SPECS

PEAVEY ELECTRONICS

Peavey Lo Max® 18
00560400

Peavey Lo Max® 15
00560290

Finally, there's a subwoofer driver that just might be stronger than your biggest amplifier. With an almost inconceivable power handling capacity of 2400 watts program, the Lo Max has more real world power handling than any other commercially available sound reinforcement loudspeaker. A no compromise design combines this power capacity with high efficiency, excellent frequency response and low distortion for revolutionary performance. It even works well in compact enclosures.

DESIGN

The Lo Max utilizes the same strong Kevlar® composite cone and dustcap used in the Low Rider® series. The cone is strong and tough, and uses an innovative asymmetrical-M surround for superior excursion and motion control.

High quality gold on brass spring plunger terminals accepting large gauge wire are attached to large diameter, high-current tinsel leads with silver solder to withstand high currents, high temperatures and long excursion. The tinsel termination is coated with an elastomer material to improve flex life.

The massive 4" diameter voice coil uses polyamide insulated copper ribbon wire, edge wound and bonded onto an incredibly durable and heat resistant polyamide composite former. With a winding length of 1.150", the long coil has much more surface area to dissipate heat, and its increased length drives the cone to a far higher excursion. The coil is over coated with a tough thermoset epoxy for added durability, abrasion resistance and heat dissipation.

The coil wires are solderless diffusion welded to high conductivity OFHC copper ribbon

leads, which are embedded inside the former assembly and soldered to the tinsel leads with high temperature silver solder. The solder joint is then coated with a special, thermally conductive silicone adhesive for encapsulation and heat dissipation.

The voice coil assembly is bonded to the Kevlar® composite cone and new, incredible tough plastiseal coated Nomex® progressive roll spider using a thermoset epoxy originally developed for attaching nose cones onto ICBM missiles — truly an aerospace grade adhesive. The spider and surround are bonded to the frame with a high strength, toughened adhesive.

The stunning, 28lb., chrome-plated Lo Max magnet structure is all new and was designed using extensive Finite Element computer modeling. The back plate/pole piece is cold forged from a single massive billet of ultra low carbon steel and is a prime example of form following function. The pole is extended well beyond the 12.5 mm thick front plate to improve coil cooling and make it more magnetically linear. The magnet structure is powered by two full size Black Widow® magnets in stacked configuration.

A specially designed vent plate greatly improves voice coil cooling. This heat conductive, ported and finned aluminum, ring delivers cool air pumped by the spider directly to the voice coil to keep operating temperatures under control. The improved cooling increases power handling and reliability and reduce power compression.

The cast aluminum frame is tough and rigid and has the strength needed to hold the cone and huge magnet assembly in perfect alignment. The deep dish design and large spider clearance make high excursion and high output possible.

These dynamic new drivers also utilize the user friendly Black Widow replaceable basket assemblies with Rubatex® gaskets.

The results of these specially designed components are truly amazing loudspeakers. The extremely high power handling and more than 1.5” of available cone travel combine for astonishing low frequency output, while the possibility of small enclosures adds a new dimension to compact, high output sound reinforcement systems.

APPLICATIONS

The Lo Max is specifically designed for subwoofer use, with extremely high output capabilities and almost inconceivable power handling. While most subwoofer applications are below 150 Hz, it is usable to frequencies as high as 500 Hz.

The compact enclosure designs are ideal for instrument amplification and high portability applications such as DJ and small touring bands. They provide solid bass performance in extraordinarily small enclosures. The very small size offers interesting possibilities to large touring systems due to reduced load out volume.

The medium sized enclosures are smaller than usual and have more bass extension and much higher output capabilities than conventional designs. They are excellent choices for thigh performance sound reinforcement.

For permanent installations and applications requiring extremely deep bass performance, the large vented enclosures are ideal. The extreme, deep bass and high sound pressure levels these systems can produce are almost beyond comprehension.

Due to the Lo Max’s high output capabilities, excessive levels may cause structural damage to buildings or induce permanent hearing loss, nausea, vertigo or intestinal disturbances in listeners. Please be cautious when setting maximum sound pressure levels.

