



M310 Reference Guide

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M310 Reference Guide

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The M310 product is powered by Microsoft Window Embedded CE 6.0 Software.

Reference Guide

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1.0 Introduction

The M310 introduces a new performance standard for portable ID Card reading. The M310 reads one and two dimensional (PDF 417) barcodes and 3 Track Magnetic Stripes. A powerful 32 bit processor running Windows CE 6.0 provides fast and efficient application software development and execution.

The M310 also incorporates a 16.7 millions color TFT with touch screen LCD display along with USB device, Internal 802.11 Wi-Fi and Bluetooth as standard communication capabilities.

Ideal For:

Bars, Nightclubs, Casinos, Law Enforcement and Access Control. The M310 can be used anywhere your application requires reading an ID or Drivers' License with a portable device.

Figures, 1-1, 1-2 and 1-3 illustrate the major modules and components of the M310.

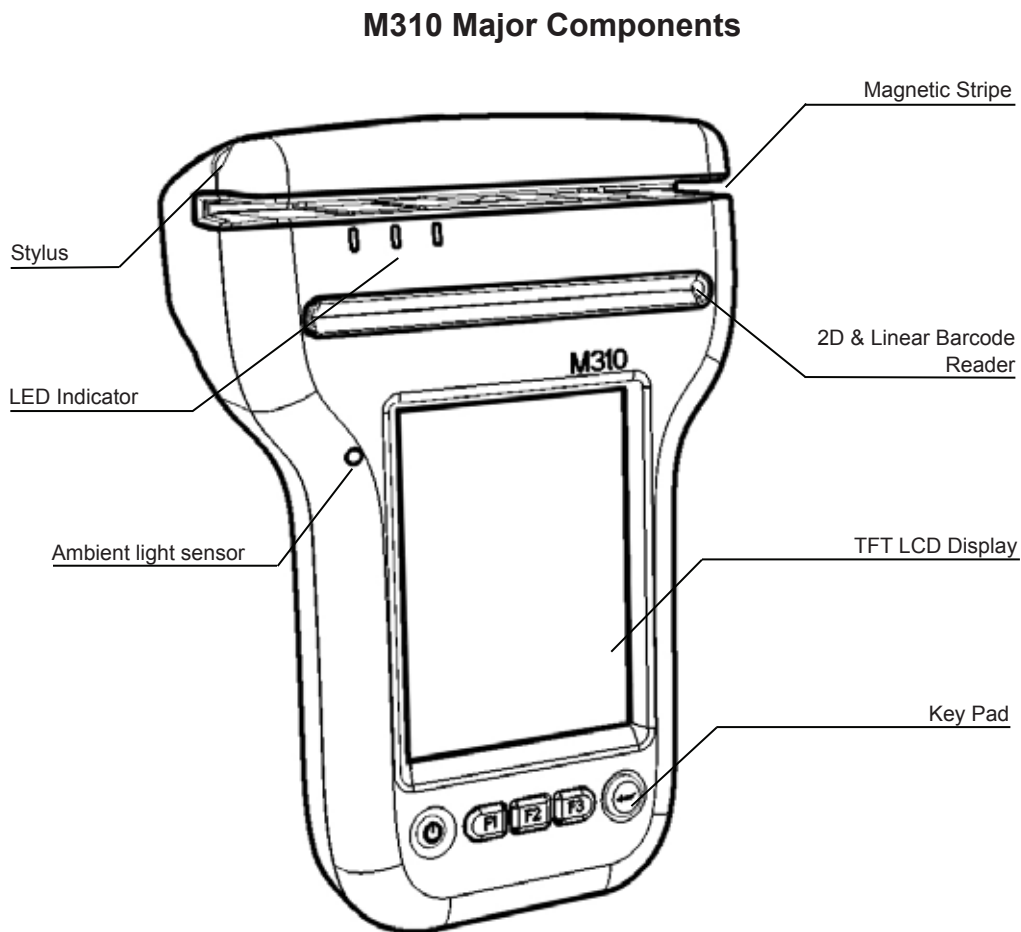


Figure 1-1 Front View

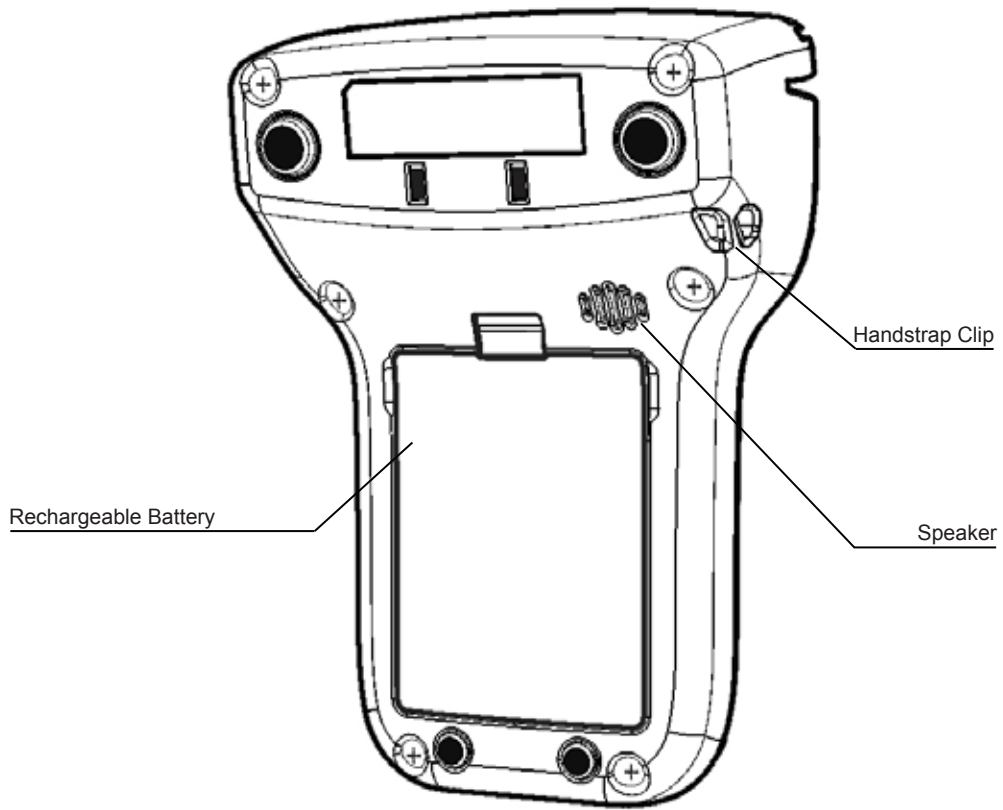


Figure 1-2 Back View

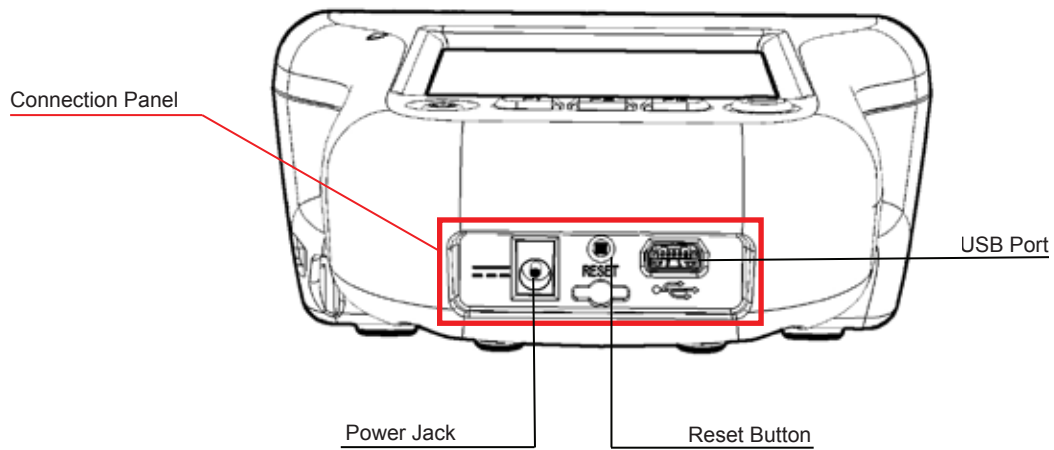


Figure 1-3 Front End View

2.0 Product Specifications

Processor	Marvell PAX300 Application Processor	
Memory	64 MB DDR SDRAM <hr/> 128 MB NAND Flash ROM Memory <hr/> MicroSD Slot (SDHC, up to 16GB)	
Input Method	Stylus (with dual side holder) <hr/> Key Pads (a power button, 3 function keys & enter key) <hr/> Virtual Keyboard (Fast access via function key)	
Barcode Reader	2D: PDF417 Linear: CODE 39 & CODE 128	
Magnetic Reader	3 Track Magnetic Reader (ANSI, ISO, CDL, AAMVA)	
External Interfaces	Power Jack (15 V DC 1.0A) <hr/> USB Device Port <hr/> MicroSD Slot (SDHC, up to 16GB)	
Display	TFT 3.5" QVGA 240x320 / Backlight / Touch Screen	
Synchronization	Microsoft ActiveSync on the host computer	
Operating System	Microsoft Windows Embedded CE 6.0 (C6G)	
