Uniden®

Bearcat®

PC78LTXFM

Owner's Manual

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CUSTOMER CARE

At Uniden®, we care about you!

If you need assistance, please do NOT return this product to your place of purchase.

Quickly find answers to your questions by:

1. Reading your owner's manual.
2. Visiting our customer support website at www.uniden.com.

Images in this manual may differ slightly from your actual product.

Save your receipt/proof of purchase for warranty.

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Uniden is a registered trademark of Uniden America Corporation.

Bearcat is a registered trademark of Uniden America Corporation.

Features, specifications, and availability of optional accessories are all subject to change without notice.

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DESCRIPTION

Your Uniden PC78LTXFM is a high-quality communications device designed for use in the Citizens Band Radio Service. It will operate on any of the 40 AM/FM frequencies authorized by the Federal Communications Commission (FCC).

> ***The Citizens Band Radio Service is under the jurisdiction of the Federal Communications Commission (FCC). Any adjustments or alterations which would alter the performance of the transceiver's original FCC type acceptance, or which would change the frequency determining method, are strictly prohibited. Replacement or substitution of crystal, transistors, ICs, regulator diodes, or any other part of a unique nature, with parts other than those recommend by Uniden, may cause violations of the technical regulations in Part 95 of the FCC Rules or in violation of type acceptance requirements in Part 2 of the rules.***

EMERGENCY OPERATIONS

1. Set the switch to CH9 or turn Channel Selector knob to Channel 9.
2. Press the microphone PTT switch and speak clearly.
3. If there is no response, select an active channel and ask that party to relay your emergency broadcast on Channel 9.

All channels except Channel 9 may be used for normal communication. Channel 9 is reserved by the FCC for emergency communication involving the immediate safety of individuals or protection of property. Channel 9 may also be used to render assistance to others.

This is an FCC rule and applies to all operators of CB radios.

FEATURES

- CB AM & FM 40 CH (4W)
- PA (Public Address)
- Channel 9 Direct Tune
- TX/RX Multicolor LED (RED and GREEN)
- AWI (Antenna Warning Indicator) LED (RED)
- ANL (Automatic Noise Limiter)
- NB (Noise Blanker)
- HI CUT Adjustment

- Dimmer Control
- RF Gain Control (Variable)
- MIC Gain Control (Variable)
- Multi-Function Meter: RF Power, Signal strength, and SWR
- Volume Control (Variable)
- Squelch Control (Variable)
- 4-Pin Microphone Jack

WHAT'S IN THE BOX

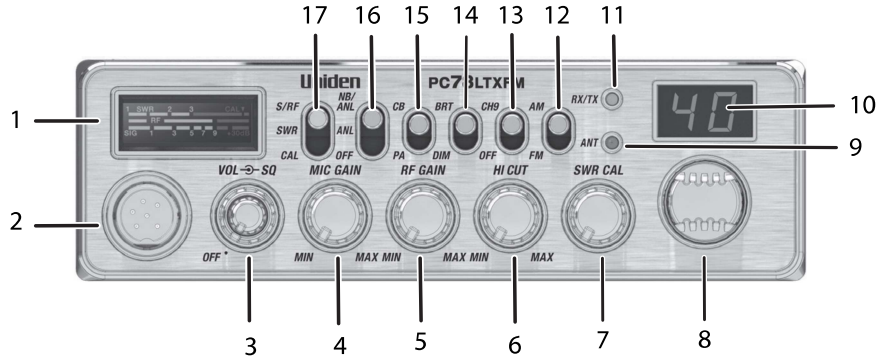
Carefully unpack your PC78LTXFM and check the contents against this list:

- PC78LTXFM CB 2-way mobile radio
- Microphone
- Mounting Bracket Kit
- DC Power Cord
- Owner's Manual
- Part 95 Subpart D (FCC Rules)

If any items are missing or damaged, visit our website at www.uniden.com for further information.

