

AOR

AR-2001

OPERATING MANUAL



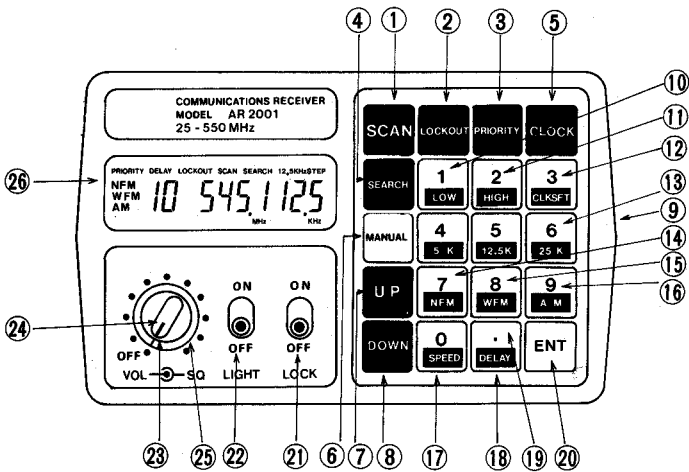
AOR, LTD.

2-6-4, MISUJI
TAITO-KU, TOKYO

OPERATING MANUAL

Thank you for your purchasing one of our AR2001 receivers. Please read this operating manual carefully to use the receiver correctly.

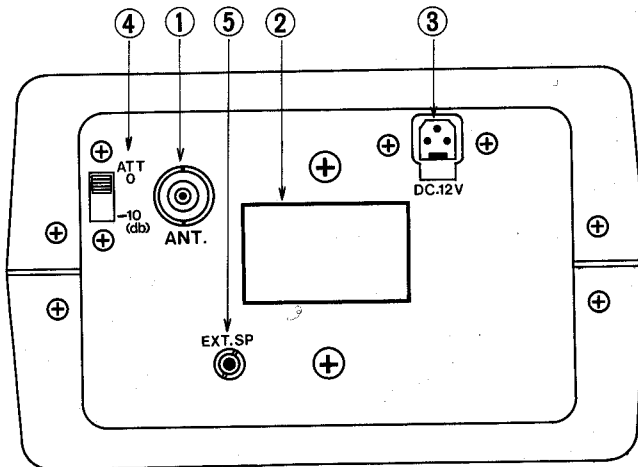
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V REAR PANEL CONTROL

1. ANT Antenna connector (BNC type)
2. LABEL
3. DC 12V 12V DC input jack
4. ATT Attenuator (-10 db)
5. EXT SP External speaker jack

(picture)



VI OPERATION

1. Connect 12V DC correctly. If you are using the optional AC adaptor, all connections must be firmly made.
2. Squelch control should be turned maximum clockwise prior to power switch is on. Turn on the power switch and rotate to 10 o'clock position.
3. The unit will automatically start scanning between CH01 and CH20 as soon as the power switch is on. (Certain frequencies are stored at factory for test.)
4. Make sure that LOCK OUT, SEARCH, PRIORITY, DELAY are OFF position (no indication on LCD display). If any of those are ON, turn it to OFF.

Squelch setting for correct operation. The squelch control can be considered as setting the level of signal which will stop the scanning process, and allow the transmission to be heard. In the fully counterclockwise position, the squelch is open, and no scanning will take place.

Starting from the counterclockwise setting, rotate the squelch control clockwise until background noise from the speaker is cut off.

This is the most sensitive setting for the squelch control, but at this setting, it is possible for bursts of interference to stop the scanning, so it is advisable to advance the squelch slightly further clockwise to avoid this. The correct setting will be easily found by experience.

Now, your set is ready to work. Explanations as to how to input desired frequencies will follow hereunder.

** How to store frequencies in memory bank.

1. If you want to enter 128.80MHz with AM mode into CH01, depress button in the following sequence;

- A. Depress [MANUAL] scan stops
- B. Depress [AM][ENT] LCD shows AM mode
- C. Depress [1][2][8][.][8][0][ENT]
LCD shows 128.80 and receives signal.
- D. Depress [0][1][ENT]
The frequency is stored in CH01 and CH on LCD display ceases to flash. Note that channel input should be in 2 digit all the time like 01, 02, 03...20 instead of 1, 2, 3,...

2. Other example like 150.125MHz on NFM into CH02:

- A. [MANUAL][NFM][ENT]
- B. [1][5][0][.][1][2][5][ENT]
- C. [0][2][ENT]

3. 468.3625MHz NFM in CH03

- A. [MANUAL][NFM][ENT]
- B. [4][6][8][.][3][6][2][5][ENT]
- C. [0][3][ENT]

4. 82.500MHz WFM in CH04

- A. [MANUAL][WFM][ENT]
- B. [8][2][.][5]
- C. [0][4][ENT]

CH indicator on LCD does not flash if entry of A and B have been made in the wrong order and no memory is stored. Depress ENT key and confirm CH indicator is flashing. Please restart the procedure correctly.
20 memory channels are provided.

