Release 2.0

MW810
MOBILE WORKSTATION
MODEL F5218
ADMINISTRATOR GUIDE

August 2012

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References

You may need to refer to the documents listed below for further information.

Publication Number	Description
6802983C01	Motorola MW810 Mobile Workstation, Product Safety and RF Exposure for mobile workstation with two-way radios installed in vehicles leaflet (multilingual)
6802988C57	Motorola MW810 Mobile Workstation, R2.0, User Guide
6802988C40	Motorola MW810 Mobile Workstation, R2.0, Quick Reference Guide (multilingual)
6802988C41	Motorola MW810 Mobile Workstation, R2.0, Software Development Kit
6802988C56	Motorola MW810 Mobile Workstation, R2.0, Vehicle Installation Manual

For the latest version of this guide and other MW810 Mobile Workstation manuals go to: www.motorola.com/enterprisemobility/manuals

Internet Web Sites

Motorola Solutions Web site:
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To visit MW810 (for manuals, software and more) website logon to:
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Please note that the Web site location references in this manual are subject to change without notice.

Using this Manual

Who Should Use this Manual

This manual is intended for staff who configure, upgrade or maintain the MW810 R2.0 Mobile Workstation (Model F5218). This manual assumes the reader is familiar with the operation of the R2.0 Mobile Workstation and basic Windows 7 operations.

What is in this Manual

This manual describes the tools and equipment, planning requirements, and product inspections necessary for a smooth installation of the MW810.

Notational Conventions

Throughout this publication, you will notice the use of warnings, cautions, and notes. These notations are used to emphasize that safety hazards exist, and care must be taken.

Do not proceed beyond a WARNING or CAUTION until the indicated conditions are fully understood and met.

Warning

 Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.

Caution

 Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices and property-damage-only accident hazards.

Note

 An operational procedure, practice, condition, etc., which it is essential to emphasize.

Contents

The Motorola MW810 R2.0 Manager program is used to configure the operation of the MW810 Mobile Workstation R2.0.

On your icons tray, tap ⓜ to run the Motorola MW810 R2.0 Manager program.

Information

The Information section provides general hardware and software profile of the MW810 CPU Box and the connected display(s). This information includes versions, identification numbers, type and model numbers that are mainly required for support.

When support is required, use the **Export to File** button to save the information in a text file and email the file to the support center.

CPU Information Screen

The Information tab provides general hardware and software profile of the CPU Box.
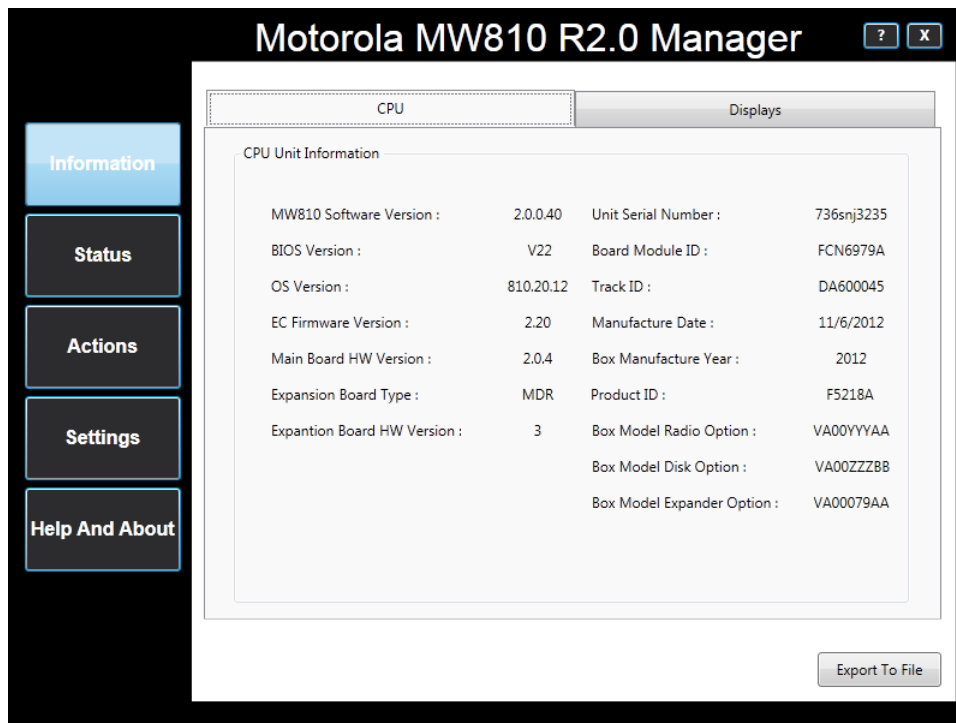

Figure 1 Information Screen - CPU Tab

Display Information Screen

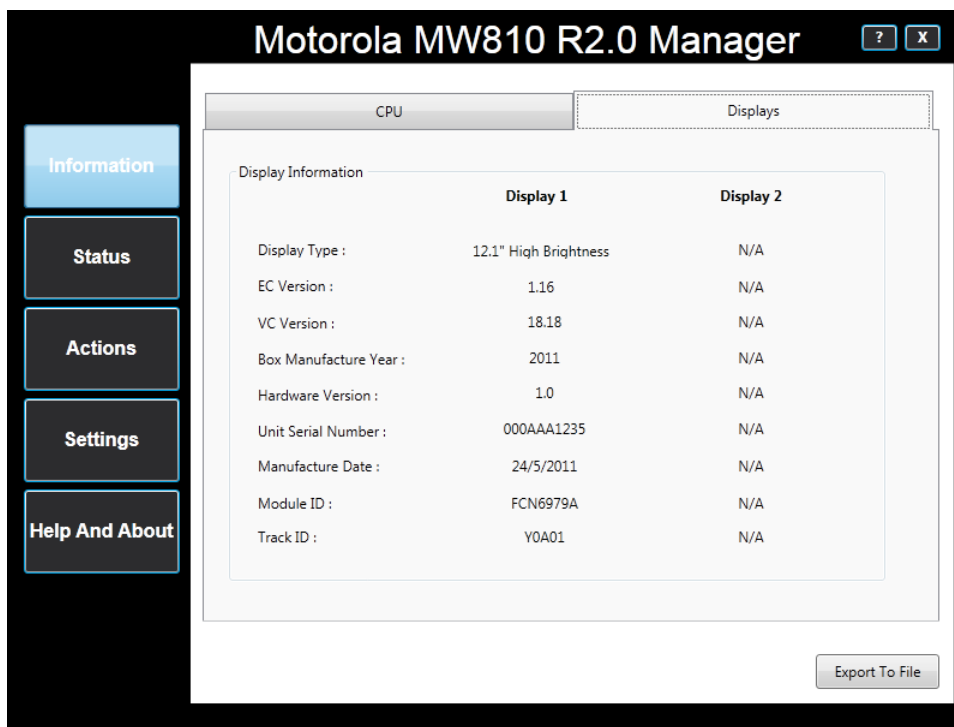The Information tab provides general hardware and software profile of the Display unit.

Figure 2 Information Screen - Display Tab

Status

Hardware Status

The Status section provides real time readings of the power status of radios inside the CPU Box, status of the I/O ports of the CPU Box and on-board sensors of the CPU Box and display(s).

The Status tab information is used for monitoring the performance of the MW810 hardware and for troubleshooting.

Figure 3 Status Screen- Hardware Tab

Event Logger

The Event Logger shows real-time events of the MW810 controls and operations (such as a press of a display key.

The Logger also shows a list of hardware faults, each with a counter that adds whenever a new event is added.

The Event logger is mainly used to identify repeated hardware malfunctions. To make support easy, use the **Save** button to save all information in a text file and email the file to the support center if requested.