Ergonomic Features	Power button for wakeup / Shut down <hr/> Touch-Sensitive display for stylus or fingertip <hr/> Light sensitive LCD brightness manual / auto control	
Battery	A Lithium Ion rechargeable, 7.4V 1800mAh	
Indicator(s)	Barcode/Mag reader Beep <hr/> Speaker <hr/> Dual Color LED for scanning <hr/> Dual Color LED for charger/power status. <hr/> Dual Color LED for Wi-Fi & Bluetooth.	
Communication	WiFi 802.11b/g , Bluetooth / USB Device	
Weight	Scanner: 0.94 lb (With Rechargeable Battery) <hr/> Cradle: 0.40 lb	
Dimensions	6.5" Length x 4.5" Width x 2.2" Height	
Operating Environment	Operating Temperature	32 to 104 F (0 to 40 °C)
	Operating Humidity	10% to 90% (non-condensing)
	Regulatory	Comply with FCC & IC rules
Power Supply	Output 15V DC 1.0A / Input 100-240V 50-60 Hz	

3.0 Unpacking M310

The M310 package includes:

- M310 Device
- Battery Pack (not installed)
- Power Supply
- USB Cable
- Stylus Pen
- Hand Strap
- Cradle (Optional)

Power Supply

The AC/DC power supply provide battery charging capability from AC power outlet. AC/DC power supply allows the M310 to operate from while charging.

The power cord plugs into the power jack.

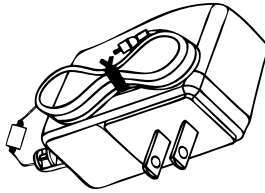


Figure 3-1 Power Supply

USB Cable

The M310 is provided with a USB interface cable. This cable allows the M310 to interface with standard USB port on your computer.

Attach this cable to a USB port on your computer and to the mini USB connector on the M310.

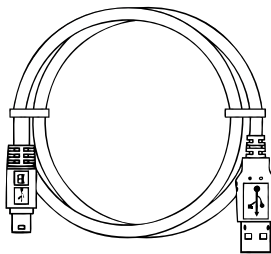


Figure 3-2 USB Cable



NOTE When the M310 is connected to a computer via USB Cable, the M310 battery will not be charging.

Stylus

The Stylus is for entering information into the M310 from the touchscreen display and to make selections under operating system or application program control.

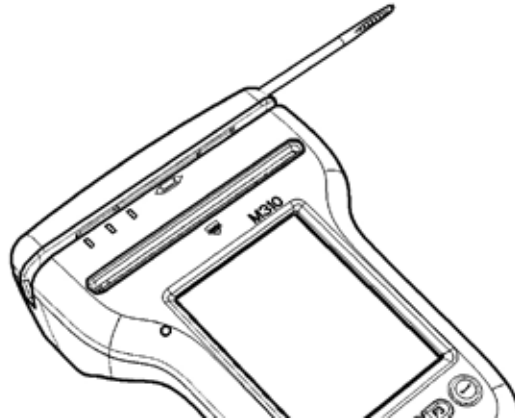


Figure 3-3 Stylus

Hand Strap

The Hand Strap is supplied as a standard item.

Cradle (Optional)

The cradle can be ordered as an optional item.

