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SENSORE DI PARCHEGGIO

191 - Giulietta

PARKING SENSOR - DESCRIPTION

The parking assistance system provides the driver with information, whilst reversing, on the distance from any objects behind the vehicle which could be out of their field of vision.

The information of the presence/distance of an obstacle is transmitted to the driver by means of acoustic warnings whose frequency depends on the distance of the vehicle from the obstacle.

An electronic control unit activates and controls the operation of the sensors located in the rear bumper, processes the signals received and operates the buzzer in the instrument panel.

The system is activated with reverse gear engaged: in these conditions, the control unit energises the transducers and sends them a signal request, receiving the response signals.

The reversing light activation signal is acquired by the engine control unit and sent via the CAN to the Body Computer which forwards it via the CAN to the parking sensor control unit.

See E2022 REVERSING LIGHTS

The sensors use ultrasound technology and act as intelligent transmitters/receivers with triangulation technology. They allow improved detection in critical situations or in the presence of small obstacles. The impulses emitted are reflected by any obstacles; the transducer receives an echo which is converted into a digital signal and sent to the electronic control unit.

The signalling of the distance of the obstacle is achieved through intermittent impulse sound signals: the frequency of this signal increases gradually as the bumper approaches an obstacle: when the distance calculated drops below 30 cm, the sound becomes high pitched and constant; the acoustic signal stops when the distance of the obstacle increases.

 Distance measurement only takes place when the system is active, whilst only the control unit is operational in the inactive state.

The control unit is equipped with a self-diagnosis function: when switched on the control unit carries out an initial test on the sensors which are then continuously subject to fault diagnosis during the operation of the system. A fault in only one sensor inhibits the operation of the entire system: in this case the system excludes itself and sends a fault message, the failure status is signalled to the instrument panel which switches on the special warning light and sends a suitable acoustic signal.

For more details:

See descriptions 5580H PARKING OBSTACLE DETECTION DEVICE

The system is supplied by an ignition-operated circuit protected by a specific fuse in the junction unit under the dashboard.

PARKING SENSOR - FUNCTIONAL DESCRIPTION

The parking sensor control unit M084 receives an ignition-operated supply at pin 1 of connector A from the ignition-operated INT line protected by fuse F49 of the Body Computer M001; pin 8 of connector A is earthed.

The Body Computer M001 - connector A - receives a direct power supply from the battery through the line protected by maxi fuse F01 of the engine compartment junction unit B001.

The Body Computer M001 receives an ignition-operated power supply (INT) at pin 2 of connector G: this signal is used, amongst other things, to "wake up the network".

