DESCRIPTION OF OPERATION

7.1. System Components:

The BSM-Module is a body security module for the P221 MY 2003.75. It will be produced in North America. The BSM module arbitrates the central locking and unlocking of the vehicle doors, RKE functionality, panic alarm, courtesy lighting, and illuminated entry. A RF receiver board of Super Regenerative type is used on this module.

The BS-Module has a Radio Frequency (RF) link for remote vehicle access. The receiver is a component within the RF link. The purpose of the RF link is to provide remote vehicle access. The other component of the RF link is the transmitter. The purpose of the receiver is to demodulate the RF signals from the transmitter and condition the signals for processing by the microcontroller on the Security Module

7.2 System Operation:

The Siemens security control system consists of a 315 MHz transmitter and a Security module. The Security Module contains the receiver. The transmitter sends a command corresponding to the button, which is pressed. The binary command is scrambled, Manchester encoded at 2 KHz and then Amplitude Shift Keyed (ASK) modulated at 315 MHz. This 315 MHz signal is broadcast to the vehicle.

The antenna on the Security Module picks up the broadcasted signal and sends it to the receiver. The receiver demodulates the signal and sends the Manchester data at TTL levels to the microcontroller. The receiver is of Super Regenerative type. The receiver does not decode the signals. The microcontroller on the Security Module decodes the signal, deciphers the command, and activates the appropriate outputs. A block diagram of the Security Module is included in this document.

The module board supplies power to the receiver, regulated to 5.0 Vdc with a maximum tolerance voltage of 5.1Vdc. The receiver will not operate above 5.1Vdc. The receiver is made with a double-sided circuit board with components on one side and a continuous, unbroken ground plane on the other side.