DIAMOND

HEX Pro SUBWOOFERS

Owners Manual

HXP102 / HXP104 / HXP122 / HXP124 / HXP152 / HXP154

ABOUT THE DIAMOND AUDIO EXPERIENCE

Congratulations, you have just purchased the finest mobile audio products on the market to date. At Diamond Audio, our products represent the latest advances in acoustic technology in sound reproduction for your vehicle. Diamond Audio products are designed, developed, and engineered using the latest innovative materials and components to provide the finest sound reproduction possible.

Every Diamond Audio product has been Klippel verified and tested to ensure the best sounding and most reliable product on the market, if installed properly, Diamond Audio products will provide many years of the ultimate listening experience. Please note that prolonged exposure to sound pressure levels in excess of 100dB can cause permanent hearing loss. Using Diamond Audio products can exceed that level so please exercise restraint in its operation in order to preserve your ability to enjoy its high fidelity sound for many years to come.

Diamond Audio recommends our products be professionally installed by an authorized Diamond Audio dealer to achieve the best possible system recommendation and installation. This will ensure a true Diamond Audio listening experience and sound you would expect from Diamond Audio products. In doing this you will extend your warranty from one year to two.

Go ahead, Hear the Music

TDX™ Technology Advantage:
Thermal-Dyne eXtreme™ is a fundamentally different solution. The concept is simple, eliminate the detrimental effects of heat in a loudspeaker system. The solution however, is quite complex. Our engineers decided to start with a fresh sheet of paper and build a new line of products that addressed the thermal problems and shortcomings of conventional designs while significantly raising the existing level of performance.

To understand TDX™ speaker technology, it must first be compared to that of a conventional speaker design. At the heart of every speaker is a permanent magnet motor structure that provides the magnetic energy, or force to move the voice coil back and forth within the magnetic air gap. Conventional speakers use a large ceramic magnet surrounding the voice coil that actually retains heat rather than dissipating it. TDX™ motors use a small but very efficient high temperature Neodymium magnet mounted inside the voice coil. The geometry, venting and material selection for the motors have all been optimized for ideal thermal dissipation. The TDX™ thermal efficiency is nearly (5) times greater than conventional designs. In conjunction with the motor design, TDX™ Technology utilizes die-cast aluminum frame structures to act as a heat sink for the encapsulated motor structure. To insure maximum heat transfer from the encapsulated motor case to the aluminum frame, a special thermal paste fills any surface voids that may be present in this mating surface.

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RECOMMENDED ENCLOSURES

The enclosures specified below are offered as suggestions only. Assistance from an authorized Diamond Audio retailer is recommended for designing the correct system for your vehicle. All volumes below are shown as gross internal volumes, driver and vent displacement has been accounted for. The use of a 30 Hz. sub-sonic filter is recommended on most vented enclosures.

HXP102/HXP104

Sealed	Optimum	Large	Vented	All Around
Vb (ft)	0.65	1.25	Vb (ft)	1.25
F3 (Hz)	40	41	Fb/F3 (Hz)	36 / 28
Qtc	0.70	0.62	Port/s (in.) (dia. x length)	3.5 x 14
Pe (W)	700	600	Pe (W)	700

HXP122/HXP124

Sealed	Optimum	Large	Vented	All Around
Vb (ft)	0.75	1.5	Vb (ft)	1.75
F3 (Hz)	39	40	Fb/F3 (Hz)	33 / 27
Qtc	0.71	0.59	Port/s (in.) (dia. x length)	4 x 16
Pe (W)	900	800	Pe (W)	900

HXP122/HXP154

Sealed	Optimum	Large	Vented	All Around
Vb (ft)	1.5	2.5	Vb (ft)	2.75
F3 (Hz)	38	39	Fb/F3 (Hz)	29 / 25
Qtc	0.71	0.62	Port/s (in.) (dia. x length)	4.5 x 16
Pe (W)	1100	1000	Pe (W)	1100

