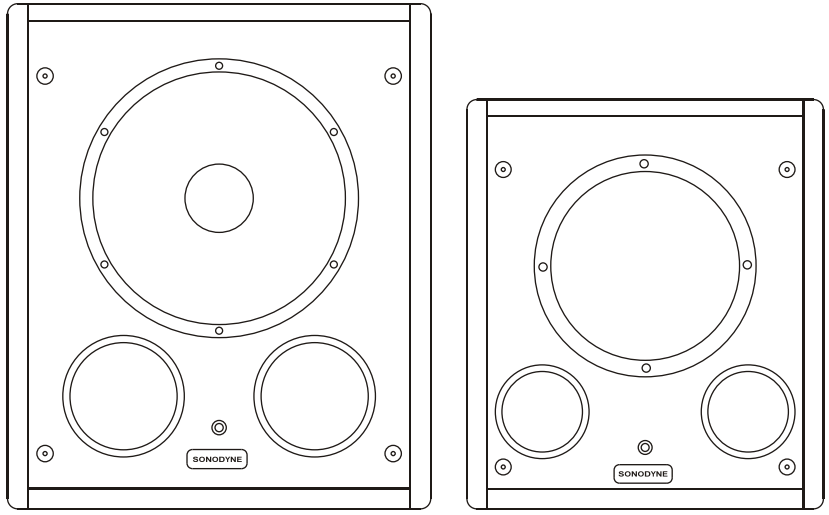
SONODYNE®

CELEBRATING 40 YEARS OF AUDIO INNOVATION

SLF 106/ 108

powered subwoofer | owners manual



SONODYNE®

A product of the **Mukherjee Innovation Centre**

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SONODYNE®
REFERENCE SERIES

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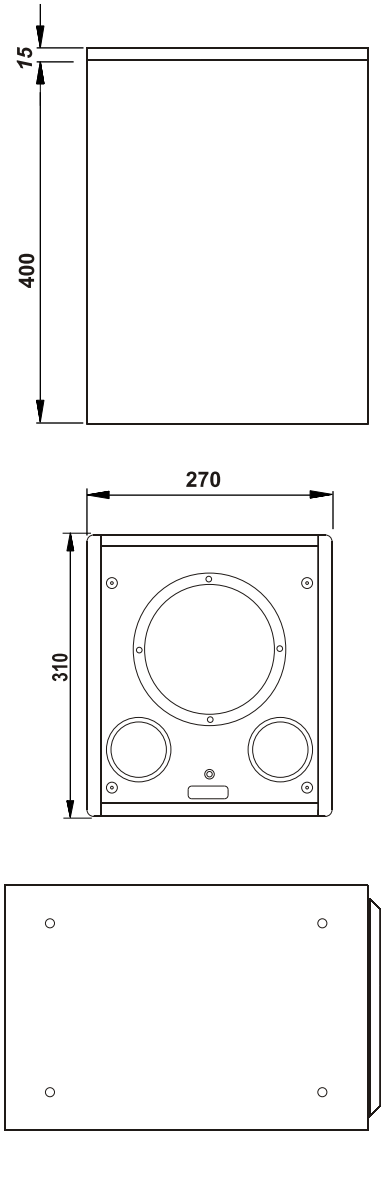
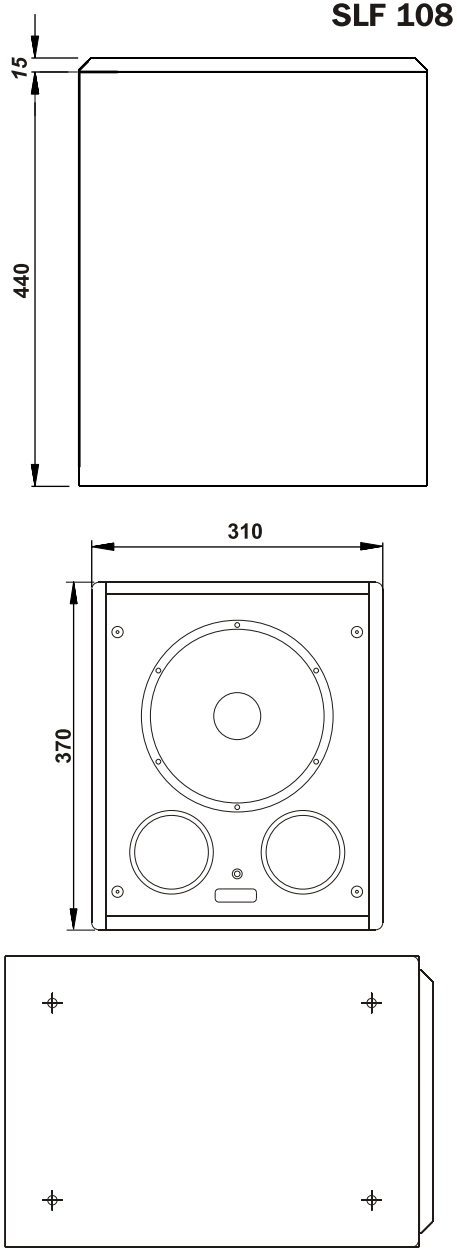
Fig. 5: Mechanical Dimensions

