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IZ5CCV

**Wide Range Receiver**

# **AR16**

**Owner's Manual**

**AOR, LTD.**

**Tokyo, Japan**

Rev. 2.1 9/99

**TABLE OF CONTENTS**

FEATURES .....	1
1. UNPACKING .....	1
2. FUNCTIONS .....	1
3. LCD DISPLAY .....	2
4. KEY FUNCTIONS .....	3
5. GETTING STARTED .....	4
5-1. BASIC OPERATIONS .....	4
5-2. FREQUENCY SELECTION MODE .....	4
5-2-1. BANK SEARCH MODE .....	4
5-2-1-1. BANK SEARCH .....	5
5-2-1-2. CHANGING SEARCH DIRECTION .....	6
5-2-2. BANK SCAN MODE .....	6
5-2-2-1. BANK SCAN .....	7
5-2-2-2. CHANGING SCAN DIRECTION .....	7
5-2-3. COMBINE SEARCH/SCAN RANGE .....	7
6. PROGRAMMING MODE .....	8
6-1. SELECTING FREQUENCY STEP .....	8
6-2. SELECTING RECEIVE MODE .....	8
6-3. STORING FREQUENCY INTO MEMORY .....	9
6-4. MEMORY MANAGEMENT .....	10
6-4-1. CLEAR MEMORY CHANNEL CONTENT .....	10
6-4-2. CLEAR ALL MEMORY CHANNEL CONTENTS .....	10
7. OTHER USEFUL FUNCTIONS .....	11
7-1. BACKLIT DISPLAY .....	11
7-2. BATTERY SAVE .....	11
7-3. AUTO POWER OFF .....	11
7-4. SCAN DELAY/HOLD .....	12
7-5. BEEP ON/OFF .....	12
7-6. KEYLOCK ON/OFF .....	13
7-7. PASS FUNCTION .....	13
7-7-1. IN THE SEARCH MODE .....	13
7-7-2. IN THE SCAN MODE .....	14
7-8. VOICE DESCRAMBLER (AR18U ONLY) .....	14
7-9. PC PROGRAMMING .....	15
8. WARRANTY .....	15
8-1. WARRANTY REPAIR .....	15
8-2. OUT OF WARRANTY REPAIR .....	15
9. SPECIFICATIONS .....	16
NOTICE .....	17

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Thank you for purchasing the AR16 Wide range receiver. Your AR16 has been designed with a new concept. In spite of its compact size, your AR16 has various unique features that are required in modern radio communications. Your AR16 is a highly sophisticated piece of equipment using a very latest in electronics design and technology. It is very important that you carefully read this manual and familiarize yourself with the equipment before placing it into operation.

Your AR16 has been passed through stringent control testing at the factory and should provide long hours of reliable operations.

**FEATURES**

- Wide band frequency coverage (0.5~1300 MHz. AR16B (US version) Cellular Blocked)
- 25 preset search bank
- WFM (Wide band FM), NFM (Narrow band FM), and AM (Amplitude Modulation) mode
- 500 memory channels (5 banks x 100 channels.)
- Low Power Consumption (Operates with two (2) AA size battery)
- Automatic squelch settings for simple operation
- Monitor function to receive weak signals
- Built-in S-meter
- Various operation modes
- Backlit keypad and display
- Twelve channel steps
- Built-in voice descrambler (AR16U only)

**1. UNPACKING**

Your AR16 should come with the following accessories. Please check that nothing is missing when you first open the package.

- Flexible antenna x 1
- 1300 mA Ni-MH Rechargeable battery cell x 2
- AC wall charger (for 120 V AC input) x 1
- Hand Strap x 1
- Operator's manual (this book) x 1
- Operator's manual for the AC wall charger x 1

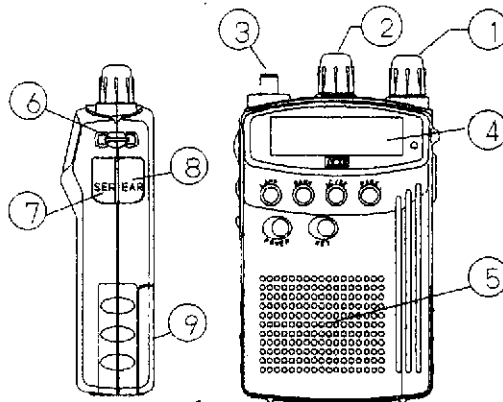
**PRECAUTIONS IN USE**

Do not disassemble or tamper with this equipment. Any damages or unauthorized modifications will void all manufacturers warranty.