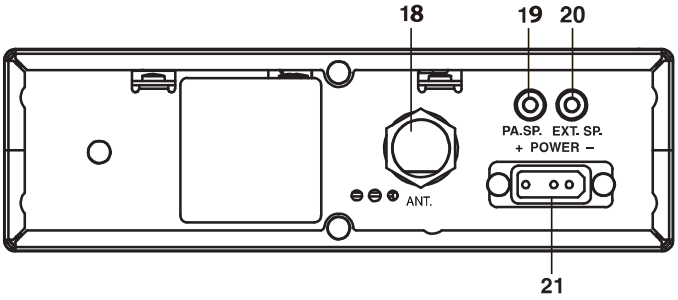
Never use damaged products!

FRONT VIEW



Item	Definition
1	Multi-function meter: Measures SWR, RF and S signal strength.
2	Microphone jack
3	***ON OFF - VOLUME/SQ***: Turns radio on or off; adjusts speaker volume and squelch level (reduces background noise when there is no incoming signal).
4	***MIC GAIN*** knob: Adjusts microphone sensitivity
5	***RF GAIN*** knob: Improves reception in strong signal areas.
6	***HI CUT*** knob: Adjust clockwise to reduce high frequency noise.
7	***SWR CAL***: Calibrates the meter for Standing Wave Ratio (SWR) measurements. (See page 12.)
8	***Channel*** knob: Selects channel.
9	ANT LED: Indicates a high SWR condition in antenna system. Check antenna, cable, and connections.
10	Channel Display: Displays current channel selection
11	RX/TX LED: Red-transmitting; green-receiving.
12	***AM/FM*** switch: Toggle between AM or FM modulation.
13	***CH9/OFF*** switch: Instantly tunes to emergency CB Channel 9. Turn off to resume normal channel operations.
14	***BRT/DIM*** switch: Adjusts the backlight LED brightness.
15	***CB/PA***: Selects CB (Citizen's Band) or PA (Public Address). Do not use PA function unless an external speaker is connected.
16	***NB/ANL/ANL/OFF*** switch: Reduces external noise and interference from vehicle ignition systems.
17	***S/RF/SWR/ CAL*** switch: Selects meter function. S/RF- normal; ***SWR*** and ***CAL*** are for SWR measurements only. See page 12 for calibration procedures.

REAR VIEW



Item	Definition
18	Antenna socket: Connects antenna cable to transceiver.
19	***PA SP.*** jack: Connects external 8-ohm, 4-watt speaker. To prevent acoustic feedback, separate the microphone from the speaker when operating the PA at high output levels.
20	***EXT. SP.*** jack: Connects optional 8-ohm 4-watt speaker to remotely monitor the receiver. When the external speaker is plugged in, the internal speaker is off.
21	***POWER*** connector: Connects DC power to transceiver.

INSTALLATION

MOBILE INSTALLATION

Plan the location of the transceiver and microphone bracket before beginning installation.

1. Select a location that is convenient for operating the radio, but does not interfere with the driver or passenger.
2. Install bracket with self-tapping screws provided.
3. Connect power cords (see page 10).
4. Attach the microphone bracket to the side of the radio.
5. Attach radio to bracket.

Mobile Antenna

WARNING! The antenna used for this radio must be installed at least 16.92 inches (43 cm) away from all persons. The antenna must not be collocated or used with any other antenna or transmitter.

CAUTION: Never operate your radio with no antenna or with a damaged antenna cable. This can damage the radio.

You must purchase an antenna to operate this radio. Because the maximum power output of the transmitter is limited by the FCC, the quality of your antenna is very important. To achieve the maximum transmission distance, Uniden strongly recommends that you install only a high quality antenna. You have just purchased a superior 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. Your Uniden dealer is qualified to help you select the proper antenna for your requirements. A whip style antenna may be used for automobile installation.

A short 'loaded' whip antenna is easier to install on an automobile, but its efficiency is less than that of a full quarter-wave whip antenna.

Connecting the Power Cords

Uniden recommends connecting the power lead to the Ignition Switch Accessory Terminal. This way, the transceiver is automatically turned off when the ignition switch is turned off.

As an alternative, the power cord may be connected to an available terminal on the fuse block or to a point in the wiring harness. However, take care to prevent a short circuit. If in doubt, contact your vehicle dealer for information.

