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› AnyTone AT-500M II CB Mobile Transceiver User Manual

AnyTone AT-500M II

AnyTone AT-500M II CB Mobile Transceiver User Manual

Model: AT-500M II

1. INTRODUCTION

The AnyTone AT-500M II is a compact and feature-rich CB mobile transceiver designed for reliable communication in vehicles. This manual provides detailed instructions for the proper installation, operation, and maintenance of your AT-500M II radio.

Key features include AM/FM modulation, Noise Reduction (NRC) for both transmit and receive, a 7-color customizable display, VOX function, CTCSS/DCS codes, and a WX weather channel (USA version only).

AnyTone®



for Truck, Vehicles

AT-500M II MOBILE CB RADIO

Image 1.1: The AnyTone AT-500M II CB Mobile Transceiver, shown in a vehicle environment, highlighting its compact design suitable for mobile use.

2. PACKAGE CONTENTS

Please verify that all items listed below are included in your package. If any items are missing or damaged, contact your dealer immediately.

- AnyTone AT-500M II CB Radio x 1
- Microphone x 1
- Microphone Hanger x 1
- Mobile Bracket x 1
- Spare Fuses (5A 250V) x 1
- Screws x 4
- User Manual x 1
- Pads x 4
- Adjusting Screws x 2

- Non-slip Mat x 2

Specification

GENERAL		TRANSMITTER		RECEIVER		
Modulation Mode	AM/FM	Power Output	4W	Sensitivity	Less than 1uV for 10dB(S+N)/N	
Frequency Range	26.965–27.405MHz	Transmission interference	inferior to 4nW	Image Rejection	70dB	
Frequency Tolerance	± 5.0ppm	Frequency Response	300–3000Hz	Adjacent Channel Rejection	60dB	
Input Voltage	12V	Modulated signal distortion	inferior to 5%	IF Frequencies	1st 10.695MHz	
Front view size	124x38 mm	Output Impedance	50 ohms		2nd 455KHz	
Weight	620g			Automatic Gain Control(AGC)	Less than 10dB change in audio	
Operating Temperature Range	-20°C to +50°C				Output for inputs from 10 to 50000uV	
Current Drain	Transmit			3A MAX	Squelch	less than 1uV
	Receive			Squelched 0.3A	Audio Output Power	2Watts at 8Ω less than 10% distortion
	VOL Max	0.7A	Frequency Response	300–3000Hz		
Antenna Connector	UHF, SO-239					

