ISO 9001:2000 FM 78496
QS 9000:March 1998 FM 78495

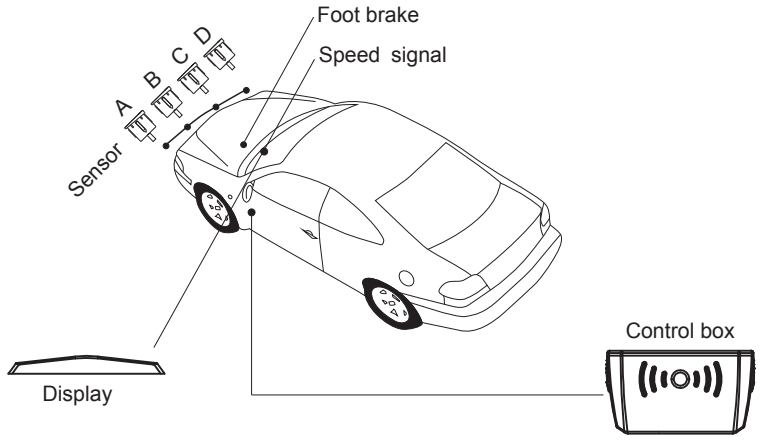
AVRS-CONBOX-FRONT

PARKING AID SOLUTION

USER MANUAL

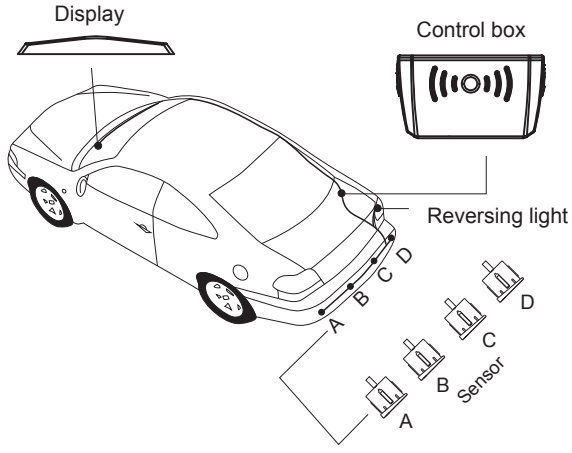
GENERAL INSTALLATION DIAGRAM

Front installation *

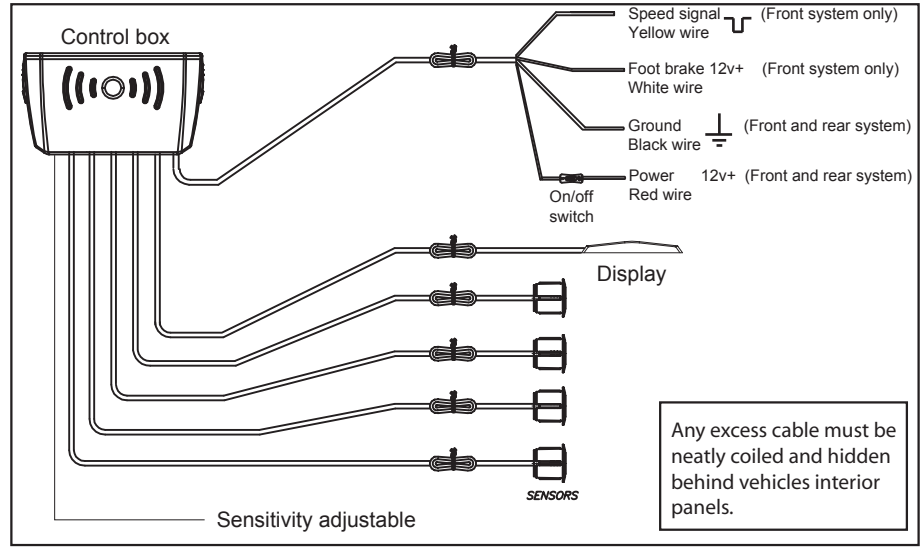


* sensor extension leads supplied will be required for installation

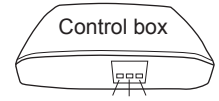
Rear installation



GENERAL WIRING DIAGRAM



DIP SWITCH SETUP



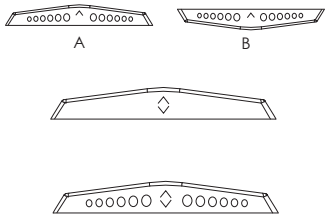
Dip switch1	Function: Front or rear selection			
	Up	on	Rear system	0.3-1.5m
	Down	off	Front system	0.3-1.0m