Note that records will remain logged as long as the Clear button is not pressed or the MW810 is not restarted.
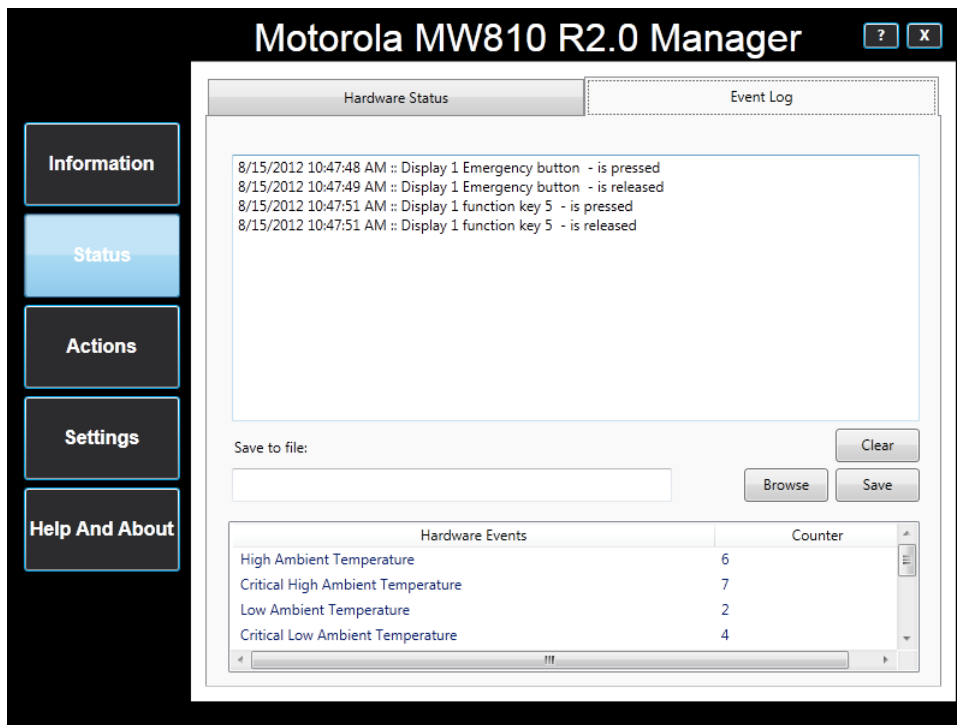
Figure 4 Status Screen - Event Logger Tab

Actions

The Actions section is used for temporary setting of the MW810 Coadplug for testing purposes. Upon the next login session to the MW810, all parameters reset to the initial Codeplug setting used before testing.

The Actions tab is used for:

- Setting the I/O port lines as inputs or outputs.
- Forcing an initial state of High or Low at an I/O port (enables connection flexibility of active high and low input or output devices)
- Turning on or off the radio units inside the CPU Box
- Controlling the display(s) Backlight, Volume
- Turning on or off the Bluetooth radio inside the display.
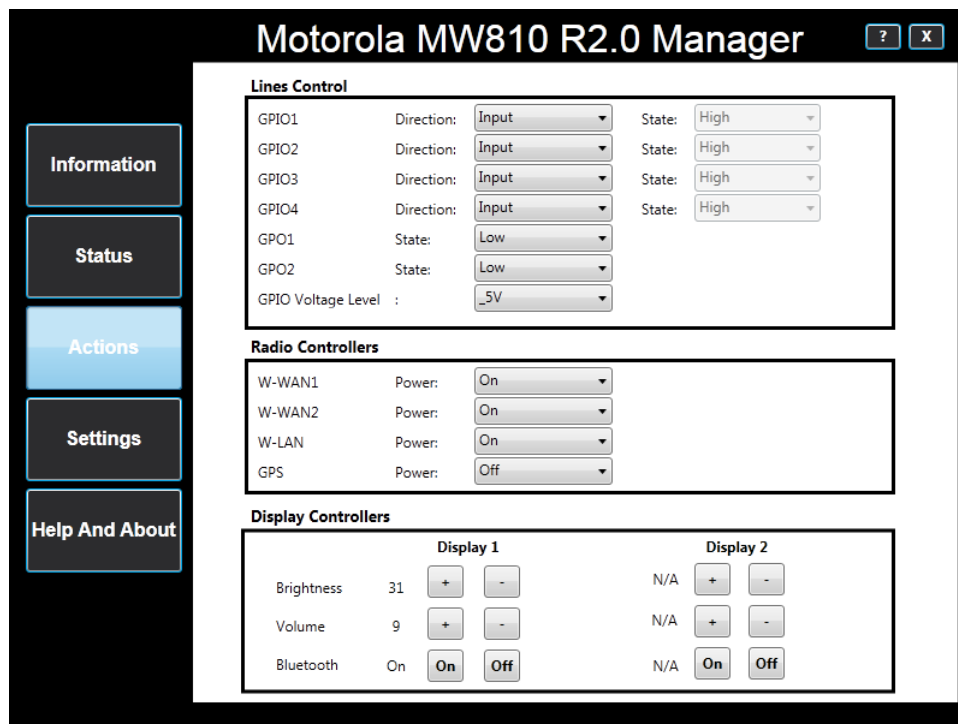
Figure 5 Actions Screen

Settings

CPU Codeplug

The CPU codeplug is a protected memory area used for storing the configuration parameters accessed when you turn on the CPU Box. The binary-format data of the codeplug contains basic information about CPU Box capabilities.

The CPU Codeplug tab enables the administrator to configure various parameters inside the CPU Box, such as: basic operation, inputs and outputs to and from peripheral devices connected to the CPU Box.

To modify the parameters of the CPU codeplug:

Step 1. Tap the **Read from device** button to retrieve the current Codeplug information from the CPU Box. If the codeplug is successfully read, you will see a list of parameters.

> ⚠️ **Caution**
>
> Incorrect codeplug can make the workstation un-operational. Make sure to acquire the appropriate codeplug. Always make a backup copy in case you have made a mistake during the update.

Step 2. Tap the **Save to file** button to backup the original CPU codeplug data.

Step 3. Select and modify the required parameters or tap the **Read from file** button to copy a codeplug from a file.

Step 4. Tap the **Write to device** button to program the CPU Box and wait for a confirmation of successful programming completion.
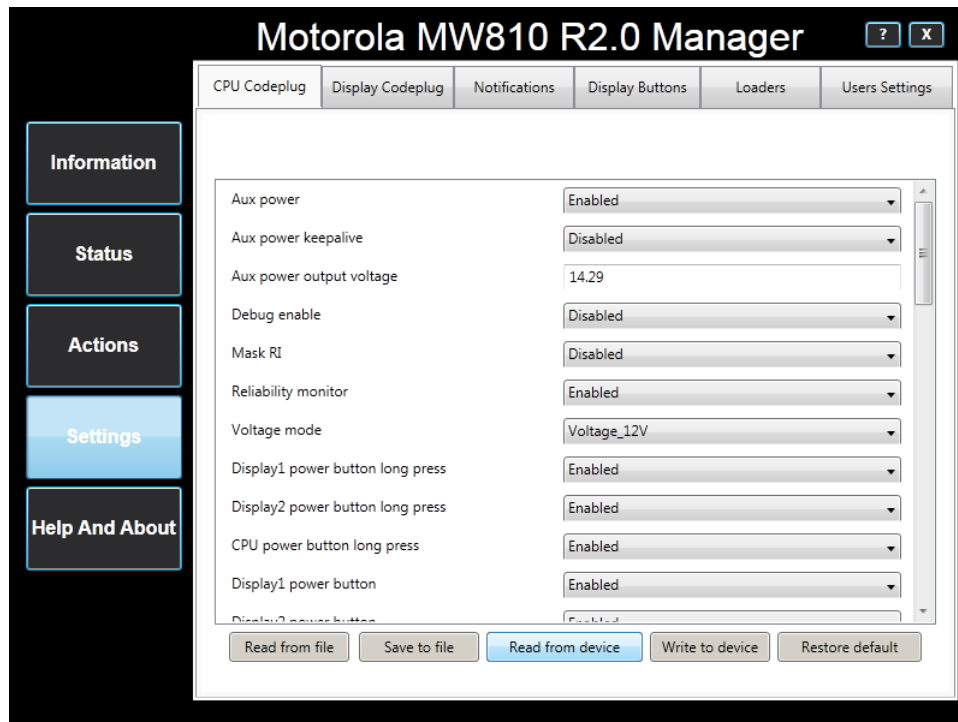
> 📝 **Note**
>
> To return to factory settings of the CPU Codeplug, tap the **Restore default** button.