Do not use or store this equipment in any places where exposed to direct sunlight, near to sources of heat, or in other adverse environments.

Do not carry this equipment with holding the antenna.

**2. FUNCTIONS**



(1) [DIAL] Tuning Dial

Rotate to select frequencies, memory channels, receive mode, frequency step, and so forth.

(2) [VOL] Volume knob

Turn clockwise to increase the volume level, and turn counterclockwise to decrease the volume level.

(3) [ANT] Antenna Connector

Connect the supplied flexible antenna to this connector. If an external antenna is used, be sure that an antenna connector must have a SMA connector. Be careful not to apply too much stress to the connector when connected.

(4) [LCD]

High visible display

(5) SPEAKER

(6) HOLE FOR HAND STRAP

Attach the supplied hand-strap through this hole.

(7) [SER] Serial port connector

Plug an interface cable into this connector for PC control.  
(Note: To control your AR16 through PC, an interface cable, level converter, and control software program are required.)

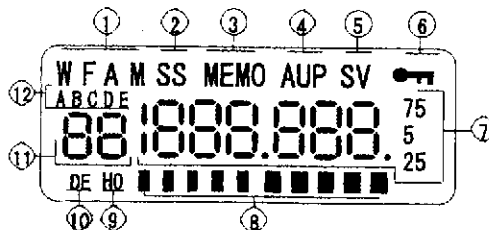
(8) [EAR] Earphone Jack

Plug an earphone into this jack. (Impedance: 8 ohms) While using an external speaker, the internal speaker will be disabled.

(9) BATTERY CASE COVER

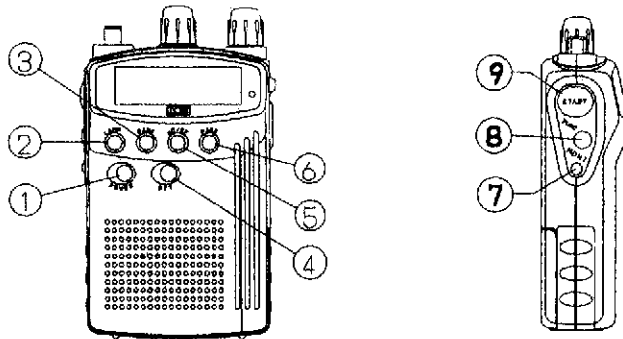
Insert two AA type of alkaline battery or Ni-MH battery, and then gently slide-in the battery cover.

### 3. LCD DISPLAY



1. Receive mode indicator
2. Descrambling function indicator (AR16U only)
3. Scan mode (memory mode) indicator
4. APO (Automatic Power Off) function indicator
5. Battery save function indicator
6. Keylock function indicator
7. Frequency display
8. S (Signal strength) meter
9. Search/Scan Hold function indicator
10. Delay function indicator
11. Channel number indicator
12. Memory Bank Indicator

## 4. KEY FUNCTIONS



1. **[POWER]**  
Press and hold this key for about one (1) second to turn power on the unit.  
To turn power off the unit, press and hold this key for about one (1) second.
2. **[LAMP]**  
Press this key to illuminate the LCD window and the keypad for about five (5) seconds, and will automatically go off.  
  
(Note: Activating this function will consume an excessive battery power.)
3. **[BANK]**  
While in the **Search Mode**, pressing this key will select a desired search bank.  
While in the **Scan Mode**, pressing this key will select a memory bank from A ~ E.
4. **[SET]**  
Pressing this key is to change the receiver's various functions such as frequency step, receive mode, clear memory clear, and so forth.
5. **[SC/SE]**  
Pressing this key toggles between the **Search Mode** and **Scan Mode**.  
  
