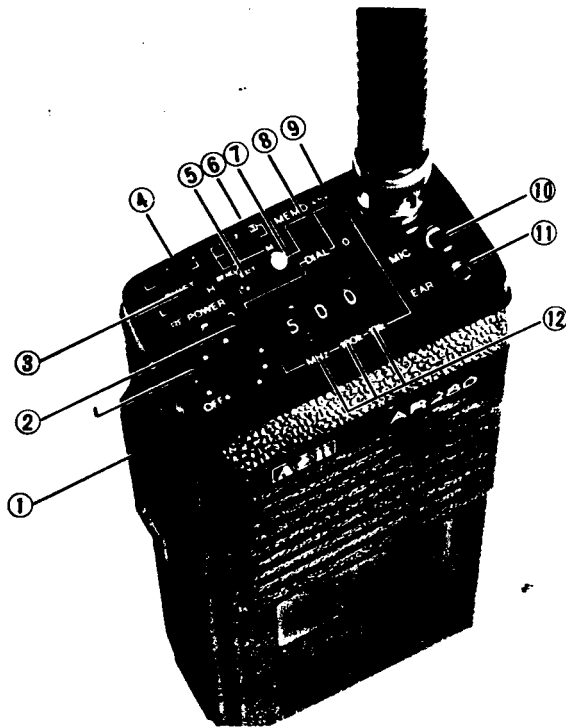




model AR280

INSTRUCTION MANUAL

AOR, LTD. Tokyo Japan



1. PUSH TO TALK LEVER
2. ON-OFF VOLUME/SQUELCH CONTROLS
3. RF POWER HI-LO SWITCH
4. SHIFT SWITCH (TRANSMIT OFFSETS)
5. SEND/BATTERY CONDITION INDICATOR
6. MEMORY CHANNEL SELECTOR
7. MEMORY WRITE BUTTON
8. MEMO-DIAL SELECTOR
9. +5KHz SWITCH
10. EXTERNAL MICROPHONE JACK
11. EAR PHONE JACK
12. THUMBWHEEL FREQUENCY CONTROLS

model: AR280

DESCRIPTION:

The AOR VHF handheld radio telephone model AR280 is a PLL frequency synthesized 2000 channels in 5KHz step, 1W/5W RF output, FM transceiver covering entire 140-150 MHz band for radio amateur operators.

FEATURES:

- * Built-in Micro processor for PLL frequency synthesizer. 10 MHz frequency coverage.
 - * 3 channels memory. (No. 3 channel permits non-standard repeater offsets)
 - * Direct frequency reading in 5KHz step by thumbwheel and slide switches.
 - * Electrically tuned stages. (Receiving sensitivity and output power are constant over entire operation range)
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- * Easy remove battery pack, hook type.
 - * LED lamp for battery condition monitor and transmit indication.
 - * Plug for direct 13.8V DC operation with DC cord supplied.
 - * BNC antenna connector and rubber flexible antenna provided.
 - * 1 hour quick charge battery supplied. (AC wall charger supplied. Optional quick charger model ACH-15 available)
 - * Installed Mic/Speaker connectors, 3.5Ø and 2.5Ø jacks.
 - * Large size speaker, 50 mmØ, makes high quality tone.
 - * Double sided glass-epoxy printed circuit boards for professional high quality designed radio.
 - * Compact and light weight, 68x38x162 mm, 525 grams with Ni-Cad battery pack.

Standard Accessories:

Ni-Cad battery pack, 9.6V DC 450mAH
AC battery charger (117V or 220V)
Helical rubber antenna
DC cord

Optional Accessories:

LC-15/LC-15W(touch tone)	Carrying soft case
ACH-15	AC quick battery charger
HM-15	External microphone/speaker
HS-15	Handy strap
TB-15	1750Hz tone burst (to be installed in factory)
TP-15	Touch tone pad (to be installed in factory)
CS-15ED	CTCSS encoder/decoder (to be installed in factory)
CS-15E	CTCSS encoder (to be installed in factory)

OPERATING INSTRUCTION

CHARGING:

To obtain longest life from the Ni-Cad battery pack, charge when indicator lamp goes on red in receive mode.

To charge the battery pack, insert the charger cord plug into "CHG" jack on the rear panel of the AR280 and connect the charger to any convenient AC outlet.

Leave it for 12-16 hours.

STAND-BY:

Set the helical rubber antenna on properly.

Rotate the "OFF-ON VOLUME" knob in concentric type, clockwise until click is heard. Further rotation increases volume. To eliminate the noise, rotate the "SQUELCH" knob outside clockwise until noise dies out. However, if squelch knob is turned to its full position, sensitivity may be reduced.

