JLR EXP-1080

Vehicle Battery Diagnostic Platform

For testing 6 and 12-volt automotive batteries

INSTRUCTION MANUAL

Contents

Chapter 1: Before You Begin

Starting the tester for the first time

When the tester is first used the operator is asked to enter a couple of items. The items are used to set-up specific utilities such as date/time stamps and hour indication. Changes can be made afterwards by going in to the Utility Menu and selecting CONFIG TESTER.

Safety

Because of the possibility of personal injury, always use extreme caution when working with batteries. Follow all manufacturers' instructions and BCI (Battery Council International) safety recommendations.

General Precautions

- **DANGER—RISK OF EXPLOSIVE GASES:** Batteries can produce a highly explosive mix of hydrogen gas and oxygen, even when the battery is not in operation. Always work in a well-ventilated area. Never smoke or allow a spark or flame in the vicinity of a battery.

- **WARNING—REQUIRED BY CALIFORNIA PROP. 65:** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. **Wash hands after handling.**

- Battery acid is highly corrosive. If acid enters your eyes, immediately flush them thoroughly with running cold water for at least 15 minutes and seek medical attention. If battery acid gets on your skin or clothing, wash immediately with water and baking soda.

- Always wear proper safety glasses or face shield when working with or around batteries.

- Keep hair, hands, and clothing as well as the analyzer cords and cables away from moving engine parts.

- Remove any jewelry or watches before you start servicing the battery.

- Use caution when working with metallic tools to prevent sparks or short circuits.

- Never lean over a battery when testing, charging or jump starting it.

The tester is manufactured in line with the latest state of the art and according to recognised safety standards. If used incorrectly or misused, however, it can cause

- injury or death to the user or a third party,

- damage to the tester and other material assets belonging to the operator,

- inefficient operation of the tester.

All persons involved in commissioning, operating, maintaining and servicing the tester must

- be suitably qualified,

- have knowledge of and experience in dealing with testers and batteries and

- read and follow these operating instructions carefully.

Conventions Used in This Manual

To help you learn how to use your analyzer, the manual uses these symbols and typographical conventions:

|	
⚠	The safety symbol followed by the word **WARNING** or **CAUTION** indicates instructions for avoiding hazardous conditions and personal injury.
CAUTION	The word **CAUTION** without the safety symbol indicates instructions for avoiding equipment damage.
🔧	The wrench symbol indicates procedural notes and helpful information.
UP ARROW	The text for keypad buttons and softkey functions are in bold capital letters.
POST TYPE	The text for screen options are in regular capital letters.

Utilisation in accordance with „intended purpose"

The tester is to be used exclusively for its intended purpose. Utilisation for any other purpose, or in any other manner, shall be deemed to be „not in accordance with the intended purpose". The manufacturer is not liable for any damage, inadequate or incorrect results arising out of such misuse.

Utilisation in accordance with the "intended purpose" also comprises

• carefully reading and obeying all operating instructions and safety and danger notices

• performing all stipulated inspection and servicing work.

• following all instructions from the battery and vehicle manufacturers.

Disposal
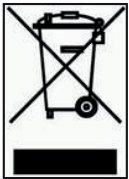
Do not dispose of this device with normal domestic waste! To comply with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation as national law, electrical equipment that has reached the end of its life must be collected separately and returned to an approved recycling facility Any device that you no longer require must be returned to our agent, or find out about the approved collection and recycling facilities in your area. Ignoring this European Directive may have potentially adverse affects on the environment and your health!

Chapter 2: Description

Connections and Data Ports

❶ Data transmitter: sends test results to a PC using an optional hardware and software kit.

❷ Infrared temperature sensor with a range of -28 ℃ to +93 ℃.

❸ 6-pin connector for the battery test cable.

❹ Input for accessories **(optional)**.

❺ Spring-loaded data card slot for test data storage and software upgrades.

❻ DB-9 connector for future expandability.

Removing and Inserting the Data Card

The analyzer ships with a storage card slot to protect it from dust and debris. To remove the data card, push briefly on its edge to release it and pull it from the slot.

When inserting a card, push it into the slot until it locks. The card is correctly inserted when it is not protruding from the slot. To protect the card slot and enable the analyzer to read and write to the card, leave the card in the slot.

