

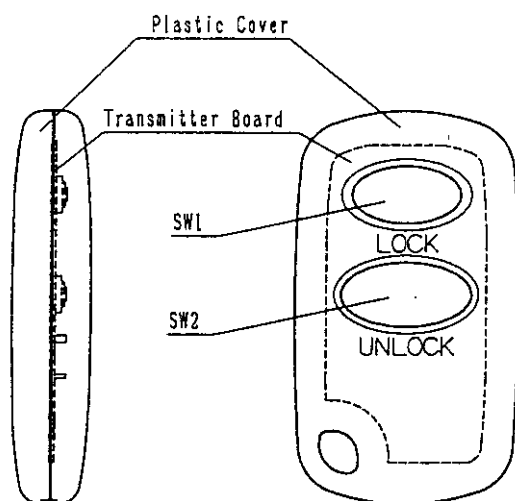
Technical Description A

Name: Transmitter/Remote Keyless Entry System

Model: D01SB

1. Introduction of "Transmitter"

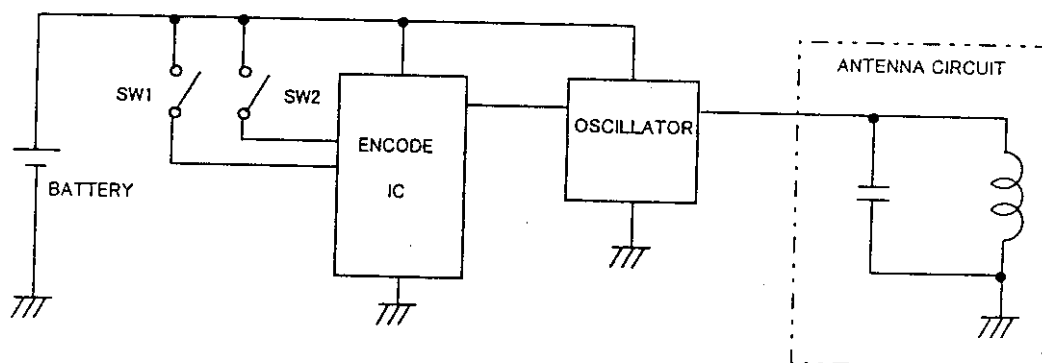
This device assumes the role of transmitting the RF signal in Remote Keyless Entry System. The system is equipped with a vehicle as OE(=original equipment).



2. Specification

Item	Specifications
1. Battery	Manganese Dioxide Lithium Battery CR2032 × 1
2. Operating Voltage Range	DC. 2.5 to 3.5V
3. Current Consumption	max. 5.0mA
4. Operating Temperature Range	-20°C to +60°C
5. Storage Temperature Range	-30°C to +80°C
6. Data Delivering Rate	1515bps ~ 3846bps
7. Output Electromagnetic Intensity	4000 μV
8. Transmitting Frequency	315 MHz ± 150kHz
9. Modulation Mode	AM Modulation
10. Transmitting Period	max. 35s or less
11. Number of switches	2

3. Block Diagram

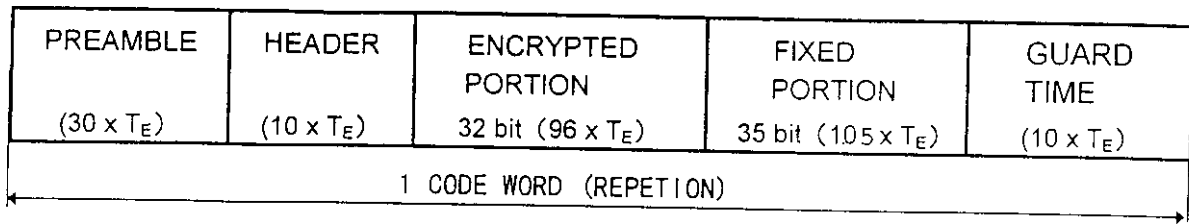


4. Operating Summary

1. Transmitter is provided with two (2) switches: one is for vehicle door-locking and the other is for unlocking.
2. When either of the two is depressed, three (3) kinds of codes are produced inside Encode IC: each switch's inherent code, this system's own code, and signal-delivering code (lock or unlock). And at the same time, the signal gets scrambled for security reason.
3. The signal is then sent to Oscillator where AM modulation is performed.
Oscillator works while the signal is at the level of "H" and stops while at the level of "L".
4. The modulated signal is then sent to Antenna Circuit and is, by resonance of the circuit, radiated off in the air as the RF signal.