Standard Accessories

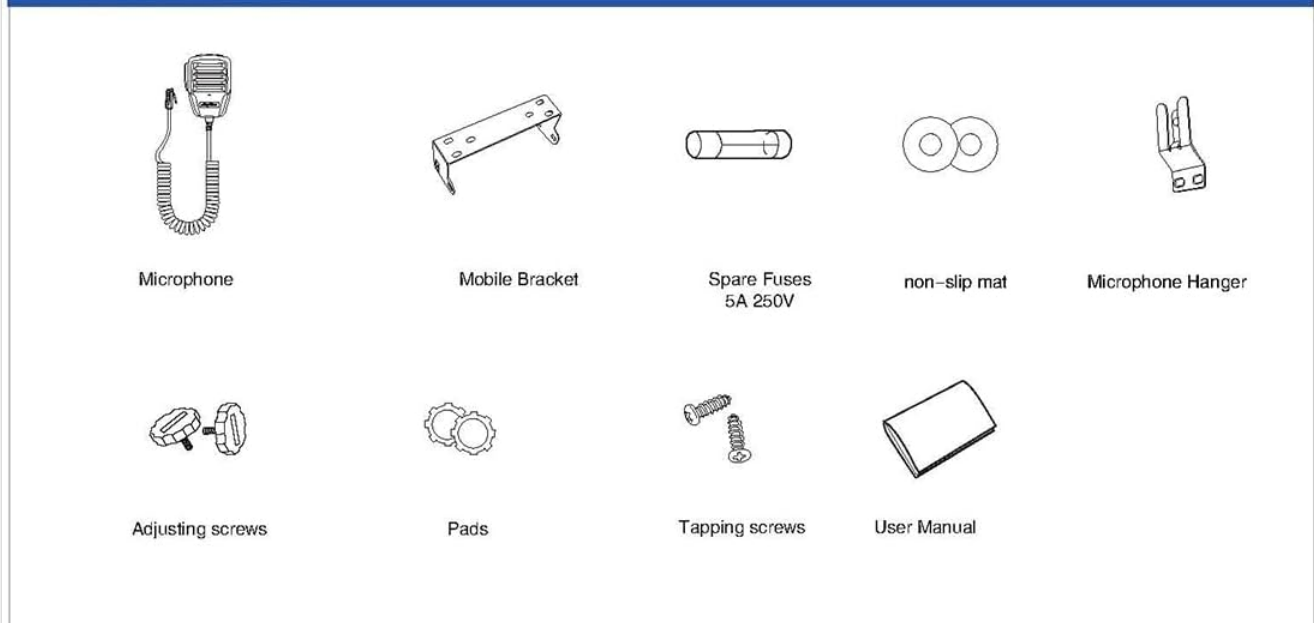


Image 2.1: A visual representation of the standard accessories included with the AnyTone AT-500M II, alongside a specifications table.

3. CONTROLS AND FUNCTIONS

Familiarize yourself with the controls and connectors of your AT-500M II radio.



Image 3.1: Detailed view of the front and rear panels of the AnyTone AT-500M II, indicating the location and labels of various controls and connectors.

3.1 Front Panel Controls

- **Microphone Plug:** Connector for the supplied microphone.
- **Power On/Off / Volume Control (VOL):** Rotates to turn the radio on/off and adjust the audio output level.
- **Emergency Channel / VOX On/Off / Menu (EMG/MENU):** Press to access emergency channels or activate/deactivate VOX. Long press to enter the menu settings.
- **AM/FM Mode / CB/WX / Keypad Lock:** Selects between AM and FM modulation. Toggles between CB and Weather (WX) channels. Long press to lock/unlock the keypad.
- **Squelch Control / SQ/ASQ:** Adjusts the squelch level to suppress background noise. Press to toggle between manual squelch (SQ) and automatic squelch (ASQ).
- **Channel Up / Scan On (CH ▲):** Increases the channel number. Long press to activate channel scan.
- **Channel Down / Scan On (CH ▼):** Decreases the channel number. Long press to activate channel scan.

3.2 Rear Panel Connectors

- **Antenna Jack (ANT):** Standard UHF, SO-239 connector for external antenna.
- **External Speaker Jack (EXT SP):** Connects an optional external speaker.

- **Power Input:** 12V DC power connection.

3.3 Display Features

The AT-500M II features a 7-color backlit display for enhanced visibility and personalization.



Image 3.2: Examples of the 7-color backlit display options available on the AnyTone AT-500M II, demonstrating various color settings for user preference.

To change the display color, navigate through the menu options using the EMG/MENU button and select the desired color setting.

4. INSTALLATION

Proper installation is crucial for optimal performance and safety. Ensure the vehicle's electrical system is 12V DC.

