

# WEST·BOND® INC.

## ULTRASONIC BOARD (P/N A-10345) IN-MACHINE CALIBRATION

### 1. Equipment required:

- 1.1 An oscilloscope.
- 1.2 A multi-meter (true RMS voltages up to 100 KHz).
- 1.3 20 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.
- 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 -1.2 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 63 KHz (15.87uS).

### 4. Output voltage calibration:

- 4.1 Connect a 20 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 Connect jumper E1 pin1 to pin 2 (high power output).
- 4.4 Remove PCB Interface (J1)
- 4.5 Connect a jumper wire from J1-pin1 to TP7 (5vdc)
- 4.6 Verify that the meter reads .038 Vrms (0.100 Vp-p) and scope shows a clean sine wave.
- 4.7 Adjust RT4 to obtain the reading
- 4.8 Remove jumper and reconnect J1
- 4.9 Program selected channel to have bond power 999 (full power) and bond time 999 (999mS).
- 4.10 While trigger the selected channel, verify that the meter reads 8 Vrms (22.63Vp-p) and scope shows a clean sine wave. Adjust RT2 to obtain the reading.
- 4.11 Connect jumper E1 pin 2 to pin 3 (low power output).
- 4.12 While trigger the selected channel, verify that the meter reads 4.5 Vrms (12.73Vp-p). Adjust RT3 to obtain the reading.

### 5. Final check:

- 5.1 Remove 20 Ohm resistor at connector J2 and connect machine transducer to it.
- 5.2 Return jumper E1 pin connections to original position.
- 5.3 Remove all test leads.
- 5.4 Press the machine reset switch or recycle machine main power, verify that there is no error message from the machine.

