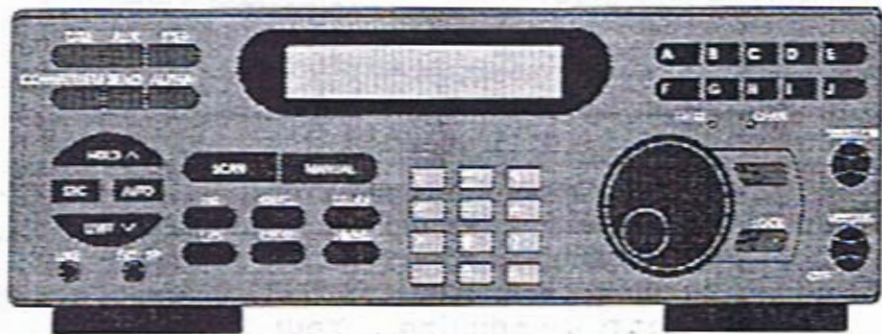


uniden®

Beacon®

BC8500XLT

Auto Scanner



PRECAUTIONS

Before you read anything else,
please observe the following:

WARNING!

Uniden **DOES NOT** represent this unit to be waterproof.
To reduce the risk of fire or electrical shock, **DO NOT** expose
this unit to rain or moisture.

NOTE:

The installation, possession, or use of
this scanning radio in a motor vehicle
may be prohibited, regulated, or require
a permit in certain states, cities, and/or
local jurisdiction. Your local law
enforcement officials should be able to
provide you with information regarding
the laws in your community.

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About Your New BC8500XLT

The BC8500XLT is a brand new state-of-the-art *information* radio with automatic scanning capabilities. You can use it at home as a base unit, or install in your vehicle as a mobile unit.

The BC8500XLT can store frequencies such as, police, fire/emergency, marine, air, weather, and other broadcasts into 20 banks of 25 channels each. The new Rotary Tuner feature enables rapid and easy selection of channels and frequencies. And with AUTO STORE, you can automatically program any channel.

With the BC8500XLT, you can scan all 500 channels at selectable speeds, including the super fast Turbo Scan. In addition, the BC8500XLT has AUTO SORT – an automatic frequency sorting feature for faster scanning within each bank.

What is Scanning?

Unlike standard AM or FM radio stations, most two-way communications (listed below) do not transmit continuously. The BC8500XLT scans programmed channels at the rate of up to 100 channels per second (in Turbo Scan Mode), until it finds an active frequency. Scanning stops on an active frequency, and remains on that channel as long as the transmission continues. When the transmission ends, and no response is detected, the scanning cycle resumes until another transmission is received. An optional DELAY can be set so that the scanner stays on the channel for 2 more seconds, waiting for another transmission before resuming scanning.

Types of Communication

You will be able to monitor communication such as:

- Police and fire department (including rescue and paramedics)
- NOAA weather broadcasts
- Business/industrial radio
- Motion picture and press relay
- Utility
- Land transportation frequencies, such as trucking firms, buses, taxis, tow trucks, and railroads
- Marine and amateur (ham radio) bands
- Air band
- Public Service 800 MHz band

And many more in the 25-1300 MHz range. (Note: Cellular telephone frequencies cannot be received.)

Where to Obtain More Information

The Bearcat Radio Club and other similar hobby clubs have publications, information on computer bulletin boards, and even contests for the radio enthusiast. See the enclosed pamphlets for more information. Additional information is also available through your local library.

Unpacking

Carefully check the contents against this list:

- BC8500XLT Auto Scanner
- Telescoping Antenna
- AC Adapter (AD580U)
- This Operating Guide
- Frequency Directories Order Form and other forms

If any items are missing or damaged, contact your place of purchase immediately.

Complete and mail your Registration Form immediately.

Please read this Operating Guide thoroughly before operating the scanner. Also, be sure to fill out the Product Registration card at the back of this Guide. Then, detach and mail the Product Registration card.

Optional Accessories

The following optional accessories for your BC8500XLT are available from your local Uniden Dealer or through the Uniden Customer Service Center by calling: (317) 842-2483, 8:00 AM to 5:00 PM EST, Monday through Friday.

Betty Bearcat Frequency Directory/Local Directories – Lists all known frequencies throughout the U.S. or just for your area.

CTCSS Tone Board (BC005) – This internal tone board allows squelch to be broken only when a CTCSS tone is received. For information on board installation, see "CTCSS Operation" later in this manual.

Feature Highlights

- **Turbo Scan** – This lightning-fast technology enables the BC8500XLT to scan and search up to 100 channels per second or 100 steps per second. Because the frequency coverage is so large (see "Technical Specifications" section for band listing), a very fast scanning system is essential. That is why we combined our latest technology – Turbo Scan – into the BC8500XLT.
- **VFO Control** – (Variable Frequency Oscillator) Turn the large Rotary Tuner to select the desired frequency or channel.
- **500 Channels** – You can program each of these memory channels to store one frequency.
- **20 Banks** – Each bank contains 25 channels, useful for storing similar frequencies in order to maintain faster scanning cycles.
- **25 - 1300 MHz** – Indicates the range of frequencies that can be searched within the bands of your scanner. (*Note: The frequency coverage is not totally continuous between 800-900 MHz.*)
- **10 Priority Channels** – You can assign one Priority channel for each of the 10 banks, A-J. This allows you to keep track of activity on your most important channel(s) while monitoring other channels for transmissions.
- **Auto Store** – Automatically stores all active frequencies within the specified bank(s).
- **Auto Sorting** – Programmed frequencies are automatically sorted within each bank for faster scanning.
- **Auto Recording** – This feature lets you record channel activity from the scanner onto a tape recorder.

Installing the BC8500XL

1. Insert the DC plug end of the AC Adapter into the DC 13.8V jack on the rear panel.
2. Plug the AC Adapter into a standard 120V AC wall outlet.
3. Plug the Telescoping Antenna into the "ANT" connector. Extend the antenna to its full height. For frequencies higher than 406 MHz, shortening the antenna may improve the reception.
4. If you need a better viewing angle, flip the folding legs down to raise the front of the scanner.

For use with an optional external speaker:

Plug the external speaker into the "EXT SP" jack located on the front of the scanner.