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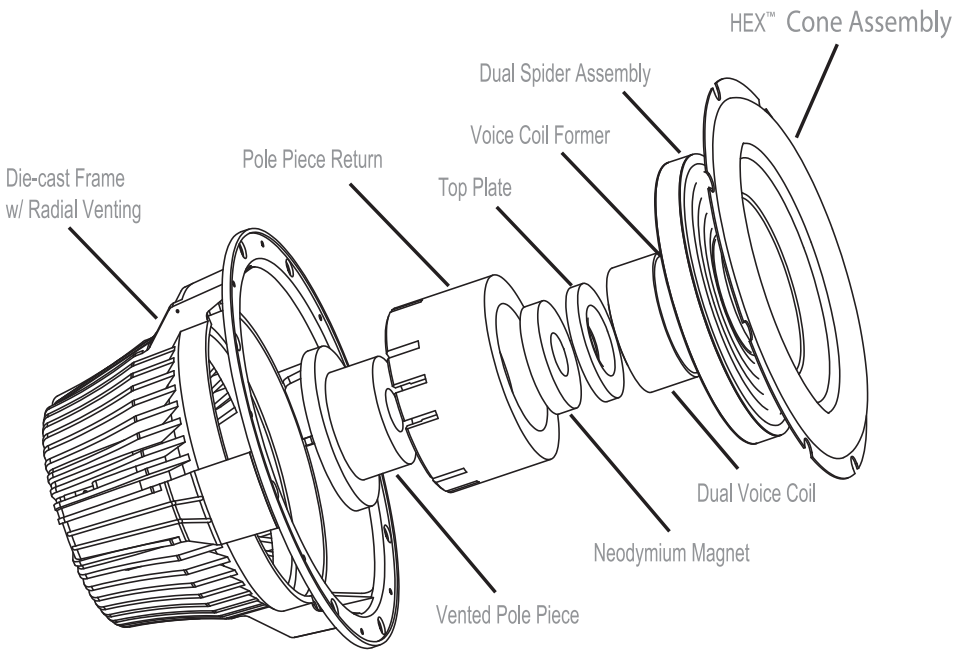
FEATURES

· TDX Technology (Thermal Dyne eXtreme)
· Proprietary Composite Hex Cone Technology
· Nitrile Butadine Rubber (NBR) Surround
· Dual Progressive Poly-Aramid Composite Fiber Spider
· Integrated Radial Venting
· Aluminum Dust Cap
· Ultra-high Energy Neodymium Magnet Structure
· Vented Pole Piece
· 3" (HXP10), 3 ½ " (HXP12), and 4" (HXP15) Voice Coils
· Dual 4 or 2 ohm Voice Coils

HEX™ PRO SUBWOOFER ASSEMBLY



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THIELE / SMALL PARAMETERS

Parameter (unit)	HXP102	HXP104
SPL (dB) @2.83v	83.2	81.2
Z (Ω) (series)	4	8
Re (Ω) (series)	3.85	6.00
Qms	4.0	3.0
Qes	0.54	0.68
Qts	0.48	0.55
Fs (Hz)	26.1	27.0
Vas (liters)	20.0	20.0
Sd (cm2)	332	332
BL (T*M)	18.5	20.2
Xmax (mm)	16.7	17.0
Pwr (W) nom/max	700/1400	700/1400

Parameter (unit)	HXP122	HXP124
SPL (dB) @2.83v	85.2	83.2
Z (Ω) (series)	4	8
Re (Ω) (series)	3.85	6.00
Qms	3.5	2.8
Qes	0.53	0.55
Qts	0.46	0.46
Fs (Hz)	23.0	24.0
Vas (liters)	43.5	43.5
Sd (cm2)	487	487
BL (T*M)	20.1	24.0
Xmax (mm)	19	19
Pwr (W) nom/max	900/1800	900/1800

Parameter (unit)	HXP152	HXP154
SPL (dB) @2.83v	88.0	85.7
Z (Ω) (series)	4	8
Re (Ω) (series)	3.85	6.00
Qms	4.0	3.0
Qes	0.46	0.56
Qts	0.41	0.47
Fs (Hz)	22.0	23.0
Vas (liters)	84.6	84.6
Sd (cm2)	819	819
BL (T*M)	26.0	29.3
Xmax (mm)	20.5	21.0
Pwr (W) nom/max	1100/2200	1100/2200