SLF 106



SLF 108



Specifications: SLF 108

DESCRIPTION	Front firing vented subwoofer
FREQUENCY RESPONSE (-6dB)	35Hz ~ Crossover Frequency
USABLE FREQUENCY RESPONSE (-10dB)	30Hz
TRANSDUCER COMPLEMENTS	1 x 8" high- excursion subwoofer
MAXIMUM SPL	109dB
AMPLIFIER POWER	80W
AMPLIFIER TYPE	Class AB
AMPLIFIER THD	0.1% at rated power
INPUT LEVEL FOR RATED POWER	+5dBU(1.4V) at 80Hz (frequency at mid and level control at max)
BUILT-IN SWITCHES	1. Polarity 2. Limiter On/Off switch 3. Ground Lift switch
REMOTE SWITCHING	1/4" Phone jack for connecting foot-pedal switch
CONTROLS	1.Crossover frequency 60Hz ~ 180Hz 2. Phase, 0° ~ 180° 3. Gain, -60dB to +6dB
INPUT	Left, Right and LFE, Fully balanced, through XLR socket
OUTPUT (LINE LEVEL)	Left and Right, fixed 120 Hz highpass, Fully balanced, through XLR socket
ENCLOSURE MATERIAL	15mm MDF
ENCLOSURE VOLUME	18L
FINISH	Black painted
GRILL	Black grill cloth stretched over wooden frame
POWER SOURCE	230V AC, 50Hz, via fused IEC inlet, 115V optional
POWER CONSUMPTION	130VA at rated power
DIMENSIONS (HxWxD)	370mm x 310mm x 455mm
NET WEIGHT	

Due to continuous improvements, all specificaions are subject to change

Statutory Information

Thank you for selecting the Sonodyne SLF 106/ 108 subwoofer.

Please read through this owner's manual carefully for details on product features and operation. Please unpack with care and retain the packaging for future use.

This symbol warns there is uninsulated (dangerous) voltage in the cabinet of the unit.

This symbol indicates there are important instructions on operation and maintenance.

IMPORTANT SAFETY INSTRUCTIONS

1. The unit should be connected only to a wall outlet providing the correct mains voltage and frequency as printed on the product.
2. Connect the unit to the mains only with the mains cable supplied with the unit.
3. Ensure that the wall outlet is properly earthed, that is, the earth must be connected to a earth bus-bar which connects to other audio equipments and is not shared by noisy equipments like computers, air-conditioners, lighting appliances etc. The earth connection must be checked and certified by a qualified electrical engineer.
4. Do not place the unit on an unstable surface that may topple and cause the unit to fall, thereby causing injury to the user or other people.
5. Do not place the unit outdoors where it may be exposed to strong sunlight, rain or moisture. Do not place it near a water body or sprinkler.
6. Do not cover the unit or block the ventilation holes on the back which may cause it to heat up.
7. Do not place the unit near heat radiating items like stoves, radiator etc.
8. Do not allow liquid or any chemical to spill on or into the product.
9. Do not allow the mains cord to be trodden or pinched particularly at the wall outlets or at the point of entry of the cord into the unit.
10. Do not open the unit or attempt to service it yourself. There is no user-serviceable part inside. Refer servicing to qualified service personnel only.
11. Replace only with the same type and rating of fuse as printed on the product.
12. Do not overload wall outlets that provide power to this unit.

