

**THE DRIVING FORCE - SINCE 1974**  
zapco.com

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**THE DRIVING FORCE**  
SINCE 1974

## 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 forty 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.



# DIGITAL & ANALOG SIGNAL PROCESSORS

## Signal Processors

### HDSP-V

Upgradable Audiophile Digital Signal Processors with HD Player

### DSP-IV AT

Digital Signal Processors and Amplifiers with Auto Tuning

### ASP

Analog Signal Processors, EQ, Crossovers and OEM Adaptors



Modular, HD Audio Player, full DSP functions and the best of high-end specifications in both the Digital and Analog realm.

## HDSP-V Series - The new generation of processing

It is hard to tell where science ends and passion begins, when they are running together with the same goal. Zapco's fifth generation processors were born to this area. The passion behind this project, and the driving force behind the required research, has been to create a digital system that had the sound of the best digital and analog systems available today. After all, listening to live music is absolutely an analog experience. The project's goal is not just the purest sound reproduction, but rather the purest sound reproduction in the listening environment, regardless of whether it is in a car, a home room or a concert hall. We brought together scientists from electronics, acoustics and digital processing, united in the effort to bring this to realization.

**Zapco introduces the next generation of in-car processing. The Zapco Gen-V. The V-Series of HDSPs bring tuning features and sound quality never before offered in a car DSP.**

Up to 16 channels means you can build active systems at every corner of a multichannel sound system. HD means these are available with HD audio players as well. In fact, Zapco HD processors go beyond today's normal 24bit, 96/192 KHz high resolution standard. This means that today you can reproduce music superior to MP3, and even superior to CD quality. And when the next step in HD reproduction comes the Zapco HDSP will be ready to play it. Wi-Fi and optional HD Bluetooth allow the HDSP to connect to all auxiliary "smart" devices.

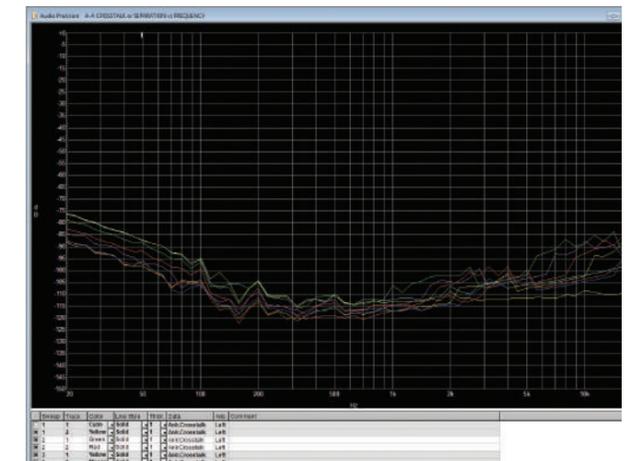
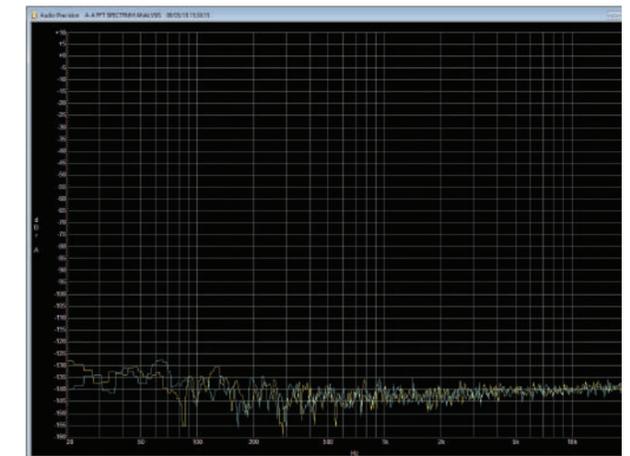
### Bar raising numbers for the Zapco HDSP-V

The HDSP-Z16 V is the best hardware that Zapco has ever built, and the numbers attest to that. Although the HDSP is composed of 18 individual pieces put together in a modular version that is easy to adapt or update according to your needs, the background noise and the crosstalk numbers are superb. The end result surpassed even the expectations of the designers and engineers who built it. It took almost three years, but eventually came this unique piece of hardware that we believe will remain in the history of Zapco and set new standards for what is possible in audio reproduction. The numbers are the proof of the design, for example -140 dB of background noise and -115 dB of crosstalk. For a 16-channel device, crosstalk at -115 dB (average around 1 KHz) is proof of the accuracy with which the layout was made. But of course, background noise and crosstalk are not the only numbers that matter in audio devices. All the others, while not so spectacular as -140 dB floor noise, are superb. The digital inputs have 114 dB of A weighted signal/noise and the analog ones 109 dB at rated output. We kept the output voltage at 4 Volts to avoid added distortion of analog preamplification. Distortion of analog and digital inputs are lower than 0.001% at 4 Volt output and lower than 0.00175% at 1 Volt output. The HDSP-V power supply continues to work down to 6 Volts to solve the problem of cars that have the stop-start ignition system. The main processor is a dual core 456 + 456 MHz, 8 and 16 channels solution have a 192 and 96 KHz sampling rate and the converters are new 32 bit/784 KHz devices from AKM. **Very importantly, it is an HD Player that works at 24 bit/192 KHz integrated with DSP.** There is no connection between the Player and the DSP, no PCB, no connectors, no cables. Player and DSP are integrated in one dual core chipset that has a total power of 912 MHz. Then there is a microprocessor that controls only the Player and does not have to do other heavy computational work like can happen, for example, with a computer. So, you can say it is DSP within a DSP, or the most sophisticated DSP existing with a on board HD Player. The player has a dedicated browser that starts to work immediately when you insert the USB memory stick. It can read all formats up to 24 bit/192 KHz, compressed or not compressed, and from the 3" touch screen display, you can control all the functions using 3 different levels of folders. The dash board that controls the Player also controls minor DSP functions and can manage up to 10 tuning presets with instantaneous switching of one to another for A/B comparison.

Two photos taken from the Audio Accuracy tool set used to create the HDSP-V datasheet. Shown here are extraordinary data of -140 dB of floor noise with digital input (average over 100 Hz) and 115 dB of Crosstalk in all frequencies from 300 Hz to 1 KHz (average of 16 ch).

### HDSP-V Main Features

- Player & DSP: All-in-one dual core processor
- Modular device: High-end solution with up to 18 independent PCB (16-ch)
- Total Power main processor: 912 MHz (456 MHz + 456 MHz)
- DSP Resolution: till 64-bit/IEEE double precision
- DSP Processor Point: Fixed & Floating
- DSP Sampling Rate: 96 KHz (16 ch.), 192 KHz (8 Ch.)
- Player power: 456 Mhz, Arm 9 32 Bit, Read till 192 KHz - 24 Bit
- Audio formats: WAV, AIF, AIFF, FLAC, ALAC, AAC, MP3
- ADC Processor (standard): AK5558, 32 Bit, 784 KHz, 115 dB DNR
- ADC Processor (option B): AK5578, 32 Bit, 784 KHz, 121 dB DNR
- DAC Processor (standard): AK4458, 32 Bit, 784 KHz, 115 dB DNR (\*8ch)
- DAC Processor (option B): AK4490, 32 Bit, 784 KHz, 120 dB DNR (\*8ch)
- DAC Processor (option A): ES9038PRO, 32 Bit, 784 KHz, 132 dB DNR (\*8ch)
- Frequency response: 5Hz @ 90 KHz (8 ch.), 5Hz @ 45 KHz (16 ch.)
- THD+N (8 ch.): 0.0006% with Digital Inputs; 0.0008% with Analog Inputs, 1V out
- THD+N (16 ch.): 0.0008% with Digital Inputs; 0.001% with Analog Inputs, 1V out
- S/N Device Floor noise: -125 dB (from 20 Hz to 20 KHz)
- S/N Device Floor noise: -135 dB (from 150 Hz to 20 KHz)
- S/N Device Floor noise: -140 dB (average from 80 Hz to 20 KHz)
- DNR, S/N Ratio (Digital Inputs): from 115 to 120 dB A
- DNR, S/N Ratio (Analog Inputs): from 109 to 115 dB A
- Crosstalk: > 110 dB from 300 Hz to 0.9 KHz, average 115 dB from 300 Hz to 0.9 KHz
- Wi-Fi External Module (included), External APTX HD Bluetooth Module (optional)
- I/O Setup: 2ch, 4ch, 6ch, 8ch, OEM SUM, AUX
- Digital Input Mode: HD, Optical, Coax, i2S 1, 2, 3
- Equalizer: Parametric 30 / 6 poles (16 ch.), Parametric 15 poles (8 ch.)
- Crossover Filters: Linkwitz, Butterworth, Bessel, Tschebyscheff
- Phase Filter: All channels 1Hz/1 Degree step, VSEQ Filter: 50-200 Hz - 1 Hz step
- Operating Power Supply Voltage: 6-16 Volt, Stop-Start ignition system support



## Audiophile use of the HDSP - Upgradable internal modules/components

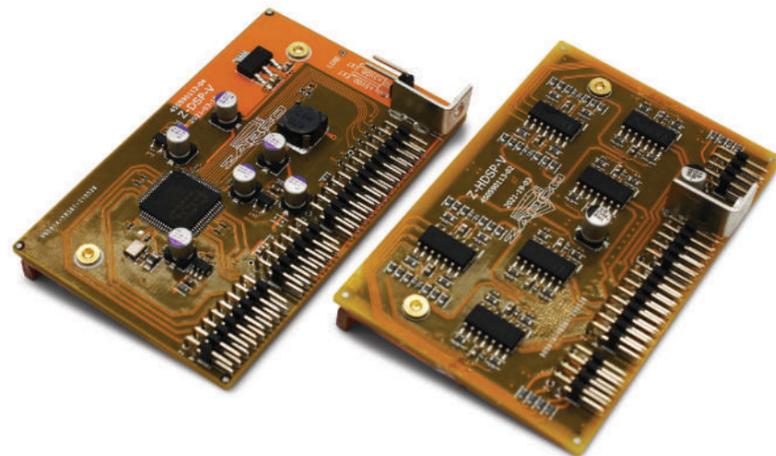
This HDSP has such high performance and so many functions that one might think it would be just the right choice for home use as well. We believe this to be the first mobile DSP that can be introduced in home sound rooms without reducing the signal quality of an audio system. It is possible to improve dramatically the sound performance in the listening environment using crossover functions for the speakers, equalization and time delay for environmental compensation. Then with amplifiers dedicated to each specific speaker (controlled from the same DSP processor) and accurate RTA you can have the best sound for your environment.

**Zapco thinks to provide a perfect line of signal path to the speakers and through the listening area. For that reason hardware and software will be easily up-gradable with different modules that can be changed later as the situation requires.**

What's the best sounding capacitor for audio that money can buy? What's the best sounding analog digital converter money can buy? If there was only one answer to questions like these, we wouldn't have so many choices. The differences between the run-of-the-mill electronic components and the top-end specialty audio components is night and day. But the differences between the top audiophile components is much more subtle, and open to debate and personal preferences. The same is true of digital components. In building the DSP-Z16V and the other 5th Generation Zapco digital processors, we used the very best components we could find for a production product. But knowing that there would be high-end users out there with their personal favorite ADCs or DACs, we programmed the DSP chips to accept any number of different top-end components to provide the more fanatic audiophiles the ability to easily customize the units to their personal tastes.

### ES9038PRO DAC

There are two DAC upgrade choices for the HDSP processors. The first is the DAC-B kit that upgrades the AK4490 DAC. The other is the DAC-A kit, with the long awaited ESS 9038PRO DAC. The ESS 9038PRO increases Signal to Noise and Dynamic Range to a remarkable 132dB in 8-ch. mode. That's what you can measure. Here's what you can not measure. The accuracy and spatial properties of the sound stage are greatly improved. All who have used the HDSP have agreed that no other digital processor reproduces sound with such purity and accuracy. Yet those same users found an absolutely audible improvement with the AK4490 DAC when those were installed. Then, for the ultimate in sound stage reproduction and sonic purity the ESS 9038PRO has no equal. It has been described as night and day by the sound quality competitors what have used it. If the absolute finest that technology can provide is your goal, this is the DAC you want.



#### ADC Kit C AK5558 (included)

32 Bit, 784 KHz, 115 dB DNR

#### ADC Kit B AK5578 (optional)

32 Bit, 784 KHz, 121 dB DNR

#### DAC Kit C AK4458 (included)

32 Bit, 784 KHz, 115 dB DNR (\*8ch)

#### DAC Kit B AK4490 (optional)

32 Bit, 784 KHz, 120 dB DNR (\*8ch)

#### DAC Kit A ES9038PRO (optional)

32 Bit, 784 KHz, 132 dB DNR (\*8ch)

#### HDSP-V R 3" LCD TS Remote Control

Display Size: 3" Touch Screen  
Input Select: HD Player/Aux  
Player Selection by: Title / Artist / Folder  
Audio Control: Volume / Balance  
Fader / Treble / Mid/Bass

#### HD BT Module HD Bluetooth Module (optional)

Qualcomm CSR8675  
Single-chip solution with 80 MHz DSP  
aptX HD Support



## HDSP-V - Technical Specifications

### HD Player

Player Processor: TI OMAP-L138 - 456 MHz  
Audio Formats: WAV, AIF, AIFF, FLAC, ALAC, AAC, MP3  
Read till: 192 KHz - 24 Bit  
File System USB Key: FAT32  
Command: Double speed "Touch Screen"  
Display resolution: 240 x 400, 3"  
DB Control: Volume/Balance/Fader/Tone  
Preset Selection: 10 Presets  
Directories: File or Artist/Album or Title  
Luminosity Control: Yes  
Dash Board dim. (mm): 111 x 49 x 16  
DB Connection: 5 mt custom cable

### DSP Processor

DSP Processor: Texas Instruments OMAP L-138  
DSP Processing Power (clock): 456 MHz  
Processor Resolution: 32 Bit  
Processor Working: Double precision 64 Bit  
Processor Point: Fixed & Floating  
Sampling Freq: 96 KHz (16 ch), 192 KHz (8ch.)

