

TEST SPECIFICATION: TL Audio PENTODE PRE-AMPLIFIER.

Issue 1: 28th February 1995.

Tolerance on inputs +/-0.3dB, outputs +/-1dB, unless stated otherwise.

1. **MAINS VOLTAGE:** Set to 240V.

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 items:

- 3.1 - the orientation of power supply diodes and capacitors,
- 3.2 - the orientation of ICs,
- 3.3 - all mains wiring,
- 3.4 - the quality of external paint and silk screening,
- 3.5 - check all knobs and switches operate freely and are uniformly spaced from the panel,
- 3.6 - all XLR connectors are locked,
- 3.7 - LED alignment with front panel.

Tests 4 and 5 should be performed on each channel:

4. **PHANTOM POWER:** +24V +/-1V.
Pentode: 48V On, measure on pins 2 and 3 of Mic input socket with 6K8 termination jig.
 Check associated LED. Turn off 48V.

5. INPUTS:

5.1 MIC INPUT: Output 0dBu.

Pentode: Mic Input, Gain 50dB, Trim 0dB, LF Cut off, HF Cut off, Fader @ Max, Nominal level +4dBu.

A2: 1KHz, Sine, -50dBu, 22-22K Filter, Meter.

5.2 TRIM: +/-12dB.

Pentode: Adjust Trim, checking corresponding change in output. Return to 0dB.

5.3 GAIN:

Pentode: Reduce Gain in 10dB steps, checking corresponding reduction in output. Leave in 20dB position.

5.4 DISTORTION: Limit 0.05%.

A2: Level -20dBu.

5.5 FREQUENCY RESPONSE: Limit -2dB, 30Hz-40KHz.

A2: 22-22K Filter off, Sweep.

5.6 HF Cut Filter.

Pentode: Set HF Cut to 15KHz.

A2: Sweep, check -3dB @ selected frequency.

Repeat at 10KHz and 5KHz. Return to Off.

5.7 LF Cut Filter.

Pentode: Set LF Cut to 50Hz.

A2: Sweep, check -3dB @ selected frequency.

Repeat at 100Hz and 150Hz. Return to Off.

5.8 MIC INPUT NOISE: Limit -72dBu (EIN = -122dBu).

Pentode: Disconnect input and replace with 150R termination, Gain 50dB. Remove termination.

5.9 INSTRUMENT INPUT: Output -4dBu.

Pentode: Input to Instrument Jack Socket.

A2: Level -40dBu.

5.10 SIGNAL, PEAK and CLIP LED:

Pentode: Gain 20dB, input to Mic socket.
A2: Adjust level and check LEDs illuminate at the output levels specified, +/-2dB:

Signal @ -20dBu,

Peak @ +18dBu,

Clip @ +24dBu.

5.11 NOMINAL LEVEL:

A2: Level -20dBu.
Pentode: Gain 20dB, check output switches between 0dBu and -14dBu.

5.12 FADER:

A2: Level -20dBu, nominal level +4dBu.
Pentode: Gain 20dB, check output 0dBu @ fader maximum, and fade to no signal.

5.13 OUTPUT NOISE: Limit -85dBu.

6. PHASE.

6.1 PHASE: Limit 0 +/-2deg.

Pentode: Adjust channel A Gain for -0dBu +/-3dB output.
A2: Phase (needs OUT B to CH B cable).

6.2 PHASE REVERSE: Limit -180 +/-2deg.

Pentode: Phase Reverse.

7. SOAK TEST.

8. AUDIO/QA TEST.