Installation and Owner's Manual

XARMOUR
XR-9500

MULTIFUNCTIONAL LASER PARKING
ASSISTANT SYSTEM

Contents

Congratulations!

You have purchased the XR-9500, the newest multifunctional laser parking assistant system. The XR-9500 incorporates with the advanced new detection technology and new communication circuitry to ensure top-class performance. The XR-9500 is a complete integrated multi-laser communication functions for laser signals and sensible parking assistance function, which detects obstacles.

The XR-9500 provides distinct visual and audio alerts to warn you of the presence of obstacle and all the laser signals. It can also detect speed laser guns' signal and it might be interfere it.

Please read the manual in details to get the most out of your new XR-9500's performance and features. Please drive safely.

Safety Attention

- Use only original included parts for installation. Do not plug any third-party components into your unit and do not plug any supplied components into any third-party products, as this may cause failure and will void warranty.
- Take special care while installing the sensor unit. Damaging the cable or the factory installed connector on the cable may cause malfunction and will void warranty.
- The XR-9500 can NOT detect glass or other transparent objects.
- While driving, especially in winter months, dirt and filth can accumulate on the outer sensor lens, which can affect the sensor's performance. Wipe the lens periodically with a dry or moist cloth. Do not use cleaning solvents other than water.
- Laser signals emitted from XR-9500 can cause interference to other laser equipment. If such case is detected by the system, it will reset within a few seconds.
- If the vehicle where XR-9500 is being installed to is already using another laser system like laser cruiser control in some cases it is possible that those two system could interfere with each other.

- Use of laser products may be regulated by your local laws. Check your local laws before using this product.
- Do NOT look at the sensor's lens while powered on and operating. It seems anything to see but you might cause eye damage since XR-9500 emits infrared light.

Package Contents

- The XR-9500 has one receiver unit, one control unit and sensor units. The standard model has dual sensor units. Optionally the user can purchase more sensor units like triple, quad and quint. Please check your vehicle size and order the sensor units.

- Bracket Mounting Accessory for 2 set sensor:
  2pcs Brackets, 4pcs hexagon socket head screws with 4pcs washers to fix the sensor at the bracket, hexagon wrench, 6pcs tapering screws and washers to fix the bracket at the vehicle, the bobble level.

- 3M Tape & Screws for 2 set sensor:
  7pcs cable ties for sensor cable, 3pcs 3M fastener tape(2pcs for control unit and 1pc receiver unit), 4pcs screws for control box assemble, 2pcs 3M double-sided tape for sensor.

- Straight 12-volt DC power cord for receiver unit.

- The hardwire kit with the fuse to connect with control unit at the vehicle battery.

- Operation manual

XR-9500 and Accessory

XR-9500 RECEIVER

XR-9500 CONTROL UNIT

XR-9500 SENSOR
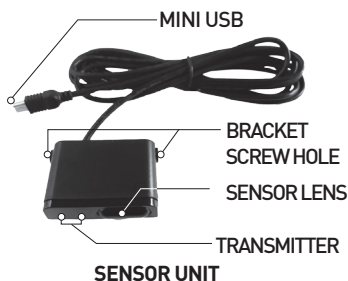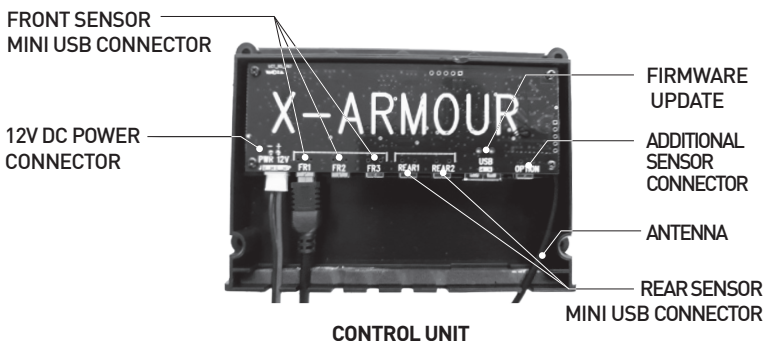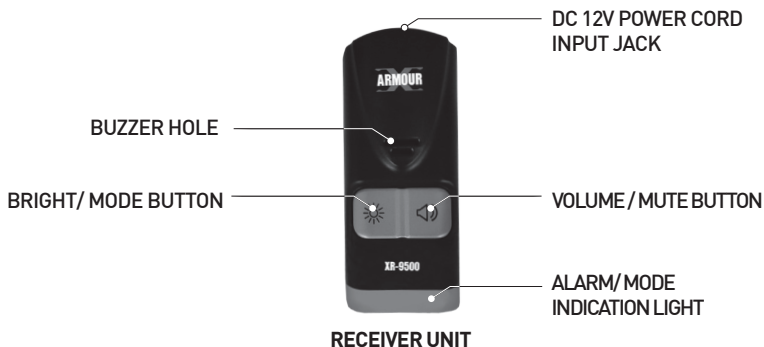
12V DC POWER CORD

