

**KICKER.**

**L7R**  
SUBWOOFERS  
*Owner's Manual*

**L7R10 | L7R12 | L7R15**



## L7R SUBWOOFER OWNER'S MANUAL

Models:

**L7R10 / L7R12 / L7R15**

WARNING: KICKER products are capable of producing sound levels that can permanently damage your hearing! Turning up a system to a level that has audible distortion is more damaging to your ears than listening to an undistorted system at the same volume level. The threshold of pain is always an indicator that the sound level is too loud and may permanently damage your hearing. Please use common sense when controlling volume.

### SPECIFICATIONS

Model	L7R10	L7R12	L7R15
Rated Impedance [ $\Omega$ ]	2 or 4	2 or 4	2 or 4
Fs [Hz]	33.6	30.1	22.5
Continuous Power Handling [Watts RMS]	500	600	900
Sensitivity [1W, 1m]	85.9	86.7	88.05
Xmax (Linear Excursion) [mm]	13.9	13.9	16.4
Re [ $\Omega$ ]	6.79	7.52	7.43
Qms	10.046	10.292	9.846
Qes	0.559	0.666	0.598
Qts	0.53	0.625	.564
Vas [ft <sup>3</sup> , L]	1.09, 30.87	2.37, 67.4	6.875, 194.7
Outer Frame Dimension [in, cm]	10 11/16, 27.2	12 9/16, 32	15 5/8, 39.6
Mounting Cutout [in, cm]	9 5/16, 23.7	11 1/16, 28.1	13 3/4, 34.9
Mounting Depth [in, cm]	6 1/8, 15.7	6 7/8, 17.4	8 3/8, 21.5
Frequency Response [Hz]	25–100	25–100	20–100

### WIRING

L7R subwoofers are available with dual 2 $\Omega$  (ohm) or dual 4 $\Omega$  voice coils. Both coils must be connected to a source of amplification. The dual 2 $\Omega$  woofer will generate a 1 $\Omega$  load if the coils are wired in parallel or a 4 $\Omega$  load in series. The dual 4 $\Omega$  woofer will provide a 2 $\Omega$  load wired in parallel or 8 $\Omega$  load wired in series. The terminals with the white dots are for the first voice coil. The terminals with solid-red and solid-black markings are for the second voice coil. See **Figure 1**.

**Sound Check:** *Poor bass response?* Check the system phasing by reversing the positive and negative speaker connections on the subwoofer. If the bass improves, then the subwoofer was out of phase in reference to the rest of the audio system.

### Parallel Wiring

Dual 2Ω Voice Coils = 1Ω Load  
 Dual 4Ω Voice Coils = 2Ω Load

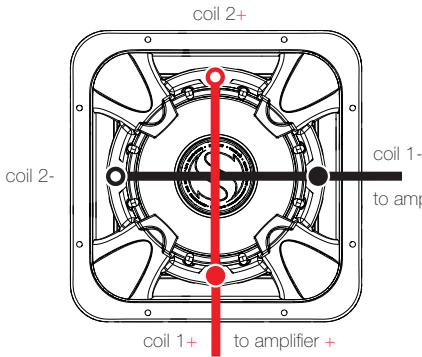
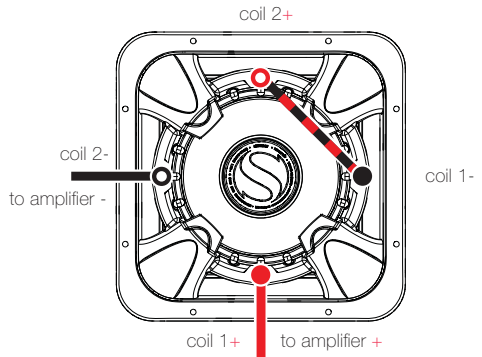


