4. Function of Main Component

General

Function		Outline
Smart Key	Master Key	Only the master key can activate the smart key system. ● Receives the signals from the oscillators and returns the ID code to the receivers. ● The master key consists of a mechanical key, the transmitter function for the wireless door lock remote control, and a transponder chip for the engine immobilizer system. ● This mechanical key works for the doors, trunk, trunk main switch and glove box, but cannot start the engine.
	Sub Key	The sub key cannot activate the smart key system. ● The sub key consists of a mechanical key, the transmitter function for the wireless door lock remote control, and a transponder chip for the engine immobilizer system. However, it does not have a trunk lid open switch. ● This mechanical key works for the doors, but cannot start the engine and does not work for the trunk, trunk main switch and glove box.
Door Oscillator		Intermittently transmits key detection signals within the detection area around each door, upon receiving a transmission request signal from the theft deterrent ECU.
Room Oscillator (Front and Rear)		Transmits a key detection signal within the detection area in the vehicle interior upon receiving a transmission request signal from the theft deterrent ECU.
Trunk Oscillator (Inner)		Transmits a key detection signal within the detection area in the luggage room upon receiving a transmission request signal from the theft deterrent ECU.
Trunk Oscillator (Outer)		Transmits a key detection signal within the detection area around the luggage room door upon receiving a transmission request signal from the theft deterrent ECU.
	Antenna	Transmits trunk oscillator signals.
Wireless Door Lock Receiver (Enclosed in the inside rear view mirror)		Receives the ID code from the smart key and transmits it to the theft deterrent ECU.
Luggage Room Receiver		Receives the ID code from the smart key in the luggage room and transmits it to the theft deterrent ECU.
Outside Handle	Antenna	Transmits door oscillator signals.
	Touch Sensor	Detects when a person touches an outside handle inside.
	Lock Switch	Transmits door lock request signals from the door ECUs via the BEAN to the theft deterrent ECU.
Smart Trunk Open Switch		Transmits a trunk lid open request signal from the luggage room J/B ECU via the BEAN to the theft deterrent ECU.
Engine Switch	Key Unlock Warning Switch	Outputs a signal into the steering lock ECU to indicate that the smart key is inserted in the engine switch.
	Push Switch	Outputs the push condition of the engine switch.
IG Switch		Inputs the position (OFF, ACC, ON, START) of the engine switch.
Smart Key Cancel Switch		Turns the smart key system ON/OFF.

(Continued)

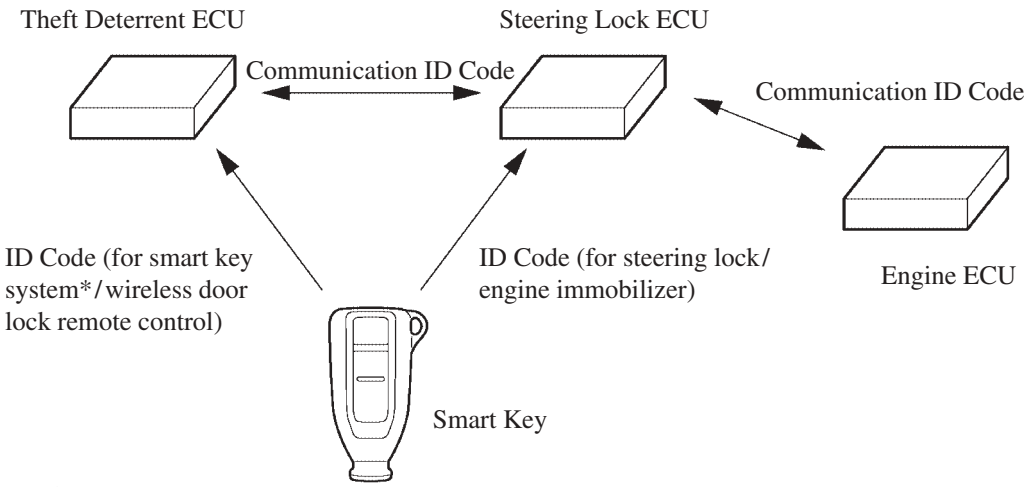
Combination Meter	Multi-information Display	Displays a warning for the driver in accordance with an operation signal from the theft deterrent ECU or steering lock ECU.
	Buzzer	Sounds a warning for the driver in accordance with an operation signal from the theft deterrent ECU or steering lock ECU.
Smart Indicator Light		Informs the driver of the condition of the smart key system.
Steering Lock ECU		Upon receiving signals from the theft deterrent ECU, it transmits a steering lock lock/unlock signal or an engine immobilizer cancel signal.
Each Door ECU		● Upon receiving signals from the theft deterrent ECU, it outputs door lock/unlock signals. ● Transmits the conditions of the doors to the theft deterrent ECU.
Luggage Room J/B ECU		● Upon receiving signals from the theft deterrent ECU, it outputs a luggage compartment door open signal. ● In accordance with the condition of the luggage compartment door courtesy light switch, it transmits a luggage compartment door close signal to the theft deterrent ECU.
Theft Deterrent ECU		● Identifies and checks the ID codes from the receivers, then transmits signals to each ECU (steering lock ECU, door ECUs, driver side J/B ECU, passenger side J/B ECU, and luggage room J/B ECU) if the ID codes match. ● Upon receiving signals from the switches, it transmits an intermittent transmission request signal to the door oscillators and a transmission request signal to other oscillators in accordance with the conditions

