



Extracted from the Engineering Component Spec (ES) PATS XCVR

1 General

The Passive Anti-Theft System (PATS) is a vehicle anti-theft system that uses Radio Frequency Identification (RFID) technology to provide drive-away theft protection. The Transceiver Module, in conjunction with the other system components, enables or disables vital engine electronics through the engine management system during vehicle engine start. The Transceiver Module interfaces to the PATS Controller (which interfaces to the vehicle electrical and starting systems, the SCP communications or ISO 9141 communication bus and the IP cluster theft indicator). The PATS Controller receives power from the vehicle electrical system, sends a control signal to the Transceiver Module, receives identification data from the Transceiver Module, communicates Vehicle Security Status over the SCP communications or ISO 9141 communication bus and controls the starter interrupt relay and the IP cluster theft indicator.

1.2 Application

The Transceiver Module contains a broadband LC tank circuit, coil driver transmitter, receiver amplifier, FSK demodulator, SCI (Serial Communications Interface) byte packer and a +5.0 VDC power supply. The Transceiver Module performs four basic operations:

- 1) provide magnetic energy to inductively charge the transponder,
- 2) transmit data to transponder
- 3) amplify, demodulate and pack the transponder code data into bytes,
- 4) transmit the transponder code data bytes to the PATS Controller via an SCI interface

The Transceiver Module has a four wire harness and connector that matches to the vehicle harness. The vehicle harness then routes the four wire interface to the PATS controller connector.

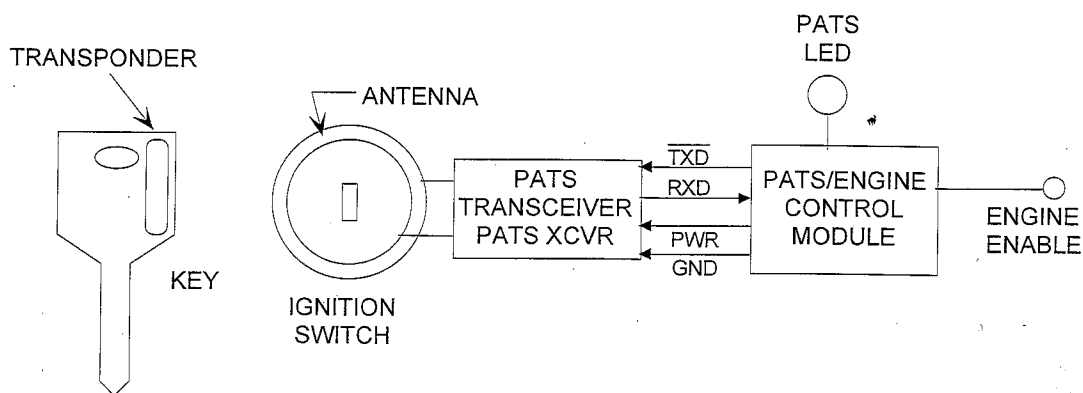


Figure 1 – PAT3 BASED PATS SYSTEM BLOCK DIAGRAM

Each time the ignition key is inserted into the ignition lock and turned to the 'RUN/START' position (for North American Vehicles), the PATS system will interrogate the Transponder. If the Transponder code is recognized by the PATS Controller as a valid code, the vehicle engine will be permitted to operate. If the Transponder code is recognized by the PATS Controller as a missing or invalid code, the vehicle engine will be immobilized.