Introduction • Inside the box • Unpacking

INTRODUCTION

Congratulations on your purchase of the SLF 106/ 108 subwoofer. The SLF has been in circulation for nearly a decade now; the new models therefore embody new ears and years of dedicated study of LF reproduction.

The unique cabinet design, the high excursion transducer, the low THD Sonodyne Class D amplifier, and a host of features presents an accurate solution to monitor 2.1 and 5.1 mixes.

INSIDE THE BOX

- 1 x SLF subwoofer
- 1 x power cord
- 1 x owners manual
- 1 x set of legs/ spikes with adjusting lever

UNPACKING

To unpack the unit, open the carton by cutting along the edge of the flaps. Push the flaps wide open. Fold one flap and tilt the carton on this edge taking care that the flaps stay open. Gently turn the carton upside down so that the flaps stay open and spread out, and the unit comes to rest on the EP buffer. You may need someone to help you with this. Next, lift the carton from the unit. Remove the EP buffer on the bottom of the unit, facing you.

Screw on the spikes supplied or any other leg that you intend to use, onto the 4 metal inserts on the bottom of the unit. To check out the thread compatibility of other legs, please refer to the diagram given under mechanical dimensions (Fig. 5 on Page 13).

Carefully lift the unit from the EP buffer on which it is resting, strip it of its protective cover and place it in its intended location.

Specifications: SLF 106

DESCRIPTION	Front firing vented subwoofer
FREQUENCY RESPONSE (-6dB)	42Hz ~ Crossover Frequency
USABLE FREQUENCY RESPONSE (-10dB)	38Hz
TRANSDUCER COMPLEMENTS	1 x 6" high- excursion subwoofer
MAXIMUM SPL	107dB
AMPLIFIER POWER	80W
AMPLIFIER TYPE	Class AB
AMPLIFIER THD	0.1% at rated power
INPUT LEVEL FOR RATED POWER	+5dBU(1.4V) at 80Hz (frequency at mid and level control at max)
BUILT-IN SWITCHES	1. Polarity 2. Limiter On/Off switch 3. Ground Lift switch
REMOTE SWITCHING	1/4" Phone jack for connecting foot-pedal switch
CONTROLS	1.Crossover frequency 60Hz ~ 180Hz 2. Phase, 0° ~ 180° 3. Gain, -60dB to +6dB
INPUT	Left, Right and LFE, Fully balanced, through XLR socket
OUTPUT (LINE LEVEL)	Left and Right, fixed 120 Hz highpass, Fully balanced, through XLR socket
ENCLOSURE MATERIAL	15mm MDF
ENCLOSURE VOLUME	18L
FINISH	Black painted
GRILL	Black grill cloth stretched over wooden frame
POWER SOURCE	230V AC, 50Hz, via fused IEC inlet, 115V optional
POWER CONSUMPTION	130VA at rated power
DIMENSIONS (HxWxD)	310mm x 270mm x 412mm
NET WEIGHT	

Due to continuous improvements, all specificaions are subject to change

Troubleshooting

SYMPTOM: No power (Blue indicator does not light up)
POSSIBLE REMEDIES:

1. Check that the mains cable is properly plugged into the wall outlet.
2. Check that correct voltage is available from the wall outlet.
3. Check that the fuse in the IEC AC socket has not blown. Replace with spare fuse inside the fuse cover if fuse has blown.
4. Check that the power switch is turned on.

SYMPTOM: No sound
POSSIBLE REMEDIES:

1. Check that input cables to left/right/LFE is plugged in.
2. Check that level control of subwoofer is not turned all the way down.
3. Check that footswitch is not activated.
4. Check that signal is present at the output sockets of console or other source equipment.
5. Check that cable connection is OK- there should be continuity for each of the pins between one end and the other.
6. If one of the monitors is working, swap the cables to see if the subwoofer starts playing - if not, the unit needs to be serviced.

