

# RoarЯ

Owner's Manual

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# INTRODUCTION

Congratulations on having bought a Roarr powered subwoofer! In order to get the best out of your equipment we suggest that you carefully read this manual before hooking it up with your existing system.

If you intend to use your powered subwoofer with your Home Theater, be prepared for a totally new experience. All those sounds that are meant to be felt, not heard - the explosions, the vibrations caused by the footsteps of a dinosaur, the thrust of a jet, they will all come alive in your room! It is not only special effects that your new powered subwoofer can deliver; with music, it introduces a new dimension to bass drum kicks, bass guitar notes and pedal organs. Your powered subwoofer is equipped with ample reserve power to effortlessly reproduce these very low frequencies with astounding realism, and thus allow you to explore new depths in your music.

# PRODUCT FEATURES

Your powered subwoofer has a host of features to ensure effective low frequency response. They are:

- \* Built in high power, low distortion power amplifier to drive the dedicated subwoofer driver
- \* Efficient subwoofer - amplifier integration that reproduces lows comfortably down to the threshold of human hearing
- \* Serious internal cabinet bracing and sealing to minimize spurious noises
- \* Variable Crossover Frequency
- \* Phase Switch
- \* Auto Power On
- \* Line level & High level Inputs (High level input needs the HL box)

These features and their operations are explained in the following pages. Also contained in your manual are setup directions, and a few trouble-shooting tips. It is important that you read this manual carefully to ensure that you receive all the unique benefits of this equipment.

# UNPACKING

Before installing your powered subwoofer, please ensure that the following are in the box:

1. 1 powered subwoofer
2. 1 set RCA - RCA cable
3. 1 mains cord

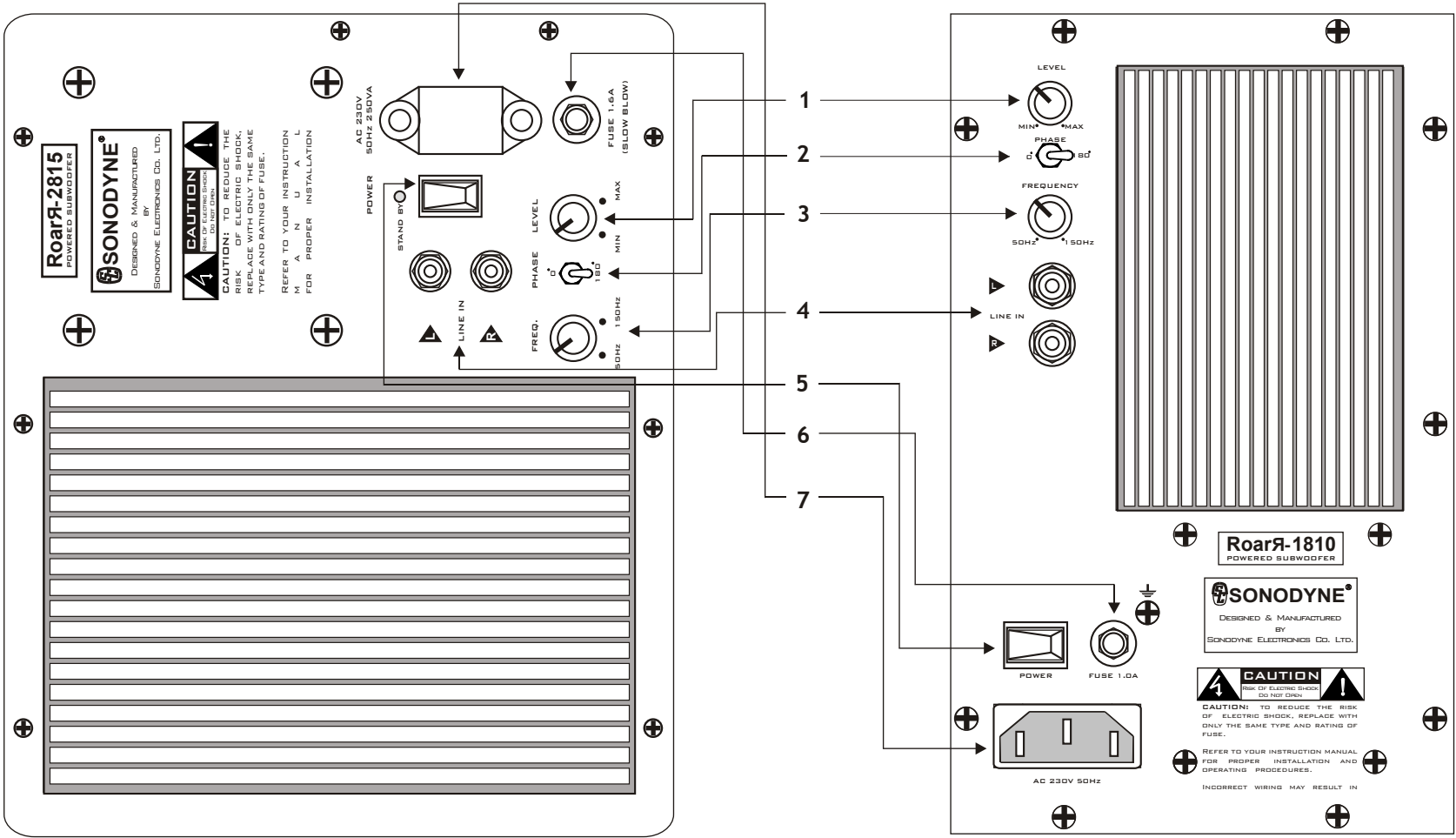
A standard hardware for the Roarr is the 'Spike It' kit that comprises 4 hardened steel spikes; a tightening lever, and 4 brass bases for the spikes.