(Note: When the [MEMO] icon appears on the top middle of the LCD, the unit is in the Scan Mode.)
6. **[PASS]**  
Pressing this key in either the **Search Mode** or **Scan Mode** will skip the current receive frequency or memory channel.
7. **[MONI]**  
While this key is pressed and held, squelch will open regardless of its setting.  
This function is especially useful to monitor weak signal.
8. **[FUNC]**  
Push and hold this key, and press other front key will access a secondary function of the unit.
9. **[START]**  
Pressing this key will activate the **Search Scan** or **Memory Scan**.

## 5. GETTING STARTED

## 5-1. BASIC OPERATIONS

Before operating this receiver, you must charge the supplied Ni-MH (Nickel Metal Hydride) rechargeable batteries. For your safety, these batteries are NOT charged at the factory.

1. Refer to an owner's manual of the AC wall charger, connect the AC adapter to an 120 V AC outlet.
2. Plug-in the small plug of the AC adapter to the charging unit.
3. Carefully install four (4) Ni-MH battery cells to the charging unit. (Beware of its polarity.)
4. The green LED will lit indicating that the batteries have been charged.
5. For the first time, it will take approximately 15 ~ 20 hours before fully charged. (Note: The green LED will NOT go off even after the batterys are fully charged. Be careful not to overcharge the batteries.)
6. When the batteries are fully charged, remove them from the charging unit.
7. Open the battery cover of the AR16, and then insert those batteries.
8. Set the volume knob about 10 o'clock position.
9. Press and hold the [POWER] key on the front panel to turn on the receiver.
10. To select a frequency from the preprogrammed memory channels, press the [SC/SE] key to display the [MEMO] icon on the top middle of the LCD.
11. To select frequency from the scan bank, press the [SC/SE] key NOT to appear the [MEMO] icon on the LCD.
12. Rotate the [DIAL] knob to select the desired frequency.
13. If a signal is too weak to open the squelch, press and hold the [MONI] key.

## 5-2. FREQUENCY SELECTION MODE

Your AR16 has two different frequency selec modes, the Bank Search Mode, and Bank Scan Mode.

### 5-2-1. BANK SEARCH MODE

This mode is similar to the VFO (Variable Frequency Oscillator) mode. In this mode, you can select any desired frequencies from the pre-programmed search bank. You can also change a frequency, frequency step, receive mode in this mode.

There are 25 pre-programmed search bank in the AR16. To select the desired frequency from the search bank, perform the following steps.

1. Press the [SC/SE] key NOT to display the [MEMO] icon on the LCD.
2. Press the [BANK] key repeatedly until you get the proper band number. (You can change the bank number quickly by holding the [BANK] key, and then rotate the [DIAL] knob.)

#### [Example]

You are going to receive a FM broadcast station on 105.1MHz.

1. The FM broadcast frequencies are programmed on bank #5.
2. Press the [BANK] key several times to get the [05] icon on the left side of the LCD
3. Rotate the [DIAL] knob to select the [105.100] icon on the LCD.
4. Turn the volume knob clockwise to the desired volume level.

Bank	Low(MHz)	High(MHz)	Step(KHz)	Mode	Applications
1	0.530	1.600	10	AM	AM Broadcast
2	3.000	30.000	1	AM	SWL, CB, Remote Broadcast, Amateur Radio
3	30.000	50.000	10	NFM	Military, Police
4	52.000	54.000	10	NFM	Amateur Radio
5	88.100	108.100	100	WFM	FM Broadcast
6	108.000	136.000	25	AM	Airband
7	136.000	144.000	5	NFM	Government, Land Mobile
8	144.000	148.000	5	NFM	Amateur Radio
9	148.000	158.000	5	NFM	Government, Land Mobile, Marine
10	158.000	174.000	5	NFM	Land Mobile, Railroad, Weather, Government
11	222.000	225.000	10	NFM	Amateur Radio
12	230.000	390.000	10	AM	Airband
13	400.000	420.000	25	NFM	Military
14	420.000	450.000	10	NFM	Amateur Radio
15	450.000	488.000	10	NFM	Land Mobile, TV radio, Police, Fire
16	462.550	467.750	5	NFM	GMRS, FRS
17	508.000	508.000	5	NFM	Police
18	851.000	868.000	10	NFM	Police, Fire
19	935.000	940.000	10	NFM	Police, Fire
20	1200.000	1300.000	25	NFM	Amateur Radio
21	0.500	160.000	5	AM	Band Scan #1
22	180.000	350.000	10	NFM	Band Scan #2
23	350.000	824.000	10	NFM	Band Scan #3
24	849.000	869.000	10	NFM	Band Scan #4
25	894.000	1300.000	25	NFM	Band Scan #5

TABLE OF THE PRE-PROGRAMMED SEARCH BANK  
*(Note: This is for AR16B only. The AR16U has no frequency gap.)*

**5-2-1-1. BANK SEARCH**

While in the **Bank Search Mode**, you can start searching (scanning) by pressing the **[START]** key on the left side of the AR16. The AR16 searches frequencies within a selected frequency bank.

