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## ADVISORY NOTIFICATION

**Subject: The two appliance test sockets explained**

**Date: 12/02/2003 Design implementation**

In the developmental process of the appliance tester two important design controls derived from the safety standard AS/NZS3760 and AS61010.1 2003: Safety requirements for electrical equipment for measurement, control and laboratory use. Clause E2.2: Insulation resistance and clause 6.11.3.1 Switches and circuit breakers respectively

### **Clause E2.2: Insulation Resistance (I.R.)**

*“Where a PAT is used to measure insulation resistance, the measurement circuit shall be isolated from earth (protective earth). An electric shock may be experienced whilst testing.”*

### **Clause 6.11.3.1 Switches and circuit breakers**

*“A switch or circuit breaker shall not interrupt a protective earth conductor”*

From these design controls we are required to have separate **isolated measurement circuitry** for I.R and leakage current testing if the tester is to function on mains power only.

### **Design implementation**

The protective earth conductor is hard wired from the mains input to the leakage current run test socket. I.R Testing is performed on the alternate socket, electrically isolated from protective earth. This implementation is unique to our range of testers.

For PAT testers which operate from battery power only, a single appliance test socket may be used. The manufacturer must provide an effective operator control method to ensure that the tester is not connected to the GPO while undertaking I.R testing. Clause E2.2 will be violated.

**Legal position:** Not to comply with the above controls will render the manufacturer liable under the Health and Safety ACT. Damages can be claimed against the manufacturer including the PAT (not fit for purpose). In view of the situation Trisan Australia P/L. has elected to provide separate testing sockets for I.R and leakage current testing with appropriate safety warnings.