Figure 6 Settings Screen - CPU Codeplug Tab

Aux power

The CPU Box can serve as a power supply source to auxiliary devices, such as a modem or a router. Use the Aux power option to enable or disable power supply output from the CPU Box. To set the Voltage level of Aux power port, refer to Aux power output voltage. Note that the current limit of the Aux power supply is 1.5 Amp.

Aux power keepalive

The CPU Box can serve as a power supply unit to power auxiliary devices. Use this option to enable the power supply output when the CPU Box is powered off.

Aux power output voltage

The CPU Box can serve as a power supply unit to power auxiliary devices. Use this option to set 5 to 27V at the power supply output of the CPU Box. Default setting is 5V.

Mask RI

Use this option to enable waking-up the MW810 from Standby mode when triggered from one of the serial ports.

Reliability Monitor

Use this option to enable the Reliability Monitor. The Reliability Monitor is a tool for counting hardware and software events in the CPU Box. Log of hardware and software events can be viewed in the Status tab.

Voltage Mode

Use this option to specify the MW810 input Voltage from the vehicle battery (9V, 12V, or 24V).

Display 1 Power button long press

Use this option to enable forced shutdown of the MW810 by holding the Power button of Display 1 pressed for more than 6 seconds. Note that the display may be set to remain turned on after CPU Box shutdown (See "Critical Turn off" on page 12).

Display 2 Power button long press

Use this option to enable forced shutdown of the MW810 by holding the Power button of display 2 pressed for more than 6 seconds.

CPU Power button long press

Use this option to enable forced shutdown of the MW810 by holding the Power button of the CPU Box pressed for more than 6 seconds.

Display 1 Power button

Use this option to enable a graceful shutdown or power up of the MW810 by pressing and releasing the Power button of the display.

Display 2 Power button

Use this option to enable a graceful shutdown or power up of the MW810 by pressing and releasing the Power button of the display.

CPU Power button

Use this option to enable a graceful shutdown or power up of the MW810 by pressing and releasing the Power button of the CPU Box.

CPU reboot on ignition on

Use this option to allow the system to be shut down while the ignition switch is on (default); when disable the system will be shut down regardless ignition state, to power on the unit again the ignition should be turned off and on again.

Ignition off preference

Use this option to set a way of turning off the MW810.

- SystemDown: Turns off the MW810 when the ignition switch is turned off.
- SystemSuspend: Force Suspend mode when the ignition switch is turned off.
- Nothing: Ignores the ignition switch operation

Ignition on preference

Use this option to set a way to turn on the MW810.

- Nothing: Ignores turning the ignition switch on.
- SystemOn: Turns on if CPU is off; ignore if CPU is already on.
- SystemResume: Wakes up the CPU from standby mode; ignore if the CPU is already active.
- MixedMode: Wakes up if the CPU is in Suspend mode. Turns on if the CPU is off.
- IgnitionConstrained: Blocks the operation of the Power button until the ignition switch is turned on.

Ignition graceful shutdown time

Use this option to set shutdown duration to the MW810 when the ignition switch is turned off.

Ignition graceful shutdown time units

Use this option to set the time units (seconds /minutes) to the MW810 shutdown time when the ignition switch is turned off (See "Ignition graceful shutdown time" on page 8).

Ignition forced shutdown time

Use this option to set the time from turning the ignition switch to Off position to MW810 shutdown. This option is only available when "Ignition off preference" option is set to "SystemDown".

Ignition forced shutdown time units

Use this option to set the time units (seconds /minutes) to the MW810 shutdown time when the ignition switch is turned off (See"Ignition forced shutdown time" on page 8).

GPS

Use this option to specify the on/off power state of the GPS receiver following MW810 power up.

GPIO1 direction

Use this option to set GPIO1 port in the AUX connector of the CPU Box as an input or output.

GPIO2 direction

Use this option to set GPIO2 port in the AUX connector of the CPU Box as an input or output.

GPIO3 direction

Use this option to set GPIO3 port in the AUX connector of the CPU Box as an input or output.

GPIO4 direction

Use this option to set GPIO4 port in the AUX connector of the CPU Box as an input or output.

GPO1

Use this option to enable General Purpose Output 1in the AUX connector of the CPU Box.

GPO2

Use this option to enable General Purpose Output 2 in the AUX connector of the CPU Box.

GPIO1 wake up

Use this option to enable the CPU Box to wake up from Standby mode upon change of input state on the GPIO1 port. This option is only affective if GPIO1 is set as an input port.

GPIO2 wake up

Use this option to enable the CPU Box to wake up from Standby mode upon change of input state on the GPIO2 port. This option is only affective if GPIO2 is set as an input port.

GPIO3 wake up

Use this option to enable the CPU Box to wake up from Standby mode upon change of input state on the GPIO3 port. This option is only affective if GPIO3 is set as an input port.

GPIO4 wake up

Use this option to enable the CPU Box to wake up from Standby mode upon change of input state on the GPIO4 port. This option is only affective if GPIO4 is set as an input port.

GPIO1 initial state

Use this option to set high or low output level at the GPIO1 port after MW810 power up.

GPIO2 initial state

Use this option to set high or low output level at the GPIO1 port after MW810 power up.

GPIO3 initial state

Use this option to setup the GPIO3 port level to high or low after power up.

GPIO4 initial state

Use this option to setup the GPIO3 port level to high or low after power up

GPIO output voltage

Use this option to define the output Voltage at all GPIO ports (5V/Main Battery-vehicle battery/Auxiliary output - 5 to 27V).

GPIO1 debounce timeout

Use this option to set an input delay to overcome bouncing effects of an input device connected to GPIO1.

GPIO2 debounce timeout

Use this option to set an input delay to overcome bouncing effects of an input device connected to GPIO2.

GPIO3 debounce timeout

Use this option to set an input delay to overcome bouncing effects of an input device connected to GPIO3.

GPIO4 debounce timeout

Use this option to set an input delay to overcome bouncing effects of an input device connected to GPIO4.

Hard disk monitoring time

In extremely cold temperatures, the mechanical hard disk drive of the CPU Box requires continuous heating to enable immediate power up. When shutting down in cold conditions, getting the hard disk back to operate may take some time. Use this option to set a monitoring time for keeping the hard disk heated after shutdown in order to instantly resuming operation when powering up. (Default setting is 16 hours)

Hard disk monitoring time units

Use this option to set the time units of the time required to keep the hard disk heated when the CPU Box is turned off.

