

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 finish or appearance items, or burned voice coils, 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 damage caused by connection to the wrong AC voltage, and running speaker systems (a) without the appropriate ISC processor (b) with a non ARX crossover, or (c) with the ISC disconnected or bypassed.

This warranty gives you and us specific legal rights and there may also be other rights and considerations which can apply.

Warranty Service Procedure

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

1. Call your Distributor for Return Authorisation, freight details and Return address
2. **Carefully** repack the unit, in its original packaging where possible. If not, use **plenty** of packing material - better to be safe than sorry.
3. Include a note with a description of the problem
4. Include a copy of the receipt/invoice showing date of purchase.
5. 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 the service technicians to contact you if they have a question.
6. Attach all these to the actual unit itself.
7. We strongly recommend you insure the package. We can't fix it if it gets lost! Send it prepaid by UPS, Fedex, DHL or a similar parcel service that can track the package. Parcel post is not recommended! *If Warranty Registration Card is missing, please contact ARX, stating model, and where & when purchased.*

ARX Head Office, PO Box 15, Moorabbin, Victoria 3189, Australia
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ZA400 • ZA600 • ZA800 Multi Channel Power Amplifiers

OWNER'S MANUAL



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IMPORTANT - This amplifier 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 voltage has been checked. If incorrect, contact your ARX distributor.



120 V AC, 50 - 60 Hz

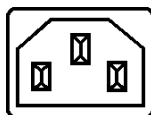


220-240 V AC, 50 - 60 Hz

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



240 V AC, 50 - 60 Hz



Some models have a removable AC power lead that connects to an IEC connector (See Picture at Left)

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.



This symbol indicates that a Slow Blow fuse is used in this equipment. Replace with same type and value only



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



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.

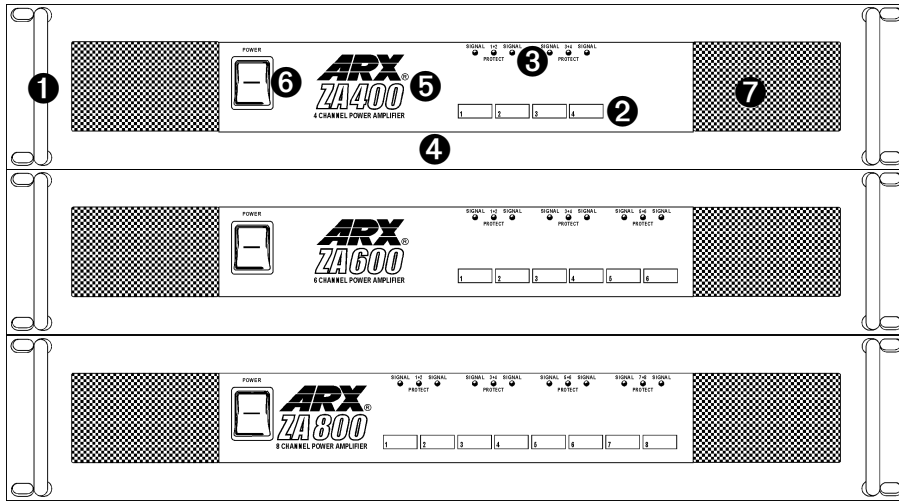
Complies with Australian Standard AS/N25 1053

Specifications

	ZA400	ZA600	ZA800
Power Output :			
Channel @ 8 ohms:	180	100	75
Channel @ 4 ohms:	250	125	100
Bridged pair @ 8 ohms:	500	250	200
Distortion:			
1 Watt @8 ohms, 1 KHz	.01%		
Channel Separation:			
@ 1KHz	-88dB	-88dB	-88dB
@ 10KHz	-80dB	-80dB	-80dB
Front panel indicators:			
Clip LED:	yes	yes	yes
Protection LED:	yes	yes	yes
Weight:			
Kg	12	13	14
Lbs	22	24	26
Size	2 RU High (89 mm) 19" Wide (482 mm) 16" Deep (405 mm)*		
Input sensitivity: for rated output 8 ohms:	.775V	.775V	.775V
Frequency response: @ rated output:	20Hz - 20KHz ±4dB		
CMRR	>70dB @ 1 KHz		
Input Impedance:	40 Kohms Balanced		
Input Connectors:	Jack		
Output Connectors:	Neutrik Speakon		
Construction	All steel monocoque		

