

## WARRANTY

Phoenix Gold provides a limited warranty on all QX speakers (free of manufacturing defects in materials and/or workmanship) to the original consumer/purchaser for a period of twelve (12) months. We will cover parts and labor provided the product was purchased from an authorized Phoenix Gold retailer. This limited warranty is applicable to only the original consumer/purchaser and is not transferable. QX speakers that are deemed defective during the warranty period will be repaired or replaced at the discretion of Phoenix Gold. Repaired or replaced product will be covered until the original warranty period expires. Phoenix Gold will not be responsible for any incidental or consequential damages that may result from a defect in the product. Select states may not allow the exclusion or limitation of incidental or consequential damages, so the prior limitations may not apply.

The above warranty does not apply to burned voice coils, burned or broken tinsel leads, damaged cones or any defect, malfunction or failure caused by misuse, abuse, faulty hookup, defective associated equipment or the use of the speakers with equipment for which they were not intended.

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**PHOENIX GOLD**®

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# QX

## FEATURES

- Computer Optimized, Powerful Magnet Structures results in maximum sensitivity and tight controlled deep bass.
- Anodized Aluminum Former draws damaging heat from the voice coil for increased thermal power handling and damping.
- True Poly Cone: Our vacuum forming technology allow us to form the polypropylene material to obtain the perfect blend of stiffness and damping. This provides for excellent transient response and a cone that is extremely resistant to the harsh environment of car audio.
- Four Layer High Temp Voice Coil provides increased thermal power handling and longevity.
- Advanced Large Roll Foam Surround allows for high excursion without fatigue. It is extremely well damped and environment-resistant.
- Flat Linear Roll Spider allows for a constant restoring force in both the outward and inward cone motions.
- Rigid Powder Coated Steel Frame maintains structural integrity and alignment for the cone assembly and heavy magnet structure.



# PHOENIX GOLD

QX SUBWOOFER SERIES

## THE L/S SMALL PARAMETERS

The parameters given are based on drivers that are broken in. That is, a new driver will not perform to it's maximum potential in a given enclosure until it is sufficiently worked to loosen up the suspension components and thermally set the voice coil assembly. The enclosure recommendations are based on PG's extensive knowledge and experience with the QX line and represent the "best fit" transfer functions for the application. PG includes the T/S parameters for your experimentation. You must remember that the majority of computer modeling programs base the given transfer function on a half space prediction. The measured in vehicle SPL response will substantially deviate from this with an increased output with the lowering of frequency (20-80Hz). If your modeling program allows, determine the excursion capability of the woofer in the chosen enclosure for the power applied. A compromise must be made as to low frequency (F3) and excursion limits. Remember too, that the ports necessary can become unwieldy in size and in number relative to the enclosure size.

## WOOFER SPECIFICATIONS

	QX104	QX108	QX124	QX128
$R_{evc}$ (DC VC re/parallel)	3.96Ω	6.78Ω	4.02Ω	6.78Ω
$L_{evc}$ (inductance @ 1kHz)	1.15mH	1.66mH	1.31mH	1.78mH
$F_0$ (Res Freq)	29.95Hz	32.88Hz	28.50Hz	29.000Hz
$S_d$ (Piston Area)	0.033m <sup>2</sup>	0.033m <sup>2</sup>	0.049m <sup>2</sup>	0.049m <sup>2</sup>
BL (Flux Length)	9.69TM	12.11TM	9.88TM	13.27TM
$SPL_0$ (SPL @ 1W)	88dB	887dB	87dB	88dB
$Q_{ms}$ (Mech Q)	5.726.27		6.30	6.01
$Q_{es}$ (Elec Q)	0.500.60		0.73	0.69
$Q_{ts}$ (Total Q)	0.460.54		0.65	0.62
$V_{as}$ (Acous Vol)	70.15L	58.61L	106.87L	103.68L
$C_{ms}$ (Compliance)	450μM/N	376μM/N	316μM/N	306μM/N
$M_{ms}$ (Total Mass)	62.80g	62.36g	98.75g	98.31g
$P_c$ (Therm Power Handling)	150W	200W	250W	250W
$X_{max}$ (P-P Lin Excursion)	12.1mm	11.6mm	11.6mm	13.6mm
$V_c$ (Voice Coil Diameter)	1.5in	2.0in	2.0in	2.5in
$V_{dd}$ (Driver Displacement)	117in <sup>3</sup>	117in <sup>3</sup>	192in <sup>3</sup>	192in <sup>3</sup>
Mounting Diameter	9 1/8in	9 1/8in	11 in	11in
Mounting Depth	4 3/4in	4 3/4in	5 3/8in	5 3/8in

## ENCLOSURE RECOMMENDATION

	SEALED		VENTED			BANDPASS				
	Vb*	Vb*	Fb	Vd	VI	Vsealed*	Vvented*	Fb	Vd	VI
QX104										
MUSICAL	1.50	2.25	35Hz	3" ABS	3.75"	2.00	1.00	45 3" ABS		6.75"
SPL	0.60		1.75	45Hz 3" ABS	2.25"	1.00	1.00	53 3" ABS		4.25"
QX108										
MUSICAL	1.50	2.25	35Hz	3" ABS	3.75"	2.00	1.00	45 3" ABS		6.75"
SPL	0.60		1.75	45Hz 3" ABS	2.25"	1.00	1.00	53 3" ABS		4.25"
QX124										
MUSICAL	2.00	2.5	35Hz	4" ABS	6.50"	3.00	1.75	40 4" ABS		8.50"
SPL	1.00		1.50	45Hz 4" ABS	6.75"	1.75	2.00	47 4" ABS		4.25"
QX128										
MUSICAL	2.00	2.5	35Hz	4" ABS	6.50"	3.00	1.75	40 4" ABS		8.50"
SPL	1.00		1.5	45Hz 4" ABS	6.75"	1.75	2.00	47 4" ABS		4.25"

\*Enclosure volumes do not account for speakers, braces or ports

**ENCLOSURE CONSTRUCTION:** The low frequency enclosure shape is not critical. The enclosure panels need to be rigid and air tight at all seams. Cross bracing is recommended, as is using 3/4" material. Preferably Medium Density Fiberboard (MDF). Screws or an air stapler are excellent construction fasteners when used with a strong bonding "yellow" wood working glue that can fill joint gaps. Lining the walls with Polyester batting (recommended) or bonded fiberglass 1-3" thick is sufficient. Box "stuffing" is only suitable for sealed enclosures.

**USING THE ENCLOSURE RECOMMENDATION CHART:** Your PG dealer has extensive technical knowledge, tools and experience needed for the design and construction necessary for your QX application. We also recommend that you consult with your dealer for technical assistance relevant to your installation details.

The charts provided should be used as a reference when building an enclosure for your QX speakers. Depending on the application desired, either Musical (Sound Quality) or SPL, the charts shown contain three different types of enclosure designs: sealed, vented, and bandpass. Each enclosure type provides particular performance features. For Musical needs, the bass produced will be both accurate and deep. SPL is exactly that. Higher output, but less extended bass in the lower frequencies. Sealed boxes are less complicated to construct and provide excellent low frequency response in small enclosures. Vented enclosures can be manipulated to exhibit a more extended IF output, or peaked SPL output, at the expense of a larger enclosure and slightly more complex design effort. The Bandpass enclosures are capable of very high SPL with limited bandwidth and are definitely more intensive to design.

Due to ongoing research and developments, all specifications effective 4/01 are subject to change without notice.