

# KICKER®

## S15L7, S12L7, S10L7, S8L7

### SOLO BARIC®

*Congratulations! You have just purchased one of the most advanced subwoofers in the history of car audio. Your KICKER Solo-Baric is the latest in KICKER's trend-setting Solo-Baric line, designed and engineered to deliver the ultimate in low bass performance and unmatched durability when installed in a properly designed system. Thanks for buying KICKER. Enjoy.*

## Solo-Baric Features

- Cast Aluminum Basket** (patent pending) for strength and to reject stray magnetic fields
- Perimeter Venting** in basket for continuous voice coil cooling and highly linear response
- Highly Rigid Cone** (patent pending) with high internal damping and excellent resistance to sunlight, pollution, and moisture
- Inverted Structural Dome™** further increases cone's resistance to flex under pressure
- Stitched Surround** (patent pending) prevents cone/surround separation at high excursions
- Blackened Motor Parts** for superior heat dissipation and long life
- Dual Ultra-Length Voice Coils** for high excursion and flexible wiring options
- High-Temp Kapton Voice Coil Former** prevents cone meltdown to minimize warping and rubbing
- One piece UniPlate™** pole piece and back plate:
- Blackened Pole Piece** provides effective heat transfer and cool operation for maximum power handling
- One-Piece Hyper-Extended Pole** reduces non-linear magnetic fields around the voice coil gap for even more heat sinking and excellent cone motion control
- Vented Pole Piece** releases pressure under dustcap for freer cone motion and enhanced low bass
- Sleeved High-Power Tinsel Lead Wires** to resist lead breakage and power-robbing resistance losses
- Spring-Loaded Nickel Plated Terminals** for solid connections with large gauge speaker wire
- Rubatex front and rear gaskets** for airtight seal

## Specifications

Model	Max amp power (watts)	Sensitivity (dB 1w/1m)	Voice Coil (in.)	Fs (Hz)	Vas (cu.ft)	Qts	Xmax (in.)	Mounting Cutout (in.)	Outer flange (in.)	Mounting depth (in.)
S15L7	1000	90.2	2.5	23.0	9.9	.477	.60	14.1 x 14.1	15.6 x 15.6	7.83
S12L7	750	89.1	2.0	29.7	3.1	.419	.50	11.2 x 11.2	12.54 x 12.54	7.00
S10L7	600	87.3	2.0	35.1	1.2	.410	.50	9.5 x 9.5	10.66 x 10.66	6.25
S8L7	450	84.5	2.0	43.5	.46	.551	.41	7.6 x 7.6	8.8 x 8.8	4.63

Based on measurements of Dual 2 Ohm models

## Important Break-In Information

Every Solo-Baric L7 subwoofer is individually computer-tested before shipment to insure the highest performance standards possible.

Like many precision machines, the Solo-Baric L7 requires a break-in period before it will reach optimum performance.

When brand new, the L7-series high performance suspension system is very stiff. After approximately two weeks of daily usage, the suspension will loosen, or break-in, to a point of equilibrium. This time period may vary depending on the amount of play time, volume level, and type of music you listen to. More play time, with medium volume levels and more bass content, will break in the subwoofer most quickly.

For those of you with more sophisticated audio equipment, the Solo-Barics can be broken-in on the test bench overnight with the following procedure.

### Solo-Baric Freeair Break-In Procedure

1. Connect the speaker to a power amp of about fifty watts or more. The speaker should not be mounted in any enclosure - just freeair.
2. Connect an audio generator to the input of the power amp, and adjust the generator to approximately 45Hz for the S8L7, 35Hz for the S10L7, 30Hz for the S12L7, and 20Hz for the S15L7.
3. Now adjust the gain on the amplifier and generator so that the cone is moving to Xmax. This can be determined visually by looking at the "blur depth" of the logo on the dustcap. A close approximation will do. On the S8L7 this will be about 3/4", on the S10L7 about 1", on the S12L7 about 1", and on the S15L7 about 1 1/4".
4. Operate the speakers in this manner for about eight hours. A quick break-in will give acceptable results in four hours, and a very thorough break-in would be closer to 16 hours.

