



**Pro-X
Professional
Woofers
(Pro-X128 / Pro-X158 / Pro-X184)**

**Installation
&
Reference Manual**



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Dear Valued Customer,

Earthquake Sound Corporation, located in Hayward California, specializes in manufacturing high end car audio products ranging from the smallest titanium tweeter to the world's largest amplifiers & subwoofers.

This owners manual is designed to better acquaint you with the Pro-X woofers and to guide you through all phases of system design and application. It is imperative that you read this manual in its entirety, Earthquake technicians and staff are looking forward to answering any questions you might have.



PRO-X18-4

PRO-X15-8

PRO-X12-8

CAUTION: Earthquake's Pro-X woofers are capable of generating high sound pressure levels. You should exercise caution when operating our woofers and amplifiers. Long term exposures to high levels of sound pressure will cause permanent hearing damage. Sound pressure levels exceeding 85dB can be dangerous with constant exposure. Earthquake Sound Corporation does not assume liability for damages resulting from the direct use of or other Earthquake products, and urges users to play sound systems at moderate listening levels for everyday use.

Introducing the Pro-X Series

Pro-X is the line of high sensitivity wide-band professional woofers from Earthquake Sound. Built with the accumulative knowledge and expertise gained from manufacturing industry defining woofers for 30 years. Pro-X is proof positive that the combination of high performance and superior value is possible!

For years it's been our analysis that the pro woofer market has a huge split between performance and value. The leading brands build \$1500+ starship woofers and an almost unending slough of no-name brands flood the market with cheap, but essentially worthless woofers. We offer Pro-X as the meaningful solution. Providing near enterprise level performance at less than a third of the cost.

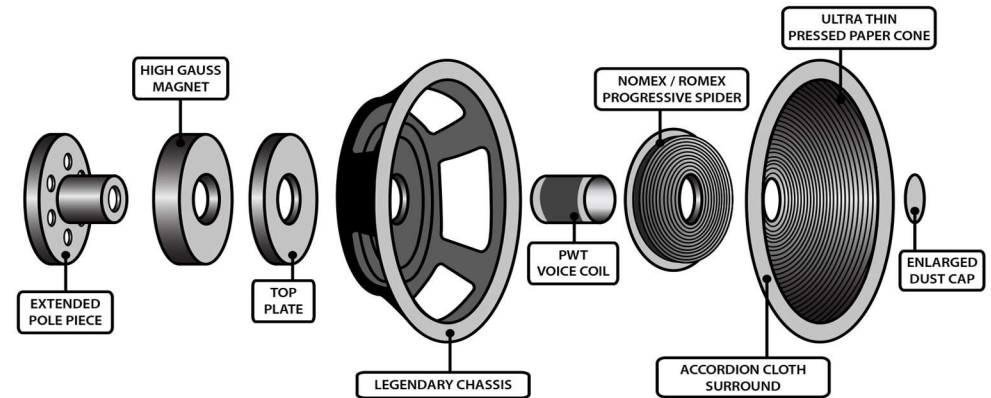
Building the Pro-X



"UNEARTH THE RAW ESSENCE OF PERFORMANCE."

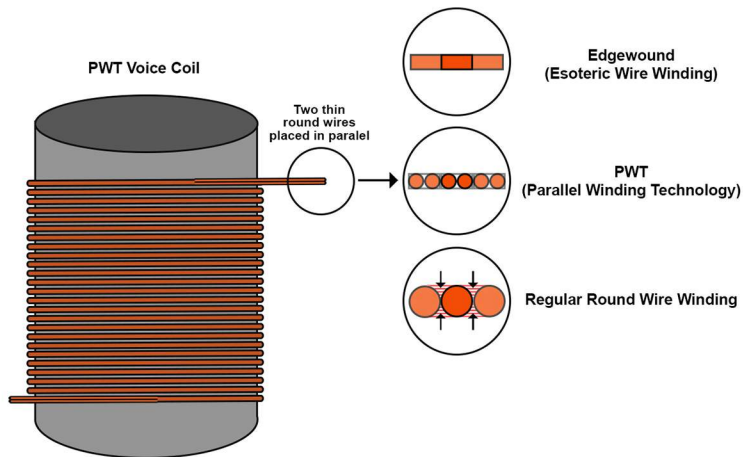
Typically when designing a statement product its an exercise in the use of exotic materials and blatant disregard for the cost as a way of infusing exclusivity into the product.

