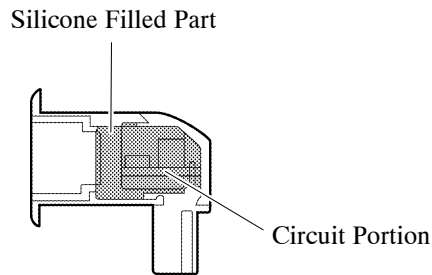


■ CONSTRUCTION AND OPERATION

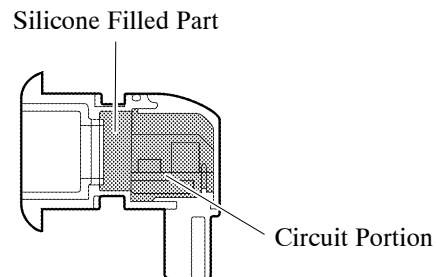
1. Ultrasonic Sensor

The ultrasonic sensor consists of a microphone that transmits and receives ultrasonic wave and a circuit portion.

- The circuit portion is filled with silicone to prevent water from entering.
- There are 2 types of the sensors, one type for the corners and one type for the rear center. They have the same basic structure.



For Corner



For Rear Center

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2. Clearance Warning Buzzer

Depending on the detection distance and the detection area, the sound pattern of the clearance warning buzzer will vary.

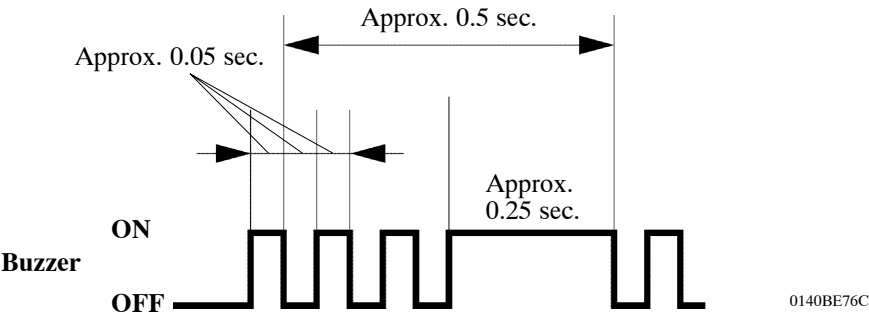
Detection Area	Detection Distance cm (in.)		Buzzer Sound Pattern ON/OFF Time (msec.)
Corner	Long	50 ± 5 to 37.5 ± 5 (19.7 ± 2 to 14.8 ± 2)	150/150
	Middle	37.5 ± 5 to 25 ± 5 (14.8 ± 2 to 9.8 ± 2)	75/75
	Short	25 ± 5 or less (9.8 ± 2 or less)	Continuous Sound/0
Rear Center	Longest	150 ± 15 to 60 ± 6 (59 ± 5.9 to 23.6 ± 2.4)	150/650
	Long	60 ± 6 to 45 ± 5 (23.6 ± 2.4 to 17.7 ± 2)	150/150
	Middle	45 ± 5 to 35 ± 5 (17.7 ± 2 to 13.8 ± 2)	75/75
	Short	35 ± 5 or less (13.8 ± 2 or less)	Continuous Sound/0

When the front and rear sensors detect obstacles at the same time, the buzzer sounds as follows:

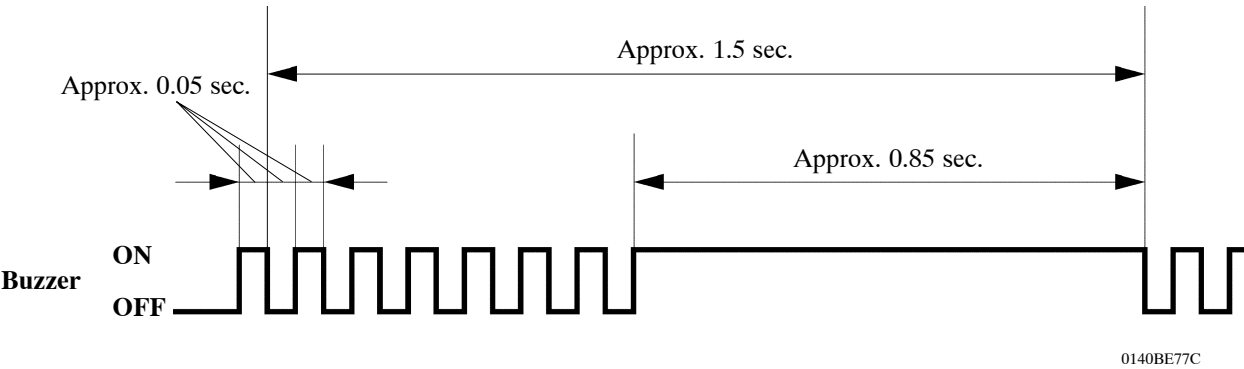
ON/OFF Time (msec.)