SYMPTOM: Distorted sound
POSSIBLE REMEDIES:

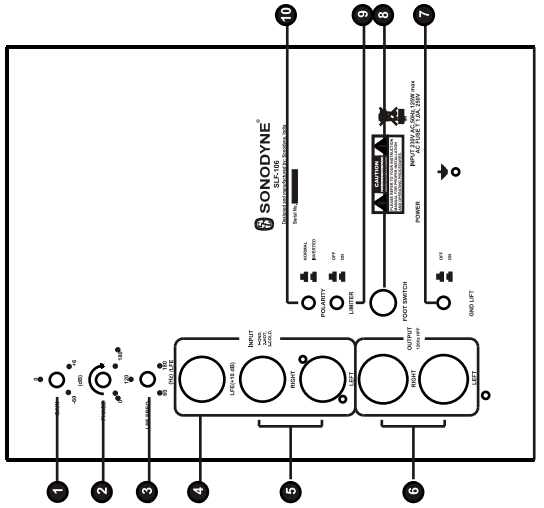
1. Check whether output level from console or source equipment too high, causing overload of input stages .
2. Check for loose cable contacts.
3. If one of your monitors is working properly, connect the cable to the monitor. Cover the tweeter with your hand and listen to the woofer. If you hear no distortion, the subwoofer has developed a fault and needs servicing.

SYMPTOM: Buzz/hum
POSSIBLE REMEDIES:

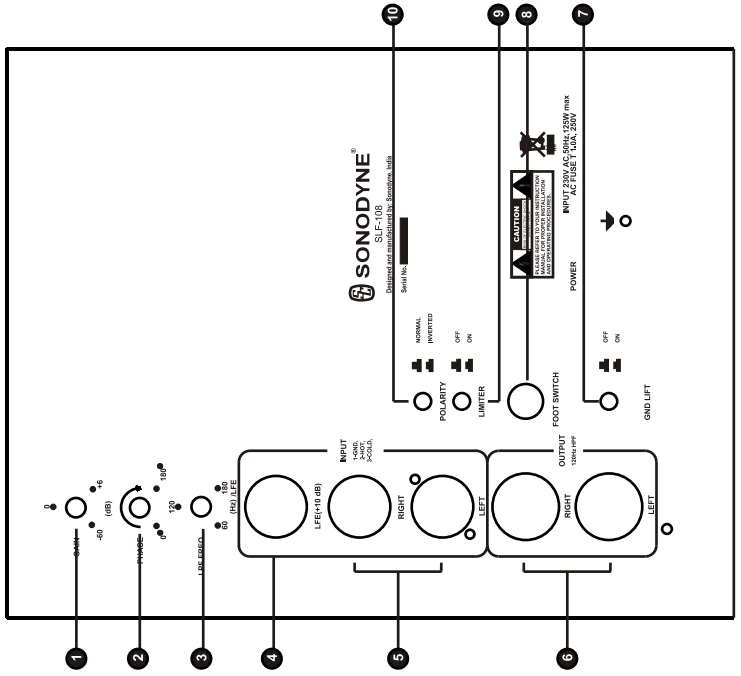
1. Press the ground lift switch.
2. Check that the cable contacts are OK- replace with a cable that is known to be good.
3. Unplug the input cable or cables one by one, till the buzz disappears. If buzz does not disappear, your subwoofer unit needs servicing.

