



**AMU2-2MAS**  
**AUDIO MONITORING**  
**UNIT**

**Provisional  
Handbook**

**TSL**

**Vanwall Road, Maidenhead, Berkshire, SL6 4UB**  
**Telephone +44 (0)1628 676200, FAX +44 (0)1628 676299**  
**[www.tsl.co.uk](http://www.tsl.co.uk)**



---

## SAFETY

### **Installation.**

Unless otherwise stated TSL equipment may be installed at any angle or position within an operating temperature range of 5° - 30° C .

All TSL equipment conforms to the EC Low Voltage Directive:

EC Low Voltage Directive (73/23/EEC)(OJ L76 26.3.73)(LVD).  
Amendment: (93/68/EEC) (OJ L220 30.8.93).

In all cases, the frame of the equipment must be earthed on installation.

The earth pin on the IEC mains inlet connector is connected to the metal frame of the equipment, to 0 volts on the internal DC PSU and to signal ground, unless otherwise stated. All metal panels are bonded together.

Due consideration for cooling requirements must be given when mounting the equipment. Ideally 1RU of rack space should be left above and below the unit.

This unit is heavy and must be supported along the sides or at the rear.

Check that the fuse rating is correct for the local power (mains) supply. Replacement fuses must be of the same rating and type for continued protection against fire risk.

Do not switch on until all connections are made.

---

## WARRANTY, MAINTENANCE AND REPAIR

All TSL equipment is guaranteed for one year from the date of delivery to the customer's premises. If the equipment is to be stored for a significant period, please contact TSL concerning a possible extended warranty period.

### **Failure during warranty**

If any TSL product should fail or become faulty within the warranty period, first please check the PSU fuses.

All maintenance work must be carried out by trained and competent personnel.

### **Technical support information**

E-Mail address: [support@televisionssystemsltd.uk](mailto:support@televisionssystemsltd.uk)

Telephone Support Number for the UK and Europe: +44 (0) 1628 676000

Telephone Support Number for the USA only: 1 877 591 2108

---

## **TSL Returns Procedure**

Please telephone +44 (0)1628 676200 (Fax: +44 (0)1682 676299) and ask for Sales who will provide a Returns Number. This will enable us to track the unit effectively and will provide some information prior to the unit arriving.

For each item, this unique Returns Number must be included with the Fault Report sent with the unit.

A contact name and telephone number are also required with the Fault Report sent with the unit.

### **Fault report details required.**

- Company:
- Name:
- Address:
- Contact Name:
- Telephone No:
- Returns Number:
- Symptoms of the fault (to include switch setting positions, input signals etc):

### **Packing**

Please ensure that the unit is well packed as all mechanical damage is chargeable. TSL recommends that you insure your equipment for transit damage.

The original packaging, when available, should always be used when returning equipment..

**If returned equipment is received in a damaged condition, the damage should be reported both to TSL and the carrier immediately.**

---

## Contents

---

- 1.0 Introduction**
- 2.0 Front Panel Controls**
  - 2.1 Input and Meter Selection Buttons**
  - 2.2 Output Switching**
- 3.0 Pin-out Details**
  - 3.1 Analogue Input XLR Connectors**
  - 3.2 Audio Input / Output Connectors – D37**
  - 3.3 Serial Connector - D9 Socket**
  - 3.4 External Connector – D15 Plug**
- 4.0 General Notes**
- 5.0 Specifications**
- 6.0 Front and rear view**
- 7.0 Block Schematic**

---

**This page is Blank**

---

## AMU2-2MAS Audio Monitoring Unit

---

### 1.0 Introduction

The AMU2-2MAS is a 2RU x 255mm deep audio monitoring unit offering two moving coil meters for audio level measurement and two internal communications quality loudspeakers.

The following features are standard:

- Two moving coil meters, PPM or VU
- Six switch selectable stereo analogue inputs
- Audio-present indication
- Phase correlation bargraph
- Two internal loudspeakers
- Fixed line outputs

### 2.0 Front Panel Controls

#### 2.1 Input and Meter Selection Switch

**Input 1-6** Stereo analogue I/Ps. A1 (Left Channel) is fed to the left meter and A2 (Right Channel) is fed to the right meter.

#### 2.2 Output Switching

**O/P Monitoring** **Stereo-** Left audio to left channel, Right audio to right channel.

**Mix-** A Mix of A1 & A2 to both channels.

**A1-Both** A1 (Left audio) is selected to both channels.

**A2-Both** A2 (Right audio) is selected to both channels.

**Dim** Approximately 16-20dB of attenuation is switched into the audio path

**Cut** The front panel button mutes the signal to the internal loudspeakers, the fixed line output remains unaffected.

**Volume** This sets the acoustic level.

---

### 3.0 Pin-out Details

#### 3.1 Input connectors -XLR sockets

<b>XLRS</b>	<b>PIN</b>	<b>FUNCTION</b>
ANALOG 1	1	GND
ANALOG 1	2	1 IN+
ANALOG 1	3	1 IN-
ANALOG 2	1	GND
ANALOG 2	2	2 IN+
ANALOG 2	3	2 IN-