For use with an optional tape recorder:

Connect a cable from the "LINE" jack on the front of the scanner to the microphone input of a tape recorder. Connect a cable from the RCA-type "AUX" jack on the back of the scanner to the recorder's "REMOTE" jack. (For instructions on how to set up channel recording, see "Tape Recording Channel Communication" later in this manual.)

For use with an optional CTCSS Tone Board:

Refer to "CTCSS Installation", located near the end of this manual.

Helpful Hints

- If strong interference or electrical noise is received, relocate the scanner or its antenna away from the source.
- If you are operating the scanner in a fringe area or need to improve reception, use an optional antenna designed for multi-band coverage. (You can purchase this type of antenna at a local electronics store.)
- If the optional antenna has no cable, use 50-70 ohm coaxial cable for lead-in. A mating plug may be necessary for the optional antennas.

Controls and Functions

Front Panel



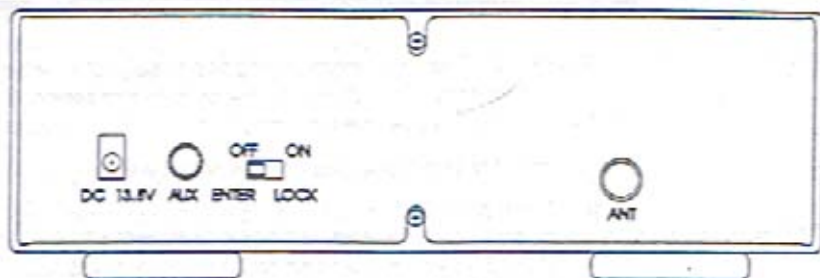
- DIM KEY** Use [DIM] to illuminate the LCD Display at night, or under dim conditions.
- AUX KEY** Press [AUX] to program a channel so it can be tape recorded when scanning stops on its channel.
- STEP KEY** Press [STEP] to change the factory preset auto step to another value.
- COUNT/MEM** Press [COUNT/MEM] to display count of the number of times the scanner stopped on a channel during its last scan. Press and hold [COUNT/MEM] to display which channels in a bank have been programmed, locked out, or set as Priority channels.
- SEND KEY** Press [SEND] to transfer a programmed frequency to any open (empty) bank channel or to a channel already programmed.
- LCD DISPLAY** The liquid crystal display (LCD) shows the current channel and frequency. It also displays the mode, status, and bank indicators.
- BANK KEYS** (The set of 10 letter keys, A through J, and the set of number keys, 0 through 9) Each bank contains 25 channels in which you can store frequencies. During Scan Mode, press any of these keys to select or deselect a bank. (Only the selected bank indicator(s) appear on the display.)
- HOLD KEY** Press [HOLD] in Search Mode to stop searching. The "HOLD" LED is on.) Press [HOLD] again to step up one channel. Press and hold [HOLD] for more than 1 second to rapidly move through the

frequencies. In Hold Mode, press [LIMIT] to STEP DOWN to the next lower frequency. To resume the search, press [SRC].

- SEARCH KEY** Press [SRC] to search for active frequencies within preset ranges of any band.
- AUTO KEY** Use [AUTO] to automatically store active frequencies into open (empty) channels of specified banks.
- LIMIT KEY** This key has two functions in Search Mode: (a) to step down a frequency; and (b) to set the search band limits.
- SCAN KEY** Press [SCAN] to start scanning all programmed channels that are not locked out. ("Scan" appears on the display during scanning.)
- MANUAL KEY** In Scan or Search Mode, press [MANUAL] to stop scanning or searching, and to select a channel. After you stop the scanner, press [MANUAL] again to STEP UP a channel. Press and hold to rapidly step through the channels.
- PRI KEY** You can assign "priority" to one channel of each selected bank. Priority is scanned from the lowest bank to the highest bank. To assign priority, first select a channel, and then press and hold [PRI] for more than 2.5 seconds.
- SPEED KEY** Press [SPEED] to select the scanning speed, normal or TURBO SCAN. (In Turbo Scan Mode, "Turbo" appears above "Scan" on the display.) At normal speed, the scanner scans 16 to 20 channels per second. In Turbo speed, the scanner scans more than 100 channels per second.
- DELAY KEY** Use [DELAY] to turn ON or OFF the automatic 2-second delay during scanning or searching for active frequencies. (In Delay Mode, "DELAY" LED is on.)
- L/O KEY** Press [L/O] to "lock out" or prevent scanning of the displayed channel, including Priority Channels. ("L/O" appears on the display.) To unlock a channel, press [L/O] again. Press and hold [L/O] for more than 2.5 seconds to clear all locked out channels in the current bank. (Note: Locking out a channel will not erase the programmed frequency.)

CTCSS KEY	(Used only if an optional CTCSS Tone Board is installed.) This key enables CTCSS operation, and for programming channels to receive CTCSS tone frequencies. Squelch is opened only when a CTCSS tone is received. (For more information, see "CTCSS Operation" toward the end of this manual.)
PROGRAM KEY	Use the [PROG] key when programming ALPHA display screens or CTCSS frequencies.
NUMERIC KEYPAD	Use these keys to program a channel for scanning. Also use to access a channel directly with [MANUAL].
ENTER KEY	(Within the numeric keypad) Press [E] to store a displayed frequency into any displayed channel. (Note: If you try to store the same frequency into another channel, the display will indicate the original channel for that frequency. To store the same frequency into the selected channel, press [E] again.)
VFO CONTROL (ROTARY TUN.)	Use Rotary Tuner to tune through channels or frequencies, depending on the setting of the [FREQ/CHAN] key. Turn control clockwise to STEP UP, or counterclockwise to STEP DOWN.
FREQ/CHAN KEY	Press the [FREQ/CHAN] key to alternate between channel or frequency mode. When the CHAN LED (green) is on, you can tune through channels with the Rotary Tuner. When the FREQ LED (red) is on, you can tune through frequencies with the Rotary Tuner.
LOCK KEY	Press the [LOCK] key to enable or disable the Rotary Tuner. When "Lock" mode is on, the LOCK LED (green) lights, and you cannot tune with the Rotary Tuner. Lock the Rotary Tuner to prevent accidentally changing the displayed channel and frequency when monitoring a broadcast.
SQUELCH CONTROL	Adjust [SQUELCH] to set the scan threshold. When monitoring a single channel in Manual Mode, adjust [SQUELCH] to eliminate background rushing noise heard in absence of an incoming signal.
ON-OFF/VOL CONTROL	This control turns the scanner on or off, and also adjusts the volume.
LINE INPUT JACK	Use to connect a microphone input cable from a tape recorder to the scanner for recording frequency communication.
EXT. SP.	When using an optional External Speaker system, connect the External Speaker plug here.