### ADC Processor

Processor: AK5558 (included)  
Processor Resolution: 32 Bit  
Dynamic Range: 115 dB  
THD+N: -106 dB  
Sampling Frequency: 784 KHz  
Number of Channels: 8

### DAC Processor

Processor: AK4458 (included)  
Processor Resolution: 32 Bit  
Dynamic Range: 115 dB  
THD+N: -107 dB  
Sampling Frequency: 784 KHz  
Number of Channels: 8

### Analog Inputs

Low level (Pre): 6/8  
Low Level Sensitivity: 1/5 Volt  
Low Level Impedance: 5 KOhm  
High Level (Speaker In): 8  
High Level Sensitivity: 4/20 Volt  
High Level Impedance: 200 Ohm  
Aux Input: 1, 1/5 Volt  
Independent Gain Control: 8 (for each ch.)  
LED Control of Input Levels: 8 (for each ch.)

### Digital Inputs

Optical: 24 Bit - 192 KHz  
SPDIF Coaxial: 24 Bit - 192 KHz  
i2S by Z.COM Slots: nr. 3 x 24 Bit - 192 KHz

### Analog Outputs

RCA Output: 16 (HDSP-Z16), 8 (HDSP-Z8)  
Output Volt (5 KOhm): 4 VRMS  
Output impedance: 100 Ohm  
Minimum Load Impedance: 2 KOhm  
Ideal Load Impedance: Not less 5 KOhm  
Output Volume Control: -100dB @ 0db

### Digital Outputs

Optical: 24 Bit - 192 KHz

### Signal Stage

Frequency response (-3dB): 5Hz-45 KHz  
S/N Ratio Digital In.: 114 A (0dB/1V 103/4)  
S/N Ratio Analog In.: 109 A (1V-1V 101/2) (5V-4V 110/11)  
THD+N Digital In: 0,0008  
THD+N Digital In (1V RMS Out): 0,0015  
THD+N Analog In: 0,001  
THD+N Analog In (1V RMS Out): 0,00175  
Crosstalk at 100 Hz: 100 dB (average all ch)  
Crosstalk at 1 KHz: 115 dB (average all ch)  
Crosstalk at 10 KHz: 100 dB (average all ch)

### Connection

For Personal Computer: A USB  
For USB Memory Stick: B USB  
For Dash Board: RJ45  
Wi-Fi External Module: Included  
Z.COM Slots: 3 x i2S 24 Bit - 192 KHz  
BT External Mod: CSR8675 Qualcom aptx HD (optional)  
Digital Devices: 2 Extra Digital Units

### Power Supply

Operating Voltage: 6-16 V  
Current Draw: 750 mA at 14.4V  
Operating Out Voltage: 1.8/3.3/5/+5/+13  
Conversion Frequencies: 250/570 KHz  
Fuse: 1A

### Crossover

General Features: 3 Independent Crossover Graphics for Front, Rear, Effect tuning, Default set-up for 16 speakers, Full / High-Pass / Low-Pass / Band-Pass  
Cross. Type: Linkwitz, Butterw., Bessel, Tscheb.  
Slope: 6-12-18-24-30-36-42-48 dB  
Frequency Step: 1 Hz

### Delay/Polarity

Time Alignment (ms/step): 0/100 ms / 0.01 ms  
Maximum Delay (cm/step): 3400 cm. / 0.34 cm  
Delay Groups: All Channels: GP1, GP2, GP3  
Polarity: 0/180°

### Equalizer

Front Equalizer (ISO 1/3 Oct.) Band:  
HDSP-Z16V: 1-6 ch.: Parametric Eq: 30 Poles  
HDSP-Z8V: 1-8 ch.: Parametric Eq: 15 poles  
Rear Equalizer (ISO 1/3 Oct.) Band:  
HDSP-Z16V: 7-12 ch: Parametric Eq: 30 Poles  
Effect Equalizer (ISO 1/3 Oct.) Band:  
HDSP-Z16V: 13-16 ch: Parametric Eq: 6 Poles  
Dynamic Gain/Steps: +6dB -15dB - 0.1dB

### Phase

Phase Shift Frequency/Step: All Channels - 1 Hz  
Degrees of Shift/Step: All Channels - 1 Degree

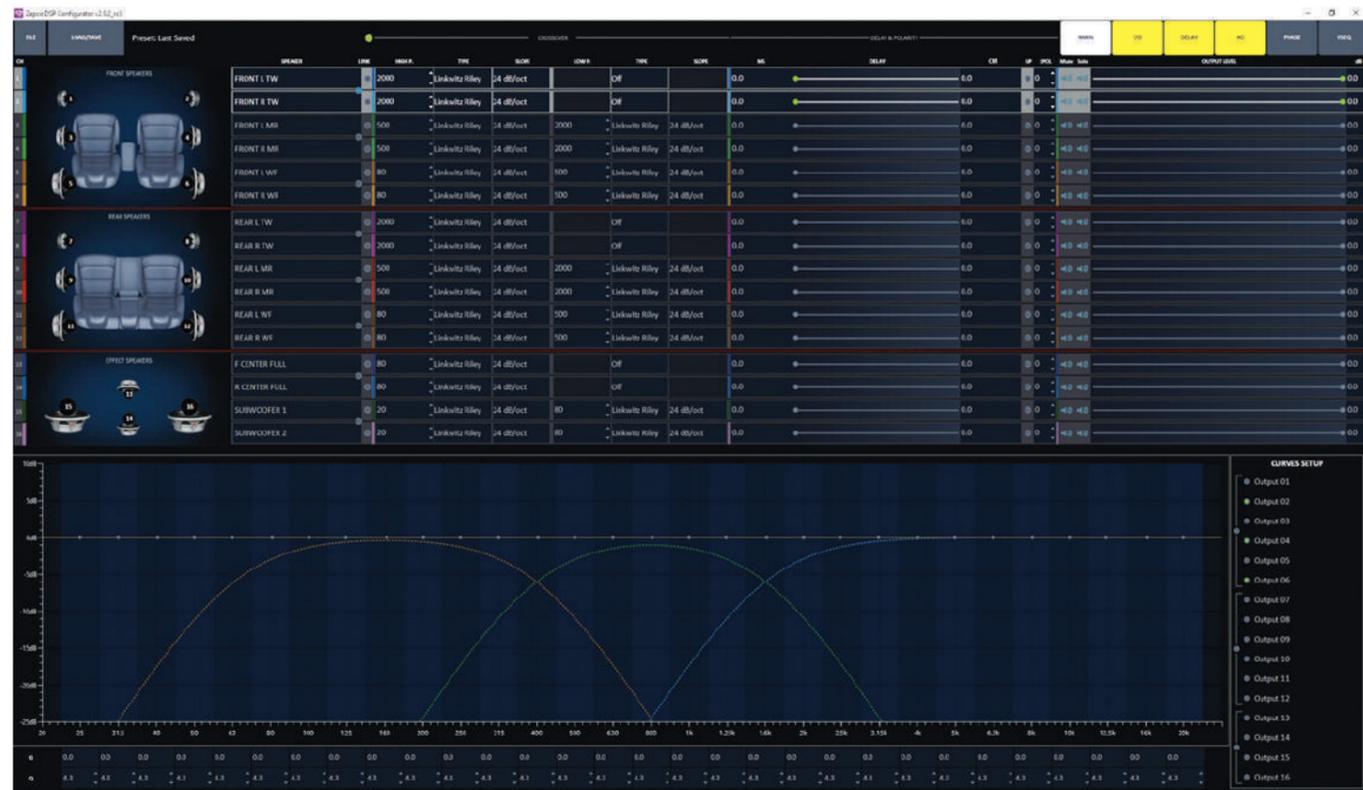
### VSEQ

THR Regulation: L-H @ 0 -18dB  
Shift Frequency: 50-200 Hz - 1 Hz  
Gain: 0-6 dB - 0.1 dB



# HDSP-V Digital Control Program

The GUI of the DSP-V has been designed to be simple and intuitive for everyone. But that does not mean it's less sophisticated. It is divided into three main sections which are the front, the rear and the effects. The tuning of the sound of the front seats and the sound of the rear seats provides two different and independent autotuning as well as the tuning of the effects. The main screen provides simultaneous viewing of all 16 channels with all adjustments. It is a summary screen for fine adjustments made channel by channel, while dedicated pages for each major function allow you to focus on one function and conveniently set all the channels together. Auto-tuning guides the different phases starting from the correct connection of all the components, the adjustment of the levels of the amplifiers and of the DSP, all to obtain the best performances in terms of sound quality. For experienced tuners there is also manual adjustment of all functions with maximum adjustment resolution.



Still other pages will allow you to make true phase adjustments to a channel when needed, using all-pass filters, and to compensate for active equalization in OEM systems for seamless sound at all volume levels using volume sensitive equalization. This is especially useful in many cars that reduce the level of bass frequencies at higher volume.

PC Requirements: Display 1024 x 768 px (minimum resolution), Main processor 1GHz, RAM 32 GB, PC USB 1.1-2.0-3.0, Operating system (32/64 bit) Windows XP, Vista, 7, 8, 10.



## I/O Matrix

The Input/output (I/O) matrix allows the manual tuner to determine which input will be used for each output. A default matrix, of course, will be entered based on entries when you first open the program. Access to this matrix though, allows you to map out your own system by simply clicking into the box where the desired input meets the desired output. It also allows you to use multiple inputs for the same channel and to create special effects by using the sums and differences of multiple inputs for a single channel. Clicking in multiple inputs will automatically adjust the total input to remain at 100% but you can change that by typing in the desired percentage of each input to be used.



## AP/Phase

The HDSP V GUI uses all pass filters to give you complete control of phase. There is one all pass filter for each channel that allows you to choose the target frequency for a phase shift and to choose the amount of phase shift from 1° to 359°. While the most common use of the phase control is to compensate for the phase changes caused by a crossover, it can also be used to eliminate an acoustic null in the in-car response caused by a 180° phase difference between the right and left channels at a given frequency. NOTE: Phase can be very useful, but it can also be dangerous to a sound stage but creating new problems when over used. We recommend it be used sparingly and by experienced tuners.



## Crossover

The crossover page of the Series V DSP makes crossover setting easy and clear. You can choose the filter style you want and the slope (from 6dB~48dB) by simply clicking into their boxes. You can choose the frequencies by typing into the boxes or by using the up/down arrows. The graphs at the right will always show all the crossovers for each section, and the large graph below will always show the active channel's crossover. You can use the "Curves Setup" buttons to bring down more curves of other channels to see how they interact more clearly. Right/Left channels are paired by default but can be separated as needed.



## VSEQ

Over these past 10 years car makers have made it more difficult to change out the factory stereo. Unfortunately, the factory stereos leave much to be desired and drivers want to improve the sound systems with new amps and speakers. But even after adding new amps and speakers problems exist because the car makers often equalize the stereos. The most common issue is that car makers roll off the bass frequencies at high volume to protect their equipment. The VSEQ allows you to correct for that factory bass roll-off seamlessly with a graduated change. The VSEQ puts the frequencies back at the same volume the factory has removed them by digitally reading when the change starts and when it stops.



## Delay & Polarity

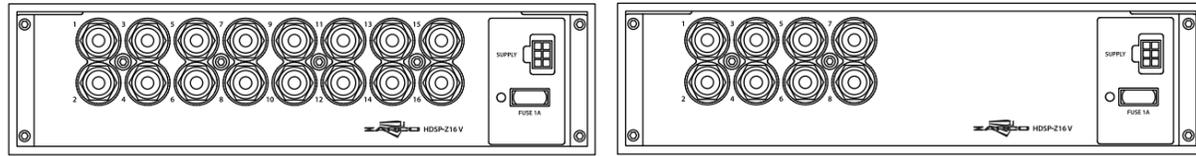
The page allows you to set the signal delay for each channel. You can also set the polarity of each speaker to make sure they are all in phase with each other. Phase must be correct before setting delay as they are two aspects of the same function. After the polarity of each speaker is confirmed, the distance from the listening position to each speaker is measured in either centimeters or inches and entered. The DSP will then calculate the delay for that speaker in milliseconds. Each channel can be assigned to one of three delay groups so a group of speakers can be moved (in time) together during fine tuning.



## Equalizer

The main page holds the Equalizer Graph. Each of the channels 1~12 has 30 parametric filters, and the channels 13~16 have 6 parametric filters each. The filters can be put at any frequency and the Q of each is variable from 0.5 to 15. The filters allow the gain to be applied from +6dB to -15dB. When a channel is chosen the graph of that channel is always displayed. You can also pick any other channels to be displayed along with the active channel. If during the process you need to undo any changes you can reset the channel to Default or you can reset it to the last saved preset. Adjustments can be made quickly using the keyboard arrows or in steps of only one frequency or 0.1db of gain can be made by tapping the arrow keys.

