



*...is all you need*



- SHX 854
- SHX 804
- SHX 1054
- SHX 1004
- SHX 1254
- SHX 1204
- SHX 1502
- SHX 1504

**SHX HIGH PERFORMANCE SUBWOOFER**

### CONGRATULATIONS !

You now own an EXCURSION SHX High Performance Subwoofer, the product of an uncompromising design and german engineering philosophy. A product made from Car Audio fanatics who truly believe in the relentless pursuit of perfection.

EXCURSION Subwoofer are the result of several decades of product improvements, competition, innovation and highest quality parts and control standards in industry. When properly installed these speakers will provide you with many years of listening pleasure and are the perfect balance between high fidelity, extreme performance and long-lasting reliability.

Should your SHX Subwoofer ever need a service, Please record your information on the following lines to refer to in the event that you may need it later.

Dealer's Name \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Installation Shop \_\_\_\_\_

Installation Date \_\_\_\_\_

At EXCURSION Intl. we are confident you will have many years of outstanding enjoyment from your high performance investment. For maximum performance we recommend that you have your new EXCURSION SHX Subwoofer installed by an exclusive Authorized EXCURSION Dealer

To learn more about EXCURSION, please visit us on the World Wide Web at

<http://www.excursion.us>

#### **CAUTION !**

Continuous exposure to sound pressure levels in excess of 100dB can cause permanent hearing loss. EXCURSION Speakers are capable of producing sound pressure levels well over 170dB. Please observe all local sound ordinances while listening to your EXCURSION System. EXCURSION Intl. accepts no liability for hearing loss, bodily injury, or property damage due to the result of use or misuse of this product.

## EXCURSION SHX SUBWOOFER FEATURE

**5-Layer Black Paper/Wool Cone with Glasfiber reinforcement:** The cone and its choice of material effect almost everything in regard to the Sound Quality of the subwoofer. While the cone must remain exceptionally stable under the stress of high sound pressure levels a well balanced formula of maximum stiffness at minimum weight is the prior target next to a high grade internal damping for reproduction from the deepest bottom signals. We at EXCURSION especially took care at this keypoint of a subwoofer and designed an aerial sandwich technology of natural paper and wool material with Glasfiber reinforcement to increase stiffness and accurate sound. Complex pressed all together into one piece our cone design include another statical gap in the center of cone suit our dustcap with perfect integration.

**3D EXCURSION Dustcap Design:** The impressiv and agressiv looking of our dustcap is only the welcome side effect of a very carfully research of its technolgy. We are confident that we have designed the lightest dustcap at this stiffness on the market. This is statical caused of our Logo design with a pair of 3D outer Circle and of course the 3D X-Design and only a minimum of high grade Polypropylen material.

**Rigid tooled fully vented Steel Basket:** Their symmetrical design together with the stamped EXCURSION logos ensure outstanding static, aerodynamic and stiffness of our EXCURSION steel baskets. This results in maximum excursion in an extremly rigid non-resonant frame, which fix motor structure and all moving parts together. Coated with black antivibration colour the baskets are acoustical deaden to provide best results. We at EXCURSION took especially care of maximum cooling of voice coil. All baskets are perimeter vented below the spider for maximum heat transfer, knowing that a cool voice coil is able to take more power and handle more power.

**Voice Coils:** The heart of EXCURSION Subs are the 2" and 2.5" carefully designed Voice Coils. At SHX Subwoofers we even topped ourselves. We ensured with extra vents in the upper aluminium former a fully air cooling circle flow between pole piece of motor and perimeter ventilation of the steel basket. This progress at every stroke they do and keep the coil fully air conditioned for maximum performance. Using the finest pure copper for this monster coils, precise winded on aluminium formers back up the powerful long life of your investment without heart attack.

**Up to 230 once Motor Structure:** The motor structure of a Subwoofer drives the cone. Just like an engine of a car our engines allow your SHX Subwoofer transfer a very lot of Power while our linear spider with wooven tinseal ensure precise linear movements. Our extra bumped and aero pole vented backplates take care of no limits for the coil.

### Pre-Installation Instructions:

It is recommended that you have your new EXCURSION SHX Subs professionally installed by your authorized EXCURSION dealer. This will ensure use of proper installation techniques & materials. If you choose to perform your own installation, the following instruction will give you direction making your purchase complete.

