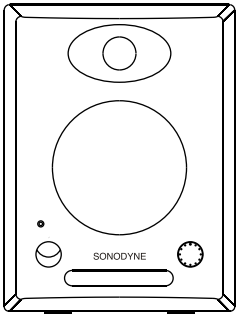
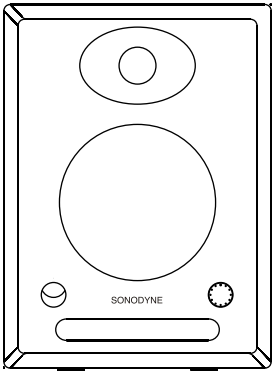
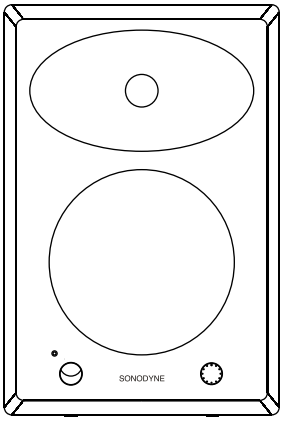
SRP 500/600/800

active reference speaker | owners manual







SONODYNE®
REFERENCE SERIES

STATUTORY INFORMATION

Congratulations on your purchase of the SRP 500/600/800, 2-way bi-amped active monitor. It can be used for broadcast and TV control rooms, recording studios, surround sound systems and a variety of other professional applications.

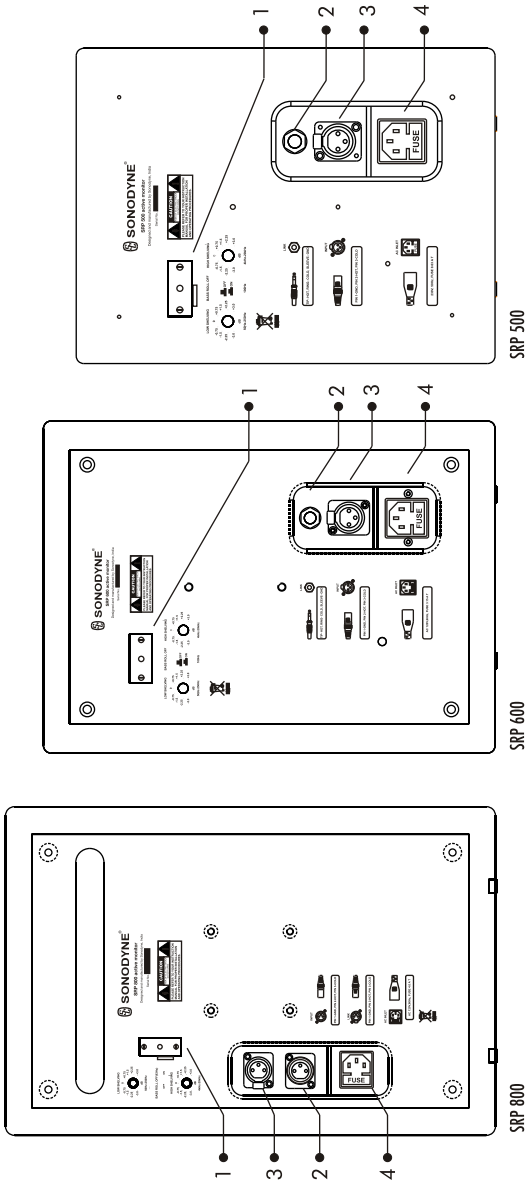
The lightning flash with an arrowhead symbol is intended to warn the user that there is uninsulated (dangerous) voltage inside the unit.

The exclamation mark within an equilateral triangle symbol is intended to alert the user of presence of important operating instructions in the owner's manual accompanying the product.

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.