## HDSP-Z16 V - Models and Configurations



### 16 Channels

### 8 Channels

Model	HDSP-Z16 V AD-16A GOLD	HDSP-Z16 V AD-16A	HDSP-Z16 V AD-8A GOLD	HDSP-Z16 V AD-8A
Type	16 Ch. DSP with HD Player Analog + Digital Inputs	16 Ch. DSP with HD Player Analog + Digital Inputs	8 Ch. DSP with HD Player Analog + Digital Inputs	8 Ch. DSP with HD Player Analog + Digital Inputs
HD Player	OMAP-L138 456 MHz, 32 Bit Read till: 192 KHz - 24 Bit	OMAP-L138 456 MHz, 32 Bit Read till: 192 KHz - 24 Bit	OMAP-L138 456 MHz, 32 Bit Read till: 192 KHz - 24 Bit	OMAP-L138 456 MHz, 32 Bit Read till: 192 KHz - 24 Bit
Audio Formats	WAV, AIFF, FLAC, ALAC, AAC, MP3	WAV, AIFF, FLAC, ALAC, AAC, MP3	WAV, AIFF, FLAC, ALAC, AAC, MP3	WAV, AIFF, FLAC, ALAC, AAC, MP3
DSP Processor	OMAP L138 456 MHz, 32 Bit till 64 Bit/IEEE double precision Sampling Frequency: 96 KHz	OMAP L138 456 MHz, 32 Bit till 64 Bit/IEEE double precision Sampling Frequency: 96 KHz	OMAP L138 456 MHz, 32 Bit till 64 Bit/IEEE double precision Sampling Frequency: 192 KHz	OMAP L138 456 MHz, 32 Bit till 64 Bit/IEEE double precision Sampling Frequency: 192 KHz
ADC	AK5558 - 32 Bit, 784 KHz Dynamic Range 115 dB THD+N: -106dB	AK5558 - 32 Bit, 784 KHz Dynamic Range 115 dB THD+N: -106dB	AK5558 - 32 Bit, 784 KHz Dynamic Range 115 dB THD+N: -106dB	AK5558 - 32 Bit, 784 KHz Dynamic Range 115 dB THD+N: -106dB
DAC	ES9038PRO - 32 Bit, 784 KHz Dynamic Range 132 dB THD+N: -107dB	AK4458 - 32 Bit, 784 KHz Dynamic Range 115 dB THD+N: -107dB	ES9038PRO - 32 Bit, 784 KHz Dynamic Range 132 dB THD+N: -107dB	AK4458 - 32 Bit, 784 KHz Dynamic Range 115 dB THD+N: -107dB
Analog Inputs	8 x RCA Low Lev. 1/5 Volt 8 x High Lev. 4/20 Volt	8 x RCA Low Lev. 1/5 Volt 8 x High Lev. 4/20 Volt	8 x RCA Low Lev. 1/5 Volt 8 x High Lev. 4/20 Volt	8 x RCA Low Lev. 1/5 Volt 8 x High Lev. 4/20 Volt
Digital Inputs	Optical: 24 Bit - 192 KHz SPDIF: 24 Bit - 192 KHz 3 x i2S: 24 Bit - 192 KHz	Optical: 24 Bit - 192 KHz SPDIF: 24 Bit - 192 KHz 3 x i2S: 24 Bit - 192 KHz	Optical: 24 Bit - 192 KHz SPDIF: 24 Bit - 192 KHz 3 x i2S: 24 Bit - 192 KHz	Optical: 24 Bit - 192 KHz SPDIF: 24 Bit - 192 KHz 3 x i2S: 24 Bit - 192 KHz
Analog Outputs	16 x RCA, 4 Volt (5 KOhm) Out. Impedance: 100 Ohm	16 x RCA, 4 Volt (5 KOhm) Out. Impedance: 100 Ohm	8 x RCA, 4 Volt (5 KOhm) Out. Impedance: 100 Ohm	8 x RCA, 4 Volt (5 KOhm) Out. Impedance: 100 Ohm
Wireless	Wi-Fi Module (included) BT External HD Mod. (opt.)	Wi-Fi Module (included) BT External HD Mod. (opt.)	Wi-Fi Module (included) BT External HD Mod. (opt.)	Wi-Fi Module (included) BT External HD Mod. (opt.)
Dimensions	Main: 217 x 164 x 57 mm DB: 111 x 49 x 16 mm	Main: 217 x 164 x 57 mm DB: 111 x 49 x 16 mm	Main: 217 x 164 x 57 mm DB: 111 x 49 x 16 mm	Main: 217 x 164 x 57 mm DB: 111 x 49 x 16 mm



ADC Processor option B: ADC KIT B with AK5578, 32 Bit, 784 Khz, 121 dB DR  
 DAC Processor option B: KIT B14V with AK4490, 32 Bit, 784 Khz, 120 dB DR / DAC Processor option A: KIT A14V with ESS9038PRO, 32 Bit, 784 Khz, 132 dB DR (included with GOLD version)



## The new DSP-IV AT Series with AutoTune

Some years ago, Zapco introduced the new DSP-Z8 IV signal processor. It was designed to bring true audiophile sound quality to an affordable DSP. And it did just that! The DSP-Z8 IV provided sound quality superior to units costing even twice as much. Even competition cars are using the Z8 IV, right up to one of the top Master Class SQ cars. The DSP-Z8 IV has been a true giant killer. But, as we have always said, and always will say, "We believe we can still do better". We firstly presented the DSP-Z8 IV II, and this year we present the Zapco DSP-Z8 IV AT and the ADSP-Z8 IV-6AT Amplifier. The new coaxial and optical inputs accept the digital signal from your head unit or from a portable HD player.

The DSP-IV AT units also have a port for HD Bluetooth streaming (with the optional HD-BT module). An interactive digital port will expand your options even more. The port accepts the control input from the included Dash Remote so you can change input source, select your song, control the master volume and even control the output of your system's bass amps. The new ADSP-Z8 IV-6AT amplifier has now 2 RCA outputs to feed the mono amp (ADSP-Z8 IV-1A). About the GUI, the added Advanced menu also has a Mixing Set and an AutoTune function, when you add the optional calibrated tuning microphone.

### New features and new control

What's new with the Series IV AT? New features, new control... even improved sound quality. The sharp look matching the Black and Copper theme of the AP amplifiers is only the beginning. More digital inputs, HD-BT streaming (with optional HD-BT module), the advanced I/O Matrix and the Auto Calibration function take the DSP-IV AT Series to another level.

### DSP-Z8 IV AT 8 Ch. DSP with optional HD-BT

**Cirrus Logic DSP/Converters**  
**Bluetooth port for optional HD-BT Module**  
**Separate Gain Controls, LCD Remote Control**

8 Channels RCA Inputs, 8 Channels RCA Outputs  
Speaker Level Inputs w/Auto-on (switchable), Optical and Coaxial Digital Inputs  
Overall dim. (mm): 223(L) x 113(W) x 50(H)



### Integrated 8 Ch. DSP/6 Ch. Amplifier + 2 RCA Outputs

Speaking of hardware, we have added the ADSP-Z8 IV-6AT this year. So you can have the DSP-Z8 IV AT with an on-board 6-Channel fullrange Class D Amplifier. Zapco was the very first company to give you a full function DSP on-board with in a car audio amplifier. That was in 2004, and it was the Class AB, Reference DC Series. But as AB amplifiers they were also quite large at a time when cars were becoming smaller and lighter. With the advances in Class D technology over the last 15 years we have been able to get that same Zapco sound quality in a smaller and more powerfull package. The ADSP-Z8 IV-6AT also has 2 RCA outputs to feed the ADSP-Z8 IV-1A mono amp, still controllable via the 8-channel dsp of the main unit.

### ADSP-Z8/16 IV-1A Class-D Mono Amplifier

**Mono, 4 ohm:** 1 x 700 W  
**Mono, 2 ohm:** 1 x 1000 W  
Tested voltage & THD: 14.4v /< 0.05%  
Overall dimensions (mm): 223(L) x 213(W) x 50(H)

### HD BT Module HD Bluetooth Module (optional)

Qualcomm CSR8675  
Single-chip solution with 80 MHz DSP  
aptX HD Support



# DSP-IV AT Digital Control Program

The new Zapco Series IV AT GUI gives you all the great sound and functionality of the Series IV II and it adds Coaxial digital input as well as Optical digital and Bluetooth streaming. Drop-down menus also let you name each output channel to match your system setup. The added Advanced menu also has a Mixing Set and an AutoTune function, when you add the optional calibrated tuning microphone.



The new DSP-Z8 IV AT gives you the more options for input selection. You can have up to 8 channels of input that you can set them up instantly simply choosing 2-Ch, 4-Ch, 6-Ch, or 8-Ch on the front page inputs section. If you need to sum channels of a factory stereo to get a full range input just click SUM and the system does it all for you. But, if your system is more complicated than standard, you also have the option to enter the Advanced menu and use the Mixing Set to manually give each channel exactly the amount of input from each input channel that will work best for your particular audio setup. From simple to advanced, the Zapco DSP-Z8 IV-AT has you covered. The Auto Calibration menu of the Series IV AT processor tunes your vehicle to the sound quality curve used in audio competitions. You can even take it a step further by calibrating each speaker separately then tuning all the drivers together as a system. The Series IV-AT calibration program automatically sets signal delay and channel phase if you choose. On this page, you also view a graph of what each speaker is doing and also what the autotune equalizer is doing to each channel to correct the frequency response in the vehicle.



Inputs is where you choose the input you will use while tuning. You can choose LINE IN which can be an aftermarket head unit, or a factory head unit using the speaker level input harness. You also have Optical (SPDIF) or Coax (also SPDIF) digital inputs, and a BT input if you add the optional HD-BT module for AptX HD Bluetooth streaming. In the Car Diagram you can manually set up signal delay. Simply measure the distance from the listening position to the center of each speaker. Channel Outputs is where you can choose the output channel you will be tuning. Clicking the channel number in this column will open the channel for tuning and will light up the channel bar to highlight the active channel. The Channels Setup Area contains channel designations, crossovers, delay adjustments, mute and solo buttons. EQ Function Bar lets you choose between GEQ (Graphic) and PEQ (Parametric) equalizers. There are also buttons for the EQ parameters available for tuning: Band (filter) selection by number, Frequency selection, Gain, and Q Factor. The graph shows you exactly what you are doing to the output signal going to your amps. In this graph you can Drag-and-Drop the buttons of each EQ filter to make adjustments of Frequency and Gain. Output levels allow you to balance the levels of the speakers.



## M-AT1 AutoTune Microphone

This microphone is specially designed for our DSP/ADSP-AT automatic tuning, with built-in full-directional and high-sensitivity capacitive microphone, professional filter and amplification circuit module.

Frequency Response: 20 - 20KHz  
 Dimensions (mm): 190(L) x 21(Ø) x 12.5(Ø)  
 Cable Length: 3 mt



**ASP-Q1**  
 1/2 Din, Dash Mounted, Equalizer/Crossover  
 9.5 Volts Preamp Output, 5 Bands of Parametric Equalization, Crossover 2/3-Way or 3-Way w/Band Pass  
 Overall system volume w/separate bass level control, fader control, auxiliary input, individual channel gains, push-in control knobs, noise rejecting copper chassis, isolated remote power supply

## Analog Signal Processors

In 1978 Zapco introduced the world to audiophile signal processing with the iconic Zapco PEQ 18 band equalizer. It was the first high voltage output processor for the car. With high grade "mil-spec" slide pots and internal components, the SEQ showed the industry what in-car sound processing should sound like. The SEQ was followed by a series of audiophile quality processors including the first parametric car EQ, innovative electronic crossovers, a 30 band mono EQ, an advanced noise gate, and even an outboard D/A converter that surpassed most home D/A converters.

Now when most head units and amps have processing built in, why does Zapco continue to offer audiophile quality outboard processing? Think of a home sound system. A good all-in-one receiver does a decent job of everything but not a superb job of any one thing.

A top quality home or pro sound system uses a tuner, a preamp, and a power amp. Each unit designed to do one job right. Similarly, Zapco makes a processor to do each job in the car sound system and do it right. For many people "OK" sound is just fine, as long as it's quick and easy, but Zapco makes processors for those who want something better.

We make processors for those who think that the live musical experience is worth the extra effort. We make processors for those who think the sound is what matters most.

**If you want to sit in your car and feel like you are right there, in the audience, at the concert hall... Zapco makes processors for you.**

### ASP-Q1

This new Zapco EQ has a lot to live up to. Zapco has been bringing you the top Sound Quality processors since the PEQ was introduced in 1978. From the first PX equalizer model in the mid '80s to the SX and finally the SX-SLII in 2002, the Zapco in-dash processors have built a reputation for unsurpassed sound quality.

The new ASP-Q1 will continue Zapco's reign as the leader in high performance analog processors. In re-designing the unit we had 3 goals. First and foremost was to set a new standard for sound quality. Secondly we added some features that were missing from the previous models. And third, we wanted to simplify the operation of the EQ's features. Below are some feature highlights.

- **Separate bass level control to balance the bass output to the rest of the system**
- **Fader control - to balance front output to rear output, or midrange or mid-bass to the highs**
- **Auxiliary input for your iPod or other portable source**
- **Five bands of semi-parametric equalization. Each of the five bands has a variable center frequency so you can fix response problems anywhere in the frequency spectrum**
- **Top panel controls allow you to set the system up for Sub + Front and Rear full range or Sub + dual high pass outs, or for an active 3-way system with a bandpass on the mid-range or Mid-bass**
- **Individual channel gains for both Main-in and Auxiliary-in**
- **9.5 Volts of preamp output to make your amps sound their very best**

### Zapco Crossovers

What the audiophile asks is "how well does that crossover do its job". Remember that is your signal in there, your music, and anything that touches your signal affects its quality. The quality of those built-in crossovers is not going to give you the best sound for two simple reasons. Putting a audiophile level crossover in an amp would make it; a. too expensive and b. too big. With the built-in crossover you will trade sound quality for convenience.

Zapco crossovers are designed for the best possible sound quality and the most versatility. Zapco electronic crossovers use the same Elna Silmic II RFS caps and the same OP275 op-amps that are in our LE/LX series audiophile competition amps. Another important set of components in the crossover are the controls. They need to be precise, clean, and must not add distortion. For these crossovers we went out to the maker of the finest pots available and had our own custom pots built. We use them in all our processors and LE/LX series amps. We did this was because we knew it was the only way to get the best possible performance from the crossovers.

### ASP-X2 2-Way Electronic Crossover

**9.5 Volts Line Driver, 2-ch Inputs (Rear + Front)  
 2-ch Outputs (Low/BPF + High)**  
 LP filter (50Hz to 450Hz), HP filter (450Hz to 4.5KHz), subsonic filter (15Hz to 60Hz), x10 switch on output 2 filters (BPF, 15Hz to 4.5KHz), 2 sets of inputs for fading, dash remote control. Overall dim. (mm): 127(L) x 119(W) x 39(H)



### ASP-X4 2/3/4-Way Electronic Crossover

**9.5 Volts Line Driver, 4-ch In (Rear + Front), 8-ch Out (6 + 2 Sub Out)**  
 HP 1 filter (500Hz to 5KHz), BP 2 filter (50Hz to 5KHz), BP 3 filter (50Hz to 3KHz), LP 4 filter (45Hz to 450Hz), subsonic filter (15Hz to 60Hz), 12/24 dB switch, dash remote control for ch. 7/8, remote power supply.  
 Overall dim. (mm): 245(L) x 190(W) x 39(H)

**The ASP-X4 has 2 sets of inputs and 4 pairs of outputs, 1/2 are dedicated for highs and 7/8 for subs, but really... all these outputs can be most anything you want them to be, thanks to a set of extremely versatile, yet straight forward controls on the top panel. You can make it into a 2-way, 3-way or 4-way crossover.**



## Line Drivers

In the 90's, any decent deck had 4 volts of preamp output. Some had 8V and some even had 12V. Now, even the best 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. What does this mean to you? a. You have less signal going down your RCA cables so you need to gain your amp up and then your system has more background hiss. b. A bigger tragedy is that when you gain up your amp, you are compressing the dynamic range of the music. You lose the difference between the quiet and the loud and the music sounds "canned". It doesn't sound live! Who uses dynamic compression to sound loud? Television commercials, that's who! And who wants to sound like that? **So, how do you get back the dynamic range and the high signal to noise ratio? You use a Zapco Line Driver!**

The Zapco ASP-L6 and ASP-L2 are preamp line drivers that add 24dB of gain to your signal before it ever gets to the amplifier. These units can take your signal from less than 1 volt to 9.5 Volts RMS. And they do it cleaner than the other units out there. The ASP-L6 and ASP-L2 both use audiophile Elna Silmic II capacitors and high end Analog Devices OP 275 op-amps. These are the same components you will find in our new LX series of competition amplifiers. And these line drivers do more than just boost the signal, as you will see.