The factors for the port area are manifold and can not be reduced only to depend on the cone area of the woofer that is used. But at least it is a good advice not to go with less than  $1/7$  of the cone area for ported and  $1/4$  for bandpass enclosures.

While you are building up and tuning your sub system you should use a trial-port. This should be longer than calculated or recommended. While tuning the system you can find the best sounding length by shortening the port in approx 2 cm steps. The final tuning in the car does not only result out of what you do with the port. Also the position of the port in the enclosure and surrounding areas and position in the trunk have notable impact. The load-through of rear seats are also uncalculable as well size and construction type of the car. This easy effect with different results.

Please do NOT use carpet or cloth within the port or inside the enclosure. It has bad effects on the air flow. It is recommended to round up the ends of the port and ensure a glossy surface where ever the air moves inside the enclosure or port. The moving air mass will speed up and thank you by producing less side noises.

You can also prevent the port itself from resonating. The techniques are the same as you know from building enclosures or damping doors. You can use energy absorbing material or you can raise the stiffness of the port by bracing.

To have your subwoofer system playing clear and accurate you must follow the idea of an acoustical "dead" workplace, with just the moving cone. First of all, the enclosure itself might be not rigid enough. In most cases you can raise the stiffness by implementing braces, that connect in best way four walls. Or at least stiff up the baffle against back-wall. You can build enclosures with wallthickness of many centimetres, but bracing will have same effect with less weight! Now, when your enclosure is stiff and rigid to save you against bomb attacks, you can put it in your trunk. Do not forget it is important to fix it in the trunk of your car.

**For further direction consult an authorized EXCURSION installation specialist**

If you are intending to use multiple subwoofers in your system, EXCURSION recommends having separate chambers for each subwoofer if the subwoofers will be operated by different amplified signals. This prevents possible cancellation.

**WARNING:** The use of silicone rubber to seal in a speaker will void the Warranty! If sealing is needed to the speaker gasket, use caulking cord or vinyl weather strip.

**IMPORTANT:** Never cut any metal that is an integral part of an automobile's safety or structural support system.

**NOTE:** EXCURSION strongly recommends that you operate the complete audio system at low volume before final installation of your SHX Series Subwoofers. This will allow a trial listening test to set maximum volume without distortion.

**CAUTION:** Make sure that all speaker wiring is fully protected from cutting or wear. Any short circuits developing as a result could severely damage the radio unit or amplifier. Make sure that all speaker wires easily reach the speaker terminals without stress on the wire or connectors.

#### PREPARING FOR INSTALLATION

**Note: The tools listed below may be required for proper installation.**

- \* An electric drill with drill bits
- \* Phillips-head and standard screwdrivers
- \* Crimping tool and needle-nose pliers
- \* Silicone sealant or closed cell weather-stripping
- \* Metal file, Hole saw, Tin Snips, Wire strippers

#### INSTALLATION PRECAUTIONS

**Note: Proceed only if you are a qualified installer otherwise let your dealer do it.**

- \* Always wear protective eyewear when using tools
- \* Turn OFF all stereo and other electrical devices before you begin
- \* Disconnect the (-) negative lead from your vehicle's battery.
- \* Keep the speakers in the package until final installation.
- \* Locate fuel lines, brake lines, oil lines, electrical cables when planning installation.
- \* Check to see clearance behind the mounting surface before installing speakers.
- \* When running speaker wires through sheet metal, be sure to use grommets to properly insulate the wires from metal edges.

## 8" TSP DATAS & ENCLOSURE RECOMMENDATION

### **SHX-8S4**

VC: 4 ohm  
Test: 3.3 ohms  
Fs: 41.3 Hz  
SD: 206.1 sqCM  
Vas: 20.3 Ltr  
Cms: 336.7  $\mu\text{M/N}$   
Mms: 43.95 g  
BL<sup>TM</sup>: 8.89  
Qms: 4.967  
Qes: 0.478  
Qts: 0.436  
No: 0.291%  
Splo: 86.7 dB  
Xmax: 7 mm

### **Optimum Ported 8" SPL Box :**

Internal Volume: 30,3 Liter  
VB nett Volume: 26,6 Liter  
Port Diameter: 1x 100 mm  
Port Length: 250 mm  
F3: 41,9 Hz  
FB: 53,4 Hz