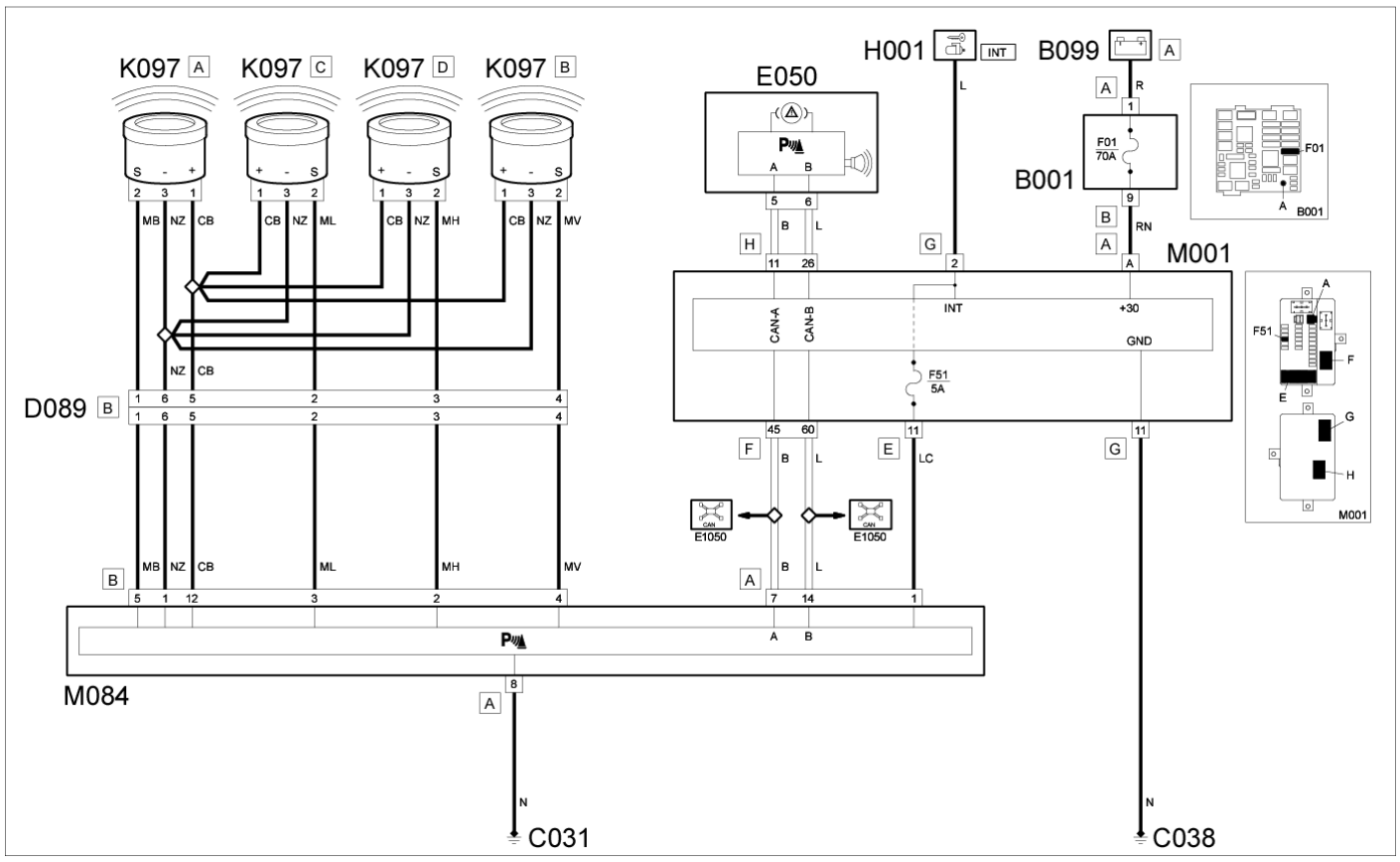
Pin 11 of connector G of M001 provides the Body Computer with a reference earth.

The control unit M084 is connected, via pins 7 and 14 of connector A and the CAN, to all the other nodes in the same network, for example receiving the information that reverse gear is engaged.

The commands for the display are sent to the instrument panel E050 via the CAN.

