



**LS112**



**LS153**



**LS2153**



**LS1801  
LS1801A**

The LS Series from Carvin Audio are one of the best loudspeaker values available, offering superb sound at high output levels. Your audience will appreciate the crystal clear highs, high intelligibility in the vocal range and deep solid bass, making all the difference in your performance. Building upon the company's long standing reputation for great sonic performance coupled with proven reliability and solid value, the LS Series loudspeakers deliver all the features musicians and mobile DJs demand.

Encompassing main and monitor, 2-way systems, 3-way systems and subwoofer systems with active and passive models, the LS Series is ideally suited to address a wide range of sound reinforcement system requirements from intimate clubs to large scale, high impact music venues. Key features include twist-lock and quarter-inch connectors across all models, steel grills to protect the drivers, recessed steel handles for easy transport, and high order – low loss crossovers that ensure accurate reproduction of music sources. Carvin's LS Series loudspeakers are just what your audience has been waiting for.

The active LS1801A powered subwoofer takes the guesswork out of selecting the ideal power source to drive your subwoofer. The internal amplifier is perfectly mated with the driver, making setup and operation easier with less gear to haul. The active crossover can be engaged for 80Hz or 120Hz, with switchable high pass on the XLR output. Class-D operation and switchmode power technology keeps the amp module cool running and lightweight. Built-in limiters help prevent clipping distortion and protect the driver.

Going one step further, all LS Series loudspeaker enclosures utilize cross grain laminated multi-ply hardwood construction. Why is this important? Unlike other materials, multi-ply hardwood construction results in a lightweight, rigid enclosure with reduced flex and sonic coloration caused by cabinet resonance, and the added benefit of a more structurally robust enclosure designed to handle the rigors of the road. The rugged black Duratuff™ covering adds another layer of protection from dents and scrapes. The Carvin Audio LS Series loudspeakers look every bit as compelling as they sound!

### RECEIVING INSPECTION

INSPECT YOUR LOUDSPEAKER FOR DAMAGE which may have occurred during shipping. If damage is found, please notify the shipping company and Carvin Audio.

SAVE THE CARTON & ALL PACKING MATERIALS. In the event you have to re-ship your unit, always use the original carton and packing material. Carvin Audio and the shipping company are not liable for any damage caused by improper packing.

SAVE YOUR INVOICE. The information will be required for warranty service if needed in the future.

SHIPMENT SHORTAGE. If you find items missing, they may have been shipped separately. Please allow several days for the rest of your order to arrive before inquiring.

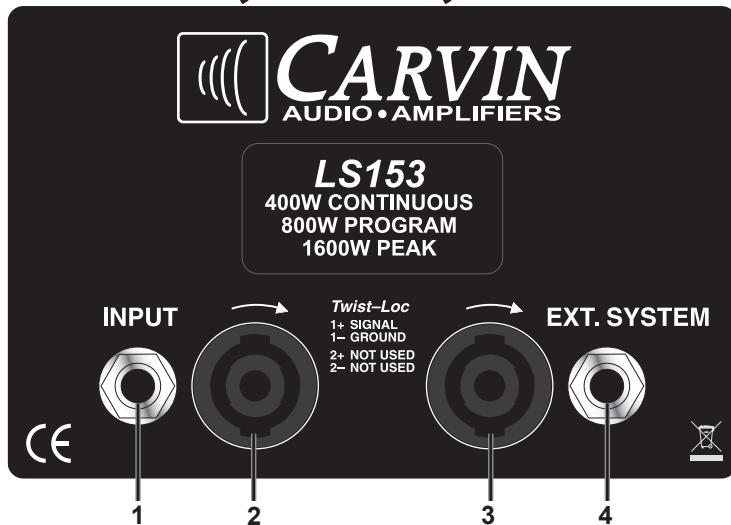
RECORD THE SERIAL NUMBER on the enclosed warranty card for your records. Return the warranty card with your name and comments to us.



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# LS112, LS153, LS2153



## FULL RANGE SPEAKER CONNECTIONS

Use 1/4" or mock for-Lock cables for connecting to the power amp and daisy chaining to additional speakers. For high powered applications use Twist-Lock cables only.

