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**Subject:** Protection of RS232 port

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## Technical Note

### 1. Background:

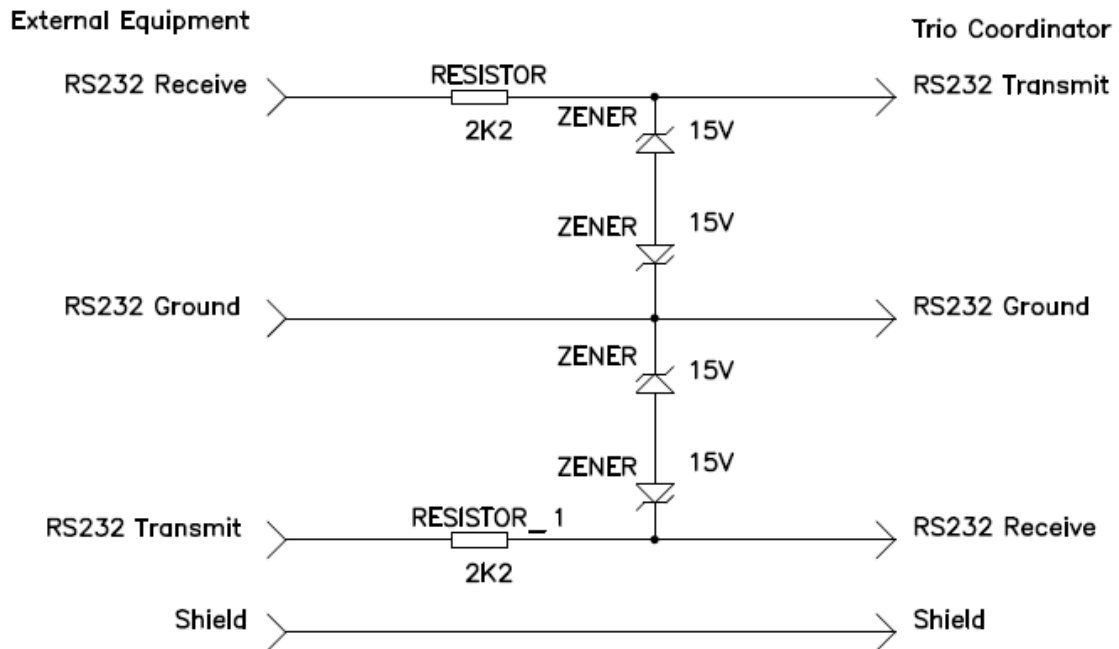
The RS232 ports on Trio Motion Coordinators all conform to the RS232 standard, but some customers are reporting failures during use. It is thought these failures occur when hot plugging equipment. The following information describes an optional circuit which will help to protect the RS232 ports on connection and during operation.

### 2. Warning:

This circuit will protect the port BUT it will also reduce the distance over which the RS232 connection will operate. If you have a particularly long connection please consider the amplitude loss by using this circuit

### 3. Protection Circuit:

The protection circuit shown below consists of a series resistor and a pair of zenner diodes for each transmit and receive connection. It is critical that the shield connection must remain connected through the protection circuit, ideally shielding the signals from potential interference.



For the RS232 protection to work correctly it must be permanently connected to the controller, so that the zenner diodes are referenced to the controller ground at all times. Because of this you **MUST** connect the RS232 protection circuit to the controller before connecting the external equipment to the RS232 protection.