




# ***xMB-9640 Module Balancer***

## ***Users Guide***



**⚠ DANGER**

**Hazardous voltage.**  
**Do not remove protective covers.**  
**Failure to follow this instruction may result in electric shock, personal injury, or death.**  
Circuit boards, test points, and output voltages also may be floating above or below chassis ground.

**NOTICE**

This xMB-9640 is designed for indoor use only.  
**Do not operate the xMB-9640 outdoors.**  
**Operation of the xMB-9640 in an outdoor environment can result in equipment damage.**

**⚠ WARNING**




**Risk of explosion.**

This device contains internal arcing and sparking parts which should not be exposed to flammable vapors. This device should be located at least 18 inches (457mm) above grade. Failure to follow this instruction may result in personal injury or death.

**⚠ DANGER**

**Risk of explosive gases.**

Batteries may generate explosive gases. To reduce risk, follow these safety instructions and those published by the battery manufacturer and OEM. Failure to follow these instructions may result in personal injury or death.



**⚠ DANGER**

**Charging a non-rechargeable battery may cause the battery to burst.**


Only charge batteries for which xMB-9640 has been designed and is intended for use. Failure to follow these instructions may result in personal injury or death

**NOTICE**

The xMB-9640 has not been designed for exposure to rain or snow. Operate the xMB-9640 only indoors in a clean environment. Failure to follow these instructions may result in equipment damage.

**⚠ WARNING**

**Only qualified technicians may use this equipment.**  
**The required qualifications vary by region. Always observe local laws and legislative directives.**  
**Failure to follow this instruction may result in serious personal injury or death.**



**⚠ DANGER**

**Hazardous voltage.**  
**An improper connection can result in electric shock**

To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when xMB-9640 is idle. Failure to follow these instructions may result in personal injury or death.



**⚠ DANGER**


**Risk of explosive gases.**  
**Never smoke or allow a spark or flame in the vicinity of a battery.**

Batteries can produce a highly explosive mix of gases, even when the battery is not in operation. Always work in a well-ventilated area. Failure to follow these instructions may result in personal injury or death.

**⚠ CAUTION**

**Wash hands after handling.**

REQUIRED BY CALIFORNIA PROP. 65: Battery posts, terminals, and related accessories may contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.



**⚠ DANGER**

**Hazardous voltage.**  
**An improper connection can result in electric shock**

To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.

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## Ford xMB-9640 Knowledge Base

For more information and support contact details, please visit the online Ford xMB-9640 Knowledge Base, by scanning this QR code, or typing in the following url: <https://fordxmb9640.midtronics.com>.




# General Safety Guidelines



**IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS**

IT IS OF UTMOST IMPORTANCE THAT BEFORE USING YOUR xMB-9640, YOU READ THIS MANUAL AND FOLLOW THE SAFETY AND OPERATING INSTRUCTIONS EXACTLY.



**⚠ DANGER**





**Hazardous voltage.**  
Do not remove protective covers.  
Failure to follow this instruction may result in electric shock, personal injury, or death.

Circuit boards, test points, and output voltages also may be floating above or below chassis ground.

**NOTICE**


This xMB-9640 is designed for indoor use only.  
Do not operate the xMB-9640 outdoors.  
Operation of the xMB-9640 in an outdoor environment can result in equipment damage.

## Manual Conventions


| Symbol  | Description   |
|---|---|
|  | The safety symbol indicates instructions for avoiding hazardous conditions and personal injury.   |
|  | The safety symbol with the words <b>CAUTION</b> , <b>WARNING</b> , or <b>DANGER</b> indicates instructions for avoiding hazardous conditions and personal injury. |
|  | The wrench symbol indicates procedural notes and helpful information.   |
|  | These symbols indicate which arrow keys on the keypad to press for a given function.  |
| <b>Bold Letters</b>   | The text for screen options are in <b>Bold</b> letters.   |

### 1. Maintenance

- **SAVE THESE INSTRUCTIONS** - This manual contains important instructions that shall be followed during installation, operation and maintenance of the unit.




**WARNING**



**Risk of explosion.**


This device contains internal arcing and sparking parts which should not be exposed to flammable vapors. This device should be located at least 18 inches (457 mm) above grade. Failure to follow this instruction may result in personal injury or death.

- Periodic inspection and care are highly recommended, especially if the xMB-9640 is operating in a harsh environment.
- Inspect for signs of overheating, rust, paint deterioration and general condition of the unit. If corrective measures should be taken, contact Midtronics. **Contact information on back cover.** Removal of dust, dirt and debris from the external enclosure surfaces is encouraged and may be performed while the unit is in operation.





**IMPORTANT:** No user-serviceable parts are inside the xMB-9640. No unauthorized personnel should ever remove the cover.