With Pro-X the goal was just the opposite - chip away all non-essentials and unearth the raw essence of performance. During this process we developed several technologies and design attributes that would come to be essential for the final product.



PWT Voice Coil

The PWT (Parallel Winding Technology) voice coil is a quite simple but effective method for approaching esoteric edge-wound voice coils in efficiency and thermal durability. Ordinary voice coils are wound with a single wire applied to the former x number of turns.



The PWT coil uses two thinner wires applied to the former in parallel (wound side by side) x number of turns. This significantly increases surface area for improved thermal rigidity while keeping the same impedance as if regular single strand wire had been used. At a fraction of the cost of edge-wound, the PWT voice coil is instrumental in keeping the price down and performance up.

L-RAE Motor Cooling Geometry

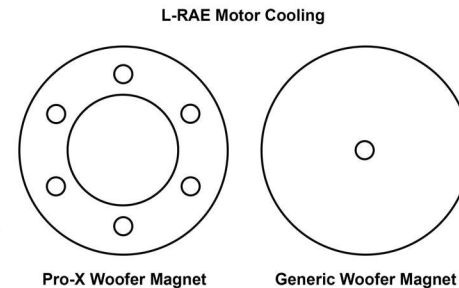


Pro-X features the L-RAE (Large Radial Air Emitter) cooling scheme, and is the first Earthquake product to do so. We had intended to use our patented TCT (Turbine Cooled Technology); however, TCT was developed for heavy, long stroke woofers and was not ideal for the quick, taunt and agile characteristics of the Pro-X woofer.

L-RAE is comprised of large unrestricted passages offering zero resistance to the moving air. A large drilled out pole piece with above spider side venting channels is combined with oversized radial cooling passages, matching the diameter of the voice coil.

This efficiently transports air around the voice coil and reduces the air resistance on the moving voice coil itself.

The result is a remarkably capable cooling system that compared to a traditional pole venting scheme, reduces temperatures by 40 percent. All without adding acoustic artifacts or cost to the equation.



High Gauss Ceramic Magnet

The brute magnetic force in the Pro-X is supplied by an oversized ceramic magnet. This high Gauss magnet concentrates immense magnetic flux on the voice coil resulting in stellar efficiency and tight chest slamming low frequency response. Designed with a bumped back extended pole piece for added excursion potential. This also protects the voice coil from bottoming out in case of transient overload.



Legendary Chassis

Any seasoned pro audio tradesman will recognize the chassis and smile. Yes it is 30+ years old, but from a performance viewpoint - a better one has yet to be made.

Versatility

Although designed as a pro audio woofer, it can be used in both home and automotive solutions with great success. It can be used in any application where large amounts of low distortion, wide-band acoustical power is needed. It is ideal for use in small sealed and ported enclosures as well as bass and mid-bass horns. Featuring a very shallow mounting depth the Pro-X can be used in specialty form factor systems.

Value

Built from the ground up with the fundamental elements that makes a product distinctly Earthquake - Power, Performance and Quality. Pro-X offers amazing performance at an unparalleled price. It is our sincere belief that the combination of price, performance and quality makes the Pro-X the best in this category on the market today.

Proven Track Record

For 3 decades Earthquake has been designing and manufacturing top quality audio equipment. The Pro-X is no exception to this ledger of excellence. We are certain they will provide many years of faithful service.

Highlights

- High efficiency / High sensitivity
- 4-inch high power PWT voice coil
- Die cast basket with jet-black finish
- L-RAE (Large Radial Air Emitter) cooling system
- High Gauss Ceramic magnet with bumped back extended pole piece
- Accordion type UV treated cloth surround
- Push on terminals

***Pro-X12-8, Pro-X15-8, Pro-X18-4 are sold and priced per piece**

DRIVER:	Pro-X12-8	Pro-X15-8	Pro-X18-4
Free Air Resonance (Fs)	36Hz	42Hz	30.3Hz
Nominal Impedance	8-Ohm	8-Ohm	4-Ohm
Voice Coil Size	4" / 101.6mm	4" / 101.6mm	4" / 101.6mm
Sensitivity (1W/1M)	96dB SPL	97.5 dB SPL	98dB SPL
Recommended Power	600 WRMS 1200W Max	700 WRMS 1400W Max	800 WRMS 1600W Max
Electrical "Q" (Qes)	0.453	0.651	0.305
Mechanical "Q" (Qms)	1.576	2.141	3.31975
Total Speaker "Q" (Qts)	0.352	0.499	0.28
DC Resistance	5.8 Ohm	5.6 Ohm	3.7 Ohm
Vas	63 Liter	120 Liter	421 Liter
Sd	0.053m ²	0.089m ²	0.13m ²
Xmax	12.7mm	19.1mm	25.4mm

