

RB5000DU

User Manual

THANK YOU!

Thank you for your purchase of Advanced Wireless Communications' RB5000DU Two-Way Base Station. This Base Station is a business grade device. Treat it with care, and you will enjoy years of reliable operation.

Product Safety and RF Exposure for Portable Two-Way Radios Compliance with RF Energy Exposure Standards

NOTICE: This radio is intended for use in occupational/controlled applications where users have been made aware of the potential for exposure and can exercise control over their exposure. This radio device is NOT authorized for general population, consumer or similar use.

BEFORE USING THIS RADIO, READ THE TRAINING MATERIAL BELOW WHICH CONTAINS IMPORTANT OPERATING INSTRUCTIONS FOR SAFE USAGE AND RF ENERGY AWARENESS AND CONTROL INFORMATION FOR COMPLIANCE WITH RF ENERGY EXPOSURE LIMITS IN APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.**
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.**

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L' appareil ne doit pas produire de brouillage;
- (2) L' appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d' en compromettre le fonctionnement.

This equipment complies with ISSED exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 31.9cm between the radiator & body.

Énoncé d'exposition aux radiofréquences pour ISSED

Cet équipement est conforme aux limites d'exposition ISSED définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 31.9 cm entre le radiateur et la carrosserie.

Warning: Users must operate this product in compliance with the requirements of Canadian RSS-119 and use the frequencies legally. Do not illegally alter the product's operating frequency. This product has been frequency-limited in accordance with RSS-119, and users cannot operate it outside of this range

FCC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

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

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR
RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND
FEDERAL LAW.

FCC RF Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 24.2cm between the radiator & body.

User Safety Information

- Only qualified technicians are allowed to maintain this product.
- To avoid electromagnetic interference, turn off your radio in places where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy. When traveling on aircraft, turn off your radio when the airline crew instructs you to do so.
- When in vehicles equipped with an air bag, do not place a portable radio in the airbag deployment area.
- Turn off your radio prior to entering any area with a potentially explosive atmosphere. Do not remove, install, or charge batteries in such areas.
- To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps.
- Do not expose the radio to direct sunlight for long periods of time. Do not place the radio in direct contact with any heating source.

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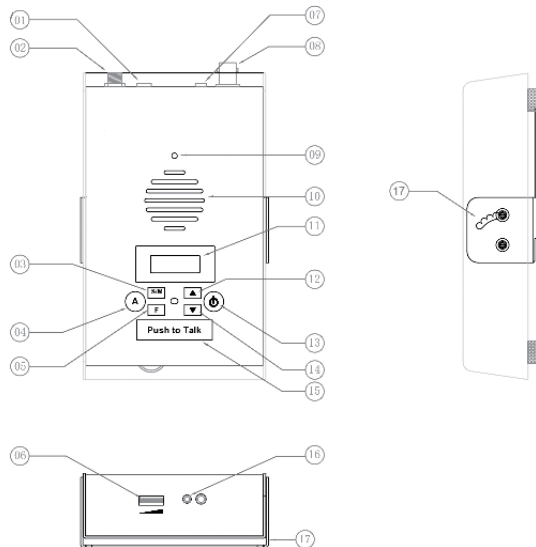
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GETTING AQUAINTED