- Ensure that the AC power line ground is connected properly to the xMB-9640 input connector or chassis. Similarly, other power ground lines including those to application and maintenance equipment must be grounded properly for both personnel and equipment safety.
- In normal operation, the operator does not have access to hazardous voltages within the chassis. However, depending on the user's application configuration, HIGH VOLTAGES HAZARDOUS TO HUMAN SAFETY may be normally generated on the output terminals. The customer/user must ensure that the output power lines are labeled properly as to the safety hazards and that any inadvertent contact with hazardous voltages is eliminated.
- This xMB-9640 is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the xMB-9640 by a person responsible for their safety.

|  <b>DANGER</b>  |  |
|--|--|
| <b>Risk of explosive gases.</b>  |  |
| Batteries may generate explosive gases. To reduce risk, follow these safety instructions and those published by the battery manufacturer and OEM. Failure to follow these instructions may result in personal injury or death. |  |

- 1.1 To reduce risk of battery explosion, follow these safety instructions and those published by the battery manufacturer and the manufacturer of any equipment you intend to use in the vicinity of a battery. Review cautionary marking on these products and on the engine, and on the vehicle or equipment containing the battery.

|  <b>DANGER</b>   |  |
|---|--|
|    | <b>Charging a non-rechargeable battery may cause the battery to burst.</b> |
| Only charge batteries for which xMB-9640 has been designed and is intended for use. Failure to follow these instructions may result in personal injury or death |  |

If you are uncertain as to the type of battery you are attempting to charge, or the correct procedure for checking the battery's state of charge, contact the seller or battery manufacturer.

- 1.2 Use of an attachment not recommended or sold by the xMB-9640 manufacturer may result in a risk of fire, electric shock, or injury to persons.
- 1.3 To reduce risk of damage to the electric plug and cord, pull by the plug rather than by the cord when disconnecting the xMB-9640.
- 1.4 Do not operate the xMB-9640 if it has received a sharp blow, been dropped or otherwise damaged in any way; contact Midtronics (see contact information on back cover).
- 1.5 Do not disassemble the xMB-9640; when repair is required contact nearest Midtronics regional office ([see back cover of this manual for locations and contact information](#)). Incorrect reassembly may result in a risk of electric shock or fire.
- 1.6 To reduce risk of electric shock, unplug the xMB-9640 from the AC outlet before attempting any maintenance or cleaning. Turning off the controls will not reduce this risk.
- 1.7 Connect and disconnect the battery leads only when directed to do so by the xMB-9640.
- 1.8 Do not overcharge the battery (see Section 3).
- 1.9 Charge the battery in a dry, well-ventilated area.
- 1.10 Never place articles on or around the xMB-9640, or locate the xMB-9640 in a way that will restrict the flow of cooling air through the cabinet.
- 1.11 An extension cord should not be used with xMB-9640.
- 1.12 Have a damaged cord or plug replaced immediately.

**NOTICE**

The xMB-9640 has not been designed for exposure to rain or snow. Operate the xMB-9640 only indoors in a clean environment. Failure to follow these instructions may result in equipment damage.

## 2. Personal Precautions

**⚠ WARNING**

**Only qualified technicians may use this equipment. The required qualifications vary by region. Always observe local laws and legislative directives. Failure to follow this instruction may result in serious personal injury or death.**

- 2.1 Have plenty of fresh water and soap nearby in case battery electrolyte contacts skin, clothing or eyes.
- 2.2 Always wear all personal protective equipment (PPE) defined by OEM when working with batteries serviced by xMB-9640.
- 2.3 If battery electrolyte contacts skin or clothing, wash immediately with soap and water. If electrolyte enters the eye, immediately flush with cold running water for at least 10 minutes, and seek medical attention.
- 2.4 NEVER smoke or allow a spark or flame in vicinity of a battery or engine.
- 2.5 Before working with a battery, remove personal metal items such as rings, bracelets, necklaces, watches, etc. A battery can produce a short circuit current high enough to weld such items causing a severe burns.
- 2.6 The xMB-9640 is not intended to supply power to a low-voltage electrical system other than applications using rechargeable batteries.
- 2.7 **NEVER** charge a battery outside of recommended operating temperature range as defined by OEM. Allow battery to come within operating temperature range xMB-9640 (Pg.8) and battery operating range prior to charging.

## 3. Grounding & Power Cord Connections

- 3.1 The xMB-9640 must be grounded to reduce risk of electric shock. The xMB-9640 is equipped with an electric cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

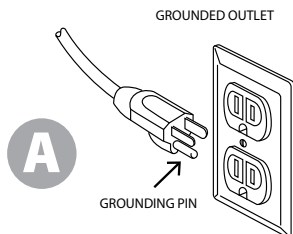
**⚠ DANGER**

**Hazardous voltage.**  
**An improper connection can result in electric shock**

To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when xMB-9640 is idle. Failure to follow these instructions may result in personal injury or death.

**IF THE PLUG DOES NOT FIT THE OUTLET, HAVE A PROPER OUTLET  
INSTALLED BY A QUALIFIED ELECTRICIAN.**

3.2 This xMB-9640 is for use on a nominal 120 volts or 240 volts circuit. The 120V grounding plug looks like the plug illustrated in Figure A.



3.3 Use of an extension cord could result in a risk of fire and electric shock.

3.4 The plugs and receptacles have dedicated grounding terminals and must be mated with plugs and receptacles having matching grounding terminals.

#### 4. xMB-9640 Location



**IMPORTANT:** The xMB-9640 is designed for indoor use only!

It is the responsibility of the operator to provide a controlled environment for the equipment. Work tents are a common method of protecting equipment in adverse conditions.

The xMB-9640 depends upon the surrounding air for cooling. The free flow of air is important as is the air temperature. The xMB-9640 must be mounted so that air can freely circulate all around it.