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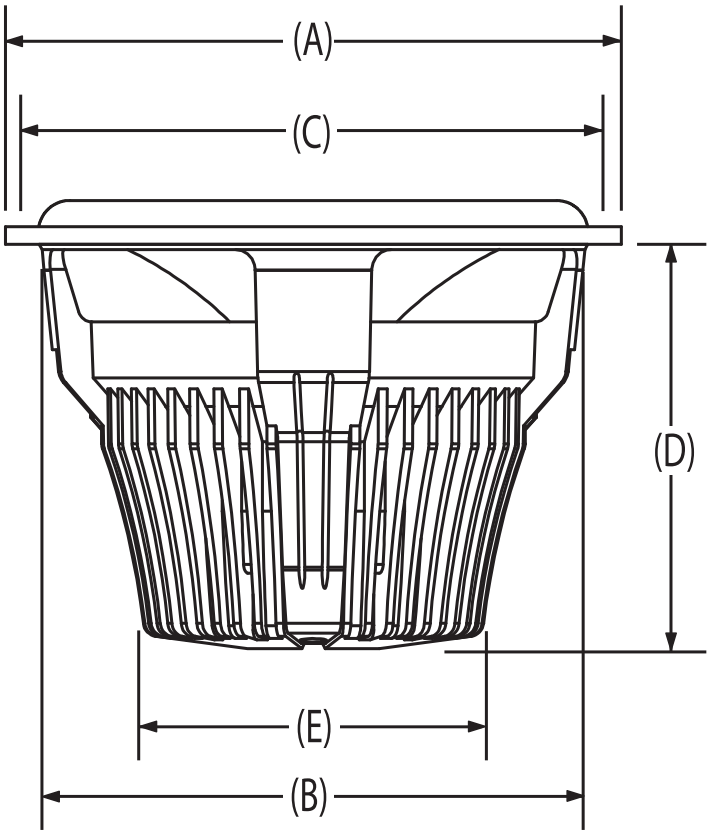
PHYSICAL DIMENSIONS



Dimension (Inches)	HXP102/HXP104	HXP122/HXP124	HXP152/HXP154
Total Diameter (A)	10.8” (275mm)	12.6” (320mm)	15.7” (400mm)
Mounting Diameter (B)	9.4” (239mm)	11.1” (282mm)	14.2” (360mm)
Screw Hole Diameter (C)	9.98” (254mm)	11.7” (297mm)	14.8” (376mm)
Mounting Depth (D)	7.5” (191mm)	8” (203mm)	9.5” (241mm)
Magnet Diameter (E)	5.8” (147mm)	6.5” (165mm)	7.2” (183mm)
Displacement	0.11 ft (3.11 liter)	0.15 ft (4.24 liter)	0.22 ft (6.23 liter)

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LIMITED SPEAKER WARRANTY STATEMENT

Diamond Audio Technologies, (CV & DA HOLDINGS INC.) warrants this product to be free from defects in material and workmanship for a period of one (1) year from the original date of purchase provided it was purchased from an authorized DAT retailer within the United States. Product warranty period starts at date of purchase or one year past manufacture date whichever is first. However, upon purchase, completion of the online registration and installation by an authorized DAT dealer your warranty period will be extended to two (2) years. This warranty extension offer will only be recognized upon completion of the online registration of your product within 30 days of the date of purchase.

THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER OF THIS PRODUCT IN ITS ORIGINAL INSTALLATION. Original purchaser must reside in the United States and be able to provide proof of purchase and installation with the sales receipt and completion of online regoistration from the authorized DAT retailer that sold and installed the product.

Should a manufacturing defect occur during above said warranty period, DAT will replace or repair the defective product with a product of the same or equivalent value and performance.

Damage or failure caused by any of the following is not covered under this warranty policy: negligence, improper use, abuse, product modification, unauthorized repair attempts, accident, acts of God, misrepresentations by DAT retailers, and improper/inadequate packaging during return shipping.

Warranty is void if serial numbers have been removed, altered or defaced.

HOW TO OBTAIN WARRANTY SERVICE

In the event a DAT product should require service, you should visit the authorized DAT retailer you purchased the product from and they can expedite your claim. All claims must fall into the guidelines listed above and be accompanied by a copy of the original sales and installation receipt from that authorized DAT retailer.

Product returned for warranty service must be freight-prepaid, properly packaged and clearly marked with the Return Authorization (RA) number issued by DAT. Any product returned to DAT that is improperly packaged, does not have a RA number clearly marked on the package, or never received a RA number may be refused upon delivery. DAT does not assume responsibility for lost or misdirected product.

Repair or replacement under this warranty is the exclusive remedy of the consumer. DAT shall not be liable for any incidental or consequential damages for breach of any expressed or implied warranty on this product. Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights that may vary from state to state.

Customers outside the United States should contact their local sales office to obtain information on pricing, exchange unit availability, instructions, service and warranty/non-warranty replacement or repair.

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