**[Example]** : Search Bank #1:

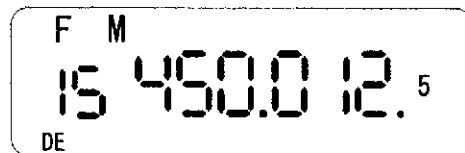
⇒ 530 ⇒ 540 ⇒ 550 ⇒ . . . . . ⇒ 1590 ⇒ 1600 ⇒ 530 ⇒ . . .

When a signal is received, the AR16 will stop searching, and opens the squelch.

Press and holding the **[MONI]** key during searching will stop searching, and opens the squelch. To resume searching, release the **[MONI]** key.

To quit searching, press the **[SC/SE]** key twice or rotate the **[DIAL]** knob either direction.

To start searching again, press the **[START]** key.



### 5-2-1-2. CHANGING SEARCH DIRECTION

Pressing the [START] key will start searching frequency upward.  
To search frequency downward, press and hold the [FUNC] key, and then press the [START] key.

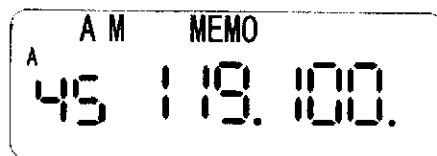
### 5-2-2. BANK SCAN MODE

This mode is similar to the Memory mode.

- 1) In this mode, you can
  1. select any desired frequencies from the preprogrammed memory bank.
  2. store your favorite frequencies into memory channel.
- 2) A 100 of popular frequencies have been pre-programmed from the factory for your convenience.
- 3) If it is necessary, you can overwrite any frequency into each memory.
- 4) There are five (5) Scan Bank (memory Bank) in the AR16.

To select the desired frequency from the Scan Bank, perform the following steps.

1. Press the [SC/SE] key to appear the [MEMO] icon on the LCD.
2. Press the [BANK] key repeatedly until you get the proper Bank Memory that has been stored your favorite frequency.



[NOTE: No frequency has been stored in the bank D and E from the factory. And therefore, you will not be able to access those banks unless you program your own frequencies into those banks.]

[Example] You are going to receive WWV on 10.000MHz.

1. The frequency has been being programmed on channel 2 on the Bank B.
2. Press the [BANK] key several times to get the [B] icon on the left side of the LCD
3. Rotate the [DIAL] knob to select the [02] (channel 2) on the LCD.
4. In the meantime, the LCD should display the frequency 10.000.
5. Turn the volume knob clockwise to the desired volume level.

[Note: For a better reception on the HF (short wave) band, you must use an external antenna such as a long-wire, dipole, etc.]

### 5-2-2-1. BANK SCAN

While in the **Bank Scan Mode**, you can start scanning memory channel by pressing the **[START]** key on the left side of the AR16.

The AR16 scans memory channels within a selected **Scan Bank**.

**[Example]** Scan Bank A:

⇒ Ch 0 (2.500) ⇒ Ch 1 (5.000) ⇒ Ch 2 (10.000) ⇒ ... Ch 0 ⇒ .....

When a signal is received, the AR16 will stop scanning, and opens the squelch. Press and holding the **[MONI]** key during scanning will temporary stop searching, and then opens the squelch. To resume scanning, release the **[MONI]** key.

To quit scanning, press the **[SC/SE]** key twice or rotate the **[DIAL]** knob either direction.

To start scanning again, press the **[START]** key.

### 5-2-2-2. CHANGING SCAN DIRECTION

Pressing the **[START]** key will start scanning memory channels upward.

To scan downward, press and hold the **[FUNC]** key, and press the **[START]** key.