ENCLOSURES

To assist with the growing interest in home built enclosure designs, Peavey provides complete parameter data on these drivers, as well as several recommended enclosures for each model. This information and much more can be found at www.peavey.com

Lo Max drivers are intended for use in vented enclosures only. Other enclosure designs such as sealed, horn-loaded, bandpass and infinite baffle will result in reduced performance and/or possible driver overheating and failure.

Since vented enclosures allow driver over-excursion at frequencies below vent tuning, active filtering absolutely must be included with amplifiers greater than 750 watts. This filter should be a high pass 24 dB Butterworth at a minimum of 32 Hz for the 15”. Filtering is also recommended below 750 watts in order to conserve amplifier power. Failure to use high pass filtering with high power operation may cause driver damage that could void your warranty.

Enclosures should be built of best quality ¾” to 1-1/4” (20mm to 32mm) marine, 7-ply birch or other high grade plywood. Use of construction grade plywood is

strongly discouraged, but if no better material is available choose grade BC or better and don't use wood with loose plies or voids.

Use quality wood glue and fit joints tightly. Dado corner joints are highly recommended. Wood screws or a pneumatic nailer should be used to assemble the enclosure during gluing to maximize joint strength.

The strength of the completed enclosure has a great effect on the bass performance of the finished system. Internal bracing will be required to improve the structural stiffness of the cabinet the Lo Max drivers will generate enormous forces inside the enclosure, and panels that aren't stiff enough will vibrate and cancel bass output while producing undesirable resonances.

Vents shown in the examples require standard schedule 40 PVC pipe for vent construction. The pipe should be dadoed tightly into the back of the baffle and glued firmly in place with high quality epoxy or high strength industrial grade hot glue. Rough up the outside of the pipe to improve the glue bond. Radius the inside of the vent ends to improve air flow and reduce vent noise.

Lo Max drivers generate huge amounts of heat at high power. This heat is transferred to the air in the enclosure as it is dissipated. For long term (i.e., greater than 15 minutes) high power operation, this heated air must escape and be replaced by cooler air. Enclosure vents should be placed at the top and bottom vents. Enclosures not designed in this way will be thermally de-rated, and will not be capable of sustained operation at high power due to heat build- up.

Vents for these enclosures are much longer than typical for a sound reinforcement subwoofer. This reflects the special characteristics of the Lo Max's design that make it possible to combine a large, high excursion woofer with an unusually small enclosure. For best performance, the inside ends of the vents should be a distance of at least one vent diameter from any interior wall of the enclosure. The vent should be straight, without elbow fittings or other methods to bend it for greater length. Vent diameter should not be decreased, as high air velocity will result in noise and reduced power handling.

Be sure to allow for the displacement of the vent, bracing and woofer in your enclosure design before building it. Mistakes in net volume will mistune the enclosure and can drastically reduce performance. This will require considerable planning before construction, but is well worth the extra effort.

Line the inside of the enclosure with polyester fiber batting such as quilt stuffing. The batting material should conform to California bedding fire codes. Attach the batting with spray adhesive or staples and keep material away from the end of the vent tube where it can be pulled in by air flow.

Handles, protective corners, cabinet covering, grille materials and crossovers are available through Peavey Accessories. Take particular care when positioning the handles, as subwoofers tend to be large and heavy.