Dip switch 2 (Front system only)	Function: Distance selection			
	Up	on	start to detect at 1.5m	Yellow LED light
	Down	off	start to detect at 0.5m	Red LED light

Dip switch 3 (Front system only)	Function: Anti-hook selection			
	Up	off	turn anti-hook function off	The system will operate as normal and the display will show the real distance to the rear of the vehicle.
	Down	on	turn anti-hook function on	The system will allow for a tow bar and the display will show 20cm less than the real distance to the rear of the vehcile.

DISPLAY SETUP

Front of display



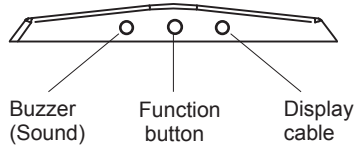
Press once to mute audio, press again to resume sound.

Dashboard or roof installation: Press the button for 6 seconds until the triangle changes to A (dashboard) or B (roof) installation.

Speed setting: Press the button for 9 seconds until the 2 triangles light up and release the button. Drive slowly to the desired speed and press the button again to set the speed sense.
* For more information please refer to installation and test section.

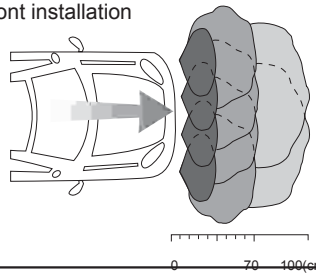
Reset: Press the button for 12 seconds until the 2 triangles and all the LED lights turn on and release the button. Press once again to reset the display.

