Ultrasonic welders deliver high frequency vibrations to join two materials together. The welding tip or horn typically vibrates at a rate of 20,000 or 40,000 hertz and that can cause damage to certain electronic components.

It has been reported that rejection rates of up to 10% per run can occur when ultrasonic welders are utilized to weld plastic housings’ around the boards*. In particular the input capacitor appears to be the most vulnerable component to ultrasonic damage but quartz clocks are susceptible to damage and resonant frequency alteration.

Damage is believed to be the result of high frequency oscillations transmitted to a particular board component, such as the input capacitor. In some cases certain frequencies, specifically near 40 KHz, have been incorporated to reduce rejection rates, but not by significant numbers.

Results indicate that ultrasonic frequencies are not totally reliable to produce low rejection rates for PCB welding.

A unique solution to this problem has recently been utilized to significantly reduce post weld rejection rates. This technology incorporates a vibration-less Infra-Red weld process that seamlessly joins plastics in a hermetic seal. Some of the advantages of this technique are listed below:

- No vibration
- Minimize weld rejection rates
- Low operational costs (low amps)
- Handle immediately after welding
- Eliminate expensive horn and converter replacements
- Ease of handling pre and post weld

The intrinsic worth and added performance of Infra-Red welding technology offers the user a quantum jump in cost savings, functionality and efficiency. TRINETICS GROUP, INC., located in Melbourne FL, is a leader in the engineering development in operational performance of IR welding technology.

Trinetics Group, Inc.
2825 Business Center Blvd., D9
Melbourne, Florida 32940 U.S.A.
P: 321-383-3456
W: www.TrineticsGroup.com
E: info@4tg.us

Trinetics Group has been providing custom designed plastic and metal welding solutions for over 30 years. Our equipment is built tough and made to last. Our equipment has serviced virtually every market in the plastic joining industry including medical, appliance, automotive, computers, business machines, toys, electronic packaging and more. Our company has placed equipment in Fortune 1000 companies and small job shops throughout the world that include U.S.A., Canada, Mexico, UK, Germany, Egypt, Indonesia, Finland, Russia and others.