- 4.1 Do not place combustible materials on or near the xMB-9640 or mount the xMB-9640 closer than 3 inches from any adjacent wall. The xMB-9640 must never be mounted next to or above heat generating equipment.
- 4.2 Locate the xMB-9640 as far away from the battery as the cables permit.
- 4.3 Never place the xMB-9640 directly above the battery being charged; gases from the battery could corrode and damage the xMB-9640.
- 4.4 Only operate the xMB-9640 in a well-ventilated area that is free of dangerous vapors.
- 4.5 Store the xMB-9640 in safe, dry location.
- 4.6 Do not operate the xMB-9640 in high relative humidity conditions (85% non-condensing maximum).
- 4.7 When using the xMB-9640, follow all regulations for the locality in which the equipment is used.

#### Storage

Always store the balancer in safe, dry location and maintain it in perfect condition.

# Product Specifications

## Power

- Input: 100 – 240 , 50/60 Hz; 12A max.
- Output: 48 V , 40A  
96 V , 20A

## Charge Cables

- 2m

## Power Cord

Accepts C19 locking connector for region-specific power cables:

- United States: EMA 5-15 termination, rated at 15A/125V UL CSA
- EU: EMA 5-15 termination, rated at 16A/250V UL CSA
- UK: EMA 5-15 termination, rated at 13A/250V UL CSA




## Applications

- Automotive

## Module Chemistries

- Lithium ion

## Operating Parameters

- Input Voltage:  
100 – 240 , 50/60 Hz; 12A max.
- Output:  
48 V , 40A  
96 V , 20A

## Humidity

- 15% to 85% R.H., non-condensing

## Dimensions

(without handle or base)

- 44 CM (L) X 43,5 CM (W) X 23 CM (H)
- Weight:  
17.84 KG (39 LBS)

## Temperature

- Operating temperature range:  
0°C to +50°C (32°F to +140°F)
- Storage temperature range:  
-10°C to + 85°C (14°F to 185°F)

## Certifications

- |                   |                  |
|-------------------|------------------|
| • CE              | • FCC            |
| • ROHS            | • NOM            |
| • CSA 22.2 #107.1 | • CU EAC         |
| • UL 2871         | • KC             |
| • FCC             | • IEC 62477-1    |
| • IEC 61000-4-2   | • IEC 61000-4-3  |
| • IEC 61000-4-4   | • IEC 61000-4-5  |
| • IEC 61000-4-6   | • IEC 61000-4-11 |
| • IEC 61000-6-4   |                  |

## Connectivity

- USB 2.0 connection
- CAN bus interface
- Bluetooth 2.0
- WiFi

## Protection Features

- Reverse polarity

## User Interface


- Advanced navigation and charge applications
- 5" Touch Screen
- 5 button Directional input Pad



# 1 – Introduction & Overview

## Safety Precautions

For safe, efficient, and accurate operation, review the safety and operating instructions in this manual before using the xMB-9640. Always use the necessary safety precautions when working with batteries to prevent severe injury or death. Follow all OEM instructions and SAE safety recommendations, as well as the following precautions:



**⚠ DANGER**

**Risk of explosive gases. Never smoke or allow a spark or flame in the vicinity of a battery.**

Batteries can produce a highly explosive mix of gases, even when the battery is not in operation. Always work in a well-ventilated area. Failure to follow these instructions may result in personal injury or death.

**⚠ CAUTION**

**Wash hands after handling.**

REQUIRED BY CALIFORNIA PROP. 65: Battery posts, terminals, and related accessories may contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

- Battery electrolyte can be hazardous. Refer to Material Safety Data Sheet for precautions and safety procedure for the type of battery being serviced
- Keep hair, hands, and clothing as well as the xMB-9640 cords and cables away from moving engine parts.
- Before working with a battery, remove personal metal items such as rings, bracelets, necklaces, watches, etc. A battery can produce a short circuit current high enough to weld such items-causing a severe burn.
- Use caution when working with metallic tools to prevent sparks or short circuits.
- Never lean over a battery when charging.
- Never operate xMB-9640 outside of defined operating temperature range (pg. 8).
- Never charge a battery outside of OEM specified temperature range.

## Connecting To AC Power

Plug the xMB-9640 into a dedicated, grounded nominal 15-amp or higher AC outlet.

## Initial Set-Up

1. Upon initial power-up, the **Language Settings** screen is displayed. Tap **Next** to continue.

|                      |  |
|----------------------|--|
| System Language      | Select the Controller default language displayed on the screen.                  |
| Test Result Language | Select the Controller default language for all displayed tests and test results. |
| Set Email Language   | Set the language to be used in email.  |
| Set Print Language   | Set the language to be used when printing.                                       |

