

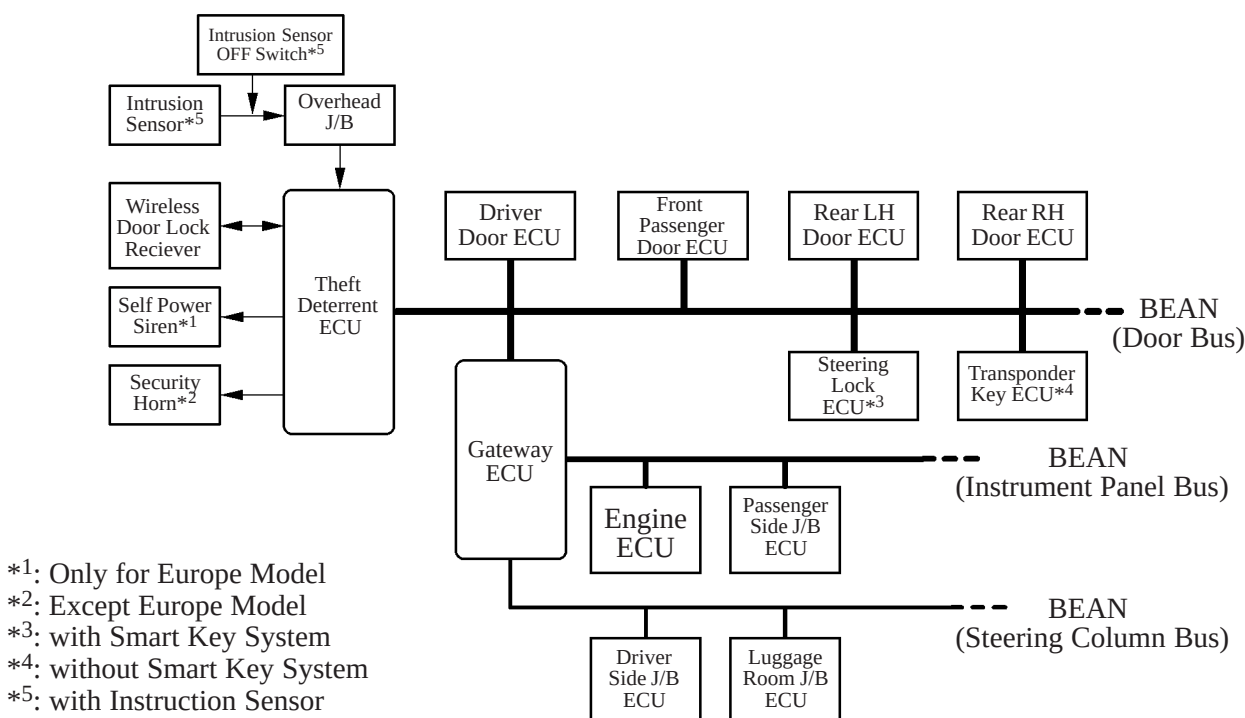
THEFT DETERRENT SYSTEM

1. General

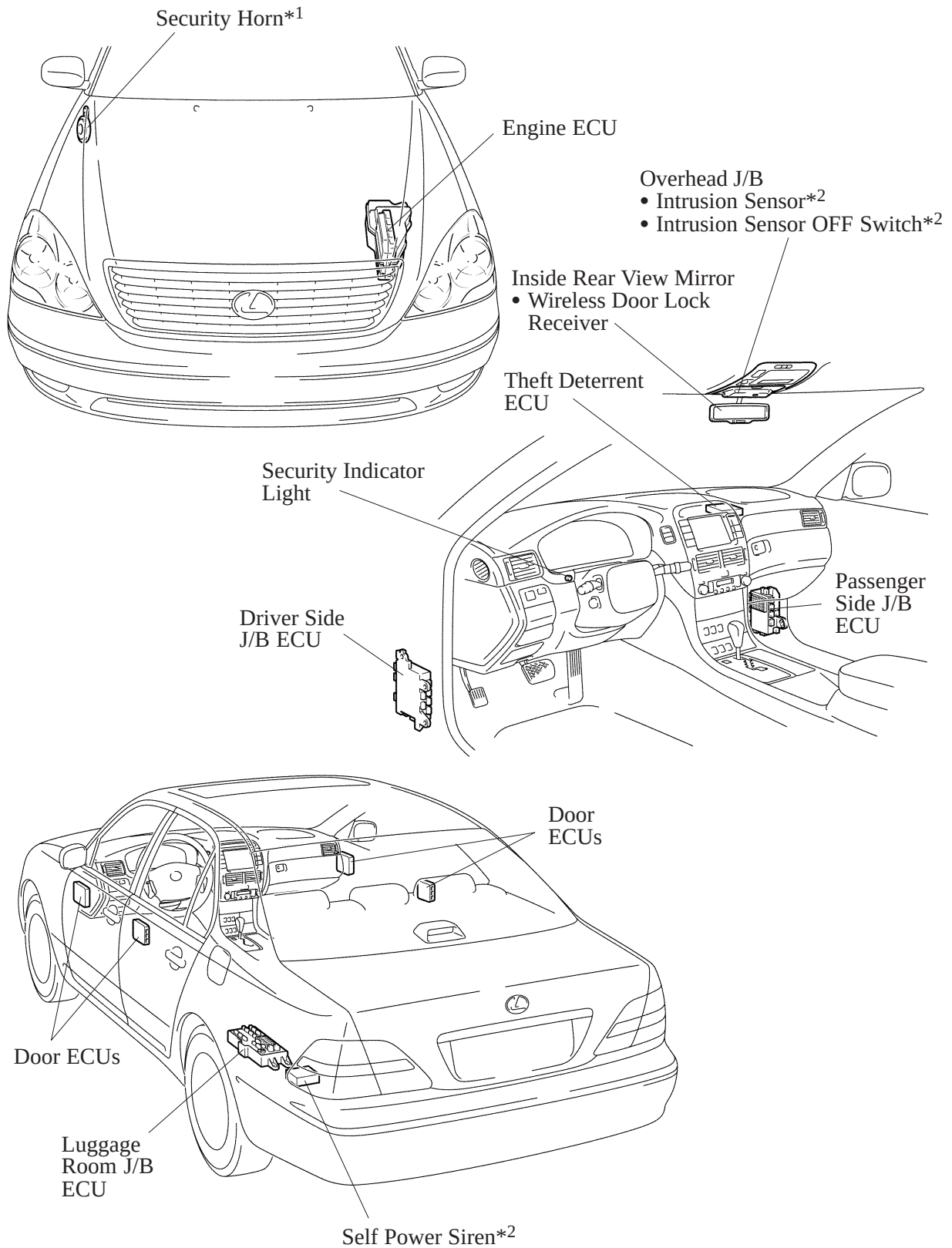
- The theft deterrent system uses the door lock control system, wireless remote control system, and smart key system parts. The theft deterrent system will operate when somebody attempts to forcibly enter the vehicle, open the engine hood or trunk lid, unlock any door or trunk lid without a key, or when the battery terminals are removed and reconnected.
- The control of this system is effected by the Theft deterrent ECU.
- An alarm memory function that informs the user that a warning was issued while the vehicle was parked has been added on the models except for Europe. A front interior light illumination control has been added on all models so that the interior of the vehicle is visible while a warning is being issued. A self-powered siren that replaces the security horn has been adopted only on the models for Europe.
- An intrusion sensor is standard equipment on the RHD model for Europe and optional on the LHD model. This sensor improves the system performance in case an attempt is made to enter the vehicle by breaking a window glass.
- The warning specifications of this system are listed below.

Destination		Europe	Other
Warning Method	Interior Light	Illuminates	Illuminates
	Harzerd Light	Flashing	Flashing
	Headlight	—	Flashing
	Taillight	—	Flashing
	Vehicle Horn	Sounds a warning at approx. 0.25 second cycles	Sounds a warning at approx. 0.4 second cycles
	Security Horn	—	Sounds a warning at approx. 0.4 second cycles
	Self Power Siren	Sounds a warning at the cycle of the self-powered siren itself	—
	Door Lock Motor	Locking	Locking
Warning Time		30 sec.	30 sec.