Display Codeplug

Configure basic parameters of the display such as: basic operation, power modes and other general settings.
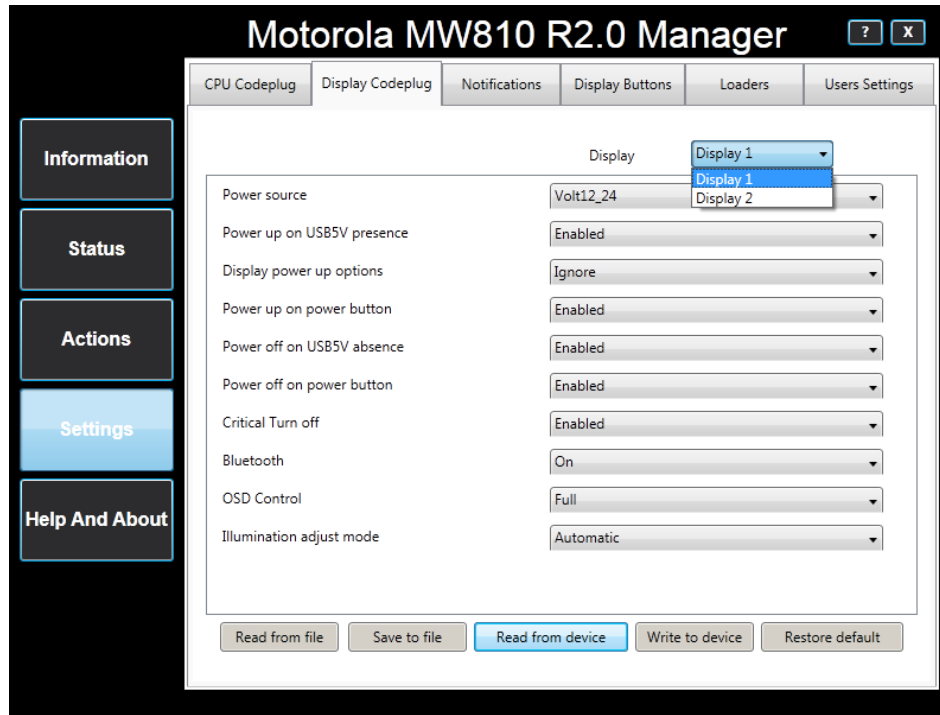
Figure 7 Settings Screen - Display Codeplug Tab

Power source

Use this option to specify the Voltage of the vehicle battery (9V or 12/24V).

Power up on USB5V

Use this option to enable automatic turn on of the display when a USB5V signal is received from the CPU Box. When using a 3rd party CPU Box with MW810 display, 5Vpower signal from a USB port of the CPU Box (via extension cable) is used to turn the display on and off.

Display power up options

Use this option Provide several options to power on the display while the CPU is off.

• TURN ON - Power on and wait for the CPU power up without any time limitation.

• IGNORE - Do not power on if the CPU is Off.

• WAIT - Power on and wait up to 10 seconds for any CPU power up trigger.

Power up on Power button

Use this option to enable turning on the display and CPU Box by using the Power Button on CPU or Display units.

Power off on USB5V absence

Use this option to enable an automatic turn off of the display when a USB5V signal from the CPU Box is removed. When using a 3rd party CPU Box with MW810 display, 5Vpower signal from a USB port of the CPU Box (via extension cable) is used to turn the display on and off.

Power off on Power button

Use this option to enable turning off the display and CPU Box by pressing the Power button on CPU or Display units.

Critical Turn off

Use this option to enable turning off the display by pressing and holding the Power button for at least 6 seconds.

Bluetooth

Use this option to set On or Off the Bluetooth radio, inside the display, after display power up.

OSD Control

Use this option to set full mode or limited mode on the On Screen Display (OSD) menu. The OSD menu is used to adjust the display features. The OSD menu is superimposed on the screen when rotary knob on the 12.1" is pressed. When the OSD is set to limited mode, only Brightness and Volume can be adjusted by the user.

Illumination adjust mode

Use this option to set the illumination of the function keys, function key labels and the emergency button on the display.

• Manual: Changing the illumination level for the screen does not affect the level of illumination of the function keys, function key labels and the emergency button.

• Automatic: when the display brightness is manually changed, the display automatically changes the illumination level of the function keys, function key labels and the emergency button.

Notifications

Use this tab to enable on-screen notifications of events and extreme conditions of the CPU and Display units.
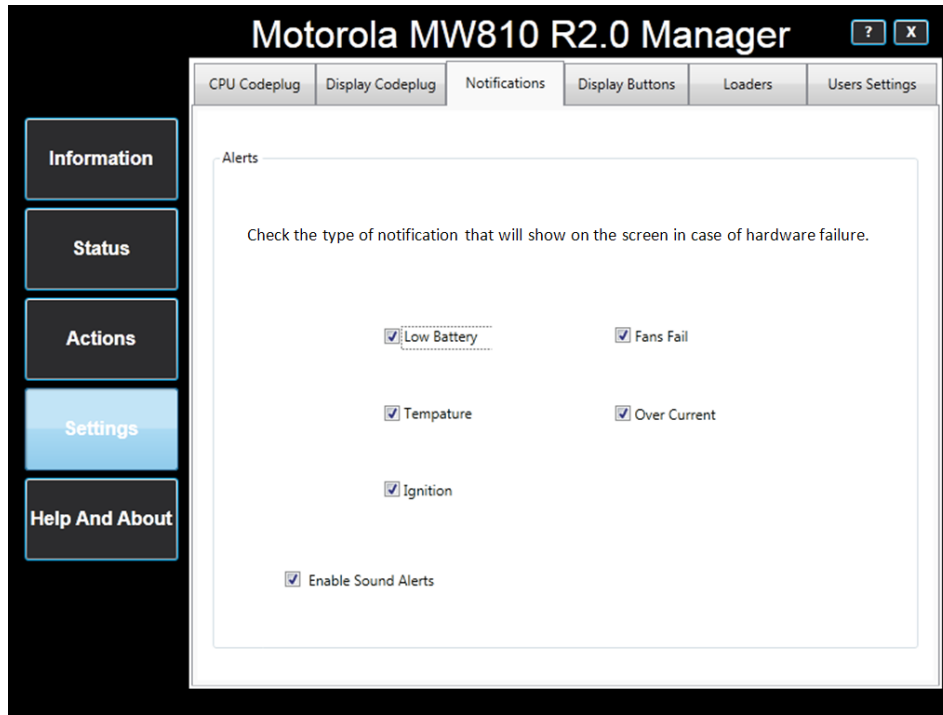

Figure 8 Settings Screen - Notifications Tab

Low Battery

Use this option to enable Low Battery warning message if during normal operation, the battery Voltage is low or battery Voltage is below cranking threshold.

If, during normal operation, the battery voltage drops below the Low Battery Threshold, the display will provide the low car battery indication. If the Voltage continues to drop, the device automatically powers off at the Critically Low Battery Limit.

If battery voltage falls below the battery cranking threshold for 20 seconds or more, the workstation will execute critical shut down and power itself off.

Temperature

Use this option to enable high or low temperature warning if during operation the MW810 temperature is close to the low or high limits.

The CPU hard drive is equipped with the heater that allows the hard disk to work in low temperature. The CPU automatically controls the heater and turns it on and off depending on the temperature in the HDD compartment.

When the ambient temperature drops below the low hard disk operational limit, an internal heater will automatically adjust and maintain the working conditions for a pre-defined time.

• If the CPU Box is turned on when hard disk heating when device is off time-out has not expired yet and the hard disk temperature is within the operating range, the CPU will boot up immediately.

• If the CPU Box is turned on when hard disk heating when device is off time-out has been expired and the hard disk temperature is below the low hard disk operational limit, the CPU will activate the internal heater and will boot up only when the hard disk temperature returns to the operating range. The heating process takes some time - please wait until this process is completed.

Ignition

Use this option to enable Ignition Off warning if the ignition switch is turned off.

Fans Fail

Use this option to enable Fans Fail warning if the cooling fans of the CPU Box malfunction or jam.

Over current

Use this option to enable Over Current warning if the current drain of the CPU Box exceeds a critical threshold. The Over Current warning will be followed by critical shut down of the MW810.