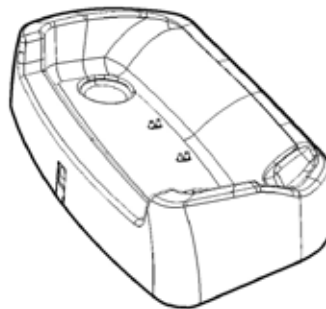


Figure 3-4 Cradle

NOTE For more information please go to www.e-seek.com/m310.asp



4.0 Getting Started

Insert Battery

The M310 is shipped with a rechargeable battery pack. Insert the battery so that the battery connectors align with the M310 battery connectors.

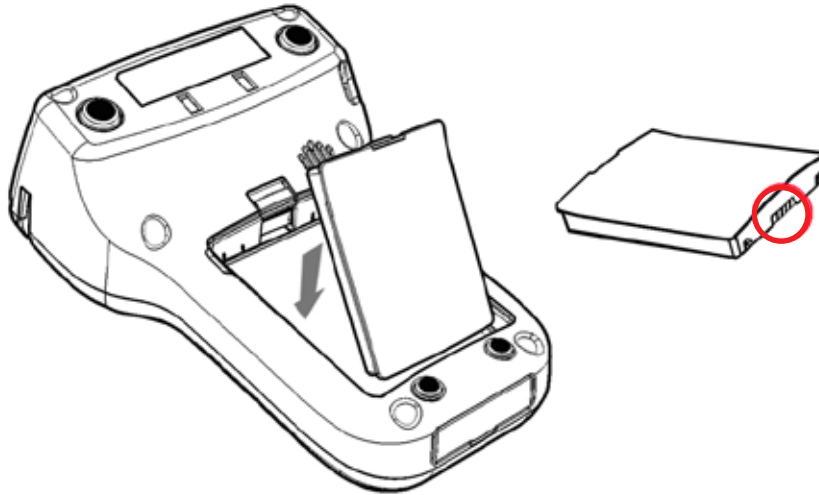


Figure 4-1 Placing The Battery

Charging the Battery

M310 Battery can be charged in two ways:

- A - Charge using external power supply.
- B - Charge using cradle unit.

A - Charge using external power supply

Connect the AC/DC power supply to the M310 power jack, look for the LED indicator to be orange in color. When the LED indicator changes color to green, the battery is fully charged and the M310 is ready for use.

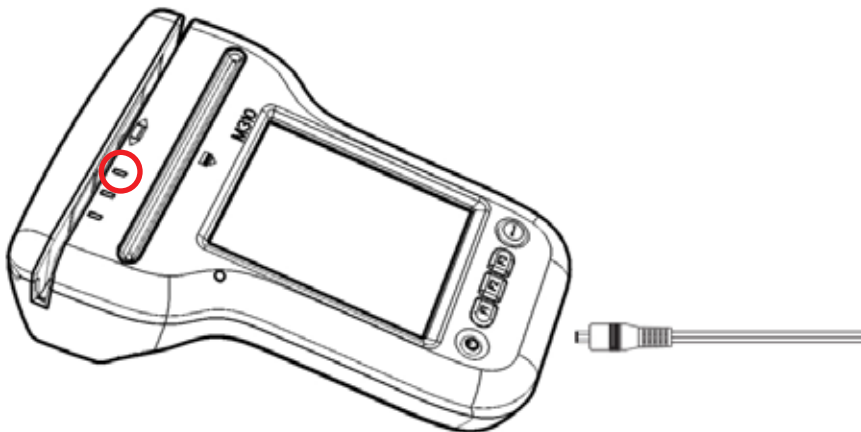


Figure 4-2 Charge Battery

B - Charge using cradle unit

First connect power supply to back of cradle, then place your device on the cradle and begin charging. When the LED indicator changes from orange to green, the battery is fully charged and the M310 is ready for use.

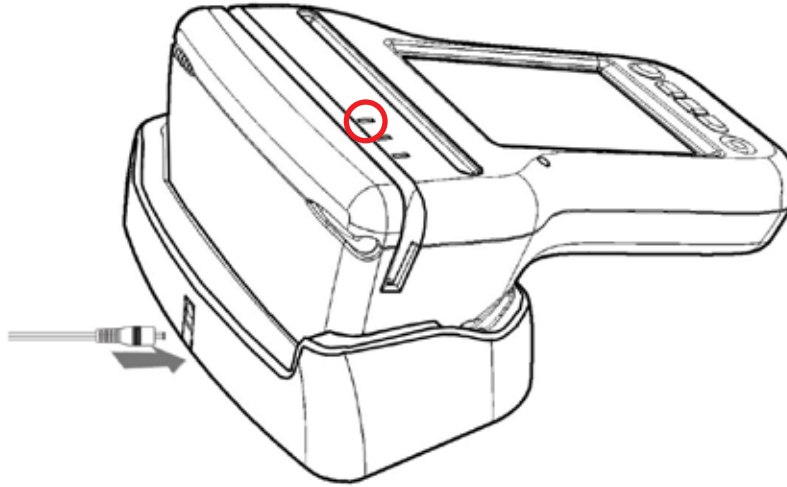


Figure 4-3 Charge with Cradle

NOTE DO NOT TURN ON or connect the M310 to the computer at this time. Charging the battery fully can take up to four hours.

For replacing or additional batteries please contact E-SEEK or your dealer.

Power the Unit ON

Press the Power button (Red) to turn the unit ON. You will see the Splash Screen, Figure 4-5, it will stay until completion of the progress bar.

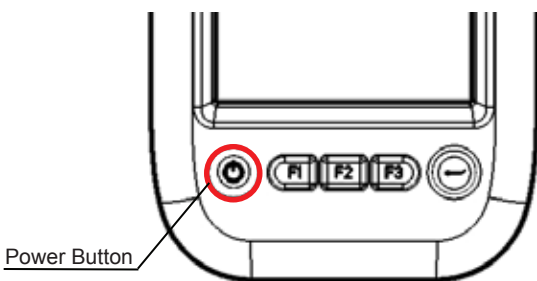


Figure 4-4 Power Button




Figure 4-5 Splash Screen

Setting Windows CE Date and Time

When the Windows CE desktop comes on, for the first time, The Date/Time screen will appear for initial settings (Figure 4-6). If the Date/Time screen does not appear, then check the clock windows to confirm the correct time setting (Figure 4-7).

You can always open Date/Time properties window by tap on the clock window (Figure 4-7) or go to:

Start > Settings > Control panel > Date/Time 

Set the Date/Time and Time Zone then click OK button located at top of your screen (Figure 4-6).