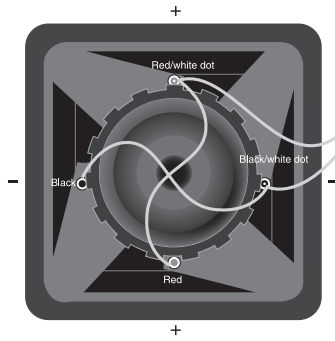
NOTE: Keep in mind that as the speaker is used under normal conditions the break-in will continue, so if you don't have time for the complete break-in period the speaker will still break-in itself under normal usage.

## Wiring

Solo-Baric L7 woofers are available with dual 2 Ohm and dual 4 Ohm voice coils. **Both coils should always be hooked up.** The dual 2 Ohm woofer will give you a 1 Ohm or a 4 Ohm load depending on if the coils are wired in parallel or in series. The dual 4 Ohm woofer will give you a 2 Ohm or 8 Ohm load depending on how they are wired.

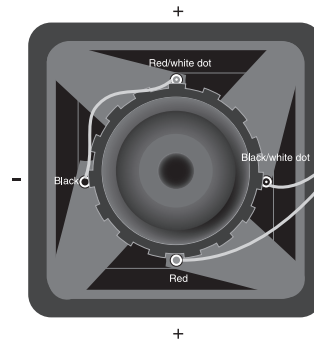
The terminals with solid red and black markings are for one voice coil. The terminals with the white dots are for the second voice coil.

### Parallel Wiring



Dual 2 Ohm = 1 Ohm load  
Dual 4 Ohm = 2 Ohm load

### Series Wiring

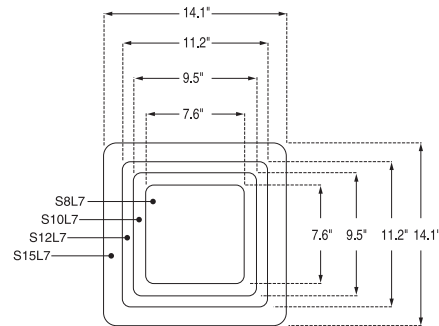


Dual 2 Ohm = 4 Ohm load  
Dual 4 Ohm = 8 Ohm load

## Solo-Baric cutout specifications:

Corner Radius for S15L7 – 1.0"

Corner Radius for S12L7, S10L7, S8L7 - .625"



## Box-Building Notes

The cardboard support inside your Solo-Baric's shipping carton can be used as a template for cutting the speaker mounting hole in the enclosure you build. Since the cardboard cut-out is the same size as the basket of the L7, when you make the cut along the line drawn through the template, make sure to cut right on the line to get the correct opening size.

All the cubic feet numbers given in the above charts include the displacement of the woofer. For the ported boxes the displacement of the port must be added to the final design. It will be impractical to use round ports for these designs. The rectangular port information given will yield the best results.

Always use 3/4" or thicker MDF and make sure all the joints are secure and well sealed. The peak pressure in a ported box can exceed that of a sealed enclosure.

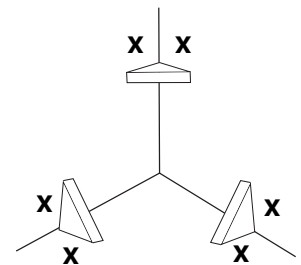
All of these designs need some internal bracing. Be sure to add 2"x2" to 3"x3" triangle braces between each of the larger unsupported panels. Kicker recommends using a good grade of wood glue and silicone sealer for an airtight box.

Note: If you prefer an ultra-smooth bass response, you should loosely fill your ported Solo-Baric Enclosure with polyfil. If you do so, the entrance to the port (inside the box) must be covered with hardware cloth, chicken wire, or expanded metal to prevent the polyfil from being blown out through the port. Use of polyfil will slightly decrease efficiency, but will deepen and extend low bass response.

Do not install a ported box with the port against a solid surface. The port opening must remain unobstructed. Use the smallest dimension of the rectangular port as the minimum amount of space required between the port and any surface to insure unrestricted airflow.

The following pages contain drawings and cut sheets for the ported enclosure designs recommended in this paper.

For more advice on box building, see the Choosing and Building Enclosures page in the Tech Tips & FAQs section of the Support area on the Kicker website, [www.kicker.com](http://www.kicker.com).



x=3" for S15L7, S12L7  
x=2" for S10L7, S8L7

### A Note on Power Handling Capability

Solo-Baric subwoofers will handle their full rated power in any of the recommended enclosures, minimum or maximum. The smaller enclosures are best for use in limited space applications. The larger (maximum) recommended enclosures will yield slightly more bass at the lowest frequencies. The power ratings given are assuming that both voice coils are used. You should never hook up a dual voice coil woofer using only one coil.