Rear Panel



DC 13.8V Power Connector

Connect the DC power cable here. *Note: Use only the specified AC Adapter or DC power cord.*

AUX

Connect an RCA-type cable from a remote controlled tape recorder to the "AUX" jack on the back of the scanner for audio frequency recording. If the channel display indicates "RECORD", the output from "AUX" will turn the tape recorder on.

ENTER LOCK Switch

In the ON position, the Enter key ([E]) and [AUTO] are disabled. This prevents any unauthorized programming or accidental entries. When programming is disabled, pressing [E], [PROG], [AUTO] or [SEND] displays "Enter Locked".

ANT. (Antenna) Connector

Plug in your telescoping or external antenna here.

Scanning Overview

The BC8500XLT has 500 memory channels, each of which can be programmed to store one frequency. The channels are divided into twenty 25-channel banks, useful for storing similar frequencies in order to maintain faster scanning cycles.

You can monitor communication in one of two ways:

- **Bank SCAN** If you have programmed channels, you can scan all programmed channels in the selected bank(s), except locked out channels. When scanning stops on an active frequency, it remains on that channel as long as the transmission continues. If DELAY is on, the scanner remains on the same channel for 2 more seconds, waiting for a responding transmission. If there is no responding transmission within 2 seconds, the scanning cycle resumes.
- **Band SEARCH** The Search function is *different* from Scan. When you select a frequency band to search, the scanner searches for any active frequency within the lower and upper limits of the band. When an active frequency is found, the scanner stops on that frequency as long as the transmission lasts. If DELAY is on, the scanner remains on the same channel for 2 more seconds, waiting for a responding transmission. If there is no responding transmission within 2 seconds, the scanning cycle resumes. *The main purpose of the Search function is to help you find active frequencies to program into memory.*

Getting Started

1. Before turning on the scanner, rotate the Squelch Control fully clockwise.
2. Power on the scanner by turning the On-Off/Volume Control clockwise.

First you will hear a "rushing" noise, and see the current mode and status indicators appear on the LCD display.

3. Adjust the volume to a comfortable listening level.
4. Set the squelch at the scanning threshold by turning the Squelch control counterclockwise *just* until the rushing noise disappears.

At the squelch threshold, any incoming signal just slightly stronger than the noise will open the squelch.

Note: *When squelch is open, you can hear the broadcast (scanning is stopped). If squelch is set too tight, that is, too far counterclockwise from the threshold point, a stronger signal is required to open the squelch.*

If squelch is set on a point clockwise from the threshold, you will hear a constant sound (noise, if no signal is present.) The scanner will not scan.

Programming Channels

Before you can scan, you must program the channels within a bank. You can store one frequency per channel, up to 500 channels. These are the banks and their associated channels:

Bank	Channel Number
A	1 - 25
B	26 - 50
C	51 - 75
D	76 - 100
E	101 - 125
F	126 - 150
G	151 - 175
H	176 - 200
I	201 - 225
J	226 - 250
1	251 - 275
2	276 - 300
3	301 - 325
4	326 - 350
5	351 - 375
6	376 - 400
7	401 - 425
8	426 - 450
9	451 - 475
0	476 - 500

Note: If you try to store the same frequency into another channel, the display will indicate the original channel for that frequency. To store the same frequency into the selected channel, press [E] again.

Auto Sort

Each time you store a frequency, the list of scanning frequencies in the bank is automatically sorted by frequency number. This unique Auto Sort feature enables faster scanning. When you manually step through a bank, however, frequencies are sorted according to channel number.

Choosing a Programming Method

With the BC8500XLT, there are a number of ways to program a channel:

- Manually selecting a channel and frequency, using the numeric keypad
- Using the Rotary Tuner to select a channel and frequency
- Searching a band to find active frequencies, and then storing them into channels
- Using the Auto Store feature to automatically program channels
- Transfer a programmed frequency from another channel

Try each of the following programming methods, and then use the one that's right for you!

A. Programming By Manual Entry

1. Select a frequency from your Betty Bearcat Directory or regional/local directory.

Example: Program 460.4250 MHz into Channel 234.

Bank J	ch 234
460.4250MHz	

2. Press [MANUAL] to stop scanning. *MANUAL* LED is on.
3. Press [2] [3] [4].
4. Then, press [MANUAL].
5. Enter the frequency number using the numeric keypad.

[4] [6] [0] [.] [4] [2] [5] [0]

If you make a mistake and want to clear the entry, press [.] twice.

6. Press [E] to store the entry.
 - Any frequency already stored in a channel is automatically replaced by the new one.
 - An Error message (e.g., "OUT OF BAND") blinks twice on the display if an error is made during programming, or if the frequency is out of range. If this happens, enter a valid channel or frequency number.

To program another channel, repeat the above procedures.

B. Programming With the Rotary Tuner

1. If the BC8500XLT is scanning, press [MANUAL] to stop scanning. "MANUAL" LED is on.
2. If the LOCK LED (green) is on, press [LOCK] to unlock the Rotary Tuner. This will enable channel and frequency selection using the Rotary Tuner.
3. To select a channel for programming, the CHAN LED (green) must be ON. If it is not on, press the [FREQ/CHAN] key to turn it on.
4. Turn the Rotary Tuner to display the desired channel. (Rotate the control clockwise to step up a channel, or counterclockwise to step down a channel.)
5. To select the frequency to be stored, the FREQ LED (red) must be ON. If it is not on, press the [FREQ/CHAN] key to turn it on.
6. Turn the Rotary Tuner to display the desired frequency. (Rotate the control clockwise to step up a frequency, or counterclockwise to step down a frequency.)

Note: When you rotate the Rotary Tuner, the channel selection flashes on the display. This means that the frequency displayed is not programmed in that channel.

7. To store the displayed frequency into the current channel, press [E]. The frequency is now programmed into the current channel.

You are finished, and may now skip to the next section.