Please contact your dealer immediately if any of the above is absent and/or if the components appear damaged upon removal from the carton.

Please retain the packing and carton in case you need to transport your system again.

# FIGURE 1

## CONTROLS



# AMPLIFIER FUNCTIONS & CONTROLS

1. **LEVEL CONTROL:** This control allows you to increase or decrease the subwoofer volume. The level will need to be set initially at a particular position. This is not meant for use as a volume control for constant use. You should be able to control the subwoofer volume by the master volume on your preamplifier or amplifier.
2. **PHASE SWITCH:** This switch has two positions marked 0 (deg.) and 180 (deg.). When you are playing the subwoofer with your existing amplifier and speaker system which has, say, a fairly good bass response, it might happen that turning the subwoofer on weakens the bass instead of reinforcing it. This is because the low frequency signal produced by your existing system and that produced by your subwoofer are wholly or partially 'out of phase'. In such a situation, change the position of the Phase Switch.  
Note: There is no hard and fast rule that governs phase setting. Do experiment for best results.
3. **CROSSOVER FREQUENCY CONTROL:** A subwoofer generally reproduces frequencies from 150 Hz and below. The lowest frequency that can be reproduced is determined by the characteristics of the speaker unit itself while the upper frequency limit (in this case 150 Hz) is deliberately imposed. With your subwoofer, the upper limit (corner frequency) can be varied continuously between 50 and 150 Hz. There is no rule that governs the corner frequency setting. Do experiment with the range provided till you locate the point at which the overall sound of your audio system is balanced.  
Note: Equal demarcations from 50 to 150 Hz correspond to 75, 100, 125 Hz.
4. **LINE IN:** Connect the 'Line Out' of your preamplifier (or 'Subwoofer' channel of your Home Theater receiver) to the Line In, with the RCA to RCA cables supplied.
5. **POWER SWITCH/ SIGNAL PRESENT INDICATOR:** This is a rocker type switch that glows red upon turning on the power to the system. With the front Green LED off, and this switch on and glowing red, it also indicates that the system is in standby mode.
6. **FUSE:** This is a safety device that protects the equipment and also prevents fire hazards. Should the fuse need to be replaced, unscrew the cap and replace with only the same type and rating of the original fuse.
7. **(IEC type) MAINS SOCKET :** Attach the mains cord provided to this socket to power your subwoofer.

