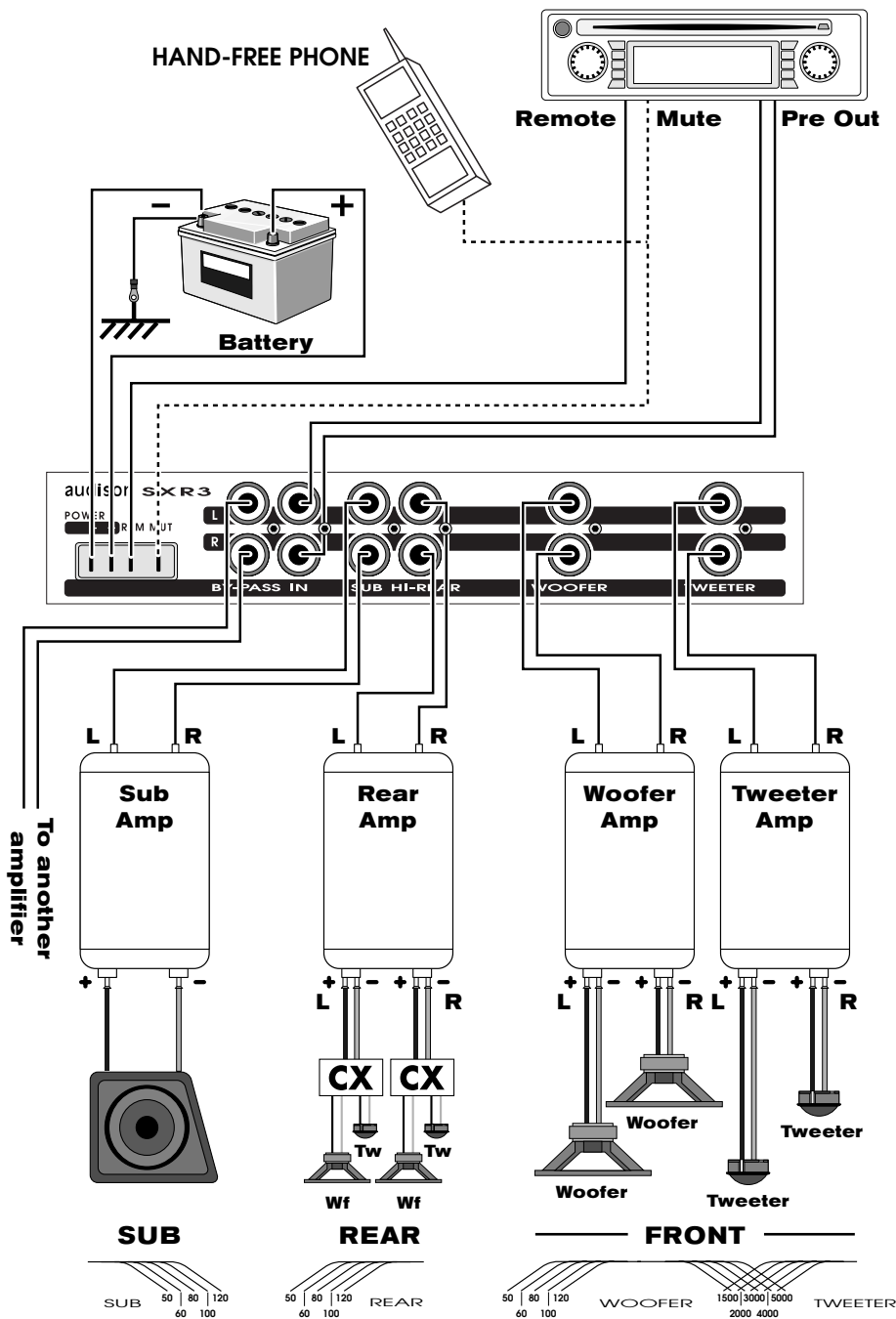


IN-OUT PANEL
CONNECTIONS DIAGRAM



OWNER'S MANUAL

3 way electronic crossover

SXR3

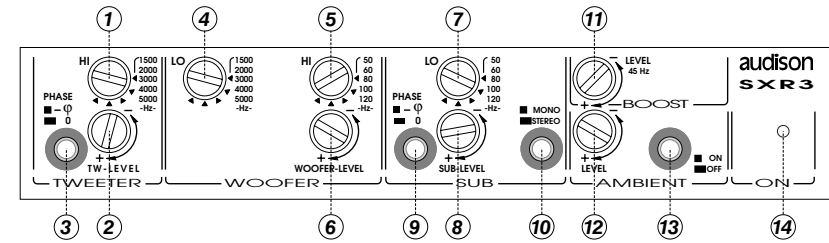


SXR3 – TECHNICAL FEATURES

3 way electronic crossover with variable gain outputs for subwoofer, woofer and tweeter. 18dB/Oct. Bessel filters. "Ambient" function, to adjust and control staging. Narrow band boost filter set at 45 Hz, with variable gain. Automatic muting when the device is switched on and off. Inputs for remote and external muting. 24 Ct. gold-plated RCA sockets.

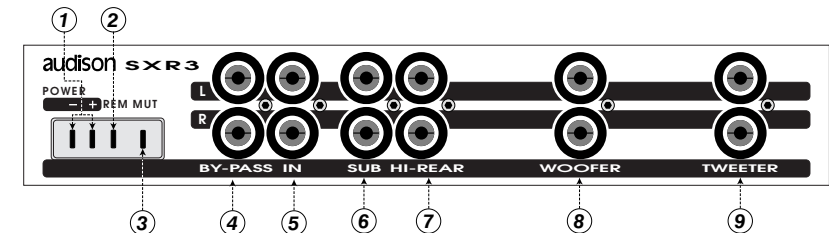
<i>External power supply</i>	10 ÷ 15 VDC	<i>Max. input level</i>	4 VRMS
<i>Internal power supply</i>	30 VDC	<i>Max. output level</i>	4 VRMS
<i>Bandwidth</i>	5 Hz ÷ 200 kHz	<i>Input impedance</i>	15 kOhms
<i>S/N ratio</i>	> 100 dB	<i>Output impedance</i>	1 kOhm
<i>Stereo separation</i>	> 70 dB (10 kHz)	<i>MUTE-REMOTE input</i>	3 ÷ 15 VDC
<i>Distortion</i>	0.004%	<i>Size (W x H x D)</i>	230 x 40 x 120 mm
TWEETER	<i>HI Cut-off frequency</i>	1500, 2000, 3000, 4000, 5000 Hz.	
	<i>Level control</i>	+6 ÷ -12 dB	
WOOFER	<i>HI cut-off frequency</i>	50, 60, 80, 100, 120 Hz.	
	<i>LO cut-off frequency</i>	1500, 2000, 3000, 4000, 5000 Hz.	
	<i>Level control</i>	+6 ÷ -12 dB	
SUB	<i>LO Cut-off frequency</i>	50, 60, 80, 100, 120 Hz.	