Smart Key

- A master key for the smart key system has two ID codes for the “steering lock/engine immobilizer” and the “smart key system/wireless door lock remote control”. Up to five master keys can be registered.
- A sub key for the smart key system has two ID codes for the “steering lock/engine immobilizer” and the “wireless door lock remote control”. Up to three sub keys can be registered.
- The total number of keys that can be registered is as follows.

Key	Total Number Registered
Master	5
Sub	3

▶ Conceptual Image Diagram ◀



*: Only for Master Key

259LSW18

Service Tip

Because a smart key contains multiple ID codes in accordance with its function, a prescribed registration sequence must be followed when registering a key or replacing a relevant ECU.

1. New Key Registration

No.	Operation
1	Register the ID code for steering lock/engine immobilizer of key to steering lock ECU.
2	Register the ID code for smart key system*/wireless remote control of master key to theft deterrent ECU.

*: Only for Master Key

(Continued)

2. Replacing Theft Deterrent ECU

No.	Operation
1	Register the ID code for smart key system*/wireless remote control of key to theft deterrent ECU.
2	Register the communication ID code between theft deterrent ECU and steering lock ECU.
3	Newly registered key number to theft deterrent ECU.

*: Only for Master Key

3. Replacing Steering Lock ECU

No.	Operation
1	Register the ID code for steering lock/engine immobilizer of key to steering lock ECU.
2	Register the communication ID code between theft deterrent ECU and steering lock ECU.
3	Register the communication ID code between steering lock ECU and engine ECU.
4	Newly registered key number to steering lock ECU.

4. Replacing Engine ECU

No.	Operation
1	Register the communication ID code between steering lock ECU and engine ECU.

5. Replacing Steering Lock ECU and Engine ECU at the same time

No.	Operation
1	Register the ID code for steering lock/engine immobilizer of key to steering lock ECU.
2	Register the communication ID code between theft deterrent ECU and steering lock ECU.
3	Register the communication ID code between steering lock ECU and engine ECU.
4	Newly registered key number to steering lock ECU.

6. Replacing ECU combinations other than those in step 5 (including all ECUs) at the same time

No.	Operation
1	Register the ID code for steering lock/engine immobilizer of key to steering lock ECU.
2	Register the ID code for smart key system*/wireless remote control of master key to theft deterrent ECU.
3	Register the communication ID code between theft deterrent ECU and steering lock ECU.
4	Register the communication ID code between steering lock ECU and engine ECU.
5	Newly registered key number to steering lock ECU.
6	Newly registered key number to theft deterrent ECU.

For the detailed registration method, see the LEXUS LS430 Repair Manual Supplement (Pub. No. RM1049E).