2. The **Create User** screen is displayed. Enter a User ID of your choice and tap **Next**.

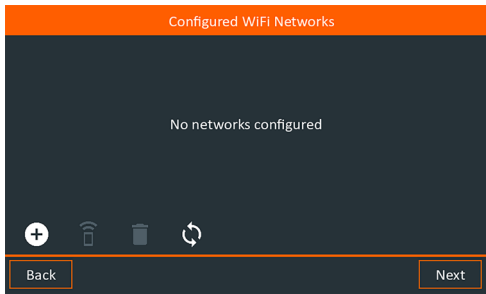
**IMPORTANT: By default, the first user created is assigned Administrator rights. Tap Add User to add additional users. See [Chapter 7 – Settings](#) to change these defaults.**

|                     |   |
|---------------------|---|
| Select Time Format: | 12-hour or 24-hour format                 |
| Select Date Format: | DD/MM/YYYY, MM/DD/YYYY or YYYY/MM/DD      |
| Select Time Zone:   | Time zone offset from Greenwich Mean Time |
| Set Date:           | Set the current date                      |

3. The Test Settings are displayed. Tap **Next** to continue after making any adjustments.

|                   |   |
|-------------------|---|
| Temperature Units | Celsius or Fahrenheit   |
| Decimal Separator | 00.00 (dot) or 00,00 (comma)  |
| Buzzer Settings   | Select if unit will provide an audible alert. If set to 'OFF', unit will only provide visual alerts |

4. The **Configured WiFi Networks** screen is displayed. Tap **Next** to continue after making any adjustments.



Tap on the WiFi icon to display a list of detected and configured WiFi networks.



Adding a Network

- Tap **+** to add a WiFi network.


A list of detected wireless networks is displayed with ● next to the selected network.

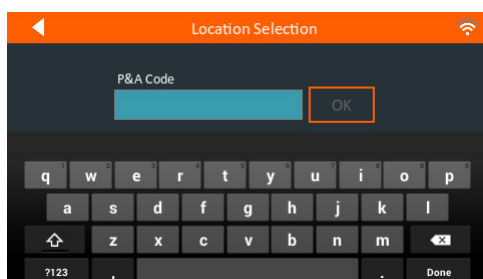
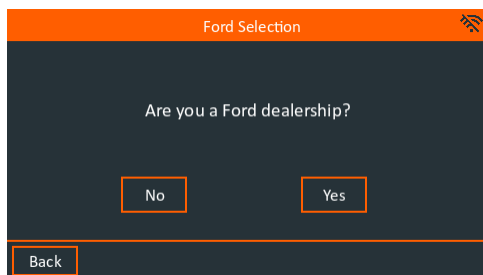
- Tap **>** to access the network Security and IP Settings.

|            |                             |
|------------|-----------------------------|
| Security   | None<br>WEP<br>WPA/WPA2 PSK |
| IP Address | DHCP<br>Static              |

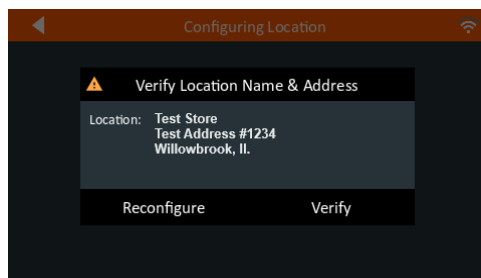
- Tap **→** to configure the selected network.
- Once the network has been successfully configured, tap **→** to return to the list of available configured networks. A ● indicates the selected network.

### Deleting a Network

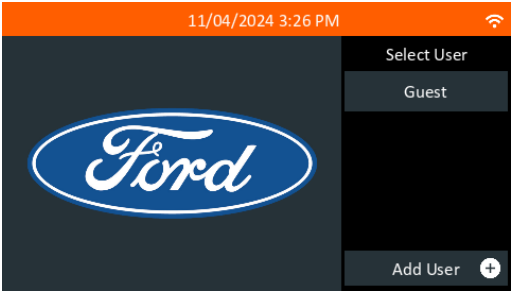
- Tap a displayed network.
  - Tap  to delete the network and tap **Yes** to confirm.
5. You will be asked to confirm if you are a Ford dealer, where you can choose **Yes** or **No**. For Ford Dealers, enter dealership P&A Code.



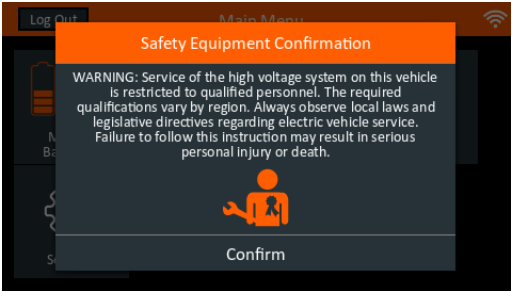
6. If you indicated you're not a Ford dealer, the **BMIS Login** screen is displayed. If you have a Midtronics BMIS account, enter your Username and Password. Tap **X** to skip. Contact Midtronics for inquiries regarding Midtronics BMIS accounts.
7. The **Shop Settings** screen is displayed. Tap **Next** to continue after making any adjustments.



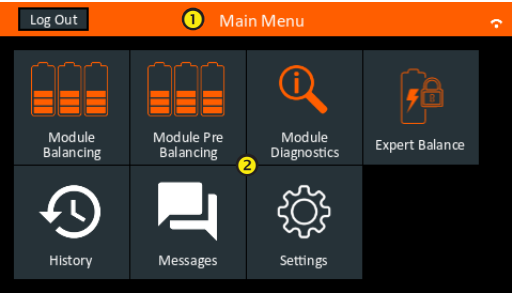
8. The login screen is displayed.