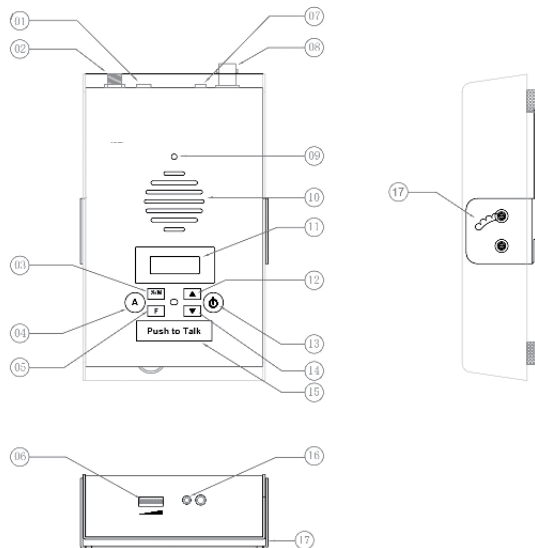
Base Station View

1. External PTT Jack
2. DC Input
3. S/M Programmable Function Key. (Default: Menu @ Long Press, Scan @ Short Press)
4. A, Programmable Function Key (Default: Channel View @ Short press, Monitor @ Long press)
5. F, Programmable Function Key (Default: Key Lock @ Long press, None @ Short press, Exit current status key in local programming mode)
6. Volume Adjustment Knob
7. External Speaker Jack
8. Antenna Connector
9. LED Indicator (Tx & Busy)

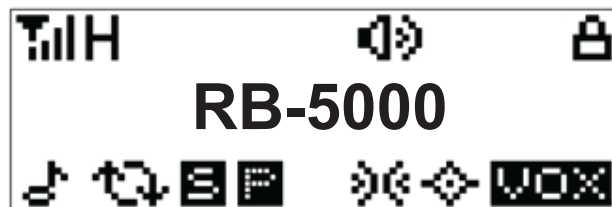


- 10. Speaker
- 11. LCD Display
- 12. ▲ Channel Up Key
(Select item key in local programming mode)
- 13. Power Switch
- 14. ▼ Channel Down Key
(Select item key in local programming mode)
- 15. PTT Key
- 16. Headset Jack/Programming Cable Jack
- 17. Bracket with Adjustable Angle

NOTE: The A, S/M, and F keys can be programmed for a variety of functions. See “Local Programming Mode” menu list later in this manual. Please contact your dealer for further details on these functions.



LCD Displays and Symbols



SYMBOLS	FUNCTION
RB-5000	Power on text, it can be channel number/channel alias/channel frequency
	Received signal strength indicator
	High power: the current channel is high power (H,L)
	Monitor indicator
	Speaker opened
	Speaker function disabled
	Keypad lock
	DTMF signaling enable
	Scan
	The current channel is in scan list
	The current channel is priority channel
	Compander enabled
	Scrambler enabled
	VOX enable

SAFETY AND CARE INSTRUCTIONS

Safety Precautions

- Please observe the following safety precautions when setting up and using this product.
- LCD panel - The LCD panel is made of glass, and may break if the unit is dropped or impacted.
- Heat sources - Keep the product away from heat sources such as radiators, stoves, heaters, and other heat-generating products.
- Water and moisture - Do not use the product in or near water or in high moisture areas such as a bathroom or outdoors when rain is present.

Caring For This Product

- To ensure you receive the maximum benefit from using this product, please observe the following guidelines.
- Cleaning - Use a damp cloth. Do not use liquid cleaning agents, benzene, thinner, or aerosols.
- Repair - Do not attempt to repair the product or modify the circuitry by yourself. Only replacement parts that are recommended by Advanced Wireless Communications (AWC) should be used. You can contact AWC at 1-800-475-5852.
- Do not scratch hard objects against the LCD display as this may cause damage.

Caution

- Only replace power adapter with the same or equivalent type recommended by the manufacturer.
- Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
- To reduce the risk of electric shock, do not expose equipment to rain or moisture.

GETTING STARTED

Turn the Unit ON / OFF

- Press  key to turn the radio on, and press again to turn the radio off. When you turn the radio on, the radio will chirp and if enabled, speak the channel number. The display briefly shows the power on message and radio firmware version number.

Adjusting the Volume

- Rotate clockwise the volume adjustment knob to decrease the volume, and counterclockwise to increase the volume.

Select a Channel

To select between channels (maximum 16):

- Press  to increase channel number.
- Press  to decrease channel number.

TRANSMITTING AND RECEIVING

For best transmission, speak about 12 inches away from the radio and leave a short pause before speaking once you have pressed the PTT button.

The transmitting and receiving radios must be on the same channel using the same CTCSS code or DCS code in order for you to communicate with another party.