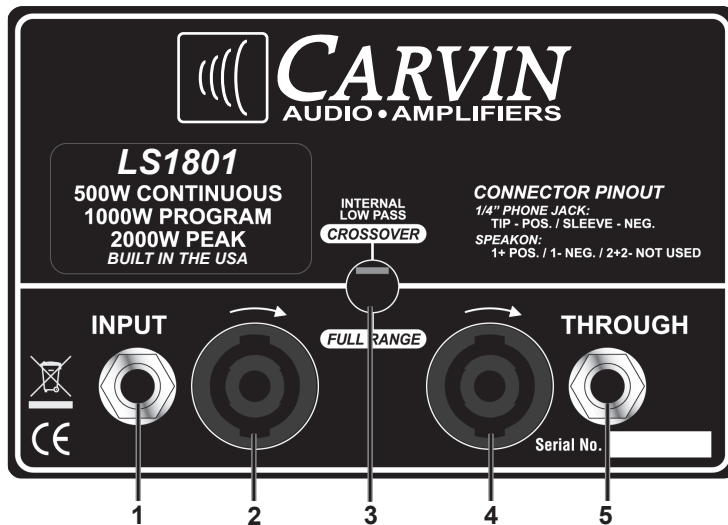
1. 1/4" INPUT from power amp output.
2. Twist-Lock INPUT from power amp.

Note: the Twist-Lock pin configuration is:

- 1+ LF Positive / 1- LF Negative,
- 2+ not connected / 2- not connected

3. Twist-Lock THROUGH wired in parallel with Twist-Lock INPUT.
4. 1/4" THROUGH wired in parallel with 1/4" INPUT.

# LS1801



## SUBWOOFER CONNECTIONS (non-powered models)

Use 1/4" or Twist-Lock cables for connecting to the power amp and daisy chaining to additional speakers. Twist-Lock cables are recommended due to the high power typically used to drive subwoofers.

1. 1/4" INPUT from power amp output.
2. Twist-Lock INPUT from power amp.

Note: the Twist-Lock pin configuration is:

- 1+ LF Positive / 1- LF Negative,
- 2+ not connected / 2- not connected

3. CROSSOVER/FULL RANGE switch to bypass internal crossover (must use active crossover when in FULL RANGE bypass mode)
4. Twist-Lock THROUGH wired in parallel with Twist-Lock INPUT.
5. 1/4" THROUGH wired in parallel with 1/4" INPUT.

## CHOOSING THE CORRECT AMPLIFICATION

Carvin Audio LS Loudspeakers are designed to be used with professional power amplifiers capable of producing the correct power into equivalent speaker loads. Care should be taken to avoid amplifier clipping. A lower power amplifier driven into clipping is more likely to damage a speaker than a higher power amplifier used without clipping. If an amplifier is extremely over driven, the output waveform can approach that of a square wave. Under these extreme conditions, an amplifier is capable of producing far more power than its un-distorted rated power output.

Ideally, Carvin Audio recommends an amplifier with an RMS power output which is at least the speaker's RMS power rating, and less or equal to the Program power rating of the speaker. (See SPECIFICATIONS).

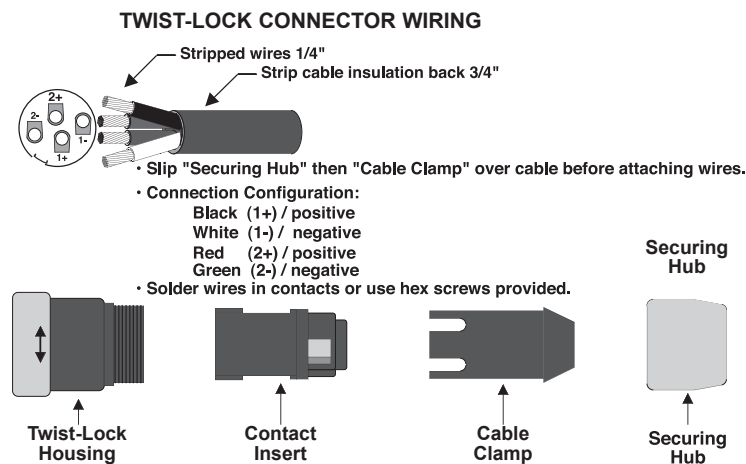
Always turn on the amplifiers after the mixer and control systems have been powered on. This will eliminate power peaks due to switch on surges which can damage loudspeakers. When powering down the system, reverse the sequence and switch off the power amplifiers first.

