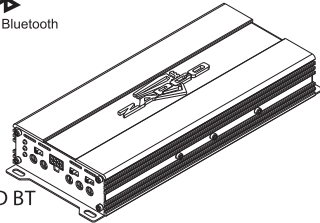
The Z-Series LX Amplifiers

No holds barred, Pro-Competition
Sound Quality amps, for when sound is *all* that matters
Available in 2-Channel, 4-Channel, and 6-Channel models

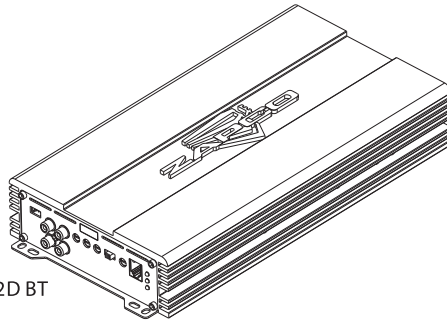


The Zapco Studio-D BT Amplifiers

The **ST-DBT** amps give you great sound and tons of power in an incredibly small chassis, so you can put Zapco quality sound virtually anywhere. **And**, they have Bluetooth music streaming so your smart device can be your signal source.



ST-64D BT



ST-402D BT

Full Range Class D

Bluetooth Music Streaming

520 Watts RMS in an amp only 95mm Wide

Power from 340 Watts RMS to 1100 Watts RMS

Zapco Sound Quality and Reliability

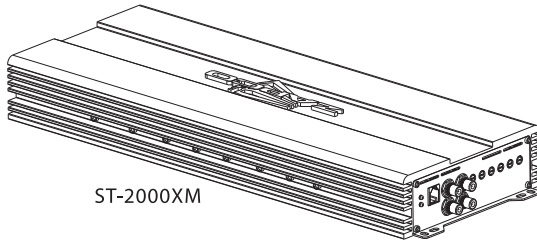


The Zapco Studio-X and XM Amplifiers

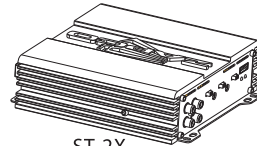
The **ST-X Series** is your choice if you want a reasonably priced system but you don't want to sacrifice sound quality. These are Class A/B highs amps, in 2-Ch, 4-ch, and 5-Ch and Class D bass amps from 500W RMS to 2,000W RMS

Class A/B Amps from 160W RMS to 670W RMS

Strappable Class D Bass Amps have variable phase and variable boost frequency



ST-2000XM



ST-2X

See these and other fine Zapco products at your Zapco dealer.
Hear why **Zapco** has been *the Driving Force* for over 40 years



zapco.com