Talk to Another Radio

1. Press and hold “A” (this button is set to the “Monitor” function) to check for channel activity. Do not transmit if someone is speaking on the channel.
2. Press and hold PTT button and speak into the microphone to transmit.
3. Release the PTT button once you have finished speaking to allow other radios to respond. The radio will automatically hear received transmissions.

NOTE: The transmit LED located above the speaker is red when transmitting and is green when receiving.

Signal Strength and Channel Busy Indicators:

When there is activity on a frequency, the radio LCD displays  and the green LED lights steady.

When there is activity on the same frequency and code as your radio (your radio is receiving), the radio displays  and a signal strength from 1 (weakest) to 4 (strongest). This can help determine when a radio is moving out of range.

NOTE: Obstacles that block the signal path may affect the strength of the incoming signal.

Keypad Lock

To avoid accidentally changing the channel and the unit's preferred settings, you can lock the keypad.

To Lock or Unlock the Keypad:

Press and hold the F button for 2 seconds.  appears on the LCD when the keypad is locked.

NOTE:

1. The “F” button long press is programmed for key lock (default).
2. While key lock is “on” you can still use the PTT button.

VOX Operation

The Voice Activated Transmission (VOX) function allows your voice to activate transmission automatically when the transceiver is used with an optional hands-free microphone/headset. If the unit is set to VOX sensitivity 1, 2, ... 6, it will automatically detect and transmit your voice through to the selected channel.

NOTE: The VOX level and transmission delay time should be set according to your voice loudness and personal preference.

To Set Up a VOX Headset:

1. Turn the radio off.
2. Plug the headset into the accessory jack.
3. Turn the radio back on again. The radio displays **VOX**.
4. Lower the radio volume BEFORE placing the headset in or near your ear.
5. To transmit, speak into the accessory microphone. To receive, stop talking.

NOTE: This product is compatible with Motorola headsets. Please ask your local Account Manager for further information. Pressing the PTT button disables VOX.

Monitoring a Channel

Monitoring allows you to check for activity on a channel. The AWR-RB5000 has three monitor modes. You can choose a mode according to your preference, in local programmable mode (if enabled).

- **Squelch Off (Default):** In this mode, the speaker is unmuted in any condition so as to receive any sound on the current channel. When audio signal is received on the channel, audio will be heard. Otherwise, background noise will be heard. **Operation:** Press and hold the “Monitor” (Default A) key to enter this mode, and release the key to exit.
- **Monitor Toggle:** In this mode, the receiving party can receive incoming calls from the transmitting party regardless of CTCSS/CDCSS condition. If the channel frequency is not the same, the receiving party will not receive any incoming calls. **Operation:** Press the “Monitor” key to enter this mode, and press it again to exit.
- **Monitor Momentary:** Refer to “Monitor” toggle. **Operation:** Hold down the programmed monitor key continuously to enter this mode, and release the key to exit.

Scanning

You can scan up to 16 channels and frequencies. When the radio detects activity, it stops scanning and locks in on the active channel. If programmed for talk-back, you can talk and listen to the person transmitting without changing channels.

NOTE: The  icon will appear on the display when the current channel is added to the scan list. The  icon will appear on the display when the current channel is a priority channel.

To Set Up a VOX Headset:

1. To start scanning, press the key programmed as “Scan” (S/M default). The scan icon  displays and the radio begins to scan the channels. When the radio detects activity, it stops on that channel and displays  and the channel number.
2. To talk to the person transmitting without switching channels, press the PTT button before scan resumes. If no transmission occurs, scanning resumes.
Note: These timers can be changed by the programming software.
3. To stop scanning, press the “Scan” key. If you press PTT while the radio is scanning, the radio transmits on the channel you were on before you activated scan.