FIG. 2: REAR VIEW



UNPACKING • SWITCHES & CONTROLS: FRONT

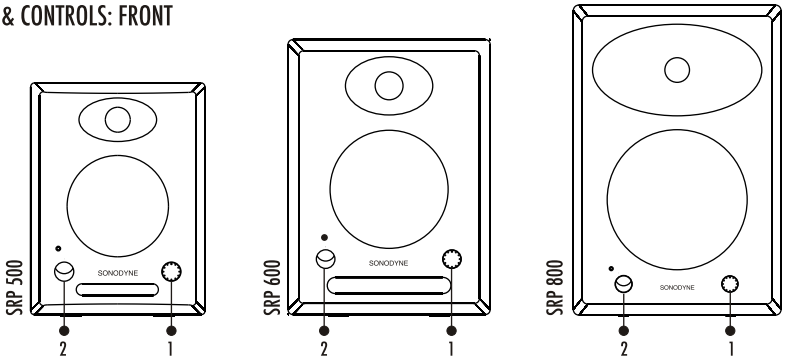
UNPACKING

To unpack the unit, open the carton by cutting along the edge of the flaps. Push the flaps wide open. Fold any one flap and tilt the carton on this edge taking care that the flap stays open. Gently turn the carton upside down so that all the 4 flaps stay open and spread out, and the unit comes to rest on the Styrofoam buffer. You may need someone to help you with this. Next lift the carton from the unit. Remove the styrofoam buffer on the bottom of the unit, facing you.

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

SWITCHES & CONTROLS: FRONT

Fig. 1



1. GAIN

This control adjusts the gain of the SRP 500/600/800. At the extreme anti-clockwise position, the gain is -∞ or mute, and at the extreme clockwise position it is +6dB. At the center position the gain is 0 dB. To help you identify the center position, a mechanical detent is provided in the gain control.

2. POWER

This is a rocker type power switch which turns on power to the system. The ON position is indicated with a dot on the switch.

3. LED INDICATOR

This is a power indicator. It turns blue when power is switched on.

CONTROLS & SWITCHES: REAR

1. EQUALISER CONTROLS

There are 2 types of equalisers built-into the SRP 500/600/800 - a low shelving EQ, and a high-shelving EQ. These can be set with the help of the controls provided for each EQ type.

LOW SHELVING EQ: The low-shelving EQ boosts or cuts the frequency band from 50Hz~250Hz by an amount set by the control. It has 9 positions, 4 on either side of the center position and allows you to choose a cut from -3dB to 0dB, in steps of 0.75dB, (when turned counter-clockwise from center)or a boost from +3dB to 0dB, in steps of 0.75dB, (when turned clockwise from center). The cut is required if you are using the monitors for a mix and have mounted the monitor on a console which can create reflections creating boost in the low to low-mid frequency band. The boost may be used to fine-tune the particular frequency band for a certain application/ listening environment.

HIGH SHELVING EQ: The high-shelving EQ boosts or cuts the frequency band from 4kHz~20kHz by an amount set by the control. It has 9 positions, 4 on either side of the center position and allows you to choose a cut from -3dB to 0dB, in steps of 0.75dB, (when turned counter-clockwise from center)or a boost from +3dB to 0dB, in steps of 0.75dB, (when turned clockwise from center). The boost is required when you are listening to the monitors off-axis, either horizontally, that is with your ear at an angle to the tweeter, either to the left or the right, or vertically, that is with your ear at an angle to the tweeter, either to the top or the bottom. The cut may be useful if the high frequencies seem too bright, or if you want to deliberately tone down the highs in a mix.

BASS ROLL-OFF: This is a push type switch which when activated, rolls off the low frequencies at 6dB/octave, below a fixed corner frequency. For the SRP 500 the corner frequency is 100Hz, for the SRP 600 it is 100Hz and for the SRP 800 it is 63Hz.

2. LINK

This socket is wired in parallel to the input socket and is used for daisy chaining the signal. For the SRP 500 and SRP 600 the link is a TRS socket. Pin connections are tip- positive, ring –negative, and sleeve-ground. For the SRP 800, the link is an XLR socket having same pin connections as the input XLR socket.

3. INPUT SOCKET

This is a fully balanced XLR input socket. Pin connections are 1 ground, 2 hot or positive, and 3 cold or negative.

4. 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 near the IEC AC socket.