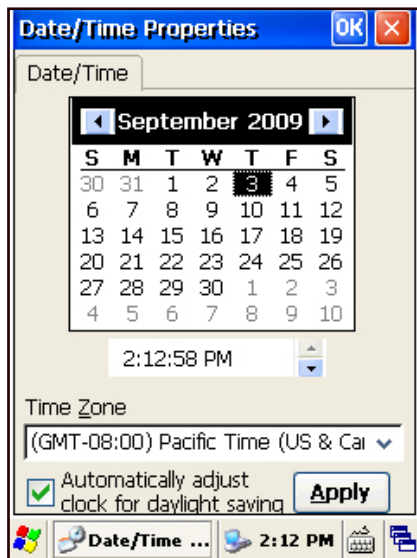


Figure 4-6 Date/Time Properties Window



Figure 4-7 Window



NOTE Use stylus from its storage slot at the head of the device.

Recalibrate the Stylus (Optional)

This is an optional procedure for recalibrating your touch screen. If you feel there is a shift between the touch point and the cursor, then follow the recalibration process by going to:

Start > Settings > Control panel > Stylus 

From Stylus Properties select Calibration tab located at right on your screen next start the process by pressing the Recalibration button. (Figure 4-8).



Figure 4-8 Start to Calibrate

Follow the instructions on screen. (Figure 4-9).

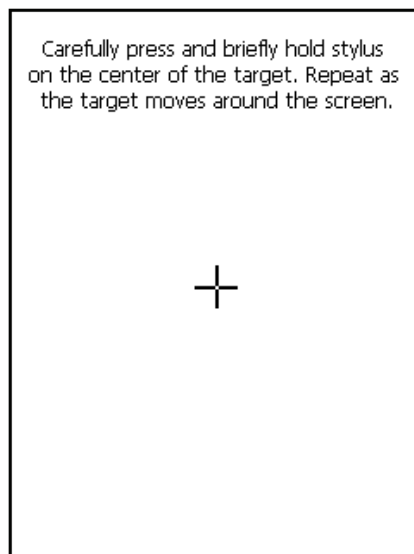












Figure 4-9 Calibration

5.0 Using M310













Personal Tab Icons

Icon	Name	Description
	Input Panel	Set options for each of the input methods
	Lock	Set a password for the M310 device.
	Owner	Enter personal information on the M310 device
	Function Key	Assign an application to a key to open a frequently used application by pressing one key.
	Volume and Sound	Enable sounds for events, notifications, and more, and set the type of notification for different events.
	Stylus	Set stylus properties for the M310 device


Connection Tab Icons

Icon	Name	Description
	Bluetooth Manager	Launches the Bluetooth application.
	Network Connection	Set up your device connection type such as Dial up or Direct connection.
	PC Connection	To enable direct connection to the desktop computer.
	WiFi and Bluetooth	Setup wireless network connection and customize settings.

System Tab Icons

Icon	Name	Description
	Stylus	To re-calibrate the screen and check the tab.
	System Information	This is where you can see basic information such as the M310 device version number or Serial number.
	Backlight	Set the backlight and adjust brightness.
	Certification	See information about certificates that are installed on the M310 device.
	Date/Time	Set the device clock to the date and time of your locale.
	Display	Change background image and set backlight to turn off automatically to save battery life.
	Remove programs	To remove a program.
	Power	Check the remaining battery power. You can also set the timeout for turning off the display.
	Regional setting	Set the regional configuration to use, including the format for displaying numbers, currency, date, and time.
	System	Displays the M310 software and Memory information.
	Internet Option	Configure your Internet display and connection setting.
	Dialing	Configure your telephone dialing rules.

Check the Battery Power

To check the remaining battery power, go to Start > Settings > Control panel > Power Properties  or use the stylus pen and tap on the battery icon on the bottom of screen.

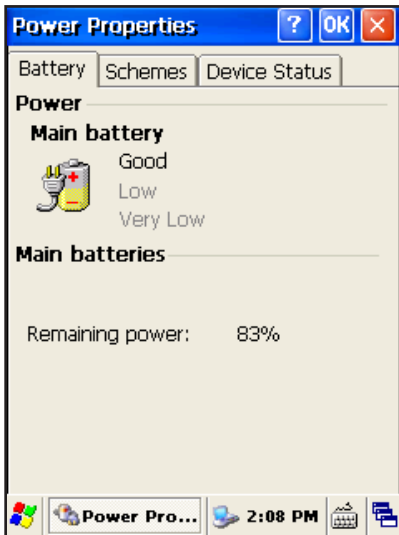


Figure 5-1 Check Battery Power

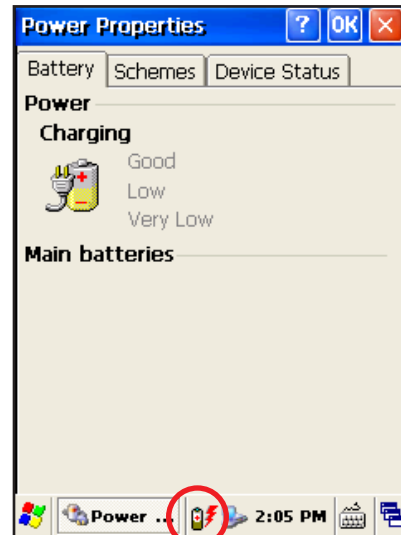






Figure 5-2 External Power Connected



NOTE Battery charge icon only displayed when external power is connected.

Icon	Description
	External power is connected without a battery unit.
	External power is connected and charging the battery unit.
	M310's battery is getting low. Typically below 35% of remaining power.
	M310's battery has been fully or nearly discharged.



NOTE When M310's battery is at normal or full charge, no battery icon is displayed.

Display your M310 Software Version

Software and hardware revision number are located in System Information.

Go to:

Start > Setting > Control Panel > System Information 

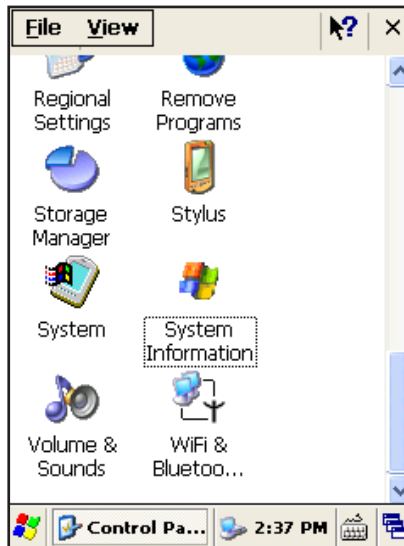


Figure 5-3 System Information Icon



Figure 5-4 System Information

Keypad


The Keypad has 3 function keys, Power and Enter Button.