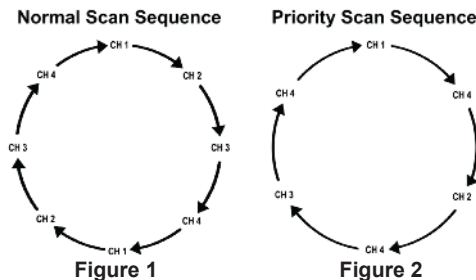
Skipping and Removing Channels While Scanning:

Scan has two temporary features to make it easier to use.

- **Scan Advance** - If the radio stops scanning on a channel you do not want to listen to, press  to resume scanning for the next active channel.
- **Nuisance Delete** - If the radio stops scanning on a channel you do not want to listen to, press  to resume scanning for the next active channel.

Without Priority Channel:

Providing that there is a scan list with 4 channels and all channels are non-prioritized, the normal scan operation would proceed in the following sequence, as shown in Figure 1.



With Priority Channel:

If you prioritize Channel 4 as priority, the scan operation would proceed in the following sequence, as shown in Figure 2.

This function enables users to scan the most frequently used channel so that messages will not be missed. The priority channel is programmed by the dealer via programming software or by the radio's keypad if full radio programming is activated.

NOTE: If the radios receiving on a non-priority channel, the priority channel is still scanned. The radio will switch to the priority channel once any activity is detected.

Power-on Scan:

If Power-on Scan is enabled by your dealer, the radio will automatically enter scan mode when it is turned on. The radio is always in scan mode. Scan cannot be turned off.

WIRELESS CLONING

The AWR-RB5000 is capable of Wireless Cloning.

NOTE: It is VERY important to know the Source radio. If a Target radio's PTT is pressed, it will overwrite the intended Source unit.

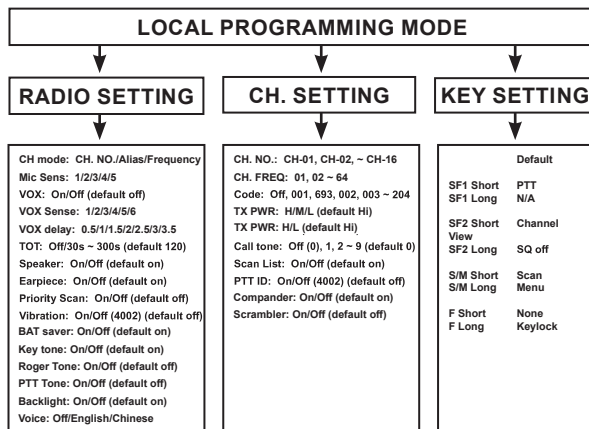
1. When cloning a radio(s), they should be in the same area as the Source radio (radio containing the desired configuration).
2. To put the AWR-RB5000 in clone mode, press and hold the S/M key and PTT key while turning the radio on. "CLONE" will be displayed on the LCD.
3. To start the cloning process, press the PTT button of the Source radio.
4. The Source radio LED will light steady red. The Target radio will toggle from red to green. There can be any number of Target radios.
5. When complete, the Source radio will display "CLONE", the Target radio will display "OK". If "ERROR" is displayed on the Target radio, perform the clone process again.
6. When finished, turn the Source radio and all Target radios off, then on to use.

Local Programming Mode

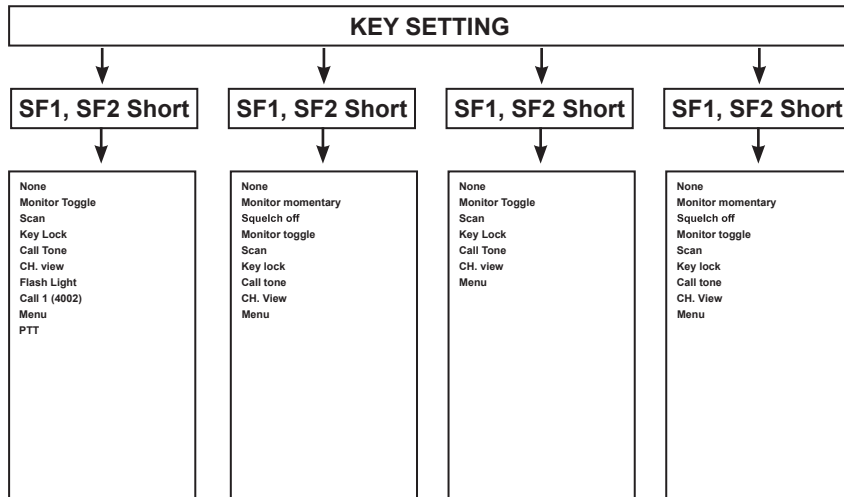
Local programming mode allows you to configure your radio by manual operation.