Connecting the Battery Test Cable

⚠

CAUTION: To prevent damage to the analyzer's circuitry, do not connect the analyzer to a voltage source greater than 30 Vdc.

Display and Keypad

The keypad and display work together to help you quickly find and use the right tools at the right time. The display also keeps you on track with on-screen navigation aids, directions and messages.
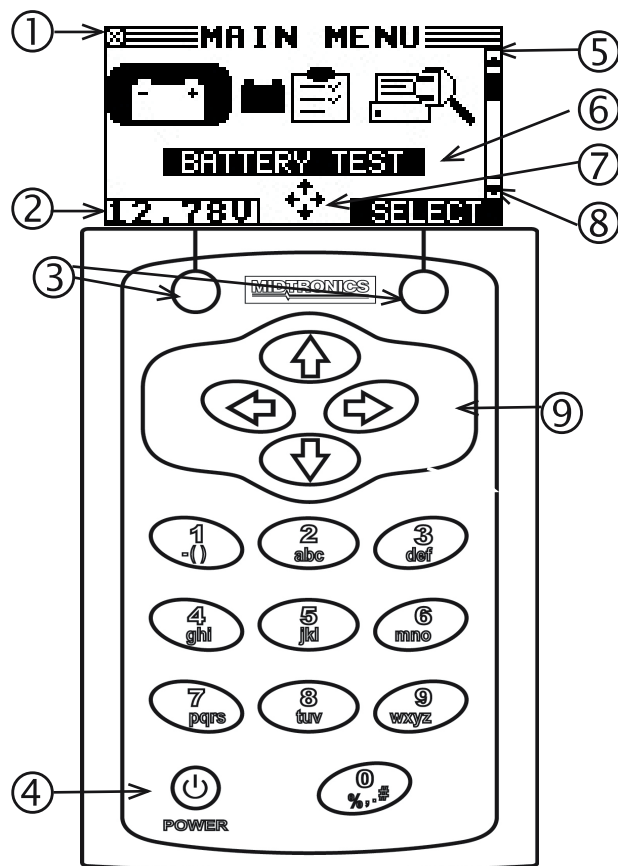
❶ Internal Batteries Status Indicator

This indicator appears in the screen's top left corner, lets you know the status and charge level of the analyzer's six 1.5-volt batteries. The **X** in the top left corner of the screen shows that the analyzer is powered by the battery you're testing to conserve the analyzer's internal batteries.

❷ Voltmeter

When you first connect the analyzer to a battery it functions as a voltmeter. The voltage reading appears above the left softkey until you move to other menus or functions.

❸ Softkeys

Press the two **softkeys** linked to the bottom of the screen to perform the functions displayed above them. The functions change depending on the menu or test process. So it may be helpful to think of the words appearing above them as part of the keys. Some of the more common softkey functions are **SELECT**, **BACK,** and **END**.

❹ POWER Key

Press the **POWER** button to turn the analyzer on and off. The analyzer also turns on automatically when you connect its test leads to a battery.

❺ Title Bar

The title bar shows you the name of the current menu, test tool, utility, or function.

❻ Selection Area

The selection area below the Title Bar contains selectable items or dialog boxes that display information or require a response.

❼ Menu Screen Arrows

When displayed in menu screens, the menu screen arrows show you which **ARROW** key on the keypad to press to display other icons or screens. The Up and Down Menu Screen Arrows, for example, indicate when to press the **UP** (▲) and **DOWN** (▼) **ARROW** keys to display the screens above and below the current screen.

The Left and Right Menu Screen Arrows tell you when to use the **LEFT** (◄) or **RIGHT** (►) **ARROW** keys to select an icon.

When displayed under a list of options, the menu screen arrows show you which keypad arrow to press to highlight a character or item in a list.

❽ Scroll Bar

Another navigational aid is the scroll bar on the right side of the screen. The position of its scroll box shows you whether the screen is the top (or only screen), middle, or last in a series.

❾ ARROW keys

Press the **UP ARROW** key to move up to the next selectable item or row. When entering text, use the **UP ARROW** key to move to the previous character.

Data Entry Methods

To perform a particular test or function, the tester will ask for different types of information. This means that the methods you use to enter information will change depending on the type of information requested. The four types of entry methods are described below.