Figure 5-5 Keyboard

Using Function keys


There are 3 function keys labeled as F1, F2 and F3.

The F1 key is preset to display “My Device”. 

The F2 key is preset to display “Control Panel”. 

The F3 key is preset to display and hide the “virtual Keyboard” on the screen. 

Assign the Function Key

To assign these keys to your desired command go to: Start > Setting > Control Panel > Function Key. 

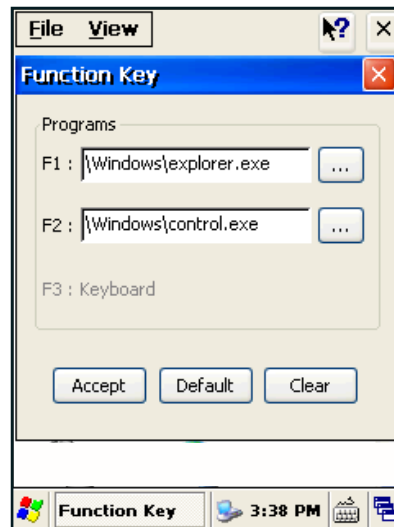


Figure 5-6 Assign F1 or F2 keys

Select / Type your desired associated program path to assign it to F1 or F2 key.

To set it back to default setting, use a Default button. The default button will restore the factory settings back to each function keys.

The clear button will erase all associated paths. If you keep the paths clear the function key will be disable.


Setting Up the LCD Backlight

Screen brightness affect battery life. Dim the screen to extend the battery recharge time, or use the auto control. M310 Backlight intensity can be adjusted in two ways:

- A - Manual
- B - Auto control

A - Manual

To setup backlight intensity to a fixed desire brightness go to:

Start > Setting > Control Panel > Backlight 

Manual setting is done by the brightness bar (Figure 5-7).

Slide the bar to left/right or by pressing   keys.

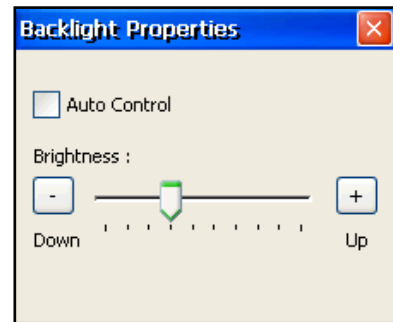



Figure 5-7 LCD Backlight Setting

B - Auto

Auto Backlight control will disable the brightness bar and adjust the LCD brightness automatically to the rooms light.

Setting Up the LCD Power Saving (Screen Saver)

M310 backlight power saving can be programmed from: Start > Setting > Control Panel > Display 

Choose the third tab “Backlight”, Once the unit goes to Idols after a prograded time, the backlight will switch to Dim brightness. (Dim is a lowest brightness value)

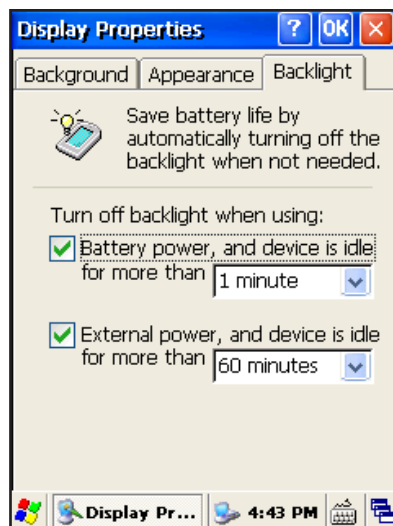


Figure 5-8 LCD Power Saving (Screen saver)

NOTE The Backlight intensity can be restored to normal by a tap on screen.



Setting the Password

Use the password properties to request a password before editing a profile and to disable unauthorized access to device. By default, M310 doesn't require password to access it.

To configure a password for your M310, go to:

Start > Setting > Control Panel > Password 

Double tap password, then type your password and confirm password boxes, and tap OK.

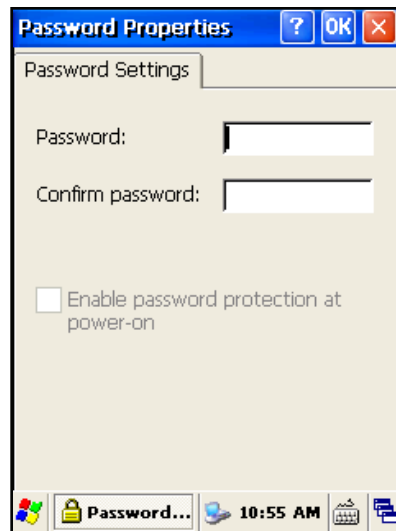



Figure 5-9 Set the Password

If you want to Enable password protection on power ON or resume from suspend, check box to select it, and then tap OK.

NOTE  To disable password you must clear the password box and tap OK.

Using Virtual Keyboard

The input panel simulates a virtual keyboard and it can be display by:

A - Press F3 function key.

B - Tap on keyboard icon  on bottom of screen.

The F3 function key can selectively display and hide the input panel.

At anytime the F3 function key can be pressed, to enter data.

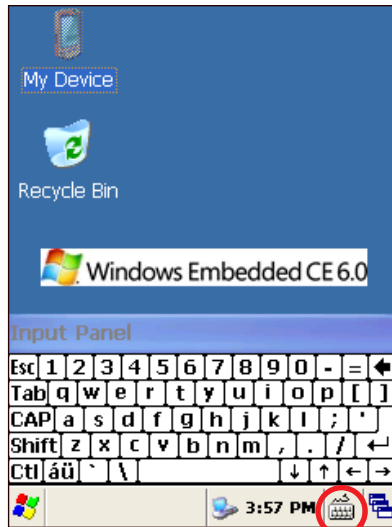


Figure 5-10 Keyboard short cut

The input panel properties can be changed from:

Start > Setting > Control panel > Input Panel.



Volume & Sound

To set the event sounds and volume options, go to Start > Settings > Control Panel > Volume & Sounds.

