



AMU2-2MA
Audio monitoring
Unit

Handbook

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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.

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

Telephone Support Number for the UK and Europe: +44 (0) 1628 670000

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 XLR Connectors**
 - 3.2 Audio Input/Output Connector – D25 Plug/Socket Pinout**
 - 3.3 Control Connector - D9 Socket**
 - 3.4 External Connector - D15 Plug**
 - 3.5 Configuration Switch Functions**
- 4.0 LS Output**
- 5.0 General Notes**
- 6.0 Specification**

AMU2-2MA AUDIO MONITORING UNIT

1.0 Introduction

The AMU2-2MA is a full rack 2RU x 280mm deep Audio Monitoring Unit with two Sifam moving coil meters.

The following features are standard:

- Six switch selectable stereo analogue inputs.
 - Two Sifam 32 moving coil meters.
 - Audio-present indication.
 - Phase reverse switch.
 - Phase correlation bargraph.
 - Optional additive output switch selection.
 - Headphone outputs with LS muting.
 - Fixed and variable stereo line outputs.
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2.0 Front Panel Controls

2.1 Input and Meter Selection Buttons

Analogue 1 – 6 Analogue I/Ps. A1 (Left Channel) is fed to the left meter and A2 (Right Channel) is fed to the right meter.

Ø Rev (Function) Momentary phase reverse between A1 and A2.

2.2 Output Switching

A1/A2 These buttons select either:
- The Analogue Left or Right signals of the metered Input,
- The AES/EBU Input 1 Left or Right signals or
- The selected SDV group A1 & A2 decoded outputs to the Left or Right Output Channels.
The buttons toggle. Additive mixing is possible if two or more buttons are selected together.

DIM Approximately 16dB of attenuation is switched into the audio path

CUT/MUTE The front panel button **CUT**(s) the signal to all O/Ps. Remote Mute of either or both of the LS O/Ps and Variable Line O/Ps are possible via a rear connector. A ground is required on the appropriate pin to activate the **MUTE** condition.

VOLUME The Headphones O/P and the Variable Line O/P may be varied.

3.0 Pin-out Details

3.1 Analogue XLR Connectors

XLRS	PIN	FUNCTION
ANALOGUE 1	1	GND
ANALOGUE 1	2	1 IN+
ANALOGUE 1	3	1 IN-
ANALOGUE 2	1	GND
ANALOGUE 2	2	2 IN+
ANALOGUE 2	3	2 IN-

3.2 D25 Socket Input Connector

D 25 SOCKET ON AMU	AUDIO INPUTS	D 25 SOCKET ON AMU	AUDIO INPUTS
PIN NO		PIN NO	
1	Chassis		
2	Ch3 Left +	14	Ch3 Left -
3	Ch3 Right -	15	Ch3 Left Scrn
4	Ch3Right Scrn	16	Ch3 Right +
5	Ch4 Left +	17	Ch4 Left -
6	Ch4 Right -	18	Ch4 Left Scrn
7	Ch4 Right Scrn	19	Ch4 Right +
8	Ch5 Left +	20	Ch5 Left -
9	Ch5 Right -	21	Ch5 Left Scrn
10	Ch5 Right Scrn	22	Ch5 Right +
11	Ch6 Left +	23	Ch6 Left -
12	Ch6 Right -	24	Ch6 Left Scrn
13	Ch6 Right Scrn	25	Ch6 Right +

D25 Auxiliary Connector (Not used on analogue units)

D 25 SOCKET ON AMU	AUDIO OUTPUTS	D 25 SOCKET ON AMU	AUDIO OUTPUTS
PIN NO		PIN NO	
1	GND		
2	ADX Ch1 +	14	ADX Ch1 -
3	ADX Ch2 -	15	GND
4	GND	16	ADX Ch2 +
5	ADX Ch3 +	17	ADX Ch3 -
6	ADX Ch4 -	18	GND
7	GND	19	ADX Ch4 +
8	NC	20	NC
9	RS232 Rx	21	NC
10	RS232 Tx	22	NC
11	ADX Aes1 +	23	ADX Aes1 -
12	ADX Aes2 -	24	GND
13	GND	25	ADX Aes2 +

3.3 Control 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

3.4 External Connector – D15 Plug. (This connector is not activated.)

D15 PIN	EXTERNAL FUNCTION
1	GPI
2	GPI
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

3.5 Configuration Switch Functions (from S/W Release Z07)

SWITCH SECTION	FUNCTION
1	Not Used
2	Not Used
3	Not Used
4	Not Used
5	Not Used
6	Not Used
7	Not Used
8	Not Used

4.0 LS Output

This is a bridged amplifier therefore neither terminal should be grounded.

5.0 Notes

0 dBm = 0.775V into 600Ω i.e. 1mW power dissipation.

0 dBu = 0.775V rms = PPM 4.

Nominally, -18 dB ref 0FS = 0 dBu output.

European line-up: -18 dBu

American line-up: -20 dBu

The LF Adjust potentiometer is non functional.

All audio monitoring Calibration procedures are factory Set.

5.1 Please note that some American equipment has the function of the XLR pins 2 & 3 reversed.

TSL product is wired to the European standard

6.0 AMU2-2MA Technical Specifications

Power Supply

Supply Voltage	100 -240V AC @ 50Hz/60Hz
Power Consumption	35W.
Fuse Rating	T2A

Physical Dimensions

Height	88mm (2RU)
Width	483mm
Depth	280mm
Weight	3.5Kg

Analogue Input 1 & 2

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

Analogue Inputs 3 – 6

Connector Type	D25
Signal	Balanced line level audio.
Frequency Response	30Hz to 25 kHz \pm 1dB
Impedance	>20k Ω

Fixed and Variable Line Output.

Connector	XLR 3 pin Male (variable line out A1 &A2)
Impedance	50 Ω
Output Levels	Through level control with 0dB gain.

Noise

Better than -60dB (22Hz to 22 KHz)

Headphone Output.

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

Loudspeaker Outputs.

Connectors	4mm Binding Posts
Output rating	Max 15W RMS /Ch into 4 Ω ,