TECHNICAL DESCRIPTION FOR RF RECEIVER

1. PURPOSE

The purpose of this document is to aid the homologation procedures for the RF receiver.

The receiver must have all the required certifications, and type approvals, for all countries where target vehicles will be sold.

2. TERMINOLOGY

2.1. ABBREVIATIONS

LED	Light Emitting Diode
PCB	Printed Circuit Board
RF	Radio Frequency

2.2. GLOSSARY

KT	Rover Passive Re-mobilisation System

3. THE PRODUCT

3.1. OUTLINE

The RF receiver is primarily used for vehicle remote locking / unlocking (keyless entry) applications. It is a superheterodyne type with an intermediate frequency of 10.7 MHz. It is part of the RF system, which also consists of a RF transmitter and an optional low power KT antenna.

The unit is permanently powered from the vehicle battery, with the positive supply connection routed via the body control unit.

The three external connections to the receiver are shown in Figure 3.1. (Details of the body controller interface circuitry are shown).

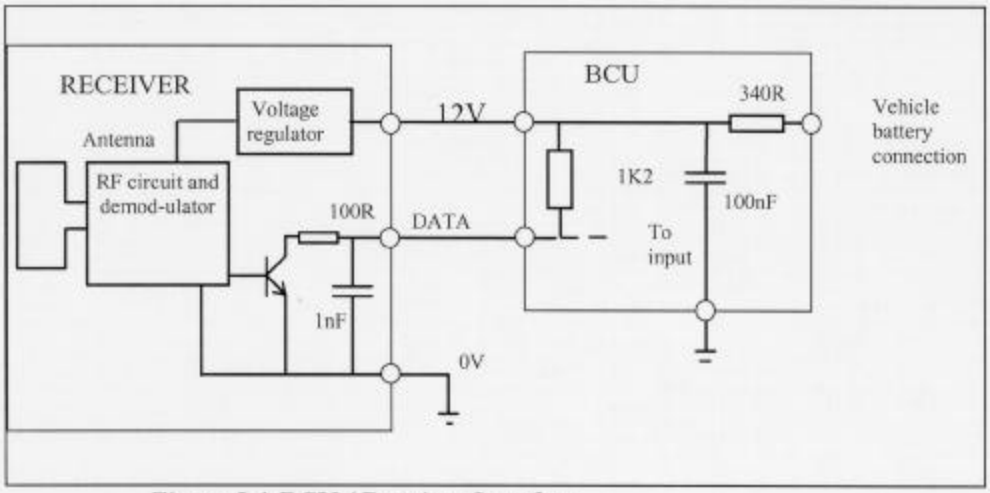


Figure 3.1 BCU / Receiver Interface

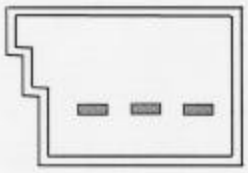
The RF receiver which is located in the vehicle, receives and demodulates RF transmission from the keyhead. This demodulated signal is then sent to the body control unit via an open-collector output, which decodes the incoming message and performs locking/ unlocking action as required.

3.2. APPEARANCE

The receiver is a self contained unit, with internal PCB antenna, housed in a black plastic casing, with three external connections for power, data and ground output.

3.3. CONNECTOR DEFINITION

The unit has a 3 way MTL right angle connector (part number 1-963545-3). The pinout is detailed in figure.3.3.1 below (connections are shown looking into the mating face of the component connector):



Pin	Description
1	Ground
2	Data
3	Battery supply

Figure 3.3.1 Connector definition

3.4. VARIANTS

The receiver has two frequency variants, 315.0 MHz and 433.92MHz, dependent upon the regulatory requirements for the country for which the vehicle is intended.

Both variants have a local oscillator with frequency 10.7 MHz lower than the carrier frequency.

