

# uniden®



## PRO 310e Portable/ Mobile CB radio

# INTRODUCTION

Welcome to the world of sophisticated, microprocessor controlled CB radio communications. Your Uniden PRO 310e represents the most advanced portable/mobile radio ever designed for use in the Citizens Band Radio Service. It will operate on any of the 40 AM frequencies authorized by the Department of Communications. Your PRO 310e features a superheterodyne circuit with PHASE LOCK LOOP techniques to assure precise frequency control. It can be powered by your vehicle battery or with the snap-on battery pack (batteries not included). This radio has been type accepted and certified by the D.O.C.

## **WARNING**

Before transmitting with your transceiver, you must obtain a Department of Communications (D.O.C.) Citizens Radio Licence. Obtain an application form, from the D.O.C. Before completing the form you should read the conditions governing the licensing and operation of the C.R.S. (D.O.C. brochure RB 14). This brochure also can be obtained from the D.O.C. After completing the application form, mail it with the appropriate fee to the Superintendent Regulatory of Licensing in the State or territory in which the station will be operated.



# INSTALLATION

## MOBILE INSTALLATION

Plan the location of the radio and microphone bracket before starting installation. Select a location that is convenient for operation and does not interfere with the driver or passenger in the vehicle. The mic hanger bracket should be securely fastened to a solid surface using the self-tapping screws which are provided. The button on the back of the radio will slide into the mic hanger to hold it securely in place.

## Mobile Antenna

Since the maximum allowable power output of the transceiver is limited by the D.O.C., the antenna is a very important factor affecting transmission distance. The magnetic mount base and screw-in telescopic antenna will provide maximum range when properly installed.

Screw the antenna into the base. Place the base on a flat metallic area of your vehicle roof. The center of the roof is ideal for 360° transmission. Feed the coaxial cable thru a window or door. With the battery pack off, connect the antenna to the bottom of the unit.

If another external antenna is desired consult your local CB Dealer for a compatible model. You have purchased a superior quality transceiver. Don't diminish its performance by installing an inferior antenna.

Only a properly matched antenna system will allow maximum power transfer from the 50-ohm transmission line to the radiating element. We recommend that you have your system checked with an SWR meter when installing your antenna. Your

local dealer is qualified to assist you in the selection an installation of a proper antenna to meet your application requirements.

## Connecting the Power

Connect the power cord to the jack on the bottom of the unit (battery pack must be removed). Plug the cord into the cigarette lighter of your vehicle. The PRO 310e may also be connected directly to the fuse block with the proper wiring (not included).

**IMPORTANT** - The cigarette lighter plug is designed to be used with negative ground vehicles. Do not attempt to operate the unit with the power cord connected to a positive ground vehicle.

## Ground Information

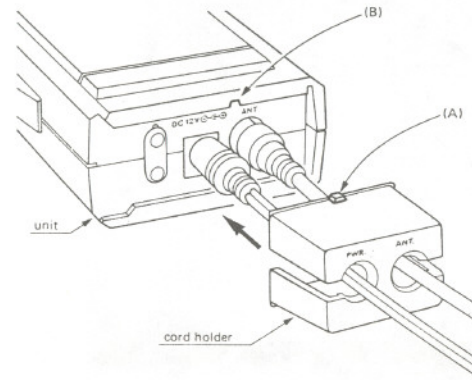
Most newer cars and small trucks use a negative ground system, while some older cars and some newer, larger trucks may use a positive ground system. A negative ground system is generally identified by the "-" battery terminal being connected to the vehicle motor block. If you cannot determine the polarity of your vehicle, consult your vehicle dealer for information.

## Positive Ground System

If you are operating on a positive ground system, the unit must be wired directly to the fuse block. Connect the black lead from the radio to the negative "-" battery terminal or other convenient point and connect the red power lead to the chassis or vehicle frame, or the positive "+" terminal of the battery.

## Cord Holder

Install the cord holder with ANT. label on right-hand side and PWR. label on left-hand side as shown. Match key (A) with notch (B) as illustrated. While pressing the cord-holder's upper and lower sides, insert the cord holder securely into the grooves at the bottom of your PRO 310e. Cord holder will snap into place when pressure is released.



## PORTABLE USE

The PRO 310e can operate under its own battery power. The snap-on battery pack included with your unit makes it a true Emergency CB. It also makes a great portable CB for long range communications outdoors.

## Installing the Batteries and Battery Pack

Hold the battery pack in one hand and press on the top of the pack where indicated. The battery holder will slide out. Install 8 "AA" size nonrechargeable batteries. Slide the battery holder back into the battery pack until it is flush with the bottom. Slide the battery pack onto the bottom of the radio from left to right until it snaps in place. Make sure the slots on the battery pack and the radio fit correctly.