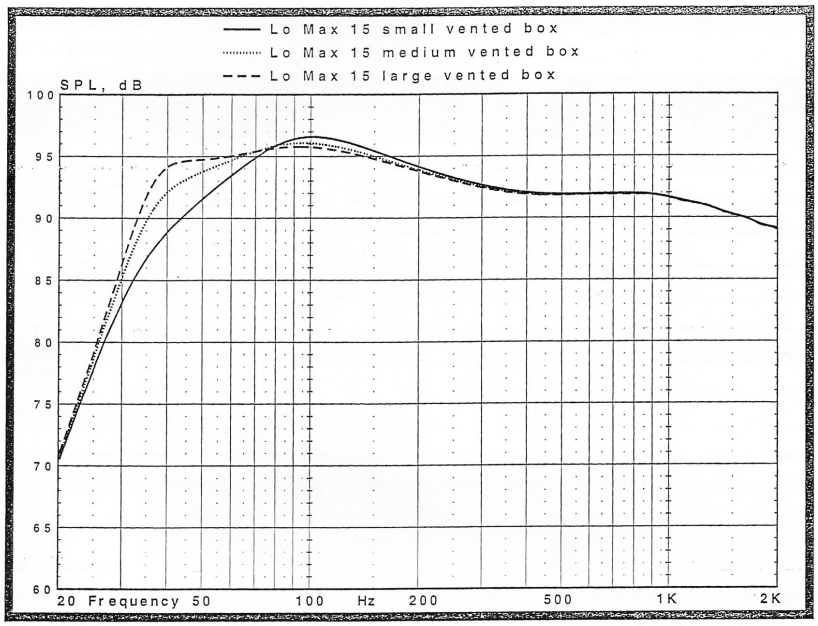
Do not use ¼" phone plugs or jacks in the construction of your enclosure. The power capacity of Lo Max drivers is well above safe limits for phone plugs and jacks, and their use may constitute a fire hazard. Neutrik® Speakon® connectors are highly recommended, and internal cabinet wiring should be at least 16-gauge stranded copper wire.

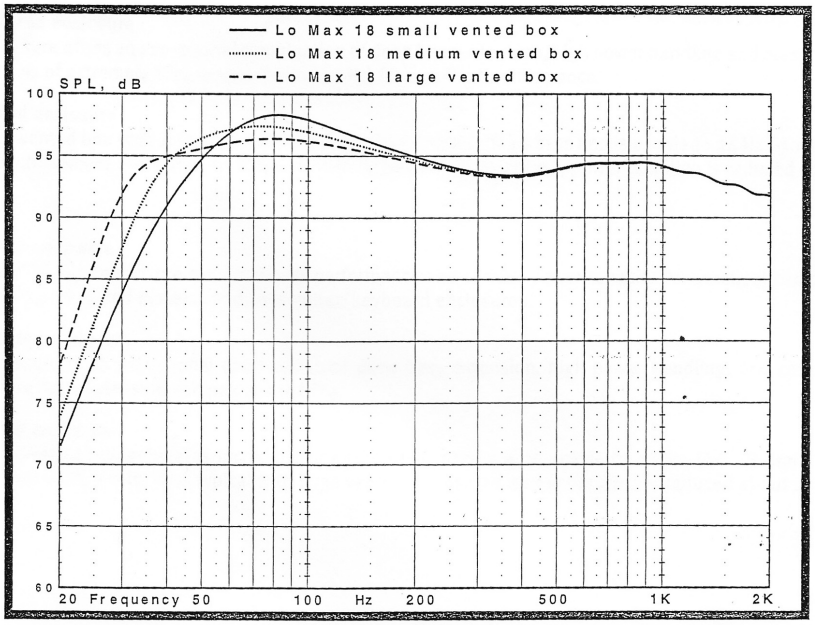
These instructions are a general guideline for design. Proper construction techniques, good planning and common sense will result in a reliable, high quality, performance system.

Peavey in no way accepts liability for any damage, accident or injury that may result from design, construction or operation of enclosures using this information.

PARAMETERS

Thiele-Small parameters for Lo Max subwoofers follow. This data is for use in designing enclosures. Numerous software packages are available that use this data to simulate the response of the driver and enclosure together for optimum performance in any application.





PARAMETER DEFINITIONS

Znom: The nominal impedance of the driver in Ohms.

Revc: DC resistance of the driver in ohms, also known as Re.

Sd: The functional radiating surface area of the cone assembly in meters 2.

BL: Efficiency of the voice coil and magnet system in Tesla meters.

Fo: Free air resonance. Also known as Fs.

Vas: Volume of air having the same compliance (springiness) as the driver's suspension.

Cms: Restorative force of the driver's suspension in micrometers/Newton.