3.5. GENERAL BLOCK DIAGRAM

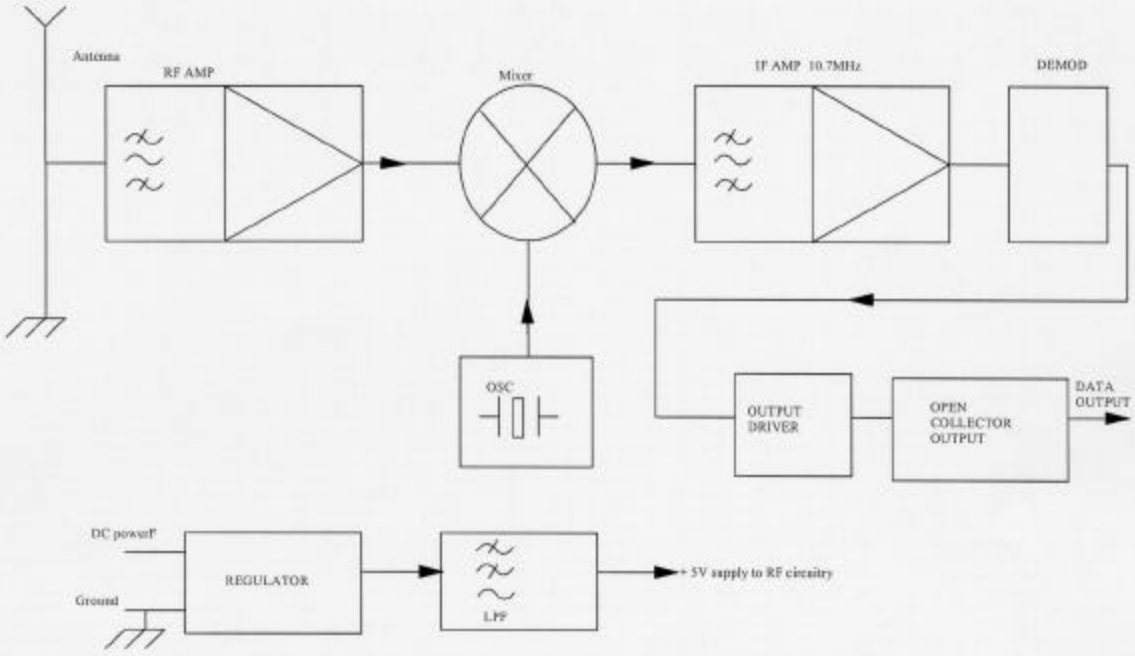


Fig. 3.5.1 Block diagram of RF receiver.

4. MANUAL USE

4.1. NORMAL TRANSMISSIONS

The receiver, receives RF transmission from the keyhead and demodulates it. It then relays the demodulated data to the vehicle body control unit for decoding.

4.2. TEST PROCEDURES

In order to carry out testing, set-up the test equipments as following (as shown in fig. 5.1) :-

- Connect the RF receiver to the MTL connector.
- Connect the +12 volt supply to the red socket of the receiver test box.
- Connect the supply ground to the black socket of the receiver test box.
- Connect an oscilloscope to the BNC socket of the receiver test box to monitor data output from the receiver if required.
- Turn the power on/off switch to ON position, the LED will come on.

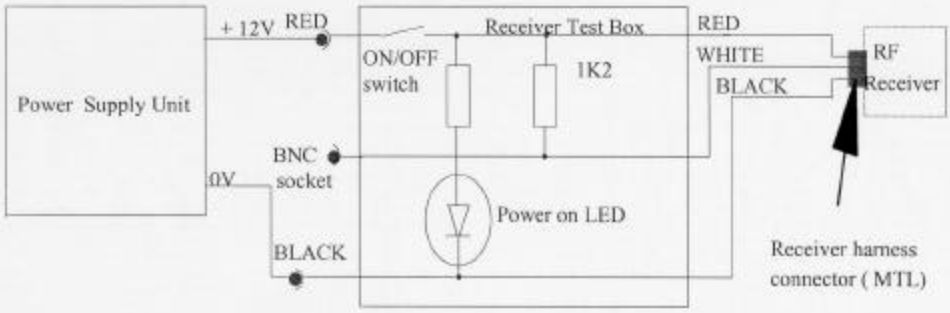


Fig. 5.1. Block diagram of Receiver test set-up