I MAJOR FEATURES

- * Continuous coverage between 25MHz and 550MHz.
- * Accurate receiving frequency by PLL synthesizer circuit.
- * Multi-functional LCD display for receiving frequency, scan, mode, search, etc.
- * Easy and efficient keyboard operation for frequency selection and various modes.
- * Excellent electrical performances (receiving sensitivity, selectivity, spurious rejection, two-signal characteristics, etc.).
- * Wide variety of receiving modes
Wide FM (TV broadcast, FM broadcast)
Narrow FM (Business band, Amateur Radio)
AM (VHF/UHF Air Band, CB)
- * State of art design by use of latest electronic components and circuitry.
- * Go-anywhere versatility because of light compact design.

II OPERATING PRECAUTIONS

The receiver is designed for use on 12V DC only. Always use the correct power cord, making sure that positive and negative connections are made correctly. For home use, a properly regulated AC power supply is essential. The power supply voltage can be 12-14V DC output. Disconnect the power supply from the mains, if the receiver is not being used. Take care to avoid spillage or leakage of liquids into the receiver. Special care should be taken to prevent liquid entry via the power jack.

III CAUTION FOR PROPER HANDLING OF THE SET

Please pay your special attention to the following regarding location of the set.

- * Avoid any place in the direct sun or near to heating instruments where temperature may rise over 60 degrees centigrade. Temperature may go up to 100 degrees or more inside car with all windows closed if in the direct sun, and this may cause deformation of the case and deteriorate other parts of the unit. Avoid also place where water splash, high moisture and dust are expected.
- * Clean the set with soft cloth. Never use any chemicals to clean the set like thinner or benzene, etc. which damage the cabinet surface.
- * We recommend you use an external aerial when you wish to pick up signals from a distance, or weak signals. Your dealer can advise on suitable aeriels. When external aerial is erected, be careful not to erect close to nearby power lines, telephone lines or buildings.
- * For your reference, under the present Japanese wireless radio code, it is prohibited to monitor transmission conducted between specific parties if the purpose is to reveal its presence or to misuse the contents.

IV. CONTROL

1. [SCAN] Key to start scanning
2. [LOCK OUT] Key to delete unwanted channels for programmed scan
3. [PRIORITY] Key to ON/OFF priority channel
4. [SEARCH] Key to ON/OFF search
5. [CLOCK] Key to ON clock
6. [MANUAL] Key to stop various functions, and to input manual channel selection
7. [UP] Key to shift to higher frequency
8. [DOWN] Key to shift to lower frequency
9. [1-0] Key to input numeral information like frequency and time
10. [LOW] Key to set lower frequency for programmed search
11. [HIGH] Key to set higher frequency for programmed search
12. [CLOCK SET] Key to set time
13. [5KHz, 12.5KHz, 25KHz] Key to select spacing of frequency to search
14. [NFM] Narrow FM reception
15. [WFM] Wide FM reception
16. [AM] AM reception
17. [SPEED] Key to select speed of scan and search, etc.
18. [DELAY] Key to hold frequency for a short time.
19. [.] Decimal point
20. [ENT] Entry key to input frequency, channel and time, etc.
21. [LOCK] Key to lock other keyboard functions
22. [LIGHT] Illuminate LCD display
23. [POWER SWITCH]
24. [VOLUME CONTROL]
25. [SQUELCH]
26. [LCD] Display of frequency, channel number, etc.

** Priority

The set is provided with a priority channel. Enter frequency you want to monitor all the time into channel 01 and depress PRIORITY key. Channel 01 will be monitored at approx. 2 second interval checking for activity. If a signal appears on Channel 01, the receiver will automatically stop scanning on Channel 01. PRIORITY indication appears on LCD display when it is engaged. P indication also appears alongside CH number when a signal is received on priority channel.

** Delay

DELAY key is used to delay resumption of scanning for approx. 2.5 sec. during a pause in transmission.

**** Time display and how to set clock**

24-Hour clock is built-in feature of the AR-2001

10 15 20 represents 10h 15m 20sec AM
18 45 50 represents 6h 45m 50sec PM

To display time on LCD, depress:

- A. [MANUAL]
- B. [CLOCK]

Time will not be displayed if PRIORITY is engaged. Disengage PRIORITY in this case.

To release time display, depress any key in the followings;

[ENT] Resume frequency
[SCAN] Resume scanning
[SEARCH] Resume searching

To enter time, for example, 7h 15m 20s AM, depress key in the following sequence;

- A. [MANUAL][CLKSET][ENT]
- B. [0][7][1][5][2][0]
- C. [ENT] synchronizing with 10h 15m 20s by official time source

Another example, 6h 45m 50s PM

- A. [MANUAL][CLKSET][ENT]
- B. [1][8][4][5][5][0]
- C. [ENT]

Time once stored will be retained by memory back-up system, for approx. one week even after power is disconnected though LCD does not show time hereafter until power is reconnected.