### ASP-L6 6 Ch. 9.5 Volts Line Driver

**6-Ch in to 6-Ch out Line Driver  
2-Ch in to 6-Ch out Distribution Amp**

Dash Bass Remote for outputs 5/6  
Remote power supply  
Signal Gain: 24dB  
THD + Noise: < .01%  
Overall dim. (mm): 164(L) x 190(W) x 39(H)

### ASP-L2 2 Ch. 9.5 Volts Line Driver

**2 Sets of Preamp Outputs  
Preamp Output: 9.5 Volts RMS  
Bluetooth Streaming**

Dash Remote volume control  
Signal Gain: 24dB  
THD + Noise: < .01%  
Overall dim. (mm): 127(L) x 119(W) x 39(H)

While the ASP-L2 is a 2-Ch. line driver, it has 4-Ch of output (at 9.5V RMS each), so if you have an amp for the main speakers and an amp for the bass, you don't have to use Y adapters to split the signal, and lose voltage. If you have a classic car, motorcycle, or side-by-side and don't want a standard head unit, you can plug your smart device or MP3 player into the ASP-L2 and rock on. You have your signal booster preamp and your volume control. And when you're through listening, you can take your music with you!

The ASP-L6 is a 6 channels line driver with 6ch input and 6ch output. In addition the inputs can be tied together so 2 channels of input can be sent to 6 channels of output to drive 3 amplifiers with 9.5V RMS for each from a single pair of RCA inputs.

## OEM Adaptors

As we all know, it is becoming increasingly difficult to change head units in newer cars. Many consumers, and even some car audio dealers have the opinion that you have to settle for mediocre sound because factory units still sound bad even if you can add amplifiers. Well they are putting the blame in the wrong place. The problem is not the signal of the factory head unit. The problem is the passive LOC adaptors that are regularly used for the conversion. Passive LOCs drastically reduce the bass response and add distortion to the mids and highs. Zapco OEM Adaptors are all active devices designed to make a factory head unit sound as good as an aftermarket head unit. Smooth clean highs and a deep solid bottom end. And all Zapco processors are also 9.5 Volt line drivers.



Designed to make a factory head unit sound as good as an aftermarket head unit.



### ASP-OE8 8 Ch. Active OEM Adaptor

**8-ch Speaker Level Inputs  
8-ch RCA Outputs (9.5 Volts)**

High end op-amps and caps, low noise circuit design, channel summing built in, dash remote, beefy power supply.

### ASP-OE2 2 Ch. Active OEM Adaptor

**2-ch Speaker Level Inputs  
2-ch RCA Outputs (9.5 Volts)  
Bass Recovery**

ASP-OE2 re-equalizes the bass that so many car makers remove from the system at higher volumes to protect the factory woofers.  
Overall dim. (mm): 127(L) x 119(W) x 39(H)

### ASP-OEB 2 Ch. Active OEM Adaptor

**2-ch Speaker Level Inputs  
2-ch RCA Outputs (9.5 Volts)**

The ASP-OEB is a simple 2-Ch. in / 2-Ch. out unit, it is a true, active, OEM adaptor.  
Overall dim. (mm): 83(L) x 59(W) x 26(H)

### ASP-L2T 2 Ch. Line Conditioner/Noise Filter

**2-ch RCA Inputs  
2-ch RCA Outputs**

THD < 0.1 % from 20 to 20KHz  
Signal to Noise > 130 dB  
In/Out Voltage/Impedance: 1:1  
Overall dim. (mm): 100(L) x 59(W) x 26(H)



Zapco introduces the ASP-L2T signal noise eliminator. The ASP-L2T utilizes custom designed and custom wound high efficiency transformers and other high SQ components to remove the direct connection between the different reference ground systems and eliminate noise, without affecting the bass content of the signal and without adding distortion into the signal. Signal to Noise is over 130dB, and THD+Noise is less than 0.1%, and the signal level and impedance of the output are exactly the same as the input. No loss of Bass, no loss of Volume, and no added distortion.



# COMPETITION AMPLIFIERS

## Competition Amplifiers

### Z-AP Series

Class A/B Selected Components Audiophile Amplifiers

### Z-SP Series

Class A/B Competition Super Power Amplifiers

### Z-II Series

Class A/B and Class D Competition Sound Quality Amplifiers



We built an amplifier to set new sound quality standards for both home and car sound reproduction.

## The Z-AP Series - Audiophile amplifiers

Audiophile: An audio fanatic whose sole passion is accurate sound reproduction that brings all the purity of a live performance to recorded music. It is a familiar term with high-end home gear like McIntosh or Bryston, but a term always considered unattainable in the automotive environment. Zapco disagrees! In 1974 Zapco began a quest for perfect sonic reproduction. While perfection may be unattainable, the quest is no less worthy. In 2000 we introduced the C2K Competition amplifiers and in 2012 we introduced the new Z-Series amps with high end internal components matched for pure sound quality. This was our first line developed by listening rather than by measuring. That series was favorably compared to both McIntosh and Bryston home amps, and quickly went straight to the winner's circle in Audio contests. They were called the best Zapco ever. How did we respond? We said *"thank you, but we think we can do even better"*. And we did. We upgraded to top end audiophile caps and op-amps, redesigned the power supply, and made board modifications to create the Z-Series LX amps.

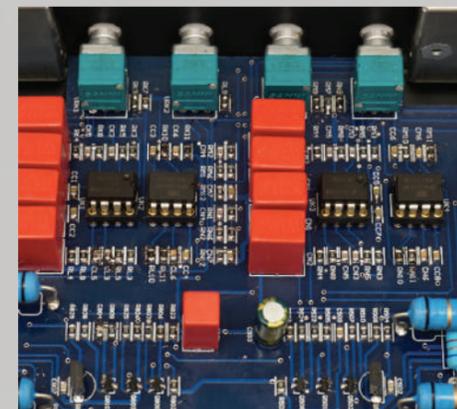
Not only did they top the car audio comparisons, but home speaker makers even brought their speakers to our CES suite to demonstrate what their speakers could do. The LX was beating their demo home amps in sound quality. How did Zapco respond? Again, we said *"thank you, but we think we can do even better"*. And we did! We built an amplifier to set new sound quality standards for both home and car sound reproduction. The Z-Series AP amplifiers. Home? Absolutely! In home or in car, the job of an amplifier is the same; pure, accurate sonic reproduction. The only difference is the power supply. If you really want to hear what your home speakers can do, get a AC~DC power supply and a Zapco Z-Series AP amplifier. Then you'll know why your car system can sound better than your home system.

**The Zapco Z-AP Series of Audiophile Amplifiers.**  
**The ultimate SQ amplifier designed by listening with ears as much as by measuring.**



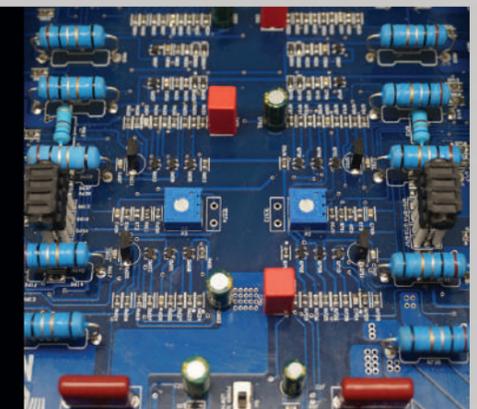
### How did we do it?

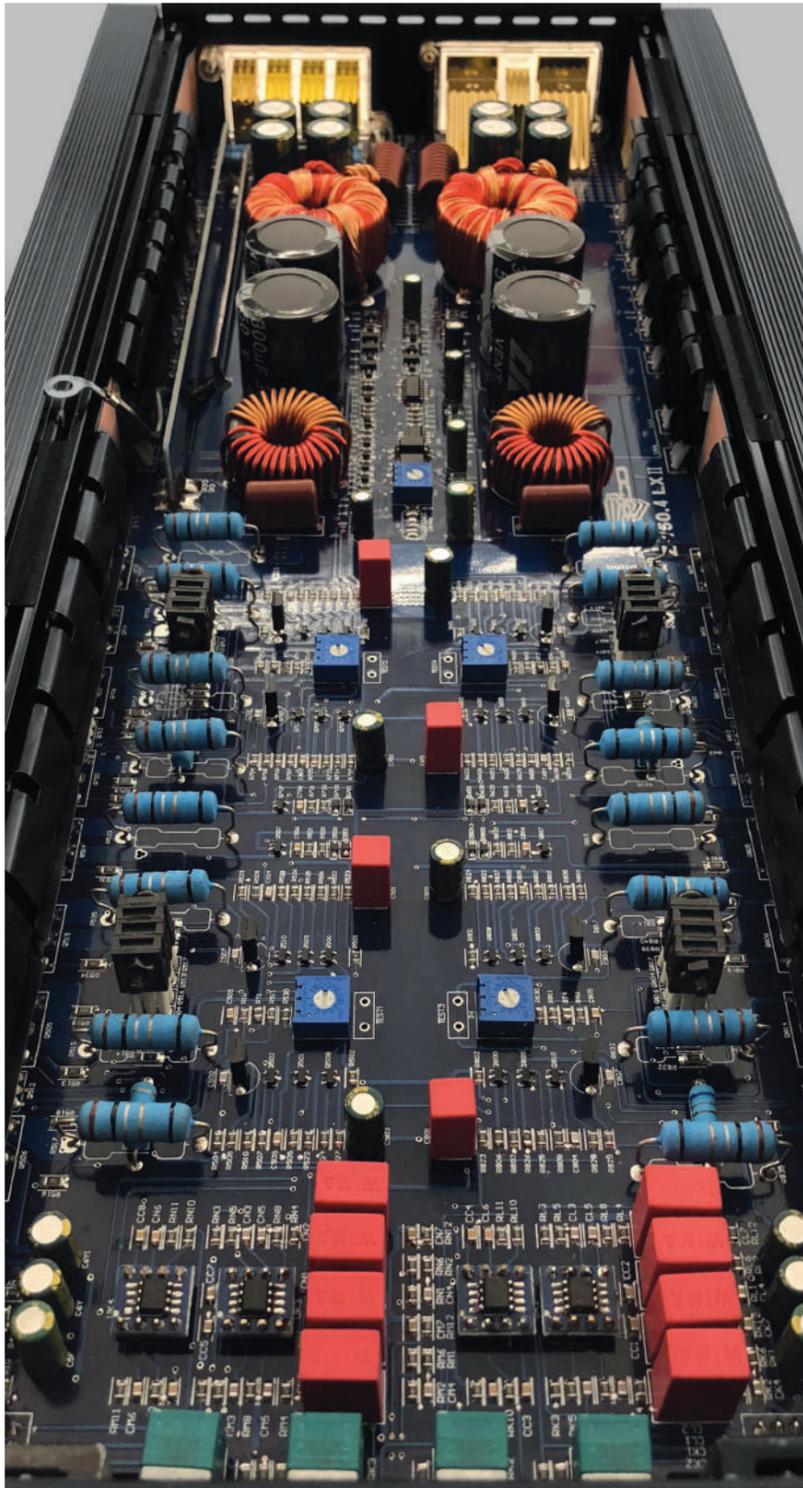
We took the best of the LX amp and we tweaked the circuitry. We had proprietary electrolytic caps made to our specs for the supply section. In the Signal path we replaced the electrolytics with the high-end WIMA poly caps. We used a new low noise, audio op-amp for the input stage and the smoothest audio op-amp we could find for the signal path (the right op-amp for the right job). We doubled the output drivers, and increased the operating voltage of the matched final output devices. To get heat off the output devices faster, and increase efficiency, we used a new insulator material developed for aerospace. At the differential input stage, we used 0.1% resistors... not 1% but 0.1%... to assure the lowest possible floor. We developed our own patented, multi ground RCA connectors with extra heavy gold plating for perfect signal transfer. We even improved the low noise gain pots had added detents to make watching levels a breeze. And what the heck! To top it all off, we gave it a new look, with a matt black finish and a solid copper plate with the logo and serial number right up front for posterity.



### Highlights

- Low distortion and signal to noise > 110dB
- Double the output drivers
- Highest HFE (Gain)
- Sanken selected output devices
- Differentially balanced input stage
- 0.1% resistors for lowest possible noise floor
- TI LME49723 (BJT) op-amps on the inputs
- TI LME49723 (BJT) op-amps in the signal path
- WIMA MKS2 series caps in the signal path
- Extremely low ESR caps throughout
- Proprietary patented RCA connectors





**Z-150.2 AP**  
**2 Ch. Class AB Audiophile Amp**  
 Stereo, 4 ohms: 2 x 150 Watts  
 Stereo, 2 ohms: 2 x 250 Watts  
 Bridged, 4 ohms: 1 x 500 Watts  
 S/N > 110 dB, Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: 10Hz - 30KHz

**Z-400.2 AP**  
**2 Ch. Class AB Audiophile Amp**  
 Stereo, 4 ohms: 2 x 400 Watts  
 Stereo, 2 ohms: 2 x 670 Watts  
 Bridged, 4 ohms: 1 x 1350 Watts  
 S/N > 110 dB, Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: 10Hz - 30KHz

**Z-150.4 AP**  
**4 Ch. Class AB Audiophile Amp**  
 Stereo, 4 ohms: 4 x 150 Watts  
 Stereo, 2 ohms: 4 x 250 Watts  
 Bridged, 4 ohms: 2 x 500 Watts  
 S/N > 110 dB, Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: 10Hz - 30KHz

**Z-150.6 AP**  
**6 Ch. Class AB Audiophile Amp**  
 Stereo, 4 ohms: 6 x 150 Watts  
 Stereo, 2 ohms: 6 x 250 Watts  
 Bridged, 4 ohms: 3 x 500 Watts  
 S/N > 110 dB, Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: 10Hz - 30KHz

**Z-1100.1 AP**  
**Mono Class AB Audiophile Amp**  
 Mono, 4 ohm: 1 x 670 Watts  
 Mono, 2 ohm: 1 x 1000 Watts  
 S/N > 110 dB, Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: N/A



The ultimate SQ amplifier designed by listening with ears as much as by measuring.

