

INTERNATIONAL LIMITED WARRANTY

ARX Systems (ARX) warrants to the first purchaser of any ARX equipment that it is free from defects in materials and workmanship under normal use and service. ARX's sole obligation under this warranty shall be to provide, without charge, parts and labour necessary to remedy defects, if any, which appear within twelve (12) months from date of purchase, and for a further twelve (12) months supply parts only.

This is our only warranty. It does not cover (1) finish or appearance items, (2) burned voice coils, or (3) if the equipment has been, in ARX's sole judgement:

- Subjected to misuse, abuse, negligence or accident;
- Repaired, worked on, or altered by persons not authorized by ARX;
- Connected, installed, adjusted or used for a purpose other than that for which it was designed. This includes running speaker systems (a) without the appropriate ISC processor (b) with a non ARX crossover, or (c) with the ISC disconnected or bypassed.

Some states do not allow the exclusion or limitation of incidental or consequential damages so some of the above exclusions may not apply to you.

This warranty gives you and us specific legal rights and you may also have other rights which vary from state to state.

Warranty Service Procedure

Should it become necessary to have your equipment serviced under the terms of the warranty, please follow these steps:

1. Contact ARX for a Return Authorization (RA) number;
2. **Carefully** repack the unit, **in its original packaging** where possible, including a note with the RA number, a description of the problem, **and a copy of the receipt showing date of purchase**. Attach these to the actual unit itself. Don't forget to write your name and address clearly, and include a phone number where you can be contacted during normal business hours. Make it easy for our service technicians to contact you if they have a question. Also, use **plenty** of packing material - better to be safe than sorry.
3. Send the unit freight prepaid to ARX Systems, at the address given you with your RA number. We will pay the return freight when the serviced unit is returned to you.
4. We strongly recommend you insure the package. We can't fix it if it gets lost! Send it by UPS, Fedex, DHL or a similar service elsewhere.

If Warranty Registration Card is missing, please write to ARX in the country of purchase, stating model and where purchased, or to ARX, PO Box 15, Moorabbin, Victoria 3189, Australia.

You can also Email us at: info@arx.com.au

SPL 8H

Integrated Self Powered
Loudspeaker System

Owner's Manual



ARX Systems Pty Ltd, PO Box 15,
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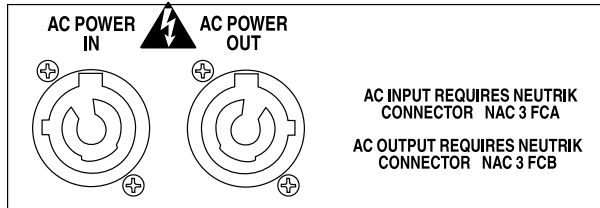
IMPORTANT - This self-powered loudspeaker is designed to be connected **ONLY** to the AC voltage ticked below



- 100 V AC, 50 - 60**
- 110 V AC, 50 - 60 Hz**
- 220-240 V AC, 50 - 60 Hz**
- 240 V AC, 50 - 60 Hz**

It is essential that you check that this voltage is correct for your area before connecting it to AC power. Do not plug power cable into AC power until the voltage has been checked. If incorrect, contact your ARX distributor.

Your warranty does not cover connecting to the wrong AC voltage!



This product has a locking removable AC power lead. Switch amplifier OFF and power OFF before removing connector

To insert power cable, line up pins, insert connector and twist to the right.

To remove, depress lever on top of the connector, twist to the left, and pull out.

WARNING SYMBOLS USED ON THIS EQUIPMENT



This symbol is intended to alert you to the presence of important operating instructions contained in this owner's manual



This symbol is intended to alert you 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.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING
TO PREVENT ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK OF UNIT
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL

WARNING
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

ATTENTION
RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR

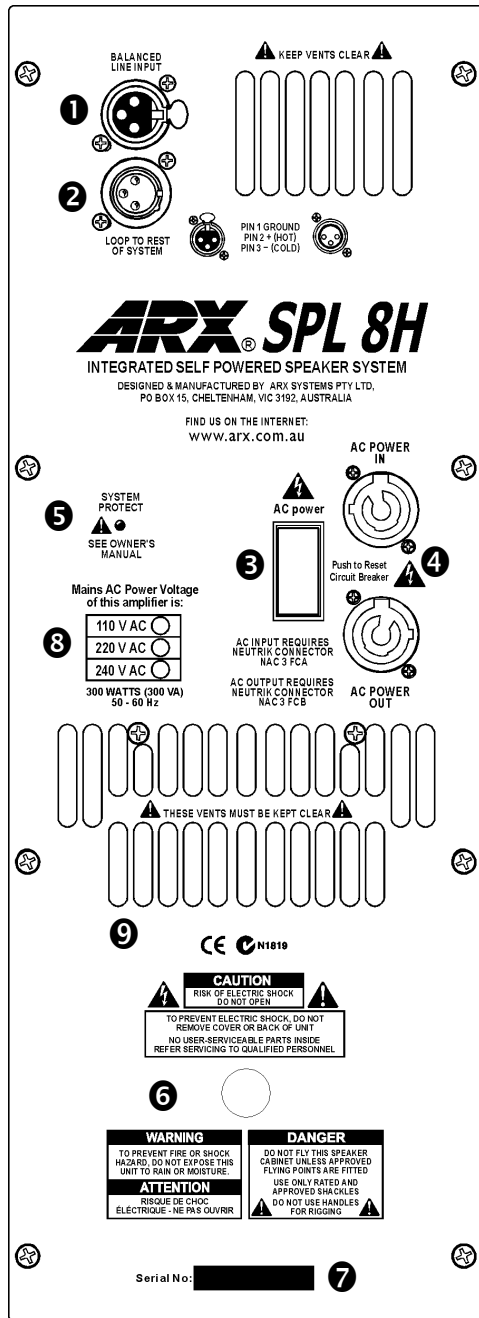
CE **N1819**

Complies with 89/336/EEC EMC Directive, amended by 92/31/EEC and 93/68/EEC and meets the following standards: EN 55013 : 1990, Sections 3.2 and 3.5 EN 55020 : 1988, Sections 4.3, 5.4, 6.2, 7.0, 8.0.

Complies with Australian Standard AS/N25 1053

SPL 8H Specifications

Frequency response	70Hz - 20KHz +/- 4dB
Loudspeaker type	Low Frequency 8" (205mm) 8 Ohm High Frequency 8 Ohm; FerroCooled
HF Flare type	Modified flat front radial horn flare
Size	460H x 280W x 330D, 7.5° taper to back
Weight	22Kg
Dispersion	Nominal 80° H x 60° V
Input Connector	3 pin Female XLR, polarity Pin 2 +, Pin 3 -, Pin 1 Ground
Input Impedance	44K Balanced
Nominal input level	0dB for nominal rated amplifier output
Input Loop Connector	3 pin Male XLR, polarity Pin 2 +, Pin 3 -, Pin 1 Ground
Crossover Frequency	1500Hz
Crossover Type	24dB Linkwitz Riley Filter type
Highpass Filter	-3dB @ 75Hz 24dB Linkwitz Riley
Maximum SPL	124 peak, 118 continuous
Amplifier power	120 Watts RMS 8 ohms, 280 peak
Amplifier type	Lateral Mosfet
THD	<.01%
Loudspeaker protection	ISC amplifier anti-clipping circuitry Relay muted input Relay switched output sensing DC and RF error
Status LEDs	AC power, System Protect
AC Power	110V / 220V / 240V 50 / 60Hz
AC Power Input	Neutrik PowerCon type NAC 3 FCA
AC Power Loop	Neutrik PowerCon type NAC 3 FCB
AC Power protection	User resettable external circuit breaker
AC Wattage Max	300 VA (300 Watts)
Transformer type	Toroidal



