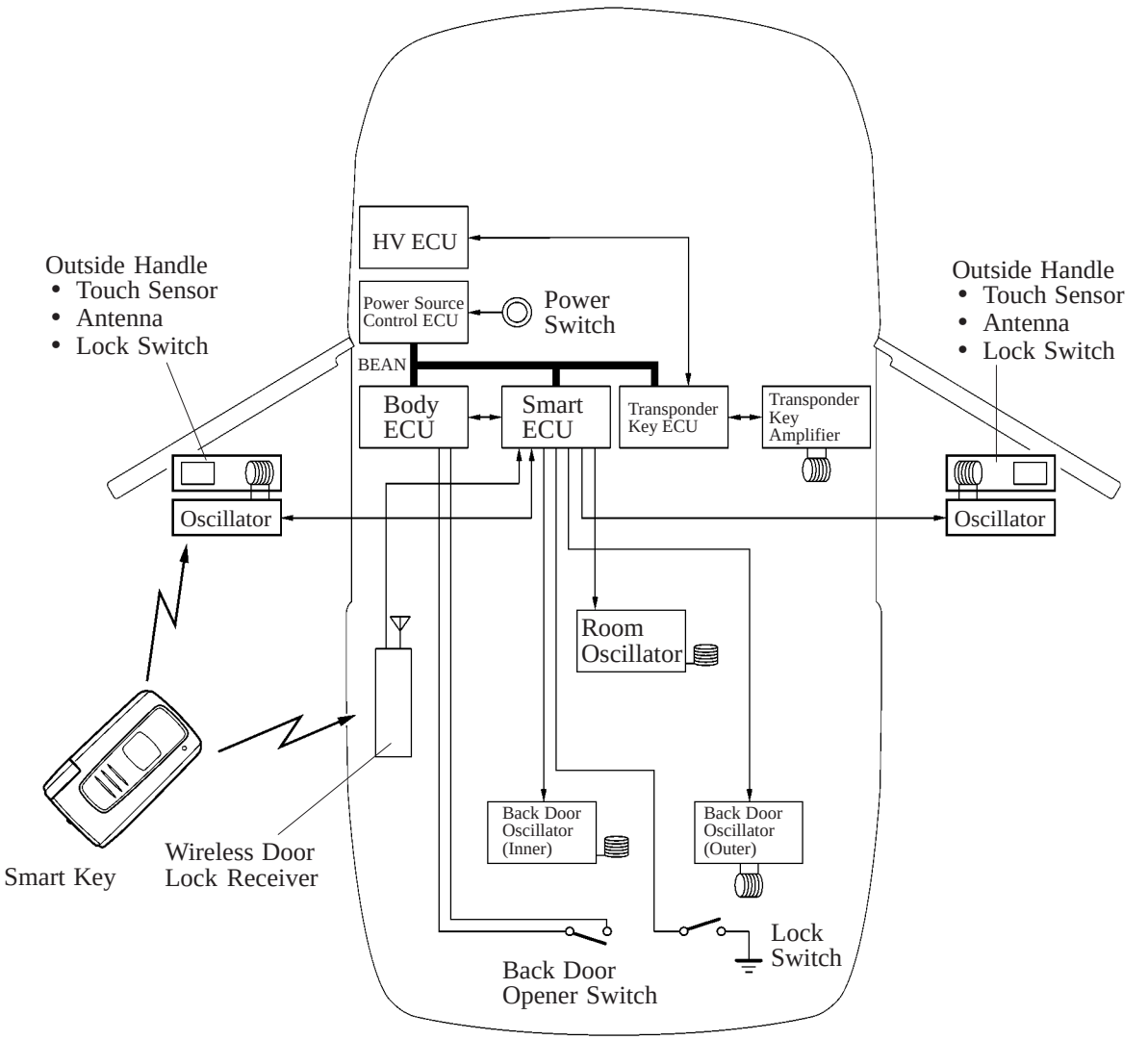
SMART ENTRY & START SYSTEM

■DESCRIPTION

- In addition to the conventional mechanical key function and the wireless door lock remote control function, this system provides the smart key with a bi-directional communication function. Accordingly, by enabling the smart ECU to recognize the presence of the smart key within the detection area, the system can lock or unlock the doors, or start the hybrid system without the use of the smart key, as long as the user has the smart key in his/her possession.
- The smart entry & start system is optional equipment on European LHD models and Australian models.
- This system consists primarily of a smart ECU, power source control ECU, transponder key ECU, body ECU, smart key, 5 oscillators, 5 antennas, 2 touch sensors, 3 lock switches, and a wireless door lock receiver. The smart ECU controls the system.
- The smart entry & start system operates in cooperation with the push button start system, the HV immobilizer system and wireless door lock remote control system.