### 5-2-3. COMBINE SEARCH/SCAN RANGE

Usually, your AR16 searches frequencies with a selected **Search Bank** or scans memory channels within a selected **Scan Bank**. You can, however, combine other **Search Bank** or **Scan Bank** by performing the following steps.

1. Select either the **Search Bank Mode** or **Scan Bank Mode**.
2. Press and hold the **[FUNC]** key, and then press the **[BANK]** key.
3. Press the **[START]** key to start searching or scanning.
4. When the AR16 searches/scans highest frequency or memory channel number, then it will automatically jump to next **Search Bank** or **Scan Bank**.

To deactivate this function, simply press the **[BANK]** key.

## 6. PROGRAMMING MODE

## 6-1. SELECTING FREQUENCY STEP

Your AR16 has 12 different frequency steps, and can be selected by performing the following steps.

1. Press the [SET] key, and rotate the dial knob to get the following display on the LCD.



*[Note: The above value may be different from your own setting.]*

2. Press and hold the [FUNC] key, then rotate the [DIAL] knob to select the desired channel step.

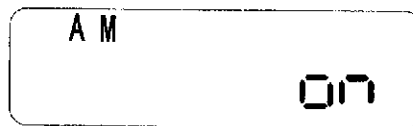
Frequency step (KHz): 1, 5, 6.25, 9, 10, 12.5, 15, 20, 25, 30, 50, 100

*[NOTE: A frequency step can be changed in the Search Bank Mode only.]*

## 6-2 SELECTING RECEIVE MODE

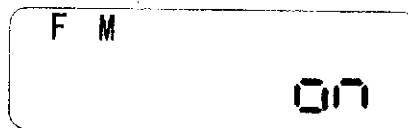
Your AR16 is capable of receiving in three (3) different receive mode (WFM = Wide Band FM, NFM = Narrow Band FM, and AM), and can be selected by performing the following steps.

1. Press the [SET] key, and rotate the [DIAL] knob to get the following display on the LCD.



In this example, the AR16 is in the AM receive mode.

2. To change the receive mode, press and hold the [FUNC] key, and rotate the [DIAL] knob.



In this example, the AR16 is in the NFM (Narrow FM) receive mode.



In this example, the AR16 is in the WFM (Wide FM) receive mode.

**[NOTE: RECEIVE MODE]**

**AM (Amplitude Modulation) mode**

Usually broadcast station transmitting signals between 530~1600 KHz are in the AM mode. The AM mode is also used for airband communication that can be usually monitored between 108~136 MHz.

**NFM (Narrow Band Frequency Modulation) mode**

Most of two way communications such as amateur radio, Police, Fire, Ambulance, Business are using the NFM mode. They are using frequencies above 30 MHz.

**WFM (Wide Band Frequency Modulation) mode**

Broadcast stations transmitting signals between 88~108 MHz are in the WFM mode. Also TV (Television) voice signals are in the WFM mode. If you receive those signals in the NFM mode by mistake, an audio output from the speaker will be distorted.

**6-3. STORING FREQUENCY INTO MEMOERY**

Your AR16 has a total of 500 memory channels (100 ch x 5 banks) to store your favorite frequencies. A total of 44 memory channels have been pre-loaded with most popular frequencies from the factory. These memory contents can be erased and/o overwritten by the customer if necessary.

To store (write) frequency into memory, perform the following steps.

1. Press the **[SC/SE]** key NOT to appear the **[MEMO]** icon on the top middle of the LCD. (You will be in the Bank Search Mode).
2. Press the **[BANK]** key repeatedly until you get the proper band number. You can change the bank number rapidly by holding the **[BANK]** key, and rotate the **[DIAL]** knob.
3. Rotate the **[DIAL]** knob to select the desired frequency to be stored.
4. Press and hold the **[FUNC]** key, and then press the **[SC/SE]** key.
5. Rotate the desired memory bank and number to store into memory.  
*(Note: If the **[MEMORY]** icon flashes at this step, the selected memory channel has been already programmed.)*
6. Press and hold the **[FUNC]** key, and then press the **[SC/SE]** key. A beep will sound and the function will be completed.

[Example] You are going to store 162.550 MHz in NFM mode into memory channel B-15.

