



Tuning Information

The system works at a fixed frequency that cannot be changed. The only tuning available ensures that the inductance of the antenna system matches the output of the reader module.

This tuning is achieved with an adjustable inductor connected into the circuitry between the reader and the antenna.

The antennas and controls are manufactured and tested separately, so they are not shipped as a matched pair. This means that during installation the control must be tuned to match the attached antenna to give the best performance.

The antennas and controls are all built to within a small tolerance and the tuning required will be minimal.

A volt meter is required to tune the control system. The volt meter, on the 200 volt DC range is connected to the each of the test pins on the left hand side of the multiplex module in turn. The antenna must be attached to the system and the mains turned on. Tuning is done by slowly turning the tuning inductor control knob on the tuning inductor either clockwise or anti clockwise until the average voltage on each of the test pins is a maximum.

A tag can then be used to test the system to ensure reading is adequate. Three tests can be carried out to verify the performance:

1. Approach the antenna either from the side or end with the transponder held so that it is aligned with the axis of the side or end being approached. The distance from the antenna at which the tag is first read should be about 600mm (2ft).
2. Hold a transponder at the mid point of the side just inside rail with the transponder oriented front to back. The 'no read' window should be relatively small, no more than a triangle 100mm along and 100mm inwards at the centre point of the side rails.
3. Hold a transponder tag at the centre of the antenna framework. It should be possible to rotate the transponder in all directions whilst it is being read. At an angle of 45 degrees to each of the three antenna pairs it should be read continuously by all three antenna pairs. This is indicated by a rapid, even flashing of the read OK LED.