NOTE: Local programming mode can be disabled by the PC programming software.

Local Programming Menu



Key Setting Menu



Entering Programming Mode

Press and hold PTT and F key while turning the radio on. The radio beeps and displays RADIO SETTING. The radio enters radio setting programming mode.

NOTE: If you press and hold the PTT button for 3 seconds when the radio is in local programming mode, you will exit from the programming mode.

Key Operation Definition:

When you enter the local programming mode, the key function is as below:

- ▲ Select the main menu/function.
- ▼ Select the main menu/function.
- S/M Enter sub-menu or confirm the selected value/function.
- “F” Exit the sub-menu status and return to front of the menu.

Selecting Radio Setting/ Channel Setting/ Key Setting Main Menu

1. When the radio is in “radio setting” programming mode, “RADIO SETTING” will appear on the bottom of the screen.



2. Press ▲ or ▼ to select the main menu that you want to program.



3. Press S/M to enter the main menu setting status.

Programming Channel Display Mode (Ch. Mode)

1. When the radio is in “RADIO SETTING” status, press ▲ or ▼ until “CH. MODE” displays on the bottom of the screen. In the meantime the current display mode will appear in the middle of the screen.



2. Press S/M and the current display mode will flash.



3. Press ▲ or ▼ to select the channel display mode you want to set.

NOTE: There are three modes that can be selected: Channel number (CH NO), Alias, Frequency.



4. Press S/M to enter CH MODE.

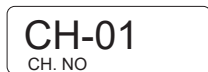


5. Press ▲ or ▼ to set another function, or press F to exit CH MODE status, or press and hold PTT to exit local programming mode.

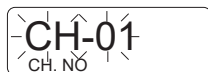
NOTE: To set MIC Sensitivity, VOX Delay, TOT, Speaker, Priority Scan, Key Tone, PTT Tone, Roger, Backlight, Channel Voice, the process is similar with channel display mode.

Programming Channel Parameters

1. When the radio is in CH. SETTING status, press ▲ or ▼ until the “CH NO.” appears in the bottom of the screen. (This is the first setting item after you enter channel programming mode).

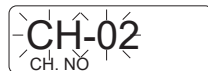


2. Press S/M and the “CH-01” will flash.



3. Press ▲ or ▼ to select a channel number.

NOTE: There are 16 channels that can be selected.



4. Press S/M to confirm the selecting channel.

CH-02
CH. NO

5. Press ▲ or ▼ to set another function, or press F to exit channel setting menu, or press and hold PTT to exit local programming mode.

Programming the Channel Frequency

1. When the radio is in channel setting status, press ▲ or ▼ until the “CH. FREQ” appears on the bottom of the screen.

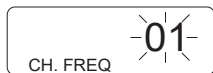
08
CH. FREQ

2. Press S/M and the “08” will flash.

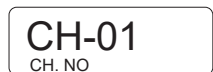
08
CH. FREQ

3. Press ▲ or ▼ to select the frequency.

NOTE: See page 36-37 for information on frequencies for communicating with other business radios. There are 64 available frequencies.



4. Press S/M to confirm the selected frequency.



5. Press ▲ or ▼ to set another function, or press F to exit channel setting status, or press and hold PTT to exit local programming mode.

NOTE: For codes, TX PWR (transmit power), BCL, Call Tone, Scan List, Compander, and Scrambler Settings, the process is similar with programming frequency. For the code list see pages 36-44.