### **Enclosure Metrics**

MDF: 19 mm  
Wide: 490 mm  
Height: 260 mm  
Depth: 345 mm

### **SHX-8D4**

VC: 2x 4 ohm  
Test: 1.7 ohms  
Fs: 45,0Hz  
SD: 206.1 sqCM  
Vas: 18.1 Ltr  
Cms: 300.559  $\mu\text{M/N}$   
Mms: 41.59 g  
BL<sup>TM</sup>: 6.136  
Qms: 3.847  
Qes: 0.531  
Qts: 0.467  
No: 0.301%  
Splo: 86.8 dB  
Xmax: 7 mm

### **Optimum Ported 8" SQPL Box :**

Internal Volume: 20,8 Liter  
VB nett Volume: 16,0 Liter  
Port Wide: 238 mm  
Port Height: 25 mm  
Port Length: 359 mm  
F3: 44,1 Hz - FB: 54,4 Hz

### **Enclosure Metrics**

MDF: 19 mm  
Wide: 276 mm  
Height: 315 mm  
Depth: 360 mm

**10" TSP DATAS & ENCLOSURE RECOMMENDATION**

**SHX-10S4**

VC: 4 ohm  
 Test: 3.2 ohms  
 Fs: 34.4 Hz  
 SD: 314.16 sqCM  
 Vas: 28,6 Ltr  
 Cms: 204.1  $\mu$ M/N  
 Mms: 104,56 g  
 BL™: 12.264  
 Qms: 5.774  
 Qes: 0.482  
 Qts: 0.44  
 No: 0.24%  
 Splo: 85.7 dB  
 Xmax: 9.5 mm

**Optimum Ported  
 10" SPL Box :**

Internal Volume: 42,8 Liter  
 VB nett Volume: 38,8 Liter  
 Port Diameter: 2x 75 mm  
 Port Length: each 240 mm  
 F3: 41,5 Hz  
 FB: 49,4 Hz

**Enclosure Metrics**

MDF: 19 mm  
 Wide: 540 mm  
 Height: 310 mm  
 Depth: 355 mm

**SHX-10D4**

VC: 2x 4 ohm  
 Test: 1.7 ohms  
 Fs: 33,8 Hz  
 SD: 314.159 sqCM  
 Vas: 31,66 Ltr  
 Cms: 225,8  $\mu$ M/N  
 Mms: 98,13 g  
 BL™: 7.69  
 Qms: 4.933  
 Qes: 0.599  
 Qts: 0.534  
 No: 0.20%  
 Splo: 85 dB  
 Xmax: 9.5 mm

**Optimum Ported  
 10" SQPL Box :**

Internal Volume: 40,0 Liter  
 VB nett Volume: 31,3 Liter  
 Port Height: 38 mm  
 Port Wide: 332 mm  
 Port Length: 390 mm  
 F3: 44,8 Hz - FB: 53,0 Hz

**Enclosure Metrics**

MDF: 19 mm  
 Wide: 370 mm  
 Height: 400 mm  
 Depth: 385 mm

## 12" TSP DATAS & ENCLOSURE RECOMMENDATION

### **SHX-12S4**

VC: 4 ohm  
Test: 3.2 ohms  
Fs: 30.5 Hz  
SD: 510.7 sqCM  
Vas: 72,9 Ltr  
Cms: 196.9  $\mu$ M/N  
Mms: 138,67 g  
BL<sup>TM</sup>: 13.31  
Qms: 5.450  
Qes: 0.479  
Qts: 0.441  
No: 0.416%  
Splo: 88.2 dB  
Xmax: 9.5 mm

### **Optimum Ported 12" SPL Box :**

Internal Volume: 56,2 Liter  
VB nett Volume: 49,2 Liter  
Port Diameter: 2x 100 mm  
Port Length: each 250 mm  
F3: 46,2 Hz  
FB: 55,0 Hz

### **Enclosure Metrics**

MDF: 19 mm  
Wide: 540 mm  
Height: 360 mm  
Depth: 360 mm

### **SHX-12D4**

VC: 2x 4 ohm  
Test: 1.7 ohms  
Fs: 28.2 Hz  
SD: 510.7 sqCM  
Vas: 84.84 Ltr  
Cms: 229,065  $\mu$ M/N  
Mms: 139 g  
BL<sup>TM</sup>: 9.16  
Qms: 4.652  
Qes: 0.499  
Qts: 0.451  
No: 0.317  
Splo: 87.7 dB  
Xmax: 9.5 mm