# CONNECTIONS & OPERATIONS

With all audio equipment OFF

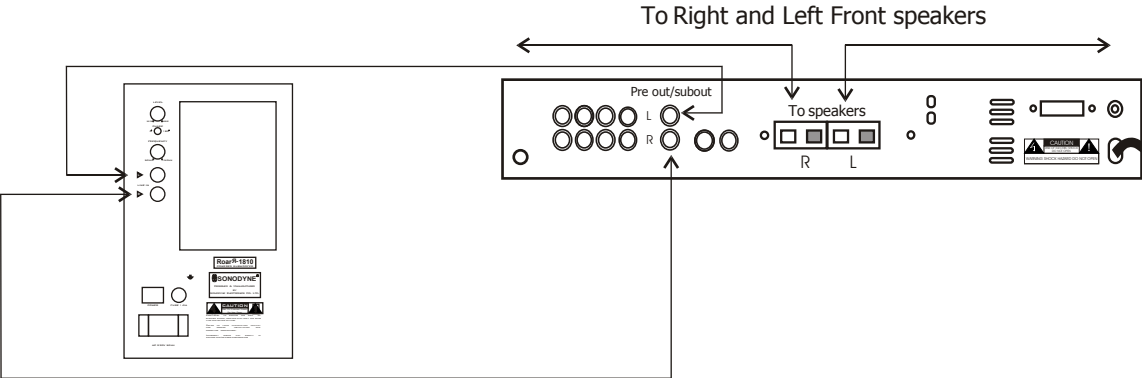
1. Connect to the LINE IN of your subwoofer : The 'Line out' (or 'Subwoofer Out') of your preamplifier, amplifier, processor, or source. (Please refer to the 'Notes' if you intend to use a high level input.) Use the RCA- RCA cables provided.
2. Keep the Level control at 'Min,' and the Crossover Freq. at or around '100 Hz.'
3. Plug in the Mains Cord to a 230 V AC outlet.
4. Switch on power to the system
5. Switch 'ON' your source and amplifier/preamplifier.
6. Play a section of audio that you know has good low frequency (bass) recording.
7. Turn up the volume of your amp/preamp till you attain a comfortable listening level.
8. Now, slowly turn up the Level of your subwoofer till you reach the maximum undistorted volume/ the level of bass that you desire.
9. Adjust the Crossover Freq. to find a setting that gives you the most satisfying bass response (It would be a good idea to find out the low frequency limit of your main speakers. This should allow you to have a more educated approach towards setting the limiting frequency of your subwoofer).
10. Flick the Phase Switch to 0 and 180 (degrees) to determine the setting that gives the better low frequency response.

Please Note: Since the effects of the last 4 steps are interdependent, you might have to repeat them before setup is complete!

Notes: The HL box provides an easy solution if your amplifier/ receiver does not have a sub/ preout. This nifty tool accepts your speaker level inputs, and provides two outputs; a high pass (120 Hz) speaker level signal to your main speakers, and a line level signal to the Roarr.

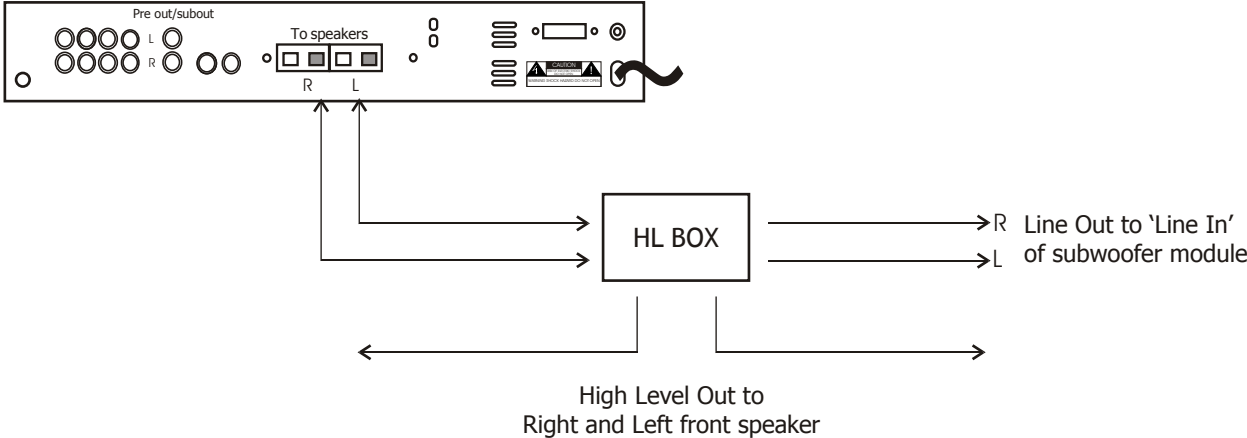
# FIG 2: CONNECTIONS

## Connecting to the pre out/subwoofer out of preamp/amp



**Note:**  
While, for the sake of simplicity, a stereo amplifier has been shown here. The same connections also hold for similar outputs on a home theater receiver/ multi-channel amplifier.

## Connecting to the high level output of amplifier



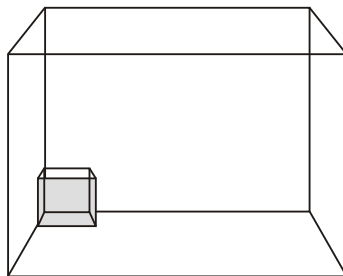
# PLACEMENT

Low frequencies below 150 Hz are omnidirectional; that is, they seem to come from all directions. Hence it would not be possible to locate the subwoofer no matter where it is placed in your room. This, however, does not necessarily mean that the placement of the subwoofer is not critical. Each room, depending on its shape and dimensions, has a number of resonant frequencies that react with each other. Thus, the level of perceived bass may vary across a room depending on where source of sound is placed. Suggestions on placement are given in the Figures below. It is important to note that every reflecting surface increases the low frequency level by 3dB. Hence, when you place your subwoofer up against a wall, you get a higher level of low frequencies than when it is placed further away from any wall. Similarly, when you place it in a corner, the three reflecting surfaces further increase the level. However, this may result in uneven distribution of bass across your room, as discussed before. Hence, experiment with the placement and monitor its bass while sitting at your favorite listening spot. It may take a while before you finally arrive at the optimum location.

