

ULTRASONIC BOARD P/N A-10344 IN-MACHINE CALIBRATION

1. Equipment required:

- 1.1 An oscilloscope.
- 1.2 A multi-meter (true RMS voltages up to 100 KHz).
- 1.3 10 Ohm resistor, 5 Watt minimum.

** All following measurements are made with respect to circuit common TP1**

2. DC voltage verification:

- 2.1 Turn on bonder main power and leave it idle at home position.
- 2.2 Using DC volt meter, verify the DC voltages as follows:
 - At J3 pin 1 for -15 VDC
 - At J3 pin 3 for +15 VDC
 - At TP6 for -5 VDC
 - At TP7 for +5 VDC
 - At TP3 for -1.22 VDC
 - At TP5 for 0 VDC

3. Oscillator calibration:

- 3.1 Disconnect transducer at connector J2.
- 3.2 Connect the oscilloscope probe to TP2.
- 3.3 Verify that the signal is a 5V square wave.
- 3.4 Adjust potentiometer RT1 till the scope reads about 110 KHz (9.09uS).

4. Output voltage calibration:

- 4.1 Connect a 10 Ohm, 5 Watt resistor across pin 1 and pin 2 of connector J2. Take care not to short across 2 pins.
- 4.2 Connect AC volt meter and oscilloscope probes to TP5.
- 4.3 Disconnect bonder interface connector J1.
- 4.4 Connect a jumper from J1 pin 1 to TP7.
- 4.5 Verify that the meter reads 0.024 Vrms., and scope shows a lean sine wave.
- 4.6 Adjust RT4 to obtain the reading.
- 4.7 Remove jumper and reconnect bonder interface connector J1.
- 4.8 Program a selected channel to trigger full power (999) and bond time for about 1 second (999).
- 4.9 While trigger the selected channel, verify that the meter reads 6 Vrms (16.97 Vp-p) and scope shows a clean sine wave. Adjust RT2 to obtain the reading.
- 4.10 Connect AC volt meter and oscilloscope probes to TP4.
- 4.11 While trigger the selected channel, verify that the meter reads 0.545 Vrms and scope shows a clean sine wave.

5. Final check:

- 5.1 Remove 10 Ohm resistor at connector J2 and connect machine transducer to it.
- 5.2 Remove all test leads.
- 5.3 Press the machine reset switch or recycle machine main power, verify that there is no error message from the machine.

End of calibration