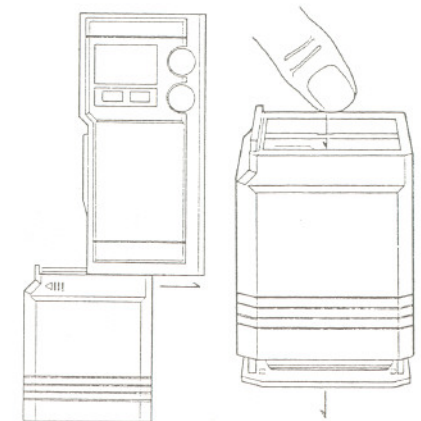
**NOTE:** When the batteries become weak the battery LED will light. Be sure to replace the batteries as soon as possible. You can preserve battery power by selecting the LOW position on HI/LOW switch. The LOW setting has substantially shorter transmission range.

## Connecting the Antenna

For portable use the telescopic antenna will give good results. Simply unscrew it from the magnetic mount base and screw it into the antenna connector on the top of the unit. Fully extend the antenna for maximum range.

## HI/LOW Switch

The PRO 310e has a transmission power selector switch - HI/LOW. In the HI position the unit will transmit at the higher output power and achieve longer range. In the LOW position the transmission output power (range) is substantially reduced; however, the battery life will be increased. For longer range select the HI position. For maximum battery life select the LOW position.





# CONTROLS AND FUNCTIONS

1. **Instant CH 9** - Select CH 9 position to instantly select the Emergency channel. Switch back to return to normal 40 channel operation.
2. **TX Indicator** - An LED lights to indicate when the radio is transmitting.
3. **Battery Low LED** - Lights when the batteries in the snap-on battery pack need to be replaced.
4. **Built-in Mic** - A professional quality microphone built into the unit. The push to talk switch is conveniently located on the side of the unit.
5. **Channel Display** - A large LED display shows the channel currently in use.
6. **Channel Selector** - Up and Down electronic channel keys makes it easy to select any of the forty channels. Press once to change one channel. Press and hold to rapidly change channels.
7. **IMPORTANT** - All channels except channel 9, may be used for normal communications. Channel 9 has been reserved by the D.O.C. for emergency communications involving the immediate safety of individuals or the protection of property. Channel 9 may also be used to render assistance to a motorist. This is a D.O.C. rule and applies to all operators of CB radios.
8. **Squelch Control** - The Squelch control is used to eliminate background noise during the absence of a transmission. Turn the control fully counter clockwise, then slowly rotate it back, clockwise until all noise disappears. At this setting any transmission must be slightly stronger than the background noise to "Break Squelch" and to be heard. Further clockwise rotation will increase the threshold at which a signal will be heard. You can select any level to "Break Squelch".
9. **Volume with Power On/Off Control** - Turn the unit on and adjust the volume.
10. **HI/LOW Switch** - Select the LOW position for short transmission range or to conserve battery power. Select the HI position for longer range.
11. **Power Cord** - The power cord with cigarette lighter plug includes a fuse.
12. **Magnetic Mount Antenna** - A telescopic magnetic mount antenna attaches to most any vehicle. The 16' coaxial cable connects directly to the unit.
13. **Portable Antenna Connector** - This female connector permits connection of the telescopic antenna for portable use.
14. **Mobile Antenna Connector** - Connect the coaxial cable from the magnetic mount antenna for mobile use.
15. **Power Connector** - Connect the fused cigarette lighter power cord.
16. **Snap-on Battery Pack** - Over 40% of vehicle trouble is related to battery failure. The PRO 310e comes complete with a snap-on battery pack (batteries not included). Essential equipment for every vehicle. The battery pack also allows you to take your radio anywhere you want to go - providing long range communications.
17. **Cord Holder** - Your PRO 310e includes a special cord holder to prevent the Antenna cord and the Power cord from getting loose.
18. **Protective Case** - The attractive vinyl case neatly stores all components when not in use.





# OPERATION

## OPERATING PROCEDURE TO RECEIVE

1. Be sure that the power source, antenna and microphone are properly connected.
2. Turn the unit on by rotating the Volume control clockwise.
3. Set the channel selector switch to the desired channel.
4. Set the Volume control to a comfortable listening level.
5. Listen to the background noise from the speaker. Turn the Squelch control clockwise until the noise disappears (no signal should be present). Leave the control at this setting. The squelch is now properly set. The receiver will remain quiet until a signal is actually received. Do not advance the control too far, or some weaker signals will not be heard.

**NOTE:** The PRO 310e has a unique power saving feature that is particularly important when operating with the battery pack. The channel display will automatically turn off if the unit is neither transmitting nor receiving (Squelched). Since the channel display uses a substantial amount of power this feature will effectively prolong the life of your batteries.

## OPERATING PROCEDURE TO TRANSMIT

1. Be sure the operator has read and understands D.O.C. rules and regulations prior to operating the transmitter.
2. Check the HI/LOW switch for proper setting.
3. Select the desired channel for transmission.
4. If the channel is clear, depress the push-to-talk switch on the side of the unit and speak into the microphone with a normal voice.

## IMPORTANT NOTICE

Your portable CB radio has been designed to transmit at 4 watts output power when connected to your vehicle battery. When used with the battery pack, the transmit power may be lower. The quality of the batteries used in the battery pack will also have an affect on the output power. For best results use the optional NiCad battery pack - BP310C and B10 NiCad batteries or good quality alkaline batteries.