SPEAKER PLACEMENT, MOUNTING & POSITIONING

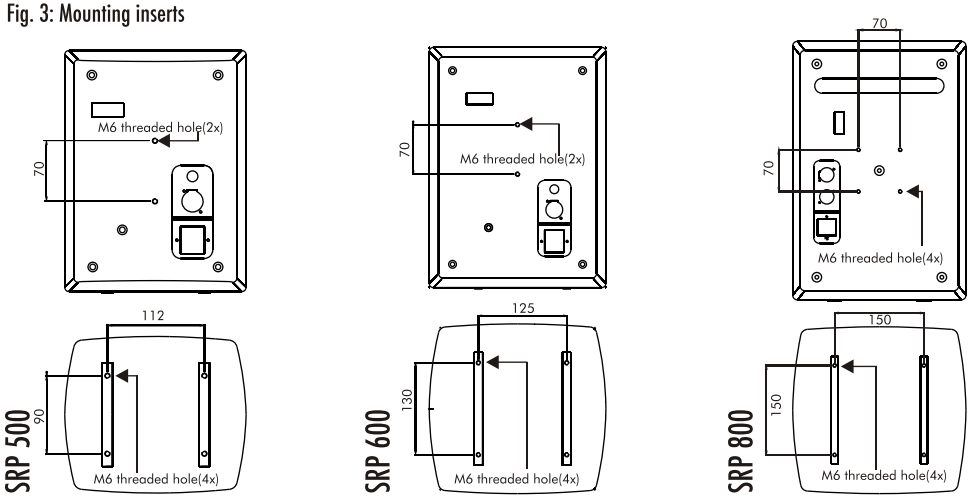
PLACEMENT OF SPEAKERS

Distance from walls While placing speakers, make sure that they are at least 40 cm away from any reflecting surface. This will help minimise bumps in the low-frequency response due to reflections, and also ensure that the rear-mounting port is unobstructed for the SRP 800. It is also required to ensure that the heat sinks at the back have adequate ventilation, for uninterrupted operation.

MOUNTING OF MONITORS

The speakers may be mounted on brackets fixed to wall, or on stands. The SRP 500 and SRP 600 have 2 x M6 threaded metal inserts on the back, and the SRP 800 has 4, for fixing to a wall bracket. The standard wall brackets for the SRP are: SRP 500/600: SRPWB2, SRP 800: SRPWB3. Also provided are 4 x M6 threaded inserts on the bottom, for all the 3 models. The position of inserts on the back and the bottom are shown in Fig. 3.

Fig. 3: Mounting inserts



POSITIONING OF MONITORS

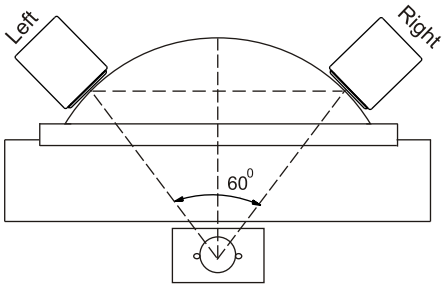
To get a linear response, place the monitors vertically such that the center of the tweeter is roughly at ear level. If the tweeter level is lower than the ear level, there may be a loss in high frequencies. You can compensate this to some extent with the help of the high shelving EQ.

STEREO & SURROUND SET-UP

STEREO SET-UP

The following sketch shows a 2 channel set-up. The important detail here is to place the speakers such that the 2 speakers and the listener form the vertices of an equilateral triangle.

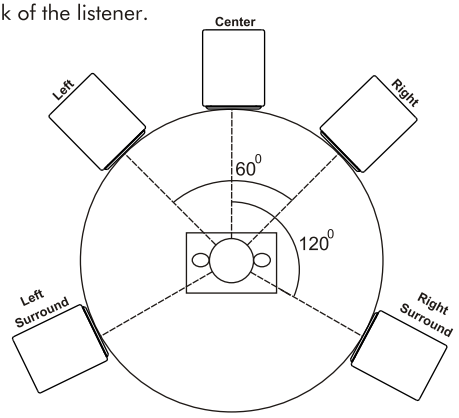
Fig. 4: stereo set-up



SURROUND SOUND SET-UP

The following sketch shows a 5.1 set-up. This is an ITU recommended configuration which may vary depending upon the purpose of the control room (audio or film). However, it is recommended to have a symmetrical listening position with the front left and right speakers facing the listener and the surround speakers located at the back of the listener.

