**High/Low Voltage Piezo Driver Chassis Test Result Form**

**R. Abbott**

**10 July 2013**

Tested By:

Test Date:

Chassis Serial Number:

HV Board Serial Number:

LV Board Serial Number:

DC Regulator Serial Number:

Table 1 HV Board (D060283-v1) Results

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Required Value** | **Measured Value** |
| DC Power LEDs | Illuminated while energized |  |
| + Regulated Voltage and total chassis current at feed to either board | +14.8 VDC +/- 0.5 VDC182 mA +/- 10 mA |  |
| - Regulated Voltage and total chassis current at feed to either board | -15.1 VDC +/- 0.5 VDC-130 mA +/- 10 mA |  |
| HV output at TP12, and at rear panel D-sub “To OMC HV/LV Piezos” Pins 1, 14 | 100 VDC +/- 1 VDC |  |
| + High Voltage Supply Current | 1.2 mA +/- 0.4 mA |  |
| High voltage monitoring point at Front Panel “Hi Voltage Mon.” pins 1&6 | 4 VDC +/-0.04 VDC |  |
| Normal HV Path DC Gain Check | 80 VDC +/- 1 VDC |  |
| Normal HV Signal Path AC Gain Check at 10Hz (Magnitude) | -3.7 dB +/- 0.2dB |  |
| Normal HV Signal Path AC Gain Check at 10Hz (Phase) | 116 deg +/- 3 deg |  |
| Normal HV Signal Path AC Gain Check at 100Hz (Magnitude) | -9.7dB +/- 0.2dB |  |
| Normal HV Signal Path AC Gain Check at 100Hz (Phase) | 162 deg +/- 3 deg |  |
| Normal HV Signal Path AC Gain Check at 1kHz (Magnitude) | -14.7 dB +/- 0.2 dB |  |
| Normal HV Signal Path AC Gain Check at 1kHz (Phase) | 122 deg +/- 3 deg |  |
| Alternate HV Signal Path AC Gain Check at 100Hz (Magnitude) | -9.7 dB +/- 0.2 dB |  |
| Alternate HV Signal Path AC Gain Check at 100Hz (Phase) | 162 deg +/- 3 deg |  |
| Output Current Limit  | 3.9 mA, +/- 0.5 mA |  |
| HV Path Output Referred Noise (measured at differential monitor) at 100Hz | Less than 1.9 µV/√Hz |  |
| HV Path Output Referred Noise (measured at differential monitor) at 1kHz | Less than 2.2 µV/√Hz |  |

Table 2 LV Board (D1300024-v1) Results

|  |  |  |
| --- | --- | --- |
| **Parameter** | **Required Value** | **Measured Value** |
| 5VDC regulator voltage at TP19 | 4.9 VDC +/- 0.1 VDC |  |
| Front Panel “Trigger” LED lit during trigger condition | LED On (Red) |  |
| Front Panel “Trigger” LED *NOT* lit when trigger input is tied high | LED Off |  |
| Output DC voltage of the LV driver board at the rear panel D-sub “To OMC HV/LV Piezos” Pins 2, 15 | 9.8 VDC +/-0.05 VDC |  |
| TP29 voltage during triggered condition | ≤ 1 mVDC  |  |
| Front Panel “Low Voltage Mon.” pins 1 & 6 | -19.6 VDC +/-0.1 VDC |  |
| Normal Dither Path AC Gain Check at 100Hz (Magnitude) | -50.8 dB +/- 0.2 dB |  |
| Normal Dither Path AC Gain Check at 100Hz (Phase) | 80 deg +/- 3 deg |  |
| Normal Dither Path AC Gain Check at 5 kHz (Magnitude) | 27.6 dB +/- 0.2dB |  |
| Normal Dither Path AC Gain Check at 5 kHz (Phase) | -97 deg +/- 3 deg |  |
| Alternate Dither Path AC Gain Check at 100Hz (Magnitude) | -50.8 dB +/- 0.2 dB |  |
| Alternate Dither Path AC Gain Check at 100Hz (Phase) | 80 deg +/- 3 deg |  |
| HV Path Output Referred Noise at 50 Hz | Less than 1 µV/√Hz |  |
| HV Path Output Referred Noise at 1 kHz | Less than 2.2 µV/√Hz |  |