1. The frequency can be found on search bank #10 .
2. While in the Bank Search Mode, press the [BANK] key several times to get [15] on the left side of the LCD
3. Rotate the dial knob to select [162.550] on the LCD.
4. Press and hold the [FUNC] key, then press the [SC/SE] key. The [MEMO] icon and a channel number will appear.
5. Rotate the [DIAL] knob to get the desired memory bank and channel number. (Note: If the [MEMO] icon flashes during this step, the selected memory channel has been already occupied.)
6. Press and hold the [FUNC] key, then press the [SC/SE] key again. A beep will sound informing that the frequency has been successfully stored.

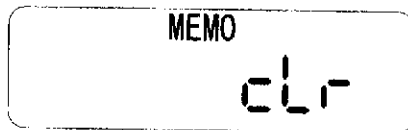
[NOTE]

1. By repeating above steps, the AR16 will automatically find a next available vacant memory channel. (You can select other channels, of course.)
2. When all memory channels are used, you must erase some unnecessary memory channels.

## 6-4. MEMORY MANAGEMENT

### 6-4-1. CLEAR MEMORY CHANNEL CONTENT

1. While in the Memory Bank Mode, press the [SC/SE] key to select the desired memory channel to be cleared (deleted).
2. Press the [SET] key, and rotate the [DIAL] knob to select the following display on the LCD.



3. Press and hold the [FUNC] key, and then rotate the [DIAL] knob one click either clockwise or counterclockwise. A beep will sound informing that the selected memory channel has been now cleared.

### 6-4-2. CLEAR ALL MEMORY CHANNEL CONTENTS

[NOTE: Performing the following steps will clear all memory contents including factory pre-programmed frequencies, and will no longer be able to be recovered.]

1. Press the [SC/SE] key to display any memory channel on the LCD.
2. Press and hold the [SET] key, and then rotate the [DIAL] knob to select the following icon menu on the LCD.



3. Press and hold the [FUNC] key, and then rotate the [DIAL] knob one click either clockwise or counterclockwise once. A beep will sound informing that the all memory contents are now cleared.

## 7. OTHER USEFUL FUNCTIONS

### 7-1. BACKLIT DISPLAY

Pressing the [LAMP] key will illuminate the LCD screen and the front keys for five (5) seconds. It will automatically go off afterward. For a continuous illumination, press and hold the [FUNC] key, and then press the [LAMP] key. To quit this function, simply press the [LAMP] key.

[NOTE: A continuous illumination will consume a lot of battery energy.]

### 7-2. BATTERY SAVE

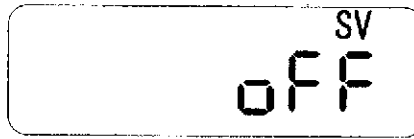
This function allows the AR16 to save battery usage by periodically turning on/off the some circuits.

There are four (4) parameters for this function.

OFF (default), 1: 300 mS 3: 500 mS, 6: 1 Sec.

To activate this function, perform the following steps.

1. Press the [SET] key, and rotate the [DIAL] knob to get the following display on the LCD.



2. Press and hold the [FUNC] key, and then rotate the [DIAL] knob to select the desired parameter.
3. Release the [FUNC] key to confirm this parameter.

### 7-3. AUTO POWER OFF

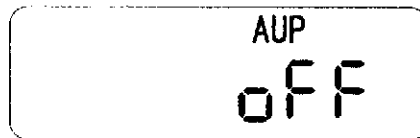
The Automatic Power Off function will automatically turn power off the AR16 if no key function is performed during the preset period.

There are three (3) parameters for this function.

OFF (default, deactivated), 30: 30 minutes, 60: 60 minutes

To activate this function, perform the following steps.

1. Press the [SET] key, and rotate the [DIAL] knob to get the following display on the LCD.



2. Press and hold the [FUNC] key, and then rotate the [DIAL] knob to select the desired parameter.
3. Release the [FUNC] key to confirm this parameter.

#### 7-4. SCAN DELAY/HOLD

This function is to be used in conjunction with scan function.

- Scan Delay on** -- On receiving a signal in the scan mode, the AR16 stops scanning and will resume a few second after an incoming signal is out.
- Scan Delay off** -- On receiving a signal in the scan mode, the AR16 stops scanning and will resume immediately when an incoming signal is out.
- Scan Hold** ---- On receiving a signal in the scan mode, the AR16 stops scanning even when an incoming signal is out.