Mms: The total mass of the moving parts of the loudspeaker, including the air load, in grams.

Qms: Resonance characteristics of the mechanical factors of the loudspeaker.

Qes: Resonance characteristics of electrical factors of the loudspeaker.

Qts: Resonance characteristics of the electrical and mechanical factors combined together.

Xmax: Distance the cone can move in one direction before the coil begins to leave the magnetic gap.

Le: Inductance of the voice coil in millihenries.

SPL: Typical sound pressure level at 1 watt, 1 meter.

no: Electrical to acoustical conversion efficiency in percent.

Vd: Air displacement of the driver from negative Xmax to positive Xmax.

Pmax: Maximum continuous program power in watts.

Disp: Volume displaced by the driver inside the cabinet when mounted on its rear flange

SPECIFICATIONS	Lo Max® 18”	Lo Max® 15”
Part #	00560400	00560290
Size: inches / mm	18 / 460 nominal	15/ 380 nominal
Frame OD: inches / mm	18-1/8 / 460	15-1/4 / 387
Bolt circle: inches / mm	17-3/8 / 441	14-9/16 / 370
Cutout diameter: inches / mm	16-3/4 / 425	14-1/8 / 359
Depth: inches / mm	8-1/8 / 200	7-1/2 / 190.5
Impedance:	8 Ohms	8 Ohms
Power Capacity:	4800 Watts peak	4800 Watts peak
	2400 Watts program	2400 Watts program
	1200 Watts continuous	1200 Watts continuous
	40 Hz - 400 Hz	40 Hz - 400 Hz
Sensitivity:	97.1 dB / 1 W 1m	95.1 dB / 1 W 1 m
Usable frequency range:	30 Hz -500 Hz	30 Hz -500 Hz
Cone:	Kevlar® impregnated cellulose	Kevlar impregnated cellulose
Voice coil diameter:	4.0”/100 mm	4.0”/100 mm
Voice coil material:	Polyimide coated copper ribbon wire Polyimide – impregnated fiberglass former Nomex® stiffener Solderless diffusion welded OFHC Copper Leads	Polyimide coated copper ribbon wire Polyimide – impregnated fiberglass former Nomex stiffener Solderless diffusion welded OFHC Copper Leads
Net weight: lb./kg	33.5 / 15.2 kg	32.5 / 14.8 kg
Znom (ohms)	8	8
Revc (ohms)	5.40	5.40
Sd (Square Meters)	0.118	0.089
BL (T/M)	23.40	23.40
Fo (Hz)	31.5	38.5
Vas (liters)	294.4	124.0
Cms (uM/N)	140.0	110.8
Mms (gm)	194.68	146.00
Qms	11.15	11.00
Qes	0.330	0.364
Qts	0.386	0.385
Xmax (mm)	10.2	10.2
Le (mH)	0.75	0.75
SPL (1 W 1m)	95.5	95.5
no (%)	2.20	2.20
Vd (cubic inches/milliliters)	73.06 / 1197	55.15 / 904
Pmax (Watts pgm.)	2400	2400
Disp (inches3 / milliliters)	310 / 5080	242 / 3960

SUGGESTED ENCLOSURES

For those who want to build their own enclosures but don't want to go through the design process using driver parameters, Peavey provides the following optimized designs:

For Lo Max 18:

ENCLOSURE	NET VOLUME Cubic feet/liters	VENT DIAMETER (qty) inches/mm	VENT LENGTH inches/mm	Vb BOX TUNING frequency in Hz	F3, -3 Db point in Hz
Small Vented Box	4.0 /113.3	(4) 4" / 102	12.5 / 318	44	44
Medium Vented Box	6.0 / 170.0	(4) 4" / 102	10 / 254	39	37
Large Vented Box	8.0 / 226.6	(4) 4" / 102	10.625 / 270	33	31

1. **Small Vented Box**
   This enclosure is as small as many 15" cabinets but has better bass performance and handles tons of power. This design is an excellent choice for large touring systems because it can handle a large number of enclosures at the same load-out volume.
2. **Medium Vented Box**
   This enclosure offers an exceptional combination of deep bass extension, high power handling and reasonable size. It is capable of extremely high output (below 35Hz) for excellent performance
3. **Large Vented Box**
   The large vented box produces skull crushing levels of extremely deep bass and is usable to 24Hz (-10 dB limit) at sound reinforcement SPL levels. As is typical with large vented enclosures, power handling is reduced about 20%.