# Recommended Enclosures

## Solo-Baric L7-Series Sealed Enclosure Applications

The Kicker Solo-Baric L7 woofers are obviously different than any woofer you have ever seen. Designed to give more output than an equivalent round speaker, the L7 is amazing when used in the recommended sealed boxes. These sealed enclosure SQ recommendations will give the smoothest response with the most energy at really low frequencies, around 20 to 30 Hz.

The recommended Compact sealed boxes are in line with our traditional Solo-Baric enclosures. They have the highest power handling capability of all our recommended enclosure designs. They deliver massive amounts of high impact bass and can be driven with punishing levels of amplifier power.

One of the benefits of the L7-series high performance suspension system is that the new Solo-Barics can operate in larger sealed enclosures for ultra sound quality (SQ) applications without significantly sacrificing their power handling. This extra bass extension and smoothness can be obtained by simply using a larger sealed enclosure. The box can be "sized up" all the way to a .707 Qtc enclosure, which has a very flat response, with greatly extended sub bass.

Solo-Baric L7 series woofers also perform well in any sealed enclosure between the Compact and SQ sizes. These systems will exhibit some benefits of both (high impact and low extension) generally sounding more like the box to which they are most closely sized.

These enclosure volume recommendations are for the airspace inside the enclosure and include the displacement of the woofer. Do not make the airspace any greater than recommended.

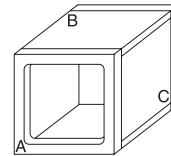
### Recommended Sealed Enclosures – Moderate Efficiency

Solo-Baric Model	Compact (minimum enclosure volume)	SQ (.707 alignment) (maximum enclosure volume)
S8L7	.33 cu.ft. Power Handling = 450W	.75 cu.ft. Power Handling =450W
S10L7	.66 cu.ft. Power Handling = 600W	1.0 cu.ft. Power Handling = 600W
S12L7	.88 cu.ft. Power Handling = 750W	2.0 cu.ft. Power Handling = 750W
S15L7	1.5 cu.ft. Power Handling = 1000W	6.0 cu.ft. Power Handling = 1000W

The following shows examples of the minimum enclosure sizes for each of the Solo-Baric L7s. Panel dimensions assume 3/4" wood thickness.

Panel dimensions for minimum recommended enclosures:

Model	Volume (cu.ft.)	Panel A	Panel B	Panel C
S8L7	0.33	10"x10"	10"x8"	8"x8.5"
S10L7	0.66	12"x12"	12"x10.5"	10.5"x10.5"
S12L7	0.88	13"x13"	13"x11.5"	11.5"x11.5"
S15L7	1.5	16.5"x16.5"	16.5"x11.5"	15"x11.5"



NOTE: All sealed boxes should be 50% filled with loose polyfil. Allow about two weeks break-in time for the Solo-Barics to reach optimum low bass performance.

## Solo-Baric L7-Series Ported/Vented Enclosure Applications

Ported Solo-Barics? Absolutely ... and with a vengeance! This is totally new for Solo-Barics, and it is very exciting! The new enclosures incorporate massive slot loaded ports with ultra low air velocity for concussive street bass that will make your hair stand on end (if you have any left)! These are the type of boxes that are rapidly becoming the "enclosure of choice" for outrageous street bass and high performance SPL contests.

The following chart shows three recommended ported enclosures for each Solo-Baric driver.

Compact has increased bass efficiency over a sealed enclosure, yet can still fit in tighter applications. It is the smallest design that will work well for each woofer. Although it is the smallest ported enclosure the output from 30 to 80 Hz will be considerably higher than that of a sealed box. This smallest vented design is for places where you can only give up the room normally taken up by two L7s in the normal small sealed boxes. The two other ported designs have proportionately more output in this region.

SPL is a medium sized enclosure that will kick out bass that can be heard for blocks away. And it does go LOW!

Finally, SPL / Deep Bass is a large enclosure that has it all. It is high efficiency and will deliver the output needed to win SPL contests, yet low frequencies go all the way down to the basement - with power that will shake the foundations! We're talking truly awesome.

