

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, Cheltenham, Victoria 3192, Australia.

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

SPL 18

Integrated Self Powered Sub-Bass Speaker System

Owner's Manual



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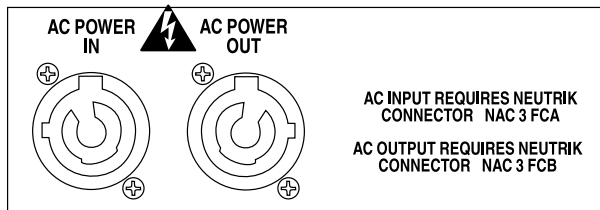


IMPORTANT - This self-powered loudspeaker is designed to be connected ONLY to the AC voltage ticked below



- 100 V AC, 50 - 60 Hz
- 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. 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

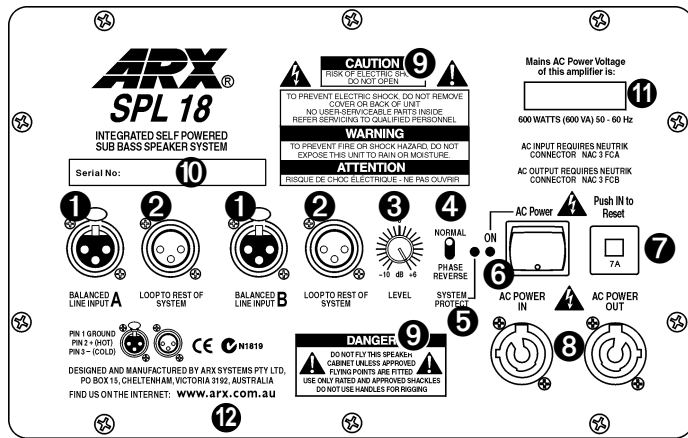
CE N1819

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 18 Specifications

Frequency response	35Hz - 100Hz +/- 4dB
Loudspeaker type	Active Low Frequency cabinet with onboard amplification and speaker processing 18" (450mm) driver, 8 Ohms
Size	845H x 540W x 585D
Weight	60 Kgs
Input Connectors	3 pin Female XLR, polarity Pin 2 +, Pin 3 -, Pin 1 Ground
Input Impedance	44K Balanced (electronic)
Nominal input level	0dB for nominal rated amplifier outputs
Input Loop Connectors	3 pin Male XLR, polarity Pin 2 +, Pin 3 -, Pin 1 Ground
Sub Level Control	-10dB to +6dB, multi detented
Phase Reverse	Normal or 180° reversed
Crossover Frequency	100Hz
Crossover Type	Active 24dB Linkwitz Riley Filter type
Highpass Filter	-3dB @ 35Hz 24dB Linkwitz Riley
Maximum SPL	128 peak, 125 continuous
Amplifier power	400 Watts RMS 8 ohms, 625 W 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, Protection Active
AC Power	110V / 220V / 240V 50 / 60Hz
AC Power Input	Neutrik PowerCon locking type NAC 3 FCA
AC Power Loop	Neutrik PowerCon locking type NAC 3 FCB
AC Power protection	User resettable external circuit breaker
AC Wattage Max	600 VA (600 Watts)
Transformer type	Toroidal, thermally protected @ 110 Deg C

SPL 18 REAR PANEL



- 1 BALANCED INPUT CONNECTORS** 3 pin female XLR type connectors receive the input signal - typically from the effects rack or mixing console. Internal circuitry will AutoSum to mono if both A and B inputs are used. Wired Pin 1 Ground, Pin 2 + (Hot) Pin 3 - (Cold)
- 2 LOOP OUTPUTS** 3 pin male XLR type connector sends the signal on to another cabinet if required. Wired the same as the input
- 3 LEVEL CONTROL** Adjusts the volume of the SPL 18; variable from -10 to +6 dB SPL
- 4 CABINET SETTINGS SWITCH** Switched to Normal if being used with other ARX SPL cabinets (eg SPL 12), but may need switching the Phase Reverse if used with other brands
- 5 SYSTEM PROTECT LED** This LED will illuminate if the 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 AC POWER SWITCH and LED** This LED illuminates when cabinet is connected to AC Power and switched ON
- 7 CIRCUIT BREAKER** This will trip to protect the internals if the cabinet encounters AC power problems. Press the RED button IN to reset. If it continues to trip, remove the cabinet from use and arrange for checking by an authorised ARX service centre. Please don't try to take the cabinet apart yourself - there are **no** user-serviceable parts inside, but there **are** dangerous voltages, even after the cabinet has been switched off and disconnected
- 8 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.
- 9 WARNING MESSAGES** These could save your life and other people's. **Please read them carefully. Never** poke around inside the cabinet, even when it is switched off. The SPL 18 is designed for floor stacking only; no flying points are fitted. If flying is required, contact ARX directly or your ARX distributor
- 10 SERIAL NUMBER** Unique to your SPL 18. Please use it in any correspondence with ARX
- 11 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!
- 12 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 18

The SPL 18 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 SPL18(s) before switching it on.
2. Connect and switch on all preceding equipment (mixer, EQs, etc) before switching on the SPL 18(s), but make sure their level controls are pulled down. The SPL 18 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

Being a Bass/Sub-Bass cabinet, the SPL 18 is non-directional in terms of Low Frequency dispersion. To increase overall Low Frequency Sound Pressure Level, multiple SPL 18 cabinets can be arrayed side by side or stacked as required

SPL 12 active 2 way cabinets can be stand mounted on top of the SPL 18 Sub using the optional pole mounting kit Part # SPL-PMK-1 (see pic below left).