Set the "VOLUME" knob at a point of comfortable audio level.

TRANSMISSION:

To transmit, press the push lever located on the left side of the set. The red LED indicator lamp in the top panel will light up to indicate transmission. When speaking, keep your mouth approximately 5 cm(2") away from the set. Be careful not speak too loudly or to place your mouth too close to the speaker grille where electret condenser microphone is located, or audio quality may degrade slightly.

CHANNEL SELECTION:

You can operate the set on any 5KHz step channel in the band by simply rotating three digits thumbwheel switches for 1 MHz, 100 KHz and 10 KHz digits and by the slide switch for 5 KHz selection.

SHUT DOWN:

To turn off the set, rotate the volume knob to its full counter clockwise position until a click is heard. The pointer on the knob should match the position of the "OFF" marking.

OPERATIONAL PRECAUTION:

Reception of excessively strong (more than 1 V/meter) may cause damage to the receiving transistors. Care must be taken no any transmitting or receiving in neighbourhood of a large power transmitting antenna or to use the unit less than 1 m(3 ft.) apart from each other. Transmission without the antenna may cause damage to the power amplifier transistor. Therefore, a helical rubber antenna or external antenna or dummy load should be connected before use the set.

MEMORIZE 3 CHANNELS:

Any of 3 channels in the band can be memorized. To memorize a channel what you want, set MEMO-DIAL switch to MEMO position, slide to the indication 1 or 2 position of the memory channel selector and then push the yellow push button "M". The 3rd. memory position is only available to memorize any of transmit frequency in order to permit non-standard repeater offsets. In this case, you can select receiving frequency by the thumbwheel switch as manual operation. Memory Channels are backed up with internal battery. Therefore, memory frequencies should be re-entered when battery is removed.

OFFSET:

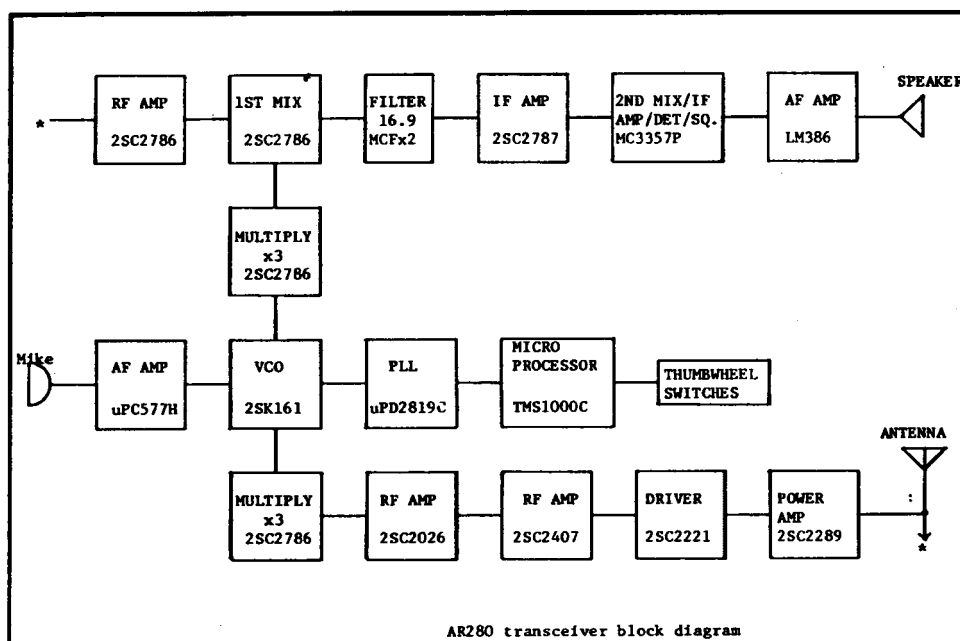
Plus or minus 600 KHz transmit offset is available by a slide switch on the top panel of the set.

Slide switch must be positioned at "S" for SIMPLEX operation.

MAINTENANCE AND STORAGE:

Due to memory back up, the battery is drained in a small current even in power "OFF" position and entirely drained with long time no charge period. Battery charge at a proper interval will be highly recommended. Avoid storing the set in a place exposed to direct sun or in a high temperature (+60 degree centigrade 140F or more) and high humidity (95% or more) environment.

The cabinet of the set should not be opened except when adjustment and check out become necessary. If no measuring instruments are available, do not attempt servicing or any adjustments as the unit may become inoperative. Servicing or necessary alignment should be performed by a qualified licensed technician only.