To activate these functions, perform the following steps.

1. Press the [SET] key, and then rotate the [DIAL] knob to display the following display on the LCD.



3. During above step, to turn the [DIAL] knob one more click clockwise will select the Scan Hold Mode.



4. Repeating above steps will toggle these function as follows.

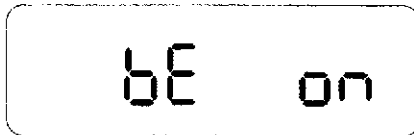
DE On ⇒ DE OFF ⇒ HO ⇒ DE On ⇒ DE OFF ⇒

#### 7-5. BEEP ON/OFF

When this function is activated, a beep will sound each time you press any front keys.

To use this function, perform the following steps.

1. Press the [SET] key, and then rotate the [DIAL] knob to select the following display on the LCD.



or



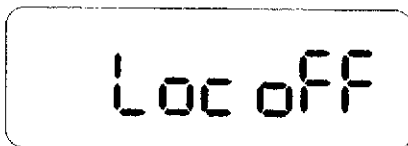
2. To disable this function, press and hold the [FUNC] key, and then rotate the [DIAL] knob one click clockwise.

## 7-6. KEYLOCK ON/OFF

When this function is activated, the [BANK] key, [SC/SE] key, and [PASS] key are disabled.

To activate this function, perform the following steps.

1. Press the [SET] key, and then rotate the [DIAL] knob to select the following display on the LCD.



2. Press and hold the [FUNC] key, and then rotate the [DIAL] knob one click clockwise.



3. To repeat above steps will toggle this function on and off.

## 7-7. PASS FUNCTION

This function will allow to skip any pre-selected frequencies or memory channels during the Search Mode or Scan Mode. If you are searching frequencies or scanning memory channels which includes a station which transmits a carrier signal all the time (such as NOAA (Weather Forecast), this function will be convenient. Otherwise, the receiver stops on those frequencies or memory channels, and will not resume searching or scanning until you press the [SEARCH] key manually.

### 7-7-1. IN THE SEARCH MODE

During the Search Mode, press the [PASS] key to skip the selected frequency. Once the selected frequency is tagged to pass (skip), it will be passed and not be received during a search.

To resume one pass frequency, perform the following steps.

1. Press the [SET] key, and then rotate the [DIAL] knob to select the following display on the LCD.



2. Press and hold the [FUNC] key, and rotate the [DIAL] knob to select the desired frequency to resume a pass frequency.
3. Press the [PASS] key to confirm this function. A beep will sound when completed.

To resume all pass frequencies, press the [SET] key, and then rotate the [DIAL] knob to select the following display on the LCD.



SE P ALL

Press the [PASS] key to confirm this function.

#### 7-7-2. IN THE SCAN MODE

During the **Scan Mode**, press the [PASS] key to skip the selected memory channel. Once the selected channel is tagged to pass (skip), it will be passed and not be received during a scan.

To resume a one pass memory channel, perform the following steps.

1. Press the [SET] key, and then rotate the [DIAL] knob to select the following screen on the LCD.



MEMO  
PAS

2. Press and hold the [FUNC] key, and rotate the [DIAL] knob to select the desired memory channel to resume.
3. Press the [PASS] key to confirm this function. A beep will sound when completed.

To resume all pass memory channels, press the [SET] key, and then rotate the [DIAL] knob to select the following display on the LCD.



MEMO  
P ALL

Press the [PASS] key to confirm this function.

#### 7-8. VOICE DESCRAMBLER (AR16U ONLY)

Your AR16 has a built-in voice descrambler (voice band inverter), and signals with single frequency inversion scrambling can be decoded. It is strongly recommended, however, to check your dealer for applicable law and regulations to use this function. Some countries, states may prohibit a use of descrambler to monitor the communication that is intentionally scrambled.

To activate this function, perform the following steps.

1. Press the [SET] key, and then rotate the [DIAL] knob to select the following display on the LCD.



SS  
OFF

2. Press and hold the [FUNC] key, and then rotate the [DIAL] knob to select the desired parameter with best receive audio.
3. To release the [FUNC] key will finish the setting.