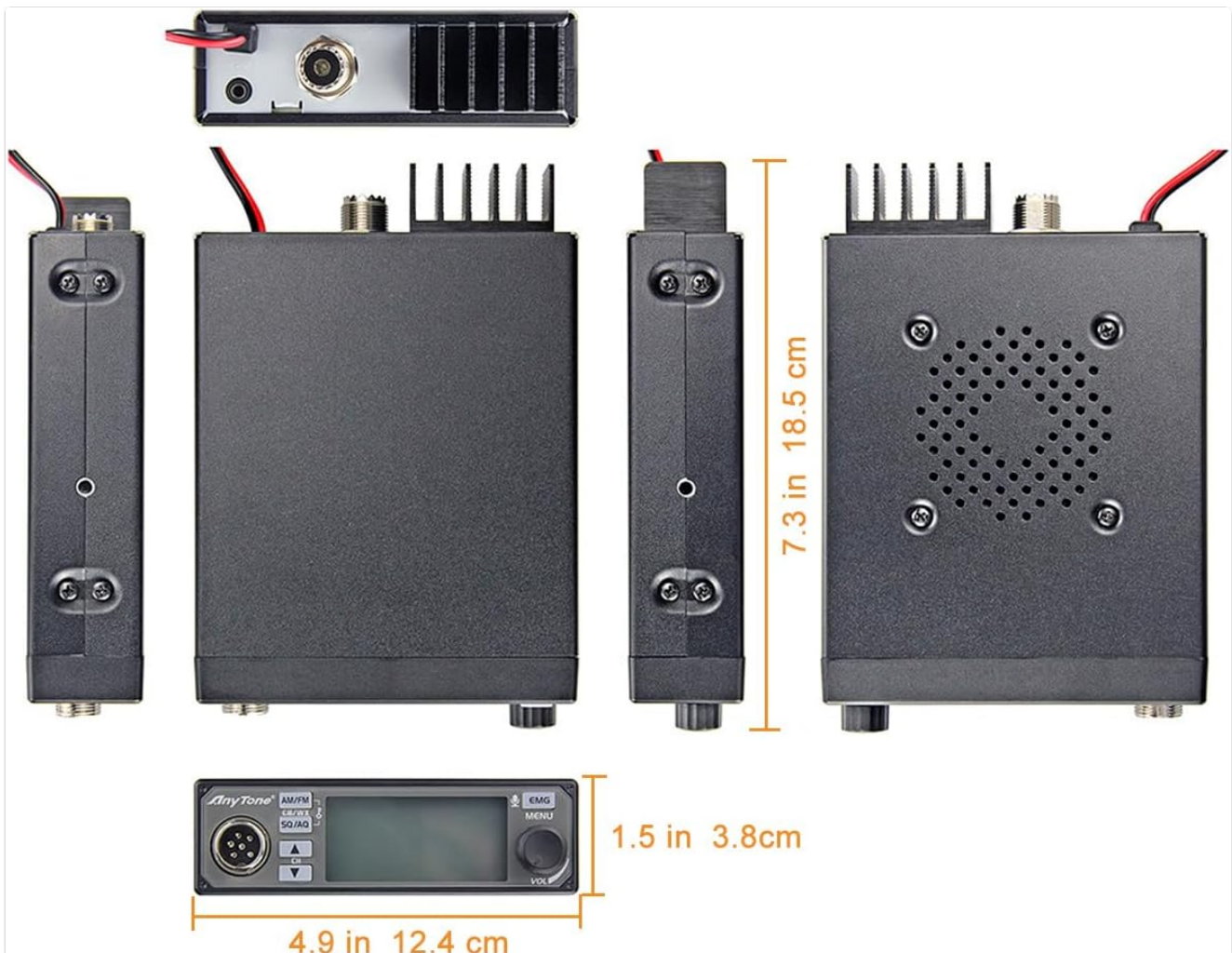


Image 4.1: Multiple views of the AnyTone AT-500M II, including its dimensions (7.3 x 4.9 x 1.5 inches or 18.5 x 12.4 x 3.8 cm), to assist with mounting and space planning.

4.1 Mounting the Radio

1. Select a secure and convenient location in your vehicle that does not obstruct driving or airbag deployment.
2. Use the provided mobile bracket as a template to mark drilling locations.
3. Drill pilot holes and secure the mobile bracket using the supplied screws and pads.
4. Attach the radio to the mobile bracket using the adjusting screws.

4.2 Power Connection

1. Connect the red wire from the radio's power cable to the positive (+) terminal of the vehicle's 12V battery or a suitable fused 12V power source.
2. Connect the black wire to the negative (-) terminal of the battery or the vehicle's chassis ground.
3. Ensure connections are secure and properly insulated. The radio operates on 12V DC input voltage.

4.3 Antenna Connection

1. Connect a properly tuned CB antenna (not included) to the UHF, SO-239 antenna connector on the rear of the radio.
2. Ensure the antenna cable is routed away from potential interference sources and is securely connected.

4.4 Microphone Connection

Plug the microphone into the dedicated microphone jack on the front panel of the radio. Secure the microphone hanger in a convenient location.



Image 4.2: Close-up view of the microphone provided with the AnyTone AT-500M II, showing its design and connector type.

5. OPERATION

5.1 Basic Operation

1. **Power On/Off:** Rotate the VOL knob clockwise to turn the radio on. Rotate counter-clockwise until it clicks to turn off.
2. **Volume Adjustment:** Rotate the VOL knob to adjust the listening volume.
3. **Channel Selection:** Use the CH ▲ and CH ▼ buttons to select the desired channel.
4. **AM/FM Mode:** Press the AM/FM button to switch between Amplitude Modulation (AM) and Frequency Modulation (FM) modes.
5. **Squelch Control (SQ/ASQ):** Adjust the SQ knob to eliminate background noise when no signal is present. Press the SQ/ASQ button to toggle between manual squelch and automatic squelch.

5.2 Advanced Features

- **VOX Function:** Voice Operated Exchange allows hands-free transmission. Activate/deactivate via the

EMG/MENU button or menu settings.