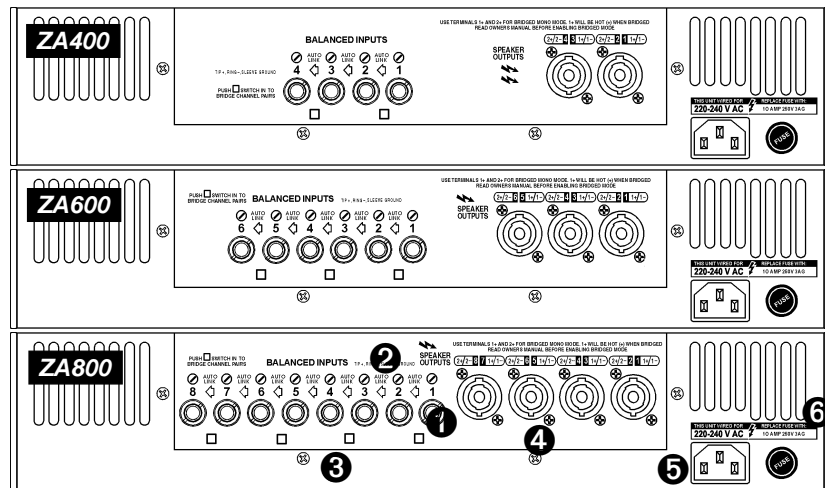
* Add 80mm to depth **behind** front panel to allow for rear rack mount ears and connectors; add 30mm to depth **before** front panel to allow for handles and volume controls (if fitted)

Front Panel Layouts



1. EasyGrip Handles
2. 'Scribble-strip' for labelling channels
3. Protection and Clip LEDs
4. 4 mm steel front panel
5. Non-scratch Lexan printed panel
6. Illuminated power switch
7. Fan filters. Remove, clean and replace at first sign of clogging

Rear Panel Layouts



1. Balanced Jack Inputs
2. 20 turn level controls. Note that amplifiers are shipped with these controls set at maximum (no attenuation)
3. Bridged Mono mode switches
4. Neutrik Speakon Output Connectors
5. AC power connector
6. Heavy Duty Rear rack ears for four point racking

About AutoLink™

The ZA amplifiers feature AutoLink, an exclusive and unique internal patching system that lets you access all channels inputs individually or in multiples.

What exactly does this mean? Here's an example.

If you insert a lead into the Input of Channel 1, the signal will automatically be routed through Channels 2 to 8 as well, linking all 8 channels from a single source without having to link them manually (i.e. 1 signal to 8 zones). See Fig 1 below

However, if you insert another input lead from another source into, say, Channel 3, then this signal will run through Channels 3 to 8, leaving Channels 1 and 2 with your original signal. See Fig 2

If you insert another input lead from another source into, say, Channel 5, then this signal will run through Channels 5 to 8. And so On. Naturally if you need a different signal in each amplifier channel then you can just plug into them normally on a 1 to 1 basis. See Fig 3

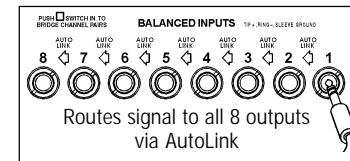


Fig. 1

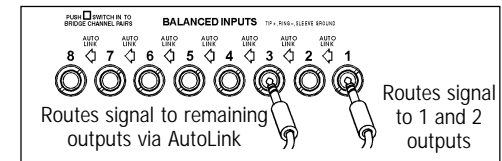


Fig. 2

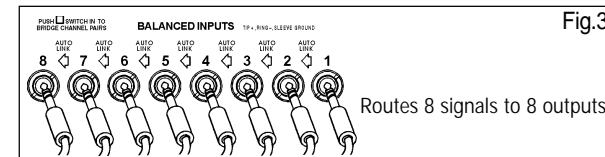
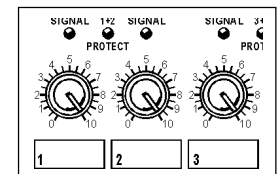


Fig.3

Other Controls

• Front volume controls (VF models only)

On these models the volume controls are placed on the front panel, enabling the levels to be modified by the system engineer as required

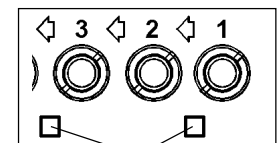


Front Panel Level Controls

• Bridged Mono Switches (Rear Panel)

! READ THIS BEFORE WIRING UP FOR BRIDGED MODE !

Pushing this in switches the pairs of Channels 1 and 2, 3 and 4, 5 and 6, 7 and 8 into higher power single channels designed to drive single 8 ohm loads. **Please follow these instructions exactly.**



Bridged Mono switches

1. Turn the amplifier off.
2. Press in the square switch under the Inputs of the Channel pair that you want to bridge
3. Connect a Speakon connector **wired 1+ and 2+ only** to the appropriate Output (1/2, 3/4, 5/6, 7/8)
5. Double check your connections, then turn the amplifier power back on.
6. Check at low level before turning it up!

NOTE: An 8 ohm speaker load in bridged mono mode is equivalent to a 4 ohm load per channel.

⚠ WARNING! ⚠

⚠ THERE ARE NO USER SERVICEABLE PARTS INSIDE THE AMPLIFIER, SO PLEASE DON'T TAKE THE LID OFF AND POKE AROUND!