## SUGGESTIONS FOR OPTIMAL PERFORMANCE

- To help control feedback and to correct for venue characteristics, use a graphic EQ or a speaker management controller.
- For optimal coverage and dispersion, elevate the high frequency horns above eye level.
- For optimal headroom, select an amplifier with RMS power output between the RMS and Program power ratings of the loudspeaker system.
- Ensure all amplifiers are supplied and connected to properly rated AC power circuits. Amplifiers not getting enough AC power may cause premature clipping distortion which can damage speakers.

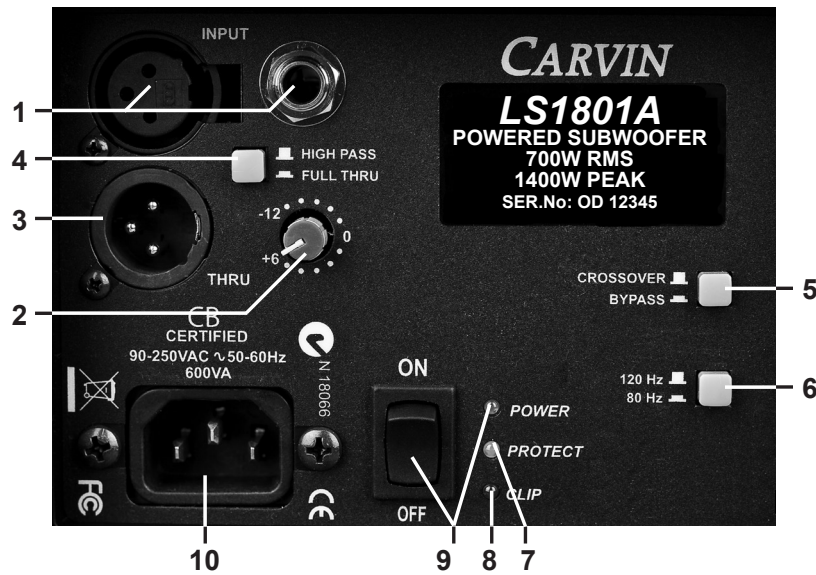
## SPEAKER CABLES

Use either Carvin's professional 1/4" speaker cables for up to 50 feet. 18GA cables are not recommended. Use high-current 12GA Twist-Lock cables for longer lengths up to 150 feet or when using high power amplifiers. You can DAISY-CHAIN up to one additional speaker per cable by using the 1/4" OUTPUT connector, or chain several using the Twist-Lock connector. Be sure the total impedance to the amplifier is not lower than the amplifier's minimum impedance.



# LS1801A

## ACTIVE SUBWOOFER



### 1. INPUT 1 XLR and 1/4" (TRS) JACK

Use these as the primary input from a mixer. Using an XLR or 1/4" TRS cable from a balanced source will reduce noise which may be picked up by the cable. You may daisy-chain as many powered systems as you wish with the OUTPUT XLR (see #3).

### 2. LEVEL CONTROL

Adjust the overall volume of the subwoofer.

### 3. OUTPUT XLR

Use the second XLR to link as many active powered systems as you wish. The signal may be affected by the HIGH PASS switch (see #4).

### 4. HIGH PASS OUTPUT SWITCH

The HIGH PASS switch changes the signal at XLR THRU from FULL range (parallel with Input) to HIGH PASS output (all frequencies above the 120Hz/80Hz crossover switch setting).

This is useful when connecting to amplified top cabinets so they can deliver more clean power to frequencies above the crossover setting, with the subwoofer handling the lower frequencies.

### 5. CROSSOVER BYPASS SWITCH

The crossover bypass switch bypasses the internal active crossover allowing the use of an outboard active crossover.

### 6. CROSSOVER FREQUENCY SWITCH

The CROSSOVER FREQUENCY switch selects the highest frequency to produced by the subwoofer. The 120Hz (OUT) setting is generally used with small to mid-sized speakers in your setup. The 80Hz (IN) setting is generally used with larger speakers.

### 7. PROTECT LED

If the system should go into protect mode, the YELLOW LED will light and the power amp will shut off.

This may occur if; a) the system is overheated due to clipping the power amps for an extended period of time, b) one of the internal speakers or wiring has developed a short, or c) the power amps require service.

### 8. CLIP LED

The RED CLIP LED will flash if an internal power amp start to distort. Turn the LEVEL controls down to avoid distortion. Damage to the drivers can result from operating at a level where the RED CLIP LED is constantly illuminated.