Display Buttons

Use this tab to assign an operation to each of the display Function keys and Emergency button.
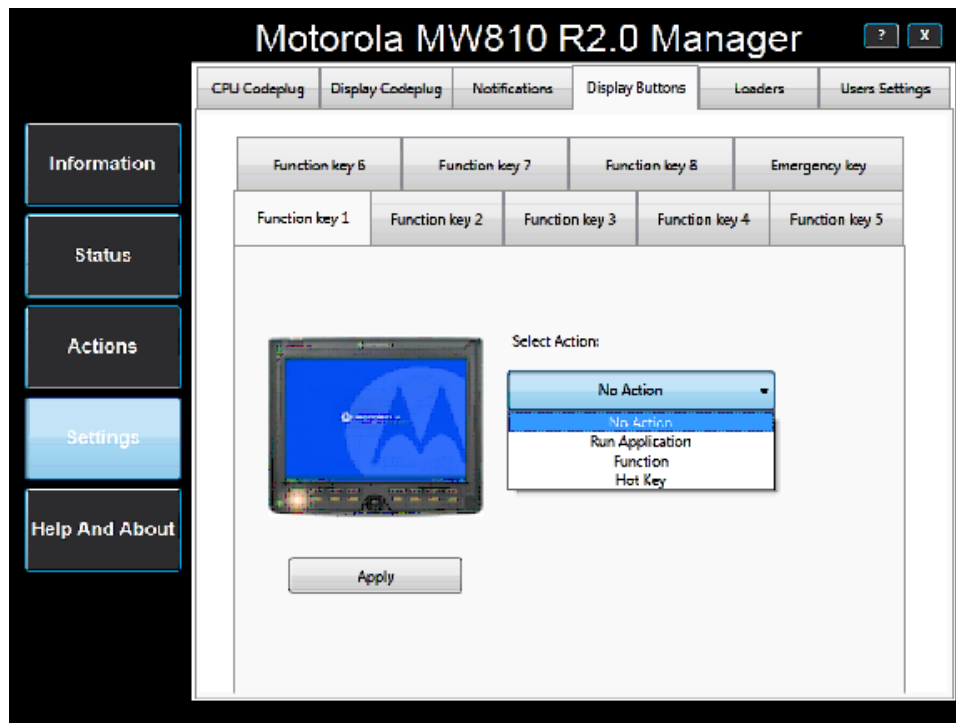

Figure 9 Settings Screen - Display Buttons Tab

Select Action

Use the Select Action tab to customize the operation of the Function keys and the Emergency button of the display.

- No Action: Select No Action to keep the Function key non operational.
- Run Application: Map the display Function key to an execution file. Use the Browse button to navigate to the file.
- Function: Assign a function from the "elect function" drop list to the Function key and Emergency button of the display.
- Hot Key: Assign any MW810 keyboard key or combination of keys (such as: F1, Ctrl + X, etc.) to a Function key of the display.

Select function

Use the Select function drop list to set a specific task to a Function.

- Sleep: Assigns the Function key to request windows to enter to Sleep (Suspend) state.
- Shutdown: Assigns the Function key to
- Shutdown state.
- Hibernate: Assigns the Function key to Hibernate state.
- Mute: Assigns the Function key to mute a selected display speaker.
- Volume Up: Assigns the Function key as a Volume Up button of a selected display.
- Volume Down: Assigns the Function key as a Volume Down button of a selected display.
- Blackout: Assigns the Function key to toggle all display lights including the LCD and emergency LED. Power button light level will set to minimum level.
- Night mode: Assigns the Function key to Night mode. In Night. The display colors inverted to allow better visibility at darkness. (this mode does not change the brightness level).

Loaders

The Loaders tab enables to update the firmware of the embedded controllers of the CPU Box (CPU embedded controller) and the Display (Display Embedded or Video controller).

To update the firmware of the embedded controllers:

1. Use the Choose Loader drop list to select the embedded controller that requires an update.
1. If display or video embedded controllers are selected; use the **Choose display** drop list to select the display that requires an upgrade.
2. Use the **Browse** button to select the new firmware file.
3. Check **Overwrite Codeplug** to overwrite the currently used codeplug and replace it with a factory default codeplug.

User Settings

This tab shows the GPIO and Radio setting of the MW810 as customized by the currently logged in user. Use the drop lists and tap Save to change the settings. The MW810 will use the saved user settings whenever the user logs in again to the MW810.

Use the Restore Default button to set factory defaults.

Help and About

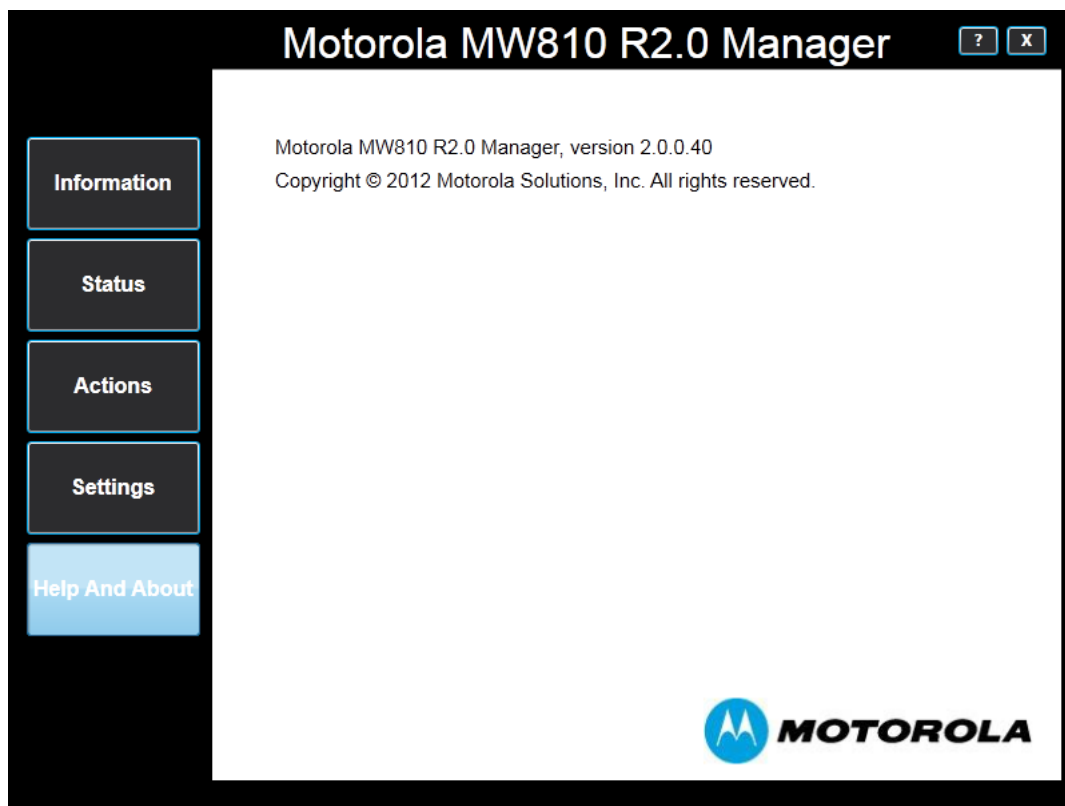The Help and About screen shows the copyright and version of the Motorola MW810 R2.0 Manager program.

Figure 10 Help And About Screen

BIOS Setup

The BIOS is stored on a Flash chip on the motherboard initializing the CPU Box prior to the start of the operating system. The BIOS parameters define the CPU system functions and the hardware configuration.

Settings in BIOS Setup

When you restart the CPU, the M-logo display briefly appears on the screen. To enter the BIOS Setup, press the DEL key when this display appears. If a password has been assigned, type the password and press the Enter key.

The BIOS Setup Utility that enables the selection and modification of different BIOS setup

parameters and contains the menus as shown next:

- Main: for system information and time/date settings
- Boot: for configuring the boot sequence
- Security: for password and TCG settings functions
- Exit: to save and exit the BIOS Setup

Note If you have forgotten the password, contact your system administrator.

Operating BIOS Setup

Available BIOS menus are shown at the top of the BIOS window. Use the arrow keys to navigate between menu items.