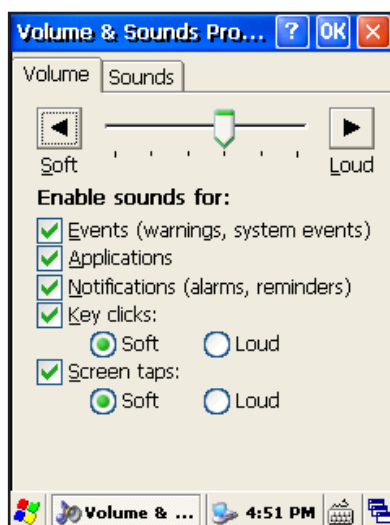


Figure 5-11 Volume & Sound

LED Indicator

M310 incorporates three LED indicators. These LED's are assigned to the following functions:

A - Scan Status LED. This LED indicates barcode scanner status.

Red color means scanner is in use or processing the read.

Green color means scanner is awake and ready to use.

B - Wireless Status LED. This LED indicates the status of wireless connectivity.

Green color means the WiFi 802.11 is enabled.

Blue color means the Bluetooth is enabled.

C - Power Status LED. This LED indicates the status of battery charging.

Orange color means the external power is connected and battery is charging.

Green color means the external power is connected and battery is fully charged.

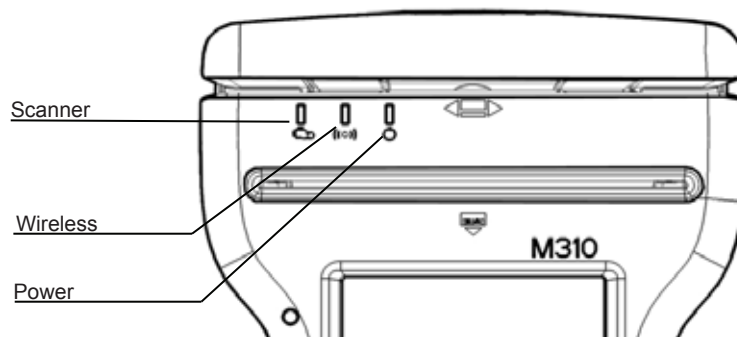


Figure 5-12 LED

Resetting M310

The Reset Button is located in front of M310 connection panel. The Reset Button can be used in case of a Program Error which has caused the unit to hang or lock up.

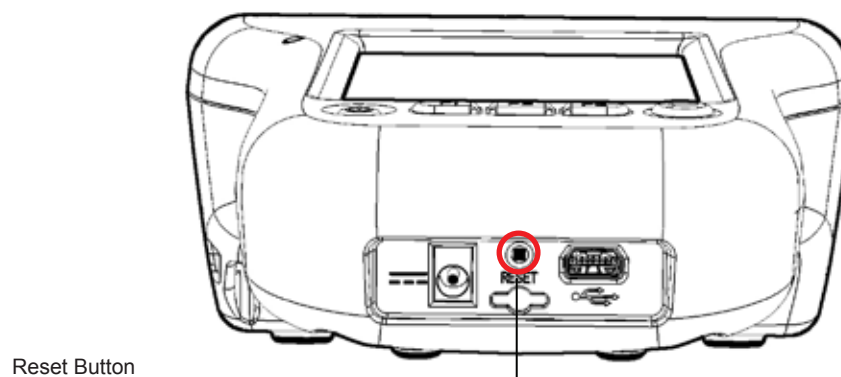


Figure 5-13 Reset Button



NOTE Using the tip of your stylus is an easy way to reach and press the reset button.

Barcode Reader

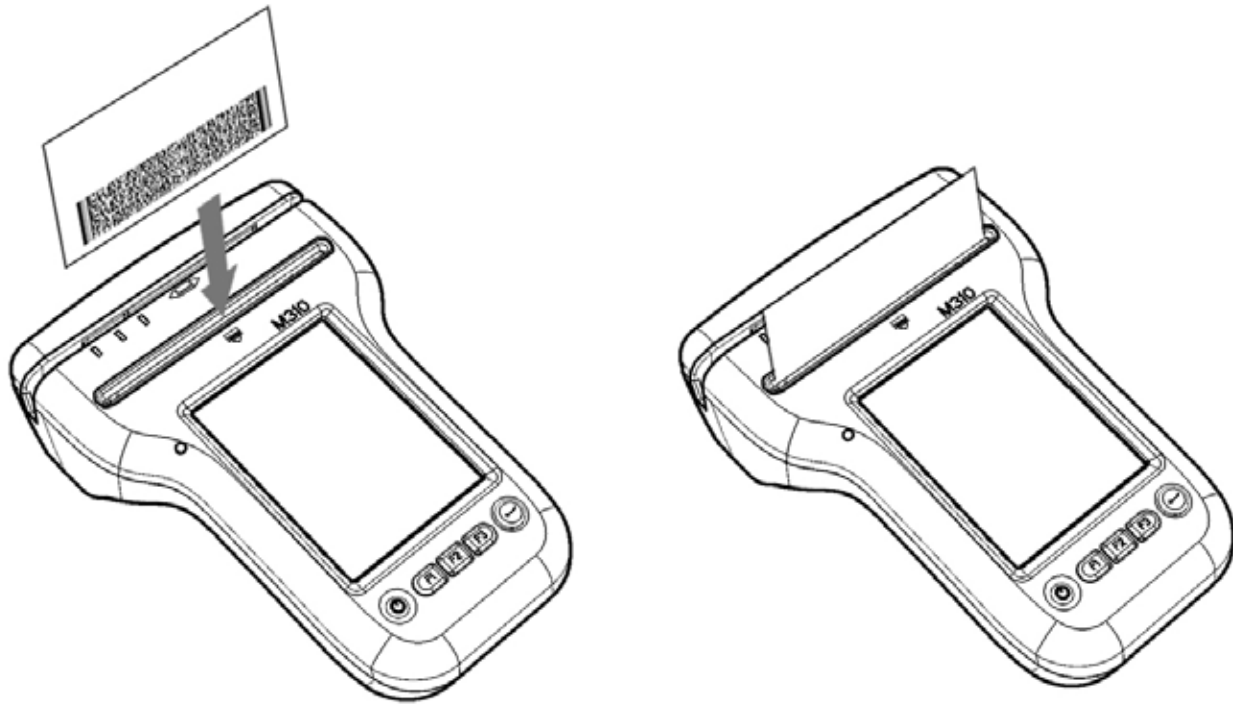


Figure 5-14 Barcode Reader

The M310 2D / 1D Barcode Scanner is designed to read and decode PDF417 Code / Code 39 and Code 128 Barcodes. A government issued ID Cards such as Driver's Licences or standard ISO Cards can be read from the middle opening narrow. (Figure 5-14)

Scanning the barcode is as simple as inserting the ID card and then removing it in one complete motion. The scan engine LED will turn to Red during the reading and decoding process. If card is successfully read, the LED turns to Green followed by a beep sound. The decoded information will be passed to the application software via COM 2.

