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 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 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, Cheltenham, Victoria 3192, Australia.

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

MSX 4
Active Microphone Splitter

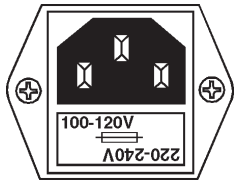
MPS 1
Dual Power Supply

OWNER'S MANUAL

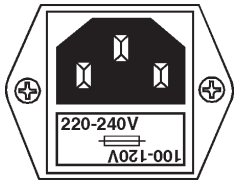
ARX Systems Pty Ltd, PO Box 15,
Cheltenham, Victoria 3192, Australia
Phone: 03 - 9555 7859 Fax: 03 - 9555 6747
International Fax: +61-3 -9555 6747
On the Web: http://www.arx.com.au
Email: info@arx.com.au

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.



THIS IS SET FOR
100 V AC TO 120 V
AC OPERATION



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

Complies with 89/336/EEC Electromagnetic Compatibility 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.

Specifications

MSX 4 Active Microphone Splitter

Signal / Noise Ratio
-104dB (Channel Gain 10dB)

Distortion
.008%

Frequency Response
10 Hz - 20 KHz ±0.5dB

Through Gain
Input/Output 10dB (may be varied internally)

Maximum Output
+18dB

Pad Switch
20dB attenuation

Phantom Power
+48VDC Silent Switch slow ramp on/off

Output Impedance
Main/Monitor outputs:
50 Ohms Electronically Balanced
Split 1/Split 2 outputs:
50 Ohms Electronically Balanced
(Optional 600 Ohm Transformer)

Power Supply
requires use of MPS 1 Power Supply delivering + and - 25VDC, plus 48VDC Phantom Power

Power Input
2 x Male 6 Pin XLR Socket

Size
19"W x 1¾"H x 6"H
482 x 44 x 150 mm

Weight
5 lbs (2.2 Kg)

MPS 1 Power Supply

AC Mains Input
2 individual fused IEC input sockets

AC Power
Universal:
100-120V AC, 1 amp
220-240V AC 0.5 amp

Transformer Type
2 individual low noise toroidal power transformers

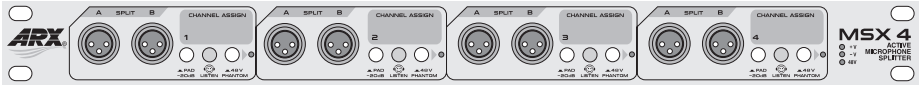
Power Outputs
Dual separate + and - 25 VDC Unregulated, 6 Amp
Dual separate +48VDC Regulated, 500mA

Power Output Connectors
2 x 6 pin latching XLR

Size
19"W x 1¾"H x 6"H
482 x 44 x 150 mm

Weight
22 lbs (10 Kg)

MSX 4 Front Panel Controls



- A and B balanced XLR Output splits Channel 1. Pin 3 -, Pin 2 +, Pin 1 Ground (Standard: electronic; Optional: transformer isolated)
- 20dB pad switch
- Listen function switch
- 48V Phantom Power switch and indicator LED
- Numbered marker panel for labelling microphone channel assigns
- Power status LEDs. For normal operation all 3 LEDs will be lit.

Rear Panel Connectors

- Balanced XLR Input Channel 1. Pin 3 -, Pin 2 +, Pin 1 Ground
- Balanced XLR Main (FOH) Output (same wiring as Input)
- Balanced XLR Monitor Output (same wiring as Input)
- 6 pin DC Power supply input connectors from the MPS 1 Power Supply