Typically, the softkey below the right half of the screen confirms your choice, although the word above it may vary. In a similar fashion, the softkey below the left half of the screen cancels your choice or returns you to the previous screen, although the word above it may also vary.

Menu icons

A menu icon is a graphical representation of a function you can select. To select an icon, use the **LEFT** or **RIGHT ARROW** key to highlight it. Highlighting changes the icon to a white picture on a black background. To confirm your selection, press the appropriate softkey.

Option Buttons

Some lists have option buttons before each item. To select an item, use the **UP/DOWN ARROW** keys to move the dot into the button next to the item you want. You can also use the alphanumeric keypad to enter the number preceding the option button. To confirm your selection, press the appropriate softkey.

Scrolling Lists

Scrolling lists contain items that extend above and below the screen or the selection box that contains them. To indicate that there are more items, the symbols ⬍ appear to the right of the first visible or highlighted item on the list.

To select from this type of list, use the **UP/DOWN ARROW** keys to scroll to the item, or use the keypad to enter your choice, and press the appropriate softkey.

Alphanumeric Entries

Some selections require you to use the alphanumeric keypad. These "user-defined" selections have a blinking horizontal line (cursor) to the right of the last character.

Use the **UP/DOWN ARROW** keys to highlight a line for editing. Display the character, symbol, or number you want by rapidly pressing its key as many times as needed. If you pause, the cursor moves to the right. To backspace, press the **LEFT ARROW** key. Use the **RIGHT ARROW** key to add a space. Use the **UP/DOWN ARROW** keys to highlight a line for editing. When finished, press the appropriate softkey to save your settings.

Menu Maps

This section will help you get to your destination while letting you know what test leads you may need when you arrive. The test leads are represented by symbols for their connectors.

Main Menu

The Main Menu is the starting point for all tools and utilities, which are depicted as icons. Some icons lead directly to the function they represent, while others are menu icons that lead to two or more functions. Menu icons are marked here with an asterisk (*) and are mapped on the following pages.

Icon	Description
	The **BATTERY TEST** tests a battery using the battery information you select in a series of screens.
	QC TEST is used for testing stock or compound batteries.
	PRINT/VIEW for all statistical info and software version info.
	INFO contains a test counter, data transfer utility, and the EXP software version and serial number.
	UTILITY includes functionality to setup the tester.

Print/View Menu

The tester stores the last test results in its memory until you perform another test. To review or print results before you retest, select a test type in the Print/View Menu.

Icon	Description
	Displays the last test results.
	Displays the last QC test result.

Info Menu

Icon	Description
	TOTALS displays the total battery tests performed since the tester was first used, the totals by decision, or allows you to clear the counters.
	An optional IR software and hardware package enables you to transfer test data to a PC.
	Displays the software version and serial number.

Utility Menu

The Utility Menu lets you customize your analyzer for your needs.

Icon	Description
	The **CONFIG TESTER** menu allows you to set the following parameters: TIME, MODE, DATE, FORMAT, TEMPERATURE UNITS and WRITE FAIL.
	The **DISPLAY** allows you to set the contrast of the LCD.
	Enables you to configure the printer to IrDA.
	Create your own address details for printouts with the **SHOP INFO** icon.
	If you have created a coupon in the **COUPON** utility, use coupon to enable or disable.
	EDIT COUPON allows you to create and store up to three separate coupons to be printed on test results.
	With the **LANGUAGE** menu you can select one of the 10 available languages.
	With **FORMAT CARD** you erase all information on the data card
	With **UPDATE** you can install new software on the tester
	BATTERY LIST allows you to add and delete batteries, and import and export battery lists.

Chapter 3: Test Preparation

Inspecting the Battery

Before starting the test visually inspect the battery for:

- Cracked, buckled, or leaking case. If you see any of these defects, replace the battery.

- Corroded, loose, or damaged cables and connections. Repair or replace them as needed.

- Corrosion on the battery terminals, and dirt or acid on the case top. Clean the case and terminals using a wire brush and a mixture of water and baking soda.

- Low electrolyte level. If the electrolyte level is too low, add distilled water to fill up and fully charge the battery. Do not overfill.

- Corroded or loose battery tray and hold-down fixture. Tighten or replace as needed.