This transceiver may be installed and used in any 12-volt DC negative ground system vehicle.

Ground Information

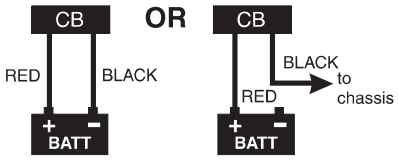
Most newer U.S. and foreign made cars and small trucks use a negative ground system. Some older cars, and some new large trucks, use a positive ground system.

With a negative ground system, the negative (-) battery terminal is usually connected to the vehicle motor block. If you cannot determine the polarity system of your vehicle, contact your vehicle dealer for information.

Negative Ground System

For negative ground systems, connect the red DC power cord from the transceiver to the positive (+) battery terminal or other convenient point.

Then connect the black power cord to the vehicle chassis or negative (-) battery terminal.



USING YOUR PC78LTXFM

TURN PC78LTXFM ON/OFF

Turn the ***VOLUME*** knob clockwise until the unit turns on and the display backlight turns on.

Turn the ***VOLUME*** knob counter-clockwise to turn the unit off.

CB MODE

Be sure that the power source, antenna, and microphone are properly connected before proceeding.

1. Turn the unit on. Set the volume to a comfortable level.
2. Set switch to ***CB***.
3. Select ***AM*** or ***FM***.
4. Turn the ***CH*** knob to select a CB channel.
5. Adjust ***HI CUT*** as needed.
6. Set noise limitations switch to ***NB/ANL***.
7. Adjust squelch.
   - Adjust ***SQUELCH*** knob fully clockwise so only strong signals can get through.
   - Adjust ***SQUELCH*** knob fully counter-clockwise until you hear a hiss. Everything gets through - noise, weak signals, and strong signals.
   - Slowly adjust ***SQUELCH*** knob back clockwise until the hiss stops. Only clearer signals get through.

   Set SQUELCH only when the radio is not receiving a strong signal.
8. Press and hold ***PTT*** and check the multifunction meter. It will show the RF output power.
9. Adjust ***RF GAIN*** knob set RF Gain sensitivity. Normally, the knob is turned clockwise to maximum.
10. Set the brightness (***BRT*** or ***DIM***).
11. Set meter switch to S/RF.

PA MODE

Using the PA mode requires an optional speaker.

1. Switch to ***PA***.
2. Press and hold ***PTT*** to speak.
3. Release when finished.

To prevent acoustic feedback, separate the microphone from the speaker when operating the PA at high output levels.

If you are in PA mode but not pressing ***PTT***, the radio receives CB transmissions and transmits them through the PA speaker. You cannot respond to the transmission.

HI CUT

The Hi Cut function reduces high frequencies and minimizes white noise. Turn the ***HI CUT*** knob clockwise to reduce higher frequencies.

TO TRANSMIT/RECEIVE

> ***Perform a voltage Standing Wave Ratio (SWR) measurement prior to using the transmitter. An SWR ratio in excess of 2:1 may damage the transmitter.***
>
> ***Be sure to read and understand Part 95, FCC Rules and Regulations before operating your transmitter.***

1. Select a channel.
2. Adjust ***MIC GAIN***.
3. When the channel is clear, press the microphone ***PTT*** and speak.
4. Release PTT when you are finished speaking to listen for the response.

MULTI-FUNCTION METER

SWR Meter: Measures the standing wave ratio (SWR) of the antenna. Use this meter to check the antenna system or to adjust your antenna to the proper length.

To Measure SWR:

1. Set the meter switch to ***CAL***.
2. Press and hold microphone ***PTT*** switch (Transmit).
3. Calibrate meter with ***SWR CAL*** knob by adjusting the needle to the ▼ mark.

4. Move the meter switch to the SWR position while pressing the microphone ***PTT*** switch.
5. Release the ***PTT*** switch.

A reading less than two is acceptable. Higher readings indicate a problem in the antenna system. Problems may be caused by humidity, vibration, a mistuned antenna, or corrosion. Check both ends of the coaxial cable connector. Also check for damage to the cable or antenna. Tune the antenna according to the instructions that came with the antenna.