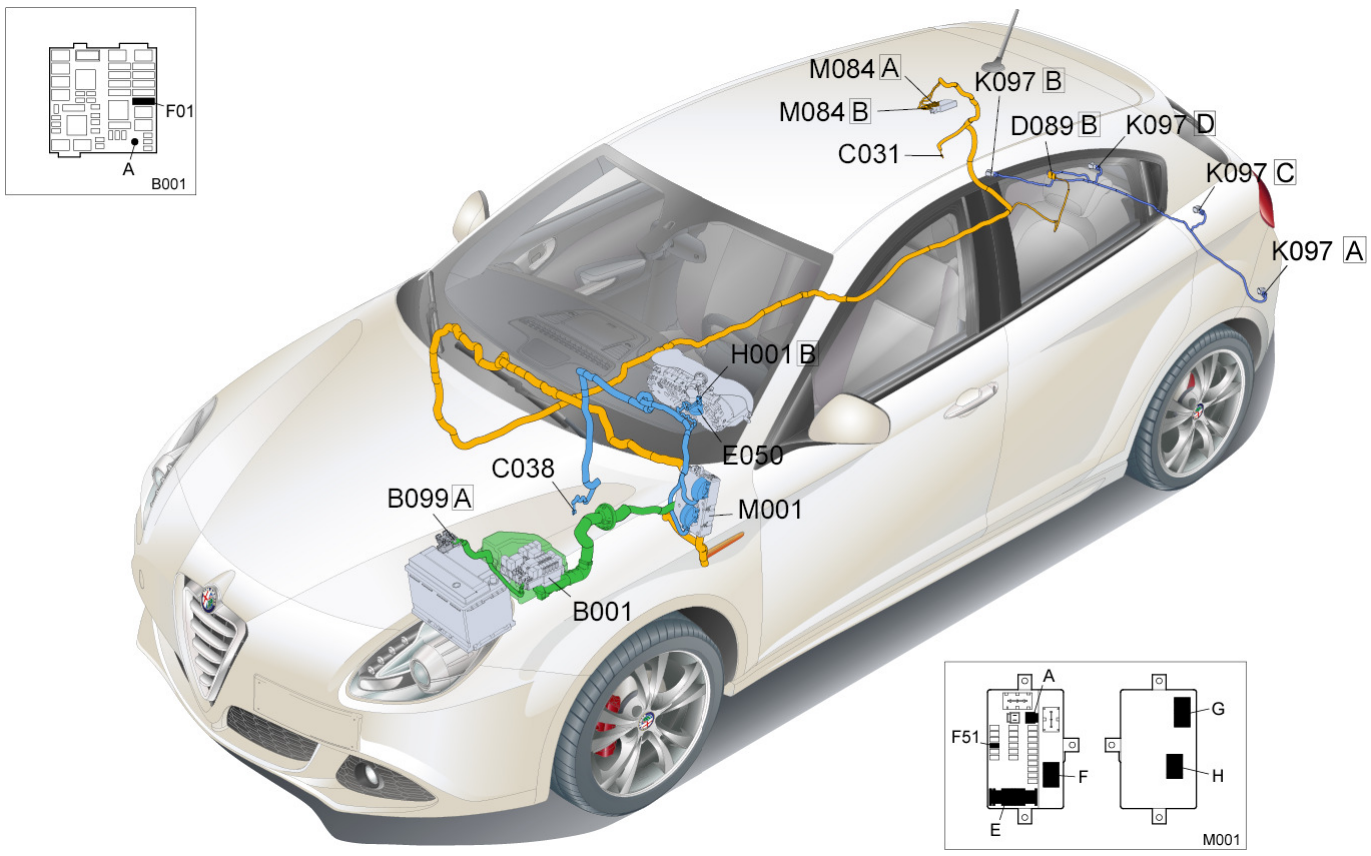
The four rear parking sensors K097 are connected to connector B of the control unit M084: pin 1 provides the reference earth, pin 12 the power supply and pins 5, 4, 3 and 2 are connected to sensors K097 A, K097 B, K097 C and K097 D respectively.

PARKING SENSOR - WIRING DIAGRAM



Component Code	Description	Reference to the operation
B099	MAXI FUSE BOX ON BATTERY	Op. 5530B40 SUPPLY BOX ON BATTERY (LINK BATTERY AND FUSE BOX) - R R
C031	RIGHT REAR EARTH	-
C038	EARTH ON CENTRE TUNNEL	-
D089	PARKING SENSOR COUPLING	-
E050	INSTRUMENT PANEL	Op. 5560B10 CONTROL PANEL - R+R
H001	IGNITION SWITCH	Op. 5520A18 IGNITION SWITCH CONTACT CARRIER LOCK BARREL - R.R.
K097	PARKING SENSORS	Op. 5580H36 PARKING SENSOR SYSTEM REAR SENSORS - R.R. WITH REAR BUMPER REMOVED
M001	BODY COMPUTER	Op. 5505A35 MAIN BODY COMPUTER/JUNCTION UNIT - R.R.
M084	PARKING SENSOR CONTROL UNIT	Op. 5580H10 PARKING OBSTACLE DETECTION DEVICE ELECTRONIC CONTROL UNIT - R.R.

PARKING SENSOR - COMPONENT LOCATION



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