



BBG-1
AUDIO MONITORING
BARGRAPH

Handbook

TSL

Vanwall Road, Maidenhead, Berkshire, SL6 4UB
Telephone +44 (0)1628 676200, FAX +44 (0)1628 676299



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 (where fitted) 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.

Check that the voltage selector setting (if fitted) and the fuse rating is correct for the local mains supply.

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.

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

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.



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:
EN60950
EMC Directive: 89/336/EEC, Amended 92/31/EEC.
Conformity Standards Declared:
EN 50081-1 (inc. EN 55022), EN 50082-1

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

Type of Equipment: Audio Bargraph

Model No: BBG-1

Part Number: TSLP- BBG1

Date CE Mark Affixed: Feb 2000

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

Place: Maidenhead, England

Signature: _____

Date: 25/4/2000

Print: R.CHAMBERS

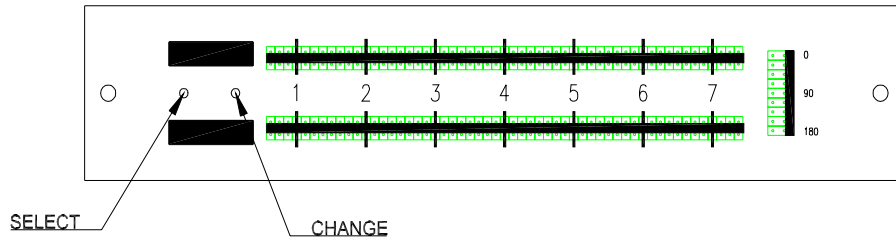
Position: PRODUCT MANAGER

TSL Bargraph BBG-1

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1.0 Introduction



The BBG-1 is a 90 x 170 x 37 deep panel mounted or standalone Audio Monitoring Unit with an interchangeable scale feature offering high resolution display in a compact and versatile package. Note: **The BBG-1i unit is designed to be supplied with one or more of the mounting options.**

The following features are standard:

- Two rows of high-resolution tri colour LED displays.
- Phase correlation indication.
- Peak hold option. (PPM only.)
- Alpha numeric display.
- Menu driven options.
- All international scales supported (Type to be specified at the time of ordering)
- 12 Volt DC input.
- Bar or Dot display.
- OdB reference marker.
- Brightness control.
- Analogue and Digital inputs.
- Loudness indication.

The TSL Bargraph has 2 horizontal rows of Prime LED blocks for displaying the level of analogue and digital AES audio signals with the Left channel at the top & the right channel underneath. To the right of these two rows is a vertical bargraph to indicate phase correlation.

On the left of each of the Bargraph are two rows of 4-character alphanumeric displays with access holes between for set-up switches. These are for setting up the unit and display the audio level numerically when set to peak hold 2, (HD 2 PPM only). The right hand digit shows one tenth of a dB.

The unit is powered by an external switch mode power supply.

2.0 Operation & Setup.

On power up the up the unit retains the last settings made.

Set-up Menus.

These are accessed via the select & change buttons located between the two alphanumeric displays to the left of the unit (see diagram above). The top display shows the function & the bottom gives the state.

- 1) Pressing select once gives:

P	E	A	K
H	D		0

The zero toggles between 0 , 1 and 2 when the change button is pressed. 0 is off, and 1 is on and the highest level point is displayed. HD 2 operates only in the PPM mode and displays the level numerically with the reference marker. With HD 0 selected the alphanumeric display is off.

- 2) Pressing select a second time gives:

D	I	S	P
B	A	R	

All the LEDs are lit up to the highest level displayed.

Pressing the change button gives:

D	I	S	P
D	O	T	

Only the highest level LED is lit.

3) Pressing select a third time gives:

R	S	P	N
.1m s			

Pressing the change button gives:

1ms			

This changes the response for the relevant scales.
(0.1ms, 1ms, 5ms 10ms, and VU integration times.)

4) Pressing select a fourth time gives:

I	D		0
O	N		

This enables the unit to display the reference markers which are nominally set to 0dB. These are set as follows for the appropriate scales fitted: PPM 4 for UK, TEST for EBU, - 4 for VU, - 6 for DIN, 0 or Test for Nordic, -18dB or - 20 dB for Digital. When the change button is depressed the markers are not displayed and an OFF indication is displayed in the lower display.

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- 5) Pressing select for a fifth time gives:

B	R	G	T

Depressing the change button changes the brightness or intensity of the display. Successive presses decrease brightness.

- 6) Pressing select for a sixth time gives:

I	/	P	:
A	n	I	g

Depressing the change button changes the input from Analogue to Digital (AES)

- 7) Pressing select for a seventh time gives:

S	C	L	E
E	B	U	

Depressing the change button defines which scale is in use. (EBU Digital, DIN, UK PPM, EBU PPM, Nordic or VU.)

- 8) Pressing select for a eighth time gives:

0	R	E	F
	-	1	8

Depressing the change button selects the digital reference. (- 18 or -20)

9) Pressing select for a ninth time gives:

L	O	U	D
O	N		

Depressing the change button turns the loudness indication off.

3.0 Connection Details

Power Connector: 2.1mm Axial socket (Centre pin +12V)

Audio Connector: XLR-3 Pin outs

AUDIO XLR'S	
PIN	FUNCTION
1	SCREEN
2	AUDIO +
3	AUDIO -

9 Pin D Type connector: Set up only.

4.0 Notes

1. The scales can be changed by gently pulling the plastic rivets and then removing the scale from the aperture. There is a small amount of lateral movement of the scale when pressed onto the front panel. This is to allow alignment of the reference point on the scale to the appropriate LED segment on the display. Once aligned the unit can be re secured to the mounting panel by pressing the plastic rivets back into position.
2. The BBG-1i unit is designed to be supplied with one or more of the mounting options. If the BBG-1i is to be mounted in any other way please consult the Sales team.

5.0 Accessories

BBG-P1	19" rack mount panel.
BBG-P2	Dual 19" rack mount panel.
BBG-D1	Desk panel
BBG-Stand	6.5" mounting stand.

6.0 Specification

Inputs A1, A2

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 Ω

AES AES 3 (1994)

Bargraph Responses

PPM	To BS6840 Pt 10.
VU	Similar to ASA-C 16.5
DIN	To 45406
Digital	AES/ EBU Digital standard
Nordic	Recommendation N9

Supply Voltage

12 Volts

Power Consumption

8 Watts

Loudness algorithm

Based on ISO 226