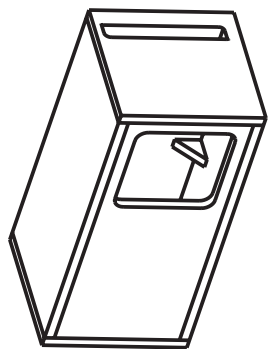
If space is not at a premium and you want to get the most from your Solo-Baric L7, try one of these designs. You won't be disappointed.

### Recommended Ported Enclosures – High Efficiency

Solo-Baric Model	Compact	SPL	SPL / Deep Bass
S8L7	.66 cu.ft. + port; 1.5x9.5" port, 19.25" long Power Handling = 300W	.8 cu.ft. + port; 1.75x9.5" port, 19.75" long Power Handling = 325W	1.0 cu.ft. + port; 2x9.5" port, 21.25" long Power Handling = 325W
S10L7	1.25 cu.ft. + port; 2.5x11.25" port, 19.75" long Power Handling = 500W	1.75 cu.ft. + port; 2.75x11.25", port 17.75" long Power Handling = 525W	2.25 cu.ft. +port; 3x11.25" port, 18" long Power Handling = 550W
S12L7	1.75 cu.ft. + port; 2.5x13.25" port, 22.5" long Power Handling = 750W	2.5 cu.ft. + port; 2.5x13.25" port, 16.5" long Power Handling = 750W	3.25 cu.ft. + port; 3x13.25" port, 14.5" long Power Handling = 750W
S15L7	3.0 cu.ft. + port; 2.5x16.25" port, 19.5" long Power Handling = 1000W	4.5 cu.ft. + port; 3x16.25" port, 14.75" long Power Handling = 1000W	6.0 cu.ft. + port; 3.5x16.25"port, 13.75"long Power Handling =1000W

NOTE: The use of a subsonic filter (such as a Kicker SWX - without chips & set to highpass) will significantly increase the power handling. The power handling specifications listed in the chart above include the use of a 25 Hz, 24dB/octave subsonic filter.

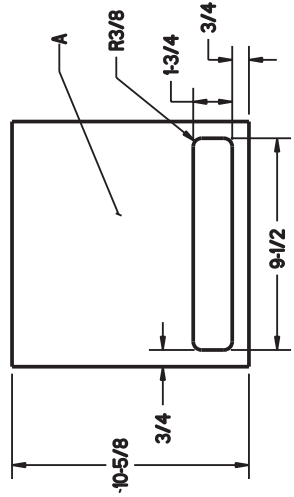
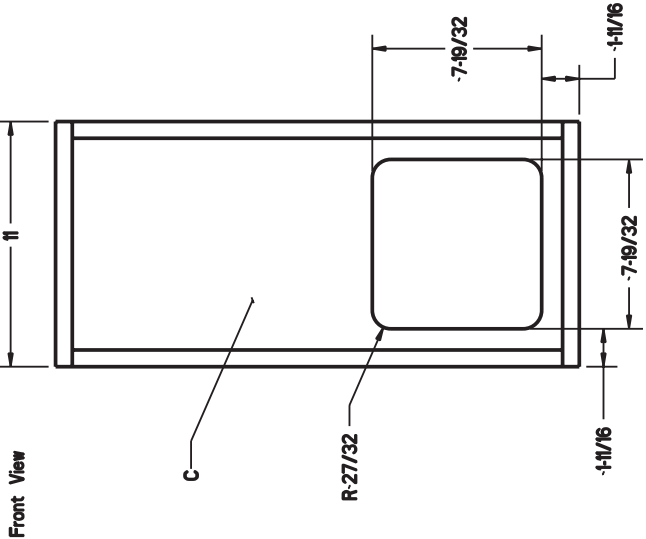
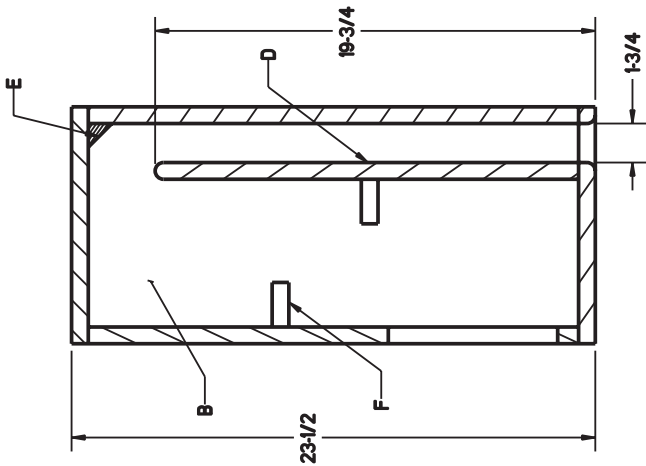
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DATE	DESCRIPTION
10-20-00	Engineering Release
	APPROVED