Figure 1

### Series Wiring

Dual 2Ω Voice Coils = 4Ω Load  
 Dual 4Ω Voice Coils = 8Ω Load



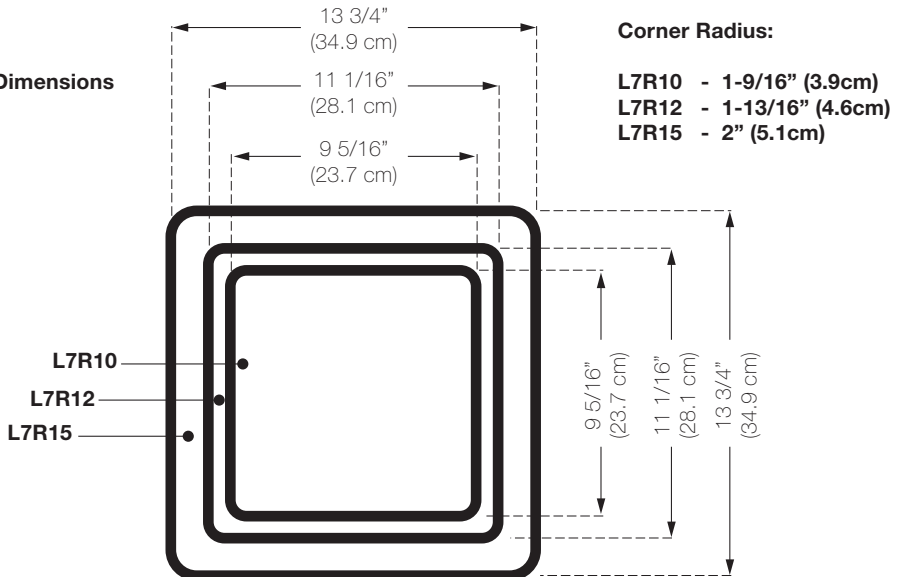
### BOX BUILDING NOTES

Use 3/4" (1.9cm) or thicker MDF (medium density fiberboard) and seal the joints with silicone. Use the "template" inside your L7R's shipping carton to mark the mounting hole, then cut directly on the line. These designs need internal bracing. Add triangular bracing between each of the larger unsupported panels. See **Figure 3**.

All the cubic feet (L) measurements in this manual include the displacement of the woofer. For the vented enclosures the displacement of the port must be calculated and added to the internal volume of the final design. Use the outer dimensions of the port and multiply "X x Y x Z", convert to cubic feet, for example the L7R12 vented Minimum design's external port dimensions are, using 3/4" (1.9cm) MDF:  $[(13.25" + 1.5" \text{ total MDF wall thickness}) \times (2.5" + 1.5" \text{ total MDF wall thickness}) \times 22.5"] \times (1 \text{ ft}^3 / 1728 \text{ in}^3) = .77 \text{ ft}^3$ , and add this number to the internal volume of the enclosure, L7R12's  $1.75 \text{ ft}^3 + .77 \text{ ft}^3 = 2.52 \text{ ft}^3$ . See **Figure 4**. Due to the necessary length of these ports, you may want to fold the port along the bottom and back walls. It will be impractical to use round ports for these designs.

Figure 2

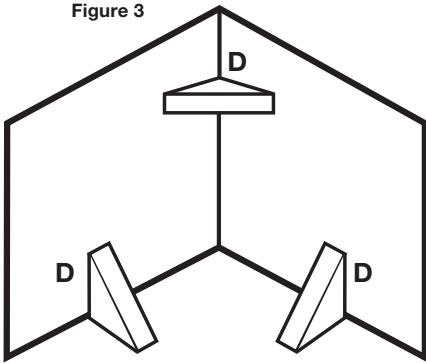
### Cutout Dimensions



Do not install a port opening against a solid surface, such as an internal brace, back-panel or trunk wall, seat or interior panel of your vehicle. The port opening must remain unobstructed. Use the smallest dimension of the rectangular port as the minimum amount of space between the port opening and any solid surface to insure unrestricted airflow.

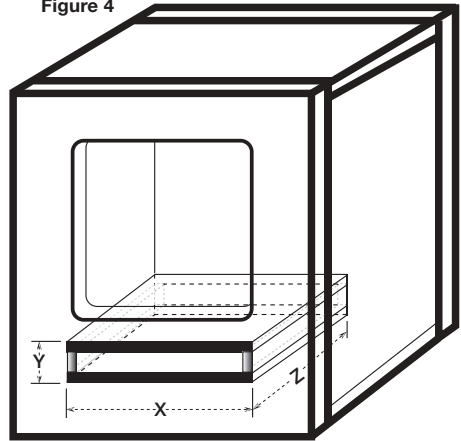
If you prefer an ultra-smooth bass response, you should loosely fill your L7R enclosure with poly-fill stuffing. Ported designs will require covering the end of the port (located inside the box) with grill cloth, chicken wire, or expanded metal to prevent the poly-fill from exiting the port. The use of poly-fill will slightly decrease efficiency, but will deepen and extend the low frequency output.

