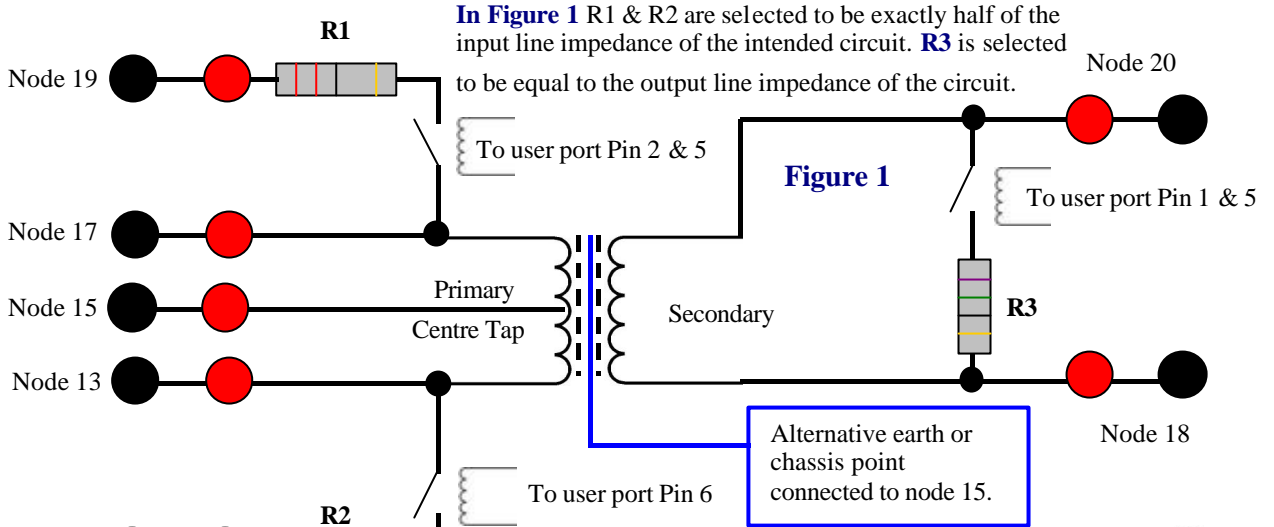


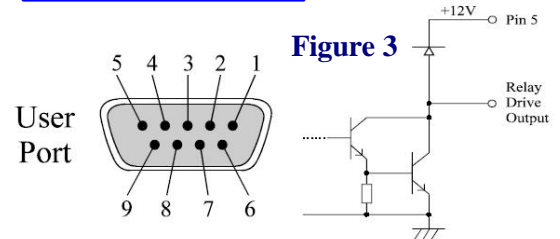
**Longitudinal balance** is a term used to measure the CMRR (common mode rejection ration) of a telecom type transformer. **Longitudinal Balance** is a method for testing a transformer's ability to reject unwanted noise signals common to both input terminals with respect to a common point.



In **Figure 1** R1 & R2 are selected to be exactly half of the input line impedance of the intended circuit. R3 is selected to be equal to the output line impedance of the circuit.

PIN	SIGNAL NAME	PIN	SIGNAL NAME
1	O/P USER RELAY DRIVE 0	6	O/P USER RELAY DRIVE 1
2	O/P USER RELAY DRIVE 2	7	O/P USER RELAY DRIVE 3
3	O/P USER RELAY DRIVE 4	8	O/P USER RELAY DRIVE 5
5	O/P +12V	4 & 9	I/P DO NOT USE

**Figure 2**



**Figure 3**

**Parts required:** -

1 \* 9-way D type connector.

3 \* 10KV standoff relays, VPN: 33 – 004.

3 \* ¼ or ½Watt resistors matching the circuit line impedance.

**When** testing Longitudinal Balance (LBAL) nodes 19, 11 and 15 are used with the relays energised (Primary) and nodes 20 and 18 are used again with the relay energised (Secondary) through the OUT test. A program structure example follows: -

1. OUT 0, 1 & 2 on.
2. LBAL test.
3. OUT 0, 1 & 2 off.
4. Other tests such as Inductance (LS), Resistance (DCR) etc using nodes 17, 15, 13, 20 & 18.

**Figure 2** shows the pin configuration of the user port and **Figure 3** shows the 9-way D and output circuitry.

**If** a centre tap is not available node 15 would be connected to an earth or chassis point as shown above.



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For more information on this subject please contact your local distributor or contact Voltech directly on [sales@voltech.co.uk](mailto:sales@voltech.co.uk)