### 9. POWER SWITCH and LED

Push this switch to the "ON" position to apply power to the unit. The blue POWER LED will light to show the system is on. Power up your mixer first, then turn on the LS active speaker. When shutting down, turn the LS active speaker off first, then turn off the mixer.

### 10. AC POWER

The AC POWER JACK will accept 90VAC to 250VAC, 50Hz or 60Hz. Plug the cord into a grounded 3 prong power source. No attempt should ever be made to use the AC cord without the ground connected.

A locking AC cord (Carvin part# 120V18L7) is supplied. However, a standard AC cord can be used. (for European 230V use a CEE-7 plug cord set).

To detach the cord from the subwoofer, press the release lever on the top of the cord near the power switch.




LOCKING AC CORD  
120V18L7





| Specification                            | LS112   | LS153   | LS2153  |
|--|---|---|---|
| System Type:                             | 12-inch 2-Way, bass-reflex                                | 15-inch 3-Way, bass-reflex                              | Dual 15-inch 3-Way, bass-reflex                         |
| Frequency Response:                      | 55 Hz – 20 kHz (-10dB)<br>76 Hz – 18 kHz (-3dB)           | 53 Hz – 20 kHz (-10dB)<br>68 Hz – 18 kHz (-3dB)         | 45 Hz – 20 kHz (-10dB)<br>51 Hz – 18 kHz (-3dB)         |
| Coverage Pattern:                        | 90H x 60V main, 60H x 90V monitor                         | 90H x 60V main, 60H x 90V monitor                       | 90H x 60V   |
| Crossover:                               | 2-Way with Speaker Guard™ HF                              | 3-Way with Speaker Guard™ HF                            | 3-Way with Speaker Guard™ HF                            |
| Crossover Frequency:                     | 2.5 kHz   | 600Hz & 2.5 kHz   | 350Hz, 2.5 kHz  |
| Power (Full Range): Cont. / Prog. / Peak | 300W / 600W / 1200W                                       | 400W / 800W / 1600W                                     | 800W / 1600W / 3200W                                    |
| Sensitivity (1W @ 1m):                   | 96dB  | 98dB  | 101dB   |
| Maximum SPL:                             | 127dB   | 130dB   | 136dB   |
| LF Driver:                               | 12-inch woofer  | 15-inch woofer  | 15-inch woofer  |
| MF Driver:                               | n/a   | 6.5-inch mid  | 15-inch woofer/mid                                      |
| HF Driver:                               | 1-inch titanium   | 1-inch titanium   | 1-inch 1.5" Dia. titanium                               |
| Nominal Impedance full range:            | 8 Ohms  | 8 Ohms  | 4 Ohms  |
| Suspension/Mounting:                     | 1-3/8-inch pole mount                                     | 1-3/8-inch pole mount                                   | none  |
| Connectors:                              | Two NL-4 Twist-lock<br>Two 1/4" TS jacks                  | Two NL-4 Twist-lock<br>Two 1/4" TS jacks                | Two NL-4 Twist-lock<br>Two 1/4" TS jacks                |
| Dimensions (H x W x D):                  | 22.5 in x 14.25 in x 14.25 in<br>572 mm x 362 mm x 362 mm | 26.5 in x 17.5 in x 15.5 in<br>674 mm x 445 mm x 394 mm | 43.75 in x 16.5 in x 15 in<br>1110 mm x 420 mm x 380 mm |
| Net Wt:                                  | 28.4 lb (13 kg)   | 40.8 lb (18.6 kg)                                       | 73 lb (33 kg)   |
| Optional Accessories:                    | CVLS112 cover   | CVLS153 cover   | CVS2153 cover   |

