

User's Manual

Land Mobile Radio (LMR)

Model: ATS-100

APPROVAL

1. FCC Approval

FCC ID: ONKATS-100

1) Safety Training Information

Your FM Handheld Transceiver generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as “Controlled Exposure / Occupation Environment”, meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards. This radio is NOT intended for use by the “General Population / Uncontrolled Environment.

This radio complies with FCC RF radiation exposure limits set forth for a controlled environment. This radio should be installed and operated with a minimum distance of 2.5 centimeters between the radio and your body. Therefore, to ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always follow below information.

Do not operate the radio without a proper antenna as this may damage the radio and may also cause you to exceed FCC RF exposure limits. A proper antenna is the antenna supplied with this radio by the manufacturer or an antenna specifically authorized by the manufacturer for use with this radio.

Do not transmit for more than 50% of total radio use time (“50% duty cycle”). Transmitting more than 50% of the time can cause FCC RF exposure compliance requirements to be exceeded.

Always use Airtech supplied accessories (antennas, batteries, belt clips, speaker/mics, etc.). Use of unauthorized accessories can cause the FCC RF exposure compliance requirements to be exceeded.

Always keep the antenna at least 2.5 cm (1 inch) away from the body when transmitting and only use the belt-clips, when attaching the radio to your belt, etc., to ensure FCC RF exposure compliance requirements are not exceeded.

2) LABEL



This radio complies with the FCC RF exposure limits for Occupational Use Only.

3) This device complies with 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.

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

RF Exposure

Tests for SAR are conducted using standard operating positions specified by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operation can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and location (e.g., at the ear and worn on the body) as required by the FCC for each model. (Body-worn measurements may differ among phone models, depending upon available accessories and FCC requirements). While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure.

For body worn operation, to maintain compliance with FCC RF exposure guidelines, use only accessories that contain no metallic components and provide a separation distance of 15mm (0.6 inches) to the body. Use of other accessories may violate FCC RF exposure guidelines and should be avoided.

It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on the safety standards previously set by both U.S. and international standards bodies:

This EUT has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEE Std. C95.1-1992 and had been tested in accordance with the measurement procedures specified in FCC/OET Bulletin 65 Supplement C (2001) and IEE Std. 1528-200X (Draft6.5, January 2002).

Ministry of Health (Canada), Safety Code 6. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health. The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg*.

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General Features

1. Ultra compact design & size
(102(W)x50(H)x36(D), 310g with high capable battery)
2. Heavy duty durable construction
3. 256 channels
4. 38 CTCSS/ 83 CDCSS/ 83 INVERR CDCSS
5. PC Programmable, transferable by cloning
6. Time-out timer (TOT)
7. Busy Lockout (BCLO)
8. Battery saving mode
9. Low battery alert
10. DTMF ANI
11. Transmit output power High/Low
12. DC 7.5V LI-1700 battery

Unpacking

Unpack and check that all items have been enclosed.

Packing contents: ①radio ②antenna ③battery pack (1,700 mAH) ④belt clip ⑤hand strap ⑥charger ⑦user's manual

Optional

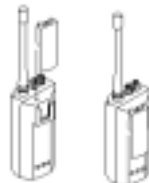


Accessories External speaker/microphone

1. Additional battery pack

Getting Ready

1. Installation and Removal, Belt Clip
Installation: Align the belt clip with

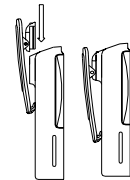


the plastic slots of the battery pack. Slide the belt clip onto the battery pack, pushing firmly until a click heard.

Removal: Hold up the belt clip release tab with a fingernail or a coin (or like instrument). While holding up the release tab, slide the belt clip out and away from the battery pack.

2. Installation and Removal, Battery Pack

Installation: Turn off the transceiver. Hold the transceiver with the back of the unit facing up. Place the battery pack against the back of the transceiver so that the tabs on the transceiver engage the four openings in the battery pack. Slide the battery pack toward the top of the transceiver until a click heard.

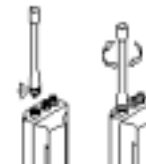


Removal: Turn off the transceiver. Hold the radio with the back of the unit facing up. With the thumbnail of your other hand slide the latch lever down. While holding the latch lever down, slide the battery pack down toward the bottom of the transceiver. Separate the battery pack from the transceiver.

3. Installation Antenna

Rotate the antenna clockwise until it is seated firmly.

