



**MPA1-BD**  
**Audio Monitoring**  
**Unit**

*Handbook*

TSL Products  
Units 1-2, First Avenue, Globe Park, Marlow, Bucks, SL7 1YA  
Telephone +44 (0)1628 564610



## **EC DECLARATION OF CONFORMITY**

Application of Council Directives Nos:  
EC Low Voltage Directive (73/23/EEC)(OJ L76 26.3.73)(LVD).  
Amendment: (93/68/EEC) (OJ L220 30.8.93).  
Conformity Standards Declared:  
EN 60950  
EMC Directive: 89/336/EEC, Amended 92/31/EEC.  
Conformity Standards Declared:  
EN 50081-1: 1992- EMC- Generic Emissions, Part 1.  
EN 50082-1: 1997- EMC- Generic Immunity, Part 1.  
EN61000-3-2: 1995- Current Harmonic Emissions.  
EN61000-3-3: 1995- Voltage Fluctuations & Flicker.

Manufacturer's Name: Television Systems Ltd  
Manufacturer's Address: Vanwall Road  
Maidenhead SL6 4UB  
England  
United Kingdom

Type of Equipment: Powered Loudspeaker Unit

Model No: MPA1-BD

Part Number: TSLP- MPA1-BD

Date CE Mark Affixed: 4/2/08

I, the undersigned, declare that the equipment specified above conforms to the quoted Directives and Standards.

Place: Maidenhead, England

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Print: R CHAMBERS

Position: PRODUCT MANAGER



### **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:

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

### **In all cases the chassis of the equipment must be earthed on installation.**

The external power supply provided with this product may be one of two types:

1. A Class 2 double insulated type with a 'figure of eight' mains input connector.
2. A Class or Level 3 type with an IEC mains input connector. This type offers a functional earth and **NOT A SAFETY EARTH** via the earth pin of the IEC mains input connector to the outer of the of the co axial power connector.

All metal panels are bonded together.

The supplied PSU is of a universal voltage type and does not have an accessible fuse. The PSU may be mounted in a bracket attached to the rear panel.

## **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 and wiring.

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

If equipment has to be returned to TSL for repair, please observe the following overleaf:

### **TSL Returns Procedure**

Please telephone +44 (0)1628 564610 and ask for Support 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. Please do **NOT** return faulty equipment without first obtaining a returns number as this is likely to result in a delay in the repair of the equipment.

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.**

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## **1.0 Introduction**

The MPA1-BD is a 1RU x 200mm deep audio monitoring unit with two switched analogue, two AES inputs and intended for use as a close field monitor.

The following features are standard:

- Two switch selectable stereo analogue inputs.
- Two switch selectable AES inputs
- Headphone output with automatic loudspeaker muting.
- Two 26 segment bargraphs.
- EBU Digital and UK PPM scales
- Phase indication.

## **2.0 Front Panel Controls**

### **2.1 Volume Control**

Allows the loudspeaker or headphone volume to be varied.

### **2.2 Input Selection, rotary switch**

**1 – 2** AES inputs one and two.

**3 – 4** Stereo analogue I/Ps. A1 (Left Channel) and A2 (Right Channel).

### **2.3 Phase Indicator**

This is a non latching push switch with Red/Green LED. The LED indicates a phase error when red. Pressing the non latching push switch momentarily reverses the phase.

## **3.0 General Notes**

- Please note that some American equipment has the function of the XLR pins 2 & 3 reversed.
- TSL product is wired to the European standard.
- Temperature Sensor. When the unit becomes over heated the phase LED blinks for 30 seconds and the unit will turn off. It will automatically reset when the unit cools.
- It is recommended that the unit is secured into a rack for optimum performance.



#### 4.0 Scale and Reference Level Setup

The MPA1-BD allows the displayed scale and digital reference level to be set from the front panel. The unit may display either an EBU Digital or PPM scale and the reference level for the AES inputs may be set from -15dBFS to -24dBFS.

To enter the setup mode, the phase button must be held down continuously for about 7 seconds. After this time, the phase indicator will change to an orange colour, the meters will change to a static display and the loudspeakers will mute.

At this time the meters will display the **current** setup of the unit. If no change is desired, a brief press on the phase button will return the unit to normal operation.

Once in the setup mode, the input selector switch chooses between four options which will be displayed on the left meter:

- EBU Digital with Peak Hold (default)
- EBU Digital without Peak Hold
- PPM with Peak Hold
- PPM without Peak Hold

The meter type is indicated by the orange level indicator being adjacent to the respective scale reference. The peak hold is indicated by a red bar at the top of the display.

The right hand display indicates the AES reference level in dBFS. This is indicated by the orange marker being adjacent to the EBU scale marker for the relevant level. The reference level may be changed by moving the volume control. The available reference levels are:

- -15dBFS
- -18dBFS (default)
- -20dBFS
- -22dBFS
- -24dBFS

Note that the lack of a scale line at -15dB means that the -15dBFS case is indicated at -16dB on the front panel scale.

Once a suitable setup has been found, the selection may be stored by once more holding the phase button down for approximately 7 seconds, after which the unit will return to normal operation.

The MPA-1BD may also be returned to factory default settings by pressing and holding the phase button for greater than 30 seconds.

## 5.0 MPA1-BD Technical Specifications

### Power Supply

|                   |                    |
|-------------------|--------------------|
| Supply Voltage    | 12v DC             |
| Power Consumption | Less than 30 Watts |

### Physical Dimensions

|        |                |
|--------|----------------|
| Height | 44mm (1RU)     |
| Width  | 19" Rack Mount |
| Depth  | 200mm          |
| Weight | 6 kg           |

### Analogue Inputs 1 and 2

|                  |  |
|------------------|--|
| Connector Type   | XLR Female 3 pin. Pin 1 Ground, Pin 2 hot, Pin 3 cold. |
| Signal Impedance | Balanced line level audio.<br>>20k $\Omega$            |

### AES Inputs 1 and 2

|                                      |  |
|--------------------------------------|--|
| Connector type<br>Standard Impedance | XLR Female 3 pin. Pin 1 Ground, Pin 2 hot<br>AES3 (1994) at 48kHz, 44.1kHz or 32kHz<br>110 ohm – balanced. |
|--------------------------------------|--|

### Headphone Output

|                                  |   |
|----------------------------------|---|
| Connector<br>Impedance<br>Output | Stereo jack socket (A gauge)<br>47 ohm source for 8 to 600 ohm load<br>Through level control with 0 dB gain |
|----------------------------------|---|

### Performance

|                       |                   |
|-----------------------|-------------------|
| Response              | 120Hz to 20KHz    |
| Electrical Distortion | Better than 0.1%  |
| Hum and noise         | Better than -80dB |
| SPL                   | >85dB at 0.6 m    |
| Total Power Output    | 20 watts          |