Testing Out-of-Vehicle

The preferred battery test location is in the vehicle. However, if you plan to test out of the vehicle:

- Always disconnect the negative cable from the battery first and reconnect it last.

- Always use a carry tool or strap to lift and transport the battery.

Testing In-Vehicle

The preferred test position is at the battery posts.

At the start of the test, make sure **all vehicle accessory loads are off, the key is not in the ignition, and the doors are closed**. If systems in the vehicle are still active it might lead to a **SYSTEM NOISE** message, the tester will automatically continue to test the battery until the noise is gone.

Connecting the Battery Test Cable

CAUTION: Do not connect the tester to a voltage source greater than 30 Vdc.

Connect the clamps to the battery: the red clamp to the positive (+) terminal and the black clamp to the negative (–) terminal.

If you connect the clamps in the wrong polarity (positive to negative or negative to positive), the tester displays **CLAMPS REVERSED!** Reconnect the clamps correctly.

To make sure both sides of the clamps are gripping the terminals, rock the each clamp back and forth. A poor connection will prevent testing, and the tester will display the message **CHECK CONNECTION**. If the message reappears after you have correctly reconnected the clamps, clean the terminals and reconnect.

Setting User Preferences

Before starting your test you may want to customize the use of your analyzer by setting preferences in the Utility Menu. The menu has settings for the display's date and time, the contrast and backlight time, a utility to customize printouts, among others.

To conserve the analyzer's internal batteries, the tester will turn off after 30 seconds of inactivity.

Chapter 4: Battery Test

The tester will guide you through the steps of selecting your battery test parameters and interpreting the results. Before you start the test, review the instructions in *Chapter 3: Test Preparation*.

1. Select the battery **LOCATION**.

   1 ⦿ OUT OF VEHICLE

   2 ◯ IN VEHICLE

   Press the **NEXT** softkey to continue. The **BACK** softkey returns you to the Main Menu at the start of the test and to the previous screen as you progress.

2. In case of IN VEHICLE enter the last 6 digits of the **VIN**.

   Press the **NEXT** softkey to continue.

3. Select the **BATTERY TYPE**.

   1 ⦿ REGULAR / FLOODED

   2 ◯ AGM

   Press the **NEXT** softkey to continue.

4. Select the battery's capacity rating standard. The standard, and the rating units required are printed on the battery label. If the information is unreadable, contact the battery manufacturer.

   1 ⦿ SAE

   2 ◯ DIN

   3 ◯ EN

   4 ◯ JIS

   Press the **NEXT** softkey to continue.

5. Press the **UP/DOWN ARROW** keys or use the numeric keys to select the battery rating or in the case of JIS, the part number. To increase your scrolling speed, hold down the **UP** or **DOWN ARROW** key.

6. Select the TEMPERATURE.

   Aim the tester 2 inches (5 cm) from the sides or top of the battery case and press **NEXT**

For the next few seconds the tester will display the word TESTING and a stopwatch while it evaluates the battery.

Additional Test Requirements and Messages

For a more decisive result the tester may ask for additional information or probe deeper into the battery's condition. The following messages and instructions may appear before the analyzer displays the results of your test.

System Noise

To perform a correct measurement the tester requires the vehicle to be in rest. After the car has been driven some vehicle specific systems might still be active in the background. The tester will detect this and displays the message **SYSTEM NOISE**. When this message appears switch off all consumers(radio, airconditioning) and remove the key from the ignition. As soon as there is no more activity in the vehicle the tester will continue testing and display the test result.

Unstable Battery Detected

A battery that is weak or that has just been charged may retain enough electrical activity to be detected by the analyzer and will adversely affect the test results. A fully charged battery should stabilize quickly, after which the analyzer will automatically retest. Weak batteries should be charged and retested. If the battery is fully charged, check the clamp connections.

Surface Charge

The battery can hold a surface charge if the engine has been running or after the battery has been charged. The tester may prompt you to remove the surface charge before it displays a test result.

1. Follow the instructions indicating when to turn the headlights on and off (IN-VEHICLE)

2. The tester will resume testing after it detects that the surface charge is removed.

Deep Scan Test

In some cases the tester may need to further analyze the battery to determine whether the battery should be replaced or it has a significant chance to be recovered. It will then conduct a Deep Scan Test of the battery for a few seconds. This test will typically be performed on batteries that are in a low state of charge.