Fig 1: Rear View

SLF 106



SLF 108

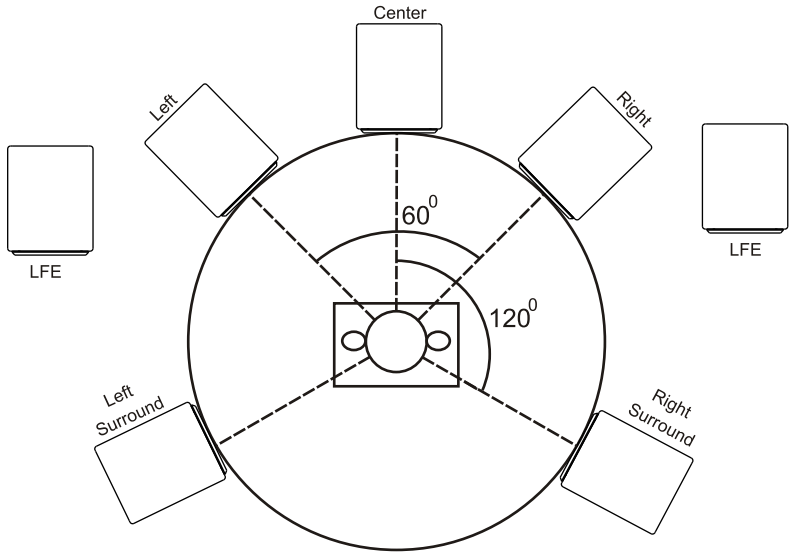


Controls & Switches

1. **GAIN:** This controls the level of the subwoofer output. The control has a range of -60dB to +6dB. When turned all the way down, it fully attenuates the sub output. At mid position, the gain is 0dB, and at extreme clock wise position, the gain is 6dB.
2. **PHASE:** This allows you to fine tune the phase of the subwoofer at the listening position. The procedure for adjusting the phase is given in the section under Setup. This control must be used in conjunction with the polarity switch. (10)
3. **LPF FREQ:** This is the crossover frequency control of the subwoofer. LPF stands for the low pass filter which channels low frequencies only to the subwoofer. The range is 50Hz ~ 150Hz. At mid position, the frequency setting is 80Hz. Use this control to match the SLF response to that of the low frequency response of your main monitors. If you have connected a dedicated sub out channel from your source equipment to the LFE input, keep the frequency control at the max. Setting (150Hz/LFE). Note that this control does not affect the main monitors which are high-passed at a fixed 80Hz setting.
4. **LFE INPUT:** Connect to the dedicated sub output (.1/LFE) of your source equipment/ mixer, which is already low-pass filtered. This is a fully balanced input. Pin connections are 1 ground, 2 hot or positive, and 3 cold or negative.
5. **LEFT/RIGHT INPUT:** Connect the main left and right outputs from your source equipment/ mixer to these inputs. These are fully balanced inputs. Pin connections are 1 ground, 2 hot or positive, and 3 cold or negative.
6. **OUTPUT:** Connect the inputs of your main monitors to these sockets. The SLF will route the signal which you have connected to the LEFT INPUT socket, to the LEFT OUTPUT socket, and similarly, for the right channel. By default, the outputs will be high-pass filtered at 80Hz. If you want to bypass this feature and have full-range signals instead, you have to use a foot-switch (8). The outputs are fully balanced types. Pin connections are 1 ground, 2 hot or positive, and 3 cold or negative.
7. **GND LIFT:** This switch, when activated, connects a high resistance between pin1 of the input XLR sockets (which carries the ground return of the source equipment)and the circuit ground of SLF which are otherwise shorted (in OFF position). In a properly earthed system, with correctly earthed source equipment, no hum or buzz should be audible and the switch should be left in OFF position. However, in a noisy environment where the ground is shared by computers, air-conditioners etc, or where signal wires are laid parallel to power cables, hum or buzz may be audible because of ground loops. Pressing this switch will eliminate such problems. Note that this switch does not defeat the safety ground connection of the product.