RF Meter: Measures RF Output Power for transmitter. To use, set the meter switch at ***S/RF***. Press microphone ***PTT*** switch to read transmitting power.

S-Meter: Measures incoming signal strength. To use, set the meter switch at ***S/RF***. The meter swings to indicate signal strength.

i.e. S 3, S 5, S 7 . . .

PREVENTIVE MAINTENANCE

Every six months:

1. Check the Standing Wave Ratio (SWR). See page 12.
2. Be sure all electrical connections are tight.
3. Inspect antenna coaxial cable for wear or breaks in shielding.
4. Be sure all screws and mounting hardware are tight.

MAINTENANCE

The PC78LTXFM is designed to give you years of trouble-free service. There are no user-serviceable parts inside. Except for the fuse in the DC power cord, no maintenance is required.

To replace a blown fuse:

1. Press ends of the fuse holder together. Twist to open.
2. Carefully separate the two pieces.
3. Remove the fuse and inspect. If blown, replace with the same type fuse. Use only the fuse specified for your PC78LTXFM. Failure to do so may void your warranty.

TROUBLESHOOTING

In the event of system malfunction, perform the following procedures:

Problem	Suggestion
Unit does not power up	Check the ignition key position. Check power cord connections. Check fuse. Check vehicle electrical system.
No reception	Check microphone connection. Set ***CB/PA*** to ***CB***. Check ***VOLUME*** and ***SQUELCH***. Check antenna. Check antenna connection. Adjust ***RF Gain***.
Poor Reception	Be sure that the transmitting and receiving radios match (AM-AM or FM-FM). Check ***VOL*** and ***SQ***. Be sure antenna ***SWR*** is normal. Adjust ***RF Gain***.
No Transmission	Set ***CB/PA*** switch to ***CB***. Check microphone connection. Adjust ***MIC Gain***.
Low Transmission	Be sure antenna ***SWR*** is normal. Adjust ***MIC Gain***.
Calibration does not move the meter needle to the left side	Adjust the antenna length. Check all antenna connections.

If you do not get satisfactory results after performing these checks, visit www.uniden.com for information.

SPECIFICATIONS

GENERAL

Channels:	40
CB Frequency Range:	26.965 - 27.405 MHz
Frequency Control:	PLL synthesizer
Antenna Impedance:	50 ohms
Power Input :	13.8VDC

Current Drain:	AM Full Modulation: 2.1A (max)
TX:	FM - 1.6A (max)
RX:	At no signal: 400mA
Operating Temperature:	-22°F to 140°F (-30°C to 60°C)
Size (W x D x H):	7-9/32 in. x 7-51/64 in. x 2-13/64 in. (without knobs and jacks)
Weight:	3 lb with microphone
Antenna Connector:	UHF, SO-239

TRANSMITTER

Power Output:	4 watts
Emission Type:	AM/FM
Hum and Noise:	38dB
Frequency Tolerance	± 0.003%
Spurious Harmonics Emission	-70 dBc

RECEIVER

Sensitivity	
AM at 10 dB (S+N)/N:	-111dBm
FM at 12dB SINAD:	-120dBm
Maximum Sensitivity (AM):	-113dBm
Signal Meter S-9:	-67dBm
Audio Output Power (max):	5 watts
Audio Output (10% Dist.):	4.5 watts
Image Rejection (1st):	75 dB typical
Adjacent CH Rejection:	60 dB typical
Internal Speaker Impedance:	16 ohms
Antenna Impedance	50 ohms
RF Gain Control:	Adjustable for optimum signal reception
Noise Blanker:	RF type
Squelch Sensitivity:	Threshold: –117dBm Tight: –47dBm
Frequency Response @6dB Down 1kHz, 0dB Reference:	200 to 3000 Hz

PUBLIC ADDRESS SYSTEM

Audio Output (10% Dist.):	4 Watts
External Speaker for PA Speaker (not supplied):	8 ohms when ***CB/PA*** switch is PA. The PA also monitors the receiver; separate jack provided.

Specifications shown are typical and subject to change without notice.

