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, burned voice coils, or 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 a speaker system with the ISC leads disconnected, or with a non-ARX crossover, or with the wrong processor.

This warranty gives you and us specific legal rights and you may also have other rights which may 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 ARX distributor for a Return Authorization (RA) number;
2. **Carefully** repack the unit, in its original packaging where possible, including a note with 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, or any similar service that can track the package. Parcel Post is *not* recommended

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.

*Or you can Email us at: info@arx.com.au*

Quadcomp® *II*

OWNER'S MANUAL

ARX Systems Pty Ltd, PO Box 15, Moorabbin, Victoria 3189, Australia
Phone: (03) 9555 7859 **Fax**: (03) 9555 6747
International Fax: +61-3 -9555 6747
On the Web: www.arx.com.au
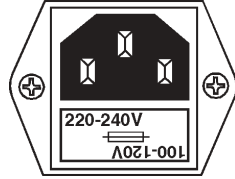**Email**: info@arx.com.au

IMPORTANT - *PLEASE READ THIS FIRST*

This is a dual voltage unit. It is essential that you check that the voltage on the fuseholder cover below the AC connector on the rear of the chassis is set correctly before connecting it to AC power.

100-120V
220-240V
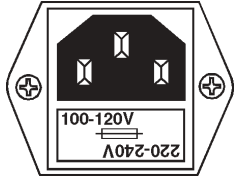
THIS IS SET FOR
100 V AC TO 120 V
AC OPERATION

220-240V
100-120V

THIS IS SET FOR
220 V AC TO 240 V
AC OPERATION

To change, pull fuseholder out and rotate 180º, then push in again. Do not insert power cable into unit until voltage has been correctly set. Do not plug power cable into AC power until voltage has been correctly set

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 ÉLÉCTRIQUE - 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

Quadcompª II Specifications

Input Impedance	Balanced 20 Kohms
	Unbalanced 10 Kohms
Input Headroom	+ 20 dB
CMRR	>50 dB, 20 Hx - 20 KHz
Output Impedance	Balanced 300 ohms
	Unbalanced 150 ohms
Output Level (Max)	+ 22 dB
Attack and Release Times	Program dependent
Frequency Response	20 Hz to 20 KHz, ± 0.5 dB
Signal to Noise ratio	-93 dB Unweighted
	-961 dB 'A' weighted
Distortion	.0054% THD @ 0 dB,1KHz
Dynamic Range	113 dB
Variable Gain Cell	Full Class A VCA, with true 2 pole averaging RMS/DC converter
Power Requirements	100/120 V AC 220/240 V AC
	50-60 Hz, 8 Watts, (8 VA)
Weight	5 lbs/2.2Kg
Dimensions	19"W x 1¾H x 6"D
	482 x 44 x 155mm
Input Connector type	Balanced XLR
Output Connector type	Balanced XLR
Sidechain Insert Connector	Jack (TRS)
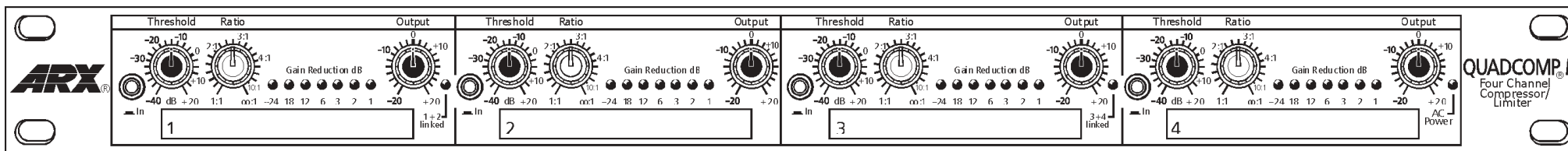
Front Panel Controls

• Hardwire bypass compressor IN/OUT switch.
• Numbered marker panel for labelling compressor assigns. Use a grease pencil, Chinagraph or something similar. Please don't use a felt tip marker as these may permanently stain the panel.
•Threshold control. This varies the level at which the compressor will start to modify the signal dynamics. Variable from -40dB to +20 dB.

• 7 segment LED display Gain Reduction meter; from 0dB to -24dB.
• Ratio control. This determines how much the signal is compressed when it reaches the Threshold. It is totally variable from 1:1 to infinity:1.
• Output gain. Variable from -20dB to +20dB.
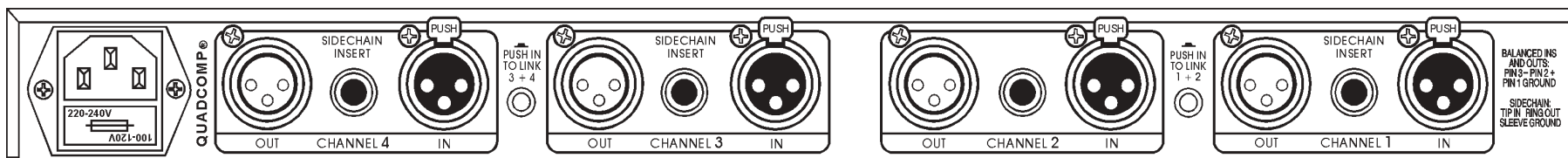
Rear Panel Connectors

• Balanced XLR Input socket. Pin 3 –, Pin 2 +, Pin 1 Ground
• Sidechain Insert TRS socket. Tip IN, Ring OUT, Sleeve GROUND
• Balanced XLR Output socket (wiring same as Input)
• Stereo link switches for Channels 1 and 2, 3 and 4 Master/Slave configuration. When switched IN, Channels 1 and 3 are the Masters and control all functions except Output gain.