Figure 3



D = 3" x 3" for L7R12, L7R15  
 D = 2" x 2" for L7R10

Figure 4



### VENTED ENCLOSURE APPLICATIONS

L7R subwoofers will handle massive amounts of power in any of the recommended enclosures, minimum or maximum. The smaller enclosures are best for use in limited-space applications. The larger recommended enclosures will yield slightly more bass at the lowest frequencies.

Vented Minimum	L7R10	L7R12	L7R15
Box Volume, ft <sup>3</sup> (L) + port displacement	1.25 (35.4)	1.75 (49.6)	3.0 (85)
Port Opening Size, in x in (cm x cm)	2.5x11.25 (6.4x29)	2.5x13.25 (6.4x34)	2.5x16.25 (6.4x41)
Port Length, in (cm)	19.75 (50)	22.5 (57)	19.5 (50)
Power Handling, RMS	500	600	900
Vented Maximum	L7R10	L7R12	L7R15
Box Volume, ft <sup>3</sup> (L) + port displacement	2.25 (63.7)	3.25 (92)	6.0 (170)
Port Opening Size, in x in (cm x cm)	3x11.25 (7.6x29)	3x13.25 (7.6x34)	3.5x16.25 (8.9x41)
Port Length, in (cm)	18 (46)	14.5 (37)	13.75 (35)
Power Handling, RMS	500	600	900

The ported Minimum design increases bass efficiency and fits in many space-limited applications. Although it is the smallest recommended ported enclosure, the output from 30 to 80 Hz will be considerably higher than that of any sealed box. The Maximum ported design has even more output in this crucial frequency band. The Maximum is the largest and most efficient enclosure design.

## SEALED ENCLOSURE APPLICATIONS

### Sealed Minimum

Model	Volume ft <sup>3</sup> (L)	Power Handling
<b>L7R10</b>	.66, (18.7)	500W RMS
<b>L7R12</b>	.88, (24.92)	600W RMS
<b>L7R15</b>	1.5, (42.48)	900W RMS

### Sealed Maximum

Model	Volume ft <sup>3</sup> (L)	Power Handling
<b>L7R10</b>	1, (28.3)	500W RMS
<b>L7R12</b>	2 (56.64)	600W RMS
<b>L7R15</b>	3, (85)	900W RMS

Panel Dimensions for Minimum Sealed Enclosures using 3/4" (1.9cm) thick MDF (See **Figure 5**)

Model	Volume ft <sup>3</sup> (L)	Panel A in. (cm)	Panel B in. (cm)	Panel C in. (cm)
<b>L7R10</b>	.66, (18.7)	12x12 (30.5x30.5)	12x10.5 (30.5x26.7)	10.5x10.5 (26.7x26.7)
<b>L7R12</b>	.88, (24.92)	13x13 (33x33)	13x11.5 (33x29.2)	11.5x11.5 (29.2x29.2)
<b>L7R15</b>	1.5, (42.48)	16.5x16.5 (42x42)	16.5x11.5 (42x29.2)	15x11.5 (38.1x29.2)

The L7R generates more sound pressure than an equivalently-sized round speaker and excels when used in the recommended sealed boxes. These sealed enclosure designs give the smoothest response with increased energy at the lowest frequencies, 20 to 30Hz. These designs deliver massive amounts of highly-accurate bass and can be driven with punishing levels of amplifier power.

The L7R high performance suspension system can operate in a larger sealed enclosure. This maximum enclosure volume application is ideal for SQ (ultra sound quality) installations and generates a very flat response curve, extending the sub-bass response.

L7R woofers perform well in any size sealed enclosure between the Minimum and Maximum volume recommendations. These systems will exhibit benefits of both designs: Minimum produces high-impact bass, and Maximum generates low bass frequency protraction. Overall, the system will sound more like the recommended enclosure design it is closest to in enclosure volume. These enclosure recommendations have been calculated with the airspace inside the enclosure and include the displacement of the woofer. All sealed-enclosure airspace should be filled to 50% loose poly-fill (polyester fiberfill) stuffing. Do not make the airspace greater than the SQ, maximum enclosure volume, recommendation.