VII. SPECIFICATIONS

1. Receiving frequency : 25MHz-550MHz
2. Receiving sensitivity :
 - Narrow FM 0.3uV (12 db SINAD)
 - Wide FM 1.0uV (12 db SINAD)
 - AM 0.5uV (10 db S/N)
3. Receiving selectivity :
 - NFM +-7.5KHz @ 6 db +-20KHz
@ 70 db
 - WFM +-50KHz @ 6 db +-250KHz
@ 60 db
 - AM +-5KHz @ 6 db +-10KHz
@ 70 db
4. Image and spurious rejection : -50 db
5. Number of memory channel: 20 channels
6. Intermodulation : -50 db
7. Receiver circuitry : PLL Synthesizer
8. Scanning rate : 5 channels/sec.
9. Searching rate : 1MHz/6 sec.
10. Audio output : 1W at 10% distortion
11. Power requirements : 12-14V DC
12. Method of display : LCD
13. Dimensions : 138 x 80 x 200mm
14. Weight : 1.1kgs

VIII. OPTIONAL ACCESSORIES

1. External speaker
2. Mobile mount bracket
3. DC power lead with car cigar lighter plug
4. External AC adaptor

**** Selection of receiving frequency**

If you want to listen to TV sound which is on 95.75MHz, depress button in the following sequence;

- A. [MANUAL]
- B. [9][5][.] [7][5][ENT]
- C. [WFM][ENT]

**** How to recall memory channel**

In case you wish to recall frequency stored in memory bank, for example channel 15, depress key as follows;

- A. [MANUAL]
- B. [1][5][MANUAL]

(caution)

Do not enter 00 and any figure between 21 and 99 in the above process. Built-in computer will transfer the frequency once stored in a memory channel to channel 20 to be retained if any of those figures has been mistakenly entered.

** Memory back-up

A specially made capacitor is employed with the set to preserve frequencies in the memory bank. There is no need to replace battery for memory back-up like other scanners in the similar class. Please, however, note that frequency in memory channel will vanish if power is disconnected for approx. more than one week owing to discharging of the capacitor.

** Scanning

Any frequencies between 25MHz and 550MHz can be stored in 20 memory channels with designated mode. You can watch frequencies in the memory channels simply by scanning.

- * [SCAN] key allows to start scanning. PRIORITY must be OFF to start scanning.
- * Depress [MANUAL] key to stop scanning.
- * You can advance memory channel manually by depressing [MANUAL] key. Please refer to LOCK OUT for programmable scan.

A "beep" will follow each keystroke entry indicating correct entry with high tone and wrong entry with low tone.

** Search

The AR-2001 is capable of searching either continuously from 25MHz to 550MHz or any programmed frequency range as you desire in 5 or 12.5 or 25KHz step at your choice.

1. Continuous search

To search between 25MHz and 550MHz in 5KHz step for example, depress:

- A. [MANUAL]
- B. [5KHz][ENT]
- C. [SEARCH]

2. Programmed search

To search between 360MHz and 400MHz in 12.5KHz step with NFM, depress:

- A. [MANUAL]
- B. [LOW][ENT]
- C. [3][6][0][.][0][ENT]
- D. [HIGH][ENT]
- E. [4][0][0][.][0][ENT]
- F. [NFM][ENT]
- G. [12.5KHz][ENT]
- H. [SEARCH]

Direction of search can be determined by depressing either UP or DOWN key. To change search speed, depress SPEED key.

2 selectable search speeds are provided.

** Lock out

You can program any combination of memory channels you want to scan by using LOCK OUT key. For example, if you want to delete channel 10 from the scanning operation, depress:

- A. [MANUAL]
- B. [1][0][MANUAL]
- C. [LOCK OUT]

LOCK OUT will appear on LCD display, and channel 10 will be jumped over. To release LOCK OUT, repeat the same key entry. LOCK OUT will disappear on LCD display. If you delete all 20 channels from scan operation, scan does not function at all with PASS on LCD display.

IX. TROUBLE SHOOTING

If your receiver does not function correctly, please check the following points before sending it for repair;

1. Power is not supplied.
 - * Power plug is not firmly connected.
 - * Power cord, if AC adaptor in use, is not properly connected at power point.
 - * Reverse polarity.
2. No audio output
 - * Power switch is off.
 - * Volume control is not sufficiently turned.
 - * No noise is heard though squelch knob is fully turned counter-clockwise.
 - * Earphone plug is inserted in the external speaker jack.
3. The set does not function while operating.
 - * Depress MANUAL key, and try to enter various inputs.
 - * Turn squelch knob fully clockwise if scan and search do not function.

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