9. The **PPE** Screen is displayed. Note: this screen will only display the first time after the xMB-9640 reboots.



10. Select your User ID to access the Main Menu.










①

**Menu Bar**

②

**Main Menu Selection Area**

Main Menu Icons

| Icon  | Description   | Icon  | Description   |
|---|---|---|---|
| <br>Module Balancing   | Charges/Discharges module to target voltage to bring in balance with the rest of the pack.  | <br>Module Pre Balancing | Get the module/array to a desired SOC-level before starting the balancing.                                |
| <br>Module Diagnostics | Connects to modules and reads cell/temperature information.   | <br>Expert Balance       | This expert mode is to be used by designated technicians only and allows the use of expert only features. |
| <br>History            | Access archived test histories or search test history by VIN or by technician.  | <br>Messages             | Access messages, alerts and notifications on tool.  |
| <br>Settings           | Setup/adjust: WiFi, printer setup, email settings, user information, default language, display/sound settings, BMIS, shop info, connected devices, tool software version information. |   |   |

Front View



① Touch Screen Display

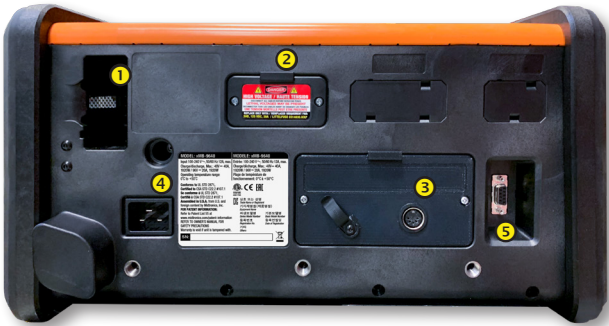
③ Screen Power Button

② USB Port

④ 5-button Directional Input Pad

**NOTE:** It is normal for the xMB-9640 cooling fans to continue running after the screen is turned off.

Rear View



|                              |                              |
|------------------------------|------------------------------|
| ① HV Common Cable Connection | ③ LV Common Cable Connection |
| ② Fuse Door Cover            | ④ Power Cord Socket          |
| ⑤ Barcode scanner socket     |                              |

Connections

Locking Power Cord

Pull back on the red tab on the side of the connector to release/remove the power cord from the Balancer power socket.



## Connecting HV Common Cable

Insert HV Common Cable connector into port on the upper-left of the rear panel of the xMB as denoted in previous section.

There are 2 different high-voltage common cables available:

- High Voltages Series (HVS). Part number 430-000589.
- High Voltages Parallel (HVP). Part number 430-000590.



## Connecting LV Common Cable

Insert LV Common Cable connector into port on the lower-right of the rear panel of the xMB as denoted in previous section.



## 2 – Module Balancing



Module  
Balancing

Use this function to charge or discharge a module of a battery pack according to target voltage, to bring it in balance with the other modules of the pack.

### DANGER



**Hazardous voltage.**  
**An improper connection can result in electric shock**

To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.



**IMPORTANT:** Make sure to properly prepare the battery pack by following all required guidelines Refer to your documentation for complete information.

Before balancing a battery module, make sure all of the external components connected to the xMB-9640 are in good working order.

### Parameters

#### Discharge


- Discharge mode set to constant current – constant voltage
- Maximum discharge current is 40A up to 48V / 20A up to 96V max

#### Charge

- Charge mode set to constant current – constant voltage
- Charge current is 40A up to 48V / 20A up to 96V or module max

### Procedure

11. Confirm that the appropriate safety equipment is in place and press **Confirm**.
12. At the Main Menu, select **Module Balancing**.
13. Use on screen guide to enter vehicle information, make connections to module, and start balance.



xMB Barcode Entry

VIN:

FDRS:

Pack:

Old:

New:

Scan


Scan

Scan

Scan

Scan

Scan VIN with barcode scanner.



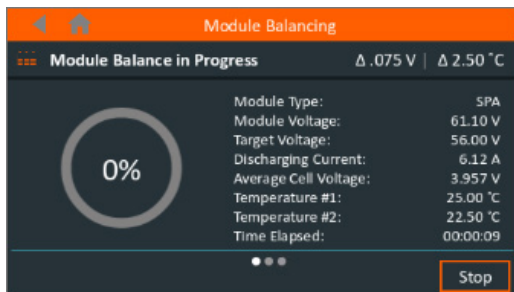
Or select the field to enter it manually.

Back

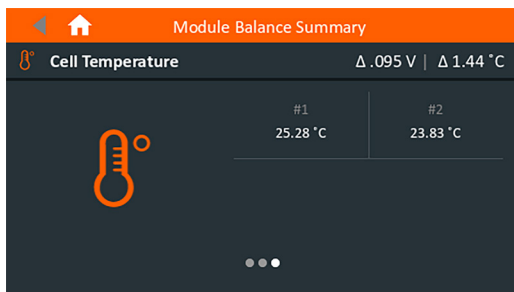
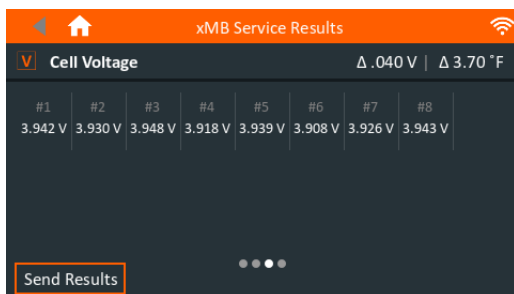
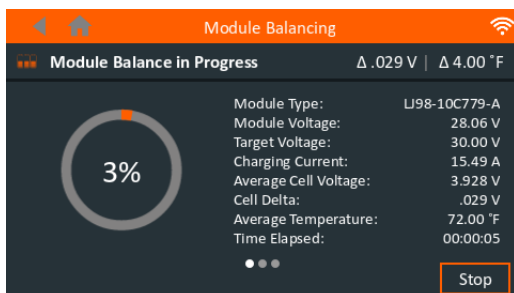
Next