Fig. 5: surround sound set-up



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 cable is plugged in.
2. Check that level control of source equipment is not turned all the way down.
3. Check that signal is present at the output sockets of console or other source equipment.
4. Check that cable connection is OK- there should be continuity for each of the pins between one end and the other.

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.

SYMPTOM : Buzz/hum

POSSIBLE REMEDIES:

1. Unplug the input cable or cables one by one, till the buzz disappears. If buzz does not disappear, your monitor unit is faulty.
2. Check that the cable contacts are OK- replace with a cable that is known to be good.
3. If you are using an unbalanced connection, make sure that pin2 is connected as the live terminal and pin2 and pin3 are tied together at the source end.

OPERATION

Connect the balanced output of your mixer or other source equipment to the balanced input (XLR female connector) of your monitor with a 2-core screened cable fitted with an XLR connector. Pin connections are pin1-earth or ground, pin2 – hot or positive, and pin3- cold or negative. If the output of your source equipment is unbalanced, (which however is not recommended because of noise pick-up problems), short pin 3 and pin1.

Check that the utility outlet for powering your unit is of matching voltage and frequency printed on the back panel. Also ensure that it is capable of providing the required power, as printed on the back panel, and the earth of the IEC socket is connected to the safety earth of the premises through a separate conductor so that it does not share the earth with noisy equipments such as air-conditioning equipment, lighting equipment or computers.

Connect the mains cable supplied with the unit, to the utility wall outlet after you have connected all other equipments. Switch on the console or source equipment first. Switch on power to the monitor last. That way, you will not hear any nasty turn-on thumps generated by other equipments upstream which may be damaging to your ears and your monitor.

A blue indicator on the front of the unit will light up. This indicates that your unit has powered up and is ready for use.

Keep all equaliser controls to mid-position, and the bass-cut switches in their OFF position, initially. Leave the gain control also at mid or 0 dB position.

Play some recorded source material. Depending on the placement of your speaker and your personal preference for the type of mix you want, you may want to adjust the equaliser controls, which are explained in detail in Page 4.

While setting the gain control, it is best to keep it at the setting matching to the full-scale output of your mixer or source equipment. If you do not have information on the full-scale output of your source, turn up the master level controls to the max setting and adjust the sensitivity control of the monitor so that you start to hear distortion. Normally, this should happen between 0 and +3dB. If it is not, you may need to alter the gain of your source equipment accordingly.