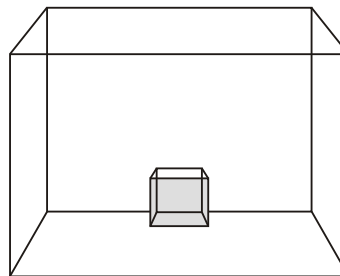
One experiment that usually works is this. Start out by placing your subwoofer where your favourite listening spot is (you will have to take the trouble of vacating your armchair, but only briefly!) Then, turn on your subwoofer and move across the room to find a spot where bass response is best. This is the optimal position of your subwoofer with reference to your favourite listening spot.

## FIGURE 3 SUBWOOFER PLACEMENT

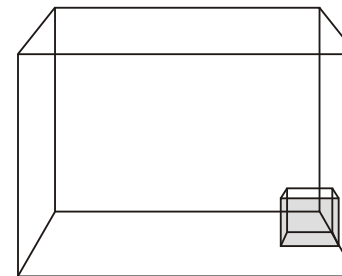
... In a corner



... Against a back wall



... Against a side wall



# TROUBLESHOOTING

Your subwoofer has undergone thorough measurement and testing in our factory before being shipped. Manufacturing defects have thus been minimized. However, in the unlikely event that practical inconveniences arise, the following should assist to remedy the same.

If your concern is not cited below, please contact your local Sonodyne dealer or a Sonodyne authorised service centre.

**Problem:**

Bass response seems to be inadequate...

**Solution:**

- A. Switch the Phase to the opposite of its current setting. If this fails, then turn the Corner Freq. knob further toward '150 Hz.' (It might so happen that there is inadequate low frequency information in the audio track, and thus you need to extend the upper frequency response of your subwoofer)
- B. The subwoofer may not be getting adequate input drive. This can happen in the event that you are using only one of the 2 Line Level inputs. Ensure that both L and R inputs of the subwoofer are receiving the input signal (even though the input may be mono).

**Problem:**

After connecting the amplifier to the subwoofer, and the subwoofer to the front speakers, the front speakers produce no sound...

**Solution:**

Ensure that you have connected the speaker wires from the amplifier in the correct fashion to the HL Box; from the HL Box to the Roarr and the front speakers (Refer to Figure 2)

# SPECIFICATIONS

	<b>Roarr 1810</b>	<b>Roarr 2815</b>
<b>Description</b>	Powered subwoofer.	Powered subwoofer.
<b>System</b>	downward-firing vented subwoofer	downward-firing vented subwoofer
<b>Cabinet - Material</b>	18mm MDF	18mm MDF
<b>Drive Units</b>	1 x 8" Polypropylene Cone Subwoofer	2 x 8" Polypropylene Cone Subwoofer
<b>Freq. Response (- 3dB)</b>	35Hz - Crossover Freq.	32Hz - Crossover Freq.
<b>Usable Freq. Resp.(-10dB)</b>	30Hz	27.5 Hz
<b>Subsonic Filter</b>	2nd order: 30Hz	2nd order: 30Hz
<b>Amplifier Power</b>	100 watt before clipping.	150 watt before clipping.
<b>Sensitivity (1w/1m)</b>	90dB	92dB
<b>Amplifier THD</b>	< 0.05% at rated power.	< 0.05% at rated power.
<b>Low Pass Filter (LPF)</b>	12 dB/octave-initial (effected by variable crossover freq.) 36 dB/ octave - ultimate (fixed crossover at 200Hz)	12 dB/octave-initial (effected by variable crossover freq.) 36 dB/ octave - ultimate (fixed crossover at 200Hz)
<b>LPF type</b>	Bessel	Bessel
<b>Crossover Frequency</b>	Continuously variable: 50 - 150 Hz	Continuously variable: 50 - 150 Hz
<b>Input sensitivity at 70 Hz</b>	140.00mV/ 10K ohm.	140.00mV/ 10K ohm.
<b>Phase</b>	Switchable: 0 & 180 degree.	Switchable: 0 & 180 degree.
<b>Finish</b>	Natural wood with mirror gloss top	Natural wood with mirror gloss top
<b>Dimensions (h x w x d)</b>	421x 300 x 400 (without spikes)	519x 300 x 460 (without spikes)
<b>Net Weight</b>	15 Kg.	27 Kg.