- 1 BALANCED INPUT CONNECTOR**
3 pin female XLR type connector receives the input signal - typically from the mixing console. Wired Pin 1 Ground, Pin 2 + (Hot) Pin 3 - (Cold)
 - 2 LOOP OUTPUT**
3 pin male XLR type connector sends the signal on to another cabinet if required. Wired the same as the input
 - 3 AC POWER/CIRCUIT BREAKER** This will trip to protect the internals if the cabinet encounters AC power problems. Push IN to reset. If it continues to trip, remove the cabinet from use and arrange for checking by an authorised ARX service centre.
 - 4 AC POWER INPUT AND OUTPUT** The input connector is designed to receive the Neutrik PowerCon NAC3FA. This is a fully safety approved latching 'twist-and-lock' AC connector. For looping power to another SPL series cabinet, a complementary output connector, the NAC3FB, is also provided.
 - 5 SYSTEM PROTECT LED**
This LED will illuminate if the SPL 8H's amplifier has encountered a problem. Switch off AC power, wait 15 seconds, and switch back on. If the problem was temporary, the cabinet will now operate. If not, arrange for a service inspection
 - 6 WARNING MESSAGES**
These could save your life and other people's. **Please read them carefully.**
 - 7 SERIAL NUMBER**
Unique to your SPL 8H. Please use it in any correspondence with ARX
 - 8 AC VOLTAGE**
This will indicate the voltage that the cabinet is expecting to see on the AC power connectors. Please ensure that it is correct for your area **before** plugging it in!
 - 9 COOLING SLOTS**
These allow cooling air to circulate throughout the amplifier section. Keep clear at all times and do not obstruct them with drapes or anything else
- www.arx.com.au**
Our Internet site has product news, advice, technical notes, and lots more on all ARX products. Check it regularly for the latest information

Setting up and using the SPL 8H

The SPL 8H is very straightforward to setup and start using, but a few basic steps should be followed.

1. Connect the signal and power cables to the SPL(s) before switching it on.
2. Connect and switch on all preceding equipment (mixer, EQs, etc) before switching on the SPL 8H(s), but make sure their level controls are pulled down. The SPL 8H will switch itself on and off silently, but will reproduce (at very high SPL!) whatever switch-on noise or signal that is sent to it.

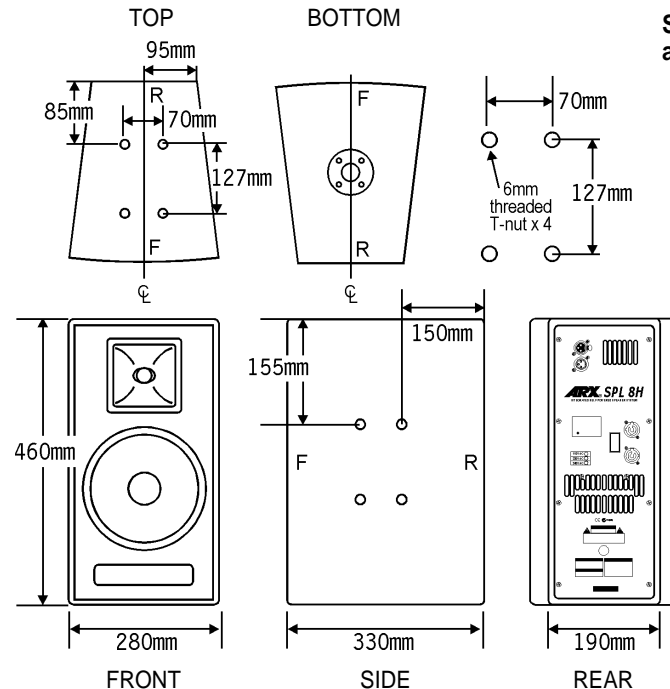
Positioning the cabinet

The SPL 8H has a nominal dispersion of 80H x 60V. If arraying 2 cabinets side by side to cover a wider area, the cabinets can be splayed 40 degrees each side of an imaginary line

The speakers also have a stand mount insert on the bottom surface, so that they can be mounted on a standard 35mm diameter speaker stand.

The SPL 8H can be wall mounted by using the Omnimount bracket, part no. WB 100 or similar. The cabinet is screw tapped to receive 4 x 8mm bolts to fit the bracket.

Screw holes are positioned on the top surface for vertical mounting, and also one of the side surfaces for horizontal mounting



SPL 8H Layout Details and Dimensions

Other Features

- Noiseless turn on/turn off.
- Interactive System Control, our transparent speaker protection system, keeps the SPL 8H functioning well within the driver's Safe Operating Area at all times
- Auxiliary Audio Loop out, to connect the signal chain for multiple cabinets to in a serial/daisy chain layout if required, rather than radially from a central point.
- Auxiliary AC Power out, to connect to other SPL 8H or SPL 28 cabinets (Max recommended - 4)

At ARX we have designed the SPL series to be a true 'building block' audio system.