Battery Test Results

After the test the tester will display the battery decisions with the complete results in a series of screens. Use the **UP/ DOWN ARROW** keys to scroll through each result. To print the results press the **PRINT** softkey. To return to the Main Menu, press the **END** softkey.

Battery decision • **Measured voltage** • **Battery temperature** — **Measured CCA** • **Selected rating**

```
═══RESULTS═══
  GOOD BATTERY
VOLTAGE:        12.49V
MEASURED:     605 CCA
RATED:        630 CCA
TEMPERATURE:    73°F
 PRINT    ♦     END
```

```
═══RESULTS═══
  GOOD BATTERY
VOLTAGE:        12.79V
MEASURED:   721 A(SAE)
RATED:      760 A(SAE)
TEMPERATURE:    21 °C
SOC:            94%
 PRINT    ♦     END
```

```
═══RESULTS═══
   TEST CODE

9G49M4Z-64CQP1A
 PRINT    ♦     END
```

```
═══RESULTS═══
 STATE OF HEALTH
 PRINT    ♦     END
```
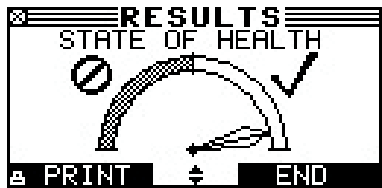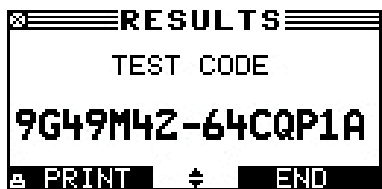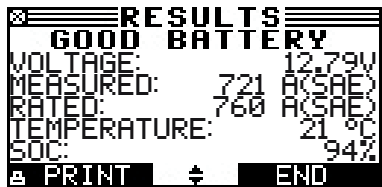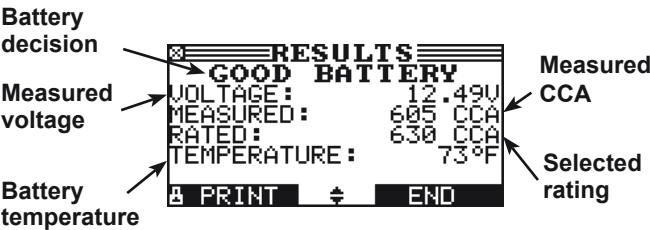
Battery Decisions and Recommendations

Battery Decisions

Decision	Recommended Action
GOOD BATTERY	Return the battery to service.
CHARGE & RETEST	Fully charge the battery and retest. ***Failure to fully charge the battery before retesting may cause false readings.*** If CHARGE REQUIRED appears again after you fully charge the battery, replace the battery.
REPLACE BATTERY	A REPLACE BATTERY result may also mean a poor connection between the battery and the vehicle. If you tested the battery using the IN-VEHICLE Test, disconnect the battery cables and retest using the OUT-OF-VEHICLE Test before replacing it.
BAD CELL–REPLACE	Replace the battery and retest.
FROZEN BATTERY	Thaw the battery and retest.

Chapter 5: QC test

The tester has the ability to test multiple batteries one after the other without having to input the battery rating / settings. There are two types of QC tests: the **STOCK CONTROL** or **COMPOUND TEST**. **STOCK CONTROL** is meant for batteries standing in a warehouse or on a pallet where as **COMPOUND TESTING** is done when the battery is in the vehicle.

Stock control

1. The first screen shows you the amount of tests performed. Once you press both the arrow keys you reset the test counter. Press **NEXT** if you want to continue without clearing the tests.

```
≋≡STOCK CONTROL≡≋
NUMBER OF QC TEST
     COMPLETE
  2 OUT OF 100
PRESS ◀▶ TO ERASE
 END           NEXT
```

2. Select the **BATTERY TYPE**

   1 ⊙   REGULAR / FLOODED

   2 ○   AGM

   Press the **NEXT** softkey to continue.

   Press the **NEXT** softkey to continue. The **BACK** softkey returns you to the Main Menu at the start of the test and to the previous screen as you progress.