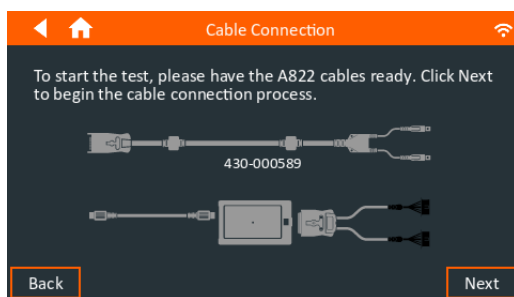
14. Verify Module Type and target voltage, and press **Next**. Once the module is detected and verified, press **Next** to start the balance procedure. Press **Stop** to exit.



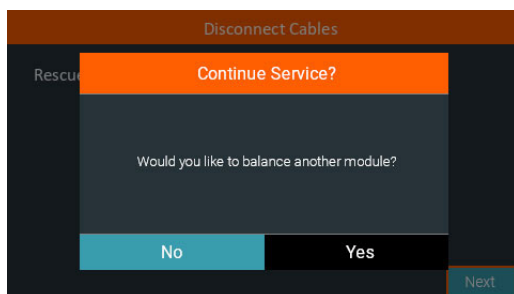
15. The results are displayed on the xMB screen.



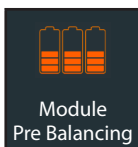
16. Follow on-screen guide to disconnect cables.



17. If you have another module to balance, select **Yes**. Balance will be recorded as same service procedure and data will not need to be re-entered.



### 3 – Module Pre Balancing



Use this function to get the module to a desired SOC-level before disassembling the vehicle and pack.

| ⚠ DANGER |  |
|----------|--|
|          | <p><b>Hazardous voltage.</b><br/>An improper connection can result in electric shock</p> <p>To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.</p> |

|  |  |
|--|--|
|  | <p><b>IMPORTANT:</b> Make sure to properly prepare the battery pack by following all required guidelines Refer to your documentation for complete information.</p> |
|--|--|

#### Procedure

1. At the Main Menu, select **Module Pre Balancing**. After starting the app, you'll receive information that you will also need to run the Module Balancing application prior to installing the battery module into the pack.
2. Follow the on screen guide to scan the module, or manually enter the information (Note: When manually entering the module information, do not use spaces or special characters. The only place spaces should be used is between the prefix and base of the part number and between the base and suffix of the part number.), enter the Target SOC % for the module and press **Next**.

The Target SOC% can be retrieved by running the battery health application in FDRS and recording the SOC% from any cell from any good array. This value needs to be collected from an active session and not from vehicle history in FDRS or PTS.

3. The cable connections screen guides you how to connect to the module. If all cable connections are verified, the pre balancing session starts.
4. Once the pre balancing session is completed, the results are shown indicating the status of the module at start and at completion.

## 4 – Module Diagnostics



Module  
Diagnostics

Use this function to display module information including cell voltages and module temperature measurements without starting a charge or discharge.

### DANGER



**Hazardous voltage.**  
An improper connection can result in electric shock

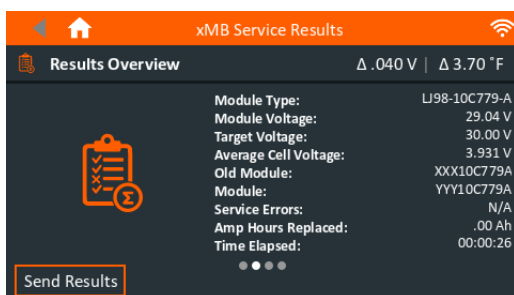
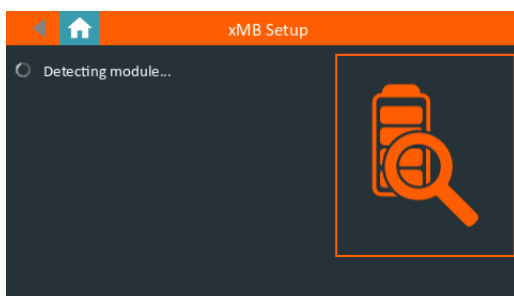
To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.



**IMPORTANT:** Make sure to properly prepare the battery pack by following all required guidelines Refer to your documentation for complete information.

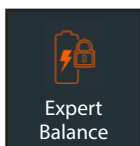
### Procedure

1. Confirm that the appropriate safety equipment is in place and press **Confirm**.
2. At the Main Menu, select **Module Diagnostics**.
3. Follow on screen guide to enter information and make connections to module to perform module diagnostics.