MPS 1 Front Panel Controls

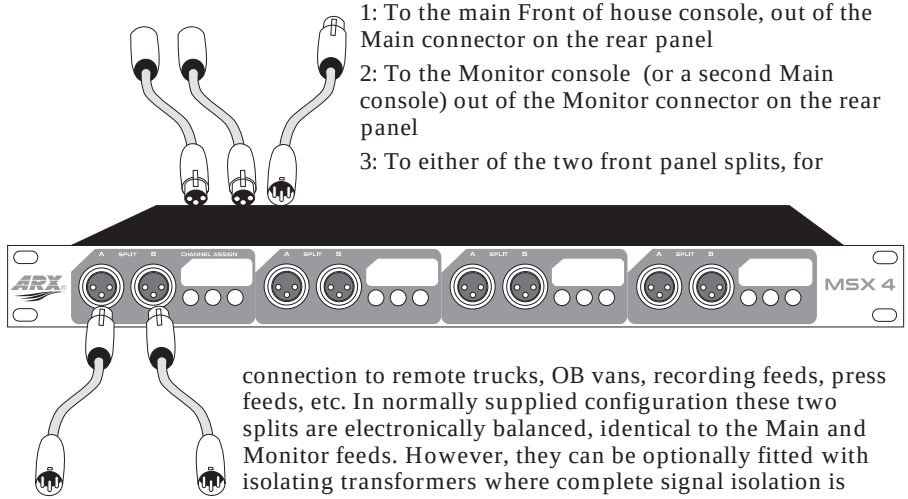
- Dual Power Switches
- Power status LEDs. For normal operation all 6 LEDs will be lit. A LED that is not lit indicates a blown internal power supply fuse. These are 7.5 amp 250V 3AG type, and for continued safety should only be installed by a qualified technician
- Listen function level control
- Listen function headphone socket

MPS 1 Rear Panel Connectors

- 6 pin DC Power supply connectors
- Dual IEC 3 pin AC connectors and integral fuseholders. Replace fuses with correct value only: 100 - 120 V AC 5 amp, 220-240 V AC 3 amp. Please also refer to voltage details on Page 2

Connecting the MSX 4

The original signal from the microphone is connected into the Input connector on the rear panelof the chosen channel. From there it can go any or all of four separate ways.



1: To the main Front of house console, out of the Main connector on the rear panel

2: To the Monitor console (or a second Main console) out of the Monitor connector on the rear panel

3: To either of the two front panel splits, for connection to remote trucks, OB vans, recording feeds, press feeds, etc. In normally supplied configuration these two splits are electronically balanced, identical to the Main and Monitor feeds. However, they can be optionally fitted with isolating transformers where complete signal isolation is required.

Phantom power can be switched to the mic input from the front panel, and a 20dB pad can be switched in to cope with ultra hot signals.

Each channel can be tested with the 'Listen' button, which is used in much the same way as the PFL switch on consoles. Pressing the switch in causes the signal on that channel to appear at the headphone socket on the MPS 1 Power Supply.

To avoid confusion the Listen switch is non-latching, so only one channel's signal at a time will be heard.

MSX 4 Options

The two front panel splits are available with isolating transformer balanced outputs if required. Ideally these should be installed at the time of ordering the unit(s), but they are available as a retrofittable kit. Contact ARX directly or the dealer at your point of sale for further information on obtaining a tranformer balancing kit. The kit has complete details on the installation, testing and ground lift wiring of the transformers.

Note: A reasonable amount of technical knowledge is required for this retrofitting, so we recommend that it be done by a qualified technician

