

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 SUB15

Integrated Self Powered
Sub-Bass Loudspeaker
System

Owner's Manual



ARX Systems Pty Ltd, PO Box 15,
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On the Web: www.arx.com.au
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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

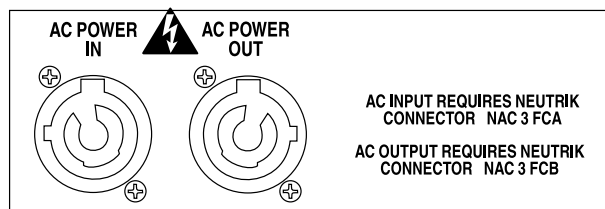
It is essential that you check that this voltage is correct for your area before connecting it to AC power. Do not plug power cable into AC power until the voltage has been checked. If incorrect, contact your ARX distributor.

110 V AC, 50 - 60 Hz

220-240 V AC, 50 - 60 Hz

240 V AC, 50 - 60 Hz

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

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

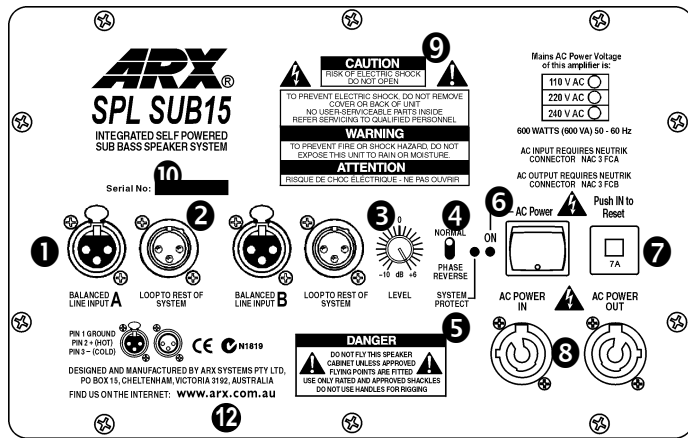
Complies with 89/336/EEC EMC Directive, amended by 92/31/EEC and 93/68/EEC and meets the following standards: EN 55013 : 1990, Sections 3.2 and 3.5 EN 55020 : 1988, Sections 4.3, 5.4, 6.2, 7.0, 8.0.

Complies with Australian Standard AS/N25 1053

SPL SUB15 Specifications

Frequency response	45Hz - 100Hz +/- 4dB
Loudspeaker type	15" 380mm 8 Ohms
Size	620H x 450W x 450D
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 output
Input Loop Connectors	3 pin Male XLR, polarity Pin 2 +, Pin 3 -, Pin 1 Ground
Sub Level Control	-10dB to +6dB, detented for 0dB
Phase Reverse	Normal or 180° reversed
Crossover Frequency	100Hz
Crossover Type	24dB Linkwitz Riley Filter type
Highpass Filter	-3dB @ 35Hz 24dB Linkwitz Riley
Sensitivity	98dB @ 1 W, 1 metre
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

SPL SUB15 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 SUB15; 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 SUB15 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 SUB15. 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 information on all ARX products. Check it regularly for the latest updates

Setting up and using the SPL SUB15

The SPL SUB15 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 SUB15(s) before switching it on.
2. Connect and switch on all preceding equipment (mixer, EQs, etc) before switching on the SPL SUB15(s), but make sure their level controls are pulled down. The SPL SUB15 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 SPL SUB15

Being a Bass/Sub-Bass loudspeaker, the SPL SUB15 is non-directional in terms of Low Frequency dispersion. To increase overall Low Frequency Sound Pressure Level, multiple SPL SUB15 cabinets can be arrayed side by side or stacked as required

Other cabinets (eg SPL 8H cabinets) can stand mounted on top of the SPL SUB15 Sub using the optional pole mounting kit Part # SPL-PMK-1 (see pic below left).

Note: Avoid having all the weight of the cables hanging on the connectors by tying off to one of the handles as a strain relief.

Do NOT fly the SPL SUB15

The SPL SUB15 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.

Introduction

Thank you for choosing this ARX SPL SUB15 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 SUB15 system.

About the SPL SUB15

The SPL SUB15 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' low frequency module.

The reflex loaded subwoofer and amplifier combination uses a single 15" long throw driver. Its trapezoidal, arrayable layout is designed to provide extended low frequency from 45 Hz to 100 Hz in flown or ground stacked multi-cabinet speaker systems.

The cabinet is built throughout from premium grade void free plywood, and is painted in multiple textured coats of catalysed polyurethane, with a heavy duty perforated steel mesh grille.

Designed as a complementary sub bass cabinet for SPL8H arrays, the SPL SUB15 can easily be used with other speaker systems. Since its control electronics and amplifier are built-in, the SPL SUB15 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 amplifier design inside the SPL SUB15 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 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.
- Reduced number of connections contributes to inherent low noise, and greatly reduces the possibility of ground loops.

To sum up, the SPL SUB15 successfully combines state of the art design with practical, proven technology. It delivers an integrated Sub-bass solution with all the impact that today's audiences expect.