# SPECIFICATIONS

Channels:	40 AM
Frequency Range:	26.965 to 27.405 MHz
Frequency Control:	Phase Locked Loop (PLL) synthesizer
Frequency Tolerance:	+/-0.005%
Operating Temp.:	-30°C to +50°C
Microphone:	Built-in type: electric
Input Voltage:	12.0 VDC nom. (- ground)
Current Drain:	TX: full mod., 1.4A RX: with max audio output, 0.5A
Size:	2 <sup>5</sup> / <sub>8</sub> "W x 1 <sup>1</sup> / <sub>2</sub> "D x 5 <sup>1</sup> / <sub>2</sub> "H
Complete Package:	2 lb. 8 oz.
Antenna Connector:	RCA Pin Jack

## TRANSMITTER

Power Output:	Selectable HI or LOW
Modulation:	Class B amplitude modulation
Freq. Response:	300 - 3000 Hz
Output Impedance:	50 ohms, unbalanced

## RECEIVER

Sensitivity:	0.7 $\mu$ V for 10dB; (S + N)/N typical
Selectivity:	6dB @ 7KHz, 70dB @ 10KHz typical
Image Rejection:	75dB typical
I.F. Frequency:	Double Conversion Superheterodyne 1st 10.695 MHz 2nd 455 KHz
Automatic Gain Control	(AGC): less than 10dB change in audio output for inputs from 10 to 50,000 microvolts
Squelch:	Adjustable; threshold less than 1 $\mu$ V
Audio Output Power:	0.5 watts max. into 8 ohms
Freq. Response:	300 to 2500 Hz
Distortion:	less than 10% at 0.4 watts, 1000Hz
Internal Speaker:	16 ohms, 0.4 watts round

## SERVICING YOUR CB

Technical information, diagrams and charts will be provided upon request. It is the user's responsibility to see that this radio is operating at all times in accordance with the D.O.C. Citizens Band Radio Service regulations. We highly recommend that

you consult a qualified radiotelephone technician for service and alignment of this radio. When ordering parts, it is important to specify the correct model number and serial number of this radio.

Please refer to the WARNING information on the first page of this manual.

# TROUBLE SHOOTING

If your PRO 310e is not performing up to your expectations, please try these simple steps. If you still cannot get satisfactory results after reading this manual and following the troubleshooting steps, please call your local dealer.

If you determine that service is necessary contact your local dealer or pack the unit in its original carton. Send it along with a brief, concise description of the problem, your name, address, phone number, and a copy of the original purchase receipt to the address listed in the warranty.

## TROUBLE

## CHECK

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Unit will not turn on.  
No power

1. Check power cord and all connections.
2. Check power cord fuse.
3. Check vehicle electrical system.
4. Check battery pack connection.
5. Check if batteries are weak.

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Poor reception

1. Check and adjust Squelch.
2. Check antenna system and cable, connectors.
3. Make sure antenna is fully extended.
4. Check operation mode of the radio.

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Weak transmission

1. Check antenna system and cable, connectors.
  2. Make sure antenna is fully extended.
  3. Check antenna grounding.
  4. Check for corrosion on connectors.
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# WARRANTY

## TWO YEAR LIMITED WARRANTY

**WARRANTOR.** UNIDEN AUSTRALIA PTY. LTD. 345 Princes Highway, Rockdale, N.S.W. 2216 ("UNIDEN").

**ELEMENTS OF WARRANTY.** UNIDEN warrants, for the duration of this warranty, its UNIDEN CB Product to be free from defects in materials and craftsmanship with only the limitation or exclusions set out below.

**WARRANTY DURATION.** This Warranty shall terminate and be of no further effect Two (2) years after the date of original purchase of the Product or at the time the Product is (a) damaged or not maintained as reasonable and necessary, (b) modified, (c) improperly installed, (d) is repaired by someone other Warrantor for a defect or malfunction covered by this Warranty, or (e) used in a manner or purpose for which the Product was not intended.

**PARTS COVERED.** This Warranty covers all components of the Products.

**STATEMENT OF REMEDY.** In the event that the Product does not conform to this Warranty at any time while this Warranty is effective, Warrantor will repair the defect and return it to you prepaid, without charge for parts, service, or any other costs incurred by Warrantor or its representatives in connection with the performance of this Warranty. In addition, if the Product contains a defect or malfunction which is not

repaired after a reasonable number of attempts by Warrantor to repair the Product, the Product or defective component will at our discretion, be replaced without charge, when the defective product is delivered to the warrantor at 345 Princes Highway, Rockdale, N.S.W. 2216 free and clear of all liens and encumbrances. Please note that while the Product will be remedied under this Warranty without charge. THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES.

**PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY.** In the event that the Product does not conform to this Warranty, the Product should be shipped prepaid, to Warrantor at 345 Princes Highway, Rockdale, N.S.W. 2216. THE ORIGINAL OR COPY OF THE SALES RECEIPT OR OTHER VALID EVIDENCE OF THE DATE OF THE ORIGINAL PURCHASE MUST ACCOMPANY THIS PRODUCT.

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