4. Press **Done** to return to the Main Menu.

## 5 – Expert Balance



Use this function to get access to advanced features.

**⚠ DANGER**

**Hazardous voltage.**  
An improper connection can result in electric shock

To avoid electrical shock or burn, never alter the xMB-9640's original AC cord and plug. Disconnect plug from outlet when the xMB is idle.



**IMPORTANT:** Make sure to properly prepare the battery pack by following all required guidelines Refer to your documentation for complete information.

### Procedure

- At the Main Menu, select **Expert Balance**. Access is restricted. Therefore, after starting the app, you'll be prompted for the Pin-code.
- Follow on screen guide to scan the **VIN** (if applicable), **Pack**, **Old** Module and **New** Module. Optionally, you can also enter the information using the on-board keypad by tapping on the field. Enter the Target SOC % for the module and press **Next**.

VIN  SCAN

Pack  SCAN

Old  SCAN

New \*  SCAN

Target Voltage \*

\* Indicates required field

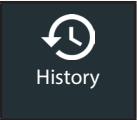
Press the scan button next to the field you wish to scan

Or select the field to enter it manually.

Next

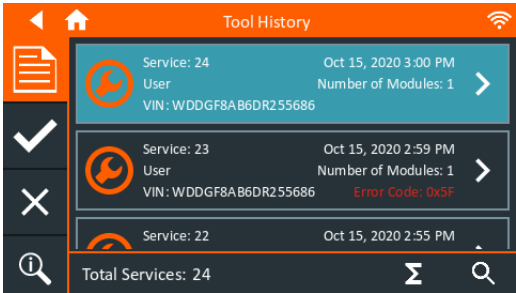
- The cable connections guide shows you how to connect to the module. If all cable connections are verified, the expert balancing session starts.
- Once the session is completed, the results are shown indicating the status at start and completion.

# 6 – History



Use **History** to access the tool usage history. It displays tool history, including complete and incomplete charging and balancing and diagnostics sessions, using the tabs on the left side.

At the Main Menu, tap **History** to display the **Tool History** screen.

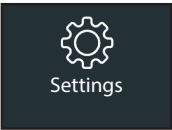


|  |  |  |                    |
|--|--|--|--------------------|
|  | Complete Balance or Discharge sessions, including pre module balancing and expert balancing.   |  | Module Diagnostics |
|  | Incomplete Balance or Discharge sessions, including pre module balancing and expert balancing. |  |                    |

Tap to view individual test details.

Tap to view totals by the last 7, 30, and 90 days.

## 7 – Settings



Use the Setup options to setup and adjust WiFi, user information, default language, display settings, shop information, user management, connected accessories, and device information.

Tap ◀ to return to the previous screen or 🏠 to return to the Main Menu.

### WiFi



Use WiFi to view, add, and delete wireless networks.

Tap on the WiFi icon to display a list of detected and configured WiFi networks.



### Adding A Network

1. Tap to add a WiFi network.  
A list of detected wireless networks is displayed with ● next to the selected network.
2. Tap > to access the network Security and IP Settings.

|            |              |
|------------|--------------|
| Security   | None         |
|            | WEP          |
|            | WPA/WPA2 PSK |
| IP Address | DHCP         |
|            | Static       |

3. Tap → to configure the selected network.
4. Once the network has been successfully configured, tap → to return to the list of available configured networks. A ● indicates the selected network.

### Deleting A Network

1. Tap a displayed network.
2. Tap to delete the network and tap **Yes** to confirm.

### BMIS Login



Displays current BMIS login information.

1. Tap to change location set by P&A Code.

## Printer Settings



Use **Printer** to view, add, and delete WiFi printers.



**NOTE:** WiFi network communication must be successfully established before a printer or printers can be detected and setup.

Tap on the Printer icon to display a list of available printers on the configured WiFi and Bluetooth networks.



Edit Printer Settings



Printer Setup



Delete Selected Network



Configured Printers



Print Test Page

## Adding A WiFi Printer

1. Tap to add a printer. Printer must be turned on and connected to WiFi.
2. Tap to add a WiFi printer.

Make sure the printer is on and connected to the same wireless network as the balancer.

3. Tap → once ready to connect.

## Email Settings



Displays all entered email addresses. Addresses can be added, edited, and deleted. Entered email accounts are added to the email address book. Frequently used email addresses can be selected from the displayed address list rather than being re-typed each time.



Add Address



Server Settings



Edit Address



Address Book



Delete Selected Address




Send Test Email

## Add Address


1. Tap to add an email address.
2. Use the displayed keypad to enter the contact name and email address.
3. Tap **Add** to add the address to the email list or **Cancel** to exit and return to the email list.



### Edit Address





1. Select a displayed email address by tapping it.
2. Tap  to edit the address.
3. Use the displayed keypad to edit the contact name and email address.
4. Tap **Add** to add the address to the email list or **Cancel** to exit and return to the email list.

### Deleting An Address

1. Select the email address by tapping it.
2. Tap  to delete the address and tap **Yes** to confirm or **Cancel** to exit and return to the email list.

### Server Settings

Enter and edit the email settings for sending outgoing email.