<div>RearFront</div>	Short	Middle	Long	Not detected
Short	Timing 1	Timing 2	Timing 2	Continuous Sound/0
Middle	Timing 2	75/75	75/75	75/75
Long	Timing 2	75/75	150/150	150/150
Longest	Timing 2	75/75	150/150	150/650
Not detected	Continuous Sound/0	75/75	150/150	None

► Timing 1 ◀



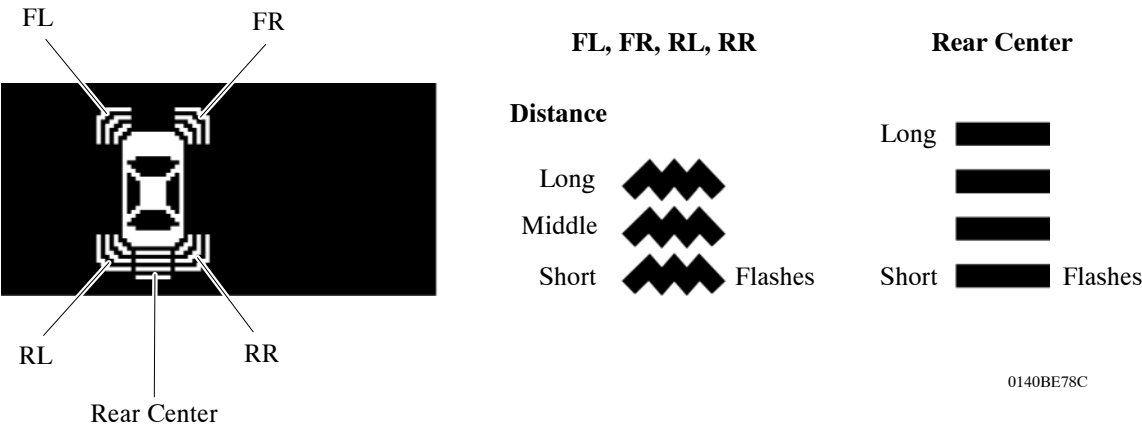
► Timing 2 ◀



3. Multi-information Display

The items displayed by the multi-information display are the location of the obstacle and the approximate distance between the vehicle and the obstacle, warning messages relating to sensor malfunction, sensor freezing, or presence of dirt on the sensor.

- The number of lines shown on the display changes based on the actual distance and flashes when the distance is short.



► Warning Message ◀

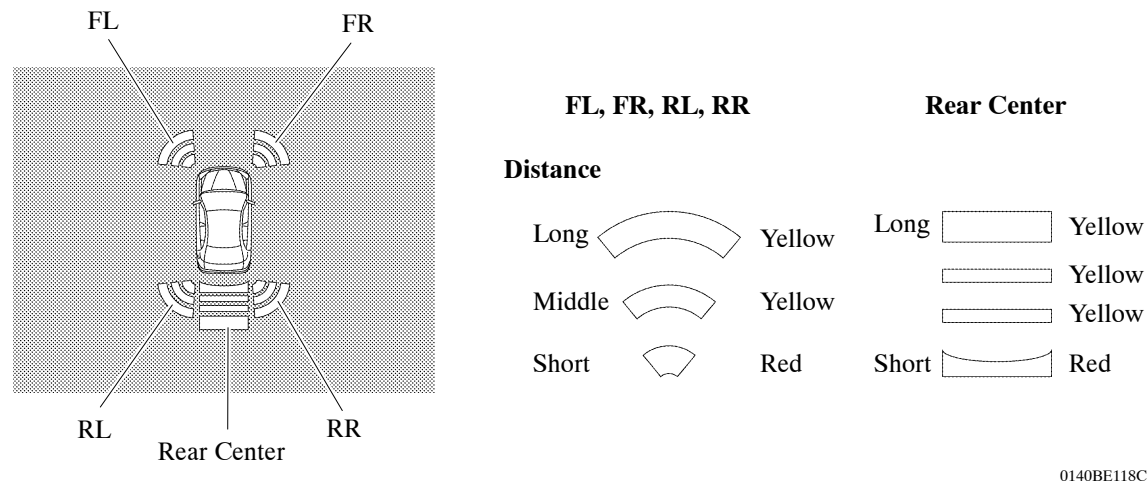


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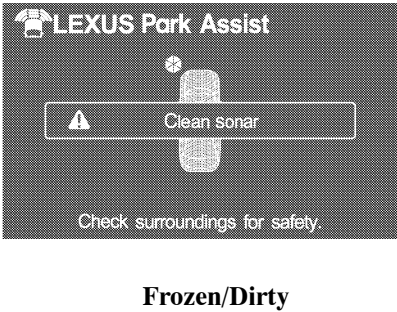
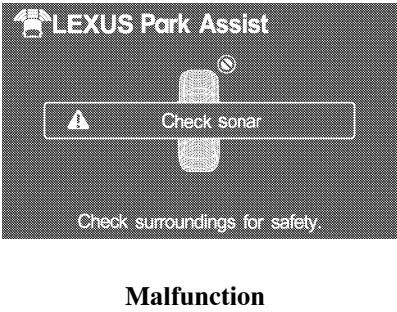
4. Multi Display

The items displayed by the multi display are the location of the obstacle and the approximate distance between the vehicle and the obstacle, warning messages relating to sensor malfunction, sensor freezing, or presence of dirt on the sensor.

- The distance is displayed by the number of lines and color based on the actual distance. The display usually illuminates in yellow. When the distance is short, it illuminates in red.

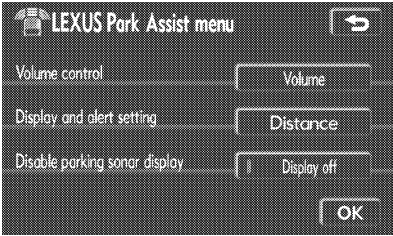


Warning Message



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- The display timing and detection distance can be customized using the multi display.



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