# TEST SPECIFICATION: TL Audio 2051 INDIGO VOICE PROCESSOR.

## Issue 1: 30th August 1996.

**Tolerance on inputs +/-0.3dB, outputs +/-1dB, unless stated otherwise.**
**Tests must be performed in sequence, with controls changed only as indicated.**

1. **MAINS VOLTAGE:** **Set to 230V .**

2. **GROUND CONTINUITY:** **Limit 0.01 ohms.**

2.1 Measure the resistance between the ground pin of the IEC inlet to the chassis ground screw.

3. **VISUAL INSPECTION:** Inspect the unit, paying particular attention to the following:

3.1 - the orientation of power supply diodes and capacitors,

3.2 - the orientation of ICs,

3.3 - all mains wiring,

3.4 - check the solder side of the PCB for unsoldered joints and solder splashes,

3.5 - the quality of external paint and silk screening,

3.6 - check all knobs and switches operate freely and are uniformly spaced from the panel,

3.7 - all XLR connectors are locked,

3.8 - LED alignment with front panel,

3.9 - check all screws are fully tightened.

4. **SWITCH ON,** and check for any sign of component stress or over-heating.

4.1 **OFFSET SETUP:** **-50mV +/- 5mV.**

Compressor: Threshold, Ratio and Gain Make-Up anti-clockwise, Fast Attack and Release.

Adjust Offset trim RV4 on PC150 whilst measuring at test point 1.

## 5. INPUTS:

### 5.1 LINE INPUT: **Output 0dBu.**

Compressor: XLR Input, Gain 0dB, XLR O/P, Compressor Out, Threshold +20, Gain Make Up (GMU) 0dB.
A2: 1KHz, Sine, 0dBu, 22-22k Filter, Meter.

Adjust RV2 on PC151 for 0dBu output.

Adjust RV1 on PC151 for balance.

### 5.2 INPUT GAIN:

A2: -20dBu.

Compressor: Check input gain variation +/-20dB.

Return A2 level to 0dBu.

### 5.3 COMPRESSOR IN: **Output 0dBu.**

Adjust RV1 on PC150.

### 5.4 EQ IN: **Output 0dBu.**

Adjust RV2 on PCX150.

### 5.5 EQ PRE-ON. **<25% of original waveform size.**

Equaliser: Set LM & HM Gain to minimum.
Scope R91 on PC150. Note amplitude.

EQ PRE-OFF.
Equaliser: Set LM & HM Gain to mid-position.

### 5.6 HUM AND NOISE: **Limit -80dBu.**

A2: Mute Output.

### 5.7 AUX INPUT, LO GAIN: **Output -16dBu.**

A2: 0dBu.

Compressor: Input to Aux Jack, Gain 0dB, Lo Gain.

**5.8 AUX INPUT, HI GAIN: Output +6dBu.**

A2: -20dBu.

Compressor: Hi Gain.

**5.9 UNBALANCED INPUT AND OUTPUT: Output -20dBu.**

Compressor: Input to unbalanced jack, output from unbalanced jack.

**6. DISTORTION: Limit 0.2%**

A2: 22-22K Filter out, THD.

Compressor: Input and output via XLR. Comp out.

**7. THRESHOLD ADJUSTMENT.**

A2: Level, output -20dBu.

Compressor: With Threshold and Ratio fully anti-clockwise, check output -20dBu. Set Threshold and Ratio fully clockwise, increase A2 output to +4dBu, and adjust Threshold trim for -7.0dBu output using RV3 on PC150.

**8. METERS:**

**8.1 AUDIO LEVEL: +4dBu = 0VU.**

Compresor: Threshold +20dB, check output +4dBu.

Adjust Meter REF (RV14) to just illuminate 0dB LED.

**8.2 GAIN REDUCTION: -6dB.**

Compressor: Threshold -20dB, adjust Ratio for -2dBu output. Meter Gain Redn. Adjust RV15 to just illuminate -6dB LED.

**8.3 GAIN MAKE-UP: +24dBu.**

Compressor: Threshold +20dB, GMU maximum.

Return GMU to minimum after test.

9.0 **EQ RESPONE:**

A2: ALT waveform.

For each band, check flat at each switched frequency, and boost/cut response.

Return all boost/cut controls to centre.

10.0 **PHANTOM POWER.**

10.1 Using the test fixture, check the operation of the +48V switch, and measure the voltage at the mic input socket.

11.0 **HUM AND NOISE.** **Limit -67dBu.**

11.1 Voice Proc: Select mic input. Input gain to maximum.

Remove A2 input and replace with 150R terminator.

12. **SOAK TEST.**

With top and bottom covers fitted.

13. **DYNAMIC TEST.**

Check operation of the compreesor controls with the tone-burst generator, in mono and stereo mode.

14. **QA CHECK.**