We get the possible smoothest, purest overall sound quality and a S/N ratio of over 110dB, to get all that pure sound quality in even the quietest of musical passages.





## Z-SP Series - Super power amplifiers

A purpose-built competition series amplifier is the Z-SP amplifier. SP as in Sound Pressure or Street Power. This Series comes from the needs to outfit cars that compete in the new category called "Street Power", in some competitions called "Street Demo". What is "Street Power"? Literally, power for demo and competition *on the Street*. An amplifier that will be used on the street, in the open spaces, with the doors open, to crank it up for all to hear. More long term, high volume use than in audiophile listening. What does this customer need? The highest volume (Sound Pressure) possible while still maintaining clean clear sound, that never shuts down from amplifier overheating. Not like audiophile listening so much as like a disco. Dance music! These amps can do it.

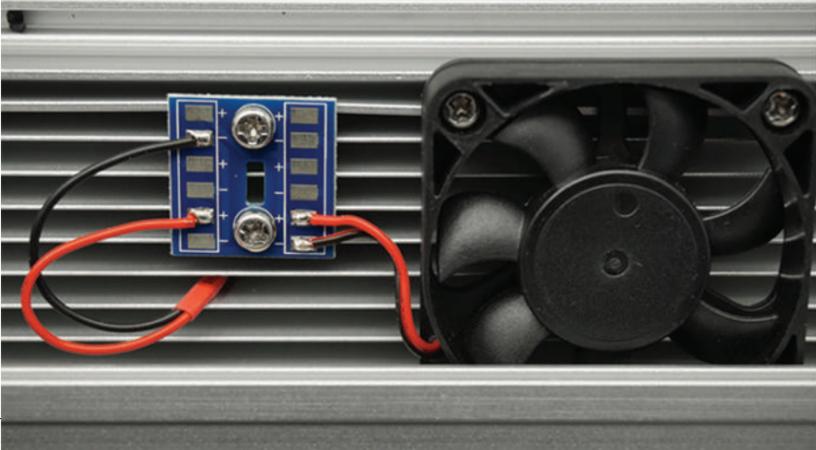
The Z-SP amplifiers can put out their maximum power, full volume, all day long, and never stop working because the thermal protection. How? First we added a cooling system with fans to avoid reaching the thermal protection temperature. Then we used a new space age technology to make the output devices cool much faster. We have also improved the power supply and increased the total power output. The efficiency is better and the sound quality also. In addition: We gave these amps all the preamp (crossover, bass boost, etc.) functions and features you could ask for.

**Power, efficiency, sound...improvements all around.  
The Zapco Z-Series SP Amplifiers.**



Power, efficiency, sound... improvements all around.

If you want competition level sound quality and want to blow the doors off at the same time, these are your amplifiers.



## A look inside the Z-SP Series

The Z-Series SP amps were a chance to make a completely new project. For the Z-SP Series we added differentially balanced inputs on our new proprietary gold plated RCA connectors, the latest op-amps, caps and output devices for the best coupling for top SQ, and improved the bias control. Then we added band passable crossovers, bass control, and more. The result: The SP amps have all the features you could want and still have signal to noise ratio of 105dB even with the crossovers in the signal path. For the Z-SP Series we introduced a new transistor insulator to make faster heat transfer from the devices to the aluminum heat sink. These insulators have the ability to transfer the heat at least twice as fast as traditional isolators like Mica, PVC, Silicon, etc. The mass of chassis aluminum has been increased by 20% and we added cooling fans (1 for each channel) inside the heat sink. Fan speed is regulated by a microprocessor that monitors heat sink temperature. Thanks to these two important improvements we have better power, more stability in the devices, and the heat sink temperature never reaches the limit of thermal protection. So the amplifiers never stop working.

### Z-150.2 SP

#### 2 Ch. Class AB Amplifier

**Stereo, 4 ohms:** 2 x 165 Watts  
**Stereo, 2 ohms:** 2 x 275 Watts  
**Bridged, 4 ohms:** 1 x 550 Watts  
 Tested voltage & THD: 14.4v /< 0.05%  
 Signal to Noise: 105 dB A with crossover  
 Frequency response: 10Hz - 30KHz

### Z-150.4 SP

#### 4 Ch. Class AB Amplifier

**Stereo, 4 ohms:** 4 x 165 Watts  
**Stereo, 2 ohms:** 4 x 275 Watts  
**Bridged, 4 ohms:** 2 x 550 Watts  
 Tested voltage & THD: 14.4v /< 0.05%  
 Signal to Noise: 105 dB A with crossover  
 Frequency response: 10Hz - 30KHz

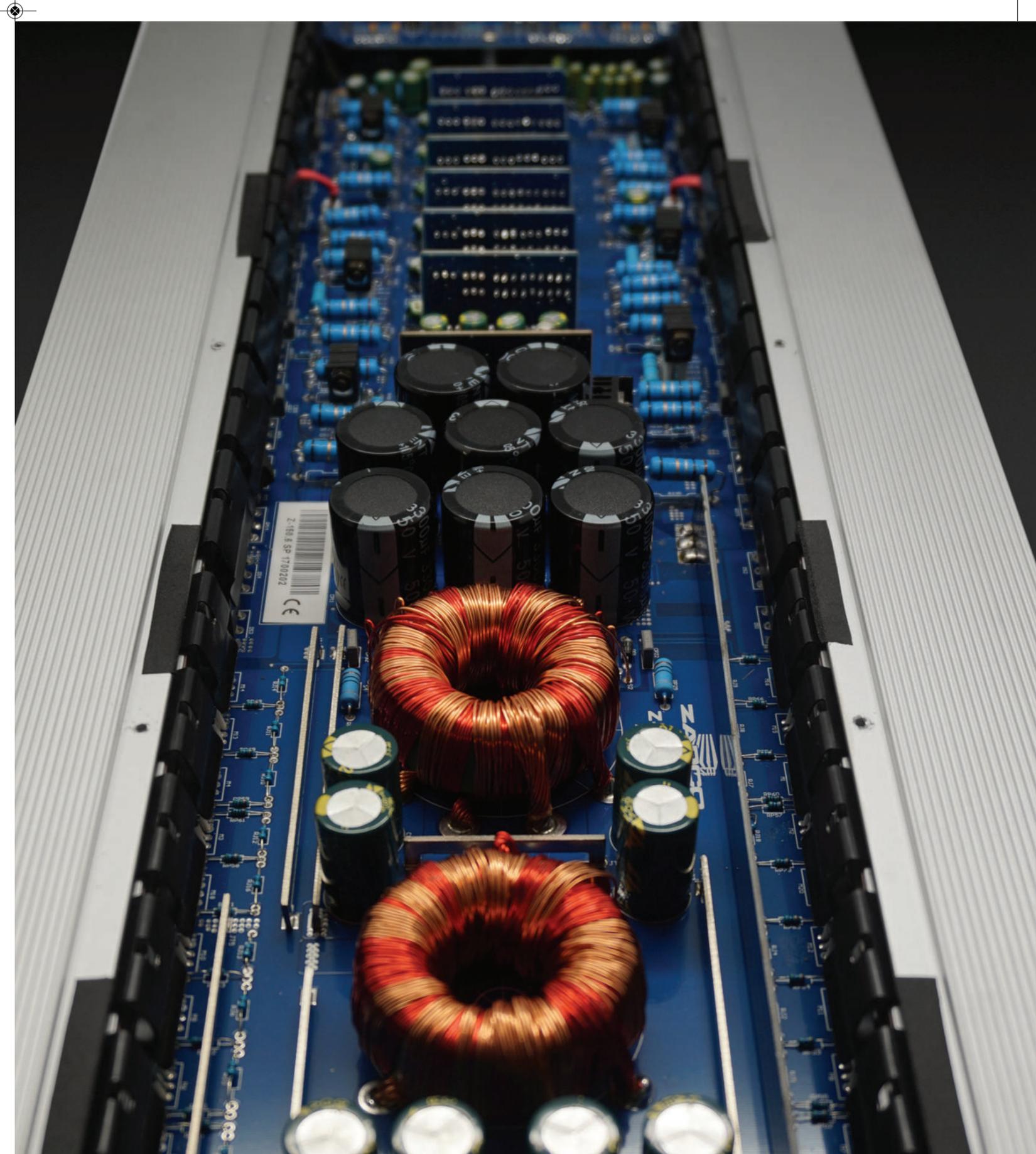
### Z-150.6 SP

#### 6 Ch. Class AB Amplifier

**Stereo, 4 ohms:** 6 x 165 Watts  
**Stereo, 2 ohms:** 6 x 275 Watts  
**Bridged, 4 ohms:** 3 x 550 Watts  
 Tested voltage & THD: 14.4v /< 0.05%  
 Signal to Noise: 105 dB A with crossover  
 Frequency response: 10Hz - 30KHz

### Z-BR II

#### Remote Control





## Z-II Series - Sound quality amplifiers

In 2012 Zapco introduced the new Z-Series of SQ amps. These amps were not conceived so much by our engineers, as by input from audiophiles and car sound fanatics around the world. Starting about 2004, at Zapco training seminars in Asia and in the EU, we began running into audiophiles who were changing certain internal components in our amplifiers to achieve what they felt was better quality sound. So for the Z-Series of Zapco amplifiers, we experimented with internal components and new circuits to see if we could take our amps to the next level of sound quality by investing in different internal components and circuit designs, and the resulting Z-Series amps were the results of this unique development method. Over the last years we have developed two new specialized amplifiers to take auto sound to a different level. The Z-Series AP amp, the ultimate SQ competition amp w/no controls

except gain and the Z-SP Series amps for the fanatics that want to play full-volume full-time but still get audiophile sound. We stepped back and took a look at the amp that started it all, the Z-Series amplifier. We knew we could bring the price down, because over the last few years we had consolidated all of our manufacturing to one location. This allowed us to build the Z-series AP and SP amps costing only a little more than the original Z-Series. But what could we do the make the new Z-Series better? We saw that a lot of the non-critical parts from the AP and SP amps could be used in the new Z-Series as well. Even with some of the non-critical SQ parts we save by buying more so we could use those in the Z-Series also. So the new Z-II series is here and with it, something virtually unheard of... More performance and a lower price art the same time.

- Here's the beef for the Class AB full range Competition Amps:
- A new TI op-amp that give the Z considerably better signal to noise ratio, with a lower floor noise
  - We used the same audiophile grade caps that we use in the LX and SP amps
  - We beefed up the power supply with more storage and less internal resistance and lower inductance for higher efficiency
  - We added more MOSFETS to the power supply for efficiency and current handling

**Z-150.2 II**  
**2 Ch. Class AB Amplifier**  
 Stereo, 4 ohms: 2 x 165 W 2 ohms: 2 x 275 W  
 Bridged, 4 ohms: 1 x 550 Watts  
 Signal to Noise > 100 dB  
 Tested voltage & THD: 14.4v /< 0.1%  
 Frequency response: 10Hz - 30KHz

**Z-150.4 II**  
**4 Ch. Class AB Amplifier**  
 Stereo, 4 ohms: 4 x 165 W 2 ohms: 4 x 275 W  
 Bridged, 4 ohms: 2 x 550 Watts  
 Signal to Noise > 100 dB  
 Tested voltage & THD: 14.4v /< 0.1%  
 Frequency response: 10Hz - 30KHz

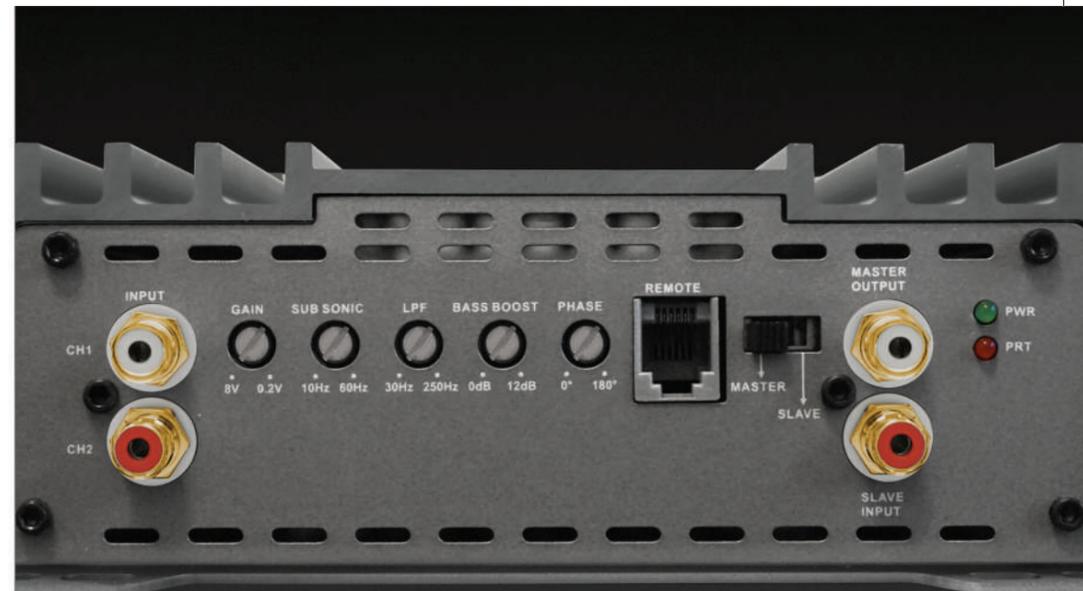
**Z-150.6 II**  
**6 Ch. Class AB Amplifier**  
 Stereo, 4 ohms: 6 x 165 W 2 ohms: 6 x 275 W  
 Bridged, 4 ohms: 3 x 550 Watts  
 Signal to Noise > 100 dB  
 Tested voltage & THD: 14.4v /< 0.1%  
 Frequency response: 10Hz - 30KHz