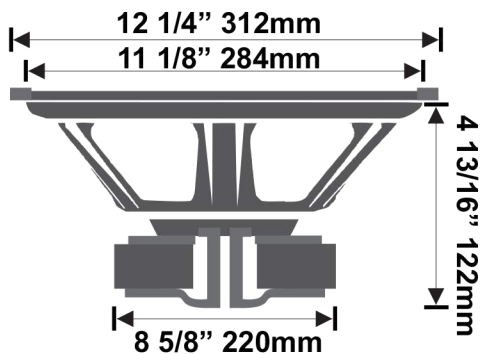
PRO-X12-8 ENCLOSURE DESIGNS

Woofer Cut Out Diameter:

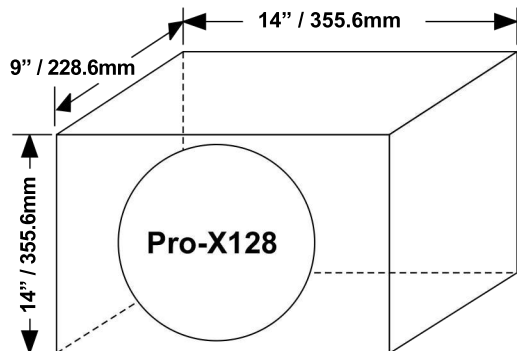
11 1/8" (284mm)

Woofer Mounting Depth:

4 13/16" (122mm)

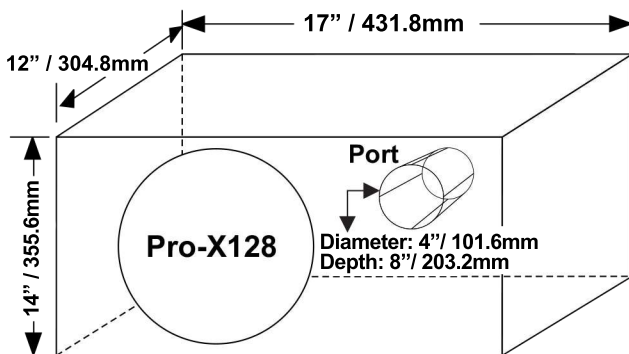


#1 Sealed design for tight bass.
Sealed box recommendation:
1-1.25cu.ft.



Tuning Frequency: 50 Hz
Subwoofer Displacement: 280 Cubic Inches

#2 Port tuned design for deep bass.
Ported box recommendation:
1.5-1.75cu.ft.



Tuning Frequency: 40Hz
Port Displacement: 100 Cubic Inches
Subwoofer Displacement: 280 Cubic Inches

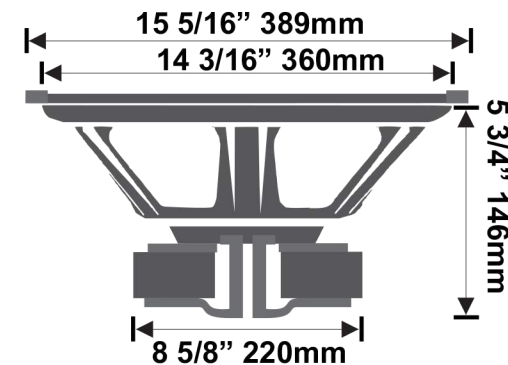
PRO-X15-8 ENCLOSURE DESIGNS

Woofer Cut Out Diameter:

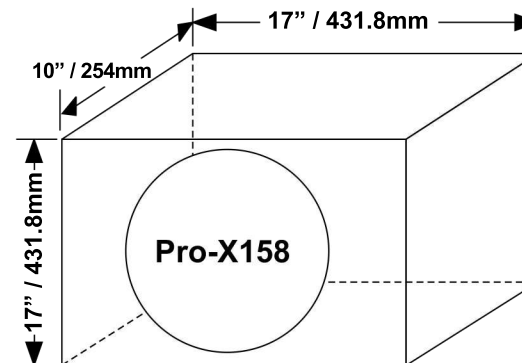
14 3/16" (360mm)