SPECIFICATIONS

	SRP 500	SRP 600	SRP 800
DESCRIPTION	2 way biamplifier speaker	2 way biamplifier speaker	2 way biamplifier speaker
TRANSDUCER COMPLEMENTS	LF: Magnetically shielded 5.25" kevlar cone woofer in die-cast chassis HF: Magnetically shielded 26mm silk dome tweeter with custom waveguide	LF: Magnetically shielded 6.5" kevlar cone woofer in die-cast chassis HF: Magnetically shielded 26mm silk dome tweeter with custom waveguide	LF: Magnetically shielded 8" kevlar cone woofer in die-cast chassis HF: Magnetically shielded 26mm silk dome tweeter with custom waveguide
ENCLOSURE TYPE	Vented, through front-firing aerodynamic port	Vented, through front-firing aerodynamic port	Vented, through rear-firing aerodynamic port
ENCLOSURE MATERIAL	Pressure die-cast aluminum	Pressure die-cast aluminum	Pressure die-cast aluminum
OVERALL FREQ. RESP. (±2dB)	58Hz ~ 21kHz	48Hz ~ 21kHz	42 Hz ~ 22kHz
USABLE FREQ. RANGE (-10dB)	50Hz ~ 25kHz	42Hz ~ 25kHz	37Hz ~ 25kHz
MAX. LONG TERM SPL, 1/2 SP	104dB	107dB	112dB
HORIZONTAL BEAM WIDTH	78° (averaged b/w 5~16kHz)	86° (averaged b/w 5~16kHz)	104° (averaged b/w 5~16kHz)
VERTICAL BEAM WIDTH	62° (averaged b/w 5~16kHz)	69° (averaged b/w 5~16kHz)	83° (averaged b/w 5~16kHz)
THD (@ 95 dB SPL)	80Hz ~ 200Hz < 3%; > 200Hz < 1%	80Hz ~ 200Hz < 3%; > 200Hz < 1%	80Hz ~ 200Hz < 3%; > 200Hz < 1%
AMP. POWER BEFORE CLIPPING	LF: 50W, HF: 50W	LF: 80W, HF: 50W	LF: 150W, HF: 100W
S/N RATIO (AT UNITY GAIN)	> 90dB, referred to full output	> 90dB, referred to full output	> 90dB, referred to full output
AMP. THD AT RATED POWER	< 0.04%	< 0.04%	< 0.04%
INPUT	Fully balanced through XLR & TRS sockets	Fully balanced through XLR & TRS sockets	Fully balanced through XLR & TRS sockets
INPUT LEVEL FOR 90dB SPL @1M	+5dBU	+7dBU	+7dBU
CMRR	>65dB	>65dB	>65dB
CROSSOVER FREQ.	2.5kHz	2kHz	1.8kHz
GAIN CONTROL RANGE	-70dB ~ +10dB, 0dB at (detented) centre	-70dB ~ +10dB, 0dB at (detented) centre	-70dB ~ +10dB, 0dB at (detented) centre
LOW SHELVING EQ	50Hz ~ 250Hz, -3dB ~ +3dB in 0.75dB steps	50Hz ~ 250Hz, -3dB ~ +3dB in 0.75dB steps	50Hz ~ 250Hz, -3dB ~ +3dB in 0.75dB steps
HIGH SHELVING EQ	4kHz ~ 20kHz, -3dB ~ +3dB in 0.75dB steps	4kHz ~ 20kHz, -3dB ~ +3dB in 0.75dB steps	4kHz ~ 20kHz, -3dB ~ +3dB in 0.75dB steps
BASS ROLL-OFF	100Hz, 12dB/ octave	80Hz, 12dB/ octave	63Hz, 12dB/ octave
CONTROLS : FRONT	Power Switch, Gain Control	Power Switch and Gain Control	Power Switch and Gain Control
CONTROLS : REAR	Low shelving, High shelving, Bass roll-off	Low shelving, High shelving, Bass roll-off	Low shelving, High shelving, Bass roll-off
INDICATOR	Power ON/OFF	Power ON/OFF	Power ON/OFF
PROTECTION	Over current, Overheat , RFI, Switch on/ off transients	Over current, Overheat , RFI, Switch on/ off transients	Over current, Overheat , RFI, Switch on/ off transients
POWER REQUIREMENT	230VAC, ±10%, 50Hz*	230VAC, ±10%, 50Hz*	230VAC, ±10%, 50Hz*
POWER CONSUMPTION	100VA Max.	175VA Max.	345VA Max.
FINISH	Powder coated (grey/white/black)	Powder coated (grey/white/black)	Powder coated (grey/white/black)
DIMENSIONS (WxHxD) mm	210 x 279 x 181	250 x 340 x 240	291 x 434 x 280
NET WEIGHT	6.8kg	11.9kg	17kg
INSERTS FOR MOUNTING	2 x M6 inserts on rear, 4 x M6 inserts on bottom	2 x M6 inserts on rear, 4 x M6 inserts on bottom	4 x M6 inserts on rear, 4 x M6 inserts on bottom
WALL MOUNT BRACKET	SRP WB 2	SRP WB 2	SRP WB 3

* *120V optional*

Due to continuous improvements, all specifications are subject to change

SONODYNE®

A product of the Mukherjee Innovation Centre

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