**Z-1KD II**  
**Mono Class D Amplifier**  
 Mono, 4 ohm: 1 x 450 W 2 ohm: 1 x 700 W  
 1 ohm: 1 x 1050 W Linked, 2 ohm: 1 x 1800 W  
 Tested voltage & THD: 14.4v /< 0.05%

**Z-2KD II**  
**Mono Class D Amplifier**  
 Mono, 4 ohm: 1 x 800 W 2 ohm: 1 x 1400 W  
 1 ohm: 1 x 2100 W Linked, 2 ohm: 1 x 3600 W  
 Tested voltage & THD: 14.4v /< 0.05%

**Z-3KD II**  
**Mono Class D Amplifier**  
 Mono, 4 ohm: 1 x 900 W 2 ohm: 1 x 1800 W  
 1 ohm: 1 x 3000 W Linked, 2 ohm: 1 x 6000 W  
 Tested voltage & THD: 14.4v /< 0.05%

**Z-BR II**  
**Remote Control**

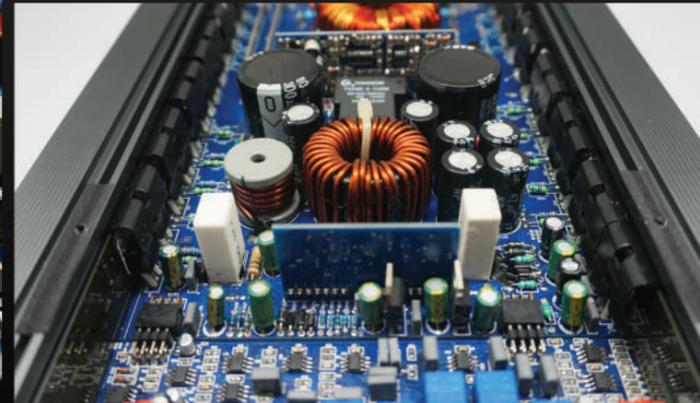
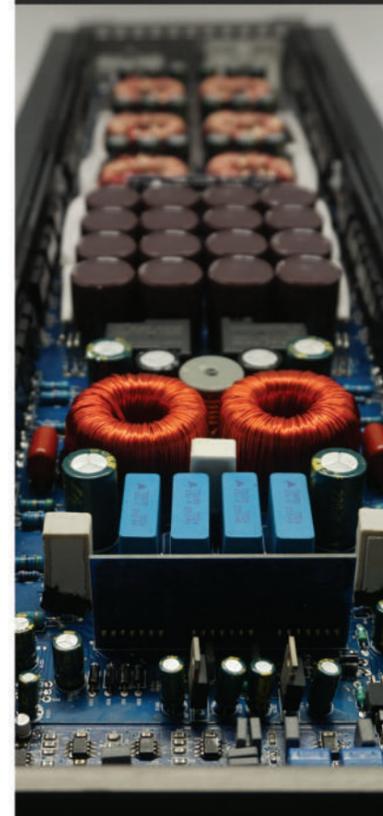


### More about Z mono amplifiers

- Dual MOSFET PWM power supplies - Stable into 1 ohm - RCA line input and line out
- Variable 12 dB bass boost equalization control - Variable 24 dB low pass (LPF) crossover
- Variable 180° phase shift - Selectable Master and Slave operation for strapped amplifiers
- Subsonic filter - Remote level control input

### Here's the beef for the Class D Competition Bass Amps:

- A beefed up power supply • Increased power
- New high end audio caps like the SQ amps • New TI low noise op-amps like the SQ amps
- Improved tiffany style panel mount RCA connectors
- The end plates are now recessed like the LX amps for a cleaner look
- The plastic controls have been replaced by the new metal pots and switches. The new pots also have detents (like the SP amps) at 40ea so you can accurately set crossovers and gains identical with multiple amplifiers





## Z-PS Series - AC to DC Power Supplies

Car Audio champions have been winning with Zapco amps for over 40 years. We give audio enthusiasts a new product that is both an accessory to the system and a tool for competitions. A low noise, high efficiency AC to DC power converter made to Zapco's standards, to drive Zapco amplifiers (or other DC powered devices) from a standard 110V or 220V AC outlet. Each one provides 100 amps of DC current variable from 9V to 16V, and multiple supplies can be "strapped" to give you up to 400 amps of current.

Whether it is in a workshop, office, home, or at a competition venue. Whether you want to keep your battery strong in audio competitions, save your battery during long tuning sessions, set up a test bench to evaluate audio systems, or compare the performance of your car amplifier to that of your home amplifier. These supplies will give you all the current you need, and housed in the Zapco competition chassis, they will look sharp doing it.



### Z-PS110B P100A 110V AC to DC Power Supply, 100A

**Adjustable Regulated Output Voltage from 9V to 16V**  
**Remote panel-mount Volt Meter**  
**Up to 100 Amps of current**  
**Switching Type**  
 Thermal shut-off protection  
 Over-current protection  
 Temperature controlled cooling fans  
 "Strappable" to combine up the 4 units  
 Dimensions (mm): 190(W) x 62(H) x 313(L)

### Z-PS220I P100A 220V AC to DC Power Supply, 100A

**Adjustable Regulated Output Voltage from 9V to 16V**  
**Remote panel-mount Volt Meter**  
**Up to 100 Amps of current**  
**Switching Type**  
 Thermal shut-off protection  
 Over-current protection  
 Temperature controlled cooling fans  
 "Strappable" to combine up the 4 units  
 Dimensions (mm): 190(W) x 62(H) x 313(L)

### Z-CB14V 50F Power Bank 50F, 14.4V

### Z-CB14V 100F Power Bank 100F, 14.4V



### More about Z-PS power supplies

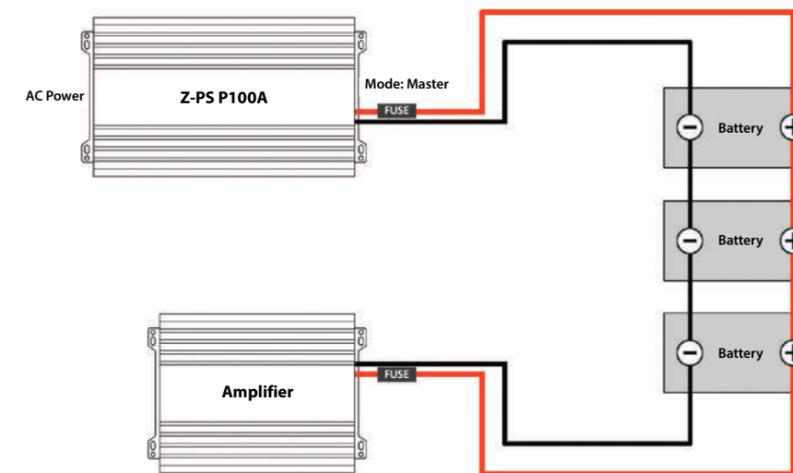
The Zapco P100A supplies were designed for maximum efficiency and versatility. The two models will be designated by AC Voltage for either 110V or 220V. However if you order one version and later need the other, yours can be quickly modified by your dealer or distributor. Both models can be used in conjunction with a battery or multiple batteries safely. The regulated pulse charging system adjusts the power supply's output to match your battery's needs without over-charging. The variable output voltage control lets you have the perfect voltage for your particular application's needs. You can have a little as 9 volts out to as much as 16 volts. Most automotive systems will be operating at between 13.5 and 14.4 volts when the engine is running. If you are making measurements of an amps performance it is critical to know exactly what the operating voltage is. For added accuracy, each Zapco P100A supply has a digital panel mount voltage meter included so you can constantly monitor the output.

**Features include:**

- Adjustable regulated output voltage from 9V~16V
- Remote panel-mount Volt Meter to monitor the output
- Up to 100 amps of current
- Units are "strappable" to combine up the 4 units, and provide up to 400 Amps of current. Each unit includes the connection cable for strapping multiple supplies
- Temperature controlled cooling fans
- Thermal shut-off protection
- Over-current protection
- Pulse charging to inhibit battery sulfating (overcharging)

### Using Power Supplies with Batteries

The Zapco power supplies can be used in combination with a battery or batteries, depending on the usage requirements. Multiple batteries must be connected in parallel. Up to four P100A power supplies can be strapped to provide more DC current if required by the powered device. Each supply will add 100 Amps to the circuit for a maximum of 400 Amps. The first supply in such a circuit must be set to Master. All following supplies are set to Slave, then the Master supply's voltage control will set the voltage for all the supplies.





# STUDIO AMPLIFIERS

## Studio Amplifiers

### ST-D Series

Class D Full Range Amplifiers, also with DSP and optional HD BT

### ST-X Series

Class A/B and D Amplifiers, also with DSP and optional HD BT

# ST-D Series - The new Class D Studio series

Over the last couple of years Zapco has introduced more than our pure high end SQ Competition amps. We have also introduced a line of great sounding amps in an affordable price range called the Studio series. The Studio D amps are full range Class D amps with great sound, a compact chassis, and more crystal clear power than ever. With the new ST-D SQ III Series, we added the proprietary RCA connectors, changed the capacitors to a higher end, and made a few other small changes. All this takes took the Studio sound to a new level of sonic performance for an affordable amplifier. And with the new finned aluminum chassis you wont have to worry about over heating if you like it both clean and loud. Temperature controlled keeps air moving but only when really needed.

This year we bring you also the totally new Mini amplifiers. These little beasts aren't just small, and they aren't just powerful. They have all the features of the larger amps... and optional HD Bluetooth streaming, so you can fire up the music on your phone, tablet, or other Bluetooth smart device.

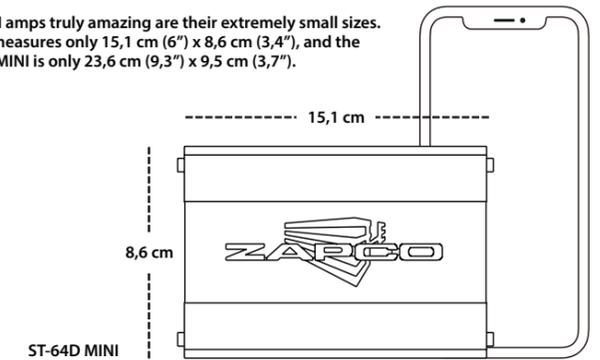
The Mini amps will automatically switch over to Bluetooth to grab that signal. The HD Bluetooth Module (optional) is a Qualcomm CSR8675 premium tier single-chip solution with 80 MHz DSP, delivering high quality wireless audio performance over Bluetooth and aptX HD making it an ideal choice for premium audio products.



## The new Mini-amplifiers

These little beasts aren't just small, and they aren't just powerful. They had to earn the Zapco name before we put them into production. But that's still not all there is to these new amps. They have all the advanced features you would expect... and more. Thanks to a brand new technology, we are able use the NXP Class D solution to get amazing power and performance in a incredibly compact chassis with over 90% efficiency. The Mini-Amps Series includes two 4-channel amps with 50 Watts RMS/Ch @ 4Ω (ST-64D MINI), and 95 Watts RMS/Ch @ 4Ω (ST-104D MINI) at less than 0.5% distortion, and a 530 Watts Mono amp. The ST-64D and ST-104D have also the HD Bluetooth Module port, so you can fire up the music on your phone, tablet, or other Bluetooth smart device.

What makes the MINI amps truly amazing are their extremely small sizes. The ST-64D MINI measures only 15,1 cm (6") x 8,6 cm (3,4"), and the ST-104D MINI is only 23,6 cm (9,3") x 9,5 cm (3,7").



**ST-64D SQ MINI**  
**4 Ch. Class D Mini Amplifier**  
**Stereo, 4 ohms:** 4 x 50 Watts  
**Stereo, 2 ohms:** 4 x 75 Watts  
**Bridged, 4 ohms:** 2 x 150 Watts  
 Tested voltage & THD: 14.4v /< 0.5%  
 Frequency response: 15Hz - 30KHz  
 Comm port for optional BT Module

**ST-104D SQ MINI**  
**4 Ch. Class D Mini Amplifier**  
**Stereo, 4 ohms:** 4 x 95 Watts  
**Stereo, 2 ohms:** 4 x 120 Watts  
**Bridged, 4 ohms:** 2 x 240 Watts  
 Tested voltage & THD: 14.4v /< 0.5%  
 Frequency response: 15Hz - 30KHz  
 Comm port for optional BT Module

**ST-500D SQ MINI**  
**Mono Class D Mini Amplifier**  
**Mono, 4 ohms:** 1 x 180 Watts  
**Mono, 2 ohms:** 1 x 320 Watts  
**Mono, 1 ohms:** 1 x 530 Watts  
 Tested voltage & THD: 14.4v /< 0.5%  
 Frequency response: 15Hz - 150Hz

**HD BT Module**  
**HD Bluetooth Module (opt.)**  
 Qualcomm CSR8675  
 Single-chip solution with 80 MHz DSP  
 aptX HD Support



**ST-204D SQ III**  
**4 Ch. Class D SQ Amplifier**  
**Stereo, 4 ohms:** 4 x 180 Watts  
**Stereo, 2 ohms:** 4 x 280 Watts  
**Bridged, 4 ohms:** 2 x 560 Watts  
 Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: 15Hz - 30KHz  
 HD Bluetooth port

**ST-206D SQ III**  
**6 Ch. Class D SQ Amplifier**  
**Stereo, 4 ohms:** 6 x 160 Watts  
**Stereo, 2 ohms:** 6 x 240 Watts  
**Bridged, 4 ohms:** 3 x 480 Watts  
 Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: 15Hz - 30KHz  
 HD Bluetooth port

**ST-204D DSP III**  
**4 Ch. Class D Amp/DSP**  
**Stereo, 4 ohms:** 4 x 160 Watts  
**Stereo, 2 ohms:** 4 x 240 Watts  
**Bridged, 4 ohms:** 2 x 480 Watts  
 Tested volt. & THD: 14.4v /< 0.05%  
 Freq. response: 15Hz - 30KHz  
 HD Bluetooth port

**ST-206D DSP III**  
**6 Ch. Class D Amp/DSP**  
**Stereo, 4 ohms:** 6 x 160 Watts  
**Stereo, 2 ohms:** 6 x 240 Watts  
**Bridged, 4 ohms:** 3 x 480 Watts  
 Tested volt. & THD: 14.4v /< 0.05%  
 Freq. response: 15Hz - 30KHz  
 HD Bluetooth port

## The new ST-D DSP amplifiers

New for 2022, Zapco offers two of the Studio D series amplifiers with on-board digital processing (DSP). To make tuning a breeze we developed and highly functional but easy to use control program (GUI) for PC, and for added convenience, you can make adjustments wirelessly with your smart device.