... continued

Fig 4.1: 5.1 set-up • Set-up for 5.1 channel

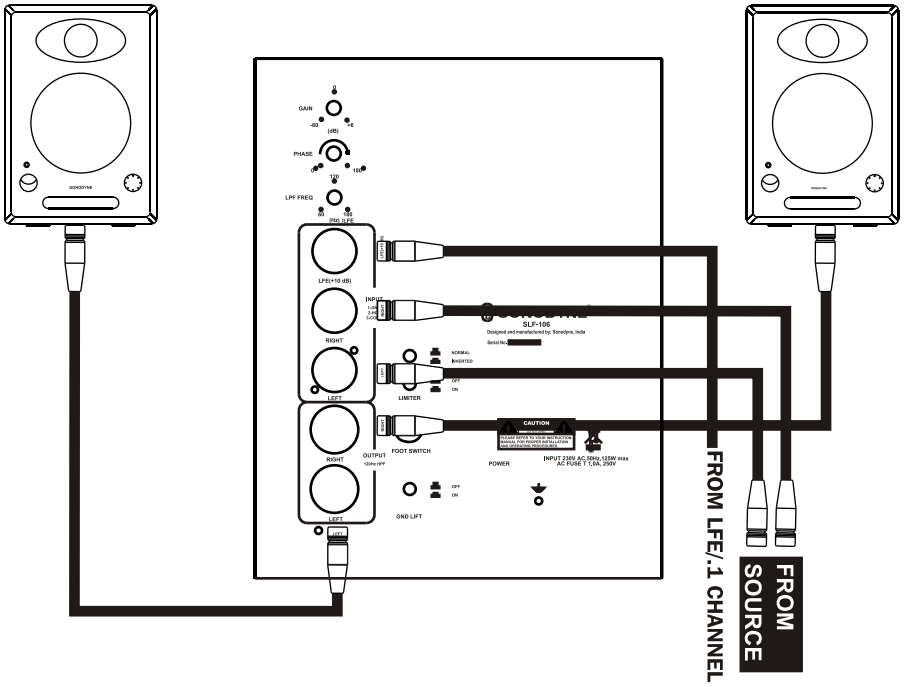


A 5.1 channel setup, will comprise 5 main monitors and 1 or 2 subwoofers. The input to the subwoofers will be from a LFE or 0.1 channel. The main monitors will be connected in full-range mode to the console, or bass managed through a Sonodyne BMS 205.

Use the same 500Hz~2.5kHz band-limited pink noise for adjusting the main monitors. Follow the same procedure as in the 2.1 set-up.

For the subwoofer, use a pink noise signal that has a higher bandwith on the low side. You may use a 30Hz ~80Hz band-limited pink noise. Feed the pink noise to the LFE channel. Adjust the level of the sub so that the SPL is 10dB louder at 95dBC.

Fig 4: 5.1 set-up



Controls & Switches

8. **FOOT SWITCH:** This socket is meant for connecting a latching type foot-switch. Pressing the foot switch deactivate the sub output and pass full range signals to the LEFT and RIGHT output sockets. Pressing the foot switch once again will restore the default condition, that is, the main outputs will be 80Hz high-pass filtered, and the sub output will be restored. Note that a non-latching type foot switch will not work with this product.
9. **LIMITER:** The limiter switch, when engaged, prevents overdrive of the amplifier and speaker from excessively strong signals and is a means to protect the amplifier and speaker under such conditions. The limiter is a peak-detecting type with an attack time of 1ms, and a decay time of 1 sec. Keep the limiter switch in ON position if there is a likelihood of frequent or continuous overdrive.
10. **POLARITY:** With the help of this switch you can reverse the polarity or phase of the subwoofer. Depending on the placement of your subwoofer and the setting of the crossover frequency control , there may be a partial or complete cancellation in the frequency band where the output of the main speaker and the output of the subwoofer overlap. When this occurs, pressing the switch will restore the lows. This switch must always be used in conjunction with the phase control (2). The procedure for adjusting the phase is given in the section under Setup.
11. **POWER:** This is a rocker type power switch which turns on power to the system. The ON position is indicated with a dot mark on the switch.
12. **IEC AC SOCKET:** This is a fused 3-pin IEC AC receptacle for connecting to a wall outlet with the cable supplied. Ensure that the wall outlet is properly earthed, that is, the earth must be connected to a earth bus-bar which connects to other audio equipments and is not shared by noisy equipments like computers, air-conditioners, lighting appliances etc. The earth connection is also required in the interests of your own safety, should any fault occur. Please check that the wall outlet is capable of providing the current requirement of the product, printed on the back panel at the bottom of the socket.

Fig 2: Connection Diagram

The connection diagram for the system is given below.

- Connect the mains cable of the subwoofer and your main monitors after you have connected all equipment.
- Switch on the console or source equipment first.
- Switch on power to the subwoofer. A blue indicator on the front of the unit will light up, which will be visible through the grill. This indicates that your unit has powered up and is ready for operation.
- Next switch on the main monitors.
- Follow the set-up procedure on pages 7~9 that will give you detailed guideline on correctly setting up your system.