Available menu parameters are shown in the left-hand window of the BIOS. The description of the individual settings is shown in the upper right-hand window of the BIOS. The description of the navigation through the BIOS and selecting the menu or parameter you wish to access to make changes is shown in the bottom right-hand window.

If you need to display help on the operation of BIOS Setup - press the F1 key.

Caution Be aware, incorrect BIOS configuration can make the device unworkable.

Exiting BIOS Setup

To exit BIOS Setup, select the Exit menu from the menu bar. You can then decide which settings you want to save. The Exit menu offers the following options:

Save Changes and Exit - Exit the BIOS setup after saving the changes

- Discard Changes and Exit - Exit the BIOS setup without saving of any the change
- Save Changes - Save changes done so far to any of setup options
- Discard Changes - Discard changes done so far to any of setup options.

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Security and Password Protection

Trusted Platform Module

The CPU firmware meets compliance requirements for the Trusted Platform Module (TPM) 1.2 specification. TPM 1.2 is an essential level of compliance for secure start of Windows 7 operating systems. When the TPM is enabled, the CPU will ensure that unauthorized code cannot invade a device in its boot process.

To use the TPM, you must be sure to activate the TPM in the BIOS Setup. The condition for this is that you have entered at least the administrator's password.

- Call BIOS Setup and select the Security menu
- Select the entry TRUSTED COMPUTING item and press the Enter key
- Select desired TPM STATE option

TPM is functional when TPM STATE = ENABLED. Disabled TPM is not able to execute commands that use the resources of a TPM. TPM is not able to load keys and perform other operations. Even if a disabled TPM has a TPM Owner, it is not able to execute normal TPM commands.

If you have activated the TPM, the menu item PENDING TPM OPERATION will schedule the TPM operations as follows:

- NONE - no operation is pending
- ENABLE TAKE OWNERSHIP - when TPM enabled but without an owner this command allows the ability to take ownership.
- DISABLE TAKE OWNERSHIP - when TPM enabled but without an owner this command disallows the ability to take ownership.
- TPM CLEAR - returns the TPM to factory defaults.

When the TPM is activated, it initially takes control of the CPU during each start-up to check

all hardware components and the BIOS Setup for trustworthiness. In the further course of operation, the TPM checks the operating system, certain drivers and applications. If a component does not have a valid certificate, the TPM refuses this component access to protected content.

For example, with the TPM activated, data can be generated which can only be read or run on this device.

Password Protection in BIOS Setup

You can prevent unauthorized opening of the BIOS Setup with both the administrator's and the user's password.

- If only the administrator password is set, then this only limits access to setup and is only asked for when entering the BIOS Setup

- If only the user's password is set, then this is a power on password and must be entered to boot or enter the BIOS Setup. In Setup the user will have administrator rights. Note the following before using the password protection for your data security in the BIOS Setup:

Please remember your passwords in either case, as you will not be able to access your BIOS Setup and/or your system any longer, if you forget both the user's and the administrator's passwords. Passwords are not covered by your warranty and a charge will be made for assistance.

Passwords can be up to eight characters long. You can use all alphanumeric characters and need not distinguish between uppercase and lowercase characters.

Set the supervisor and user password

To assign the administrator's password do as follows:

- Call the BIOS setup and select the Security menu
- Mark the Administrator Password field and press the Enter key
- Enter the password in the Create new Password field and press the Enter key
- Confirm the new password when it is requested
- Enter the password again and press the Enter key
- Exit the BIOS setup after saving the changes

To assign the user's password do as follows:

- Call BIOS setup and select the Security menu
- Mark the User Password field and proceed exactly as when configuring the supervisor password.
- Exit the BIOS setup after saving the changes

Changing administrator's or user's password

- Call the BIOS setup and select the Security menu
- When changing the password, proceed exactly as for password assignment
- You can only change the administrator's password when you have logged in with the administrator rights and the user's password when you have logged in with the user rights Cancelling passwords

To cancel passwords proceed as follows:

- Call the BIOS setup and select the Security menu
- Mark the Administrator Password or the User Password field and press the Enter key
- With Create New Password you will then be asked to enter a password
- Press the Enter key twice
- Exit the BIOS setup after saving the changes

Remote Monitoring and Protection

The MW810 Mobile Workstation complies with Intel® vPro™ Technology.

vPro Technology is a comprehensive suite of a built-in security solution (embedded in the MW810 hardware) that protects against rootkit attacks, security breaches and threats. vPro also enables wired or wireless IT support to ensure seamless connectivity.

vPro includes the following IT capabilities:

• Remote and local monitoring for support, update and repair of the workstation

• Identity and web site access point protection

• Data protection

• Threat management

vPro program requires a setup and configuration by using the Intel vPro Configuration Software tool.

On the MW810 keyboard, press **Ctrl** + **P** to enter Intel vPro Configuration Software tool.

To learn more about Intel® vPro™ setup and configuration, refer to:

http://www.intel.com/content/www/us/en/architecture-and-technology/vpro/vpro-technology-general.html

Authentication and Password

Intel vPro technology provides several critical built-in defenses, including:

• An embedded one-time password for secure VPN and web site access and seamless user authentication.

• Embedded public key infrastructure (PKI) firmware authentication of users and servers.

Protection of Information

As the use of cloud computing and the number of MW810 Mobile Workstations to prevent data loss. vPro ensures that data is protected with a unique computer-generated token if the computer is lost or stolen. This technology allows IT to remotely lock down the computer, protecting both the user's identity and sensitive data.

Respond to Security Breaches

The vPro technology capabilities are accessed and administered separately from the hard drive, OS, and software applications in a pre-boot environment. This makes management less susceptible to issues affecting these areas and allows remote access to the workstation, regardless of the system's power state or OS condition.

This technology:

- Allows IT technicians to quickly deploy security patches across workstations, remotely unlock encrypted drives, and manage data security settings.
- Gives IT help desk personnel complete control over a platform with features like KVM Remote Control with support for three simultaneous display configurations, 27 additional languages, and enhanced mouse improvements across multiple screens
- Enables IT to remotely diagnose, isolate, and repair infected platforms after a security breach occurs.
- Facilitate remote management of platform applications, even when the platform is turned off, as long as the platform is connected to a power.

The Connection Manager is a software utility that connects the WWAN radios of the MW810 Mobile Workstation to carrier network(s).

The Connection Manager is set to start automatically whenever the MW810 starts and read connection information from the SIM Card(s) of the radio(s).

The Connection Manager can also be manually launched from the desktop of the MW810 or from the icon tray.

Typically, no interaction between user and Connection Manager is required, unless a user authentication login process is part of the preset configuration.

Main Window
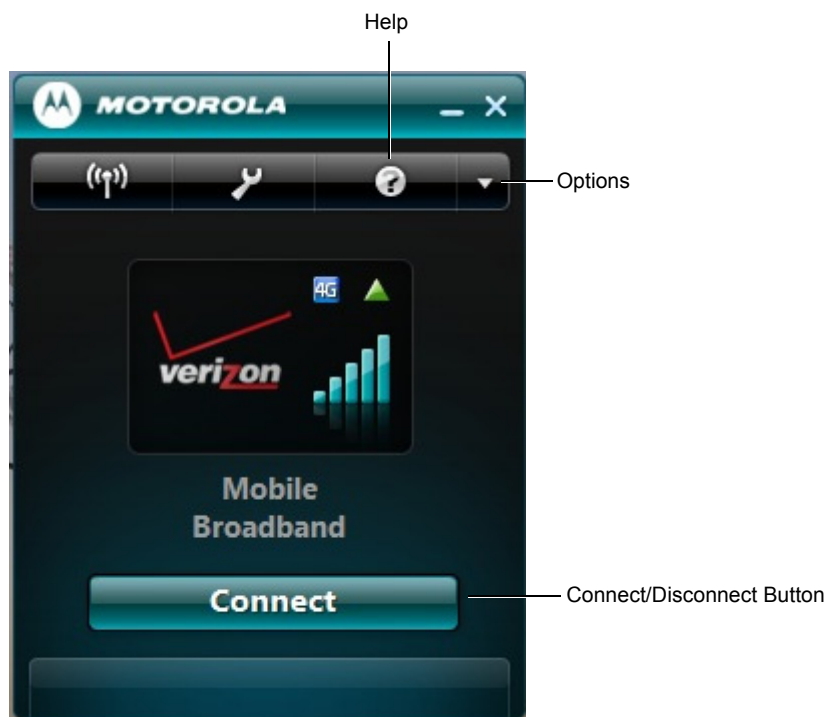
Figure 11 Connection Manager - Main Window

The Main Window shows connection information and icons related to the currently active connection.