High quality caps, 5532 op-amps, and bi-polar outputs.  
This is a Zapco amplifier and sound is what it's all about.

## ST-X Series - Class AB Full range amplifiers

Zapco is committed to making every product we make better than the last. We introduced the ST-X amps in 2013. In 2015 we improved the PCB design and upgraded components to make the sonically improved ST-X II.

Three years ago we introduced the Studio-X SQ amplifier to take affordable sound quality to a new level. We added the proprietary RCA connectors from the Z-LX amplifiers, changed the capacitors to a higher end audio cap, and made a few other small changes. All this takes took the Studio sound to a new level of sonic performance.

This year we bring you the Studio-SQ III series with a new high efficiency finned chassis and temperature controlled fans to assure that your amplifier plays all day long with no problems of overheating, even when you get that urge to really boogie. And with the new chassis, we even made a few tweaks to the internal components to take the sound quality up another notch.

**These amps are built to last.  
See the Studio-X amps at a dealer today.**

### ST-X DSP III Series

The Studio line was designed to bring great Zapco sound quality to a line of compact chassis amplifiers. With top end internal components and innovative design, they have market leading performance. The new ST-DSP amps are the first to get the new Studio brushed aluminum finned chassis with thermal controlled fan cooling, to play hard all day long without shutting down. Both units have improved high speed (96KHz) digital signal processing for 8 channels to provide processed channels for an extra bass amp with the ST-6X DSP III and for two external amps with the ST-4X DSP III. Both units have analog input level controls with clip lights for the most accurate input gain setting possible. Both units have an optical digital input and a Zapco Comm Port to accept the optional Zapco BT modules for AptX HD Bluetooth music streaming (HD-BT II Module) or 5.1 Bluetooth music streaming and Player (BT 5.1 P Module). About the GUI, a new improved 30 Band Parametric EQ, plus all the other functions, will give you even more control on your DSP.

#### ST-4X DSP III

**Integrated 8 Ch. DSP / 4 Ch. Class AB Amp**

**Stereo, 4 ohms:** 4 x 70 Watts

**Stereo, 2 ohms:** 4 x 95 Watts

**Bridged, 4 ohms:** 2 x 190 Watts

Tested volt. & THD: 14.4v /< 0.05%

Freq. response: 15Hz - 30KHz

Comm port for optional BT Module

#### ST-6X DSP III

**Integrated 8 Ch. DSP / 6 Ch. Class AB Amp**

**Stereo, 4 ohms:** 6 x 100 Watts

**Stereo, 2 ohms:** 6 x 150 Watts

**Bridged, 4 ohms:** 3 x 300 Watts

Tested volt. & THD: 14.4v /< 0.05%

Freq. response: 15Hz - 30KHz

Comm port for optional BT Module



### ST-X DSP III Integrated 8 Ch. DSP / 4 Ch. Class AB Amp

**Stereo, 4 ohms:** 4 x 25 Watts  
**Stereo, 2 ohms:** 4 x 35 Watts  
**Bridged, 4 ohms:** 2 x 70 Watts  
 Tested volt. & THD: 14.4v / < 0.05%  
 Freq. response: 15Hz - 30KHz  
 Comm port for optional BT Module



### The new ST-X DSP III Main Features

- **High-Quality 8-Channel DSP** (with ADAU 1450 processor) that has 3V on **8 RCA low level's outputs** and **6 RCA low level's inputs**.
- **Integrated plug & play Amplifier** (with optional harnesses) with 6 high level inputs and 4 amplified outputs of 70 watts of maximum power in Class-AB for the best acoustic quality.
- **BT 5.1 P Module for Streaming and Player functions.** Player with USB flash memory for the most used files MP2, MP3, WMA, APE, FLAC, AAC, MP4, M4A, WAV, AIF, AIFC (optional).
- New improved **30 Band Parametric EQ**, plus all the other functions of our GUI.
- Mobile **APPs** for Android or iPhone for both DSP and Player control.

### How does the Player work?

The decoding according to the specified formats is done by the external module which also contains the BT 5.1 functions. The DSP is designed to accept this information in digital format and send it to the internal DAC converter, for the best transmission of the audio signal to the speaker outputs.

### BT 5.1 P Module Bluetooth & Player Module (optional)

5.1 Bluetooth Streaming  
 Integrated Music Palayer  
 Functions: Player/Streaming/Inputs/Data DSP



### HD BT II Module HD Bluetooth Module (optional)

aptX HD Bluetooth Streaming  
 Functions: Streaming/Inputs/Data DSP



## ST-X DSP Digital Control Program

The new Zapco ST-DSP GUI gives you all the great sound and functionality of our control programs and it adds the improved 30-Band Parametric EQ that will give you even more control on your DSP. We also provide the mobile APP (for Android and iOS devices) to allow you to setup and tune your system with your smart phone or tablet. The goal here was to have a control system that made sense in a smaller platform but would allow the user to do everything necessary for a complete setup and tune. When you open the App your smart device will sync to the settings that are in the active preset in your DSP, so you will always open the App to the settings you are listening to.



## Class A/B Sound Quality Amplifiers

Perfection cannot be achieved. But that does not make its pursuit less valuable. Zapco is committed to making every product we make better than the last. We introduced the ST-X amps in 2013. In 2015 we improved the PCB design and upgraded components to make the sonically improved ST-X II. Last year we began development of the Studio X SQ amplifier to take affordable sound quality to a new level. We added the proprietary RCA connectors from the Z-LX amplifiers, changed the capacitors to a higher end audio cap, and made a few other small changes. All this takes take the Studio sound to a new level of sonic performance for an affordable amplifier.

This year we bring you the Studio-SQ III series with a new high efficiency finned chassis and temperature controlled fans to assure that your amplifier plays all day long with no problems of overheating, even when you get that urge really boogie. And with the new chassis, we even made a few tweaks to the internal components to take the sound quality up another notch. As for performance, the Studio-X SQ III gives you more than power. These amps have less than 0.05% THD+noise and over 95dB signal to noise for multi-ch. amps; less than 0.2% THD+noise and over 85dB signal to noise for mono amps.

### ST-2X SQ III

#### 2 Ch. SQ Class AB Amp

**Stereo, 4 ohms:** 2 x 140 Watts  
**Stereo, 2 ohms:** 2 x 190 Watts  
**Bridged, 4 ohms:** 1 x 380 Watts  
 Tested voltage & THD: 14.4v /< 0.05%  
 Frequency response: 15Hz - 30KHz

### ST-4X SQ III

#### 4 Ch. SQ Class AB Amp

**Stereo, 4 ohms:** 4 x 70 Watts  
**Stereo, 2 ohms:** 4 x 95 Watts  
**Bridged, 4 ohms:** 2 x 190 Watts  
 Tested volt. & THD: 14.4v /< 0.05%  
 Freq. response: 15Hz - 30KHz

### ST-6X SQ III

#### 6 Ch. SQ Class AB Amp

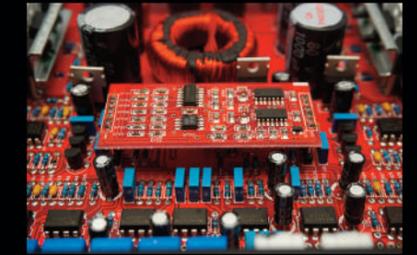
**Stereo, 4 ohms:** 6 x 100 Watts  
**Stereo, 2 ohms:** 6 x 150 Watts  
**Bridged, 4 ohms:** 3 x 300 Watts  
 Tested volt. & THD: 14.4v /< 0.05%  
 Freq. response: 15Hz - 30KHz



### ST-500XM III

#### Mono Class D Bass Amplifier

**Mono, 4 ohms:** 1 x 200 Watts  
**Mono, 2 ohms:** 1 x 300 Watts  
**Mono, 1 ohm:** 1 x 500 Watts  
 Tested voltage & THD: 14.4v /< 0.2%  
 Frequency response: 10Hz - 200Hz



### ST-1000XM III

#### Mono Class D Bass Amplifier

**Mono, 4 ohms:** 1 x 500 Watts  
**Mono, 2 ohms:** 1 x 750 Watts  
**Mono, 1 ohm:** 1 x 1000 Watts  
 Tested voltage & THD: 14.4v /< 0.2%  
 Frequency response: 10Hz - 150Hz

### ST-1500XM III

#### Mono Class D Bass Amplifier

**Mono, 4 ohms:** 1 x 750 Watts  
**Mono, 2 ohms:** 1 x 1100 Watts  
**Mono, 1 ohm:** 1 x 1650 Watts  
 Tested voltage & THD: 14.4v /< 0.2%  
 Frequency response: 10Hz - 150Hz

### ST-2000XM III

#### Mono Class D Bass Amplifier

**Mono, 4 ohms:** 1 x 1000 Watts  
**Mono, 2 ohms:** 1 x 1500 Watts  
**Mono, 1 ohm:** 1 x 2000 Watts  
 Tested voltage & THD: 14.4v /< 0.2%  
 Frequency response: 10Hz - 150Hz

### ST-BR

#### Remote Control

For all ST-XM amps

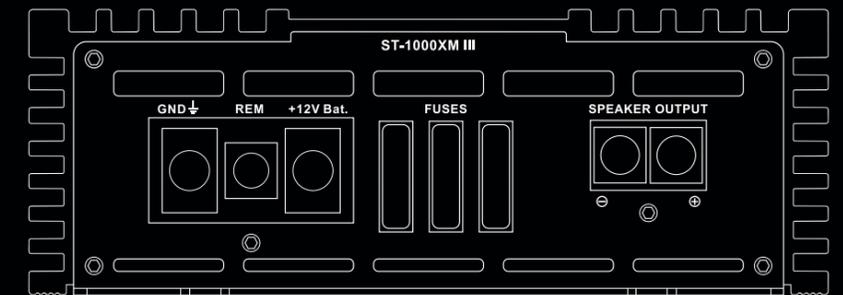
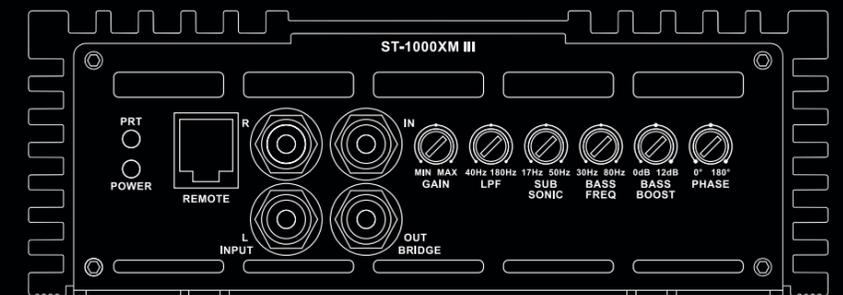


## Bass, Bass, Bass... and more Bass. Studio-XM III Class D Bass Amplifiers

Bass is only a small part of most any musical pieces, but it is what sets the mood for everything else. And, although everyone wants bass, everyone's needs for bass are not the same. In the Studio-X line we have four Class D, mono bass amplifiers, ranging from 500 Watts RMS to 2,000 watts RMS. And if that is not enough for you... all the Studio-XM III amps can be strapped together to a single voice coil, so you can always double your power by just buying another of the same model amp.

Here is what all the new ST-XM III amps share:

- Remote Dash Control
- Input Sensitivity (Gain) Control from 200mV to over 5 volts
- Mono Bridge Out and Mono Bridge In (Strapping)
- Low Pass Crossover from 40 to 180Hz
- Sub Sonic (HP) Filter • Bass Boost Control from 0dB to 12dB
- Bass Frequency Control to set the bass boost from 30Hz to 80Hz
- Phase Control variable from 0° to 180°





## The ST-B Series - Great sound for every day use

Zapco has a reputation for sound reproduction and quality that is unsurpassed. It is our dedication to sonic purity and our passion for performance that built Zapco's reputation. With all the new amps coming into the market, not one has been any threat to Zapco's standing as the premium amp and processor line. Just check the audio competition scene and the audio forums. The pros know what to use to win. But not everyone wants to compete. The question was this: could Zapco put it's 40-years of audio experience to work to develop an amp for every-day use? An amp that all can afford but that will stay true to the Zapco heritage for sound and reliability?

Absolutely! We can and we have! The new ST-B amps are a testament to the fact that you can build a quality product with great sound in an amplifier for every day use. With the Studio-B amplifiers Zapco brings the sound quality and reliability that built the Zapco legend to an amplifier that everyone can afford.

### An amp that all can afford but that will stay true to the Zapco heritage for sound and reliability? Absolutely! We can and we have!

While sound quality is always the number one factor in a Zapco design, there are other factors in the Studio design that make them "every-day" amps. The extruded aluminum chassis is more compact and lighter to make the studio series an easier fit in today's smaller cars. The feature set of the Studio amps provides you with all the system versatility you need without adding additional components, with everything from crossovers to preamp outputs, so multiple amps don't require extra signal cables. Power, price, size, and performance. No it's not designed specifically for competition. This is an amp designed to knock your socks of... in your car, for your daily use, every day. So go ahead... pop in your favorite disk, grab the volume control, and see if you don't agree that dedication to sonic purity is definitely a good thing.