- Cut List: 3/4" MDF
- (2) 11" X 10 5/8" Top & Bottom(A)
  - (2) 22" X 10 5/8" Sides(B)
  - (2) 22" X 9 1/2" Front & Back(C)
  - (1) 19" X 9 1/2" Port(D)
  - (1) 1 1/2" X 9 1/2" Corner Fillet(E)
  - (4) 2" X 2" Gusset (F)

**POWER HANDLING:**  
 325W with 25 Hz  
 Subsonic filter  $\phi$ 24db/octave.  
 Without subsonic filter : 250W

Side View



TOLERANCES:  
 UNLESS OTHERWISE SPECIFIED  
 BREAK EDGES .01-.02  
 RADIUS OR CHAMFER.  
 SURFACE FINISH: 32 ✓

FRACTIONS DECIMALS  
 ± 1/64 ± .03  
 ANGLES ± 1° .XXE .01  
 .XXE .005

DIMENSIONS ARE IN: Inch  
 DATE 20-06-00  
 DRAWN CLB  
 CHECKED CLB  
 ENG. APPROVED

MATERIAL 3/4" MDF  
 MATL. FINISH NA

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DRAWING TITLE  
**.80 cf, Fb-45Hz**

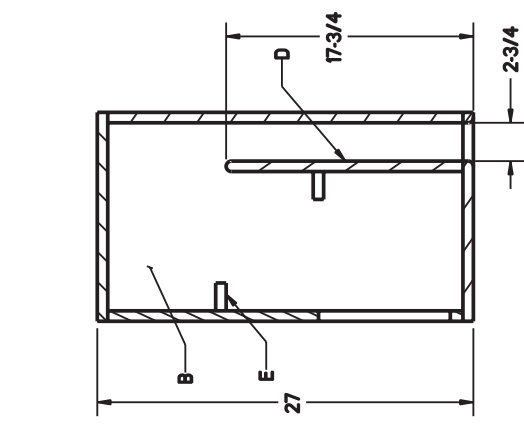
SIZE  
**B**

DRAWING NO.  
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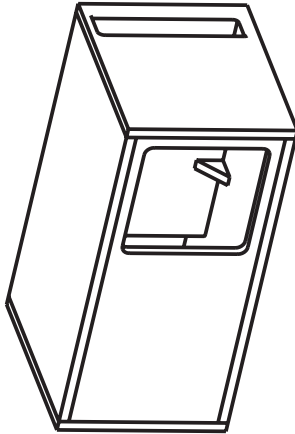
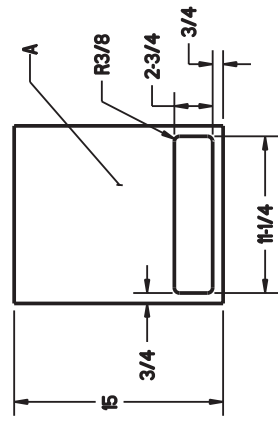
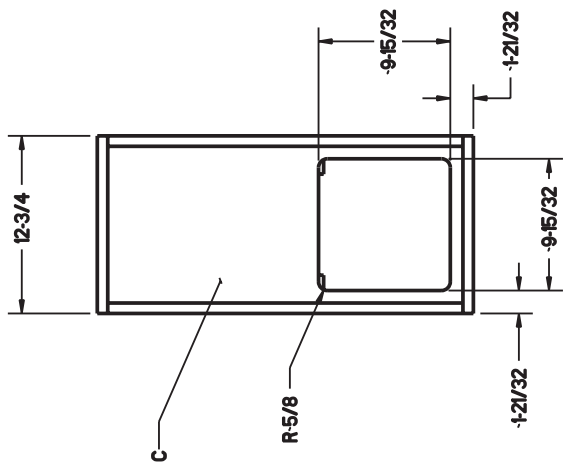
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REVISION	
THIS SYMBOL ○ INDICATES ADDITIONS, CHANGES, AND DELETIONS	APPROVED
DATE	DESCRIPTION
10-20-00	Engineering Release