Rear of display

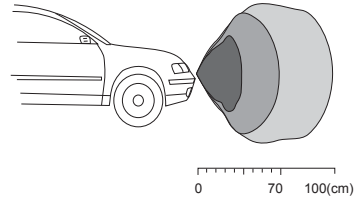


DETECTING RANGE

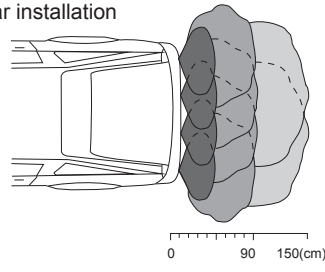
Front installation



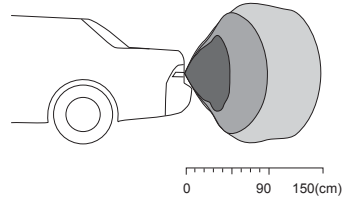
Side View



Rear installation

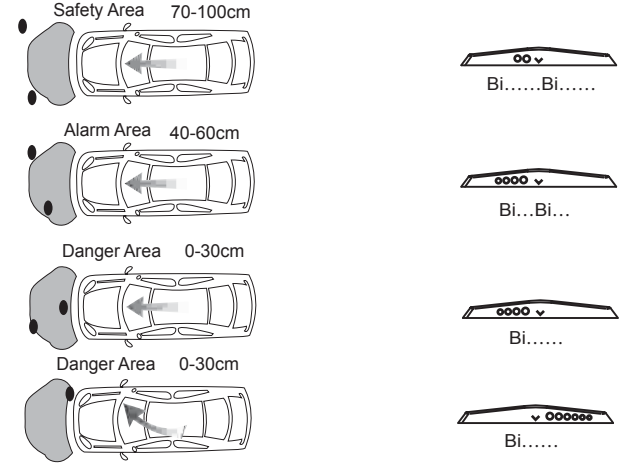


Side View

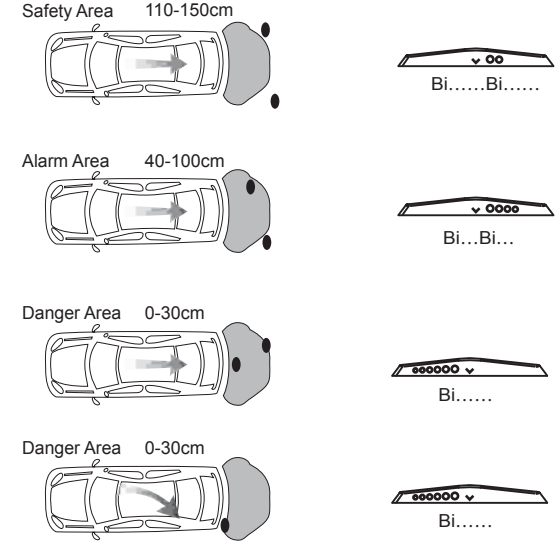


DISPLAY STATUS

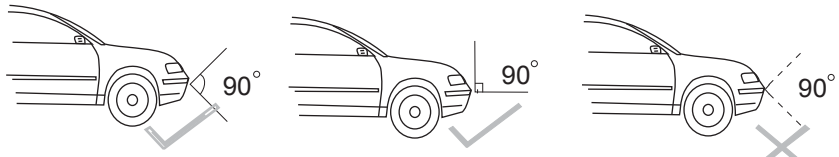
Front installation



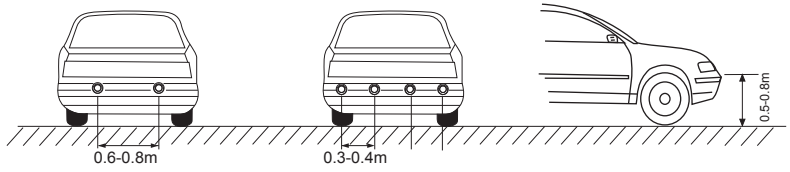
Rear installation



SENSOR INSTALLATION DIAGRAM



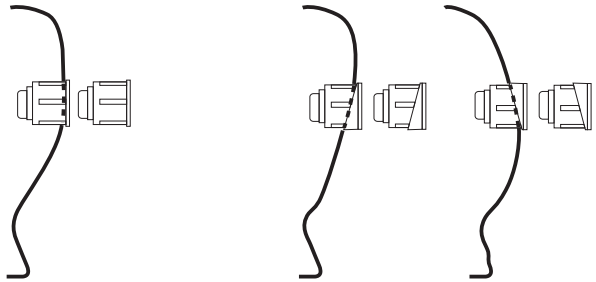
Be sure that no parts of the vehicle fall into the detecting range of the sensors



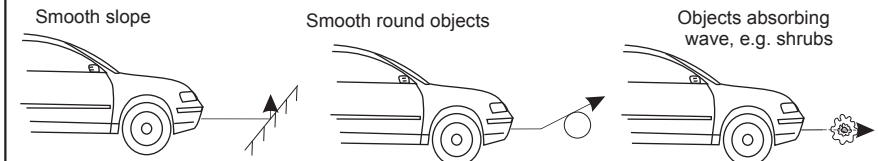
The best position for 2-sensors The best position for 4-sensors

Pay attention to the direction of the sensor

The direction of sensors

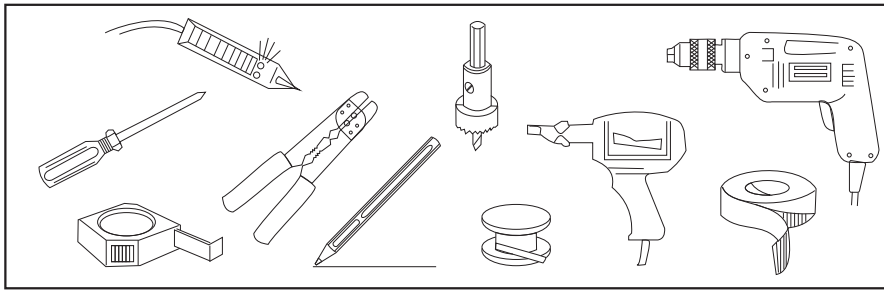


Vertical installation position to the ground Sloping installation position to the ground

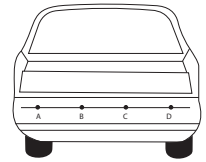


Objects that are difficult to detect

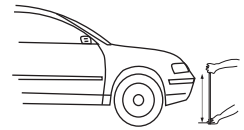
INSTALLATION TOOLS



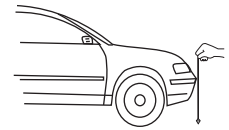
1. Advised position to install the sensors



