

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 32

Integrated Self Powered Sub Bass Loudspeaker System

Owner's Manual



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Moorabbin, Victoria 3189, Australia
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Email: info@arx.com.au



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



100 V AC, 50 - 60 Hz

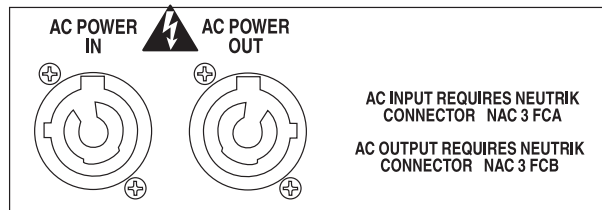
110 V AC, 50 - 60 Hz

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

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**

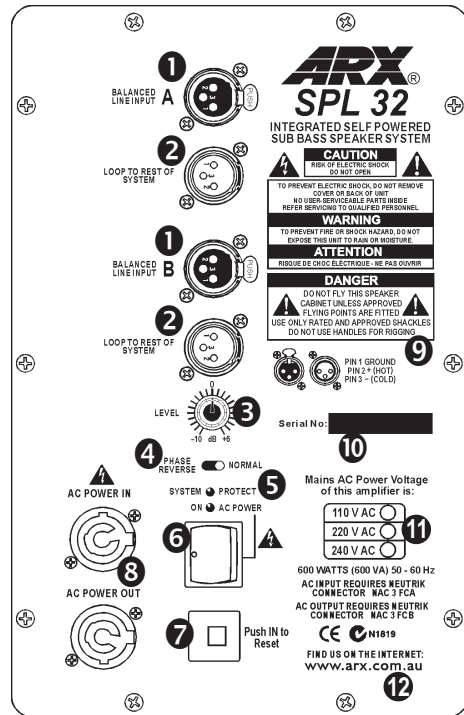
Complies with 89/336/EEC EMC Directive, amended by 92/31/EEC and 93/68/EEC and meets the following standards: EN 55013 : 1990, Sections 3.2 and 3.5 EN 55020 : 1988, Sections 4.3, 5.4, 6.2, 7.0, 8.0.

Complies with Australian Standard AS/N25 1053

SPL 32 Specifications

Frequency response	40Hz - 100Hz ±4dB
Loudspeaker type	Active Low Frequency with onboard amplification and speaker processing Reflex loaded dual 15" 380mm 8 Ohm
Size	1010H x 545W x 515D, 7.5° taper to back
Weight	72 Kg
Input Connector	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 Connector	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 32 REAR PANEL



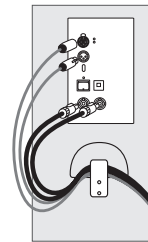
- 7** **CIRCUIT BREAKER** This will trip to protect the internals if the cabinet encounters AC power problems. Press the RED button IN to reset. If it continues to trip, remove the cabinet from use and arrange for checking by an authorised ARX service centre. Please don't try to take the cabinet apart 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** put your hands inside the cabinet, even when it is switched off. **Never** fly speaker cabinets without consulting a licensed rigger; **only** use suitably rated lifting equipment, and **never** use the handles for anything other than general handling of the SPL 32
- 10** **SERIAL NUMBER** Unique to your SPL 32. 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

- 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 SPL if required. Wired the same as the input
- 3** **LEVEL CONTROL** Adjusts the volume of the SPL 30; variable from -10 to +6 dB SPL
- 4** **CABINET SETTINGS SWITCH** Switched to Normal if being used with other ARX SPL cabinets (eg SPL 30), 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

Setting up and using the SPL 32

The SPL 32 is very straightforward to setup and start using, but a few basic steps should be followed.

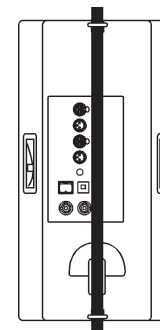
1. Connect the signal and power cables to the SPL(s) before switching it on.
2. Connect and switch on all preceding equipment (mixer, EQs, etc) before switching on the SPL 32(s), but make sure their level controls are pulled down. The SPL 32 will switch itself on and off silently, but will reproduce (at very high SPL!) whatever switch-on noise or signal that is sent to it.



Each SPL 32 has a handy cable strain relief on the rear that you can loop the power and signal cables through. This useful feature avoids having all the weight of the cables hanging on the connectors (see pic at left)

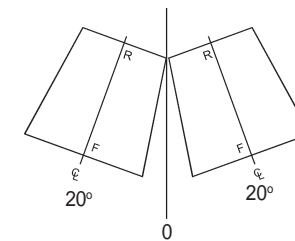
Flying the SPL 32

The SPL 32 is factory fitted with reinforced flying/rigging track, and may be flown using the appropriate flying and rigging equipment. The recessed flying track on the SPL 32 is designed to receive a double stud spring-loaded track connector. See drawings at bottom.



The strapping points top and bottom rear of the cabinet are for angling the cabinet **ONLY**.

DO NOT FLY FROM THESE POINTS!



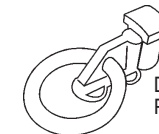
For maximum coverage, cabinets can be splayed 20° each side of an imaginary centre line

Maximum recommended flying hang is 3 cabinets.

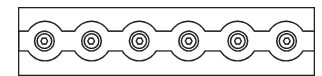
Flying hardware is available from ATM Flyware in the USA: www.atmflyware.com Fax +1-310 834 3042. Flying components are also available from Penn-Elcom distributors worldwide. Check www.penn-fabrication.com for distributor details in your country

IMPORTANT SAFETY NOTE

Flying speaker cabinets is **dangerous** if done by inexperienced operators and/or when using the wrong equipment. Ensure all rigging is safety rated to a **minimum** of 8 x the weight of the SPL 32 (75 Kg x 8 = 600 Kgs) and is done by licensed riggers.



Double Stud Connector: Penn Part # R1437



Flying track as fitted to cabinet

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. Maximum number of cabinets powered in this way will be dependent on your AC power setup

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 32, we paid extremely close attention to cooling. 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 acceptable. 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 call this **CoolPort** technology

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

Introduction

Thank you for choosing this ARX SPL 32 Integrated Self-Powered Sub Bass 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 32 system.

About the SPL 32

The SPL 32 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 subwoofer and amplifier combination use dual 15" (380mm) drivers mounted in a trapezoidal, flyable and arrayable loudspeaker cabinet. It is designed to provide extended low frequency from 40 Hz to 100 Hz to enhance existing speaker systems, such as the 3 way SPL 30. The cabinet is built throughout from premium grade void free plywood, with extensive bracing to reduce unwanted coloration. It also features a heavy duty steel mesh protective grille, and is painted in multiple textured coats of catalysed polyurethane.

Reinforced mounting plates and flying hardware are already factory fitted as standard.

Inside Information

The amplifier design inside the SPL 32 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 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 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.