Programming SF1 (Push to Talk) Key Short Press Function

1. When the radio is in key setting programming status, press ▲ or ▼ until the SF1 short appears on the bottom of the screen.

NOTE: When SF1 function is set to none, “NONE” will appear on the screen.



2. Press S/M to set SF1 key short press function. The “NONE” flashes.



3. Press ▲ or ▼ to select the key function.

NOTE: When you set SF1 short press as a PTT function, the SF1 long press will not be set to another function.



4. Press S/M to confirm the key function.



5. Press ▲ or ▼ to set another function or press “F” to exit ‘KEY SETTING’ status, or press and hold PTT to exit local programming mode.

NOTE: For SF1 long, A short, A long, S/M short, S/M long, F short, and F long key settings, the process is similar to SF1 short.

ADVANCED FEATURES

Busy Channel Lockout (BCL)

When the BCL feature is enabled, you are prevented from transmitting on a channel that is already in use by fellow radio users. Press the PTT on a channel that is already in use by fellow radio users, the radio will sound an alert tone and return to the receive mode.

Time-Out-Timer (TOT)

The Time-Out-Timer (TOT) is used to prevent someone from using the same channel for a long time and to prevent the radio from damage due to continuous transmission. If the transmission exceeds the preset time, transmission will be inhibited, and a beep tone will sound. To stop the beep tone, release the PTT key. Press the PTT key again to resume transmitting.

Scrambler

If enabled, transmit audio will not be heard clearly unless the receiving radio also has scramble enabled.

Compander

Companding is a feature that allows improved voice quality in weak signal areas. It compresses your voice at transmission and expands it when receiving while simultaneously reducing static noise. However, to enjoy this benefit, all transmitting and receiving radios must have this feature activated.

LIMITED MENU FEATURE

Default S/M Long Press

The AWR-RB5000 has a limited menu feature. If enabled, this feature allows the user to access commonly altered settings.

These settings include:

- Battery Save - On/Off
- PTT Tone - On/Off
- TX Power - H/M/L
- Scan List - On/Off
- Power on Scan Channel Selection (if enabled by programming software)

NOTE: Scan list On/Off determines if the selected channel will be part of the scan list.

FREQUENCIES LISTS

UHF Frequency List

Display Number	Frequency (MHz)
1	464.5000
2	464.5500
3	467.7625
4	467.8125
5	467.8500
6	467.8750
7	467.9000
8	467.9250
9	461.0375
10	461.0625
11	461.0875

Display Number	Frequency (MHz)
12	461.1125
13	461.1375
14	461.1625
15	461.1875
16	461.2125
17	461.2375
18	461.2625
29	461.2875
20	461.3125
21	461.3375
22	461.3625

Display Number	Frequency (MHz)
23	462.7625
24	462.7875
25	462.8125
26	462.8375
27	462.8625
28	462.8875
29	462.9125
30	464.4875
31	464.5125
32	464.5375
33	464.5625

Display Number	Frequency (MHz)
34	466.0375
35	466.0625
36	466.0875
37	466.1125
38	466.1375
39	466.1625
40	466.1875
41	466.2125
42	466.2375
43	466.2625
44	466.2875

Display Number	Frequency (MHz)
45	466.3125
46	466.3375
47	466.3625
48	467.7875
49	467.8375
50	467.8625
51	467.8875
52	467.9125
53	469.4875
54	469.5125
55	469.5375

Display Number	Frequency (MHz)
56	469.5625
57	462.1875
58	462.4625
59	462.4875
60	462.5125
61	467.1875
62	467.4625
63	467.4875
64	467.5125

Troubleshooting

See below for some common problems and their remedies. **DO NOT** attempt any repairs yourself. This will invalidate your warranty.

PROBLEM	POSSIBLE CAUSE / REMEDIES
Can't turn the radio on	• Check the power adapter is correctly installed
Can't communicate with other radios	• For this and all other issues contact Advanced Wireless Communications at 1-800-475-5852 or visit www.advancedwireless.com for more information.



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