3. Select the **RATING UNITS**

   1 ⊙   SAE

   2 ○   DIN

   3 ○   EN

   4 ○   JIS

   Press the **NEXT** softkey to continue. The **BACK** softkey returns you to the previous screen.

4. Select the **BATTERY RATING**

   Press the **UP (▲)** and **DOWN (▼) ARROW** keys to select the rating. In case of a JIS battery type the part number.

5. Enter the **MINIMUM VOLTAGE**.

6. Select the **TEMPERATURE**.

   Aim the tester 5 cm from the sides or top of the battery case. As soon as the temperature reading is stable the operator can press **NEXT.**

   The tester will now test the battery.

Compound test

1. The first screen shows you the amount of tests performed. Once you press both the arrow keys you reset the test counter. Press **NEXT** if you want to continue without clearing the tests.

```
≋≡ COMPOUND TEST ≡≋
NUMBER OF QC TEST
     COMPLETE
  2 OUT OF 100
PRESS ◀▶ TO ERASE
 END           NEXT
```
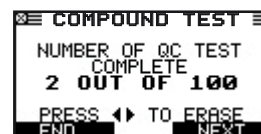
2. Select the **BATTERY MENU**.

   1 ⊙   MANUAL

   2 ○   PRE-SELECTION

   MANUAL input is selecting the different battery parameters that can be found on the battery. The **PRE-SELECTION** is what is entered in the tester memory. This is initially empty but can be filled in from the **UTILITY** menu.

   Press the **NEXT** softkey to continue. The **BACK** softkey returns you to the previous screen.

   For selection of the **MANUAL** input see the previous explanations and screens.

Chapter 6: Print / View

The Print/View Menu enables you to view and print the results of the tests performed before you perform another test and overwrite the results in memory.

View Test

VIEW TEST gives you the option of viewing and printing all available test results. To return to the Main Menu, press the **END** key. To print the results press the **PRINT** key.

View QC Test

VIEW QC TEST gives you the option of viewing and printing all results of the Quality Control Test. To print the results press the **PRINT** softkey. To return to the Main Menu, press the **END** key.

Chapter 7: Info Menu

The Info Menu has 3 utilities to help you manage your test data and track the usage and history of your analyzer.

Totals

The TOTALS report displays the total number of battery tests by decision performed since the Tester was first used. The other option is to clear all the counters from the tester.

Transfer

The TRANSFER utility lets you transfer test data to a PC using an optional IR receiver/software package.

Version info

Version info displays the software version, the database version, the total tests performed and the serial number. The utility keeps a permant count of the number of battery tests performed since the analyzer was first used.

Chapter 8: Utility Menu

The Utility Menu allows you to easily set up your analyzer:

Config Tester

TIME :	**9:07**
MODE :	**24 HOUR**
DATE :	**01/10/2013**
FORMAT :	**MM/DD/YYYY**
TEMP. UNITS :	**°C**
WRITE FAIL :	**ASK**

Time

1.   Use the **LEFT/RIGHT ARROW** keys to highlight the hour or minutes. To rapidly scroll, hold down an **ARROW** key.

9 : 07   **AM**

2.   Press the **SAVE** softkey to save your setting or **BACK** to return to the ADJUST screen.

Mode

Use the **LEFT/RIGHT ARROWS** to select the option of your choice.

1.   Select the 24-hour or AM/PM mode

2.   Press the **OK** softkey to save your setting

Date

Date cannot be changed.

Format

Use the **UP/DOWN ARROWS** to select the desired option.

1.   MM/DD/YYY (month/day/year) or DD/MM/YYY (day/month/year)

2.   Press the **OK** softkey to save your setting.

Temperature Units

Use the **LEFT/RIGHT ARROWS** to select either Celsius or Fahrenheit as temperature indication.

Write Fail

After each measurement the test results are stored on the data card. In case the data cannot be stored on to the card you can select the way this is notified to the operator.

   ASK (operator is asked if it is ok to continue even when results are not stored)

   FORCE (measurements can only continue when data card is entered)

   IGNORE (measurement is not stored and operator not notified)

Display

The LCD OPTIONS utility enables you to adjust the contrast of the text on the display and the backlight time.

