

## PS-2 SERVICE NOTES:

### Central Electronics 100/200V

The PS-2 network is designed for the audio frequency range of 300-4000Hz and will normally achieve sideband rejection on the order of 50dB although some have been shown to exhibit 55-60dB rejection at some frequencies within the audio passband. If insufficient sideband suppression is achieved, that is, only in the range of zero to 20dB, check the following: 1. The Mod Caps are not the white ceramic-cased electrolytics manufactured by Chemtronics. These should be replaced by tantalum capacitors, whose performance is more stable than that of aluminum electrolytic parts.

2. Verify that there is no dc bias on the dual audio amplifier input (V-8A, 12AT7 pins 2 and 7). If the measured dc voltage is higher than the nominal 0.8vdc contact potential, suspect that one or more of the PS-2 mica capacitors has leakage. Usually, this occurs with either C9, 4711.2pf or C10, 1650.4pf but others have been known to fail.

3. Check the solder connection on the PS-2 circuit card. These cards were soldered by simple immersion in a solder bath. It is possible that some wire leads were not fully cleaned and did not fully wet with solder. In some instances, wire connections have been found to look visually correct yet have a film of rosin on the wire itself, thereby insulating it from the apparent connection. In other instances, during the initial solder process, hot wax may have run down a capacitor's lead thereby causing a bad connection. It is good practice to simply resolder all connections during any reconditioning or test/verification process.

4. If all of the above appear correct and poor sideband suppression continues, check the signal present on the output terminals of the PS-2 (Pins 4 and 8 although the 200V schematic incorrectly lists pin 2 as an output) to verify that their levels are equal amplitude. If unequal, verify that the input signals from the audio phase shifter stage (V-?) are equal at pins 2 and 3. If the input levels are correct, suspect a component failure within the PS-2.

The accuracy of the 90-degree audio phaseshift through the PS-2 network, over its 300-4000Hz audio range, is dependant on the tolerance of components relative to their specified values. Therefore, it is imperative that replacement mica/trim ceramic part combinations be bridged as closely to the indicated values (production assemblies were bridged to within 0.2% of the indicated values) otherwise ultimate sideband suppression will not achieve the 50dB specification.