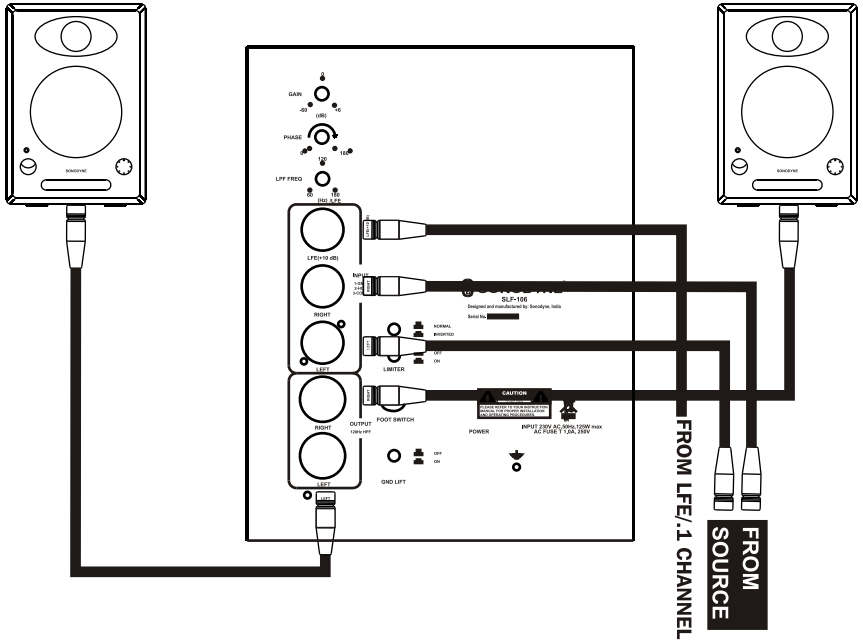
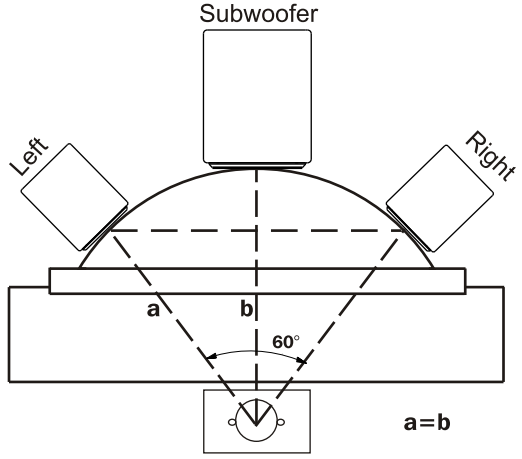


Fig 3: 2.1 set-up • Set-up for 2.1 channel



Placement of the subwoofer in the room and correct level adjustments of the sub and the main monitors is key to creating perfect mixes, since this ensure a smooth frequency response. The first step is to find out the ideal placement for the subwoofer. To do this, set the frequency control to max, the phase control to full anti-clockwise position and the gain control to 0dB position. Next, play a band-limited pink noise between 40Hz ~80Hz, through your subwoofer, or, in absence of that, a recording having good low frequencies in the 40Hz ~80Hz region. Place your subwoofer at the position where you will be seated, in front of the console. Now move around the room and find a position where the bass is loudest. This is the ideal position of your subwoofer.

The following steps will guide you in setting the levels of your monitor and sub correctly. To do this, you will need two additional types of pink noise signals, one 80Hz ~150Hz, and the other, 500Hz ~ 2.5kHz. You will also need a SPL meter - simple, inexpensive types will do. Select C type weighting on your SPL meter. In each of the tests, keep the SPL meter at ear level, in front of you, at your seating position.

Play the 500Hz ~ 2.5kHz band-limited pink noise signal through your main monitors, one at a time, which are high-passed at 80Hz, the default setting. If you are using a console, hard-assign the signal to either left or right or turn the pan control to either extreme. Adjust level control of the monitor (for the Sonodyne SRP Series, adjust the level control on the front and keep gain control at its mid - if you have a preferred setting, please use this). Next adjust the level from your console till the SPL meter registers a level of 85dBC or so from your listening position. Repeat the above for the other channel. Do not alter the level settings of your monitor after this.

Next turn the frequency control of your subwoofer to 80Hz and play the 40Hz ~ 80Hz pink noise signal again through the subwoofer. Adjust level so that the SPL meter registers 85dBC. Do not alter level setting of your sub after this.

With the frequency control turned to 150Hz, play the 80Hz ~150Hz pink noise. This will create an overlap in the 80Hz ~150Hz frequency range with the main monitors, since these are high-passed at 80Hz. Press the polarity switch to see if the bass gets augmented. If not, release the switch and slowly rotate the phase control till you notice an increase in the low frequencies. Use both the SPL meter and your ears, to judge this. Keep the phase control at this setting.

This completes the 2.1 set-up process. Your main monitors and subwoofer are now balanced with each other.