BRACKET MOUNTING ACCESSORY

3M TAPE & CONTROL HOUSING ASSEMBLE SCREW

HARDWIRE KIT

Basic Features and Controls

DC 12V POWER CORD
INPUT JACK

BUZZER HOLE

BRIGHT/ MODE BUTTON

VOLUME / MUTE BUTTON

ALARM/ MODE
INDICATION LIGHT

RECEIVER UNIT

FRONT SENSOR
MINI USB CONNECTOR

FIRMWARE
UPDATE

12V DC POWER
CONNECTOR

ADDITIONAL
SENSOR
CONNECTOR

ANTENNA

REAR SENSOR
MINI USB CONNECTOR

CONTROL UNIT

COOLING PAD

MINI USB

BRACKET
SCREW HOLE

SENSOR LENS

TRANSMITTER

**CONTROL TOP CASE INSIDE**

SENSOR UNIT

Install the Unit

The XR-9500 needs professional installation recommended. New car dealers and the group of car audio specialists can install the XR-9500. Attempting to install the XR-9500 without expertise in automotive electronic can cause personal injury during the installation, or can damage the product or your vehicle.

Sensor Installation
• It can be mounted between the front grill partitions or above the rear bumper.
• Using the 3M double sided tape to mount the sensor. Otherwise using the bracket, bolts and wrench to mount the sensor and adjust the sensor position which is levelled. It is very important to install with parallel to receive the signals.
• Use supplied bubble level to check alignment of the sensor and ensure it is parallel to the road.

3M double sided tape
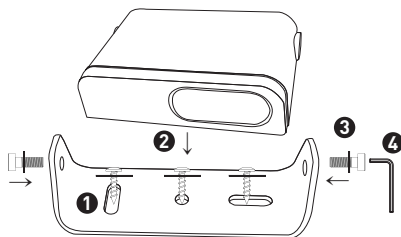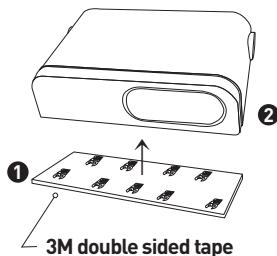
BRACKET MOUNTING   **DOUBLE SIDED TAPE MOUNTING**

• It is critical that they should be positioned in such a way that all the sensors have unobstructed "view" of the road.

☞ In case of installation sensors behind the front grill of the vehicle, the parking assistant mode might not working properly. Because the front grill can reflect the signal, sensors recognize it as obstacles. When you finish the installation, check if it makes a constant alarm at parking sensor mode. It is recommended to install the edge of the grill where it is unobstructed 'view'.

Sensor Position

If you have two sensors, install each sensor halfway between the side and the center of the vehicle. In case of three sensors, install one at the center of the vehicle and each two sensors halfway between the side and center sensor.
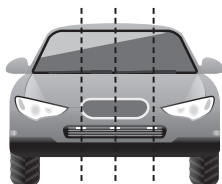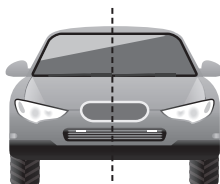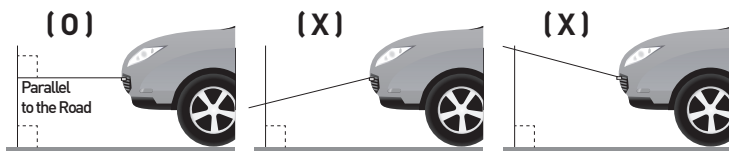

3PCS SENSORS　　　　　**2PCS SENSORS**

☞ For optimal performance, sensors need to be facing straight forward, not at an angle. Make sure that each sensor is parallel to the road. When you install the sensor, vehicle must be located on a flat surface in order to position sensors parallel with the road. Make sure that sensors have an unobstructed "view" of the road. Do not install sensors behind a solid surface, which would block laser transmission and reception.