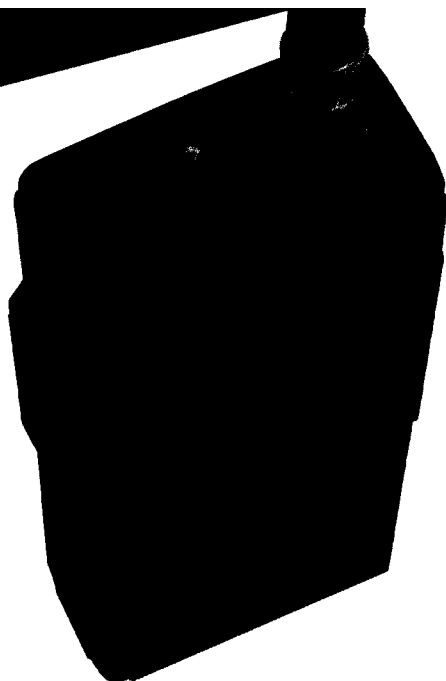
Antenna	Rubber flexible
Dimensions	68 x 38 x 162mm
Weight	525grm. with battery

RECEIVER:

Sensitivity	0.3uV 12dB SINAD
Squelch sensitivity	0.25uV
Selectivity	-80dB at <u>+25KHz</u>
Spurious & Image rejection	-60dB
Audio output power	500mW 10% distortion
Frequency stability	<u>+0.001</u>
IF frequencies	16.9MHz, 455KHz

TRANSMITTER:

RF output power	1 watt/5 watts
Output impedance	50 ohms
FM noise	45dB below 2/3 rated deviation @1000Hz
Audio frequency response	+1, -3dB per octave pre-emphasis characteristics from 300-3000Hz
Spurious radiation	-60dB
Modulation	16F3: <u>+5KHz</u> for 100% @1000Hz



**Fine slim's.....
More affordable
5 Watts VHF**

AOR

AR280

VHF/FM TRANSCEIVER

- Built-in Micro processor for PLL frequency synthesizer.
- 5 Watt output. (1 Watt low power switchable)
- 10 MHz frequency coverage, 140 – 150 MHz.
(150 – 160 MHz, 160 – 170 MHz version available on request)
- Electrically tuned stages. (Receiving sensitivity and output power are constant over entire operating range)
- Easy remove battery pack, hook type. (Use a finger tip only, no need any coin or tool)
- 1 Hour quick charge battery supplied. (AC wall charger supplied. Optional quick charger Model ACH-15 available)
- 3 Channel memory. (No. 3 Channel permits non-standard repeater offsets)
- BNC antenna connector and rubber flexible antenna.
- Extremely simple operation. (Easy to control channel frequency compare with the sophisticated keyboard control type radios)
- Plug for direct 13.8V DC operation. (DC cord supplied. Applicable vehicle power source with direct connection)
- Ample space for programmable encoder.
- Speaker/Microphone connector. (Installed 3.5 ϕ and 2.5 ϕ jacks)
- Large size speaker, 50 mm ϕ , makes high quality tone.
- Compact and light weight. (Only 530g including battery and antenna)

Specifications

GENERAL:

Frequency range	140MHz – 149.995MHz (150 – 159.995MHz, 160 – 169.995MHz version available)
System	PLL Synthesized
Channels	1,999 Channels, 5kHz step
Power drain	Receive squelch 27mA 500mW AF output 150mA Transmit 400mA/ 1.1A
Power source	9.6V DC 450mA Ni-Cad battery pack
Operating temperature	-10 to +60 degree centigrade
Antenna	Rubber flexible
Dimensions	68 x 38 x 162mm
Weight	525grm. with battery

RECEIVER:

Sensitivity	0.3uV 12dB SINAD
Squelch sensitivity	0.25uV
Selectivity	-80dB at ± 25 kHz
Spurious & Image rejection	-60dB
Audio output power	500mW 10% distortion
Frequency stability	± 0.001
IF frequency	16.9MHz, 455kHz

TRANSMITTER:

RF output power	1 watt/5 watts
Output impedance	50 ohms
FM noise	45dB below 2/3 rated deviation @ 1,000Hz
Audio frequency response	+1, -3dB per octave pre- emphasis characteristics from 300-3,000Hz
Spurious radiation	-60dB
Modulation	16F3: ± 5 kHz for 100% @ 1,000Hz

All performance specifications are nominal unless otherwise specified and subject to change.



Authority On Radio Communications

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