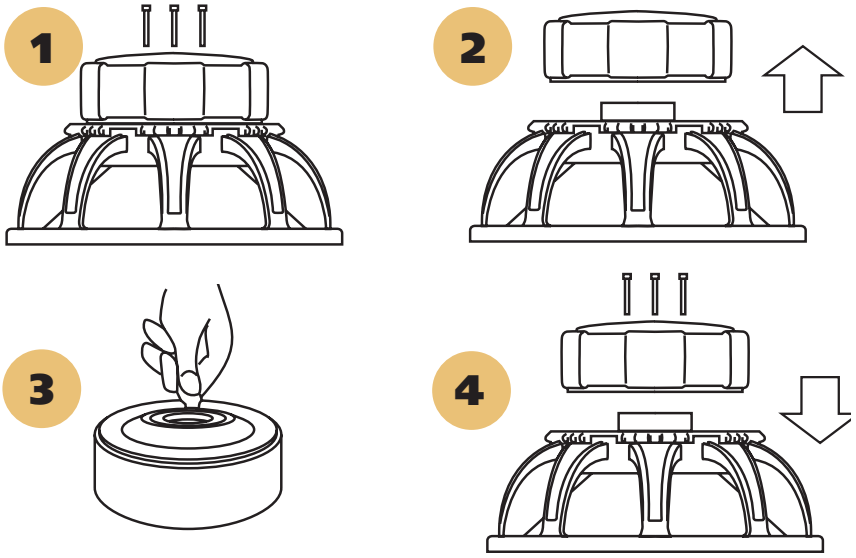
For Lo Max15:

ENCLOSURE	NET VOLUME Cubic feet/liters	VENT DIAMETER (qty) inches/mm	VENT LENGTH inches/mm	Vb BOX TUNING frequency in Hz	F3, -3 Db point in Hz
Small Vented Box	2.0 /56.6	(4) 2" / 51	7.5 / 191	41	50
Medium Vented Box	3.0 / 85	(4) 3" / 76	12 / 305	40	38
Large Vented Box	4.0 / 113.3	(4) 3" / 76	9 / 229	39	34

1. **Small Vented Box**
   This incredibly tiny enclosure had good bass performance and serious power capacity. An excellent choice for very compact, high powered systems and bass guitar/keyboard enclosures.
2. **Medium Vented Box**
   This enclosure is an exceptional compromise of deep bass extension, high power handling, and compact size. Remarkable bass extension and power handling.
3. **Large Vented Box**
   This large vented box generates incredibly powerful deep bass and is usable to 28 Hz (-10 dB limit) at sound reinforcement SPL levels. As is typical with large vented enclosures, power handling is reduced about 20%.

Peavey Lo Max® speakers

feature convenient field-replaceable baskets. Replaceable baskets eliminate the need for re-coning speakers and the frustration and delays associated with the re-coning process. It only takes a few minutes to replace a basket and you are back in business. It just can't get any easier than the four steps outlined here.



Baskets are replaced in four easy steps:

1 Remove three screws on back of magnet structure.

2 Lift the magnet structure off the basket frame.

3 Clean the voice coil "gap".

4 Align screw holes, lower structure into place on new basket frame, insert screws and tighten.

ONE YEAR LIMITED WARRANTY

NOTE: For details, refer to the warranty statement. Copies of this statement may be obtained online at www.peavey.com.

Features and specifications are subject to change without notice.

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Logo referenced in Directive 2002/96/EC Annex IV
(OJ(L)37/38,13.02.03 and defined in EN 50419: 2005
The bar is the symbol for marking of new waste and
is applied only to equipment manufactured after
13 August 2005