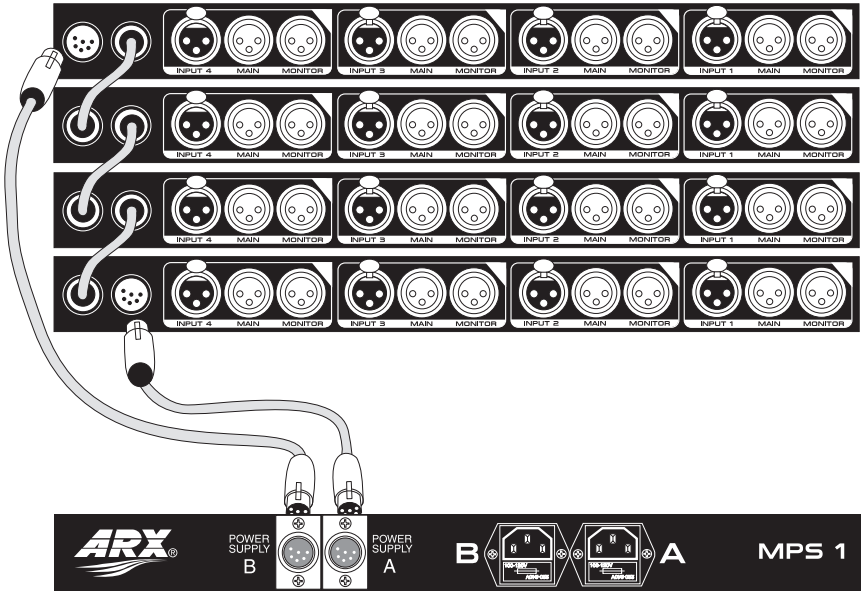
The internal gain of the MSX 4 is set at +10dB. This is the optimum figure for obtaining the best signal to noise ratio. However, for applications that require the internal gain to be unity, contact ARX directly for the technical application notes.

Note: Once again, a reasonable amount of technical knowledge is required for this change, so we recommend that it be done by a qualified technician

Power Connections

The MSX 4 is designed to be used with the MPS 1 Dual Power Supply only. This unit has two completely independent power supplies inside, and both 6 pin connectors should be connected to the MSX 4 with the supplied leads.

If more than one MSX 4 is being used, then the MPS 1 should be connected as the following diagram shows.



IMPORTANT

Check that the AC Power at the wall is in the same voltage range as that printed on the fuse holder doors, before connecting the MPS 1 to the AC supply. See Page 2 for further details.

Introduction

Thank you for choosing this MSX 4 Active Microphone Splitter. As with all ARX equipment, it has undergone extensive factory calibration and 'burn in' before shipping. To ensure continued trouble free use, please familiarise yourself with the contents of this manual before using the MSX 4.

About the MSX 4

ARX design engineers have developed the all new MSX 4 Microphone Splitter to cope with the increasing complexity of today's standards of audio production.

The feature packed MSX 4 is the answer where transparent signal buffering and routing is required. It consists of four channels of actively buffered ultra low noise Microphone Splitter with electronically Balanced outputs for Main and Monitor, plus electronically Balanced output splits (optional transformer isolation) on the front panel.

Each channel has a front panel pad switch (-20dB) for bringing high level signals under control, plus a 48V Phantom power switch and indicator LED. A 'Listen' switch for each channel enables each channel to be checked with headphones for line tracing when troubleshooting, in a similar manner to the PFL switch on consoles.

The MSX 4 is externally powered for low noise operation by the MPS 1 Dual *Failsafe* Power Supply. This comprises two electrically separate power supplies in a compact one rack unit chassis, and ensures low noise and reliable, trouble free operation for your MSX 4 System.

Using the rule that you should 'never go anywhere without a backup', the MPS 1 has backupbuilt in - each of the dual power supplies in the MPS 1 is always available for use. The headphone output for the 'Listen' function is also mounted in the MPS 1 chassis.

The MPS 1 will power up to 12 MSX 4 units, for a total of 48 channels.

Inside the ARX MSX4.

The ARX MSX 4 microphone splitter contains high quality components in a carefully considered signal path. This provides Dynamic microphones with a constant, ideal 1200 ohm load, irrespective of whether the pad switch is in or out.

And, unlike many consoles, the switchable 48volt Phantom power is applied in a way that prevents speaker and nerve destroying bangs and clicks.

Powerful RF input filtering removes both common-mode and differential nasties at ultrasonic frequencies and above.

High common-mode rejection at the input is achieved with precision fixed parts; there are no vulnerable trimpots. Similarly, independent differential outputs have been specified to avoid the need for fussy output CMR trimming, required in conventional, cross-coupled balanced drivers. Without the latter's feedback based topology, sonics are vastly improved.