System Diagram



2. Layout of Component



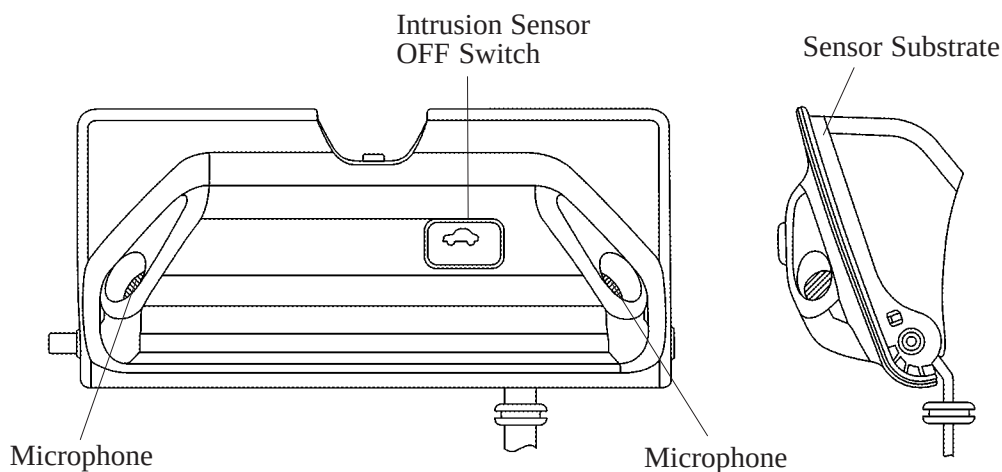
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*¹: Except Europe Model
*²: Only for Europe Model

3. Construction

Intrusion Sensor

- An intrusion sensor is provided in the overhead J/B located in the front of the vehicle interior.
- The intrusion sensor of the new LS430 is an ultrasonic type.
- The intrusion sensor OFF switch is a momentary type switch.

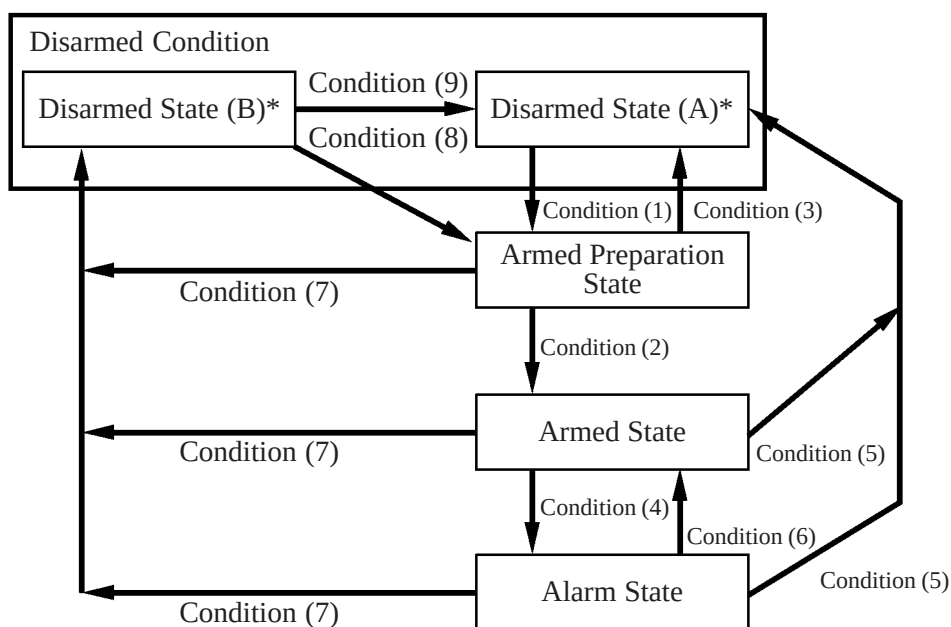


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4. System Operation

Basic Operation

This system activates as described in the diagram below when one of the items takes place in the respective state.



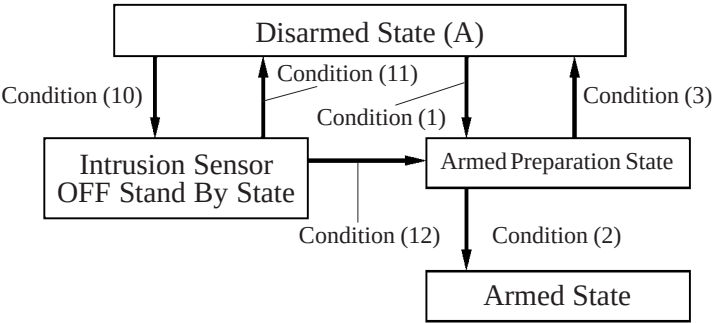
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*: The only difference between disarmed State (A) and (B) is the difference in the conditions.