Side View



Front View



- Cut List: 3/4" MDF  
 (2) 12 3/4" X 15" Top & Bottom(A)  
 (2) 25 1/2" X 15" Sides(B)  
 (2) 25 1/2" X 11 1/4" Front & Back(C)  
 (1) 17" X 11 1/4" Port(D)  
 (4) 2" X 2" Gusset(E)

**POWER HANDLING:**  
 525W with 25Hz  
 Subsonic filter  $\phi$ 24db/octave.  
 Without subsonic filter : 350W

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DRAWING TITLE  
**1.75 cf, Fb-42Hz**

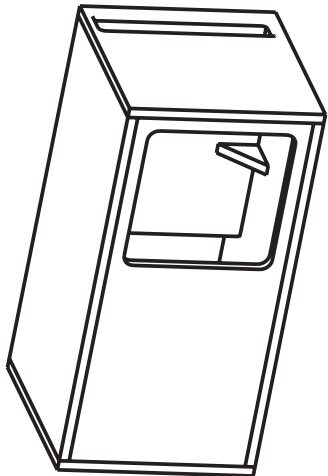
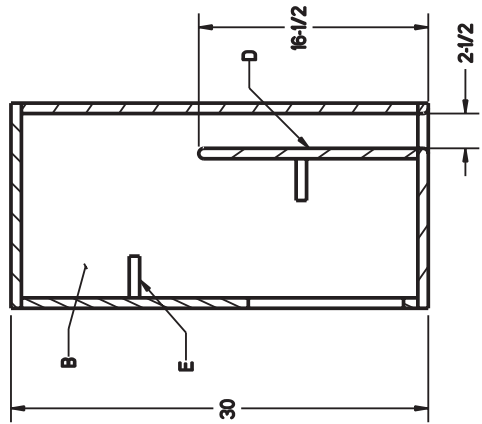
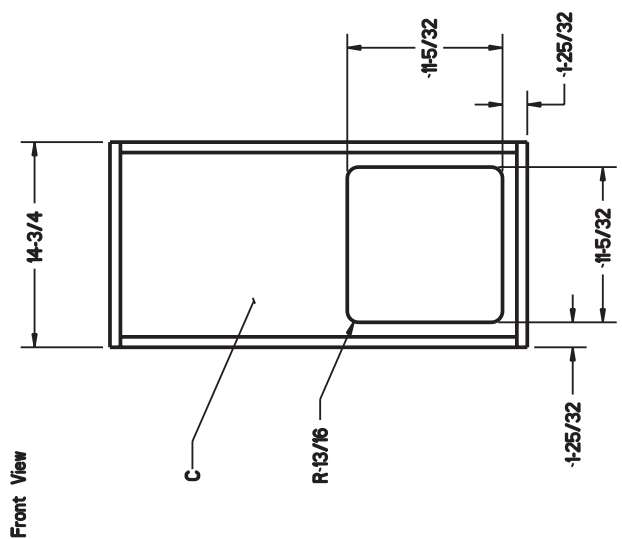
DRAWING NO.  
**S10L7-BOX-VENTED-175**

DIMENSIONS ARE IN:	Inch
DRAWN	DATE
CLB	20-Oct-00
CHECKED	
CLB	
ENG. APPROVED	
MATERIAL	3/4" MDF
MATL FINISH	NA

TOLERANCES:  
 UNLESS OTHERWISE SPECIFIED  
 BREAK EDGES .01-.02  
 RADIUS OR CHAMFER.  
 SURFACE FINISH: 32 ✓

FRACTIONS DECIMALS  
 ± 1/64 .03  
 .XXX .01  
 ± 1° .XXX

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THIS SYMBOL ○	INDICATES ADDITIONS, CHANGES, AND DELETIONS
DATE	DESCRIPTION
10-20-00	Engineering Release
	APPROVED



- Cut List: 3/4" MDF
- (2) 14 3/4" X 14 3/4" Top & Bottom(A)
  - (2) 14 3/4" X 14 3/4" Sides(B)
  - (2) 28 1/2" X 13 1/4" Front & Back(C)
  - (1) 15 3/4" X 13 1/4" Port(D)
  - (4) 3" X 3" Gusset(E)

