

AUTO METER BT-500

AUTO METER Auto Gauge BT-500 Conductance Battery Tester Electrical System Analyzer User Manual

Model: BT-500

1. INTRODUCTION

This manual provides comprehensive instructions for the safe and effective operation of your AUTO METER Auto Gauge BT-500 Conductance Battery Tester Electrical System Analyzer. The BT-500 is designed to rapidly and accurately diagnose battery, starter, and charging system issues in various vehicles. It utilizes advanced conductance testing and patented circuitry to eliminate the need for time-consuming CCA input or conversions.

2. SAFETY INFORMATION

Always observe the following safety precautions when using the BT-500:

- Wear appropriate eye protection and protective clothing.
- Ensure proper ventilation when working with batteries.
- Avoid contact with battery acid. If contact occurs, flush with water immediately.
- Do not smoke or allow sparks/flames near batteries.
- Connect the tester clamps correctly: red to positive (+), black to negative (-).
- Do not operate the tester if it appears damaged.
- Refer to the vehicle's service manual for specific safety procedures.

3. PACKAGE CONTENTS

Verify that all items are present in your package:

- BT-500 Conductance Battery Tester Unit
- Integrated Test Cables with Alligator Clamps
- Carrying Case
- User Manual (this document)

- *Note: Additional accessories such as a 9V battery or brass adapters may be included depending on the specific kit.*



Figure 1: Auto Gauge BT-500 Conductance Battery Tester and accessories in a black carrying case. The image displays the Auto Gauge BT-500 Conductance Battery Tester, its red main unit with a black handle, connected cables ending in red and black alligator clamps. The tester is housed within a black, foam-lined carrying case. Also visible are four brass-colored threaded adapters and a 9V Duracell battery, indicating the tester's power source and potential accessories.

4. PRODUCT OVERVIEW

The BT-500 features a robust design for automotive diagnostic environments. Key components include:

- **LCD Display:** A simple 2-line, 16-character LCD for displaying test results and menu options.
- **Control Buttons:**

- **UP/NEXT:** Navigates up in menus or proceeds to the next step.
 - **DOWN/BACK:** Navigates down in menus or returns to the previous screen.
 - **ENTER:** Confirms selections.
 - **MENU/ON-OFF:** Accesses the main menu or powers the unit on/off.
- **Test Clamps:** Heavy-duty red (positive) and black (negative) alligator clamps for secure connection to battery terminals.

5. SETUP

5.1. Powering the Unit

The BT-500 is battery-powered. Install a fresh 9V battery into the designated compartment, typically located on the back of the unit. Ensure correct polarity.

5.2. Initial Connection

Before performing any tests, ensure the vehicle's ignition is off and all accessories are disconnected. Clean battery terminals if necessary to ensure good contact.

6. OPERATING INSTRUCTIONS

6.1. General Testing Procedure

1. Connect the red clamp to the positive (+) battery terminal and the black clamp to the negative (-) battery terminal.
2. Press the **MENU/ON-OFF** button to power on the tester.
3. Follow the on-screen prompts using the **UP/NEXT**, **DOWN/BACK**, and **ENTER** buttons.

6.2. Battery Testing

The BT-500 tests single 6V and 12V vehicle batteries, and batteries in banks up to 3500 CCA. It supports both Flooded Lead Acid and AGM battery types.

1. From the main menu, select "Battery Test".
2. Choose the battery type (Flooded or AGM).
3. Select the battery voltage (6V or 12V). For 6V batteries, AMP hours will be displayed.
4. The tester will perform the conductance test and display results such as "Good", "Marginal", or "Replace".

6.3. Starting System Testing

The BT-500 can test 6V, 12V, 24V, and 36V starting systems.

1. From the main menu, select "Starting System Test".
2. Follow the on-screen instructions, which will typically involve cranking the engine for a short period.
3. The tester will analyze the voltage drop during cranking and provide a result.

6.4. Charging System Testing

The BT-500 can test 6V, 12V, 24V, and 36V charging systems.

1. From the main menu, select "Charging System Test".
2. Follow the on-screen instructions, which will typically involve running the engine at idle and then at a higher RPM.
3. The tester will measure the alternator's output and ripple voltage, providing a diagnostic result.

6.5. Language Settings

The BT-500 supports multiple languages. To change the language:

1. Press the **MENU/ON-OFF** button to access the main menu.
2. Navigate to "Settings" or "Language" using the **UP/NEXT** and **DOWN/BACK** buttons.
3. Press **ENTER** and select your desired language (Spanish, French, German, Dutch, English).

6.6. Data Transfer and Printing (Optional)

The BT-500 supports optional accessories for data management:

- An optional infrared USB dongle can be used for PC data transfer.
- An IR Printer Interface allows for remote printing of test results.

7. MAINTENANCE

- **Cleaning:** Wipe the unit with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the BT-500 in its carrying case in a dry, cool place when not in use. Remove the 9V battery if storing for extended periods.
- **Cable Inspection:** Regularly inspect the test cables and clamps for any signs of wear, damage, or corrosion. Replace if necessary.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Unit does not power on.	Dead or improperly installed 9V battery.	Replace the 9V battery or ensure correct polarity.
Inaccurate test results.	Poor connection to battery terminals; corroded terminals.	Clean battery terminals and ensure clamps are securely attached.
"Error" message on display.	Incorrect test parameters selected; battery voltage too low.	Verify battery type and voltage settings. Charge battery if critically low.

9. SPECIFICATIONS

- **Model:** BT-500
- **Brand:** AUTO METER / Auto Gauge
- **Battery Compatibility:** Single 6V and 12V Vehicle Batteries, In Battery Banks up to 3500 CCA
- **Battery Types:** Flooded Lead Acid, AGM
- **System Voltage Testing:** 6V, 12V, 24V, 36V (Charging and Starting Systems)
- **Display:** 2-line, 16-character LCD
- **Power Source:** Battery Powered (typically 9V)
- **Languages:** English, Spanish, French, German, Dutch
- **Item Weight:** Approximately 2.42 pounds
- **Manufacturer Part Number:** BT-500

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official AUTO METER website or contact their customer service department. Keep your purchase receipt as proof of purchase.

Manufacturer: Auto Gauge (under AUTO METER brand)

Contact Information: Please visit the [AUTO METER Store on Amazon](#) or the official AUTO METER website for the most current support details.

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