	<i>Level control</i>	+6 ÷ -12 dB	
	<i>Boost level, 45 Hz:</i>	0 ÷ +6 dB	
	<i>Phase inversion:</i>	0°/180°	
	<i>Stereo/Mono:</i>	selectable.	
HI-REAR	<i>HI cut-off frequency:</i>	it depends on HI Woofer section setting.	

CONTROLS PANEL – FUNCTIONS



1. **HI:** It adjusts tweeter cut-off frequency.
2. **TW-LEVEL:** It adjusts the output level of the TWEETER section that drives the tweeter.
3. **PHASE:** It permits to invert the phase of the signal in the TWEETER output between 0° (0) and 180° ($-\psi$).
4. **LO:** It adjusts the woofer Lo-Pass filter cut-off frequency.
5. **HI:** It adjusts the woofer Hi-Pass filter cut-off frequency.
6. **WOOFER LEVEL:** It adjusts the output level of the WOOFER section that drives the woofer.
7. **LO:** It adjusts subwoofer cut-off frequency.
8. **SUB LEVEL:** It adjusts the output level of the SUB section that drives the subwoofer.
9. **PHASE:** It permits to invert the phase of the signal in the SUB output between 0° (0) and 180° ($-\psi$).
10. **MONO/STEREO:** It selects subwoofer functioning mode as Mono or Stereo.
11. **BOOST LEVEL 45 Hz:** It increases the subwoofer response at 45Hz fixed frequency.
12. **AMBIENT LEVEL:** It adjusts sound image width (staging).
13. **AMBIENT ON/OFF:** It bypasses AMBIENT LEVEL control.
14. **ON (green led):** It indicates crossover is on.

IN-OUT PANEL - FUNCTIONS



1. **POWER:** Power supply sockets. Connect the positive pole cable (+) and the negative pole cable (-) coming from battery to them. Respect polarities.
2. **REM:** Socket to connect the Remote cable coming from source that controls the crossover switching on.
3. **MUT:** Socket to connect the Mute cable coming from source or from hand-free telephone.
4. **BY-PASS:** Preamplified outputs; they permit to supply another amplifier that is after the crossover with a full range signal.
5. **IN:** Crossover preamplified inputs. Connect cables coming from source preamplified outputs to them.
6. **SUB:** Preamplified outputs to connect to subwoofer amplifier. They supply a 18dB/Oct., Lo-Pass filtered signal.
7. **HI-REAR:** Preamplified outputs to connect to Rear system amplifier. They supply a 18dB/Oct., Hi-Pass filtered signal.
8. **WOOFER:** Preamplified outputs to connect to woofer amplifier. They supply a 18dB/Oct., Band-Pass filtered signal.
9. **TWEETER:** Preamplified outputs to connect to tweeter amplifier. They supply a 18dB/Oct., Hi-Pass filtered signal.

DESCRIPTION

SXR3 is a 3 way electronic crossover designed to handle a Woofer + Tweeter + Sub system. It has an input (IN) for the signal coming from the source and five outputs; three of them are main outputs, two are secondary. The first of the three main outputs (SUB) provides a subwoofer Lo-Pass signal; the second (WOOFER) supplies a woofer Band-Pass signal; the third (TWEETER) is useful to drive a tweeter. The HI-REAR output (one of the two secondary ones) has to be used for the realisation of a Rear system to be filtered by passive crossover. It provides a unitary gain Hi-Pass signal taken from the woofer section Hi-Pass filter (WOOFER HI); Hi-Pass signal has the same cut-off frequency as Woofer section itself. The BYPASS output permits to send the full range signal in the input to another amplifier installed after the crossover.

SXR3 controls panel is divided in five sections: TWEETER, WOOFER, SUB, BOOST and AMBIENT.

TWEETER, WOOFER and SUB sections have five step switches for five cut-off frequencies (TWEETER: HI; WOOFER: LO-HI; SUB: LO) and a level control. TWEETER and SUB sections also have a switch for signal phase inversion between 0° and 180° (PHASE), that allows to align tweeter and subwoofer with woofer. SUB section has a switch to choose functioning mode (MONO/STEREO).

BOOST section widens and increases subwoofer frequency response. It consists of a boost filter with adjustable gain, whose frequency is set at 45 Hz (LEVEL 45 Hz).

Acting on the sum and the difference between the two stereo channels, AMBIENT section widens sound image. It has an adjustable level control (LEVEL) and an ON/OFF switch.

FILTERS TYPOLOGY

SXR3 filters have Bessel configuration with low group delay, which insures the speakers correct acoustic alignment. Filters slope is 18dB/Oct.; it provides speakers with safer and more linear functioning than cuts with lower slope can do and limits the overlap of their working areas. Cut-off frequency can be chosen among five pre-set values for SUB, WOOFER HI, WOOFER LO and TWEETER; this makes **SXR3** suitable to every speakers system avoiding problems created by linear adjustment. Since the latter occurs through potentiometers, it is inaccurate both for frequencies value and for filters correct functioning. The use of very low tolerance components (1% resistors and capacitors) insures precise and constant filters performances.

PRECAUTIONS

SXR3 crossover must be installed only in vehicles with 12VDC power supply voltage with negative to ground.

It is important NOT TO USE any other kinds of electric power supply in order to avoid fires or possible electrocutions. Avoid to install the device where temperature is below 0°C or above 55°C and in case of extreme humidity ($<10\%$ or $>90\%$).

Avoid to install it in dusty places or in contact with liquids.

INSTALLATION

This crossover must be fixed through the four screws and spacers given with it. In order to get the best installation, we recommend the use of **audison cable** products, that can satisfy all needs.