**POWER HANDLING:**  
 750W with 25Hz  
 Subsonic filter  $\phi$ 24db/octave,  
 without subsonic filter = 400W

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DRAWING TITLE	2.50 cf, Fb-38Hz
DRAWING NO.	S12L7-BOX-VENTED-250
SIZE	B
OF	1

DIMENSIONS ARE IN:		Inch
DRAWN	DATE	
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CHECKED		
CLB		
ENG. APPROVED		
MATERIAL	3/4" MDF	
MATL FINISH	NA	

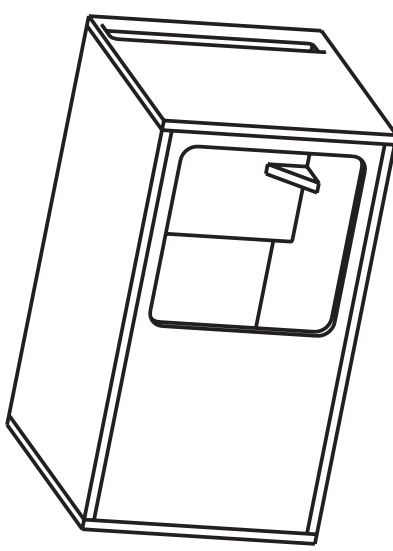
TOLERANCES:  
 UNLESS OTHERWISE SPECIFIED

BREAK EDGES .01-.02  
 RADIUS OR CHAMFER.

SURFACE FINISH: 32 ✓

FRACTIONS DECIMALS  
 ± 1/64 .03  
 ± .01  
 ANGLES .01  
 ± 1° .XX°E .005

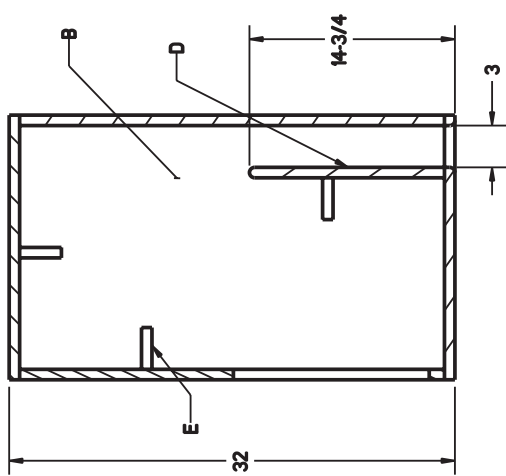
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DATE	DESCRIPTION
10-20-00	Engineering Release
	APPROVED



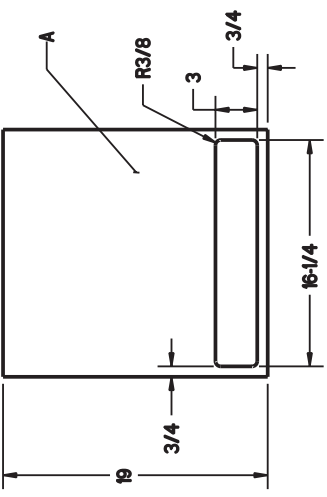
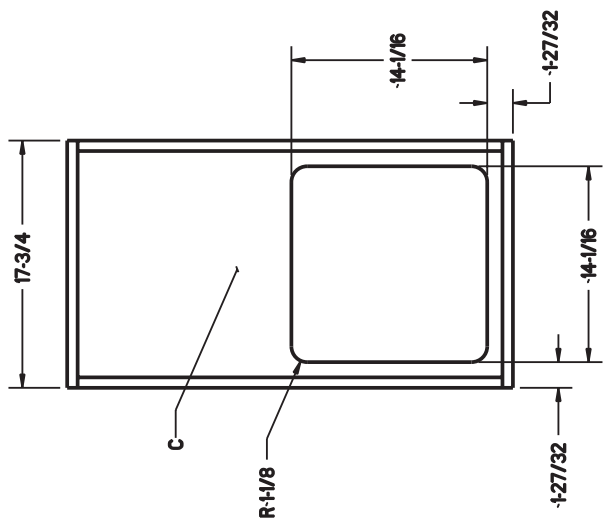
- Cut List: 3/4" MDF
- (2) 17 3/4" X 19" Top & Bottom(A)
  - (2) 30 1/2" X 19" Sides(B)
  - (2) 30 1/2" X 16 1/4" Front & Back(C)
  - (1) 14" X 16 1/4" Port(D)
  - (1) 3" X 3" Gusset(E)