| Specification                            | LS1801  | LS1801A active subwoofer  |
|--|---|---|
| System Type:                             | 18-inch Sub, bass-reflex                                  | SAME AS PASSIVE LS1801 EXCEPT:  |
| Frequency Response:                      | 29 Hz – 265 Hz (-10dB)<br>35 Hz – 150 Hz (-3dB)           | Internal Amplifier: 1400Watts<br>Maximum SPL: 128dB peak<br>Crossover Frequency: 80Hz, 120Hz or Bypass<br>Speaker Protection:<br>Active Limiter |
| Coverage Pattern:                        | omni  | Connectors:<br>one XLR Male, one XLR Female<br>one 1/4" TRS jack<br>AC Power Requirement:<br>90-250VAC 50-60Hz 600VA                            |
| Crossover:                               | Low Pass  |   |
| Crossover Frequency:                     | 150 Hz  |   |
| Power (Full Range): Cont. / Prog. / Peak | 500W / 1000W / 2000W                                      |   |
| Sensitivity (1W @ 1m):                   | 98dB  |   |
| Maximum SPL:                             | 131dB   |   |
| LF Driver:                               | 18-inch woofer  |   |
| Nominal Impedance full range:            | 8 Ohms  |   |
| Suspension/Mounting:                     | Top 1-3/8-inch Pole Mount                                 |   |
| Connectors:                              | Two NL-4 Twist-lock<br>Two 1/4" TS jacks                  |   |
| Dimensions (H x W x D):                  | 23.5 in x 19.75 in x 22.75 in<br>600 mm x 505 mm x 580 mm |   |
| Net Wt:                                  | 53 lb (24 kg)   |   |
| Optional Accessories:                    | CVS1801A cover  |   |

|   |   |  |  |
|---|---|--|--|
|  <p>This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.</p>  | <p><b>CAUTION</b></p> <p>RISK OF ELECTRIC SHOCK<br/>DO NOT OPEN</p>  |  <p>This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.</p> | <p><b>LIMITED WARRANTY</b></p> <p>Your Carvin loudspeaker is guaranteed against failure due to manufacturing defects for 5 YEARS, or 1 YEAR for active electronics, unless otherwise stated. Carvin will service and supply all parts at no charge to the customer providing the unit is under warranty. Shipping costs are the responsibility of the customer. CARVIN DOES NOT PAY FOR PARTS OR SERVICING OTHER THAN OUR OWN. A COPY OF THE ORIGINAL INVOICE IS REQUIRED TO VERIFY YOUR WARRANTY. This warranty does not cover, and no liability is assumed, for damage due to: natural disasters, accidents, abuse, loss of parts, lack of reasonable care, incorrect use, or failure to follow instructions. Warranty does not cover burned out drivers caused by excessive power or distortion, or physical damage caused by general use, moisture or dust. This warranty is in lieu of all other warranties, expressed or implied. No representative or person is authorized to represent or assume for Carvin any liability in connection with the sale or servicing of Carvin Audio products. CARVIN SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.</p> <p><b>MAINTAINING YOUR EQUIPMENT</b></p> <p>Avoid spilling liquids or allowing any other foreign matter inside the unit. The panel of your unit can be wiped with a dry or slightly damp cloth in order to remove dust and bring back the new look. As with all pro gear, avoid prolonged use in caustic environments (salt air). When used in such an environment, be sure the equipment is adequately protected. CAUTION: Square wave distortion from power amps can destroy drivers much faster than clean RMS power.</p> <p><b>SERVICE:</b></p> <p>In the USA: Visit our website: <a href="http://www.carvinaudio.com">www.carvinaudio.com</a> under "SUPPORT" click on "REPAIR INFORMATION"</p> <p>Outside the USA: contact your dealer, or go to <a href="http://www.carvinaudio.com">http://www.carvinaudio.com</a> click on "DEALERS" for your nearest service center.</p> <p>Include a written description of the problem with serial number and date of purchase.</p> |
| <p><b>IMPORTANT! FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:</b></p> <p><b>WATER AND MOISTURE:</b> Appliance should not be used near water (near a bathtub, washbowl, sink, laundry tub, in a wet basement, near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.</p> <p><b>POWER SOURCES:</b> The product should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.</p> <p><b>GROUNDING OR POLARIZATION:</b> Precautions should be taken so that the grounding or polarization is not defeated.</p> <p><b>POWER CORD PROTECTION:</b> Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plug ends.</p> <p><b>SERVICING:</b> The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.</p> <p><b>FUSING:</b> If your unit is equipped with a fuse receptacle, replace only with the same type fuse. Refer to replacement text on the unit for correct fuse type.</p> |   |  |  |
| <p><b>SAFETY INSTRUCTIONS (EUROPEAN)</b></p> <p>The conductors in the AC power cord are colored in accordance with the following code.<br/>GREEN &amp; YELLOW—Earth    BLUE—Neutral    BROWN—Live</p> <p><b>U.K. MAIN PLUG WARNING:</b> A molded main plug that has been cut off from the cord is unsafe. NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAIN PLUG INTO A POWER SOCKET.</p>   |   |  |  |