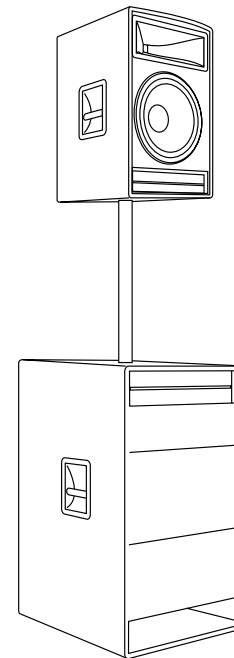
Do NOT fly the SPL 18

The SPL 18 is **not** fitted with any flying/rigging points, and is designed to be ground stacked rather than flown.

Should flying the cabinet be essential, **DO NOT FIT FLYING POINTS YOURSELF**, but contact ARX directly or your ARX distributor for details of the procedure to be followed. See contact details on page 8.

IMPORTANT SAFETY NOTE

Flying **any** speaker cabinet is **dangerous** if done by inexperienced operators and/or when using the wrong equipment. Ensure all rigging is safety rated to a minimum of 5 x the weight of the cabinet to be flown, and is done by licensed riggers.



Other Features

- Locking AC power connectors. By using the Neutrik PowerCon design, the power connector locks to the cabinet, avoiding the problem of a normal IEC connector vibrating loose during a performance. This can be a nuisance when the system is ground stacked, and a **real** problem when the system is flown!
- Noiseless turn on/turn off.

As well, an extra auxiliary AC power output is fitted as standard, so that systems can be powered in a serial/daisy chain layout rather than radially from a central point, thus reducing the cabling required, to a maximum of 4 cabinets.

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.

CoolPort™ Technology

When designing the SPL 18, we paid extremely close attention to cooling. A Bass cabinet requires large amounts of power to deliver the SPL required by today's applications, and it's generally accepted that Power = Heat, and the successful management of that heat equals reliable performance and longevity.

An analysis of existing self powered speaker systems revealed that the majority use an external heatsink on the rear of the cabinet. Testing showed that even under relatively mild use, the heatsinks reached temperatures that caused some concern.

In an ideal world situation where the cabinet would be free standing, with a large enough air space all around to allow free air thermo convection, this would probably be OK. But in the real world speakers are often installed or mounted up against a wall, or worse but extremely common - a wall and ceiling. This leaves the air no room to circulate, and causes the heatsink to heat up to an unacceptable level.

Our solution was simple.

Since the front of a speaker cabinet is always exposed to free air, we thought - why not mount the heatsink at the front? And while we're at it, let's use the considerable air movement generated by the speaker cone movement to actively circulate air across and through this heatsink.

We called this **CoolPort** technology

The air circulates across all heat producing surfaces, including the power supply and toroidal transformer, and through the complete surface area of the finned aluminium heatsink. This ensures that the drivers receive all the power they need, at all times, without the need for external fans and without the risk of exposed high temperature components.

Introduction

Thank you for choosing this ARX SPL 18 Integrated Self-Powered Sub-Bass speaker 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 18 system.

About the SPL 18

The SPL 18 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.

The integrated bandpass subwoofer and amplifier combination uses a single 18" long throw driver. It is designed to provide extended low frequency from 35 Hz to 100 Hz to enhance existing speaker systems.

The cabinet is built throughout from premium grade void free plywood, with extensive bracing to reduce unwanted coloration, and is painted in multiple textured coats of catalysed polyurethane.

Since its control electronics and amplifier are built-in, the SPL 18 is the perfect add-on when more low frequency output is required - for any system! All that's required to vary the system setup are some patch leads and an AC power feed.

Inside Information

The all new amplifier design inside the SPL18 uses 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 inbuilt self regulation, Mosfets are accepted as being the most thermally reliable and predictable amplifier output stage available.

Benefits

The acoustic and practical benefits of this amplifier/speaker combination are many:

- Improved speaker response. The close-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. Thanks to our unique heat exchange/cooling design, the harder the system is driven, the more efficiently the heat exchanger operates.
- 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.
- An 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 series successfully combines state of the art design with practical, proven technology to deliver an integrated speaker/amplifier solution with all the dynamic impact and transparent audio that today's audiences expect.