(O)　　　**(X)**　　　**(X)**

Parallel
to the Road

Side view (parallel to the road)

(O)　　　**(X)**　　　**(X)**
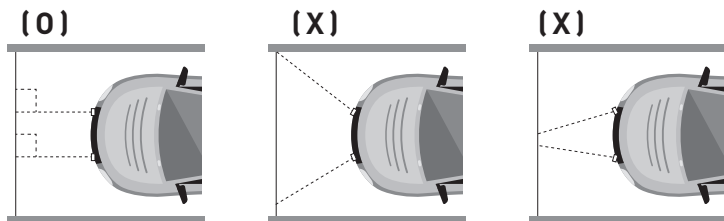
Top view (parallel in front)

FRONT   BATTERY   REAR

FR 2

FR 1 (CENTER)

FR 3

12V POWER CONNECT RECEIVER
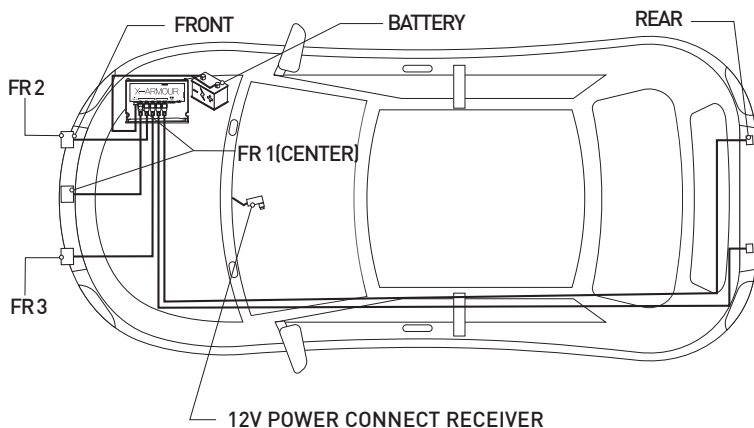
Control Installation

• Locate an appropriate place to put the control unit inside the bonnet. It is recommended to locate near battery like the top of the battery. Using the 3M fastener tapes at the bottom or cable ties at the handle to fix.

• Connect the sensors to the FR1, FR2, FR3 sockets for the front side. Connect the sensors to the REAR1 and REAR2 sockets for the rear side. Additionally, one more sensor can connect at 'OPTION' socket for front or rear side to cover large vehicle.

• Connect the DC12V power cable socket from the hardwire kit. There are two 'Y' type terminals from the other side of hardwire kit for battery connection. Connect the red line 'Y' terminal at the '+' and connect the black line 'Y' terminal at the '-' location. When the power is correctly connected, the red light is on at the 'PWR' of the board.

• There is black antenna line inside the control unit. Pull out the antenna line outside through the housing hole. It is recommended to stretch an antenna not to hide for better wireless connection.

☞ There is cooling gray pad attached between the board and top housing. It cools down the temperature inside the housing.

Receiver Installation

• Locate an appropriate place for install not to interrupt driving. Using the 3M fastener tapes at the bottom to fix.

• Connect the DC12V power with cigar cable supplied.

Operation

Power-On/Off for control unit

The control unit recognizes the car battery noise when engine is on. Whenever starting an engine, the control unit automatically turns on and checking the battery noise and Receiver's wireless link signal. If there is no electronic noise or no link signal from Receiver whenever checking, the control unit automatically turns off. If there is noise and link signal, it is operating more 2 hours continued. When you finish the install, please check if the 'PWR' at the control board turns on when engine is on. When it is in 'Laser diffuser' mode, the 'PWR' shows red color. When it is in 'Parking assistant mode' the 'PWR' shows blue color.

Power On for receiver unit

Whenever connecting with DC12V power, the receiver unit turns on. When it is connected with control unit wireless, it goes to laser diffuser mode with red light on. If it is not connected with control unit wireless, it blinks red light slowly like one time per second. If the wireless connection is not good condition, please put the control's antenna unrolled.