**POWER HANDLING:**  
 1000W with 25Hz  
 Subsonic filter  $\phi$ 24db/octave.  
 Without subsonic filter : 1000W

Side View



Front View



TOLERANCES:  
 UNLESS OTHERWISE SPECIFIED  
 BREAK EDGES .01-.02  
 RADIUS OR CHAMFER.  
 SURFACE FINISH: 32

FRACTIONS	DECIMALS
$\pm 1/64$	.03
ANGLES	.XXE .01
$\pm 1^\circ$	.XXXE .005

DIMENSIONS ARE IN:	Inch
DATE	
DRAWN	20-0c1-00
CHECKED	
ENG. APPROVED	

MATERIAL	3/4" MDF
MATL FINISH	NA

**KICKER**  
 AMERICA'S MUSIC MACHINES

DRAWING TITLE	4.50 cf, Fb-33Hz
DRAWING NO.	S15L7-BOX-VENTED-450
SIZE	B
	OF

## SPEAKER SYSTEMS LIMITED WARRANTY

Stillwater Designs warrants this product to be free from defects in material and workmanship under normal use for a period of **one (1) year from date of original purchase**, unless this product is labeled "B Stock", in which case it is warranted for ninety (90) days from date of purchase. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction during the warranty period, Stillwater Designs will replace or repair (at its discretion) the defective merchandise with equivalent merchandise at no charge. Warranty replacements on "B-Stock" may have cosmetic scratches and blemishes. Discontinued products may be replaced with equivalent products.

This warranty is valid only for the **original purchaser** and is not extended to owners of the product subsequent to the original purchaser. Any applicable implied warranties are limited in duration to a period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you.

This warranty gives you specific legal rights; however you may have other rights that vary from state to state.

### WHAT TO DO IF YOU NEED WARRANTY OR SERVICE

Defective merchandise must be returned to your local Authorized Stillwater Designs (Kicker/Impulse) Dealer for warranty. Assistance in locating an Authorized Dealer can be obtained by writing or calling Stillwater Designs direct. You can confirm that a dealer is authorized by asking to see a current authorized dealer window decal.

If it becomes necessary for you to return defective merchandise, call the Kicker Customer Service Department at (405)624-8510 for a Return Authorization (RA) number. Package all defective items in the original container or in a package that will prevent shipping damage, and return to

**Stillwater Designs, 5021 North Perkins Road, Stillwater, OK 74075**

The RA number must be clearly marked on the outside of the package. Return only defective components. Return of entire cabinets, system packs, pairs, etc. increases your return freight charges. Non-defective items received will be returned freight collect.

Include a **dated proof-of-purchase** from an Authorized Dealer. Warranty expiration on items returned without proof-of-purchase will be determined from the manufacturing date code. Coverage may be invalidated if this date is greater than one (1) year previous to the date item is sent in. Freight must be prepaid; items received freight collect will be refused.

Failure to follow these steps may void your warranty. Any questions can be directed to the Kicker Customer Service Department at (405)624-8510.

### WHAT IS NOT COVERED?

This warranty is valid only if the product is used for the purpose for which it was designed.

It does not cover:

- Install slips (screwdriver holes)
- Damage caused by exposure to water and/or excessive heat.
- Damage through negligence, misuse, or accident.
- Items physically damaged due to abuse.
- Freight damage.
- The cost of shipping product to Stillwater Designs Service.
- Items previously repaired by any unauthorized repair facility.
- Items returned from unauthorized individuals or dealers.
- Return shipping on non-defective items.
- Speakers damaged due to amplifier clipping or distortion.
- Speakers with silicon caulk used for gasket material.

### HOW LONG WILL IT TAKE?

Stillwater Designs maintains a goal of 24-hour service for all returns. Delays may be incurred if lack of replacement inventory or parts is encountered.

### INTERNATIONAL WARRANTY

Contact your International Stillwater Designs dealer or distributor concerning specific procedures for your country's warranty policies.

**STILLWATER**  
*Designs*®

P.O. Box 459 • Stillwater, Oklahoma 74076 • U.S.A. • 405 624-8510

## WARNING:

KICKER drivers 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!

January 2001



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