

Functionality of the SmarTire wireless tire-monitoring system:

- Continuous monitoring of tire pressure and temperature
- Transmits pressure once / minute
- Transmits temperature once / 1.5 minutes
- Transmits 10 packets of data / 30 seconds (as seen on page 3)
- System consists of 4 sensor transmitters and 1 display module.
- Sensor modules, which are mounted in each tire by means of a bolt, transmit only when the car is moving above 10 MPH, due to the use of an acceleration switch on the sensor board.

#### Technical Description of the 355 MHZ Receiver

#### TECHNICAL DESCRIPTION OF THE RECEIVER

The SmarTire Signal Passenger Car Tire Monitoring System (TMS) includes a receiver on board of the vehicle. The receiver picks-up the wireless signals transmitted from the vehicle's tire pressure sensors installed on the wheels. The amplitude modulated (AM) signal is detected here and corresponding data train is generated which is then deciphered in the PIC (Programmable IC). The PIC performs appropriate actions as dictated by the embedded software program, like lighting alarms etc. The general functional block diagram is shown in the following figure:

#### FUNCTIONAL BLOCK DIAGRAM OF PASSENGER CAR RECEIVER