### **Optimum Ported 12" SQPL Box :**

Internal Volume: 51,0 Liter  
VB nett Volume: 39,0 Liter  
Port Wide: 382 mm  
Port Height: 42 mm  
Port Length: 390 mm  
F3: 46,6 Hz - FB: 53,0 Hz

### **Enclosure Metrics**

MDF: 19 mm  
Wide: 420 mm  
Height: 450 mm  
Depth: 380 mm



**15" TSP DATAS & ENCLOSURE RECOMMENDATION****SHX-15D2**

VC: 2x2 ohm  
Test: 1 ohms  
Fs: 27.4 Hz  
SD: 829.58 sqCM  
Vas: 166.86 Ltr  
Cms: 170.75  $\mu$ M/N  
Mms: 197.49 g  
BL<sup>TM</sup>: 7,707  
Qms: 5.548  
Qes: 0.573  
Qts: 0.519  
No: 0.58%  
Splo: 89,7 dB  
Xmax: 12 mm

**Optimum Ported  
15" SPL Box :**

Internal Volume: 70,5 Liter  
VB nett Volume: 60,0 Liter  
Port Diameter: 2x 100 mm  
Port Length: each 250 mm  
F3: 41,0 Hz  
FB: 50,0 Hz

**Enclosure Metrics**

MDF: 19 mm  
Wide: 630 mm  
Height: 420 mm  
Depth: 352 mm

**SHX-15D4**

VC: 2x 4 ohm  
Test: 1,7 ohms  
Fs: 28.9 Hz  
SD: 829.58 sqCM  
Vas: 134.84 Ltr  
Cms: 137.35  $\mu$ M/N  
Mms: 219.09 g  
BL<sup>TM</sup>: 10,021  
Qms: 5.633  
Qes: 0.679  
Qts: 0.606  
No: 0.46%  
Splo: 88,7 dB  
Xmax: 12 mm

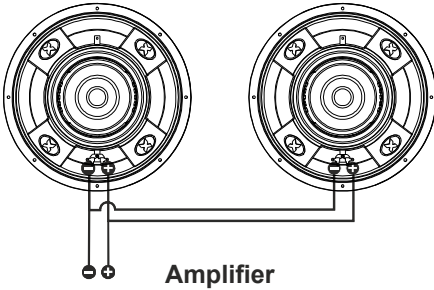
**Optimum Ported  
15" SQPL Box :**

Internal Volume: 90,5 Liter  
VB nett Volume: 68,4 Liter  
Port Wide: 462 mm  
Port Height: 52 mm  
Port Length: 530 mm  
F3: 37,2 Hz - FB: 43,4 Hz