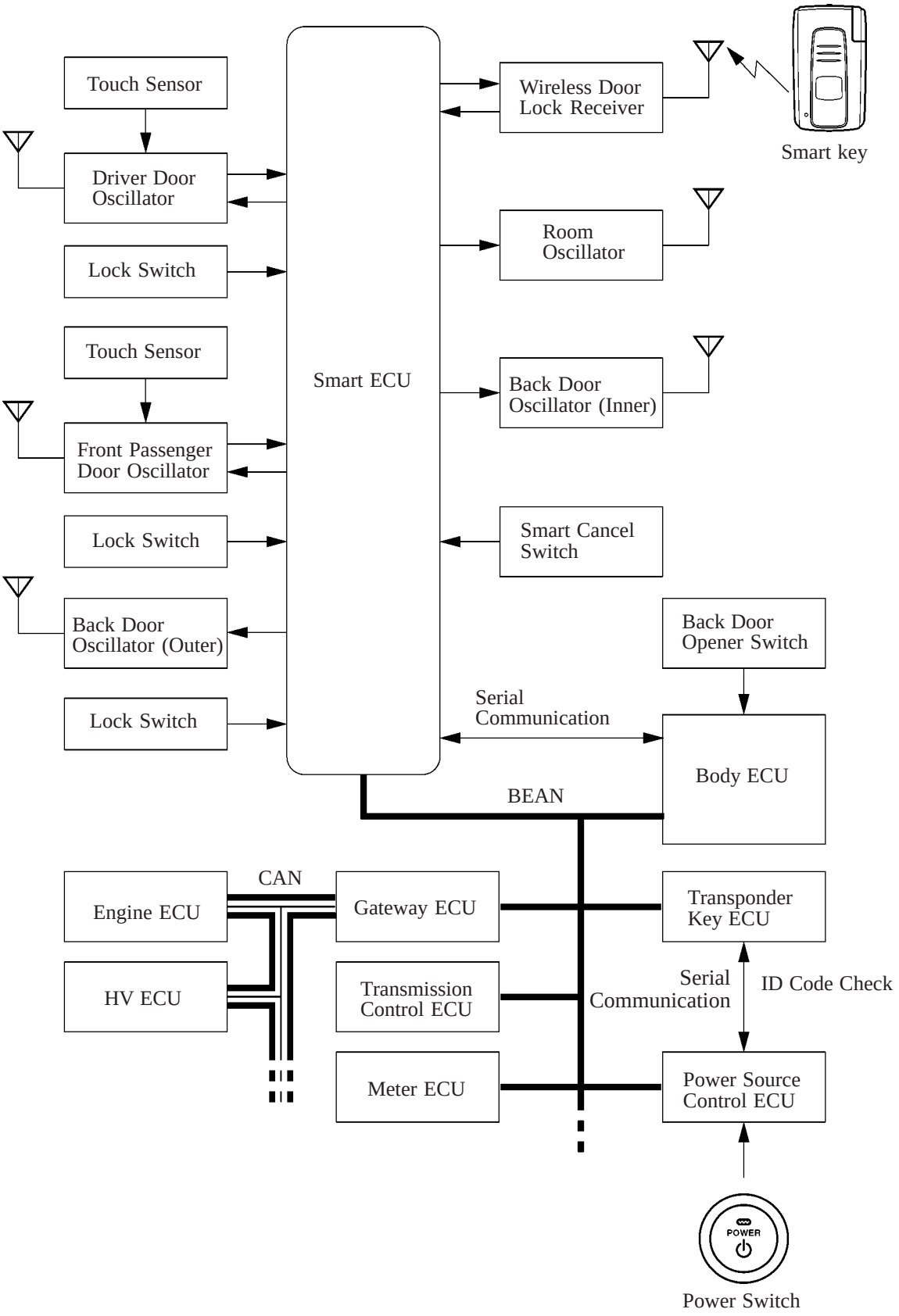
■SYSTEM DIAGRAM

1. Overview of Parts Layout



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2. Input and Output Signals



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▶ MPX Communication ◀

Protocol	ECU	Signals Exchanged with Smart ECU
BEAN	Body ECU	• Transmits power ON mode • Transmits Door Key Lock Unlock Switch Signal • Transmits Door Lock Position Switch Signal • Transmits Back Door Opener Switch Signal • Transmits Courtesy Switch Signal
	Transponder Key ECU	• Transmits ID Code Signal (for smart ignition) • Receives Results of the ID Code Check of the Smart Key
	Meter ECU	• Transmits Vehicle Speed Signal • Receives information whether smart key is in vehicle interior (for smart warning light control) • Receives buzzer sounding request
	Power Source Control ECU	• Transmits ID code check request • Transmits insertion state of smart key in key slot • Receives ID code check results
	Transmission Control ECU	• Transmits state of parking lock
CAN	Engine ECU	• Transmits Engine Speed Signal
	HV ECU	• Transmits Shift position P
Serial Communication (Local Protocol)	Body ECU	• Receives door lock/unlock request • Receives information whether smart key is in vehicle interior (for wireless door lock buzzer sounding control)