A. 4 drilled holes (A,B,C,D) should be on the same line.

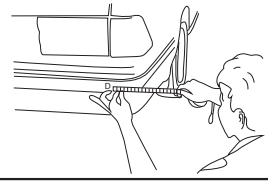


B. 0.5-0.8m vertically high to the ground, 0.55m is recommended.

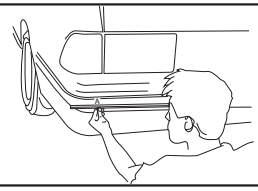


C. Vertical, tidy surface without metal components is preferred.

2. Select drilling position for sensor A & D

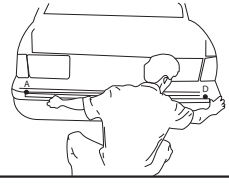


A. Choose suitable drilling position for A & D sensor with relevant mark.

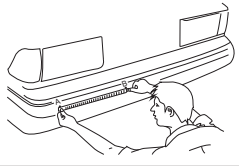


B. To perform the best detecting angle, select the position for A & D sensor ideally 8-13cm away from the side, 11cm is recommended.

3. Select drilling position for sensor B & C

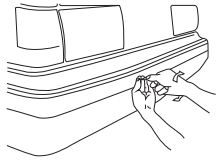


A. Measure the distance between sensor A and D, get the result "L".

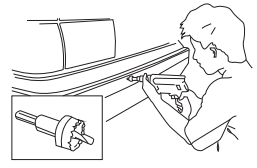


B. Mark sensor B & C for every 1/3 "L" interval.

4. Drilling

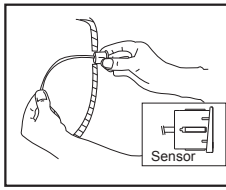


A. Firstly, use a small drill bit to locate.



B. Drill with the supplied hole cutter.

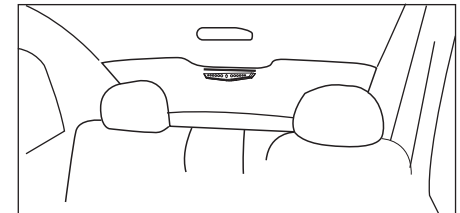
5. Sensor Installation



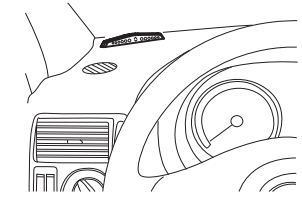
A. Insert the sensors into the holes with the correct orientation

B. Hide the cables in a good order according to the particular vehicles requirements.

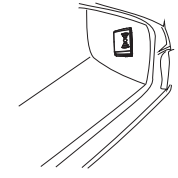
6. Others



If the display is installed on the roof, please choose ﹀

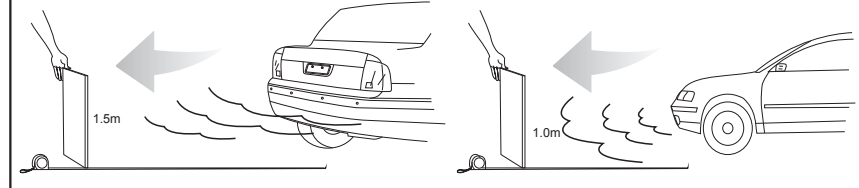


If the display is installed on the dashboard, please choose ﹀



locate the control box inside the vehicle in a cool, dry invironment.

7. Sensor Detecting



AVRS-CONBOX-FRONT

AVRS-CONBOX-FRONT consists of a digital MCU and display which can be used with any of the Veba colour coded sensors. The system detects the distance between a vehicle and obstructions using the ultrasonic sensors installed in the front (or rear) bumper. The distance will be displayed on an LED display with built in buzzer which will allow both audible and visual notification of obstructions. This aid will allow the driver to judge the distance and avoid collisions.