Contrast Level

The contrast level is 0 (lightest) to 10 (darkest). To change it:

1.   Press the **UP** or **DOWN ARROW** to highlight the option.

CONTRAST LEVEL	**10**
BACKLIGHT TIME	**60**

2.   Press the **LEFT/RIGHT ARROW** key to display the option's numerical scroll box.

10 ◆ **(1-10)**

3.   Press the **UP/DOWN ARROW** keys to select your preference.

4.   Press the **SAVE** softkey to save your setting or the **BACK** softkey to return to the CONTRAST LEVEL screen without saving the changes.

Backlight Time

Backlight time is from 0 to 60 seconds. To change it:

1.   Press the **UP** or **DOWN ARROW** to highlight the option.

CONTRAST LEVEL	10
BACKLIGHT TIME	**60**

2.   Press the **LEFT/RIGHT ARROW** key to display the option's numerical scroll box.

60 ◆ **SEC**

3.   Press the **UP/DOWN ARROW** keys to select your preference.

4.   Press the **SAVE** softkey to save your setting or the **BACK** softkey to return to the BACKLIGHT screen without saving the changes.

Config Printer

Use this option to configure your printer. It's easy to switch your IrDA printer in to the correct protocol. Read the instructions on the display.

Shop Info

The SHOP INFO utility enables you to create a header for your printed test results showing your business location information. Its two information screens contain eight lines of text with up to 16 characters on each line.

Screen 1

1–YOUR SHOP NAME __
 2–1000 ANY STREET
 3–YOUR TOWN, STATE
 4–YOUR POSTAL CODE

Screen 2

5–YOUR COUNTRY __
 6–YOUR PHONE NUMBER
 7–WWW.WEBSITE.COM
 8–YOUR SHOP ID NUMBER

To create or overwrite a header:

1.   Press the **UP** or **DOWN ARROW** to highlight the line you want to change.

2.   Press SELECT to activate the line for editing, move the cursor backward to erase a character, press the **LEFT ARROW** key; to move the cursor forward, press the **RIGHT ARROW** key.

3.   Insert a character by pressing the key associated with the character as many times as needed.

4.   You can center text by selecting blank spaces before and after lines of text or insert spaces between words.

5.   Press the **SAVE** softkey to save your setting or the **BACK** softkey to return to the SHOP INFO screen without saving the changes.

Coupon

The COUPON SELECT utility enables and disables the printing of the custom coupon you've created in the EDIT COUPON utility.

1.   Use the **UP/DOWN ARROWS** to move the dot to the option button of your choice.

2.   Press the **NEXT** softkey to save your setting or the **BACK** softkey to return to the COUPON SELECT screen without saving the changes.

Edit Coupon

The EDIT COUPON utility enables you to create a promotional coupon for your customers that prints at the bottom of every test result. Its two information screens contain eight lines of text with up to 16 characters each. The editing process is the same as when you create a header for your test results printouts. See the SHOP utility for more information.

Language

The LANGUAGE utility enables you to select a language for the display and printouts. To set your preference:

1.   Use the **UP/DOWN ARROWS** to move the dot to the option button of your choice. There is a selection of 10 languages.

2.   Press the **NEXT** softkey to save your setting.

Format Card

Select this utility to format a data card to receive data or erase all data on the card. The Tester will warn you before formatting the card and ask you if you want to continue. When a new blank data card is used you always have to use this function before the tester can write to the card.

Update

As software updates become available you'll be able to use this utility to update the Tester software using files on an SD card. The use of a special formatted disk is required for this action.

> FIRMWARE (use this option when new software becomes available from Midtronics)

> SAVE CONFIG (the tester will store the workshop address to the data card, file name is CONFIG.CSV)

> LOAD CONFIG (after new software is uploaded you can reload the workshop details to the tester)

1. Connect the tester to a 12V battery to ensure the tester does not switch off during the proces

2. Insert the disc in the tester

3. Select one of the options and follow the instructions on the screen

4. When finished the tester will prompt you to remove the card and reboot the tester

Battery List (for QC Mode)

In this function you can add, delete battery information that is used for the various battery tests.

BATTERY LIST
From this menu you can add or delete batteries that you can select in the QC mode. When you add a battery you must have the BATTERY TYPE, BATTERY RATING, BATTERY CCA, BATTERY CAPACITY

IMPORT LIST
When VW delivers new battery information it can be uploaded with this function. It will have the same effect as the above mentioned steps but than in a more simple way.

