OMRON
AUTOMOTIVE
ELECTRONICS
KOREA

OKA-230T

Transmitter, RF Keyless Entry System

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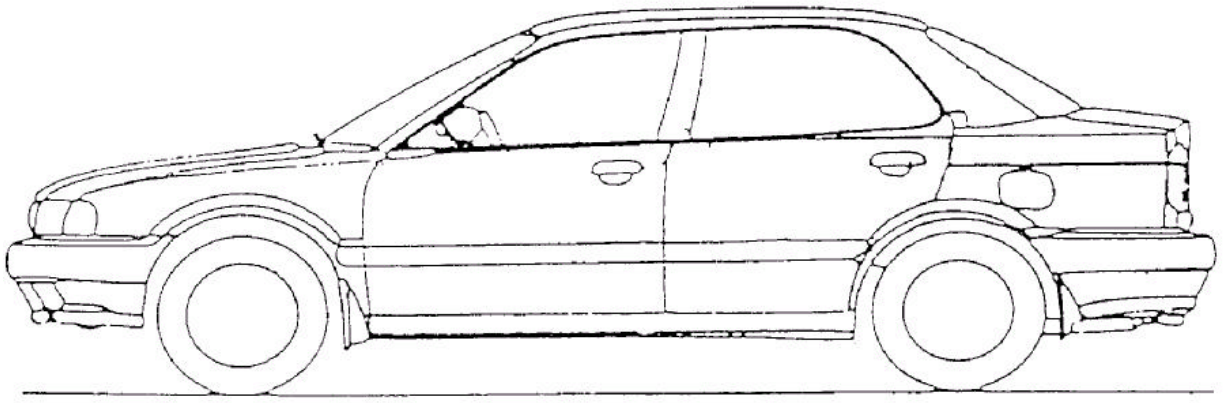
Caution: Any changes or modifications to the equipment not expressly approved by the party responsible for compliance could void user's authority to operate the equipment.

1. Constitution of the Radio Frequency Keyless Entry System for vehicle

The radio frequency keyless entry is a system that it controls locking and unlocking the door and the trunk by wireless remotecontroller. This system consists oftwocomponents.The TRANSMITTERisadevice that transmits the signalwhenthebuttonispressed. The transmission signal consists of several synchronous codes , unique identification code , security code and function code. The RECEIVER is fixed inside the vehicle. It works intermittently to prevent the battery exhaustion. When the receiver detects the synchronouscode,itrunscontinuouslyto receive the signals completely. Afterreceiving the signal, the receiver decides which operation will be performed. The user can select the following operations by pressing the button of the remote transmitter.

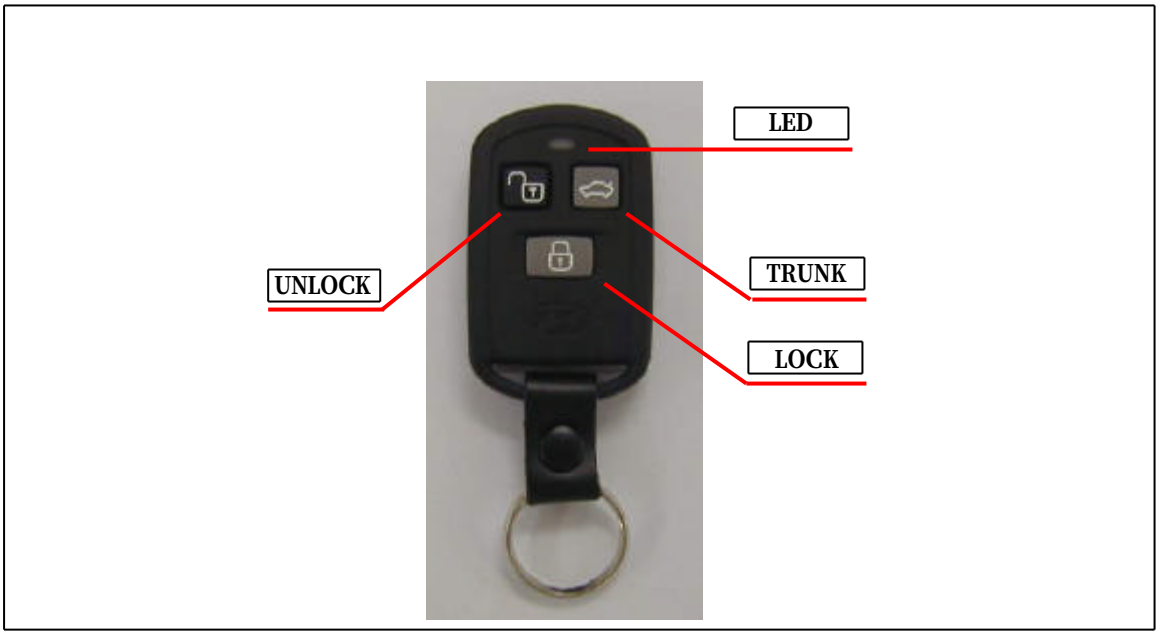
OPERATION	ACTION
LOCK	lock the door
UNLOCK	unlock the door
TRUNK	open the trunk



Transmitter
f = 307.9MHz

2. Operation description

REMOTE TRANSMITTER



You can lock and unlock your vehicle with the remote transmitter.

LOCK

When you push the LOCK button, all the doors will lock.

You cannot lock any of the doors with the remote transmitter if any door is open or the key is the ignition switch.

UNLOCK

When you push the UNLOCK button, all the doors will unlock.

You cannot unlock any of the doors with the remote transmitter if any door is open or the key is in the ignition switch.

TRUNK

When you push continuously the TRUNK button during 0.5s, TRUNK will open.

3. Specification

3.1 CPU

Type	uPD754144-xxx(4bit) Manufacturer : NEC Corporation
ROM	4096 X 8bit(4 Kbytes)
RAM	128 X 4bit(64 bytes)
EEPROM	16 X 8bit(16 bytes)
Clock frequency	500KHZ
Clock frequency generation	CR Osillation
Package	20pin SSOP

3.2 RF block

Carrer frequency	307.9MHz
Frequency generation	SAW resonator
Modulation	FSK
Bit transmission rate	1000bps or 500bps
Bandwidth	120KHz
RF output power (field strength)	≤ 75.6 dBμV/m

3.3 Others

Dimension	56mm×35mm×11mm
Weigh	21.65g
Battery	Lithium cell (CR2032) Manufacturer : PANASONIC Battery corporation etc.
Operation Voltage	DC3V
Operation Temperature	-20℃ ~ +60℃

4.Features

4.1 Transmission frame

The transmission begins immediately in case of LOCK and UNLOCK button is pressed, but TRUNK button is begun after 0.5s.

The transmission frame consists of the synchronous frame and the data frame. The synchronous frame has 30 synchronous codes that it will be used for the receiver to wake up. The data frame consists of 24bit length identificationcode,16bit security code and function code. 16million different identification codes are available.

The security code is always changed in case of any of the buttons is pressed. The transmission time is typically 600 milliseconds.

4.2 Battery saving

To prevent thebattery exhaustion , the micro-computer of the transmitter is usually inactive. When the button will be pressed, the micro-computer wakes up immediately and judges which button is pressing. Then the micro-computerconstructs the transmission frame and radiates it from the antenna .Aftertransmitting , the micro-computer switches stand-by mode by itself.