- It is truly cost effective, with no need for speaker cabling, extra amplifiers or amp racks.
- Ease of installation - simply connect AC power and a signal.
- The modular concept means total flexibility, with system inventory kept at the most efficient level. To increase or decrease the size of the system, simply add or remove cabinets as required.

Architects' and Engineers' Specifications

The speaker system shall be an active two way reflex system powered by an internal power amplifier with an onboard 24dB Linkwitz Riley crossover at 1500 Hz. The frequency response of the system shall be 80Hz - 20KHz +/- 4dB. The loudspeakers shall be a Low Frequency 8" 205mm 8 ohm driver and a High Frequency compression driver with integral waveguide. Dispersion shall be a nominal 120° Horizontal x 120° Vertical.

The amplifier power shall be 120 Watts RMS at 8 ohms. The amplifier type shall be a Lateral Mosfet design. THD shall be <.01%.

Rated SPL @ 1 metre shall be 124 dB peak, 118 continuous, averaged across cabinet frequency response.

The Highpass filter shall be -3dB down@ 70Hz, and shall be 24dB, Linkwitz Riley type.

Loudspeaker protection shall include anti-clipping circuitry, relay muted input, relay switched output sensing DC and RF error.

The Input connector shall be 3 pin Female XLR, polarity Pin 2 +, Pin 3 -, Pin 1 Ground, and the Input Impedance shall be 44K Balanced, with a nominal input level of 0dB for rated amplifier outputs.

There shall also be a 3 pin Male XLR Input Loop Connector, polarity Pin 2 +, Pin 3 -, Pin 1 Ground.

The AC Power Input shall be the Neutrik PowerCon type NAC 3 FCA, and the AC auxiliary output shall be the Neutrik PowerCon type NAC 3 FCB. AC Power protection shall be provided by a user resettable external circuit breaker. Maximum AC Wattage shall be 300 VA (300 Watts).

The power transformer type shall be Toroidal.

The integrated self powered speaker system shall be the ARX SPL 8H

Introduction

Thank you for choosing this ARX SPL 8H Integrated Self-Powered Loudspeaker system. We hope you enjoy using it as much as we enjoyed creating it. As with all ARX equipment, it has undergone precise factory calibration, testing and 'burn in' before shipping. To ensure continued trouble free use, please familiarise yourself with the contents of this owner's manual before using your SPL 8H system.

About the SPL 8H

The SPL 8H represents a major change in the way we think of a speaker system. Its internal amplifier is fully integrated with the speaker combination to create a totally transparent, powerful and efficient 'building block' audio module with well defined coverage parameters.

Low frequencies are handled by a new 8" (205 mm) driver, and high frequencies by a *FerroCooled** 1" (25mm) compression driver mounted on a flat front radial horn flare. The cabinet is built throughout from premium grade long strand high density fibrewood, with a heavy duty steel mesh protective grille, and is painted in multiple textured coats of catalysed polyurethane.

Inside Information

The all new amplifier design inside the SPL 8H uses ARX's existing proven analog amplifier technology for predictable operation in all professional applications.

Its transformer based power supply and Mosfet drive circuitry both enable a reduced parts count for long term reliability. Plus, with their inherent self regulation, Mosfets are accepted as being the most thermally reliable and predictable amplifier output stage available.

Benefits

The acoustic and practical benefits of the SPL 8H's amplifier/speaker combination are many:

- Improved speaker response. The closely-coupled design delivers greater actual power at the speaker and improves the damping factor. Frequency response is optimised and phase response is idealised with no potential for mis-adjustment
- Thermal reliability. Our fan-forced temperature management system comes from ultra-reliable mission-critical computer systems with extended MTBF* criteria.
- There is no power loss caused by long runs of loudspeaker cable which can typically be 30 metres (100') or more. All the amplifier power is delivered to the speaker.
- A compact, elegant all-in-one solution - amp, processor, speaker are combined in the one cabinet. There are no amp racks to store and cool, no heavy speaker cabling to run.
- Reduced number of connections contributes to inherent low noise, and greatly reduces the possibility of ground loops.

To sum up, the SPL 8H successfully combines state of the art design with practical, proven technology. It delivers a compact, integrated speaker/amplifier solution with all the impact and transparent audio quality that today's audiences expect.

*FerroCooled** is a trademark of the Ferrofluidics Corporation MTBF** - Mean Time Before Fail