C. Programming With SEARCH

The Search feature enables you to rapidly search for active frequencies within the specified band limits. When an interesting frequency is found, you can store it into a channel using the procedure below.

How to Program a Search Band

A search band is a range, or band, of frequencies to scan. To set up a search band from 128.0125 to 136.0250 MHz, proceed as follows, using the keypad.

1. Press [1] [2] [8] [.] [0] [1] [2] [5] and [LIMIT] to enter the lower limit portion of the search band.
2. Press [1] [3] [6] [.] [0] [2] [5] and [LIMIT] to enter the upper limit of the search band. The Search Band display is shown.

AM	128.0125MHz
AM	136.0250MHz

3. Press [SRC] to begin the search function. To exit the search function, press [MANUAL].

Note: During the search, you can manually change the step increment, if desired. To change the step, press [HOLD] to stop the search. Then, press [STEP] one time for each selection: 5kHz, 12.5kHz, 25kHz or 50kHz.

4. When Search stops on an interesting frequency, press [HOLD] to stay on that frequency.

Note: If you press [HOLD] again, you step up a frequency. If you press [LIMIT], you step down a frequency. Press and hold either key to rapidly step through the frequencies.

5. To store the frequency into the currently displayed channel, press [E]

- OR -

To store the frequency into an open channel of another bank:

- a. Press [SEND].
- b. The prompt to "Enter Bank or ch" appears. Press a letter key (for example, [J]) or [.] and a number key to select the desired bank.

Enter Bank or ch
1025.4350MHz

- If you try to store a displayed frequency to a bank that is full, a warning message is displayed. The warning message blinks twice, then the display returns to the original screen. To try another bank, press [SEND] and enter another letter or number.
- Bank J includes channels 226-250. In this example, channel 234 is the lowest open channel, so its display is blinking. Press [E] to store 135.2125 MHz to channel 234.
- The display screen blinks twice and shows that the frequency has been stored to channel 234.

Bank J is Full

Bank J ch234
135.2125MHz

12.5KHz P ch234
AM 135.2125MHz

D. Programming With AUTO STORE

The Auto Store feature automatically stores all active frequencies into open (empty) channels of specified bank(s).

- Press [MANUAL] to stop scanning.
- Use the numeric keypad to set the *lower limit* and *upper limit* of the band to be searched. (See "Technical Specifications" for a list of search bands.)

Example: Set search limits of 127.000 to 144.000 MHz.

First enter the lower limit by pressing:

[1] [2] [7] [.] [0] [0] [0].

Press [LIMIT].

Then enter the upper limit by pressing:

[1] [4] [4] [.] [0] [0] [0].

Press [LIMIT].

The search limits of the selected band are now set, and remain in effect even when you turn off the scanner.

- Press [AUTO] to activate the Auto Store feature. *AUTO* LED is on.

- If you try to store a displayed frequency to a bank that is full, a warning message is displayed. The warning message blinks twice, then the display returns to the original screen. To try another bank, press [SEND] and enter another letter or number.
- Bank J includes channels 226-250. In this example, channel 234 is the lowest open channel, so its display is blinking. Press [E] to store 135.2125 MHz to channel 234.
- The display screen blinks twice and shows that the frequency has been stored to channel 234.

Bank J is Full

Bank J ch234
135.2125MHz

12.5KHz P ch234
AM 135.2125MHz

D. Programming With AUTO STORE

The Auto Store feature automatically stores all active frequencies into open (empty) channels of specified bank(s).

- Press [MANUAL] to stop scanning.
- Use the numeric keypad to set the *lower limit* and *upper limit* of the band to be searched. (See "Technical Specifications" for a list of search bands.)

Example: Set search limits of 127.000 to 144.000 MHz.

First enter the lower limit by pressing:

[1] [2] [7] [.] [0] [0] [0].

Press [LIMIT].

Then enter the upper limit by pressing:

[1] [4] [4] [.] [0] [0] [0].

Press [LIMIT].

The search limits of the selected band are now set, and remain in effect even when you turn off the scanner.

- Press [AUTO] to activate the Auto Store feature. *AUTO* LED is on.

4. "Bank" and each of the bank indicators appears on the screen. Press the desired letters and numbers. Those selected will stop blinking. Press [SRC].

Bank ABCDEFGHIJ 1234567890

5. The display flashes "STO," indicating frequencies are being stored. The frequency display changes rapidly, and the LED on the [AUTO] key flashes.

12.5KHz STOch473 AM 128.1250MHz

6. When all selected banks are full, the "Store end" message is displayed. Press [SCAN] to start scanning the displayed banks.

Store end	BCDE 345
-----------	-------------

Note: During Auto Store, you can manually change the step increment, if desired. To change the step, press [STEP] one time for each selection: 5kHz, 12.5kHz, 25kHz, or 50 kHz.

7. To stop Auto Store manually, press [HOLD], [MANUAL], or [AUTO].

E. Transferring a Programmed Frequency to Other Channels

Transferring to an Open Channel

This feature allows you to reassign a stored frequency to another bank's open channel.

Note: You cannot transfer a frequency either into or out of a Priority channel.)

1. Press [MANUAL] to stop scanning.
2. Use the Rotary Tuner (or any other previously described method) to select a programmed channel. In this example, channel 23 is selected.

BANK A	ch23 135.2125MHz
--------	---------------------

3. Press [SEND] to activate the Transfer feature.
4. "Enter Bank or ch" display appears. Press letter key or [.] and number key of the selected bank. In this example, [J] is pressed.

- If the selected bank is full, the "Bank Full" message appears. The screen blinks twice and returns to its original display. Repeat the transfer process and choose another bank key.
- The bank's lowest open channel, 234 flashes, waiting to be programmed. Press [E]. Frequency display blinks twice.
- The frequency transfer is completed. The frequency is now stored in the new channel, and the old channel is empty.

Bank J ch234
135.2125MHz

Note: If you do not want to transfer the programmed frequency, press [MANUAL] to stop the transfer.

Transferring to a Specific Channel

- Press [MANUAL] to stop scanning. "MANUAL" LED is on.
- Use the Rotary Tuner to select a programmed channel. In this example, channel 123 is selected.
- Press [SEND] to activate the Transfer feature. "Enter Bank or ch" display appears. Enter the desired channel number. In this example, [2] [3] [1] is entered.
- "231" appears on the display, above the frequency to be transferred.

BANK E ch123
1025.4350MHz

Enter Bank or ch
1025.4350MHz

231
1025.4350MHz

5. Press [HOLD]. The display will alternate between the frequency you want to transfer, and the frequency in the target channel.

Bank E	ch123
1025.4350MHz	

(Display flip-flops) ↑

Bank J	ch231
460.4250MHz	

6. Press [E] to complete the transfer. The displayed frequency blinks twice. The frequency is now stored in the new channel, and the old channel is empty.

Bank J	ch 231
1025.4350MHz	

Note: If you do not want to transfer the programmed frequency, press [MANUAL] to stop the transfer.

Deleting a Stored Frequency

To delete a frequency from a channel:

1. Display the channel and frequency that is to be deleted.
2. Press [0] on the numeric keypad.
3. Press [E].

The current channel is erased, and the display shows *000.000*.

A Word About Memory Back-up

In the event of a power failure, the scanner will keep the programmed memory for an indefinite period of time.

Scanning

1. Turn on the power, or press [SCAN] to start scanning.

Note: When the scanner is turned on, it is automatically in Turbo Scan Mode.

The indicators for the selected banks (A-J or 0-9) appear on the display. The indicator of the bank currently being monitored flashes.

Scanning stops on any active channel automatically and displays its frequency, except those channels programmed with "L/O" (Lock Out). If Delay is on, scanning resumes automatically 2 seconds after the channel becomes inactive.

2. **Deselect** any banks from being scanned by pressing the appropriate bank key.

The deselected bank indicator(s) disappear from the display, and its channels will not be scanned. This procedure helps to speed up the scanning cycle.

Note: One bank must always remain active. You cannot deactivate all 20 banks at the same time.

Note: When you turn off the scanner and turn it back on, the previous bank selections will remain in effect.

To restore any bank for scanning, just press its key again. Its indicator will appear on the display.

To stop scanning any time, press [MANUAL]. When you press [MANUAL] to stop scanning, you are out of Scan Mode. The scanner remains on the displayed channel. If you press [MANUAL] again, you will step up a channel. If you press [LIMIT], you will step down a channel. Press and hold either key to rapidly step through the channels.

Note: You do not skip a locked out ("L/O") channel using any of these keys.

To start scanning again, press [SCAN].

To directly access a specific channel:

1. Press [MANUAL].
2. Enter the channel number using the numeric keys.
3. Press [MANUAL] again.

Customizing Scanner Operation

Setting the Scanning Speed

Press [SPEED] to select the scanning speed, normal or Turbo Scan. In normal scanning, the BC8500XLT scans 16 to 20 channels per second. In Turbo scan, the unit scans up to 100 channels per second.

In Turbo Scan Mode, "TURBO" appears on the display above "SCAN". The letters and numbers displayed beside "Turbo Scan" indicate banks of channels that are being scanned. Letters and numbers that are skipped on the display indicate banks of channels that have not been programmed to be scanned.

Turbo A CD FGH J Scan 12 4 6 890

In normal Scan, the word "Scan" appears on the display. Letters and numbers that are skipped on the display indicate banks of channels that have not been programmed to be scanned.

A CD FGH J Scan 12 4 6 890

Setting the Delay Mode

In the normal default setting, when Search or Scan stops on an active frequency, searching or scanning will not resume until the transmission stops for 2 seconds. If no response is detected, the scanning cycle resumes until another transmission is received. To turn off the automatic 2-second delay, press [DELAY]. (The "DELAY" LED goes off.)

To enable the 2-second delay again, press [DELAY]. (The "DELAY" LED reappears.)

Setting the Step Size

Use [STEP] to change the step increment when moving between frequencies of a search band. Press one time each to change the factory preset auto step to 5kHz, 12.5kHz, 25kHz, or 50kHz. (The selected step is displayed during the search.) Manually selected steps are erased when you turn off the power. To go back to the default step, press [I.I.]. The display stops blinking.

Setting the LCD Display Light

To illuminate the LCD Display at night, or under dim conditions when it is difficult to view, use [DIM]. Press the key until you reach the desired brightness setting HIGH, LOW, or OFF.

Preventing Accidental Programming

The BC8500XLT has a Lock feature to prevent accidental programming entries. Simply set the ENTER LOCK Switch on the rear panel to "ON" to disable the Enter ([E]), [PROG], [AUTO] and [SEND] keys.

Locking the Rotary Tuner

You can lock the Rotary Tuner to prevent changing channels or frequencies accidentally while monitoring a broadcast. To disable the Rotary Tuner, press [LOCK]. The LOCK LED (green) lights to indicate that the Rotary Tuner is locked. To enable the Rotary Tuner, press [LOCK] again. (The LOCK LED goes out.)

Channel Lock Out

You can lock out any programmed channels (including Priority Channels) so they will not be scanned, if desired.

This feature is active in Manual Mode, Hold Mode, or Scan Stop Mode (when squelch is open).

To lock out a channel:

Press [L/O] when the scanner is on a channel you do not want to hear.

"L/O" appears on the screen to indicate that the displayed channel is now locked out. The letter "P" on the display indicates that a Priority Channel is locked out so it will not be scanned.

Bank C P ch 58 L/O 450.4250MHz

To restore a locked out channel:

1. Display the locked out channel, using one of the previously described methods.
2. Press [L/O].

"L/O" disappears to indicate that the channel is now unlocked and restored for scanning.

To restore all locked out channels of a current bank at one time:

1. Press [MANUAL] to stop scanning.
2. Press and hold [L/O] for at least 2.5 seconds.
3. You will hear two short beeps, indicating that all channels are unlocked and restored for scanning.

Searching for Locked Out Channels

During scanning, you will not see locked out channels. To look for locked out channels and display them on the screen, first press [MANUAL] to stop scanning. Then use the Rotary Tuner to step through the bank. "L/O" will appear on the screen to indicate the locked out channels.

Setting Up Priority Channels

When you assign "priority" to a bank channel, you designate one bank channel as your most important channel. During scanning the BC8500XLT works like a "dual watch" function. It starts "sampling" or keeping track of the activity on the Priority Channel while listening to other channels. Every 2 seconds, the scanner checks the Priority Channel for activity. If a signal is present, the Priority Channel will be monitored until the transmission ends. When the signal stops, normal operation resumes.

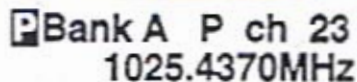
You can assign one Priority Channel for each bank. In multi-Priority Channel operation, the lower channel number has higher priority.

Note: *Priority settings are not erased when you turn off the scanner, or after a power failure.*

To set up a Priority Channel:

1. First, program your most important frequency into a bank channel.
2. Press and hold [PRI] for more than 2.5 seconds.

A light-colored "P" appears in a shaded block, next to the bank indicator. Then a second "P" appears near the channel number to indicate that Priority has been set on the selected channel.



Bank A P ch 23
1025.4370MHz

Note: Any previously assigned Priority Channel within the same bank is automatically deselected.

Priority channel operation:

To activate Priority Channel operation, Press [PRI] at the displayed channel. "P" is displayed as a light-colored letter inside a shaded block in the upper left corner of the display. To deactivate Priority Channel operation, press [PRI] again. The "P" disappears from the display.

Using COUNT/MEM to Monitor Channel Activity

To determine the amount of channel activity during a scanning session, use the Count feature. It counts the number of times scanning stops on an active channel.

To activate the Count feature:

1. Press [SCAN], and allow the scanner to scan for about 5 to 10 minutes, or longer if desired.
2. Press [MANUAL] to stop scanning.

3. Press [COUNT/MEM].
"COUNT" appears on the display.



Count:03 ch 23
135.2125MHz

4. Turn the Rotary Tuner or press [MANUAL] to display each channel and the number count.

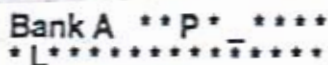
To exit Count Mode, press [COUNT/MEM].

- To clear the count, press [.] [.] [.]

Note: Each time the unit is turned off and turned on again, the counter is reset.

Using COUNT/MEM to Display the Status of Channels

Press and hold [COUNT/MEM] for more than 2.5 seconds to display the programming status of the channels in a bank. The display shows the bank (A through J or 0 through 9) and uses an asterisk character (*) to represent each programmed channel. An unprogrammed channel is shown with an underscore (_) character. A Priority channel is signified by the letter 'P', and a channel that is locked out is indicated with an 'L'. Turn the Rotary Tuning control to move from one bank to the next. To exit from this mode, press [MANUAL] or [SCAN]. To go from this mode to Count Mode, press [HOLD] or [LIMIT].



```
Bank A  **P*  ****
* L*****
```

Tape Recording Channel Communication

The Auto Recording feature allows you to automatically tape record activity from the assigned channel of your scanner. When scanning stops on the assigned channel, the recorder records the broadcast.

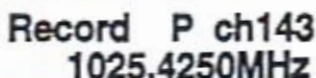
Before you can use this feature, you must first set up the tape recorder as described in the Installation section of this Manual.

To program a channel for tape recording:

Press [SCAN] to start scanning.

- When scanning stops on the channel you want to record, press [MANUAL].
- At the displayed channel, press [AUX].

"Record" appears on the display to indicate that the channel is assigned for recording.



```
Record P ch143
1025.4250MHz
```

To select other channels for recording, repeat the above procedures.

To record transmissions:

1. Connect the REMOTE jack of your tape recorder to the AUX jack on the rear of the BC8500XLT. This can be used to start and stop your recorder.
2. Put a tape in your recorder, and put it in the Record mode.
3. Press [SCAN] to start scanning.

When scanning stops on a channel that displays "Record", the channel will automatically be recorded.

To deselect a channel so that it is not recorded:

1. Display the assigned channel on your screen.
2. Press [AUX].

"Record" disappears on the display to indicate that channel will not be recorded.

Programming ALPHA Screens

Up to 16 letters, numbers, or other characters can be added to the display screen for a specific channel. From the Manual or Stop Scan screen, press the [ALPHA] key. If an ALPHA screen already has been programmed, it will display. If not, the [ALPHA] key will have no effect. To begin programming an ALPHA screen, press [PROG].

Bank E P ch123
DFW Tower

The message "Select ALPHA or CTCSS" appears. Press [ALPHA].

Select
ALPHA or CTCSS

The message "Select chan" appears, followed by a blinking channel number. Use the Rotary Tuning control or the numeric keypad to select the desired channel number (in this example, channel 128). Press [HOLD].

Select chan 123
from 1 to 250

A display with two blinking cursors appears. Turn the Rotary Tuning control left or right to highlight the first desired character.

567890 █ /0 & ch128

Press the [HOLD] key to enter an upper-case character or [LIMIT] to enter a lower-case character. Turn the Rotary Tuning Control to highlight the next character and press [HOLD] or [LIMIT] again.

WX █ 012345 ch128
Y

When all desired characters are entered, press [E] to stop and save the display. To erase characters, replace each with a blank, which is found between the "9" and the "7" on the selection display.

FGHIJKLMNO ch128
YORK Dispatch

CTCSS Operation

This section applies only if you are installing and using an optional CTCSS Tone Board with your scanner.

Installing the Optional CTCSS Tone Board

Installing the CTCSS Tone Board (BC005) is a simple procedure, and requires only a few minutes following the steps below.

CAUTION:

BE SURE TO TURN THE SCANNER OFF AND DISCONNECT THE POWER CORD BEFORE ATTEMPTING TO OPEN THE SCANNER!

1. Take off the cover of your scanner by removing the side screws and the top screw on the rear panel.



2. Locate the 3-pin and 4-pin sockets on the Main Board.

3. The optional CTCSS Tone Board has two sets of pins. Align the pins with the corresponding sockets on the Main Board. Be sure each pin is in the center of the socket hole. Otherwise, you may bend the pin.



4. Carefully press down on the CTCSS Tone Board until the pins are fully seated in the sockets.
5. Replace the scanner cover, and re-insert the side screws and rear panel top screw.

Using CTCSS

The CTCSS (Continuous Tone Control Squelch System) feature allows squelch to be broken during scanning only when a CTCSS Tone is received.

To program a channel for CTCSS:

1. Press [PROG] to begin programming. 'PROG' LED is on.

2. The prompt to "Select ALPHA OR CTCSS" appears on the display. Press [CTCSS].

Select
ALPHA or CTCSS

3. The "Select chan" message appears. Use the Rotary Tuning control or keypad to enter the desired channel. Press [HOLD]. Display the channel number and frequency to be programmed

Select chan 256
1243.4620MHz

4. The channel number stops blinking. The CTCSS frequency is displayed as "00.0Hz" and is blinking.

00.0Hz ch256
1243.4620MHz

5. Choose a CTCSS tone frequency by selecting the tone frequency with the Rotary Tuner. - (See list of CTCSS tone frequencies at the end of this section.)

Note: When using the Rotary Tuner, turn the control clockwise one click to step up a tone frequency. The display changes from "00.0" to "67.0". Turn the control counterclockwise one click to step down a tone frequency. The display changes from "00.0" to "250.3".

Turn the Rotary Tuning control right or left to select the desired CTCSS frequency (in this example, 250.3 Hz).

250.3Hz	ch256
1243.4620MHz	

- Press [E]. The screen blinks twice. The "Select chan" message appears, with the channel number blinking. Repeat the programming for another channel or press [PROG] to end.

To change the CTCSS tone frequency on a programmed channel:

- If you are not in CTCSS Mode, press [CTCSS] to activate that mode. If a CTCSS frequency has been programmed for the selected channel, it is displayed and "CTCSS" LED comes on. If not, the "CTCSS" LED comes on, but no CTCSS frequency is displayed.
- Press [PROG] to begin programming. "PROG" LED is on.
- The prompt to "Select ALPHA OR CTCSS" appears on the display. Press [CTCSS].
The channel number and tone frequency are displayed, and the "CTCSS" indicator starts flashing.
- Enter the new CTCSS tone frequency by selecting the tone frequency with the Rotary Tuner.
- Press [E] to complete the change.

To remove a CTCSS tone frequency from a channel, program the frequency as 00.0.

CTCSS Tone Frequencies (Hz)

000.0	⇒	67.0	71.9	74.4	77.0	79.7	82.5	85.4	88.5	91.5
94.8	97.4	100.0	103.5	107.2	110.9	114.8	118.8	123.0	127.3	131.8
136.5	141.3	146.2	151.4	156.7	162.2	167.9	173.8	179.9	186.2	192.8
203.5	210.7	218.1	225.7	233.6	241.8	250.3	←	000.0		

Helpful Hints

General Use

- Turn the scanner off before disconnecting the power.
- Always write down the programmed frequencies in the event of memory loss. If memory is lost, simply reprogram each channel.
- Always press each keypad button firmly until you hear the entry tone for that key entry.

Location

- If strong interference or electrical noise is received, relocate the scanner or its antenna away from the source of the noise. A higher elevation, if possible, may provide better reception. You might also try changing the height or angle of the telescoping antenna.
- Do not use the scanner in high-moisture environments such as the kitchen or bathroom.
- Avoid placing the unit in direct sunlight or near heating elements or vents.
- Do not plug the scanner into an outlet controlled by a wall switch as prolonged periods without power will cause scanner memory loss.

Cleaning

- Disconnect the power to the unit before cleaning.
- Clean the outside of the scanner with a mild detergent.
- To prevent scratches, do not use abrasive cleaners or solvents. Be careful not to rub the LCD window.
- Do not use excessive amounts of water.

Repairs

Do not attempt any repair. The scanner contains no serviceable parts. Contact the Uniden Customer Service Center or take it to a qualified repair technician.

Birdies

All radios are subject to receiving undesired signals or birdies. If your scanner stops during Search Mode and no sound is heard, it may be receiving a birdie. Birdies are internally-generated signals inherent in the electronics of the receiver. If the interference is not severe, you might be able to turn [SQUELCH] counterclockwise to cut out the birdie. Or, press [SRC] to resume searching.

Birdie Frequencies in MHz

25.600	155.990	365.9875	491.975
51.870	159.990	399.975	499.975
108.000	161.835	404.5625	503.975
111.9875	162.270	407.975	507.975
112.00	163.990	411.975	511.975
115.2375	167.990	415.975	763.700
115.9875	171.990	423.9875	788.750
116.00	205.400	431.700	793.0875
119.9875	219.990	431.975	851.0625
120.000	235.9875	435.975	866.1125
123.9875	303.9875	439.975	904.9375
124.000	323.9875	440.000	929.700
127.9875	331.9875	443.975	931.8125
128.000	352.7375	447.975	968.650
131.9875	375.9875	448.150	1057.250
132.000	379.9875	451.975	1095.700
135.9875	381.750	455.975	1124.800
136.000	383.975	471.975	1165.2625
139.990	383.9875	479.975	1288.5875
143.990	387.9875	481.350	
147.990	390.200	483.975	
151.990	391.9875	487.975	

Troubleshooting

If your BC8500XLT is not performing properly, try the steps listed below.

PROBLEM	SOLUTION <i>* Applies to mobile installation only</i>
SCANNER WON'T WORK.	Check the connections at both ends of the AC Adapter. Turn on the wall switch of your room. You could be using an outlet controlled by the wall switch. Move the AC Adapter to another wall outlet. Make sure the power switch is turned on. <ul style="list-style-type: none">* Check the connections at both ends of the DC cord or cigarette lighter cord.* Check to see if the fuse is blown. If the fuse is blown, replace with a new one.* Make sure the ignition key is at the Accessory position.
IMPROPER RECEPTION.	Check the antenna and its connection. You may be in a fringe area. This may require an optional multi-band antenna. Check with your dealer or local electronics store.
SCAN WON'T STOP.	Adjust the Squelch Control. Check the antenna connection. It is possible that none of the programmed channels are active at the time. Try the band search.
SCAN WON'T START.	Press the bank key again. Make sure there are some programmed channels. Adjust the Squelch Control.
SEARCH WON'T START.	Adjust the Squelch Control.

If you still cannot get satisfactory results and want additional information, or to return the unit for service, please call or write the Uniden Parts and Service Division. The address and phone number are listed in the Warranty (at the end of this manual).

Technical Specifications

Banks:	Total 20 banks
Channels:	500 channels
Search Band:	Total 14 Search bands (AM, NFM, WFM)

	Frequency (MHz)		Mode	Steps
25.000	-	25.995	AM	5.0/12.5/25/50 KHz
26.000	-	26.995	AM	5.0/12.5/25/50KHz
29.000	-	53.995	NFM	5.0/12.5/25/50KHz
54.000	-	71.995	WFM	5.0/12.5/25/50KHz
72.000	-	75.995	NFM	5.0/12.5/25/50KHz
76.000	-	107.995	WFM	5.0/12.5/25/50KHz
108.000	-	136.995	AM	5.0/12.5/25/50KHz
137.000	-	173.995	NFM	5.0/12.5/25/50KHz
174.000	-	215.995	WFM	5.0/12.5/25/50KHz
216.000	-	224.995	NFM	5.0/12.5/25/50KHz
225.000	-	399.995	AM	5.0/12.5/25/50KHz
400.000	-	511.995	NFM	5.0/12.5/25/50KHz
512.000	-	549.995	WFM	5.0/12.5/25/50KHz
760.000	-	1300.000	NFM	5.0/12.5/25/50KHz

Scan Rate: Up to 100 channels per second (Turbo Mode)
Up to 20 channels per second (Normal Mode)

Scan Delay: 2 seconds

Audio Output: Max 3W (8 Ω load)

Antenna: 50 ohms (Impedance)

Operating Temperature: -20°C (-4°F) to +60°C (+140°F)

Size: 10-1/2" (W) x 7-1/2" (D) x 3-1/2" (H)

Weight: 4 lbs.

Certified in accordance with FCC Rules and Regulations Part 15 Subpart C as of date of manufacture.

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

23. What types of credit cards do you use?

- American Express, Diners Club, Carte Banca
- Bank Card (Master Card, Visa, etc.)
- Department Store Card
- Gasoline Card, Name _____
- None of the above

24. What type of vehicle(s) do you drive?

- Compact
- Full Size
- Mid Size
- Motor Cycle
- Pick Up
- Recreation Vehicle
- Specialty
- Sports
- Station Wagon
- Van

25. What magazine(s) do you read?

- Auto Week
- Better Homes and Gardens
- Car & Driver
- Consumer Reports
- Cosmopolitan
- Ladies Journal
- Motor Trend
- Newsweek
- People
- Popular Mechanics
- Popular Science
- Road & Track
- Sports Illustrated
- Time
- Other _____

Thank you for taking the time to complete this questionnaire. If you have any other comments or suggestions, please write to:
UNIDEN AMERICA CORPORATION
Product Development Dept.
4700 Amon Carter Boulevard
Fort Worth, Texas 76155

.....
Please fold here

PLACE
FIRST CLASS
STAMP
HERE

uniden

4700 Amon Carter Boulevard
Fort Worth, Texas 76155

ATTN: MARKET RESEARCH DEPARTMENT

Please do not send any products or correspondence to this address.

Product Registration Card

Thank you for choosing a Union Product. You have chosen one of the most sophisticated, technologically advanced select products available. Please fill in the requested information on this card so that we can better understand our customers and needs. With this information we can plan new products and advertising, and guide our customer service programs. Thanks your help.

1. Mr. 2. Mrs. 3. Ms. 4. Miss

5. First Name _____ 6. Initial _____ 7. Last Name _____

8. Street _____ 9. Apt. No. _____

10. City _____ 11. State _____ 12. ZIP _____

13. Date of Purchase _____
Month Day Year

14. Model No. _____ Serial No. _____

15. Where did you purchase the Product?

- Catalog Showroom
- Department Store
- Discount Store
- Electronics Specialty Store
- Gift
- Local Electronics Dealer
- Mail Order
- Truck Stop

16. Dealer Name: _____

17. Dealer Address: _____

18. How did you become aware of this product?

- TV Advertisement
- Magazine Advertisement
- Newspaper Advertisement
- Store Display
- Friend's Recommendation
- Salesperson's Recommendation
- Previous Use

19. Please check two of the factors that most influenced your purchase of this product.

- Features
- Previous Use
- Price
- Quality
- Reputation
- Style or Appearance
- Warranty

20. Please check your age category.

- Under 20
- 20 - 25
- 26 - 30
- 31 - 35
- 36 - 40
- 41 - 45
- 46 - 50
- 51 - 55
- 56 - 60
- 61 - 65
- 65 & Over

21. Occupation

- Business Professional
- Civil Servant
- Clerical
- Contractor
- Executive/ Administrator
- Farmer/ Agriculture
- Homemaker
- Machine Operator/ Laborer
- Military
- Professional Driver
- Retired
- Sales/ Marketing
- Student
- Teacher/ Educator
- Technical Professional

22. Please check your approximate family income.

- Under \$10,000
- \$10,000 - 15,000
- \$15,000 - 20,000
- \$20,000 - 25,000
- \$25,000 - 30,000
- \$30,000 - 40,000
- \$40,000 - 50,000
- \$50,000 & Over

CUT ALONG DOTTED LINE

One Year Limited Warranty

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 12 months 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, sub-assemblies, or any configurations not sold by Uniden, (C) improperly installed, (D) repaired by someone other than an authorized 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, programmed, or serviced by anyone other than an authorized Uniden service center.

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 repair the defect 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. 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 MERCHANT ABILITY 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 this Operating Guide you are certain that the Product is defective, pack the Product carefully (preferably in its original packaging). Include evidence of original purchase and a note describing the defect that has caused you to return it. The Product should be shipped or delivered (by UPS or insured parcel post), freight prepaid to warrantor at:

Uniden America Corporation
Parts and Service Division
8707 North By Northeast Blvd.
P.O. Box 501368
Indianapolis, IN 46250
(317) 842-2483, 8 AM to 5 PM EST, Monday through Friday

PATENTED UNDER ONE OR MORE OF THE FOLLOWING U.S.
PATENT NUMBERS:

3,961,251	3,962,644	3,974,450	3,974,452	3,987,400
3,998,521	3,996,522	4,000,468	4,027,251	4,057,760
4,092,594	4,100,497	4,114,103	4,123,715	4,156,193
4,157,505	4,179,662	4,219,821	4,270,217	4,398,304
4,409,688	4,455,679	4,481,036	4,521,915	4,627,100
4,888,815	4,932,074	4,947,456	5,014,348	RE 31,523
DES 253,173				

OTHER U.S. AND FOREIGN PATENTS PENDING

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