#### ST-2B

##### 2 Ch. Class AB Amp

**Stereo, 4 ohms:** 2 x 65 Watts  
**Stereo, 2 ohms:** 2 x 90 Watts  
**Bridged, 4 ohms:** 1 x 180 Watts  
 Tested voltage & THD: 14.4v /< 0.1%  
 Frequency response: 20Hz - 20KHz

#### ST-4B

##### 4 Ch. Class AB Amp

**Stereo, 4 ohms:** 4 x 65 Watts  
**Stereo, 2 ohms:** 4 x 90 Watts  
**Bridged, 4 ohms:** 2 x 180 Watts  
 Tested voltage & THD: 14.4v /< 0.2%  
 Frequency response: 20Hz - 20KHz

#### ST-1B

##### Mono Class AB Bass Amplifier

**Mono, 4 ohms:** 1 x 200 Watts  
**Mono, 2 ohms:** 1 x 300 Watts  
 Tested voltage & THD: 14.4v /< 0.2%  
 Frequency response: 10Hz - 150Hz



#### Multi-Channel Amp Features:

- Stable into 4 ohms bridged or 2 ohms stereo load
- Input Sensitivity (Gain) Control
- MOSFET power supply
- RCA and OEM Speaker Level input
- RCA Outputs
- Variable FULL/LP/HP Electronic Crossover
- Variable Bass Boost



#### Mono Amp Features:

- Stable into 2 ohms load
- Input Sensitivity (Gain) Control
- MOSFET power supply
- RCA Inputs and Outputs
- Variable FULL/LP Electronic Crossover
- Variable Bass Boost
- Sub Sonic Filter
- Phase Control variable from 0° to 180°

### Z-Series Competition Amplifiers - Technical Specifications

Model	Type	Power (RMS) Tested at 14.4v	THD	S/N	Frequency Response	Crossover and Controls	Overall Dim. (mm) Chassis Dim. (mm)
<b>Z-AP Series</b> <b>Audiophile Amplifiers</b>	<b>Z-150.2 AP</b>	Class AB, 2-ch. 2 x 150W (stereo, 4Ω) 2 x 250W (stereo, 2Ω) 500W (bridged, 4Ω)	<0.05%	>110dB	10Hz - 30KHz	-	328(L) x 190(W) x 62(H) 301(L) x 190(W) x 62(H)
	<b>Z-400.2 AP</b>	Class AB, 2-ch. 2 x 400W (stereo, 4Ω) 2 x 670W (stereo, 2Ω) 1350W (bridged, 4Ω)	<0.05%	>110dB	10Hz - 30KHz	-	518(L) x 190(W) x 62(H) 482(L) x 190(W) x 62(H)
	<b>Z-150.4 AP</b>	Class AB, 4-ch. 4 x 150W (stereo, 4Ω) 4 x 250W (stereo, 2Ω) 2 x 500W (bridged, 4Ω)	<0.05%	>110dB	10Hz - 30KHz	-	479(L) x 190(W) x 62(H) 444(L) x 190(W) x 62(H)
	<b>Z-150.6 AP</b>	Class AB, 6-ch. 6 x 150W (stereo, 4Ω) 6 x 250W (stereo, 2Ω) 3 x 500W (bridged, 4Ω)	<0.05%	>110dB	10Hz - 30KHz	-	614(L) x 190(W) x 62(H) 573(L) x 190(W) x 62(H)
	<b>Z-1100.1 AP</b>	Class AB, Mono 1 x 670W (4Ω) 1 x 1000W (2Ω)	<0.05%	>110dB	N/A	-	521(L) x 190(W) x 62(H) 480(L) x 190(W) x 62(H)
<b>Z-SP Series</b> <b>Multi-channels</b>	<b>Z-150.2 SP</b>	Class AB, 2-ch. 2 x 165W (stereo, 4Ω) 2 x 275W (stereo, 2Ω) 550W (bridged, 4Ω)	<0.05%	>104dB	10Hz - 30KHz	HP/LP/Full 12dB Bass Boost	328(L) x 241(W) x 62(H) 301(L) x 241(W) x 62(H)
	<b>Z-150.4 SP</b>	Class AB, 4-ch. 4 x 165W (stereo, 4Ω) 4 x 275W (stereo, 2Ω) 2 x 550W (bridged, 4Ω)	<0.05%	>104dB	10Hz - 30KHz	HP/LP/Full 12dB Bass Boost	479(L) x 241(W) x 62(H) 455(L) x 241(W) x 62(H)
	<b>Z-150.6 SP</b>	Class AB, 6-ch. 6 x 165W (stereo, 4Ω) 6 x 275W (stereo, 2Ω) 3 x 550W (bridged, 4Ω)	<0.05%	>104dB	10Hz - 30KHz	HP/LP/Full 12dB Bass Boost	614(L) x 241(W) x 62(H) 573(L) x 241(W) x 62(H)
<b>Z-II Series</b> <b>Multi-channels</b>	<b>Z-150.2 II</b>	Class AB, 2-ch. 2 x 165W (stereo, 4Ω) 2 x 275W (stereo, 2Ω) 550W (bridged, 4Ω)	<0.1%	>100dB	10Hz - 30KHz	18dB HP/LP/Full 12dB Bass Boost	328(L) x 190(W) x 62(H) 301(L) x 190(W) x 62(H)
	<b>Z-150.4 II</b>	Class AB, 4-ch. 4 x 165W (stereo, 4Ω) 4 x 275W (stereo, 2Ω) 2 x 550W (bridged, 4Ω)	<0.1%	>100dB	10Hz - 30KHz	18dB HP/LP/Full 12dB Bass Boost	479(L) x 190(W) x 62(H) 444(L) x 190(W) x 62(H)
	<b>Z-150.6 II</b>	Class AB, 6-ch. 6 x 165W (stereo, 4Ω) 6 x 275W (stereo, 2Ω) 3 x 550W (bridged, 4Ω)	<0.1%	>100dB	10Hz - 30KHz	18dB HP/LP/Full 12dB Bass Boost Subsonic (ch5/6)	614(L) x 190(W) x 62(H) 573(L) x 190(W) x 62(H)
	<b>Z-1KD II</b>	Class D, Mono 450W (4Ω), 700W (2Ω) 1050W (1Ω) 1800W (linked, 2Ω)	<0.05%	>90dB	10Hz - 350Hz	24dB LP 12dB Bass Boost Subsonic, 180° Phase	305(L) x 190(W) x 62(H) 275(L) x 190(W) x 62(H)
	<b>Z-2KD II</b>	Class D, Mono 800W (4Ω), 1400W (2Ω) 2100W (1Ω) 3600W (linked, 2Ω)	<0.05%	>90dB	10Hz - 350Hz	24dB LP 12dB Bass Boost Subsonic, 180° Phase	486(L) x 190(W) x 62(H) 450(L) x 190(W) x 62(H)
<b>Z-3KD II</b>	Class D, Mono 900W (4Ω), 1800W (2Ω) 3000W (1Ω) 6000W (linked, 2Ω)	<0.05%	>90dB	10Hz - 350Hz	24dB LP 12dB Bass Boost Subsonic, 180° Phase	657(L) x 190(W) x 62(H) 620(L) x 190(W) x 62(H)	

### ST-Series Studio Amplifiers - Technical Specifications

Model	Type	Power (RMS) Tested at 14.4v	THD	S/N	Frequency Response	Crossover and Controls	Overall Dim. (mm) Chassis Dim. (mm)		
<b>ST-D Series</b>	<b>MINI Amps</b>	<b>ST-64D SQ MINI</b>	Class D, 4-ch., opt. HD BT 4 x 50W (stereo, 4Ω) 4 x 75W (stereo, 2Ω) 2 x 150W (bridged, 4Ω)	<0.1%	>90dB	15Hz- 30KHz	HP/LP/Full 12dB Bass Boost	151(L) x 86(W) x 42(H) 133(L) x 86(W) x 42(H)	
		<b>ST-104D SQ MINI</b>	Class D, 4-ch., opt. HD BT 4 x 95W (stereo, 4Ω) 4 x 120W (stereo, 2Ω) 2 x 240W (bridged, 4Ω)	<0.1%	>90dB	15Hz- 30KHz	HP/LP/Full 2/4ch Input Mode	236(L) x 95(W) x 37(H) 214(L) x 95(W) x 37(H)	
		<b>ST-501D SQ MINI</b>	Class D, Mono 180W (4Ω), 320W (2Ω) 530W (1Ω)	<0.1%	>100dB	10Hz- 350Hz	LP 12dB Bass Boost Subsonic, Phase	206(L) x 86(W) x 42(H) 188(L) x 86(W) x 42(H)	
	<b>SQ Amps</b>	<b>ST-204D SQ III</b>	Class D, 4-ch., opt. HD BT 4 x 180W (stereo, 4Ω) 4 x 280W (stereo, 2Ω) 2 x 560W (bridged, 4Ω)	<0.1%	>90dB	15Hz- 30KHz	HP/LP/Full 12dB Bass Boost	325(L) x 160(W) x 58(H) 300(L) x 160(W) x 58(H)	
		<b>ST-206D SQ III</b>	Class D, 6-ch., opt. HD BT 6 x 160W (stereo, 4Ω) 6 x 240W (stereo, 2Ω) 3 x 480W (bridged, 4Ω)	<0.1%	>90dB	15Hz- 30KHz	HP/LP/Full 12dB Bass Boost	N/A N/A	
		<b>ST-204D DSP III</b>	Class D, DSP, opt. HD BT 4 x 160W (stereo, 4Ω) 4 x 240W (stereo, 2Ω) 2 x 480W (bridged, 4Ω)	<0.1%	>90dB	15Hz- 30KHz	Full DSP Functions	325(L) x 160(W) x 58(H) 300(L) x 160(W) x 58(H)	
	<b>DSP Amps</b>	<b>ST-206D DSP III</b>	Class D, DSP, opt. HD BT 6 x 160W (stereo, 4Ω) 6 x 240W (stereo, 2Ω) 3 x 480W (bridged, 4Ω)	<0.1%	>90dB	15Hz- 30KHz	Full DSP Functions	N/A N/A	
		<b>Sound Quality</b>	<b>ST-2X SQ III</b>	Class AB, 2-ch. 2 x 140W (stereo, 4Ω) 2 x 190W (stereo, 2Ω) 380W (bridged, 4Ω)	<0.1%	>95dB	15Hz- 30KHz	HP/LP/Full 12dB Bass Boost	325(L) x 160(W) x 58(H) 300(L) x 160(W) x 52(H)
			<b>ST-4X SQ III</b>	Class AB, 4-ch. 4 x 70W (stereo, 4Ω) 4 x 95W (stereo, 2Ω) 2 x 190W (bridged, 4Ω)	<0.1%	>95dB	15Hz- 30KHz	HP/LP/Full 12dB Bass Boost	325(L) x 160(W) x 58(H) 300(L) x 160(W) x 58(H)
	<b>ST-6X SQ III</b>		Class AB, 6-ch. 6 x 100W (stereo, 4Ω) 6 x 150W (stereo, 2Ω) 3 x 300W (bridged, 4Ω)	<0.1%	>95dB	15Hz- 30KHz	HP/LP/Full 12dB Bass Boost	475(L) x 160(W) x 58(H) 450(L) x 160(W) x 58(H)	
<b>ST-X Series</b>	<b>DSP Amps</b>	<b>ST-X DSP III</b>	Class AB, DSP, opt. HD BT 4 x 25W (stereo, 4Ω) 4 x 35W (stereo, 2Ω) 2 x 70W (bridged, 4Ω)	<0.1%	>95dB	15Hz- 30KHz	Full DSP Functions	155(L) x 160(W) x 58(H) 130(L) x 160(W) x 58(H)	
		<b>ST-4X DSP III</b>	Class AB, DSP, opt. HD BT 4 x 70W (stereo, 4Ω) 4 x 95W (stereo, 2Ω) 2 x 190W (bridged, 4Ω)	<0.1%	>95dB	15Hz- 30KHz	Full DSP Functions	309(L) x 160(W) x 58(H) 284(L) x 160(W) x 58(H)	
		<b>ST-6X DSP III</b>	Class AB, DSP, opt. HD BT 6 x 100W (stereo, 4Ω) 6 x 150W (stereo, 2Ω) 3 x 300W (bridged, 4Ω)	<0.1%	>95dB	15Hz- 30KHz	Full DSP Functions	488(L) x 160(W) x 58(H) 452(L) x 160(W) x 58(H)	
	<b>Mono</b>	<b>ST-500XM III</b>	Class D, Mono 200W (4Ω), 300W (2Ω) 500W (1Ω)	<0.1%	>100dB	10Hz- 200Hz	LP 12dB Bass Boost Subsonic	225(L) x 160(W) x 58(H) 200(L) x 160(W) x 58(H)	
		<b>ST-1000XM III</b>	Class D, Mono 450W (4Ω), 750W (2Ω) 1050W (1Ω)	<0.1%	>100dB	10Hz- 150Hz	LP 12dB Bass Boost Subsonic	325(L) x 160(W) x 58(H) 300(L) x 160(W) x 58(H)	
<b>ST-1500XM III</b>		Class D, Mono 750W (4Ω), 1100W (2Ω) 1650W (1Ω)	<0.1%	>100dB	10Hz- 150Hz	LP 12dB Bass Boost Subsonic	400(L) x 160(W) x 58(H) 375(L) x 160(W) x 58(H)		
<b>ST-2000XM III</b>	Class D, Mono 1000W (4Ω), 1500W (2Ω) 2000W (1Ω)	<0.1%	>100dB	10Hz- 150Hz	LP 12dB Bass Boost Subsonic	475(L) x 160(W) x 58(H) 450(L) x 160(W) x 58(H)			
<b>ST-B Series</b>	<b>Amps</b>	<b>ST-2B</b>	Class AB, 2-ch. 2 x 65W (stereo, 4Ω) 2 x 90W (stereo, 2Ω) 1 x 180W (bridged, 4Ω)	<0.1%	>97dB	20Hz- 20KHz	HP/LP/Full 12dB Bass Boost	230(L) x 182(W) x 52(H) 200(L) x 182(W) x 52(H)	
		<b>ST-4B</b>	Class AB, 4-ch. 4 x 65W (stereo, 4Ω) 4 x 90W (stereo, 2Ω) 2 x 180W (bridged, 4Ω)	<0.2%	>97dB	20Hz- 20KHz	HP/LP/Full 12dB Bass Boost	310(L) x 182(W) x 52(H) 280(L) x 182(W) x 52(H)	
		<b>ST-1B</b>	Class AB, Mono 200W (4Ω) 300W (2Ω)	<0.2%	>97dB	N/A	HP/LP/Full 12dB Bass Boost	310(L) x 182(W) x 52(H) 280(L) x 182(W) x 52(H)	

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