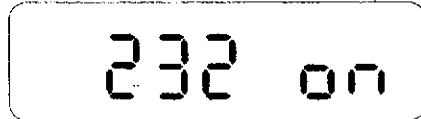
## 7-9. PC PROGRAMMING

Your AR16 is capable of interfacing with your PC to read/write frequencies or memory channels from/to your AR16.

(NOTE: An interface cable, level converter, and control software program are required to use this function.)

To activate this function, perform the following steps.

1. Turn power off the AR16..
2. Press and hold the [SET] key, and then turn power back on.
3. The following display will appear on the LCD.



To quit this function, simply turn power off the unit.

(NOTE: To get the control command list of the AR16, please visit our web site at: <http://www.aorusa.com>)

## 8. WARRANTY

Your AR16 comes with one (1) year limited warranty from the date of purchase. The warranty is applicable for an original purchaser only, and is not transferable. If your AR16 experiences any problem, you can send it in to us for warranty repair.

### 8-1. WARRANTY REPAIR

AOR will repair or exchange parts for your AOR products at FREE of charge in the U.S.A. in the event of defect in materials or workmanship.

Parts — New or comparable rebuilt parts in exchange for defective parts for one (1) calendar year from the date of original purchase of new equipment.

Labor — FREE of charge for one (1) calendar year from the date of original purchase of new equipment.

No R/A (return authorization) number required for warranty repair. We will return your AOR products via normal ground transport to the original shipping party. This warranty covers failure due to defects in materials or workmanship that occurs during normal use. It does NOT cover failures due to damage that occurs in shipment or failures which are caused by unauthorized services, modifications, or other maintenance not supplied by AOR. Also, any failures that result from accident, misuse, neglect, misapplication, alteration, faulty installation, or damaging environments will result in voiding warranty.

### 8-2. OUT OF WARRANTY REPAIR

When your products warranty period has expired, and need to repair, AOR will provide an out of warranty repair services. No R/A (return authorization) number required. We will provide you an estimate along with payment information. There is a \$20 of estimate fee that can be applied to the total repair fee when you approve it. We accept VISA, MASTERCARD, Personal check, or Money order (make it payable to: AOR USA, INC.) We will return your AOR products via normal ground transport to original shipping party.

## 9. SPECIFICATIONS

1. Frequency coverage:  
AR16U (Export/Government Version) 0.5~1300 MHz (No gap)  
AR16B (US Domestic version) 0.5~1300 MHz (Cellular Blocked)
2. Receive Mode: AM, NFM, WFM
3. Frequency Steps: 1, 5, 6.25, 9, 10, 12.5, 15, 20, 25, 30, 50, 100 KHz
4. Memory Channels: 500
5. Search Bank: 25
6. Sensitivity:  
0.35  $\mu$ V (at 12 dB SINAD) in NFM mode  
(5  $\mu$ V (0.5 ~5 MHz))  
1.0  $\mu$ V (at 10 dB S/N) in AM mode  
4.0  $\mu$ V (at S/N 20dB) in WFM mode
7. Antenna Impedance: 50 ohms (nominal)
8. Antenna Connector: SMA type
9. Operating Voltage: 2.4~3.0 V DC (rated 3.0 V DC)
10. Audio Output: 60 mW (at 8 ohms, 10% T.H.D.)
11. Current Drain:  
Approx. 130 mA (at 60mW audio output)  
Approx. 90 mA (squelched, in NFM mode)  
Approx. 46 mA (Battery Save on, in NFM mode)
12. Scan Speed: 20 channels /sec. (max.)
13. Frequency Stability: +/- 5 ppm (14~122 degrees F.)
14. Dimensions: 2.4 (w) x 4.2 (h) x 1.2 (d) in. (antenna not included)
15. Weight: Approx. 5.4 oz. (antenna, battery included)
16. Standard accessories: Flexible antenna, two (2) Ni~MH rechargeable battery cell, hand strap, AC wall charger, owner's manual.

[NOTE: All specifications are subject to change without notice or obligation.]

### NOTICE (AR16B ONLY)

This equipment has been tested and found to comply with the limits 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 radiates 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 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.

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

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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.

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