RADIO CODE DEFINITIONS

10-CODES

The following list contains common "10-Codes" used by CB radio operators for faster communication and better understanding.

Code	Meaning	Code	Meaning
10-1	Received poorly	10-34	Trouble at this station
10-2	Receiving well	10-35	Confidential information
10-3	Stop transmitting	10-36	Correct time is
10-4	OK, message received	10-37	Wrecker needed at
10-5	Relay message	10-38	Ambulance needed at
10-6	Busy, stand by	10-39	Your message is delivered
10-7	Out of service, leaving air	10-41	Please turn to channel
10-8	In service, subject to call	10-42	Traffic accident at
10-9	Repeat message	10-43	Traffic tie up at
10-10	Transmission completed, standing by	10-44	I have a message for you
10-11	Talking too rapidly	10-45	All units within range please report
10-12	Visitors present	10-50	Break channel
10-13	Advise Weather/ Road conditions	10-60	What is next message number
10-16	Make pickup at	10-62	Unable to copy, use phone
10-17	Urgent business	10-63	Net directed to
10-18	Anything for us?	10-64	Net clear
10-19	Nothing for you, return to base	10-65	Awaiting your next message/ assignment

Code	Meaning	Code	Meaning
10-20	My location is	10-67	All units comply
10-21	Call by telephone	10-70	Fire at
10-22	Report in person to	10-71	Proceed with transmission in sequence
10-23	Stand by	10-77	Negative contact
10-24	Completed last assignment	10-81	Reserve hotel room for
10-25	Can you contact	10-82	Reserve room for
10-26	Disregard last information	10-84	My telephone number is
10-27	I am moving to channel	10-85	My address is
10-28	Identify your station	10-91	Talk closer to microphone
10-29	Time is up for contact	10-93	Check my frequency on this channel
10-30	Does not conform to FCC rules	10-94	Please give me a long count
10-32	I will give you a radio check	10-99	Mission completed, all units secure
10-33	EMERGENCY TRAFFIC	10-200	Police needed at

FCC PART 15

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC 20 CM STATEMENT

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radio and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

ONE-YEAR EXTENDED WARRANTY

Important: Evidence of original purchase is required for warranty service.

WARRANTOR: UNIDEN AMERICA CORPORATION (“Uniden”)

ELEMENTS OF WARRANTY: Uniden warrants, for one year, to the original retail owner, this Uniden Product to be free from defects in materials and craftsmanship with only the limitations or exclusions set out below.

WARRANTY DURATION: This warranty to the original user shall terminate and be of no further effect one year after the date of original retail sale. The warranty is invalid if the Product is (A) damaged or not maintained as reasonable or necessary, (B) modified, altered, or used as part of any conversion kits, subassemblies, or any configurations not sold by Uniden, (C) improperly installed, D) serviced or repaired by someone other than an authorized Uniden service center for a defect or malfunction covered by this warranty, (E) used in any conjunction with equipment or parts or as part of any system not manufactured by Uniden, or (F) installed or programmed by anyone other than as detailed by the owner’s manual for this product.

STATEMENT OF REMEDY: In the event that the product does not conform to this warranty at any time while this warranty is in effect, warrantor will either, at its option, repair or replace the defective unit and return it to you without charge for parts, service, or any other cost (except shipping and handling) incurred by warrantor or its representatives in connection with the performance of this warranty. Warrantor, at its option, may replace the unit with a new or refurbished unit. THE LIMITED WARRANTY SET FORTH ABOVE IS THE SOLE AND ENTIRE WARRANTY PERTAINING TO THE PRODUCT AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES OF ANY NATURE WHATSOEVER, WHETHER EXPRESS, IMPLIED OR ARISING BY OPERATION OF LAW, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR

PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow this exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you.

LEGAL REMEDIES: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty is void outside the United States of America.

PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY: If, after following the instructions in the owner's manual you are certain that the Product is defective, pack the Product carefully (preferably in its original packaging). The Product should include all parts and accessories originally packaged with the Product. Include evidence of original purchase and a note describing the defect that has caused you to return it. The Product should be shipped freight prepaid, by traceable means, to warrantor at:

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