Condition	Item
Condition (1)	- When the doors, engine hood, and luggage compartment door are all closed, all doors are locked by the wireless door lock remote control system or smart key system. - When the doors, engine hood, and luggage compartment door are all closed, the key is use to lock all doors. (except models for Europe) - When all the doors are locked, one of the doors, engine hood, or luggage compartment door is changed from “open” to “close, and all the doors are locked and closed (except models for Europe).
Condition (2)	When the doors, engine hood, and luggage compartment door are all closed and locked, and 30 seconds have elapsed.
Condition (3)	- When one of the doors or engine hood is changed from “close” to “open”. - When the luggage compartment door is changed from “close” to “open”. - When one of the doors is change from “lock” to “unlock”. - When the ignition key is inserted in the ignition key cylinder or the starter switch (smart key system) is pressed. - When the ignition switch (or starter switch: smart key system) is change from “OFF” to “ON”. - When a terminal is disconnected from the battery and reconnected.
Condition (4)	- All the doors are closed, and one of the doors is subsequently opened. - Any door is unlocked with something other than the ignition key (except models for Europe), transmitter or smart key system. - The luggage compartment door is opened with something other than the ignition key or transmitter. - The luggage compartment door key unlock signal has been input (on models for Europe). - The engine hood is opened. - A terminal is disconnected from the battery and reconnected. - When there is no key, the ignition switch is OFF, and the intrusion sensor has detected an intrusion. - The wireharness is directly connected as if the turn the ignition switch ON.
Condition (5)	- The transmitter or smart key system is used to unlock the doors. - The ignition key is used to unlock the doors. (except models for Europe) - The key is inserted in the ignition key cylinder and the ignition switch is turned ON. Or the driver holds the smart key and turns ON the starter switch (except models for Europe). - The engine operates at a speed of 550 rpm for 10 seconds or longer.
Condition (6)	When the warning time has elapsed.
Condition (7)	- A luggage compartment door open signal is input by the transmitter or smart key system. - A luggage compartment door key unlock switch signal is input (except models for Europe).
Condition (8)	The luggage compartment door is closed.
Condition (9)	- Any door is unlocked. - Any door or engine hood is opened. - The key is inserted in the ignition key cylinder or the starter switch (smart key system) is pressed. - A terminal is disconnected from the battery and reconnected. - When the ignition switch (or starter switch: smart key sytem) is change from “OFF” to “ON”.

Intrusion Sensor Operation

The intrusion sensor activates as described in the diagram below when one of the items takes place in the respective state. When the intrusion sensor OFF standby state transfers to the alert preparation state, the intrusion sensor will not activate.



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Condition	Item
Condition (10)	There is no key in the ignition key cylinder, the ignition switch (or starter switch) is OFF, and an intrusion sensor OFF switch signal has been input one or more times.
Condition (11)	• The ignition key is inserted in the ignition key cylinder or the starter switch is pushed. • The ignition switch (or the starter switch) is turned ON. • The operation has not been transferred to the alert preparation state even if 5 minutes have elapsed after the intrusion sensor OFF switch signal has been input.
Condition (12)	All doors, engine hood, and luggage compartment door are closed, and all doors are subsequently locked with a key or transmitter.

Forced Door Lock Operation

When the system starts the alarm state, and one of the doors is subsequently unlocked, the forced door lock operation forcefully outputs a door lock signal to prevent intrusion into the vehicle. This operation becomes activated when all the starting conditions listed below have been met, and stops when one of the stopping conditions occurs.

Condition	Item
Starting Condition	The theft deterrent system is in the alarm state.
	There is no key inserted in the ignition key cylinder.
	If one of the doors is unlocked.
Stopping Condition	All doors are locked.
	The warning ends.
	The key is inserted in the ignition key cylinder.

Alarm Memory Operation

When the driver returns to the vehicle and cancels the theft deterrent system, this function illuminates the taillights for 2 seconds to inform the driver that the theft deterrent system had been tripped and was in the alarm state.