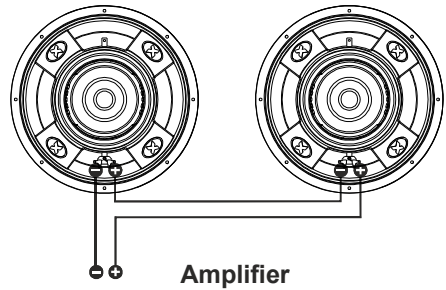
**Enclosure Metrics**

MDF: 19 mm  
Wide: 500 mm  
Height: 550 mm  
Depth: 425 mm

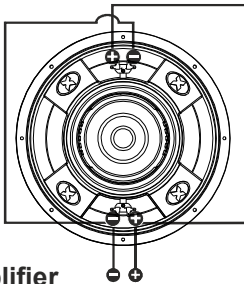
## WIRING DIAGRAM



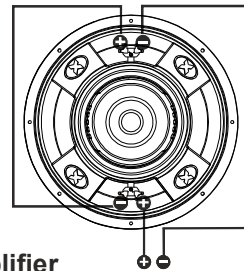
Parallel 2x Single 4 ohm subs = 2 ohm



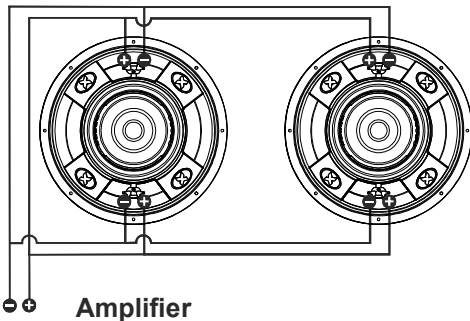
Series 2x Single 4 ohm subs = 8 ohm



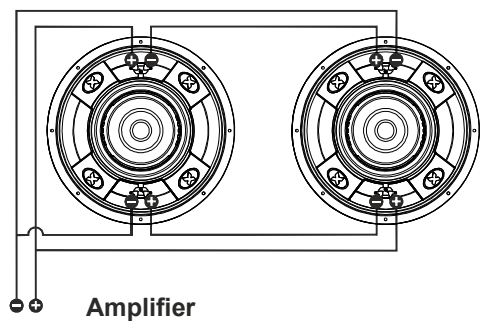
Parallel 1x Dual 4 ohm sub = 2 ohm



Series 1x Dual 4 ohm sub = 8 ohm



Parallel-Parallel 2x Dual 4 ohm subs = 1 ohm



Series-Parallel 2x Dual 4 ohm sub = 4 ohm

## SPECIFICATIONS FOR EXCURSION SHX SUBWOOFER SERIES

(Due to Constant Improvements, Specifications and Parameters are subject to change without notice)

Model	Size	Nominal Impedance	Power RMS/PEAK	Q Factor	Motor Size	Mounting Depth	Inner Dia. Cut out	Outer Dia.	Kg
SHX-8S4	8"20cm	1x4Ohm	200 / 600 W	99dB	80 oz.	96mm	185mm	214mm	2.3
SHX-8D4	8"25cm	2x4Ohm	200 / 600 W	90dB	80 oz.	96mm	185mm	214mm	2.3
SHX-10S4	10"25cm	1x4Ohm	300 / 800 W	90dB	120 oz.	126mm	232mm	262mm	4.0
SHX-10D4	10"25cm	2x4Ohm	300 / 800 W	91dB	120 oz.	126mm	232mm	262mm	4.0
SHX-12S4	12"30cm	1x4Ohm	400 /1000 W	91dB	150 oz.	132mm	278mm	313mm	4.8
SHX-12D4	12"30cm	2x4Ohm	400 /1000 W	92dB	150 oz.	132mm	278mm	313mm	4.8
SHX-15D2	15"38cm	2x2Ohm	500 /1200 W	94dB	230 oz.	165mm	353mm	390mm	6.2
SHX-15D4	15"38cm	2x4Ohm	500 /1200 W	94dB	230 oz.	165mm	353mm	390mm	6.2

**CAUTION:** Excursion Subwoofer are capable of producing dangerous SPL levels

**ATTENTION:** Excursion Subwoofer demand at least 50 hours break in time for maximum Performance.



## EXCURSION LIMITED WARRANTY POLICY

EXCURSION Intl. offers limited warranty on EXCURSION products under normal use on the following terms:

**EXCURSION Speakers are to be free of defects in material and workmanship for a period of one year.**

This warranty applies only to EXCURSION products sold to consumers by Authorized EXCURSION Dealers in Germany. Products purchased by consumers from an EXCURSION dealer in another country are covered only by that country's Distributor and not by EXCURSION Intl.

This warranty covers only the original purchaser of EXCURSION product. In order to receive service, the purchaser must provide EXCURSION with the receipt stating the consumer name, dealer, product and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at Excursion`s discretion and will not be liable for incidental or consequential damages. EXCURSION will not warranty this product under the following situations:

- \* **Speakers received with bent frames or water damages**
- \* **Abuse such as holes in the cone, surround or ripped spider**
- \* **Voice coil damage due to amplifier clipping or distortion**
- \* **Product that has not been installed according to this owner manual**

Any implied warranties including warranties of fitness for use and merchantability are limited in duration to the period of the express warranty set forth above. No person is authorized to assume for EXCURSION any other liability in connection with the sale of this product.

**Please call prior your authorized EXCURSION dealer** the product got purchased. In case they are not accessible call 0961-416-0420 for EXCURSION Customer Service. You must obtain an RA# (Return Authorization Number) to return any product to EXCURSION Intl. The RA number must be prominently marked on the outside of the shipping carton or the delivery will be refused. Please pack your return carefully! We are not responsible for items damaged in shipping. Return the defective product along with a copy of the original dated retail sales receipt, plus 10,- EUR for handling and diagnostic evaluation to:

**EXCURSION Intl. - A Division of CHPW**  
**Attn: Returns (RA# ..... )**  
**Neustaedter Str. 20**  
**D-92685 Floss / Germany**



*...is all you need*

**EXCURSION - A Division of CHPW**

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