1. Tap  to access the email sever settings.
2. Tap  to enter or modify existing server settings including Host, Port, Login, Password, SMTP Authorization, Enable TLS, and From Email Address information.
3. Tap  to clear all server settings.
4. Tap  to return to the Email Address Book.

### User Settings



Modify Usernames and Passwords.



Edit Users






Delete Users



Add Users

### User Management (Admin Only)

1. Tap  to edit a user.
2. Tap  to delete the selected user.
3. Tap  to add a user.

## Language Settings



Use the **Language & Input** function to select the default system language used by the tool. User defaults also include Test Results, Email, and Print languages.

### System Language

Select the balancer's default standard language.

### Test Result Language

Select the default language for the balancer to use for all displayed tests and results.

### Email Language

Select the default language for the balancer to use for all messages, tests and results sent via email

### Print Language

Select the default language for the balancer to use for connected printers.

## Display Settings




Adjust the balancer display including the **Brightness**, **Sleep Time**, and **Dim Time**. **Auto Brightness** can also be turned on and off.

### Brightness

Adjust the display brightness by tapping and holding the slider, then moving it right or left to make the screen brighter or darker.

## Test Settings

1. Tap  to access the test setting defaults. Tap the boxes or icons to change the values.

### Temperature units

Choose **Celsius** or **Fahrenheit** as unit of measure.

### Decimal Separator

Default number display using commas or periods separators.

Decimal Separator



00.00

### Buzzer

Check or uncheck the box to enable or disable the buzzer, making a sound when the xMB-9640 needs your attention.

**Date & Time Settings**

1. Tap  to access the Date/Time setting defaults.

|                    |   |
|--------------------|---|
| Select Time Format | 12 Hour   |
| Select Date Format | 10/18/2016  |
| Select Time Zone   | EST   |
| Set Date           |  |
| Set Time           |  |

**Select Time Format**

12 or 24 Hour Format



**Select Date Format**

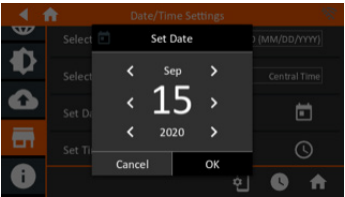
Month/Day/Year, Day/Month/Year or Year/Day/Month

**Select Time Zone**



Time zone in which the balancer will be operated.

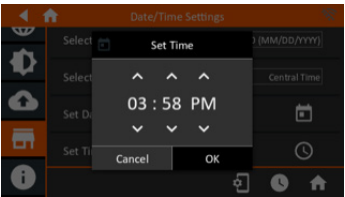
**Set Date**

Tap  or  to enter the month, day, and year. Tap **Set** to save the date or **Cancel** to exit without saving.



**Set Time**

Tap  or  to enter the hours, minutes, and AM/PM. Tap **Set** to save the date or **Cancel** to exit without saving.



2. Tap  to return to the **Shop Information** screen.

Shop information






Edit the information of your workshop.

Version Information



Use **Version Information** to display data for the unit.

|   |                   |   |                   |
|---|-------------------|---|-------------------|
|  | Factory Reset     |  | Check For Updates |
|  | Legal Information |   |                   |
| Serial Number   |                   | 0987654321  |                   |
| Configuration Version   |                   | 192-411340-A00-0039   |                   |
| Data Version  |                   | 192-481341-A01-005  |                   |
| Controller Version  |                   | 192-001339-A00-0039   |                   |
| Diagnostic Device Version   |                   | 192-211379A-25  |                   |
| CVG-2 Device Version  |                   | No Device Configured  |                   |
| OS Version  |                   | dca8000-eng 4.4.2 DEVR10_06   |                   |

Factory Reset

Use this function to return the unit to the original, as built configuration. All test history and test setting preferences will be reset.

**IMPORTANT: All previous modifications to the original settings will be overwritten.**

Legal Information

Displays software attribution information via the Midtronics website. The balancer must be connected to the Internet.

Check for Updates

Use this function to check via the internet connection for any updates to the unit software.



# Patents / Warranty / Service

## PATENTS

This product 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

Midtronics products are warranted to be free of defects in materials and workmanship for a period of two (2) years from date of purchase. Midtronics will, at our option, repair or replace the unit with a re-manufactured unit. This limited warranty applies only to Midtronics products, 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.

## SERVICE

To obtain service, contact the Midtronics office in your region (see address block below). Have your model number and serial numbers at hand. This first step is critical as Midtronics will troubleshoot the problem(s) over the phone, and many problem(s) are resolved during this step. If the problem cannot be resolved, the Customer Service Agent will issue a Return Material Authorization (RMA) number and provide instructions on where to ship your equipment. The RMA number becomes your tracking number when communicating with Midtronics. The final step is to pack the equipment to avoid damage in transit and return the equipment freight prepaid (you pay), to the attention of the RMA number and the address provided by the Customer Service Agent.

Midtronics or it's designee will repair and return the unit using the same shipping service level as received. If it is determined that the failure was caused by misuse, alteration, accident or abnormal condition of operation or handling, purchaser will be billed for the repaired product and it will be returned freight prepaid with the shipping & handling charges added to the invoice. Midtronics' products beyond the warranty period are subject to the repair charges in place at that time. Out-of-warranty repairs carry a 6-month warranty.

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