The Main Window of the Connection Manager includes the following buttons:

Connect/Disconnect

To manually start the connection status, press the **Connect**/**Disconnect** button and follow the instructions shown on the screen.

The button is set to **Connect** if currently there are no active connections.

Pressing **Connect** will start the connection action.

The button is set to **Disconnect** when connection is active (connected). Pressing **Disconnect** will remove the connection.

Status area contains statistics of the current visible connection and shows notifications if any. If no connection is found, notifications are shown at the center of the main window.

Options

Press the Options button enables the following application options:

- Run Connection Manager when starting computer check box enables/disables the option to run Connection Manager application when the system starts.

- Show main window when Connection Manager starts check box enables/disables the option to show Main Window when Connection Manager runs. If this option is disabled Connection Manager remains minimized to tray after startup.

- Connect automatically check box enables/disables the auto connect action.

- Turn the WWAN radios On/Off.

Display Adjustment

Display performance can vary due to the graphics card, host computer, lighting conditions and other environmental factors. In order to get the best image on a monitor, some adjustments may be required.

The MW810 display provides three options for image adjustment:

• Proper setting of the timing mode (refresh rate and resolution)

• Embedded On-Screen Display control

• Windows On-Screen Display application

Setting the Timing Mode

Set proper video adapter timing mode to maximize the quality of the screen image. The timing mode consists of the Resolution and Refresh Rate.

Set the screen resolution in Display Properties as follows: click the right mouse button at desktop and select **Properties > Settings**. Select recommended resolution using the Screen Resolution slider.

Set the screen refresh rate in Display Properties as follows: click the right mouse button at desktop and select **Properties > Settings > Advanced > Monitor**. Select recommended refresh rate in the Screen Refresh Rate field.

If after setting of the video adapter timing mode the quality of the screen image needs to be improved, use Embedded or Windows On-Screen Display controls to adjust the screen image.

Embedded On-Screen Control for 12.1" Display

On-Screen Display (OSD) is a control panel, shown on the 12.1" Display screen.

To pop-up the panel on the screen, press once on the rotary knob and scroll the knob to select the OSD menu item.
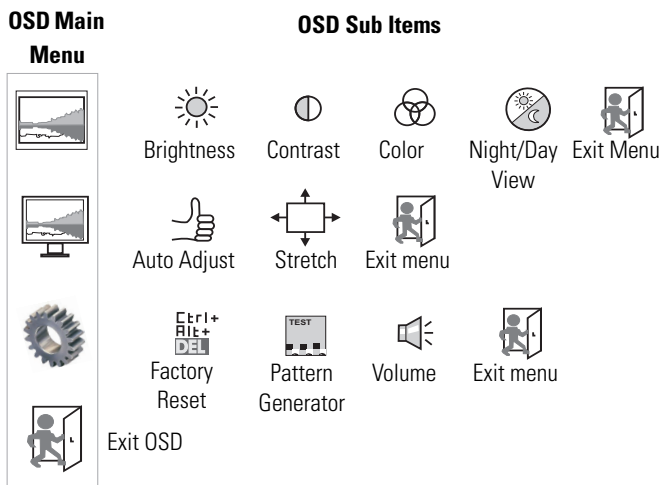
The OSD enables to adjust the following:

• Brightness

• Contrast

• Color

• Night/Day View

• Volume

When RGB display is connected, the following menu items are available:

• Auto Adjustment

• Stretch (horizontal and vertical adjustment)

To pop-up the OSD menu on the screen, press once on the rotary knob. To select an item, scroll to an item and press on the knob.

OSD Main Menu   **OSD Sub Items**

Brightness   Contrast   Color   Night/Day View   Exit Menu

Auto Adjust   Stretch   Exit menu

Factory Reset   Pattern Generator   Volume   Exit menu

Exit OSD

Recovery of Pre-Installed Software

If you have experienced problems that came after new software installation or the operating system cannot start, you may need to recover from problems.

This section provides a view of general maintenance and recovery techniques.

Motorola provides with your computer a recovery solution that allows reinstallation of the complete Windows operating system, device drivers, applications, and parameters similar to the default factory settings.

System Recovery Options

The System Recovery Options Menu contains several tools that can help you recover Windows from a serious error.

To enter the System Recovery Options Menu, press and release the F9 key on your keyboard.
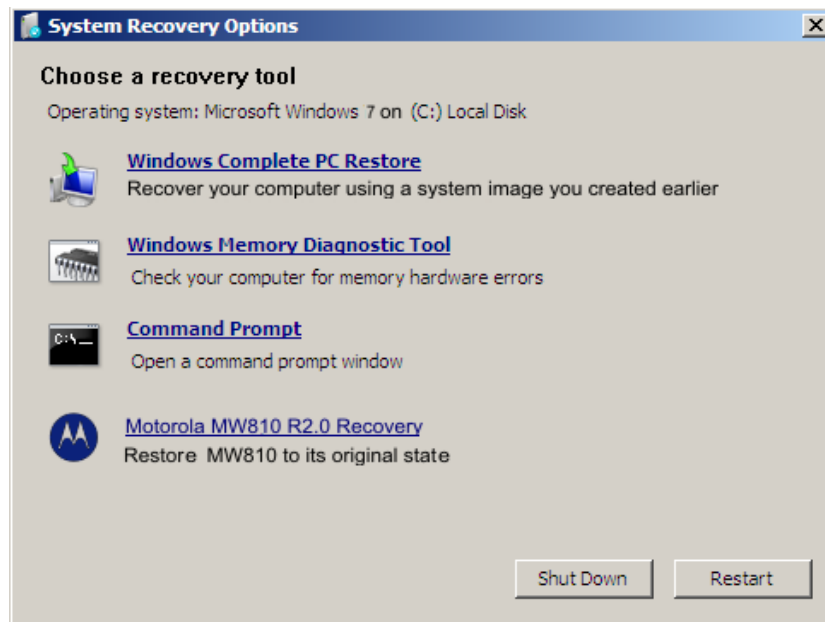
Figure 12 System Recovery Options Menu

Windows Compleate PC Restore

Restores your computer's system files to an earlier point in time without affecting files such as e-mail, documents, or photos.

Note	If you use **Windows Compleate PC Restore** from the System Recovery Options Menu, you cannot undo the restore operation. However, you can run this operation again and choose a different restore point, if one exists.

Windows Memory Diagnostic Tool

This operation scans the computer's memory for errors.