Receiver unit brightness control (Dim mode)

Pressing the ☼ (BRIGHT/MODE) button to toggle four levels of brightness mode: bright, dim, dimmer and dark. When it changes the brightness, it makes beep sound one time(dark), two times(dimmer), three times(dim), four times(bright). The selected brightness mode is saved after power off.

Receiver unit mode change (Laser diffuser and Parking assistant modes)

There are laser diffuser mode and parking assistant mode. Pressing the ☼ (BRIGHT/

MODE) button for 4~5 seconds to change the modes. When engaged with laser diffuser mode, the signal light shows red color. When engaged with parking assistant mode, the signal light shows blue color.

☞ Some TPMS(tire pressure monitoring system) and remote smart key are using 433Mhz the same as XR-9500 wireless communication. The XR-9500 wireless circuit is designed not to interfere with vehicle TPMS. When changing the mode, it might have temporary error which means do not change the mode for a few seconds. You may try it again. The control unit is updating current mode status automatically in every second and change the receiver unit status if there is any error.

Laser Diffuser Mode Operation
When XR-9500 is in 'Laser Diffuser Mode', the indication shows red light. This mode can recognize laser signal and communicate with other laser device. It can also detect speed laser guns' signal and it might be interfere it by trying to communication.

When you connect 2 sensors, you may install them at any of FR1, FR2 and FR3 at the control box. You may install two sensors for compact vehicle. **However, when you connect 3 sensors, please locate FR1 sensor at the center of vehicle. The FR2 and FR3 can be installed any side location. Specially the FR1 can recognize any variants laser signal, we recommend 3 sensor installations to protect from variable pulse rate laser signals.**

When XR-9500 detects any laser signal, it makes beep alarm and constant red light blinking. It tries to communicate by transmitting laser signal so the police laser gun might be interfered to read out the speed.
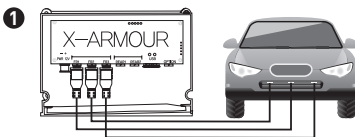
3PCS SENSORS(FR1 : CENTER)
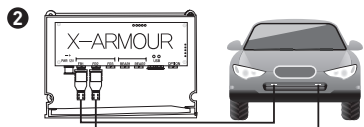
2PCS SENSORS

Parking Assistant Mode Operation
When XR-9500 is in 'Parking Assistant Mode', the indication light shows blue-on. It provides alarm sound and blue light blinking to warn you of the presence of obstacles which is very close distance like 50~80cm.The warning distance might be a little different by obstacle's color. The bright color vehicle like white or gray gives longer distance warning.

☞ The parking assistant light beam is very straight and narrow so it can recognize the small area. Therefore the parking assistant mode is activating in low speed. Do NOT use in high speed driving. If the sensor is located too high, it might be difficult to recognize the low positioned obstacle.

Receiver unit volume control and auto Mute
Pressing the ◁⑴ (VOLUME/MUTE) button to toggle three levels of volume. It makes selected level's beep sound, one time(low level), two times(middle level), three times(high level). The selected volume level is saved after power off.

Only when making an alarm, it can be auto 'Mute' by pressing ◁⑴ (VOLUME/MUTE) button. When it is in auto 'Mute' mode, it can give you only visual light alarm. If you want to go out from the auto 'Mute' when alarm, press the ◁⑴ (VOLUME/MUTE) button again. The auto 'Mute' holding time is one minute and it automatically goes out from auto 'Mute' after one minute.

Low Battery Alarm
If the vehicle battery is under 11 volt, the receiver is slowly blinking blue and red light at the same time. There is no alarm sound. In case of it, please check the battery power.

Factory Setting
The default factory settings are as follows. User setting for volume and bright level are saved.
+ Laser diffuser mode
+ High level for volume
+ Bright level for indicadion light

Updating Firmware

To keep your XR-9500 unit up to date you will need to download the firmware. Firmware can be downloaded from our website free of charge for all XR-9500 users. You must first register your device at www.x-armour.com. Once registered, you will receive e-mail notifications whenever updates are available.

After downloaded firmware at the USB memory drive from the website, plug the USB memory into the 'USB' connector at the XR-9500 control unit. Just plug the USB memory at the USB connector for downloading. The 'USB' at the control unit is blinking red light 10 ~15 seconds during downloading firmware. When finishing the downloading, the red light stops the blinking and turns on. Visit our website at www. x-armour.com for further details.