#### 3.2 Variable line Output -XLR plugs

<b>XLRS</b>	<b>PIN</b>	<b>FUNCTION</b>
ANALOG 1	1	GND
ANALOG 1	2	1 OUT+
ANALOG 1	3	1 OUT-
ANALOG 2	1	GND
ANALOG 2	2	2 OUT+
ANALOG 2	3	2 OUT-

#### 3.3 Audio Input / Output Connectors – D37 Pinouts

##### D37 Socket, Input connector (lower)

<b>D 37 CONNECTOR ON AMU</b>		<b>AUDIO INPUTS</b>	<b>FUNCTION</b>
<b>PIN NO</b>	<b>PIN NO</b>		
<b>HOT +</b>	<b>COLD -</b>		
1	20	1	A1L (A1)
2	21	1	A1R (A2)
3	22	2	A2L (A3)
4	23	2	A2R (A4)
5	24	3	A3L (A5)
6	25	3	A3R (A6)
7	26	4	A4L (A7)
8	27	4	A4R (A8)
9	28	5	A5L (A9)
10	29	5	A5 (A10)
11	30	6	A6L (A11)
12	31	6	A6R (A12)
19		Screen	A Ground

### D37 Socket, Output connector (Upper)

D 37 CONNECTOR ON AMU			AUDIO OUTPUTS	FUNCTION
PIN NO	PIN NO			
HOT +	COLD -			
1	20		A1	VAR MON O/P
2	21		A2	VAR MON O/P
3	22		A1	FIXED MON O/P
4	23		A2	FIXED MON O/P
5	24			
6	25			
7	26			
8	27			
9	28			
10	29			
11	30			
12	31			
19			Screen	A Ground

### 3.4 Serial Connector - D9 Socket

This is wired for RS422.

D9	CONTROL
1	0V
6	0V
2	TX-
7	TX+
3	RX+
8	RX-
4	0V
9	0V
5	N/C

---

### 3.5 External Connector – D15 Plug

D15 PIN	EXTERNAL FUNCTION
1	GPI 1
2	GPI 2
3	GPI
4	GPI
5	GPI
6	GPI
7	N/C
8	N/C
9	N/C
10	N/C
11	N/C
12	N/C
13	N/C
14	+5V
15	0V

GPI 1 Remote Dim, GPI 2 remote Cut.

### 4.0 General Notes

1. Please note that some N. American equipment has the function of the XLR pins 2 & 3 reversed.  
(TSL products are wired to the European standard.)

---

## 5.0 AMU2-2MAS Technical Specifications

### Power Supply

AC Supply Voltage	100 -240V AC @ 50Hz/60Hz +/- 10%.(Fuse T2A)
Power Consumption	150 VA Max.

### Physical Dimensions

Height	88mm (2RU)
Width	483mm (19")
Depth	270mm
Weight	3.25 Kg

### Input 1

Connector Type	XLR Female 3 pin. Pin 1 Gnd, Pin 2 hot, Pin 3 cold.
Signal	Balanced line level audio.
Frequency Response	30Hz to 25kHz
Impedance	>20k $\Omega$

### Inputs 1 – 6

Connector Type	D37
Signal	Balanced line level audio.
Frequency Response	30Hz to 25 kHz $\pm$ 1dB
Impedance	>20k $\Omega$

### Line Outputs

Connector	XLR 3 pin Male
Impedance	50 $\Omega$
Output Levels	Through level control with 0dB gain.
Connector	D37
Impedance	<50 $\Omega$
Output Levels	Fixed

### Serial

Connector	D9
Signal	RS422

### External GPI

Connector	D15
Signal	

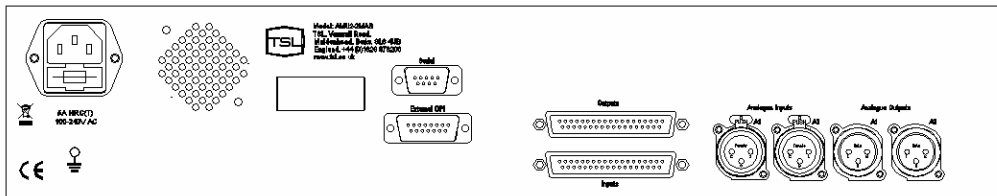
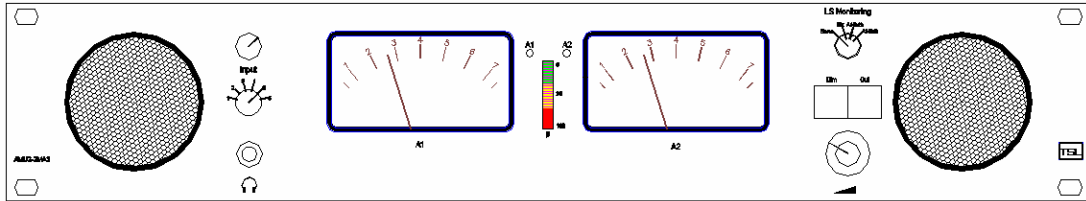
### Headphone Output.

Connector	Stereo Jack socket type A
Impedance	50 $\Omega$
Output Levels	Through level control with 0dB gain.

### Loudspeakers

Output rating	4W RMS max /Ch into 4 $\Omega$ ,
---------------	----------------------------------

## 6.0 Front and rear view



## 7.0 Block schematic