- **CTCSS/DCS Code:** Continuous Tone-Coded Squelch System / Digital Coded Squelch provides selective calling, allowing you to hear only calls from users with the same code. Configure in the menu.
- **NRC (Noise Reduction):** Transmit and Receive Noise Reduction helps to filter out background noise for clearer communication. This feature is active by default.
- **Echo/RB/Key Beep:** These functions can be enabled or disabled through the menu. Echo adds an echo effect to your voice. RB (Roger Beep) transmits a short tone when you release the PTT button. Key Beep provides audible feedback for button presses.
- **RF Gain and Mic Gain Control:** Adjust these settings in the menu to optimize receiver sensitivity and microphone input level, respectively.
- **WX Weather Channel (USA version only):** Press the CB/WX button to access dedicated weather channels for real-time weather alerts.
- **Talkback/PA Function:** The Talkback function allows you to monitor your own voice during transmission. The PA (Public Address) function allows the radio to be used with an external PA speaker (not included).
- **Two Scan Modes:** The radio supports two scanning modes to monitor active channels. Activate by long-pressing the CH ▲ or CH ▼ buttons.
- **2K/4K FM Deviation Selection:** Select the desired FM deviation (2K or 4K) in the menu for compatibility with different systems.
- **Hi-Cut Function:** This feature filters out high-frequency audio components to improve clarity, especially in noisy environments.
- **NB/ANL:** Noise Blanker (NB) and Automatic Noise Limiter (ANL) reduce impulse noise from vehicle ignition systems and other electrical sources.
- **Microphone Support:** The AT-500M II supports both electret and dynamic microphones.

6. SPECIFICATIONS

The following table outlines the technical specifications of the AnyTone AT-500M II CB Mobile Transceiver.

Category	Parameter	Value
General	Modulation Mode	AM/FM
	Frequency Range	26.965-27.405MHz
	Frequency Tolerance	±5.0ppm
	Input Voltage	12V
	Dimensions (H x W x D)	7.3 x 4.9 x 1.5 inches (18.5 x 12.4 x 3.8 cm)
	Weight	1.37 lb (620 g)
	Operating Temperature Range	-20°C to +50°C
	Current Drain (Transmit)	3A MAX
	Antenna Connector	UHF, SO-239
Transmitter	Power Output	4W
	Transmission Interference	Inferior to 4nW
	Frequency Response	300-3000Hz
	Output Impedance	50 ohms
Receiver	Sensitivity	Less than 1uV for 10dB(S+N)/N
	Image Rejection	70dB
	Adjacent Channel Rejection	60dB
	IF Frequencies	1st 10.695MHz; 2nd 455KHz
	Automatic Gain Control (AGC)	Less than 10dB change in audio; Output for inputs from 10 to 50000uV
	Squelch	Less than 1uV
	Audio Output Power	2 Watts at 8Ω less than 10% distortion
	Frequency Response	300-3000Hz

7. TROUBLESHOOTING

If you experience issues with your AT-500M II, refer to the following common problems and solutions before seeking service.

- **No Power:**

- Check the power cable connections to the radio and the vehicle's power source.
- Verify the vehicle's 12V power source is active.
- Inspect the inline fuse on the power cable. Replace if blown with a 5A 250V fuse.

- **No Transmission or Poor Signal:**

- Ensure the antenna is securely connected to the radio.
- Check the antenna for damage or improper tuning.
- Verify the microphone is properly plugged in and the PTT button is functioning.

- **Poor Reception or Excessive Noise:**

- Adjust the Squelch (SQ) control to an appropriate level.
- Ensure the antenna is properly installed and tuned.
- Check for sources of electrical interference in the vehicle.
- Activate NB/ANL or Hi-Cut functions if necessary.

- **Microphone Not Working:**

- Ensure the microphone is fully inserted into the front panel jack.
- Check for any damage to the microphone cable or connector.

8. MAINTENANCE

8.1 Cleaning

To maintain the appearance and functionality of your radio, clean the exterior with a soft, damp cloth. Do not use abrasive cleaners or solvents.

8.2 Fuse Replacement

If the radio does not power on, check the inline fuse on the power cable. To replace a blown fuse:

1. Disconnect the power cable from the vehicle's power source.
2. Open the fuse holder and remove the blown fuse.
3. Insert a new fuse of the correct rating (5A 250V). Using an incorrect fuse can damage the radio or vehicle's electrical system.
4. Close the fuse holder and reconnect the power cable.

9. WARRANTY AND SUPPORT

AnyTone is committed to providing high-quality pre-sales and after-sales service for its products. For any questions or concerns regarding your AT-500M II radio, please contact your point of purchase or AnyTone customer support.

FCC ID: T4K-AT500MII

Manufacturer: Qixiang Electron Science & Technology Co., Ltd.