Magnetic Stripe Reader

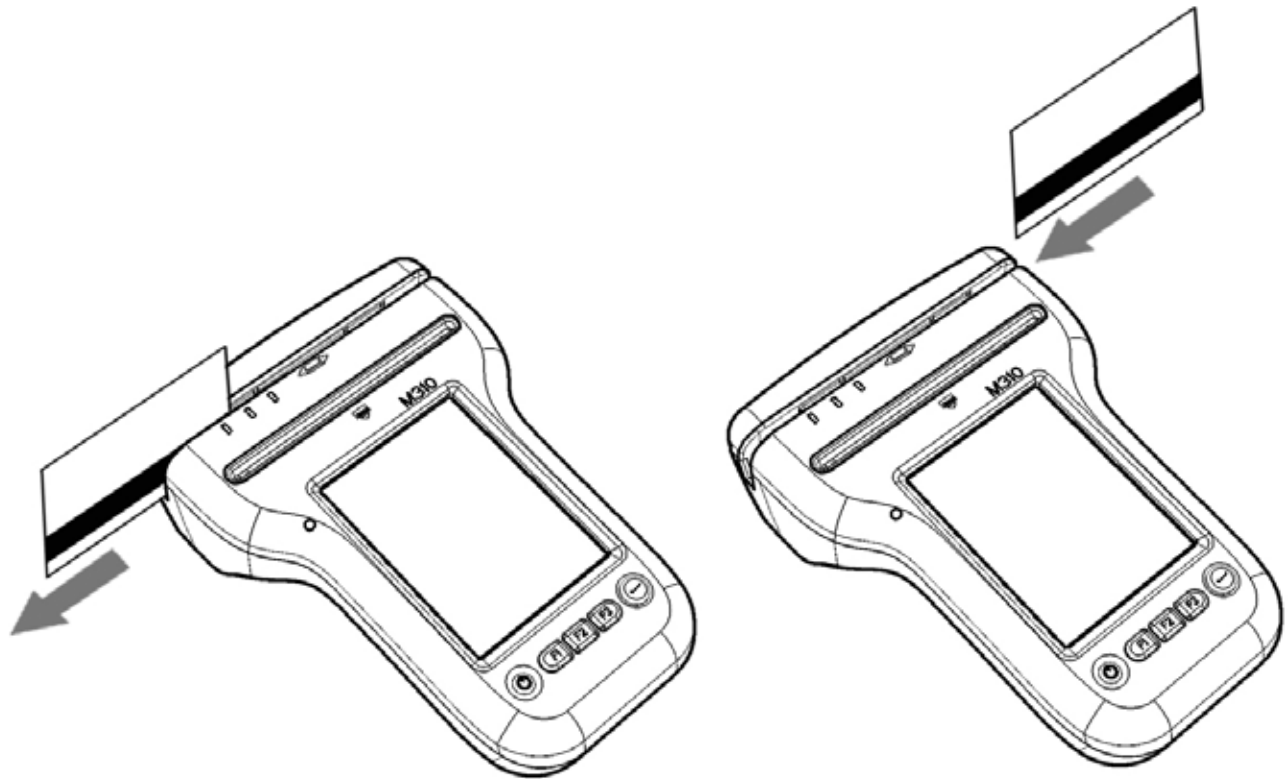


Figure 5-15 Magnetic Stripe Reader

The M310 also provides the abilities to read and decode information from any card with a magnetic stripe. The reader provides full three track reading capabilities. Simply swipe the card through the Magstripe reader as shown in Figure 5-15. The reader is bidirectional, so the card may be swiped in either direction. The scan engine LED will turn to Red during the reading and decoding process. If card is successfully read, the LED turns to Green followed by a beep sound. The decoded information will be passed to the application software via COM 2.

How to Remove the Battery Pack

To remove the battery pack, first push the release button and lift the upper corners of the battery. One battery pack is supplied with each M310 unit and could be purchased separately as a spare or to replace to old set. To order the new battery pack contact E-SEEK or your dealer and ask for part number BP-7V4-1A8.

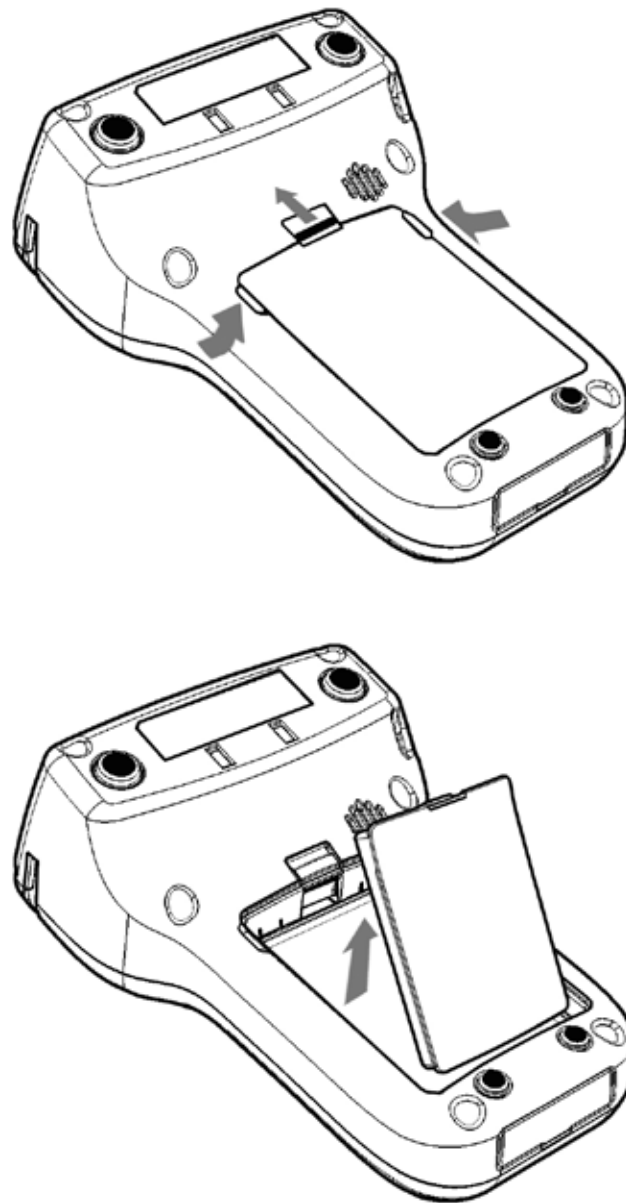


Figure 5-16 Battery installation

Adding a microSD Card (Flash Memory)