Amplifiers run on DC voltages provided by the amplifier's internal power supply. The ZA series have separate + and - DC fuses for both channels, mounted internally on the main circuit board. The power Mosfets used in the amplifiers are extremely rugged devices, and the correct rating fuses in the power supply ensure that the amplifier circuitry is protected from short circuit damage.

⚠ A blown DC fuse will be indicated by a very distorted low volume output from that side of the amplifier. A blown AC fuse will be indicated by nothing working at all - check to see if the fans are turning.

⚠ Any blown fuse should be investigated. It doesn't necessarily mean that something is wrong with the amplifier, but indicates that there is something wrong in the complete signal path, from the mixing console to the speakers.

⚠ If a fuse blows:

Get a qualified service person to inspect inside the amplifier. Please don't do it yourself! There are **very** dangerous voltages inside amplifiers, even when they have been turned off!

Things to check before you plug your amplifier in

Mains AC power - check that the voltage on your amplifier is the same as the voltage at the power point. **It is a very good idea to check this before plugging the amplifier into the power point!** Be especially careful of plugging into unchecked 'piggyback' plugs, power distribution boxes or extension cables.

Your warranty does not cover damage caused by incorrect wiring.

Make sure the amplifier is connected to the same AC power supply and Earth/Ground as the rest of the system, otherwise you may set up a Ground loop hum.

We strongly recommend that you use the rear mounting slots as well as those on the front panel.

There are 2 cooling fans on the ZA amplifiers to force air around and through the heatsinks. Do not block the air exit path!

Air flow and cooling

It is **extremely** important that you ensure that there is **unrestricted** air access to these fans, and also **unrestricted** air exit path. Clean the fan filters regularly or at the first sign of becoming clogged.

All ZA amplifiers have sufficient fan cooling capacity built in, and need no extra external fan cooling to operate normally. Their compact 'UltraFin' heatsinks provide massive surface areas for rapid cooling and stable temperatures.

WARM AIR OUT
AT REAR



COLD AIR IN
FROM FRONT

BUT...When racking up ZA amplifiers, you **MUST** allow space for the air to exit from the **rear** of the amplifier.

If you are using a rack that has a sealed rear panel, with pre wired multipin connectors, then the normal fan cooling of the amplifiers **must** be supplemented by additional fan forced air extraction from the rack. All that air being pumped in by the fans has to exit somewhere!

Remember that Power = Heat, and Maximum air flow = successful heat management.

Introduction

Thank you for choosing this ARX amplifier. We hope you enjoy using it as much as we enjoyed creating it. It is a precision engineered product designed for professional use in all pro-audio applications, and as such, a working knowledge of basic electronic safety procedures is assumed on the part of the operator.

Like all ARX equipment, it has undergone extensive factory calibration, testing and 'burn in' before shipping. To ensure continued trouble free use, please familiarise yourself with the contents of this manual before using.

About the ZA400, ZA600 and ZA800 amplifiers

A complete range of multi channel amplifiers designed from the ground up for the intensive duty cycle that today's installations demand. More power, more protection; less heat, less weight, and most of all - better sound.

The ZA400 is a 4 channel unit, the ZA600 is a 6 channel, and the ZA800 is an 8 channel unit. This owner's manual details all the channel options available in all models; naturally, if you have a ZA400 then these options will only be available for 4 channels, not 8!

For the ZA series we are using the new generation Lateral Mosfet devices for the all-important amplifier output stage, ensuring an ultra fast high frequency, high current-to-load measured in nanoseconds, up to 100 times faster than amplifiers using conventional Bipolar transistors.

Based on the core technology developed by ARX for our new range of ISC Loudspeaker Processors, our new 'Headroom Enhance' circuitry provides Maximum power output levels under all rated load conditions, eliminating Output Stage clipping.

The ZA series features the AutoLink channel input linking system made popular by the unique ARX Multi Q Parametric Equalize. This unique and extremely useful function automatically links channel inputs as required, eliminating the extra expense of an external zoner / splitter.

Advanced computer modelling of the ZA series chassis design has put strength where it's needed, and reduced excess weight where possible. Coupling this with the use of compact toroidal transformers has resulted in an excellent power-to-weight ratio for the ZA amplifiers.

All the ZA amplifiers have new re-settable High Current relay switched protection circuits that instantly disconnect the speakers when a potentially damaging signal or amplifier error is detected.

New Input delay muting circuitry eliminates switch on/switch off noise.

Dual variable speed cooling fans circulate cooling air through ARX's proven 'UltraFin™' heatsink, ensuring that the Mosfet output devices are kept well within their thermal tolerance levels under all operating conditions.

As a company, ARX is dedicated to producing pro audio products that consistently deliver the power and the quality that audio professionals expect.

The ZA series of multi channel amplifiers are proof of our commitment - amplifiers that work as hard as you do, day after day, night after night, because we know that audio professionals like yourself depend on them to earn a living.