MAIN FEATURES

- Digital LED display
- Dashboard/front roof installation
- Direction indicator of left, middle and right
- Front or rear installation
- Antihook feature for use with tow bars and external spare wheels
- Speed sensing or footbrake (Front use only)

TECHNICAL SPECIFICATION

- Rated Voltage: DC 12V
- Operating Range: DC 9～16V
- Operating Current: 20～200mA
- Detecting Distance: 0.3～1.5m (Rear) 0.3~1.0m (Front)
- Ultrasonic Frequency: 40KHz
- Working Temperature: -30～+70℃
- Display Size: 148*20*17mm

ALARM MODE

Rear installation

Stage	Distance	Awareness	Alarm Sound	Alarm colour
1	>1. 5m	Safety Area	Silence	N/A
2	1. 4- 1. 2m	Safety Area	Bi……Bi……	1 Yellow
3	1. 1- 0. 9m	Safety Area	Bi……Bi……	2 Yellow
4	0. 8m	Alarm Area	Bi…Bi…	3 Yellow
5	0. 7- 0. 6m	Alarm Area	Bi…Bi…	4 Yellow
6	0. 5- 0. 4m	Danger Area	Bi……	4 Yellow, 1 Red
7	< 0. 3m	Danger Area	Bi……	4 Yellow, 2 Red

Front installation

Stage	Distance	Awareness	Alarm Sound	Alarm colour
1	>1. 0m	Safety Area	Silence	N/A
2	0.9-0. 8m	Safety Area	Bi……Bi……	1 Yellow
3	0. 7m	Safety Area	Bi……Bi……	2 Yellow
4	0. 6m	Alarm Area	Bi…Bi…	3 Yellow
5	0. 5m	Alarm Area	Bi…Bi…	4 Yellow
6	0. 4m	Danger Area	Bi……	4 Yellow, 1 Red
7	< 0. 3m	Danger Area	Bi……	4 Yellow, 2 Red

INSTALLATION

1. Once the sensors have been installed, complete the wiring and coil any excess cables.
2. Find a suitable location to mount the MCU unit. Please find a cool, dry environment for installation.
3. Connect the red (power) wire to 12v ignition of the vehicle (if using as a rear system connect this wire to the 12v positive feed from the reverse light.
4. Connect the black (ground) wire to the chassis of the vehicle ensuring a good connection is made.
5. Connect the yellow (speed pulse) wire to the speed pulse signal from the vehcile (Front installation only).
6. If the speed sene is not available in the vehicle connect the white (footbrake) wire to 12v positive signal from the foot brake (Front installation only).
7. Find a suitable location for the display. Fix the display firmly into place and run the cable to the control module.
8. After initial installation it may be neccassary to reset the display. This is done by pressing the reset button at the top of the display and releasing.
9. Setup the system as mentioned in the DIP SWITCH and DISPLAY SETUP section according to the particular installation requirements.
10. Once installation is complete, start the vehicle and begin a test drive to ensure that the system has been set up correctly and speed sense (if used) initiates when required.

TEST

Front installation

Speed pulse: Start the vehicle and drive slowly towards a solid object i.e. a brick wall. the sensors will begin to activate when vehicle speed is below the set speed and obstruction is between 1m and 0.5m (depending on setup).

Foot brake: Start the vehicle and drive slowly towards a solid object i.e. brick wall. The sensors will begin to activate when the vehicles foot brake is pressed. if an obstruction is present the sensors will stay on, if there is no obstruction the sensors will turn off after 15 seconds of operation.

Rear installation

Place a board (100cm x 20cm) within 1.5m in front of the sensors. The system should start the warning procedure and sound indication of distance.

NOTE

1. When installing the system, the vehicles engine should be off.
2. The performance of the sensors may be affected by the following situations: Heavy rain, loose gravel roads, bumpy / uneven roads, extreme heat or cold conditions, moist weather and if the sensors are covered in snow, ice or mud.
3. Other ultrasonic or electronic waves may affect the performance of the system.
4. The sensors should not be installed too tight or too loose (Please use the supplied drill bit).
5. The performance of the sensors may be affected if the sensors are fitted into metal bumpers.
6. Do not install the control unit or sensors close to other interference sources such as exhaust pipes or vehicles wiring.
7. Test the system to make sure it operates correctly before using.
8. This parking system acts only as an aid, in the case of any accident the manufacturer or distributor is not responsible.