

1. HISTORY SHEET. Each unit must be accompanied by an INSTRUMENT HISTORY SHEET. Ensure the History Sheet has been completed satisfactorily.
2. MAINS VOLTAGE. Check the Mains Switch setting on the rear panel. It must be 230V.
3. EARTH CONTINUITY. Check the earth connection from the IEC connector to the rear panel. Check the tightness of the Rear Panel Earth connection. It must be tight. Check that an Earth Symbol has been placed adjacent to the Earth Terminal.
4. VISUAL INSPECTION. Inspect the unit, paying particular attention to the following:
  - 4.1 PSU Capacitors and Diodes. Value and orientation.
  - 4.2 Intergrated circuits. Type and orientation.
  - 4.3 Transformer Wiring. Wired as per PCB silk screen. Check insulation of wires.
  - 4.4 Soldered Joints. Check for solder shorts, dry or unsoldered joints.
  - 4.5 Internal Fuses. Check fuses are seated correctly. Check values as stated on the PCB Silk Screen.
  - 4.6 External Finish. Check front and rear panel silk screening for legibility. Check all external surfaces for marks and blemishes. Check that all screw heads are undamaged, check screws are tight.
  - 4.7 Knobs and Switches. Check that Knobs and Switches move freely. Check they are correctly aligned with their legends. Check they are uniformly spaced from the front panel.
  - 4.8 LED Alignment. Check that all LED's are equally spaced from the front panel.
5. FIT VALVES Check the valve bases for splayed pins. Perform corrective action as necessary. All valves are ECC83/12AX7A unless otherwise stated. Plug valve in each socket, ensure valve is a tight fit. Do not wiggle valve in socket
6. SWITCH ON. Check Mains Switch moves freely. Leave in OFF position. Set DVM to DC Voltage and connect between Ground & +15 volt point on PCB. Connect the IEC Mains Cord to the Mains Inlet. Switch unit On. Check each supply in turn as quickly as possible. Switch OFF if a supply is not present.
  - 6.1 +15 volt rail. +15.00 volts +/- 0.25v.
  - 6.2 -15 volt rail. -15.00 volts +/- 0.25v.
  - 6.3 HT voltage 150 volts +/- 8.0v.
  - 6.4 Heater voltages +6.3 volts & -6.3 volts +/- 1.0v.
7. LED CHECK. Using the appropriate controls check all LED's illuminate together. The DRIVE and PEAK LED's may be excluded from this test.

Revision History	Issue 1	From Serial Number: 570001	To Serial Number:

8. INITIAL SETTINGS. Set all Front and Rear panel switches to the OUT position.  
Set all pots to mid-position.
9. TEST EQUIPMENT. To perform the tests to this procedure use:  
A calibrated Signal Generator.(Sinewave) 0.0 dBu @ 1 kHz unless stated.  
A calibrated Signal Analyser.(dBu/THD+N%) With 22-22k Filter set to On.  
An Oscilloscope.  
A Digital Voltmeter.
- 9.1 REFERENCES All unit settings are on the Front Panel unless stated otherwise.  
All Settings(RVnn) are on the Main PCB unless stated otherwise.
- 9.2 HISTORY SHEET. All faults/rework must be logged on the History Sheet.  
Where practical show the operator/assembler the nature of the problem.  
Serious/Repetitive faults must be reported to the Production Manager.  
After the unit has been successfully tested Sign & Date the History Sheet.  
The History Sheet must remain with the unit at all times.  
After the unit is dispatched the History Sheet must be filed for analysis.

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10. INITIAL TESTS.

- 10.1 SIGNAL BALANCE. Connect input to Channel 2 XLR. 0.0 dBu.  
Alternately scope pins 2 & 3 of Channel 2 OUTPUT XLR while adjusting RV4.  
Adjustment is complete when the signals at pins 2 & 3 are equal.  
Repeat Test with input to Channel 1 XLR, using RV3.

Conduct the Tests on Channel 1 and then repeat all the Tests on Channel 2.  
Where applicable Channel 2 test references are shown in brackets.

- 11.0 CALIBRATION. Signal In = 0.0 dBu to Channel 1(2) XLR.  
Signal Out from Channel 1(2) Output XLR.  
Set Analyser Filter to ON.
- 11.1 LINE INPUT GAIN. Set RV1(2) for 0.0 dBu.  
INPUT GAIN pot variation = +/- 20 dBu.  
OUTPUT GAIN pot variation = +/- 20 dBu.
- 11.2 EQ GAIN. Select EQ IN.  
Check reading is 0.0 dBu +/- 0.25 dBu.
- 11.3 HUM & NOISE. MUTE the Output of the Signal Generator.  
The output value should read -78 dBu or better.
- 11.4 INSTRUMENT INPUT. Signal In = -20 dBu to Front Panel Jack Socket.(Single Pole)  
Set INPUT GAIN to mid-position.  
Check for -7.0 dBu +/- 1.0 dBu.
- 11.5 UNBAL IN/OUT. Signal In = -20 dBu to Rear Panel Unbal Input.(Single Pole)  
Signal Out from Rear Panel Unbal Output.(Double Pole)  
Check for -20 dBu +/- 1.0 dBu.
- 11.6 DISTORTION Set Signal In to 1kHz.  
Set Analyser to read THD+N(%).  
Set RV34(33) for a value below 0.08%.  
Note: Allow 3-4 seconds between each adjustment for reading to settle.  
Return Analyser to read dBu.  
Re-adjust RV1(2) Gain pots for 0.0 dBu if necessary.
- 11.7 NOMINAL GAIN. Set Rear Panel INPUT GAIN switch to IN.  
Check for a reading of -14 dBu.  
Set Rear Panel INPUT GAIN switch to OUT.  
Set Rear Panel OUTPUT GAIN switch to IN.  
Check for a reading of +14 dBu.  
Set Rear Panel OUTPUT GAIN switch to OUT.

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11.8 DRIVE / PEAK LED's.

Set Signal In to +2.0 dBu. Check that DRIVE LED is Off.  
Set Signal In to +6.0 dBu. Check that DRIVE LED is just ON.  
Set Signal In to +16 dBu. Check that DRIVE LED is fully ON.  
Set Signal In to +22 dBu. Check that PEAK LED is ON.  
Set Signal In to +18 dBu. Check that PEAK LED is OFF.  
Increase Ch1(2) OUTPUT GAIN control until PEAK LED comes ON.  
The reading should be +20 dBu +/- 1.0 dBu.  
Set Signal In to 0.0 dBu.  
Set OUTPUT GAIN control so the reading is 0.0 dBu.

12.0 SWEEP TESTS.

The tests may be carried out using a 'sweep' Function Generator/Analyser, for each of the frequency settings.(LF/LM/HM/HF min & max Gain/Freq/Q). Or by determining the min/max values at the selected frequency manually. See Manual for typical Sweep examples.

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