Command Prompt

Advanced users can use Command Prompt to perform recovery-related operations and also run other command line tools for diagnosing and troubleshooting problems.
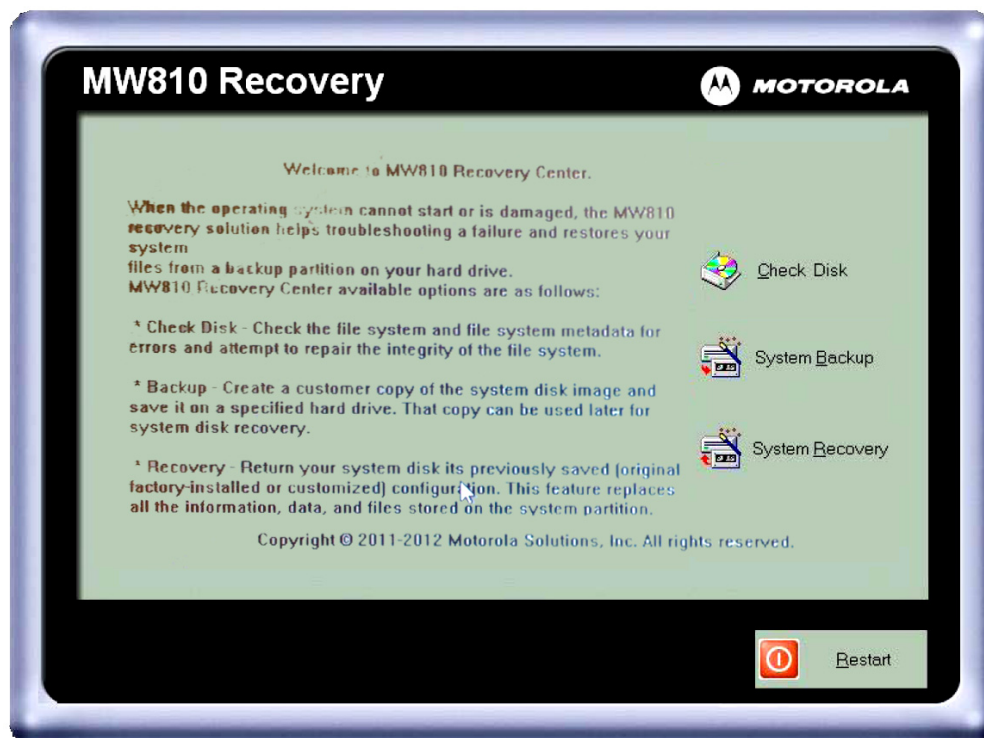
Motorola MW810 R2.0 Recovery

Figure 13 MW810 Recovery Screen

The Motorola MW810 R2.0 Recovery option offers the following recovery operations:

Check Disk

The Check Disk operation scans the integrity of the file system and attempts to repair metadata errors in the file system.

System Backup

The System Backup operation creates a copy of the system disk image and saves it on a specified hard drive. The saved system disk image can be used later to recover the workstation in case of malfunction.

It is recommended to create system disk image on an external storage device that can connect to one of the USB ports of the CPU Box.

System Recovery

This operation returns your system disk to previously saved (either original factory installed or customized) configuration. That operation replaces all the information, data, and files stored on the system partition. You need to have created a system image before hand to use this option.

Hard Drive Replacement

If your hard disk data is completely damaged and none of the mentioned procedures is effective, replace the hard disk (See Motorola MW810 Mobile Workstation, R2.0, Vehicle Installation Manual P/N 6802988C56.

Also you can install the operating system from supplied recovery DVD. Be aware, the installation from the recovery media may require further activation of the operating system.

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The MW810 supports the following backward compatibility configurations of connecting MW810 R1.2 to R2.0 components. Each configuration requires performing a different software installation procedure.

The MW810 R2.0 Manager and the R1.2 configuration tools supports all combinations of CPUs and Displays. When using the MW810 R2.0 Manager, disable all hardware alerts to avoid duplicate alerts.

Note

When simultaneously connected to two displays, the MW810 R2.0 CPU Box can only support two displays from the same release.

When MW810 R2.0 CPU Box is connected to a MW810 R1.2 Display perform the following steps:

Step 1. Fully uninstall MW810 2.0 Framework (MOTEC).

Step 2. Install the "CPU only" option from MW810 2.0 Framework.

Step 3. Install "Display only" option from MW810 R1.2 Utilities version 3.32.

When MW810 R1.2 CPU Box is connected to a MW810 R2.0 Display perform the following steps:

Step 1. Fully uninstall the existing version of MW810 R1.2 Utilities.

Step 2. Install TI driver version 6.5.9018.1 (for MW display hardware).

Step 3. Install "CPU only" option from MW810 R1.2 Utilities version 3.32. After installation, if the CPU Box does not connect to a network manually, install .NET 4.0 Framework.

Step 4. Install "Display only" option from MW810 2.0 Framework.

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Software Drivers

Generally, the drivers and the configuration utility are already pre-installed. If the drivers and the tools have not yet been installed, you can find the install package in the Dustup folder of the original MW810 operating system image.

MW810 CPU Box

BIOS

Version location
https://compass.motorolasolutions.com/cgi/go/427388102

CEC

Version location
https://compass.motorolasolutions.com/cgi/go/427388102

Operating System Image 32/64 Bit

Software Component	Location
Intel HD Graphics 4000 Display Adapter driver	Part of OS
Sierra Wireless radio WWAN Network Adapter (MC7750) driver	https://compass.motorolasolutions.com/cgi/go/427388102
Intel LAN driver	Part of OS
Intel 7 Series/C216 Chipset driver	Part of OS
Motorola Connection Manager	https://compass.motorolasolutions.com/cgi/go/427388102
Motorola TouchScreen package	Part of OS
Intel WLAN driver	Part of OS
MW810 Software Framework (including MW810 Manager)	Part of OS
Intel Platform Information Tool (PIT)	Development tool, not part of the image
Broadcom Bluetooth Driver	https://compass.motorolasolutions.com/cgi/go/427388102
USB display port (TI)	Part of OS
Intel USB 3.0 drivers	Part of OS
Intel AMT/ME drivers	Part of OS
Intel Rapid Storage Driver	Part of OS
PLX (ALPR driver)	https://compass.motorolasolutions.com/cgi/go/427388102

MW810 Displays

Software Component	Location
Display Embedded Controller	https://compass.motorolasolutions.com/cgi/go/427388102
Video Controller	https://compass.motorolasolutions.com/cgi/go/427388102

Acronyms

A	Ampere
ACK	Positive (Acknowledgment)
ALPR	Automatic License Plate Recognition
AUX	Auxiliary
CPU	Central Processing Unit
CVBS	Composite Video Blanking and Sync
DC	Direct Current
DRAM	Dynamic Random Access Memory
DVI	Digital Video Interface
eSATA	External Serial Advanced Technology Attachment
FCC	Federal Communications Commission
GHz	GigaHertz
GPIO	General Purpose Input/Output
GPRS	General Packet Radio Service
GPS	Global Positioning System
I/O	Input/Output
LAN	Local Area Network
LCD	Liquid Crystal Display
LP	Liquid Propane
LTE	Long Term Evolution
MB	Megabyte
MDR	Mini D Ribbon
MW	Mobile Workstation
NIT	Near Infrared Transmission (also cd/m2, a measure of luminance)

NTSC	National Television System Committee
OS	Operating System
PA	Power Amplifier
PAL	Phase Alternation Line
PC	Personal Computer
PCMCIA	Personal Computer Memory Card International Association
PCI	Peripheral Component Interconnect
PRM	Portable Radio Modem
PWR	Power
RF	Radio Frequency
RFI	Radio Frequency Interference
SIM	Subscriber Identity Module
TTL	Transistor-Transistor Logic
UHF	Ultra High Frequency
UL	Underwriter's Laboratories
USB	Universal Serial Bus
V	Volt
VDC	Volts Direct Current
WLAN	Wireless Local Area Network
WWAN	Wireless Wide Area Network
XGA	Extended Video Graphics Array

Support Information

If you are in North America and require further technical support, you may call the Motorola Solutions System Support Center (SSC) at 1-800 221-7144 and choose the options for Technical Support on Data products.
For Europe, the Middle East and Africa, call +420 533 336 123.
Please be prepared to provide your unit model and serial number or Factory Order number for warranty entitlement verification purposes.

For your convenience, the Motorola Solutions website provides up-to-date information about the MW810.

To visit MW810 website logon to
: http://www.motorola.com/MW810

For MW810 manuals logon to:
www.motorola.com/enterprisemobility/manuals

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