TIMING DIAGRAM : TRANSMITTER, REMOTE KEYLESS ENTRY SYSTEM MDL D01SB

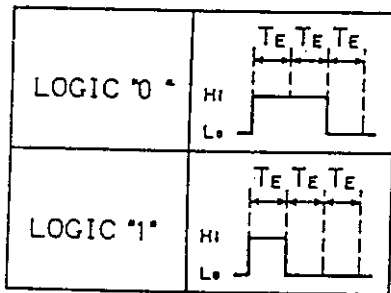
Basic transmission format (SW1, SW2):



* Output form of each format element:

PREAMBLE, HEADER and GUARD TIME are fixed; ENCRYPTED PORTION changes each time a switch (SW1 or SW2) is depressed; FIXED PORTION changes according to each transmitter.

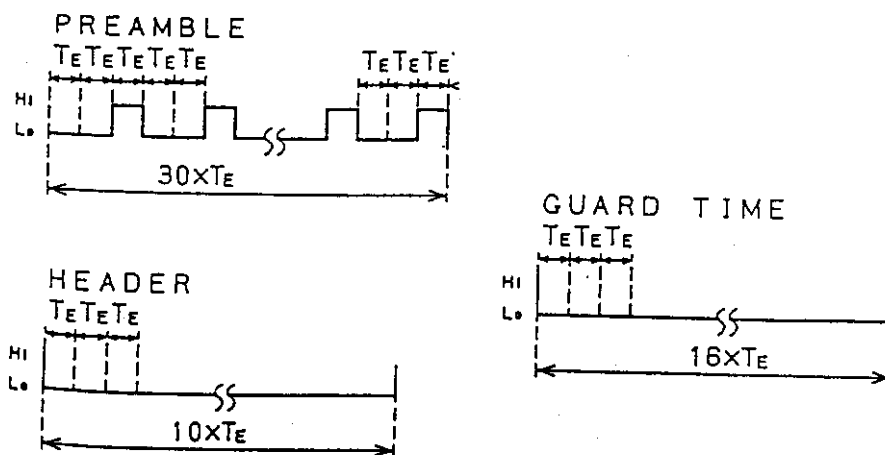
Definition of Code (SW1, SW2):



$1 \text{ bit} = 3 T_E$

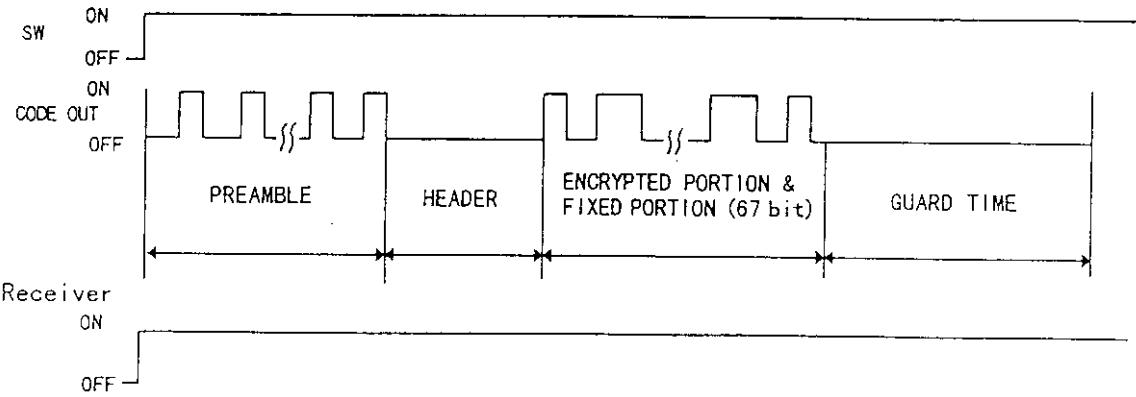
$T_E = 400^{+220}_{-140} \mu S$

Code output when a switch (SW1, SW2) is on:



Timing Chart (SW1, SW2):

Transmitter



Difference in transmission code between SW1 and SW2:

