Uniden®

UBCD160DN

Owner's Manual

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PRECAUTIONS

The AMBE+2™ voice coding Technology in this product is protected by intellectual property rights including patent rights, copyrights, and trade secrets of Digital Voice Systems, Inc.

The voice coding technology is licensed solely for use within this Communications Equipment. The user of this technology is explicitly prohibited from attempting to extract, remove, decompile, reverse engineer, or disassemble the object code, or in any other way convert the object code to a human-readable form

US Patent Nos #7,970,606, #6,912,495 B2, #6,199,037, B1, #5,870,405, #5, 826, 222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, and #5,517,511.

Before you use this scanner, please read and observe the following.

EARPHONE WARNING!

Be sure to use only a monaural earphone with this scanner. You can also use an optional stereo headset. Use of an incorrect earphone or mono headset might be potentially hazardous to your hearing. The output of the phone jack is monaural, but you will hear it in both headphones of a stereo headset.

Set the volume to a comfortable audio level coming from the speaker before plugging in the monaural earphone or headset. Otherwise, you might experience some discomfort or possible hearing damage if the volume suddenly becomes too loud because of the volume control or squelch control setting. This might be particularly true of the type of earphone that is placed in the ear canal.

WATERPROOF 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.

At Uniden, we are always improving our products. This manual may not contain the latest improvements on this model.

CONTENTS

AVERA® DISTRIBUTING

UNIDEN UBCD160DN
DIGITAL SCANNER

FEATURES

3 Search Keys - you can assign 3 of the number keys to start a search range, Weather Scan,Tone-Out search, Service search, or view the 'Band Scope' mode.

10 Channel Storage Banks - You can store up to 100 frequencies into each bank for a total of 1,000 frequencies so you can more easily identify calls.

10 Custom Searches - lets you program up to 10 custom search ranges.

22 Service Searches - frequencies are preset in separate Airband, CB Radio, Church Radio NL, DMR446, dPMR, Emergency, Freenet, HAM Radio, LPD, Marine, Military Air, Mosque UK, and PMR, searches to make it easy to find specific transmissions.

Adjustable Scan/Search Delay/Resume – set a delay up to 30 seconds or a forced resume up to 10 seconds. (per channel or search).

Attenuator - you can set the scanner's attenuator to reduce the input strength of strong signals by about 20 dB per channel, or search band.

Automatic Channel Setup - accepts frequencies on any valid channel step, even if it does not fall within the band plan's default steps.

Band Scope Mode – Band Scope mode is a special type of search mode where the scanner searches a frequency range and displays the signal level in real time.

Broadcast Screen - allows the scanner to ignore hits on known broadcast frequencies in search mode.

Built-in Battery Charger - allows you to charge the batteries in the scanner with a timer function and a USB connector cable (included).

Configurable Band Defaults - allows you to set the step (2.5, 3.125, 5, 6.25, 7.5, 8.33, 10, 12.5, 15, 20, 25, 50 or 100 kHz) and modulation (AM, FM, NFM, WFM, or FMB) for 30 different bands.

CTCSS/DCS/Digital Code Decode - decodes and displays Continuous Tone Code Squelch System tones being transmitted and plays Digital Coded Squelch, DMR Color Code, NXDN Area, NXDN RAN code, and dPMR Common ID being received.

CTCSS/DCS/Digital Code Search - lets you search for CTCSS, DCS, DMR Color Code, NXDN Area, NXDN RAN code, or dPMR Common ID when it finds an active frequency in search modes.

Custom Alerts - you can program your scanner to alert you when a channel is received, For each alert in the scanner, you can select from 9 different tone patterns, 15 volume settings, and 2 blink patterns.

DMR, dPMR, and NXDN Support - allows you to receive transmissions with these decoding protocols.

Duplicate Frequency Alert - alerts you if you try to enter a duplicate name or frequency already stored in the scanner.

Individual Channel Volume Offset – allows you to adjust the volume offset for each channel.

Intermediate Frequency Exchange – changes the IF used for a selected channel/ frequency to help avoid image and other mixer-product interference.

Key Lock Mode – prevents most keys from operating and prevents unwanted accidental programming.

LCD Backlight Display - makes the LCD easy to see in dim light using three light levels.

PC Program - you can transfer data to and from your scanner and your personal computer and control the scanner using a computer. Optional software ARC260 is distributed by Avera and available from your scanner shop. The USB drivers are also available on USB sticks with the ARC260 software.

Note: *If you connect to a computer's USB port, the PC will prompt you to download the drivers for your scanner. USB drivers are available from www.avera.eu in the DOWNLOADS section.*

Priority/Priority Plus Scan – priority channels let you keep track of activity on your most important channels while monitoring other channels for transmissions and you can scan just the priority channels. Priority Plus only monitors Priority channels.

Quick Search - lets you search from the currently-tuned frequency or channel or enter a frequency and start searching. Turn the scroll control knob to change search direction.

Search Lockouts - you can lock out up to 400 frequencies (200 temporary, 200 permanent) in search.

Signal Strength Meter - shows the signal strength for the more powerful transmissions.

Temporary Lockout - automatically unlocks temporarily locked out channels/ systems/searches/locations when you cycle power.

Text Tagging - you can name each channel, custom search range, Tone-Out, Service list, and SAME group, using up to 16 characters per name.

Tone-Out Standby/Tone Search - lets you set the scanner to alert you if a two-tone sequential page is transmitted. You can set up to 10 settings (transmit frequency,

tone frequencies) then select one for standby monitoring. The scanner will also search and display unknown tones.

Turbo Search - increases the search speed from 100 to 300 steps per second automatically for bands with 5 kHz steps.

INCLUDED WITH YOUR SCANNER

Included in the box are:

<table>
<tr><td>  </td><td>  </td><td>Not Shown:

• USB Type C® Cable
• Wrist Strap
• Rechargeable AA Ni-MH batteries (2300mA x 2)
• Belt Clip (attached)</td></tr>
<tr><td>UBCD160DN Scanner</td><td>Antenna</td><td></td></tr>
<tr><td colspan="3">Printed Materials:

• Owner’s Manual (English)</td></tr>
</table>

***Note**: USB Type C is a registered trademark of USB Implementers Forum.*

SCANNING BASICS

This section provides you with background on how scanning works. You don’t really need to know all of this to use your scanner, but some background knowledge will help you get the most from your UBCD160DN.

WHAT IS SCANNING?

Unlike standard AM or FM radio stations, most two-way communications do not transmit continuously. Your UBCD160DN scans programmed channels until it finds an active frequency, then stops on that frequency and remains on that channel as long as the transmission continues. When the transmission ends, the scanning cycle resumes until the scanner receives another transmission.

WHAT IS SEARCHING?

The UBCD160DN can search for active frequencies. This is different from scanning because you are searching for frequencies that have not been programmed into the scanner. When you select frequency bands to search, the scanner searches for any active frequency within the lower and upper limits you specify. When the scanner finds an active frequency, it stops on that frequency for as long as the transmission lasts. If you think the frequency is interesting, you can store it into one of the banks. If not, you can continue to search.

UNDERSTANDING SCANNING

What is CTCSS/DCS?

Your scanner can monitor systems using a Continuous Tone Coded Squelch System (CTCSS) and a Digital Coded Squelch (DCS) system, which allow the squelch to open only when the tone you have programmed with a specific frequency is received along with a transmission. CTCSS and DCS are sub-audible tone-signaling systems sometimes referred to as PL or DPL (Motorola's trademarked terms for Private Line and Digital Private Line, respectively). CTCSS and DCS are used only for FM signals and are usually associated with both amateur and commercial two-way frequencies.

CTCSS and DCS are used for many purposes. In many cases, CTCSS and DCS are used to restrict access to a commercial repeater, so that only those units which transmit the correct tone along with their signal can "talk" to the repeater. CTCSS and DCS are also used in areas that receive interference where there are several stations with output frequencies close to each other. When this occurs, you might hear multiple communications on the same frequency. The stations might even interfere with each other to the point where it is impossible to clearly receive any of the stations. Your scanner can code each received frequency with a specific sub-audible CTCSS or DCS frequency or code. Then, when you receive multiple signals, you only hear the transmission with the CTCSS or DCS tone you programmed. If you do not receive the correct tone with a signal, the scanner's squelch remains closed and you hear nothing.

Appendix A tables provide the available CTCSS frequencies and DCS codes.

Conventional Scanning

Conventional scanning is a relatively simple concept. Each group of users in a conventional system is assigned a single frequency (for simplex systems) or two frequencies (for repeater systems). Any time one of them transmits, their transmission always goes out on the same frequency. Up until the late 1980's, this was the primary way that radio systems operated. Even today, there are many 2-way radio users who operate using a conventional system:

- Aircraft
- HAM radio
- PMR users
- Many business radio users

When you want to store a conventional system, all you need to know are the frequencies they operate on. When you are scanning a conventional system, the scanner stops very briefly on each channel to see if there is activity. If there isn't, the scanner quickly moves to the next channel. If there is, then the scanner pauses on the transmission until it is over.

Simplex Operation

Simplex systems use a single frequency for both transmit and receive. Most radios using this type of operation are limited to line-of-sight operation. This type of radio is frequently used at construction job sites, and with inexpensive consumer radios such as PMR radios. The range is typically 1 ~ 12 km, depending upon the terrain and many other factors.

Repeater Operation

Repeater systems use two frequencies: one transmits from the radio to a central repeater; the other transmits from the repeater to other radios in the system. With a repeater-based system, the repeater is located on top of a tall building or on a radio tower that provides great visibility to the area of operation.

When a user transmits (on an input frequency), the signal is picked up by the repeater and retransmitted (on an output frequency). The user's radio always listens for activity on the output frequency and transmit on the input frequency. Since the repeater is located very high, there is a very large line of sight. Typical repeater systems provide coverage out to about a 35 km radius from the repeater location.

UNDERSTANDING BANKS

Channel Storage Banks

To make it easier to identify and select the channels you want to listen to, the 1,000 channels are divided into 10 channel storage banks containing 100 channels each. You could use each channel storage bank to group frequencies by department, location, area of interest, or any other way you prefer. You can listen to any or all of the banks by pressing the number keys to turn a channel bank on and off.

Service Search Banks

This scanner is preprogrammed with many of the frequencies allocated to Airband, CB radio, Church Radio NL, DMR446, dPMR, Emergency, Freenet, HAM Radio, LPD, Marine, Military Air, Mosque UK, and PMR. There are 10 banks allocated for these searches that can be used just like the channel storage banks to search these frequencies in Service Search mode.

Custom Search Banks

Custom Search Banks let you program and search 10 custom search ranges. During a custom search, the scanner starts searching with the lowest frequency in the search range you select to the highest frequency in the range. You can search any

or all of these ranges by turning each search bank on or off just like channel storage banks in Search mode.

KEYPAD AND KNOB CONTROLS

Each of the keys and the knob on the UBCD160DN produce different results depending upon how you activate them. You can, for example, rotate the knob as well as press it. Some keys provide one operation when briefly pressed while pressing and holding a key or knob gives a different result. Many controls and keys behave differently depending on the mode your radio is in when you use them.

Key/Knob	Function
Hold	Press to hold on a channel or frequency in any mode. Press again to release the hold.
SCAN/ srch	• Press to start/pause scanning or searching in Scan mode. • Press **FUNC** then **SCAN/srch** to start a quick search.
L/O	• Press to lock out the current channel being monitored. • Toggle to select: Temporary > Permanent > Unlock > Temporary.

Key/Knob	Function
MENU	Press: • To enter **Menu** mode. • To return to previous menu. Press **FUNC** then **Menu:** • To go to the Edit menu for the current system in Scan mode. • To go to the *Search for...* menu in Search mode. • To go to the *Tone-Out for...* menu in Tone-Out Standby/ Search mode.
Power/ Lock/ Backlight	• Press and hold for more than 2 seconds to turn the scanner on or off. • Press to turn the backlight on or off. • Press **FUNC** then this key to toggle the key lock on or off in any mode (to prevent accidental keypad entry).
Multi-function Control Knob (Scroll Control)	Turn: • To change scan/search direction and to continue scanning/ searching in Scan/Search modes. • To manually scroll through channels or frequencies in Scan/Search Hold modes. • To scroll to a menu item in Menu mode. • To select Tone-Outs in Tone-Out Standby mode. • To select characters when editing text. • To increase or decrease volume or squelch levels. Press: • To select a menu item, alphanumeric/special character when entering text, a bank (Scan/Scan/hold mode), and a channel/frequency. • To display volume level screen; then turn to adjust volume level (16 levels). • **FUNC** then press the scroll control knob to display the Squelch screen; turn to adjust squelch.

Key/Knob	Function
FUNC	• Press F key then select the function in orange letters on the keypad. • Press and release to enter Function mode for 3 seconds. F displays. • Press and hold to lock Function mode with no timeout. F blinks and *HOLDING* displays. Press again to unlock. • Press **FUNC** then to lock or unlock the keypad. • Press **FUNC** then press the scroll control knob to display the Squelch screen.
Number Keys	In addition to entering numbers, the 4 and 6 keys are also used to move the cursor left and right.
.no(pri)	Used to enter a decimal point, delete values, errors, and warning messages. It is also used to select “No.”
Yes/E	Used to select, accept, and/or save a numeric value entry as well as selecting “Yes.”

UBCD160DN BASIC SETUP

HARDWARE SET UP

Connect the Antenna

Connect the antenna to the antenna post. Press and twist the antenna onto the connector to secure it.

Install the Batteries

You can power your UBCD160DN using 2 rechargeable AA Ni-MH batteries (included) or 2 non-rechargeable AA alkaline batteries (not included).

1. Remove battery cover and install 2 AA batteries, matching the polarity symbols (+ / –) inside the battery case.
2. Replace the cover.

Charge the Ni-MH Batteries

CAUTION: Do not try to charge non-rechargeable batteries. Non-rechargeable batteries can get hot or burst if you try to recharge them.

When the scanner beeps every 15 seconds, replace or recharge the batteries.

Use the provided USB cable to charge the Ni-MH rechargeable batteries while the batteries remain in the scanner AND the scanner is turned off.

***Note**: If the scanner detects batteries that cannot be charged (such as alkaline batteries) when you set it up to be charged, it displays BATTERY ERROR. Remove the non-rechargeable batteries.*

1. If the scanner is on, turn it off.
2. Connect the USB cable (included) to the UBCD160DN. The USB port is under the rubber flap on the right side.
3. Connect the other end of the USB cable to a standard 5V wall adapter (not included) or to another USB power source. *Battery Charge - Start Charging? Yes = E/ No = .* displays. Press **Yes/E**.
4. The scanner begins charging and displays *Normal Charging.* Charging continues according to the length of time set in **MENU***/Settings/Battery Operation/Set Charge Time* menu (default = 14 hours).
5. When charging is finished**,** *Charge Complete* **displays.**

Checking the Battery Level

To view the battery level (in volts), press the scroll control while scanning, searching, or receiving and look at the small numbers in the upper right side of the display. Press scroll control again to close the batter voltage level display; the display also closes in about 10 seconds.

Turn on the Scanner

Press and hold  for about 2 seconds to turn on the scanner. A welcome message displays.

***Note**: If the scanner has been used previously, it will return to whatever mode it was in when it was turned off. If the scanner is new or has been reset, the radio displays Scan Mode Nothing to Scan because it has not yet been programmed with frequencies to scan. If you want to search for something right away, set up Volume and Squelch settings; next, press the orange FUNC key and then press svc/8 key.*

CONFIGURE SCANNER

After you turn on the scanner for the first time, configure it to your personal liking by setting the volume level, adjusting the squelch level, and going to **MENU**/*Settings* (page 58) to personalize the unit. Configuring the scanner involves the following:

- Set volume level.
- Set squelch level.
- Set backlight.
- Adjust key beep.

- Adjust contrasts.
- Adjust band default values.

Set Volume Level

1. Press the scroll control knob to display the volume level indicator.
2. Turn the scroll control knob within 10 seconds to adjust the volume (levels 0 - 15). The scanner beeps at the volume level indicated.
3. Press the scroll control knob again to set and close the volume control function; it will also time out after 10 seconds.

Set Squelch Level

1. Press **FUNC** and then press the scroll control knob to display the squelch level screen.
2. Turn the scroll control knob counter-clockwise all the way and then clockwise until the noise stops (0 - 15 levels). Turn the scroll control knob one level more.
3. Press the scroll control knob to set and close the squelch control function; it will also time out automatically after 10 seconds.

From the *Settings* menu (see page 58), you can set the backlight brightness, adjust the key beep, and set the contrast value. You can adjust other settings as well, but these three settings are the most common adjustments when the scanner is turned on for the first time.

Set Backlight

Adjust the backlight level through the menus.

1. From **MENU**/*Settings*, scroll to *Set Backlight* and press **Yes/E**.
2. Scroll to *Set Mode* and press **Yes/E**.
3. *Set Mode* lets you determine how long the backlight stays on. Select one of the following:
   - **10 sec** - The backlight stays on for 10 seconds after you press  .
   - **30 sec** - The backlight stays on for 30 seconds after you press .
   - **Squelch** - The backlight turns on when the squelch opens, then stays on for 5 seconds.
   - **Keypress** - The backlight turns on when any key is pressed then stays on for 10 seconds.
   - **Keypress + Squelch** - The backlight turns on under both keypress and squelch conditions above.
   - **Infinite** - The backlight turns on when you press then stays on until you press again.
4. After selecting a mode, press **Yes/E**. The *SET BACKLIGHT* menu displays again.

5. Scroll to *Set Dimmer* and press **Yes/E**.

6. The *Set Dimmer* menu sets how bight the backlight will be. As you scroll through the options, a sample screen at that option displays. Scroll to *High*, *Middle*, *Low,* or *Off* and press **Yes/E** to save and exit.

7. Press **Menu** to return to the *Settings* menu.

Adjust Key Beep

This setting turns key beep on and off and adjusts its volume level.

1. From **MENU**/*Settings*, select *Adjust Key Beep* and press **Yes/E**.

2. Select a key beep volume level (1 - 15), *Auto* (the scanner sets the alert beep to the master volume level), or *Off* (no sound is made).

***Note**: When you scroll through the volume level options, the scanner beeps at that level.*

3. Press **Yes/E** to set the desired beep level and return to the *Settings* menu.

Adjust Contrast

This setting controls the display's contrast.

1. From **MENU**/*Settings*, scroll to *Adjust Contrast* and press **Yes/E**.

2. Fifteen contrast levels display. The screen displays the contrast level as you scroll through the options. Select a contrast level and press **Yes/E** to save it and return to the *Setting* menu.

Change Band Defaults

This setting allows you to change the "Auto" (default) values to whatever you feel "Auto" should be for each band (vs. the radio defaults). Since all of the step and modulation settings default to "Auto," this allows you to skip those settings when programming.

***Note**: These settings do not affect service searches.*

1. From **MENU**/*Settings*/*Band Defaults*, scroll to the band you wish to edit and press **Yes/E**. The *Set Modulation* menu for that band displays.

2. Scroll to *AM*, *NFM*, *FM*, *WFM*, or *FMB* (Broadcast) and press **Yes/E** to save and exit. The *Set Step* menu for that band displays.

3. Scroll to one of the following options and press **Yes/E** to save and exit.

Auto	2.5 kHz	3.125 kHz	5 kHz	6.25 kHz	7.5 kHz	8.33 kHz
10 kHz	12.5 kHz	15 kHz	20 kHz	25 kHz	50 kHz	100 kHz

4. Scroll to other bands to edit. When complete, press **MENU** to return to the *Settings* menu.

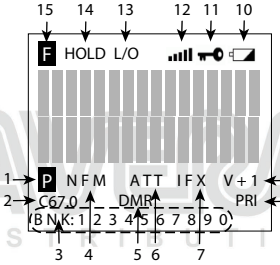
Locking/Unlocking the Keypad

Lock the keypad to prevent accidental input.

1. Press **FUNC** then to lock the keypad. The only keys/knobs that work while the keypad is locked are **FUNC**, **HOLD**, and the scroll control for volume.
2. To unlock the keypad, press **FUNC** then again.

A LOOK AT THE DISPLAY

This next graphic shows the various screen elements and where they appear. Not all elements display on every screen.



The following 2 screens are examples of different types of screens, showing how elements from the first graphic are displayed.

Scan Screen Example

Service Search Screen Example

Quick Search Screen Example

Item		Meaning
1	P	Priority channel
2		CTCSS/DCS/Color Code data (C67.0/DCS023/CC1, etc.)
3	**BNK**	Bank number (1 - 9, 0)
4		Modulation Type (AM, NFM, FM, WFM, or FMB)
5		• **CAP.** Capacity Plus/Linked Capacity Plus site's voice and data in MotoTRBO system. • **CON**. Connect Plus site's voice and data in MotoTRBO system. • **DT3**. Trunked DMR site's voice and data in ETSI Standard Tier 3 system. • **DMR**. One frequency DMR site's voice and data/ Simplex DMR voice. • **IDS**. IDAS in NXDN system. • **ND4**. NXDN 4800 Direct Frequency • **ND9**. NXDN 9600 Direct Frequency • **NX4**. NXDN 4800 NEXEDGE • **NX9**. NXDN 9600 NEXEDGE • **NXD**. Unknown NXDN system • **XPT**. Hytera XPT site's voice and data in MotoTRBO system. • **DPM**. Simplex dPMR Voice • **P25/DAT**. Apco Project 25.The radio skips P25 signals when searching or scanning. **Note 1***: The UBCD160DN does not include APCO Project 25 demodulation functionality.* ***Note 2****: These display in the same place as the DMR icon in the illustration and also in conventional/search mode.*
6		**ATT** icon displays when attenuator is on. **G-ATT** icon displays when global attenuator is on.
7	**IFX**	Indicates current frequency is set to IFX (IF Exchange**).**
8	**PRI**	PRI indicates Priority Scan mode; it blinks while the Priority Plus scan is active. PRI indicates Priority Do-Not-Disturb (DND).
9		V-3/V-2/V-1/V+1/V+2/V+3. Displays when Volume Offset is on.

Item		Meaning
10		The icon blinks when: • Battery voltage is low. • A bad battery is installed and then an AC adapter is connected.
11		Icon indicates that keylock is enabled.
12		This bar displays the received signal strength (0 - 5).
13		**L/O** indicates a channel or frequency is permanently locked out. **TL/O** indicates a channel or frequency is temporarily locked out.
14	**HOLD**	Hold on a channel. Press again to release hold and continue scanning.
15	F	Indicates **FUNC** (Function) mode is active (Function mode times out in three seconds). Press and hold this key longer than three seconds to enter Function Hold mode; the icon blinks and Function Hold mode does not time out after three seconds.

MENUS

Procedures in this manual refer to the UBCD160DN's menus for programming channels, frequencies, banks, and other operations.

Press **MENU** to display the main menu list:

- Program Channel
- Search Options
- Search for . . .
- Priority Scan
- Tone-Out for . . .
- Settings

Appendix B on page 53 details each menu and its subsequent submenu structure.

USING MENUS

After pressing **MENU**, the main menu displays.

Turn the scroll control knob clockwise to scroll through the items in order. Turn the scroll control knob counter-clockwise to scroll through the items in reverse order (backwards).

ENTERING DATA

For screens that require input (entering a name, changing a frequency, etc), follow these conventions:

- To enter a character, turn the Scroll Control until the character you want displays. Characters display in the following order: all capitals, all lower case, numbers, specials, blank. Press scroll control or **Yes/E** to select it.
- To move the cursor to the left, press **4**.
- To move the cursor to the right, press **6**.
- To clear a character, press **./No**.
- To clear all characters, press **./No** twice.
- To save and exit when finished, press **Yes/E** or push the scroll control.

Valid Frequency Ranges

When you program channels into a bank, you assign frequencies to that channel. The supported band frequency range is from 25.000 to 960.0000 MHz, with one range not supported: 520.0000 - 758.000.

The scanner automatically rounds the entered number to the nearest supported step. For example, if you enter 151.473 MHz, the scanner rounds it to 151.475.

UBCD160DN OPERATION SETUP

You must program at least one frequency into a channel before you can begin scanning. To customize your scanner, you should also:

- Set up and program channels into banks.
- Set up search (frequency) ranges.
- Set up search characteristics such as service list names, delay times, etc.

- Set up custom searches.
- Set up quick searches.

When you have configured your scanner, you can start using your scanner's preprogrammed service banks, the custom search banks.

PROGRAM CHANNELS

***Note**: See SEARCH MODE (page 25) if you want to continuously search all or specific ranges of frequencies or preprogrammed service frequencies instead of scanning programmed channels.*

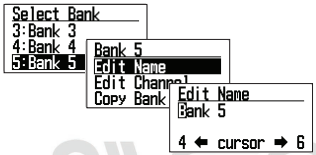
Before scanning for transmissions, you need to set up channel banks and program frequencies into those channels. You can save 100 channels into each of the 10 channel banks (1000 channels total). If desired, group similar channels into one bank to make listening easier, and name the channels/set attributes for each channel.

After programming channels into banks, press **SCAN/srch** to scan those entries. The scanner starts scanning at Bank 1 and continues through Bank 10 (displays as BANK 0) before repeating the scanning process. Flashing numbers at the bottom of the screen indicate which bank is currently being scanned. If there are banks you do not want to scan, press that bank's number to turn it off. Press that number again to turn it back on and make it available for scanning.

Editing Banks and Channels

1. From **MENU**/*Program Channel/Select Bank*, you can select a bank and rename it.

From **MENU**/*Program Channel/Select Bank* -



After entering a new bank name, press **MENU** to return to the previous screen. Select *Edit Channel*.

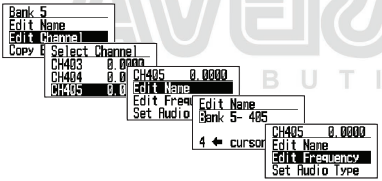
2. **Select Bank**. You can select from 1 (Bank 1) through 9 and 0 (Bank 9 and Bank 10).
   The first number (1, 2, etc) is the Bank number (Bank 1, Bank 2, etc) that matches the number on the bottom of the screen when scanning begins.

***CAUTION**: Frequencies must be registered in these banks before scanning can start. Nothing to Scan displays if you try to scan an empty bank.*

3. **Edit Name**. After you select a bank and press the scroll control knob to set it, that bank's action list displays. If you do NOT want to change the Bank's name,

the bank name will default to Bank 1, Bank 2, etc. If you DO want to change the bank's name, select *Edit Name*. Refer to page 19 for text entry procedures.
***Note**: The bank name appears at the top of the screen while scanning. For example, if you put the frequencies for Emergency in 1:Bank 1 and renamed it to 1:Emergency, you can see what services are scanning in BNK:1.*

After you have selected a bank and renamed it if desired, you can select a channel in that bank and edit it.



After entering a new channel name, press **MENU** to return to the previous screen. Select *Edit Frequency.*

4. **Edit Channel**. Enter frequencies into the bank's channels one by one. If you have already entered a frequency, you can edit up to 100 registered frequencies in each bank. Bank 1 starts at CH001 and ends at CH100; Bank 2 begins at CH101 and ends a CH200, etc.

***Note**: The scanner automatically rounds the entered number to the nearest supported frequency. For example, if you enter 151.473 MHz, the scanner rounds it to 151.475.*

If you enter a frequency that has already been entered elsewhere, the channel number and *Frequency Exists - Accept? (Y/N*) displays. If you entered the frequency by mistake, press **./No** and enter the correct frequency. If you press **Yes/E** to accept, that frequency will be entered twice.

There are 11 settings you can specify for each selected channel:

- **Edit Name.** You can set a name for the channel and change it as needed. If you do not edit the channel name, it will default to "*BANK 1-001*, etc."

  ***Note**: When a frequency is received and scanning stops, the name of that channel displays on the screen.*

- **Edit Frequency.** Enter a frequency within the frequency range supported by this radio. Decimal numbers may be rounded depending on the frequency; it does not affect performance.
  If you enter a frequency that has already been registered, the Radio displays *Frequency Exists Accept ? (Y/N).* See page 19 for entering frequency details.

***Note**: Check websites for frequencies that can be received in your area.*

Select Audio Type. Select one of the three following audio types: All, Digital Only; and Analog Only.

ALL: The radio will automatically detect the signal and receive it in the appropriate mode. Select *ALL* if you don't know what mode is being used for that frequency.

IMPORTANT: In this mode for any signal, the radio outputs audio and stays on that frequency for as long as the received signal lasts. Even for a digital signal that cannot be demodulated or a control signal that does not contain sound, the radio recognizes it as analog signal so that, after receiving it, the radio stays on that channel until the signal disappears. If you know that digital communication is used on this signal, it is highly recommended that you set Audio Type to Digital Only.

Digital Only: The radio will scan assuming only digital signals are coming. Digital communications that cannot be demodulated and data signals (such as control signals) are ignored; scanning resumes after data channel signals are received.

Caution: It may appear that the Squelch setting is not effective in Digital Only mode as there is no apparent change when adjusting the Squelch level. However, during scanning, the Squelch setting value is indeed used to determine the presence or absence of a signal.

If you start scanning with the squelch set to open, it would require checking each time as to whether or not there is a digital signal that can temporarily pause and demodulate even on channels without a signal.

This would slow down the scanning process. Therefore, before starting scanning in Digital Only mode, always ensure that the squelch is not set to open.

It is recommended to either set the squelch value to the level used when receiving analog signals or pre-set the squelch level to around 2 or 3 before starting the scan.

Digital code search and filtering by Color Code, RAN code, IDAS Area, and Common ID are possible.

Analog Only: The radio will scan assuming only analog signals are coming.

- Since the digital signal is not demodulated, it becomes data sound.
- Squelch is enabled. Check the Squelch level.

- CTCSS/DCS included in the received signal can be searched and filtered.
- You can set communications containing specific CTCSS/DCS codes to be ignored.

- **Set Modulation.** When you select *AUTO*, the radio will use the default mode for that selected frequency.
  If you want to intentionally change the mode and bandwidth, you can change it manually.

  Press **Func** + **9(mod)** during Scan Hold mode to override modulation .
- **Set Delay Time.** Scroll to the desired delay time and press **Yes/E** to save and exit.

  - 0, 1, 2, 5, 10, 30 seconds. Sets the time to stay on that frequency after transmission ends. Doing this lets you wait for a delayed reply to that transmission. If set to 0, the scan will start as soon as the transmission ends; if there is a reply after 1 second, you may miss it. Increasing this time will slow down the overall scan time.
  - -2, -5, -10, -30 seconds. If set to a negative value on that frequency, the radio stays on that frequency for the set amount of time after receiving a signal. For example, if you select -2 seconds, you will only hear the first 2 seconds of a 10 second transmission.

- **Set Attenuator** Add attenuation per individual frequency. Attenuation can also be set globally.

  If a strong signal source exists near the desired frequency, it may interfere with reception of the desired frequency. Turning ATT ON weakens the received signal but may improve communication clarity. Under normal circumstances, use it with OFF.

  - Press **FUNC** + **att/7** to override this setting during Scan/Hold mode.
  - Press and hold **FUNC** + **att/7** to toggle global attenuator.
- **Set Priority**. Select one or more frequencies to be enabled (or disabled) as Priority channels. Enabled channels can be prioritized during scanning. See the Priority Scan menu on page 57 for more details.

- **Set Alert**. When Alert is turned on and this specific frequency is received, a short alert can sound and the backlight can blink.

- Set Alert Tone**.** Choose from 9 alert sounds (1 - 9) or Off. The radio sounds each tone as it is selected. After selecting the tone, *Set Alert Level* displays. Select the tone volume (Auto, 1 - 15).
- **Set Alert Light**. The radio backlight LCD turns on/blinks according to this setting when this frequency is received.

  * On. When receiving, the backlight lights up and stays on for 5 seconds.
  * Slow Blink. The backlight blinks slowly up to three times.
  * Fast Blink. The backlight blinks up to 5 times in short intervals.

Note**: Operations may overlap depending on the Backlight settings (MENU***/Settings/Set Backlight/Set Mode - see page 58).*

- **Set Lockout**. Setting a frequency to Lockout will skip that frequency when scanning.

  - Unlock: Unlocks a locked out frequency. Invalid if selected for an already unlocked frequency.
  - Temporary Lockout (TL/O). Locks out a frequency if it is unlocked (see Unlock above) or power cycles to the radio. TL/O frequencies are not retained in memory.
  - Lockout (L/O): Locked out until it is unlocked (see Unlock above). L/O status is saved to memory when power cycles.

- **Adjust Volume Offset.** Fine-tune the audio level for each receiving frequency. The audio level may differ depending on the communication received. You can manually flatten the receiving audio level difference for each frequency.

  Press **Func** + **5(lvl)** during Scan Hold mode to override Volume Offset.

- **Set DMR TDMA Slot**. You can specify the slot for DMR communication. If you select *Any*, communication will be received from both slots, and if both slots are used simultaneously, communication from either one of them will be received depending on the timing.
- **Set Digital Waiting.** Set the amount of time for the scanner to determine if a transmission is digital or analog. During this time, the scanner evaluates the signal and, if it detects a digital signal, it immediately opens squelch. If a digital signal is NOT detected before the delay expires, the scanner opens squelch at the end of the delay. This prevents "false decode" problems (digital noise at the beginning of transmissions). The default setting is 400 ms. This setting only affects channels with an Audio Type set to *ALL*.

***Note**: For analog transmissions, if the Audio Type is set to ALL, the first part of the transmission will be lost for the wait time set here.*

- **Clear Channel.** Clear a specific channel. The cleared channel becomes an empty channel (0.0000 MHz) and is locked out and excluded from scanning.

5. **Copy Bank.** You can copy the contents of a bank that has already been created and paste it into another bank.
   - Move the scroll bar to the bank you want to copy and select it.
   - Next, select *Copy Bank* from the *Select Bank* menu.
   - Select the bank you want to paste the bank information into and press **Yes/E** to overwrite it.

   ***Note**: The Bank name is not copied; please rename it after copying.*
6. **Clear Bank.** Erase the contents of the bank and returns it to factory default settings.

SEARCH MODE

Setting up search ranges lets you search for pre-programmed frequencies. There are three types of searches:

- **Service Search**. Search for pre-programmed service frequencies (police, fire, civil air, etc).
- **Custom Search**. Set lower- and upper-frequency limits and other search criteria.
- **Quick Search**. Start searching at the displayed frequency or at a specific entered frequency.

Service Search

If you do not have a reference for frequencies in your area, use an internet search to find transmissions. You can search for Airband, CB radio, Church Radio NL, DMR446, dPMR, Emergency, Freenet, HAM Radio, LPD, Marine, Military Air, Mosque UK, and PMR frequencies without knowing the specific frequencies in your area. The scanner's service lists are preprogrammed at the factory with all the frequencies allocated to those services.

Svc List	Name	SVC Bank 1	SVC Bank 2	SVC Bank 3	SVC Bank 4	SVC Bank 5	SVC Banks 6-10
1	Emergency	Emergency					
2	Freenet	Freenet					
3	PMR/DMR 446/LPD	PMR	DMR 446	LPD			
4	dPMR	dPMR					
5	Marine	Marine EU	Marine UK				
6	Air Band	Air Band 8.33k	Air Band 25k				
7	Military Air	Military Air					
8	CB Radio	CB Radio AM	CB Radio FM	CB Radio UK	CB Radio Poland		
9	HAM Radio	HAM Radio 10m	HAM Radio 6m	HAM Radio 4m	HAM Radio 2m	HAM Radio 70cm	
10	Mosque UK	Mosque UK					
11	Church Radio NL	Church Radio NL					
12	Custom 1						
13	Custom 2						
14	Custom 3						

There are three ways to start a Service Search:

1. Press **FUNC** then **svc/8** to display a list of services. Select the service you want and press **Yes/E**.
2. Press **MENU**/*Search for .../Service Search* to display a list of services. Select the service you want and press **Yes/E**.
3. Assign a specific service to the **sr** key in advance; press **FUNC** and then the **sr2** key to start. (See page 34.)

***Note**: Factory presets* **sr2** *is preset to Emergency. Press* **FUNC** *and then* **sr2** *to start searching Emergency channels.*

For example, the *HAM Radio* channels themselves are divided into four bands by frequency band and assigned to SVC Banks 1, 2, 3, 4, and 5. *SVC: 1 2 3 4 5* displays on the bottom line of the screen.

- SVC:1 = HAM Radio 10m
- SVC:2 = HAM Radio 6m
- SVC:3 = HAM Radio 4m
- SVC 4 = HAM Radio 2m
- SVC:5 = HAM Radio 70cm

***Note**: Disabled or empty service bank numbers are not displayed. The currently searched bank number flashes. You can turn service banks on/off by using the 1-9/0 keys; however, one service bank must be enabled. An error tone sounds if you try to disable the last remaining bank number.*

***Note**: You can change the names and combinations of service lists; however, the frequencies registered for each service cannot be edited. Also, modulation for each service cannot be overridden by pressing* **FUNC** + **9(mod)** *key.*

When the scanner finds a transmission, it stops on it. When the transmission ends, the scanner resumes searching according to the delay setting (see page 28).

During a service search, the upper line displays the current service name. The lower line displays the search frequency and the direction indicator (↑ and ↓).

Service Search Receive/Hold Modes

To hold on a frequency, press **Hold**. To step through the frequencies, turn the Scroll Control knob while in Hold mode. Press **Hold** again to resume scanning.

While monitoring a transmission, the upper line displays the current service bank name. The lower line displays the channel name (if defined) and current frequency with the direction indicator (↑ and ↓).

Any CTCSS/DCS received (if enabled) will also appear in the display. To store a frequency, press **Yes/E**. To temporarily lock out a frequency, press **L/O**. To permanently lock out a frequency, press **L/O** twice quickly. See also Edit Custom Search Options on page 29 for Delay, CTCSS/DCS settings, and locking out/reviewing/unlocking frequencies.

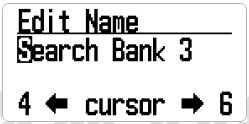
Set Service Lists

1. Go to **MENU**/*Search For.../Set Service List* (see page 55). A preset list of 11 services displays (Emergency, Freenet, HAM Radio, etc) plus 3 custom lists (blank).
2. Scroll to the service list you want to edit, and press the scroll control to select that service list.
3. Two menu options display: *Edit Name* and *Select Service*.

Edit Name

Select this menu option to change the service list's name.

1. Select *Edit Name*. The *Edit Name* screen displays.



2. Edit the name. Refer to page 19 for text entry options. Press **Yes/E** when complete.
3. The new Bank name displays at the top of the screen while searching.

Select Service

Select up to 10 services to be included from a list of the available services for the service selected in Set Service List previously and assign them to a bank.

1. Scroll to the bank you want to change or add. Press **Yes/E** or push the scroll control knob to display the bank's service list.
2. Select the service to assign to that bank from the service list and press **Yes/E** or the scroll control knob. You can also select *(BLANK)* when not assigning service to the bank. Bank numbers with blank assignment are not displayed.

Edit Service

You can configure the following settings for each service:

- Set Delay Time
- Set Attenuator
- Digital Waiting

***Note**: Unlike Scan mode, these settings are per service, not per frequency.*

Set Delay Time

For: 0, 1, 2, 5, 10, 30 seconds:

Sets the time to stay on that frequency after the transmission ends.

***Note**: You can wait for a delayed reply to that transmission. If set to 0, scanning starts as soon as transmission ends; if there is a reply after 1 second, you may miss it. Increasing this time will slow down the overall scan.*

For: -2. -5, and -10 seconds:

If negative values are set for a frequency, the scanner stays on that frequency for the set amount of time after receiving a signal. For example, if you set this value to -2 seconds, you will only hear the first 2 seconds of a 10-second transmission.

Scroll to the desired delay time and press **Yes/E** to save and exit.

Set Attenuator

Add an attenuator per frequency.

If a strong signal source exists near the desired frequency, it may interfere with reception of the desired frequency. Turning on ATT weakens the received signal; but it may also improve communication clarity. Normally, use it with OFF.

***Note**: Use* **FUNC + 7/att** *to set attenuator for individual frequencies. Press and hold* **FUNC + 7/att** *to set global attenuator.*

Set Digital Waiting

This setting gives the scanner time to determine if a transmission is digital or analog. During this time, the scanner evaluates the signal and, if it detects a digital signal, it immediately opens squelch. If a digital signal is not detected before the delay expires, the scanner opens squelch at the end of this delay. This prevents “false decode” problems (digital noise at the beginning of transmissions). The default setting is 400 ms. This setting only affects channels with an Audio Type set to ALL.

***Note**: Any analog transmissions on channels with Audio Type set to ALL will lose the first part of the transmission, up to the wait time set here.*

Custom Search

Setting up a custom search allows you to edit the 10 custom search ranges. Default custom search range names display as Custom 1, Custom 2, etc. Custom 1 refers to SRCH Bank 1 (SRC:1), Custom 2 to SRCH Bank 2 (SRC: 2), etc. These Search bank numbers match the number displayed at the bottom of the screen when starting Custom Searches.

The default search frequency ranges are:

- Custom 1 (SRC:1) 25.0000MHz to 27.9999MHz
- Custom 2 (SRC:2) 28.0000MHz to 29.6999MHz
- Custom 3 (SRC:3) 29.7000MHz to 49.9999MHz
- Custom 4 (SRC:4) 50.0000MHz to 53.9999MHz
- Custom 5 (SRC:5) 137.0000MHz to 143.9999MHz
- Custom 6 (SRC:6) 144.0000MHz to 147.9999MHz
- Custom 7 (SRC:7) 406.0000MHz to 419.9999MHz
- Custom 8 (SRC:8) 420.0000MHz to 449.9999MHz
- Custom 9 (SRC:9) 450.0000MHz to 520.0000MHz
- Custom 10 (SRC:0) 806.0000MHz to 960.0000MHz

Edit Custom Search Options

1. Select **MENU**/*Search for.../Edit Custom*. A list of the 10 search banks displays.
2. Scroll to the search bank you want to edit and press **Yes/E** or the scroll control knob. A list of options to edit displays:

- Edit Name
- Edit Srch Limit
- Set Step
- Set Delay Time
- Set Modulation
- Set Attenuator
- Digital Waiting

Edit Name

***Note**: If you do not want to change the bank name, skip this option. The bank name displays the default Custom 1, Custom 2, etc.*

1. Select *Edit Name* from the list of available editing options. The *Edit Name* screen displays with the name of the Search Bank displayed and the first character highlighted. Refer to page 19 for text entry options.

2. Press **Yes/E** or push the scroll control knob when you have finished editing to save the entry, exit, and return to the previous menu. The new name displays on the top of the screen while searching.

Edit Search Limit

This search option lets you set the lower and upper frequencies to be searched. Be careful to enter the frequency correctly per the information on page 19.

1. Select *Edit Srch Limit* from the list of available editing options. The *Set Lower Limit* screen displays the lower limit frequency with the first number highlighted.

2. Enter the new lower frequency on the keypad. The entered numbers display as you press them.
   - To move the cursor to the right one character, turn the scroll control knob clockwise.

- To move the cursor to the left one character, turn the scroll control knob counter-clockwise.
- To clear a character, press **./No**.
- To clear all characters, press **./No** twice.

3. Press **Yes/E** or push the scroll control knob when you have finished editing to save the entry, exit, and display the *Set Upper Limit* screen.
4. Enter the new upper frequency on the keypad. The entered numbers display as you press them.
5. Press **Yes/E** or push the scroll control knob when you have finished editing to save the entry, exit, and return to the previous menu.

Set Step

1. Select *Set Step* from the list of available editing options and press **Yes/E** to select it. The *Set Step* screen displays a list of steps in KHz to select.

Auto	2.5 kHz	3.125 kHz	5 kHz	6.25 kHz	7.5 kHz	8.33 kHz
10 kHz	12.5 kHz	15 kHz	20 kHz	25 kHz	50 kHz	100 kHz

2. Scroll to the step you want to set. Press **Yes/E** or push the scroll control knob when you have finished editing to save the entry, exit, and display the previous menu.

Set Delay Time

For: 0, 1, 2, 5, 10, 30 seconds:

Sets the time to stay on that frequency after the transmission ends.

***Note**: You can wait for a delayed reply to that transmission. If set to 0, the search starts as soon as transmission ends; if there is a reply after 1 second, you may miss it. Increasing this time will slow down the overall search but allow time for a reply to be heard.*

For: -2. -5, -10, -30 seconds:

If negative values are set for a frequency, the scanner stays on that frequency for the set amount of time after receiving a signal. For example, if you set this value to -2 seconds, you will only hear the first 2 seconds of a 10-second transmission.

Scroll to the desired delay time and press **Yes/E** to save and exit.

Set Modulation

When you select *AUTO*, the radio uses the default mode for that frequency. If you want to specifically change the mode and bandwidth, you can change it manually. Modulation options are:

- Auto
- AM

- NFM
- FM
- WFM
- FMB

***Note**: Press* **FUNC** + **9(mod)** *in Search mode to override modulation.*

Set Attenuator

Press **FUNC** + **7/att** to add an attenuator per frequency for an individual search bank.

If a strong signal source exists near the desired frequency or at the image frequency, it may interfere with the desired frequency's reception. Turning on ATT weakens the received signal but may improve communication clarity. Normally, use it with OFF.

Press and hold **FUNC** + **7/att** to toggle global attenuators.

***Note**: During a search, press* **FUNC** + **7/att** *to override this setting.*

Set Digital Waiting

This setting gives the scanner time to determine if a transmission is digital or analog. During this time, the scanner evaluates the signal and, if it detects a digital signal, it immediately opens squelch. If a digital signal is not detected before the delay expires, the scanner opens squelch at the end of this delay. This prevents "false decode" problems (digital noise at the beginning of transmissions). The default setting is 400 ms. This setting only affects channels with an Audio Type set to ALL.

***Note**: Any analog transmissions on channels with Audio Type set to ALL will lose the first part of the transmission, up to the wait time set here.*

Quick Search

Set a starting frequency to begin a search. There are two methods to start a Quick Search:

Method 1:

1. Press **HOLD** while the radio is scanning or searching to stop it on a specific frequency.
2. Press **FUNC** + **SCAN/srch** to begin scanning from that frequency. Turn the scroll control knob to change search directions.

Method 2:

1. Select **MENU**/*Search for.../Quick Search*. The *Start Frequency* screen displays.

2. Enter the beginning search frequency and press the scroll control knob **Yes/E** to set it. The radio begins scanning.

When you enter a frequency to start a quick search, the scanner automatically rounds the entered number up to the nearest valid frequency. For example, if you enter 151.473 MHz, the scanner starts searching at 151.475 MHz.

However, if you enter an invalid frequency, *Out of Band* displays and the scanner beeps three times. Press any key to go back to the previous screen and enter a valid frequency. See page 19.

***Note**: Use the scroll control knob to move the cursor to edit the frequency one number at a time or press .**/No** twice to delete the entire frequency and enter a valid one. You can also turn the Scroll Control knob to change the search direction.*

Set Quick Search

Select *Set Quick Search* from **MENU**/*Search For...* to establish search parameters (delay time, attenuation, and digital waiting). These settings are per service, not per frequency.

Set Delay Time

For: 0, 1, 2, 5, 10, 30 seconds:

Select the time to stay on that frequency after the transmission ends. Press **Yes/E** to save and exit.

***Note**: You can wait for a delayed reply to that transmission. If set to 0, the search starts as soon as transmission ends; if there is a reply after 1 second, you may miss it. Increasing this time will slow down the overall search.*

For: -2. -5, -10, -30 seconds:

If negative values are set for a frequency, the scanner stays on that frequency for the set amount of time after receiving a signal. For example, if you set this value to -2 seconds, you will only hear the first 2 seconds of a 10-second transmission.

Scroll to the desired delay time and press **Yes/E** to save and exit.

Set Attenuator

Press **FUNC** + **7/att** to add an attenuator per frequency.

If a strong signal source exists near the desired frequency or at the image frequency, it may interfere with reception of the desired frequency. Turning on ATT weakens the received signal but may improve communication clarity. Normally, use it with OFF.

Press **FUNC** + **7/att** to toggle the attenuator ON/OFF; press and hold **FUNC** + **7/att** to toggle global attenuation.

Set Digital Waiting

This setting gives the scanner time to determine if a transmission is digital or analog. During this time, the scanner evaluates the signal and, if it detects a digital signal,

it immediately opens squelch. If a digital signal is not detected before the delay expires, the scanner opens squelch at the end of this delay. This prevents “false decode” problems (digital noise at the beginning of transmissions). The default setting is 400 ms. This setting only affects channels with an Audio Type set to ALL.

***Note**: Any analog transmissions on channels with Audio Type set to ALL will lose the first part of the transmission, up to the wait time set here.*

Set sr1 - 3 Keys

The scanner has three **sr** (search) keys to which you can assign special search ranges. The search keys are set to number keys **1**, **2**, and **3**. This allows you to start a custom search, weather channel scan, tone-out search, or band scope service search without having to go into the menus.

1. To program a Search key, press **MENU**.
2. Scroll to *Search for...* and press **Yes/E**.
3. Scroll to *Set SR1-3 Keys* and press **Yes/E**.
4. At *Select SR Key*, select an SR key (*SR1, SR2, or SR3)* and press **Yes/E**.
5. The *Select Item* screen displays the SR key’s programmable options:
   - Custom Search
   - Tone-Out
   - Band Scope
   - Service list
6. Select an option for the SR key and press **Yes/E**.
7. Repeat for any other SR keys you want to program.

Default settings are:

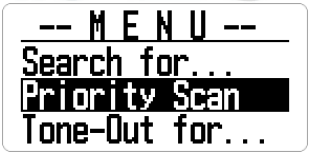
- SR1: Custom Search
- SR2: Emergency
- SR3: Band Scope Mode

***Note**: If you want to leave an SR key blank (unassigned), select Not Assign. An error tone sounds if you select an SR key that has nothing assigned.*

PRIORITY SCAN

Based on the priority check interval setting, the UBCD160DN interrupts scanning banks to check priority channels for activity. The more priority channels, the longer the interruption. The scanner cannot scan over 100 priority channels at the same time. The bank(s) containing priority channels need to be enabled and unlocked or the scanner displays *Priority Scan No Channel* and an error tone will sound. Press any key to return to scan mode.

From **MENU**, select *PRIORITY SCAN*.



***Note**: Set Priority channels first in order to use Priority Scan. See page 57. Priority Scan works in both Scan and Scan Hold mode.*

Priority Scan has the following modes:

- Priority Off: The Priority feature is off.
- Priority On: The scanner checks priority channels every 2 seconds. The **PRI** icon displays.

- Plus On: The scanner only scans priority channels in enabled banks. The **PRI** icon blinks.

- DND: The scanner inhibits priority checking when receiving.

Press **FUNC** + **pri./No** to change modes in the following order:

DND → ON → Plus → OFF →DND →

***Note**: Press* **FUNC** + **pri./No** *before the* **FUNC** *key times out in 3 seconds and the* **FUNC** *key locks.* **FUNC** *key also locks if you press and hold it for 3 seconds.*

Set Interval

Set how often the scanner checks priority channels.

1. From **MENU**/*Priority Scan*, select *Set Interval* and press **Yes/E**.
2. Enter the number of seconds (1 - 10) and press **Yes/E** to save.

MaxCH/PRI-SCN

Sets the maximum number of priority channels that can be scanned during a single priority scan interrupt. If there are more priority channels than the value set here, the channels are divided into groups and each group is scanned in turn. For example, if the maximum of channels to scan is 20 and there are 100 priority channels, the scanner checks those 100 channels in groups of 20 and takes 5 intervals to complete the priority scan.

1. From **MENU**/*Priority Scan*, select *MaxCHs/PRI-Scan* and press **Yes/E**.
2. Enter the number of channels to be checked (1 - 100) and press **Yes/E** to save and exit.

TONE-OUT FOR...

This feature allows the scanner to monitor up to 10 different channels for paging tones:

- Two-tone sequential
- Single tone
- Group tone

***Note**: Use Tone-Out Standby mode if you know and use programmed tones. Use Tone-Out Search Mode if you do not know and use programmed tones.*

1. Go to **MENU**/*Tone-Out for...*and press **Yes/E**. The *Tone-Out for...* screen displays 2 options:

   Select *Tone-Out Standby* if you know and use programmed tones. The active Tone-Out screen displays.

   Select *Tone-Out Setup* if you don't know the tones.

2. Scroll to *Tone-Out Setup*, and press **Yes/E**. The *Select Tone-Out* screen displays.
3. Scroll to *Tone-Out X* and press **Yes/E**.
4. Scroll to *Edit Name* and press **Yes/E**. Enter the tone-out name and press **Yes/E**.
5. Scroll to *Set Frequency* and press **Yes/E**.
6. At *Edit Frequency*, press **Yes/E**. Enter the frequency to monitor for Tone-Out and press **Yes/E** to save and exit.
7. Scroll to *Set Modulation* and press **Yes/E**.
8. Scroll to *Auto*, *NFM*, or *FM* and press **Yes/E** to save and exit.
9. Scroll to *Set Attenuator* and press **Yes/E**.
10. Scroll to *On* or *Off* and press **Yes/E** to save and exit.
11. Press **MENU** to return to *Tone-Out X* options.
12. Scroll to *Set Tone* and press **Yes/E**.

***Note**:*

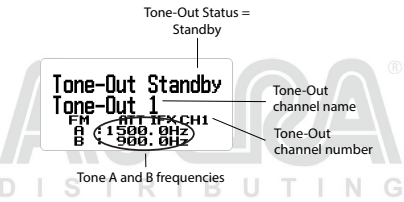
For two-tone pages, enter the tones (in Hz) for Tone A and Tone B.

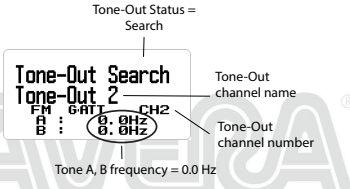
For one-tone pages using short tones between 1.25 and 3.75 seconds, enter tone for tone A and 0 for B.

For long-tone pages, such as group pages of more than 3.75 seconds, enter 0 for A and the tone for B.

To search for tones, leave the tones for A and B at 0.

1. From *Set Tone*, scroll to *Edit Tone A* and press **Yes/E**.
2. Enter the tone and press **Yes/E** to save and exit.
3. Scroll to *Edit Tone B* and press **Yes/E**.
4. Enter the tone and press **Yes/E** to save.
5. Press **MENU** to return to *Tone-Out x* options.
6. Scroll to *Set Delay Time* and press **Yes/E**.
7. Scroll to one of the following settings and press **Yes/E** to save and exit.
   - *0* - the scanner resumes standby as soon as the carrier drops after a page.
   - *1, 2, 5, 10, 30* (seconds) - the scanner resumes standby mode after the carrier drops and the selected time expires.
   - *Infinite* - you must press **Hold** after a page to resume standby mode.
8. Scroll to *Set Alert* and press **Yes/E**.
9. Scroll to *Set Alert Tone* and press **Yes/E**.
10. At *Set Tone*, scroll through the options (*Off* or *Alert 1 - 9*) and press **Yes/E** once you have selected one. The scanner sounds each tone as you scroll through them. *Set Level* displays.
11. At *Set Level*, scroll to *Level 1-15* to hear volume levels or *Auto* (the scanner sets the alert beep to the master volume level) and press **Yes/E**. *Set Alert* displays again.
12. Scroll to *Set Alert Light* and press **Yes/E**.
13. Scroll to *On*, *Off*, *Slow Blink*, or *Fast Blink* and press **Yes/E**. The Set Alert screen displays again and the scanner lights according to the option selected.
14. Press **MENU** twice and then repeat to program more tones.

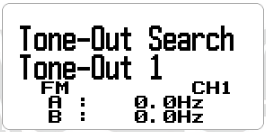




USING TONE-OUT STANDBY/SEARCH

(See Setting Up Tone-Out first, page 37.)

1. Press **MENU**. Scroll to *Tone-Out for...* and press **Yes/E**.
2. Scroll to *Tone-Out Standby* and press **Yes/E**. The *Tone Out* screen displays.



***Note**: You can also assign Tone-Out to 1 of 3 Search (**sr**) keys.*

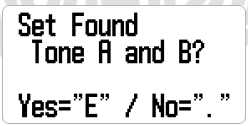
3. The Tone-Out name, channel number (1-10), and tone settings display. Any transmission received on that frequency will not be heard but you will still see signal strength bars.

All Tone-Outs (channels) that have the same frequency (and modulation/attenuation) as the one you select will also (and only) be monitored so you can monitor up to 10 Tone-Out channels for one frequency. In this case, the scanner displays each Tone-Out channel for two seconds. It does not scan them; Tone-Out monitors the frequency for all Tone-Out channels with the same frequency. Regardless of the current display, the scanner will alert on any received tone-out that matches a stored setting (channel) for the frequency.

If you press **Hold** while in Standby/Search mode, the scanner temporarily exits and you will be able to hear any transmissions on that frequency. No alerts sound, even if a Tone-Out matches one you have programmed in Hold mode. Press **Hold** again to return to Standby/Search mode.

IN TONE-OUT STANDBY MODE

- To select another Tone-Out, turn the scroll control.
- To save found tones in Tone-Out Search mode, press **Yes/E at** *Save Found Tones?*
- To turn Intermediate Frequency Exchange on or off, press **FUNC** then **ifx/4**.
- To turn attenuation on or off, press **FUNC** then **att/7**.
- To toggle modulation, press **FUNC** then **mod/9**.



BAND SCOPE MODE

Band Scope mode searches a frequency range and displays the signal level in real time. The screen displays the frequency increasing in value from left to right, and a signal strength meter displays for signals. You can set the center frequency and frequency range span. In Hold mode, you can monitor the displayed frequency.

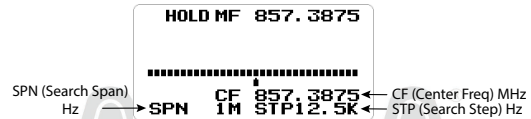
The scanner rapidly sweeps between the endpoints of the selected frequency range and updates each bar segment with the relative signal strength in each pass. Use the band scope in normal mode (the bars are all updated with the most recent signal strength) or Max Hold mode (the bars update only if there is a stronger signal than one previously stored for the current position).

This feature allows you to get a “picture” of spectrum activity across the selected range, identify intermittently active frequencies, check antenna performance, check coax quality, and identify interference.

USING BAND SCOPE MODE

To start Band Scope mode, press **HOLD** on any channel or frequency and then press **FUNC** + **sr3/3**. This frequency becomes the center frequency. Band Scope mode is assigned to this Search Key (**sr3/3**) by default.

Press **pri./No** to access the Search Span (*SPN*), Center Frequency (*CF*) and Search Step (*STP*) fields in order. Press **L/O** to exit.

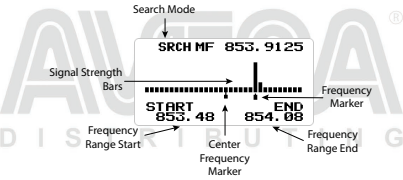


***Note**: Band Scope mode can only be activated via the* **sr3/3** *key.*

Band Scope has the following three modes:

- Search (SRCH)
- Max Hold Search Mode (MAX)
- HOLD (Hold)

Search Mode (SRCH)



"SRCH" displays and the scanner searches and displays the frequency range signals in real time. The frequency range is shown in bars determined by the center frequency and span. While searching, the center frequency marker (which shows the current frequency) blinks. The scanner starts from the lowest frequency of the frequency range and searches to the highest frequency of that range. If the scanner finds a transmission, it displays the most current signal level in the bar for each frequency in the range.

The center frequency marker flashes during Searching and Max Hold Searching.

When you move the marker with the scroll control knob, the frequency of the signal strength bar displays above the marker.

When you turn the scroll control knob, the marker usually moves according to the preset step (STP). (See page 43 to change the search step.)

If the sweep range is set wide, a single bar will contain multiple frequency ranges. This is why the marker moves slowly even when you turn the scroll control knob. If you want to pinpoint the frequency, set the span range narrower. (See page 43 to change the span range.)

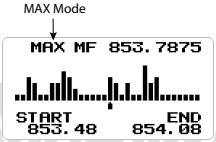
***Note 1**: If you want to the listen to the signal at the marker position, see page 42.*

***Note 2**: When scanning a band with a wide occupied frequency, multiple bars appear due to the separation.*

Press **FUNC** then **L/O** to move the marker back to the center frequency position. Doing this clears the history and restarts scanning from the beginning.

Max Hold Search Mode (MAX)

If you want to switch to MAX Hold Search mode, press **FUNC** + **SCAN/srch** to toggle between SRCH mode and MAX Hold Search mode.



Max shows in the display and will freeze the signal strength bars at their strongest signals.

To toggle between Search mode and Max Hold Search mode, press **FUNC** + **SCAN/srch**.

HOLD Mode (HOLD)

“HOLD” displays and allows you hold the sweep then scroll to and listen to that frequency. You can use the scroll control knob to move the frequency marker to other locations, including the center frequency, and listen to that frequency.

To toggle between Hold mode and Search/Max Hold Search mode, press **HOLD**.

Center frequency marker stops flashing in Hold mode.

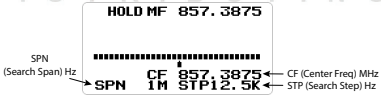
***Note**: If the sweep range is set wide, a single signal bar will contain multiple frequency ranges. This is why the marker moves slowly even when you turn the scroll control knob.*

If you want to pinpoint the frequency, set the span range narrower. (See page 43.)

***Note**: With MAX hold, the signal bar remains visible even with short duration signals. Therefore, even if you move the marker to that frequency, you may not be able to receive the signal because this is past information.*

To return the marker to the center frequency position while in HOLD mode, press **FUNC** then **L/O**. Press **HOLD** to return to Search mode.

Change Center Frequency



Enter a Specific Frequency

1. To change the center frequency, press **./no** until CF is blinking then press **Yes/E**. The *Edit Center Freq* menu displays.
2. Use the keypad to enter the new center frequency. Press **Yes/E** to save and exit.

***Note**: Setup mode automatically times out if there is no input for 10 seconds.*

Set Current Frequency Marker Position to Center Frequency

1. Press **pri./No** until CF blinks.
2. To set the frequency at the frequency marker position as the center frequency, press **Yes/E**. The *Edit Center Freq* menu displays.
3. Use the keypad to enter the center frequency; press **L/O** to exit if there are no additional settings.

Change the Search Span Range

1. To change the search span, press **./no** until SPN is blinking.
2. Use the scroll control to select 0.2 - 500 MHz; press **L/O** to exit. Set a span of 100, CF is at 50.

Change the Search Step

1. To change the search step, press **./no** until STP is blinking.

2. Turn the scroll control knob to change the search step options on the screen. Stop at the desired search step.

3. Press L/O to exit.

Change Modulation

1. Press **FUNC** + **mod/9** to access the modulation options. Keep pressing **mod/9** quickly to cycle through the options. Normally, use the default AUTO.

***Note**: When set to AUTO, a default modulation is automatically selected for each frequency.*

2. When you see the desired option, stop pressing **mod/9**.

Change Attenuation

1. Press **FUNC** + **att/7** to toggle the attenuator on or off. Keep pressing **att/7** quickly to cycle through *On* and *Off*.

***Note**: Press and hold* **att/7** *to set global attenuation status. ATT blinks when global attenuation is set.*

2. When you see the desired option, stop pressing **att/7**.

***Note**: Press* **FUNC** *to check the current modulation mode and attenuator settings.*

SETTINGS

SET BACKLIGHT

To use the backlight, press . There are 5 different ways to use the backlight and 3 light intensities.

1. From **MENU**/*Settings*, select *Set Backlight* and press **Yes/E**.
2. Select *Set Mode* and press **Yes/E**.
3. Scroll to one of the five options and press **Yes/E** to select it:
   - 10 sec - The backlight stays on for 10 seconds after pressing .
   - 30 sec - The backlight stays on for 30 seconds after pressing .
   - Squelch - The backlight turns on when squelch opens and stays on for 5 seconds.
   - Keypress - The backlight turns on when any key is pressed and stays on for 10 seconds.
   - Keypress + Squelch - The backlight turns on under both keypress and squelch conditions.
   - Infinite - The backlight turns on after you press and stays on until you press again.
4. Scroll to *Set Dimmer* and press **Yes/E** to select it. Three options display.
5. Scroll to *High*, *Middle*, or *Low* and press **Yes/E** to select it. Press **Menu** to return.

ADJUST KEY BEEP

This setting turns key beep on and off and adjusts its volume level.

1. From **MENU**/*Settings*, scroll to *Adjust Key Beep* and press **Yes/E**.
2. Select *Set Level* and press **Yes/E**.
3. Key beep options are *Auto* (the scanner sets the alert beep to the master volume level), *Level 1 - 15* (the scanner sounds the level as you scroll through the levels), and *Off*. Scroll to a selection and press **Yes/E** to select it and return to the *Settings* menu.

BATTERY OPTIONS

Battery options allow you to turn the battery save option on or off and to set the battery charge time.

Set Battery Save

The scanner turns power off for 1 second and turns it back on for 300 ms when you hold on a channel/frequency that has no activity for longer than 1 minute.

***Note**: No icon appears on the display to indicate Battery Save status (On or Off).*

1. From **Menu**/*Settings/Battery Option*, scroll to *Set Battery Save* and press **Yes/E**.
2. Select *On* or *Off* and press **Yes/E** to save and exit.

Set Battery Charge Time

1. From **Menu**/*Settings/Battery Option*, scroll to *Set Charge Time* and press **Yes/E**.
2. The maximum charge time in hours, *14*, displays. Use the number keys to set a charge time between 1 - 14 (default = 8). Press **Yes/E** to save and exit.

ADJUST CONTRAST

This setting controls the display's contrast.

1. From **MENU**/*Settings*, scroll to *Adjust Contrast* and press **Yes/E**.
2. Fifteen contrast levels display. The screen displays the contrast level as you scroll through the options. Select a contrast level and press **Yes/E** to save it and return to the *Setting* menu.

BAND DEFAULTS

This setting allows you to change the default "Auto" values you can select while programming frequencies, searches, etc., to whatever you feel "Auto" should be for each band (vs. the radio defaults). Since all of the step and modulation settings default to "Auto," this allows you to skip those settings when programming.

***Note**: These settings do not affect service searches.*

1. From **MENU**/*Settings*/*Band Defaults*, scroll to the band you wish to edit and press **Yes/E**. The *Set Modulation* menu for that band displays.
2. Scroll to *AM*, *NFM*, *FM*, *WFM*, or *FMB* (Broadcast) and press **Yes/E** to save and exit. The *Set Step* menu for that band displays.
3. Scroll to one of the following options and press **Yes/E** to save and exit.

Auto	2.5 kHz	3.125 kHz	5 kHz	6.25 kHz	7.5 kHz	8.33 kHz
10 kHz	12.5 kHz	15 kHz	20 kHz	25 kHz	50 kHz	100 kHz

5. Scroll to other bands to edit. When complete, press **MENU** to return to the *Settings* menu.

FACTORY RESET

WARNING: Resetting the scanner clears all data and settings you have entered. You cannot restore user programmed data that has been deleted. You can restore only the original factory settings.

1. From **MENU**/*Settings*, scroll to *Factory Reset* and press **Yes/E**. *Cancel* and *OK* display.
2. Select *OK* to reset the scanner to factory settings or *Cancel* to return to the *Settings* menu. Press **Yes/E**.
3. If you reset the scanner to factory settings, the power will turn off after the data is erased and restored to factory settings.

FIRMWARE VERSION

This menu allows you view the firmware version, the serial number, and the checksum. Uniden recommends that you download and install the latest firmware upgrade for the scanner if you don't already have it.

1. From **MENU**/*Settings*, scroll to *Firmware Version* and press **Yes/E**.
2. The firmware version, serial number, and checksum display.
3. Press **MENU** to return to the *Settings* menu.

OTHER OPERATIONS

LOCKING/UNLOCKING THE KEYPAD

Lock the keypad to prevent accidental input.

1. Press **FUNC** then to lock the keypad. The only keys/knobs that work while the keypad is locked are **FUNC**, **HOLD**, and the scroll control for volume.
2. To unlock the keypad, press **FUNC** then again.

VIEWING THE BATTERY LEVEL

1. To view the battery level (in volts), press the scroll control knob. Small numbers display in the upper right side of the display.
2. Press the scroll control knob again to close the battery level display; it will also close after 10 seconds.

VIEWING THE DIGITAL DECODER ERROR RATE

1. To view the digital decoder error rate, press the scroll control knob to enter Volume setting (or press **FUNC** and then the scroll control knob to enter Squelch setting).

2. Press **FUNC** and then press the scroll control knob again to view the digital error code screen.

A smaller ERR: number means fewer errors. This mode never times out.

3. Press the scroll control knob if you want to exit from this mode.

UPDATE FIRMWARE USING PC

From time to time, Uniden will release firmware updates to improve existing functionality, add new features, or address issues found in its operation. Updating the firmware takes just a few minutes and is easily accomplished using BC_VUP software.

BC_VUP software is available for download through the UBCD160DN's product page at www.uniden.com. BC_VUP connects to the internet and checks for the current firmware version to download.

After downloading the BC_VUP software to your PC, simply connect your scanner to your PC using the supplied USB cable. Then, in BC_VUP, select *Model/Version* and follow the on-screen prompts.

HOW DO I . . . ?

How Do I . . . ?	Set Up	Do This
Assign channels		Go to: **MENU**/*Program Channel*. Select the bank you want to use for the custom service and name it. Select *Edit Channel*. The next menu selections let you assign a frequency to a channel in the selected bank and adjust that channel's characteristics. See page 53 for details.
Start scanning	.	Press **SCAN/srch**.
Pause and restart scanning		Press **HOLD** to pause scanning. Press **HOLD** again to resume scanning.

How Do I . . . ?	Set Up	Do This
Scan a different bank than the current bank.		Press **0** - **9** to turn off the banks you do NOT want to scan. The scanner will scan the active banks.
Create a Quick Search	Be in a Scan mode or Tone-Out mode.	Press **Func** and **SCAN/ srch** keys. The scanner begins scanning all frequencies.
Create a Custom Search		Go to **MENU**/*Search For.../ Edit Custom*. Select a custom Search (1 - 10) and enter the lower and upper limits.
Search Service Channels		Go to: **MENU**/*Search For.../ Service Search*. Scroll through the service types and select one to search. These service frequencies are preloaded into the UBCD160DN.
Create a Custom Service Search	Search the internet for specific service frequencies you want.	Go to: **MENU**/*Program Channel*. Select a bank to program your specific search frequencies into. Edit the name to something that is appropriate to the service frequencies you are entering. Next, select *Edit Channel*. Scroll to an empty channel and enter the service search frequency there.
Set a channel as a Priority Channel	Hold on a channel/ frequency.	Go to **MENU**/*Priority Scan*/ *Set Priority*.

APPENDIX A

FREQUENCY RANGE

Frequency Range	Mode	Step (kHz)
25.0000 - 29.9950	FM	5
30.0000 - 79.9875	FM	12.5
80.0000 - 82.9900	FM	10
83.0000 - 87.2875	FM	12.5
87.3000 - 107.9500	FMB	50
108.0000 - 136.9916	AM	8.33
137.0000 - 137.9950	FM	5
138.0000 - 157.9875	FM	12.5
158.0000 - 160.5900	FM	10
160.6000 - 162.5875	FM	12.5
162.6000 - 173.9900	FM	10
174.0000 - 215.9500	WFM	50
216.0000 - 224.9950	FM	5
225.0000 - 399.9750	AM	25
400.0000 - 405.9875	FM	12.5
406.0000 - 439.9937	FM	6.25
440.0000 - 465.9950	FM	5
466.0000 - 469.9900	FM	10
470.0000 - 520.0000	FM	6.25
758.0000 - 960.0000	**FM**	12.5

***Note**: When you select AUTO for a channel or mode's modulation or step, these values are used UNLESS you have edited the Band Defaults. The scanner does not decode digital TV audio.*

CTCSS TONES

Continuous Tone Coded Squelch System (CTCSS) and Digital Coded Squelch (DCS) are two methods used to prevent interference by other radio communications. Your scanner can receive transmissions that use these codes.

CTCSS and DCS systems all use some form of coded squelch. Coded squelch involves the transmission of a special code signal along with the audio of a radio transmission. A receiver with coded squelch only activates when the received signal has the correct code. This lets many users share a single frequency, and decreases interference caused by distant transmitters on the same channel.

The scanner can detect the following 50 CTCSS tones.

67.0Hz	94.8Hz	131.8Hz	171.3Hz	203.5Hz
69.3Hz	97.4Hz	136.5Hz	173.8Hz	206.5Hz
71.9Hz	100.0Hz	141.3Hz	177.3Hz	210.7Hz
74.4Hz	103.5Hz	146.2Hz	179.9Hz	218.1Hz
77.0Hz	107.2Hz	151.4Hz	183.5Hz	225.7Hz
79.7Hz	110.9Hz	156.7Hz	186.2Hz	229.1Hz
82.5Hz	114.8Hz	159.8Hz	189.9Hz	233.6Hz
85.4Hz	118.8Hz	162.2Hz	192.8Hz	241.8Hz
88.5Hz	123.0Hz	165.5Hz	196.6Hz	250.3Hz
91.5Hz	127.3Hz	167.9Hz	199.5Hz	254.1Hz

DCS CODES

The scanner can detect the following 112 hexadecimal DCS codes.

006	007	015	017	021	023	025	026
031	032	036	043	047	050	051	053
054	065	071	072	073	074	114	115
116	122	125	131	132	134	141	143
145	152	155	156	162	165	172	174
205	212	214	223	225	226	243	244
245	246	251	252	255	261	263	265
266	271	274	306	311	315	325	331

332	343	346	351	356	364	365	371
411	412	413	423	431	432	445	446
452	454	455	462	464	465	466	503
506	516	523	526	532	546	565	606
612	624	627	631	632	654	662	664
703	712	723	731	732	734	743	754

APPENDIX B - MENU STRUCTURE

PROGRAM CHANNEL MENU

The *Program Channel* menu series allows you to set up channel banks, assign frequencies to channels, and set channel characteristics.

From MENU/*Program Channel/Select Bank*				
Select Bank (Bank 1 - Bank 10)	Edit Name	Text entry screen		
	Edit Channel, then Select Channel	Edit Name	Text entry screen	
		Edit Frequency	Frequency entry screen	
		Set Audio Type	All	
			Digital Only	Search Set Color Code Set NEXEDGE RAN Set IDAS Area Set Common ID (1 - 255)
			Analog Only	Search CTCSS DCS Set Lockout
		Set Modulation	Auto AM NFM FM WFM FMB	

From MENU/*Program Channel/Select Bank*				
		Set Delay Time	-10, -5, -2, 0, 1, 2, 5, 10, 30 seconds	
		Set Attenuator	On, Off	
		Set Priority	On, Off	
		Set Alert	Set Alert Tone: Off Alert 1 - 9	Set Alert Level: Auto Level 1 - 15
			Set Alert Light: Off On Slow Blink Fast Blink	
		Set Lockout	Unlocked Temporary L/O Lockout	
		Volume Offset	-3, -2, -1, 0, 1, 2, 3	
		DMR TDMA Slot	Any 1 2	
		Digital Waiting	In ms: 0, 100, 200 - 1000	
		Clear Channel	Confirm	
	Copy Bank	Confirm Copy Bank		

From MENU/*Program Channel/Select Bank*				
	Clear Bank	Confirm Clear Bank		

SEARCH OPTIONS MENU

Search Options let you set up 3 searchable options:

- Freq Lockouts
- Broadcast Screen
- Tone/Code Search

From MENU/*Search Options*			
Freq Lockouts	Unlock All RVW Search LA		
Broadcast Screen	Set All Band On	On	
	Set All Band Off	Off	
	Set Each Band	Band 1 - 10: On/Off	
	Program Band	Band 1 - 10	Set Upper Limit Set Lower Limit
Tone/Code Search	Off CTCSS CC (Color Code)/ RAN/Area/CMID (Common ID)		

SEARCH FOR... MENU

This menu lets you establish characteristics for different searches.

- Service Search
- Set Service List
- Edit Service
- Custom Search
- Edit Custom
- Quick Search
- Set Quick Search
- Set SR1-3 Keys

From MENU/*Search For. . .*			
Service Search	Air Band CB Radio Church Radio NL dPMR Emergency Freenet HAM Radio Marine Military Air Mosque UK PMR/DMR446/LPD Custom 1-3		
Set Service List	Air Band CB Radio Church Radio NL dPMR Emergency Freenet HAM Radio Marine Military Air Mosque UK PMR/DMR446/LPD Custom 1 - 3	***Note**: Each option allows you to edit the name and to select an option/bank from that service category.*	
Edit Service	Delay Time Attenuator Digital Waiting		
Custom Search	Searches established custom searches		
Edit Custom	Select a custom list and select characteristics to edit/set.		

From MENU/*Search For. . .*			
Quick Search	Enter Start Frequency Enter End Frequency		
Set Quick Search	Set Delay Time Set Attenuator Digital Waiting		
Set SR1 - 3 Keys	Select an SR key	Set characteristic to edit/set. Not Assign Custom Search Tone Out Band Scope Emergency Freenet : Custom 1 - 3	

PRIORITY SCAN MENU

Priority Scan checks the priority channels every 2 seconds during normal scanning. The scanner can scan up to 100 priority channels. If there are more than 100 priority channels, only the first 100 will be scanned. If there are no priority channels or all priority channels are locked out, *Priority Scan No Channel* displays.

From MENU/*Priority Scan*			
Set Priority	Off On Plus On DND (Do Not Disturb)		
Set Interval	1 - 10 seconds		
MaxCHs/Pri-Scan	1 - 100 channels		

TONE-OUT FOR... MENU

See page 39 for details about Tone-Out operations.

Tone-Out refers to an emergency signal indicating that the emergency requires more personnel than are on duty. This menu sets parameters for the actual physical tone-out tone.

- Tone-out Standby
- Tone-Out Setup

From MENU/*Tone Out For. . .*				
Tone-Out Standby	Go to Tone-Out mode			
Tone-Out Setup	Tone-Out 1- 10	Edit Name		
		Set Frequency	Edit Frequency Edit Modulation Set Attenuator	
		Set Tone	Edit Tone A	
			Edit Tone B	
		Set Delay Time	0, 1, 2, 5, 10, 30 sec Infinity	
		Set Alert	Set Alert Tone	Tone: Off, Alert 1 - 9 Level: Auto, 1 - 15
			Set Alert Light	Off On Slow Blink Fast Blink

SETTINGS MENU

The Settings menu establishes certain physical items regarding the scanner:

- Set Backlight
- Adjust Key Beep
- Battery Option
- Adjusting Contrast

- Band Defaults
- Factory Reset
- Firmware Version

From MENU/*Settings*		
Set Backlight	Set Mode	10 sec 30 sec Squelch Keypress Keypress + Squelch Infinite
	Set Dimmer	High Middle Low
Adjust Key Beep	Auto Level 1 - 15 Off	
Battery Operation	Set Battery Save	On Off
	Set Charge Time	1 - 14 hr
Adjust Contrast	Contrast 1 - 15	
Band Defaults	Select a band from list of bands and their defaults. Next, set modulation: AM NFM FM WFM FMB	Set Step
Factory Reset	Cancel OK	

From MENU/*Settings*		
Firmware Version	Displays firmware version, SN, and CHECKSUM.	

TECHNICAL SPECIFICATIONS

Size: 67 mm (W) x 32.7 mm (D) x 115 mm (H) (without antenna, knob, clip, and other projections)

Weight: 175 g. (Without antenna and batteries)

Operating Temperature: Nominal: – 20º C to + + 60º C

Charging Operating Temperature: + 10º C to + 40º C

Storage Temperature: – 30º C to + 70º C

Power Requirements: 2 x AA size rechargeable Ni-MH batteries (2300mAh - Included)

2 x AA size Alkaline batteries (not Included)

DC 5.0V ± 5% Connect to PC with USB Type C cable (included)

LCD Display: 64 x 128 Full Dot Matrix LCD with orange backlight

Internal Speaker: 24 ohm, 0.8W Max.

Audio Output Power:

- At 24Ω internal speaker
  218mW nominal for NFM bands
  245mW nominal for FMB, WFM bands
  240mW nominal for AM bands
- At 32Ω stereo headphone Jack
  12mW nominal for FM, NFM Bands
  22mW nominal for FMB
  20mW nominal for WFM Bands
  18mW nominal for AM Bands

External Jacks: Antenna Jack: BNC Type
Phone Jack: 3.5mm Ø (Stereo Type)
***Note**: Audio does not play in stereo.*
USB Jack: USB Type C

Antenna: 50 ohms

Sensitivity (12dB SINAD) Nominal		
VHF Band		
(AM)	25.005 MHz	0.4 µV
(NFM)	40.840 MHz	0.3 µV

(NFM)	53.980 MHz	0.3 µV
(WFM)	54.050 MHz	0.6 µV
(FM)	72.515 MHz	0.2 µV
(FMB)	107.100 MHz	0.5 µV
(AM)	118.800 MHz	0.3 µV
(AM)	127.175 MHz	0.3 µV
(AM)	135.500 MHz	0.3 µV
(NFM)	138.150 MHz	0.3 µV
(NFM)	161.985 MHz	0.3 µV
(NFM)	173.225 MHz	0.3 µV
(WFM)	197.450 MHz	0.7 uV
(NFM)	216.020 MHz	0.3 uV
(AM)	225.050 MHz	0.3 µV
(AM)	272.950 MHz	0.4 µV
(AM)	315.050 MHz	0.4 µV
UHF Band		
(AM)	325.050 MHz	0.4 µV
(NFM)	406.875 MHz	0.3 µV
(NFM)	511.9125 MHz	0.4 µV
(NFM)	758.0125 MHz	0.3 µV
(NFM)	806.000 MHz	0.4 µV
(NFM)	857.150 MHz	0.3 µV
(NFM)	954.9125 MHz	0.4 µV

Hum & Noise (Nominal)		
VHF Band		
(AM)	25.005 MHz	53 dB
(NFM)	40.840 MHz	44 dB
(WFM)	54.050 MHz	53 dB
(FM)	72.515 MHz	49 dB
(FMB)	107.500 MHz	60 dB
(AM)	127.175 MHz	53 dB
(NFM)	161.985 MHz	42 dB
(NFM)	173.225 MHz	43 dB
(WFM)	197.450 MHz	55 dB
(AM)	272.950 MHz	53 dB
UHF Band		
(AM)	325.050 MHz	54 dB
(NFM)	406.875 MHz	42 dB
(NFM)	758.0125 MHz	42 dB
(NFM)	857.150 MHz	44 dB

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

SIMPLIFIED EU DECLARATION OF CONFORMITY

Hereby, Uniden Holdings Corporation declares that the radio equipment type Uniden Scanner UBCD160DN is in compliance with the Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

www.avera.eu/downloads.html

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