When switched OUT, all four Quadcomp channels are totally independent.
• IEC 3 pin AC connector and integral fuseholder. Replace fuse with correct value only: 100 - 120 V AC 1 amp, 220-240 V AC 0.5 amp. Please also refer to voltage details on Page 2

Application Notes - Compressors and Limiters

A **compressor** is a variable gain amplifier whose output voltage compared to input voltage decreases as its input level increases past a set threshold.

A **limiter** is essentially a compressor with a high compression ratio, thus maintaining an essentially constant output level despite any increase in input level past the threshold.

So, let's look at this in non-technical terms. Basically, what this type of device does is keep an eye (or ear?) on signal levels, stopping them from getting any louder than the level you set (the Threshold). A compressor puts a gentle 'squeeze' on the excess level, whereas a limiter hits excess level on the head with a hammer!

Each channel of the Quadcomp*II* can act as either compressor or limiter, since its Ratio control is infinitely variable, from 1:1 right through to oo:1. So you can have low compression (1.5:1 to 3:1), medium compression (3:1 to 6:1), heavy compression (6:1 to 10:1) and limiting (10:1 to oo:1). These numbers refer to the amount of input signal in dB that will produce an increase of 1 dB at the output.

A lot of compressor/limiters use some form of peak detection, with response characteristics that are definitely audible. However, each channel of the Quadcomp II features a true RMS detector that closely follows the response of the human ear to level changes, making it as natural sounding as possible while still retaining full audio control. Plus, the ARX 'Auto Soft'™ circuitry

gives soft knee transfer characteristics at low to medium compression, changing to hard knee around 8:1. This gives virtually inaudible subtle compression where needed, but maximum output before limiting when used as an overall level controller.

Where to use the Quadcomp II

The Quadcomp*II* gives you 4 independent compressor/limiters, each of which can be inserted virtually anywhere in the line level audio path. However, it is **not** designed to have a microphone or an instrument plugged directly into it.

Popular uses are: As a desk insert on four channels; on four subgroups; on the Left and Right console sends AND on two channels, maybe lead vocal and Kick drum or Bass; as Pre or Post House EQ limiters, as limiters on the outputs of crossovers, both main and monitor; on four sends of a monitor desk; the list goes on. We think you'll find the Quadcomp*II* an invaluable audio tool.

Application Notes - Sidechain Insert

On each channel of the QuadcompII there is an extra jack socket, coloured RED, and marked SIDECHAIN INSERT. This jack socket is a Tip Ring Sleeve type, wired Tip IN, Ring OUT, Sleeve EARTH/GROUND. This Sidechain Insert is an access point for the control circuitry of the compressor. By modifying the audio signal via this point you can change the way the compressor 'hears' signals, and, consequently, the way it reacts to them.

The most popular use of this feature is as a 'de-esser'; in other words, a device to remove excess sibilance (a "SSSSSSS" sound).

To set this up you'll need an IN/OUT pair of leads wired to a stereo jack plug, and an equalizer, either parametric or graphic. Plug the stereo jack into the Sidechain Insert, and the OUT lead from there to the Input of the EQ, and the IN lead to the Output of the EQ. Now you're wired into the Quadcomp's sidechain.

Sibilance usually occurs in the 4 KHz to 8 KHz range, so if you push up the 6 KHz slider by 3 dB, you increase the threshold sensitivity of the Quadcomp by 3 dB relative to 6 KHz. In other words you make the compressor more sensitive to 6 KHz. Sounds complicated, but sit down with a microphone, mixing console and this set up and you'll soon hear what we're talking about.

For best results this technique should be used as a desk channel insert, so that you only affect the excess sibilance in a particular vocal line.

As with anything new, some time spent experimenting will prove invaluable. Frequency sensitive compression, as all this is called, has many audio applications, so just experiment and see which ones work for you.

Introduction

Thank you for choosing this ARX Quadcomp®*II*. We hope you enjoy using it as much as we enjoyed creating it. As with all ARX equipment, it has undergone extensive alignment and 'burn in' before shipping. To ensure continued trouble free use, please familiarise yourself with the contents of this manual before using.

About the Quadcomp® II

The sheer amount of effects and signal processors necessary for today's standards of audio production puts a great strain on the available space in equipment racks, both in the studio and on the road.

To put it in a nutshell, space is money.

Recognising this fact, ARX design engineers have developed the Quadcomp*II*, a Four channel Compressor/Limiter in a single rack unit. This unique and versatile signal processor gives no less than Four independent channels of precise audio control in the space normally taken up by a single channel unit.

Despite its compact size, the Quadcomp*II* is not short of features. Each channel has an IN/OUT switch, individual controls for Threshold, Ratio and Output, and a 7 LED gain reduction meter display. In addition to this, as on all ARX single rack unit equipment, there is a numbered marker panel that you can write on for easy confirmation of your compressor assigns.

All Inputs and Outputs are electronically balanced on XLR connectors, and full access to each compressor sidechain is provided through insert points on the rear panel.

Channels 1 and 2, and channels 3 and 4 also feature a stereo link switch, located on the rear panel. When switched IN, Channel 3 becomes the master and controls all the functions of Channel 4 except Output gain. LED indicators on the front panel confirm these settings.

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