Firmware
Updating Light

USB memorry
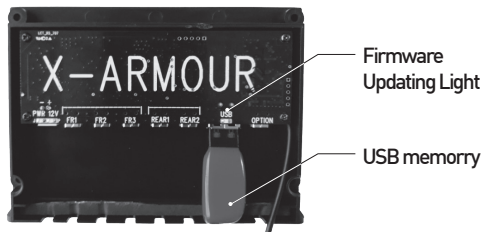
One-Year Limited Warranty

PND Technology warrants your XR-9500 device against all defects in materials and workmanship for a period of one(1) year from the date of the original purchase, subject to the following terms and conditions.

☞ PND is not liable for any incidental or consequential damages arising from the use or misuse of XR-9500. This warranty does not apply if the serial number has been removed or if your XR-9500 device has been subjected to physical abuse or modification or damaged with improper installation.

Please keep in mind snow and dirt on the lens will decrease the performance of XR-9500. The lens must be kept clean.

Troubleshooting

If the Receiver unit does not turn on:

- Check the power cord or battery. Be sure all power connectors are properly installed.
- Check the fuse that controls power to the cigarette lighter socket.
- The cigarette lighter socket might be dirty. Clean it with fine emery cloth to ensure a good, clean connection.
- Vehicle electrical problem exists.

### **If the Receiver unit is blinking red light slowly when it turns on:**

- The wireless connection between Control and Receiver units is not good condition. Pull out the antenna line from the control unit outside through the housing hole. It is recommended to stretch the antenna for better connection.

If the Receiver gives constant alarm at the 'Parking Assistant Mode' without any obstacles:

- Because the front grill can reflect the parking signal in case of white or bright metal colored vehicle, sensors may recognize it as obstacles. It is recommended to install the edge of the grill where it is unobstructed 'view'.
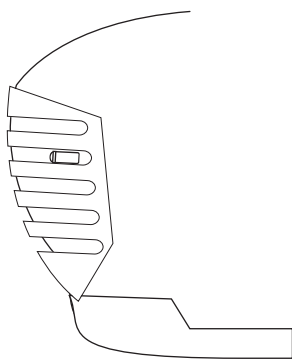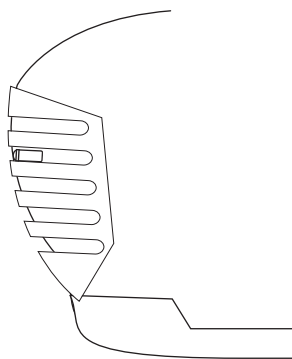
(X)   **(O)**

If the Receiver gives no alarm at the 'Parking Assistant Mode' against obstacles:
• The parking assistant's light beam is very straight and narrow so it can only recognize the small area of obstacles. If the sensor is located too high, it might be difficult to recognize the low positioned obstacle. Please adjust the sensor location for parking assistant mode.

If the Receiver gives no alarm or alarm in close distance against laser gun:
• Check the sensor's lens if there is any dust or snow covered. Please keep clean for the sensor's lens.
• The laser gun might not operate when the vehicle pass by.

If the Control unit does not turn on:
• Make sure that the hardwire kit's connection to the control unit and connection to the battery(+/-).
• Please check the fuse(3A) at the hardwire kit.

If the Control unit does not turn off:
• In case your vehicle is installed with many electronic product and used when engine off, the control board does not turn off immediately. However, the control unit is also checking the receiver's wireless link signal at every 2 hours. If there is no link signal from receiver which means receiver is turned off, the control board turn off automatically.

Specifications & Dimension

Specifications
• Bandwidth Wavelength: 905 nm
• Classification: 1M (Eye Safe) Laser
• 433Mhz Wireless Communication
• Operational Temp: - 20°C + 80°C / – 4°F + 176°F
• Power Requirement: 10V – 16V

Dimension
• Sensor (LxHxW): 35mm x 15mm x 53 mm
• Sensor Cable for front (L): 2.5m (8.2 ft)
• Sensor Cable for rear (L): 6.5m (21.3 ft)
• Control Box (LxHxW): 92mm x 20mm x 130 mm
• Power Supply Cable (L): 1 m (3.2 ft)
• Receiver Set(LxHxW): 74mm x 20mm x 34mm

XARMOUR XR-9500