Woofer Mounting Depth:

5 3/4" (146mm)

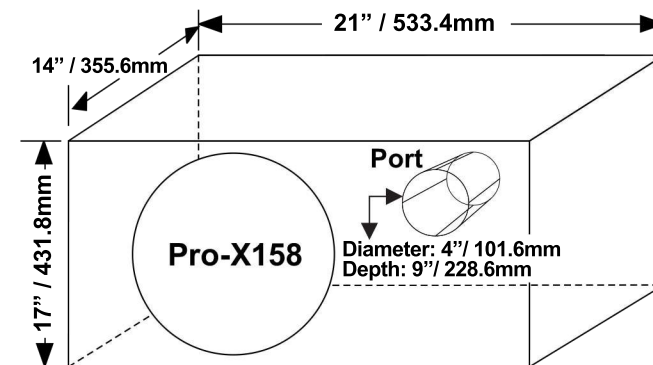


#1 Sealed design for tight bass.
Sealed box recommendation:
1.75-2.25cu.ft.



Tuning Frequency: 45 Hz
Subwoofer Displacement: 460 Cubic Inches

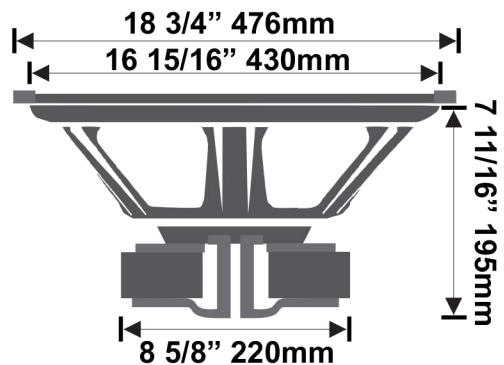
#2 Port-tuned design for deep bass.
Ported box recommendation:
2.5-3cu.ft.



Tuning Frequency: 35 Hz
Port Displacement: 115 Cubic Inches
Subwoofer Displacement: 460 Cubic Inches

*Dimensions shown are external using 3/4" / 19mm MDF

PRO-X18-4 ENCLOSURE DESIGNS



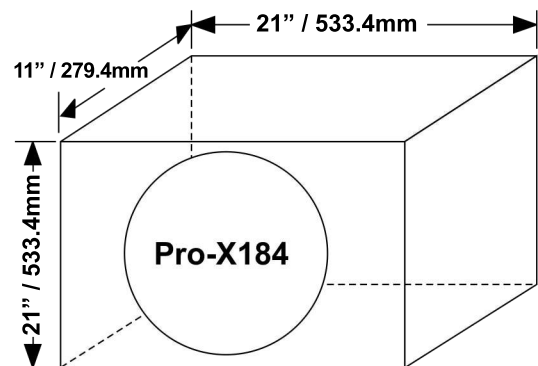
Woofer Cut Out Diameter:

16 15/16" (430mm)

Woofer Mounting Depth:

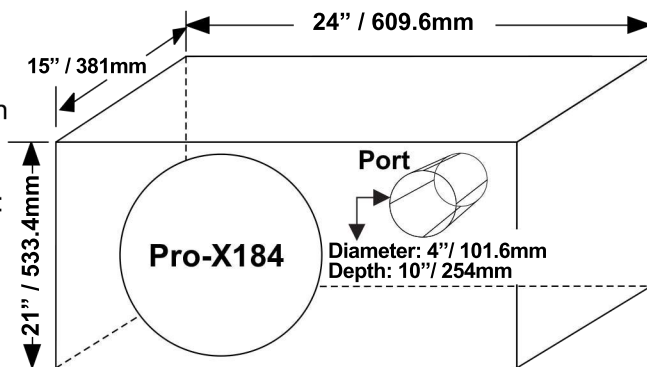
7 11/16" (195mm)

#1 Sealed design for tight bass.
Sealed box recommendation:
2.75-3cu.ft.



Tuning Frequency: 40 Hz
Subwoofer Displacement: 902 Cubic Inches

#2 Port-tuned design for deep bass.
Ported box recommendation:
3.75-4.5cu.ft.



Tuning Frequency: 32 Hz
Port Displacement: 126 Cubic Inches
Subwoofer Displacement: 902 Cubic Inches

*Dimensions shown are external using 3/4" / 19mm MDF



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