*. Before starting operation, make sure the battery is fully charged.



Description



Power on / off and Volume Control Switch

Turn the transceiver on by rotating power on / off and volume control switch clockwise and control the volume.

External Earphone/MIC and Programming Jack Socket

Helical Antenna.

Tx / Rx Indicate LED (3 colors)

Red	On	Transmitting
	Blinking	Low battery
Green	On	Receiving, monitoring
	Blinking	Different sub-tone when receiving
Orange	On	Initializing, programming and cloning

Speaker

Function

Squelch (SQ)

Channel Up Button

Select the desired channel with pressing Up button, pressing and holding down more than 1 Second makes the channel moving fast. And you can choose On or Off in function mode.

Emergency Key

Tx Output H/L

Channel Down Button

Select the desired channel with pressing Down button, pressing and holding down more than 1 Second makes the channel moving fast. And you can choose On or Off in function mode.

PTT(Push To Talk) Button

Monitor Button

Press to monitor. Holding down over 2 seconds keeps monitoring function on, and press shortly again or PTT Button to stop

Operation

1. Power on / off and Volume Control:

Rotate the Power on/off and Volume Control Switch clockwise to turn power on, then the LED lights orange and power-up tone is generated after about one second, indicating the transceiver has passed the self-diagnostic. When you turn on the transceiver, it comes same channel and function with your last using. Rotate this switch clockwise to increase the volume or counterclockwise to reduce the volume. Rotate it counterclockwise fully to turn power off.

2. Channel Selection:

Press up/down button, to desired channel.

3. Transmit:

Hold down the PTT Button and talk into the MIC at 1-2 in distance. The LED lights red on transmitting. Release the PTT button to receive.

4. Receive:

Choose the desired channel by press up/down button. The LED lights green on receiving. In case the signal doesn't match the sub-tone the green LED will blink.

5. Monitor:

Press to monitor. Pressing the monitor button for more than 2 seconds will cause continuous monitor condition. To release the monitor mode, press and release the monitor button quickly.

6. Scan

- 1). Press and hold the function button and up button to start scan.
 - a. Scan type will be priority type, else normal type
If the radio is programmed in priority channel, scan.
 - b. If priority type scan, the scan has stopped on a non priority channel there will be skips in the audio while the radio checks the priority

- c. channel. During priority scanning you may talk on the last busy channel by pressing the function button and up button. After completing the conversation, restart scan.
- d. To delete a busy channel from scan, press down button. If the up button is pressed, the scan will restart but stop again if the channel continues to be busy.

7. Transmit operation during scan

. If the radio is programmed in ptt channel at scanning is home channel: TX will occur on the channel the scan started.

. If the radio is programmed in ptt channel at scanning is last busy channel: TX will occur on the last busy channel

8. TX ANI

If the radio was initially programmed for this feature pressing the PTT will cause a DTMF code to be send that can identify the sending radio.

9. 2/5 Tone Decode (Selcall)

During initial radio programming by the technician this radio can be configured for several different types of decode operation. If a channel is selected that has Selcall activated the radio will be muted until the proper signal is received. When this occurs the radio can sound a ringing type alert signal or a voice message maybe heard. Depending upon the initial programming, pressing the PTT may cause an automatic identifier to be sent. When programmed for Selcall pressing the monitor and function buttons at the same time can cause the Selcall mode to be cancelled and generate an automatic identification. Please have your radio technician or dispatcher fully explain this operation.

Charger and Battery

1. Battery (Li-ion)

Voltage	DC 7.5V
Duty time (5-5-90)	Over 10 hrs

2. Charger

Input power	(90~250VAC)
Operating temperature	10-30 deg. C

Connect the charger to an appropriate outlet (90~250 VAC). Turn the transceiver power off and place the radio into the front socket of the charger. The red light illuminates during charging and the green light comes on when the charge is complete. When you place two batteries in the charger at the same time, the front battery will charge first. The rear battery will begin charging when the front battery charge is complete.

Red	On	Charging
	Blinking	Abnormal battery
Green	On	Fully charged
Orange	On	Stand-by for charging (rear cup)
	Blinking	Discharging

- When you put a battery in the rear cup of the charger the charger checks the voltage. If voltage is over 7.4V, the charger starts discharging for 4 minutes then checks again. If voltage is still more than 7V, it discharges until the voltage is 6V then starts charging.