

1. Constitution of the Radio Frequency Keyless Entry System with Door Lock Controller for vehicle

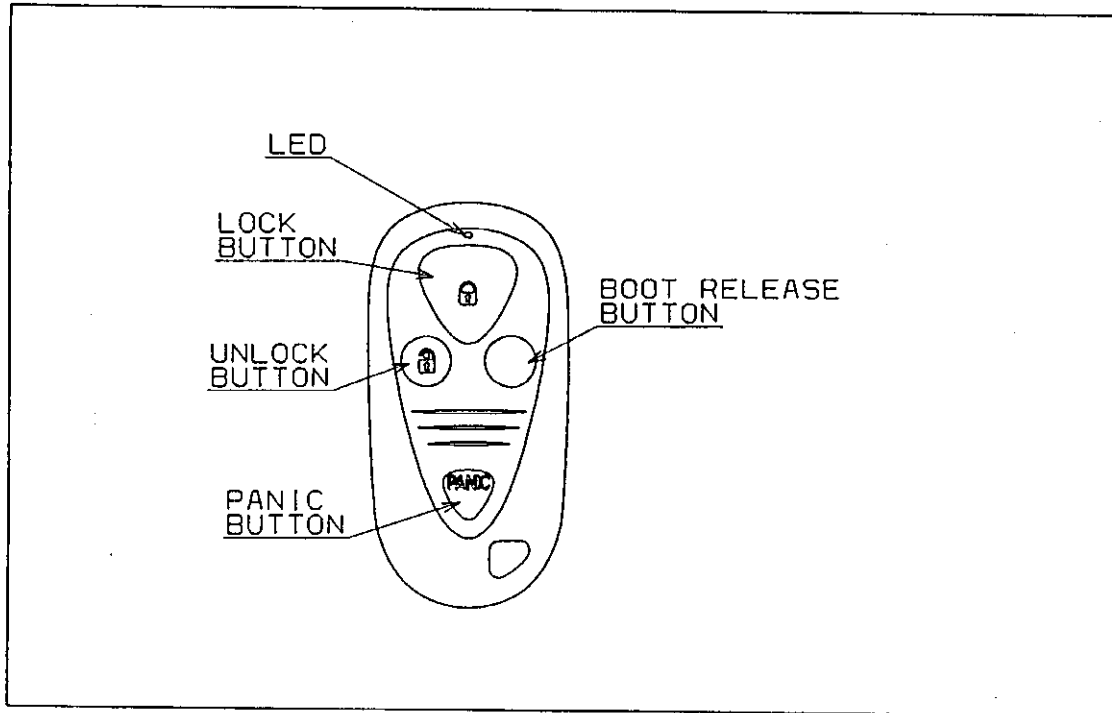
The radio frequency keyless entry is a system that it controls locking and unlocking the door by wireless remote controller. This system consists of two components. The TRANSMITTER is a device that transmits the signal when the button is pressed. The transmission signal consists of several synchronous frame, data frame, and so on. The RECEIVER is fixed inside the vehicle. It works intermittently to prevent the battery exhaustion. When the receiver detects the synchronous code, it runs continuously to receive the signals completely. After receiving 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 (the driver side first, then all doors)
BOOT RELEASE	Release the boot
PANIC	The horn is beeped, and the headlight and flasher are blinked

Transmitter
 $f = 307.9\text{MHz}$

2. User's manual (provisionally)

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 in the ignition switch.

UNLOCK

When you push the UNLOCK button once, all the doors will unlock. If you unlock the doors with the remote transmitter, but do not open any of the doors within 30 seconds, the doors will automatically relocks.

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

BOOT RELEASE

To open the boot, push the BOOT RELEASE button for approximately one second.

The boot will not open if the key is in the ignition switch.

PANIC

Panic mode allows you to remotely sound's horn to attention. To activate this mode, press the PANIC button. Your vehicle's horn will beep for about 30 seconds.

To cancel Panic mode before 30 seconds, press any button on the remote transmitter.

! CAUTION

The remote control switch is a precision electronic device. Therefore, pay attention to the following.

- Do not impose shock on the remote control switch.
- Keep the remote control switch dry.
- Do not disassemble the remote control switch.

Your keyless entry system operates on a radio frequency subject to Federal Communications Commission (FCC) rules and Industry Canada rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions.

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation of the device.

"Complies with RSS-210 of Industry Canada."

NOTICE

This equipment has been tested and found to comply with the limits for a Class B device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC WARNING

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

4. Specification

4.1 CPU

Type	uPD754244GS-xxx-BA9 (4bit)
ROM	Manufacturer: NEC Corporation
RAM	4K bytes
EEPROM	128 bytes
Clock frequency	16 bytes
Clock frequency generation	4.19MHz
Package	Ceramic resonator
	20pin SOP

4.2 RF block

Carrier frequency	307.9MHz
Frequency generation	SAW resonator
Modulation	FSK
Bit transmission rate	1000bps or 500bps
Bandwidth	120KHz

4.3 Others

Dimension	65.0mm×32.2mm×11.6mm
Weight	20g
Battery	Lithium cell (CR2025)
	Manufacturer: MATHUSHITA Battery corporation
Operation Voltage	DC 3V, 20mA
Operation temperature	-20°C ~ +60°C