EXPORT LIST
To view the current battery and partnumber information use the EXPORT function to send the information to the data card.

Chapter 9: Troubleshooting

If you have problems with the display or printer try these troubleshooting suggestions:

Problems with the display

The display does not turn on:

* Check the connection to the battery.

* The analyzer's internal batteries may need to be replaced.

The display flickers or is dim:

* The contrast may need to be adjusted in the Utility menu.

* The analyzer's internal batteries may need to be replaced.

The STATUS LED Flashes

When a printer fault occurs, the **STATUS** LED flashes. You can identify the fault by the number of sequential flashes:

Sequence	Condition	Solution
* * *	No paper	Insert new paper
** ** **	Thermal head too hot	Allow head to cool
*** *** ***	Batteries weak	Recharge printer batteries for 16 hours

Data Will Not Print

* If the IR transmitter and receiver are not aligned, all the data may not print. The infrared ports on the top of the analyzer and on the printer below the **MODE** button should be pointed directly at each other. The maximum distance for reliable transmission between the ports is 17 in (45 cm).

  To realign, press the **END** button to cancel the print job. Verify alignment between the analyzer and printer; then try to print the test results again.

* Make sure the printer is on. The printer shuts off after 2 minutes of inactivity to conserve the batteries. To turn the printer on, briefly press the **MODE** button. The green **STATUS** light should turn on. Make sure you are using the Midtronics printer. Other printers may not be compatible.

Chapter 10: Tester Internal Batteries

The Tester uses 6 AA, 1.5-volt batteries (alkaline recommended) to allow testing of batteries down to 1 volt and supply power while the menu is active. The analyzer can test batteries down to 5.5 volts when the internal batteries are not functioning.

Battery Power Indicator

The square in the upper left corner of the display indicates the charge level of the battery pack. The square is black when the battery pack is fully charged. It gradually changes to white as the charge level declines. The Tester will display a warning message when the batteries need replacing.

Full   **Decreasing**   **Low**   **Powered by vehicle battery**
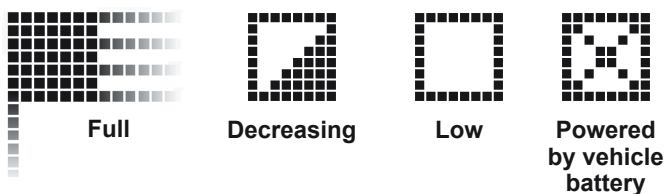
Power Level Indicator for AA Batteries

Replacing the Tester Batteries

1. Turn the Tester face down.

2. Use a Philips screwdriver to remove the screw securing the door to the battery compartment.

3. Lift the door at the tab and place it aside.

4. Remove the discharged batteries.

5. Insert new batteries as shown, make sure the positive and negative terminals are positioned correctly.

6. Reposition the door on the battery compartment.

7. Reinsert and tighten the screw.

PATENTS

The EXP series is made by Midtronics, Inc., and is protected by one or more U.S. and foreign patents. For specific patent information, contact Midtronics, Inc. at +1 630 323-2800.

LIMITED WARRANTY

This analyzer is warranted to be free of defects in materials and workmanship for a period of two years from date of purchase. Midtronics will, at our option, repair or replace the unit with a remanufactured unit. This limited warranty applies only to the analyzer, and does not cover any other equipment, static damage, water damage, overvoltage damage, dropping the unit, or damage resulting from extraneous causes including owner misuse. Midtronics is not liable for any incidental or consequential damages for breach of this warranty. The warranty is void if owner attempts to disassemble the unit or to modify the cable assembly.

MIDTRONICS

www.midtronics.com

Corporate Headquarters
Willowbrook, IL USA
Phone: 1.630.323.2800

Canadian Inquiries
Toll Free: 1.866.592.8053

Midtronics b.v.
European Headquarters
Houten, The Netherlands
Serving Europe and Africa
Phone: +31 30 68 68 150

Midtronics China Office
China Operations
Shenzhen, China
Phone: +86 755 8202 2037

Midtronics India
Mumbai, India
Phone: +91 989 237 6661

Asia/Pacific (excluding China)
Contact Corporate Headquarters
Phone: +1 630 323 2800