

Massa Transducer Testing

- 1) An ohmmeter should indicate a low resistance across the input to the transducer (like 8 ohms) because the unit is parallel tuned. An open circuit indicates that the transducer is no good. Remember, a low resistance will only indicate that the tuning is still in the circuit, it does NOT prove that the transducer is functioning. For functionality, refer to (2) through (4) below.
- 2) If a scope is available, connect the scope to the transducer (polarity not important). Set vertical scale to 5.00 V/div and horizontal scale to 5 mS/div and trigger to "auto". Next slap the face of transducer with the palm of your hand while observing the trace on the scope. Large spikes $\sim 20\text{Vpp}$ and 10-15mS in length should occur on the trace when the face is slapped if the unit is active (depending on strength of slap).
- 3) If an oscillator is available: connect the oscillator (preferably a 50 ohm or lower output impedance) to the transducer (polarity not important): use a sine wave with amplitude of at least 3 volts peak-peak (1 Vrms). Sweep the frequency in the 3 to 10 kHz range and you will hear the audible tones on an active transducer. The audio volume should rise the closer you get to the resonant frequency ($\sim 5\text{KHz}$) in air.
- 4) If no instruments are available, insert two pins into the connector on the transducer (even solder could be utilized). A short mating cable is ideal. Take a standard 9 V dc battery and scratch the battery terminals across the two pins or across the bare leads of the mating cable. If the transducer is active, an audible scratching noise (like static) will be heard.