You can use an optional microSD media card to extend the storage memory available on your M310 device. The microSD card can be used to install your application files as well as storing media files. To add a microSD card follow these steps:

- 1 - Slide the release button for the battery (See Removing the battery on Page 22). Remove the battery.
- 2 - Directly under the battery release button is the microSD holder, check for obstructions.
- 3 - Slid the microSD card into the slot opening (The microSD contact is face down).
- 4 - Place back the battery pack.

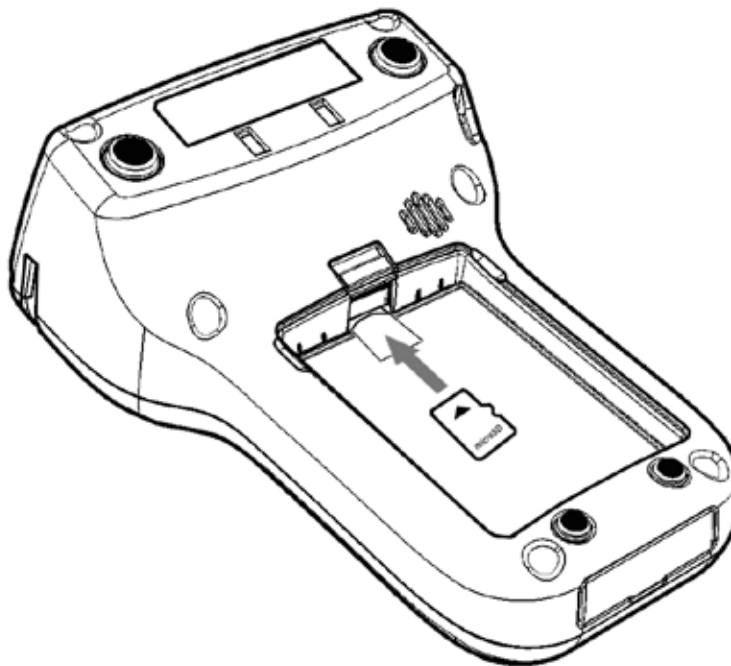


Figure 5-17 Flash Memory



NOTE The M310 unit accepts both standard microSD and high density (SDHC) types. It can support a capacity up to 16GB of storage.

6.0 Communications

Connecting your M310 device to a host computer or network can be done via of the following methods:

- A - USB Port using a USB (type A) to mini USB (type B) cable.
- B - WiFi 802.11 wireless communication.
- C - Bluetooth wireless communication.

USB

A USB Cable is include with each unit (part number MO-USB-107), this cable enables the communication between the M310 and host computer. The most common method to connected to PC is Active Sync.

Activesync

What can be done in the Active Sync?

- A - Copy Files
- B - Windows Explorer
- C - View File
- D - New Folder
- E - Programs

To download and install Activesync, visit the Microsoft website (for windows XP users):

<http://www.microsoft.com/windowsmobile/en-us/help/synchronize/device-synch.mspx>

After finishing installation, connect the cable to mini USB and PC. To Microsoft Active Sync setting go to:

Start > Program > Microsoft Active Sync 

NOTE  Windows 7 and Vista include newer version of Activesync called: Windows Mobile Device Center.

WiFi

(Wireless local area networks (WLAN) based on the IEEE 802.11b/g)

First you need to enable your WiFi wireless communication to connect your M310 to a network:


1 - Go to Start > Setting > Control Panel > WiFi & Bluetooth Manager. 

Figure 6-1 will be at screen.

2 - Click the ON button to turn ON the WiFi.
(The WiFi LED will turn to green)

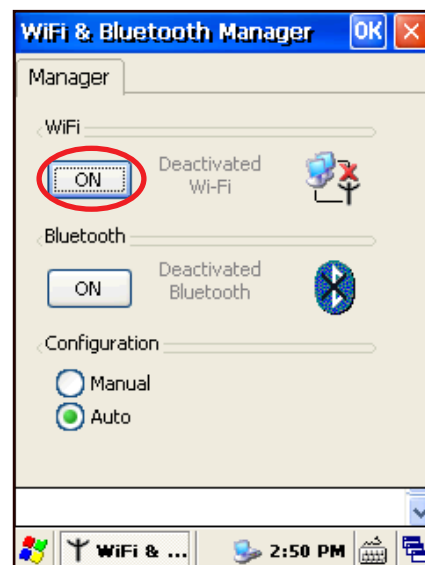


Figure 6-1 Wi-Fi Setting

3 - After turning on the WiFi you need to setup the new wireless connection. If this is your first time turning the WiFi ON the wireless information windows will automatically appears.

4 - Figure 6-2 will show on the screen. Tap on Add New or select from a list of available networks, followed by wireless properties screen. Enter your wireless information and tap OK at top right corner of page.



Figure 6-2 Wi-Fi Setting

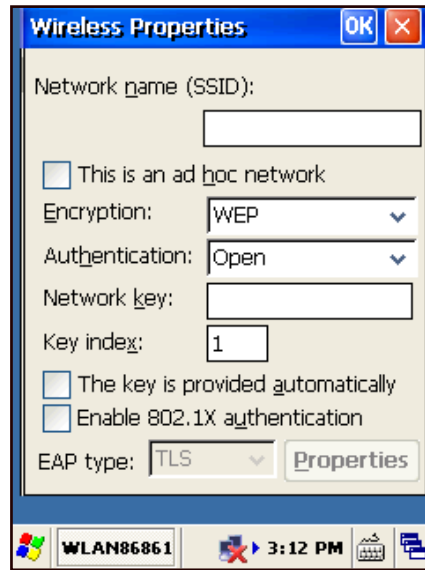


Figure 6-3 Wi-Fi Setting

5 - Now you can see the network connection Icon on Taskbar. You are done.

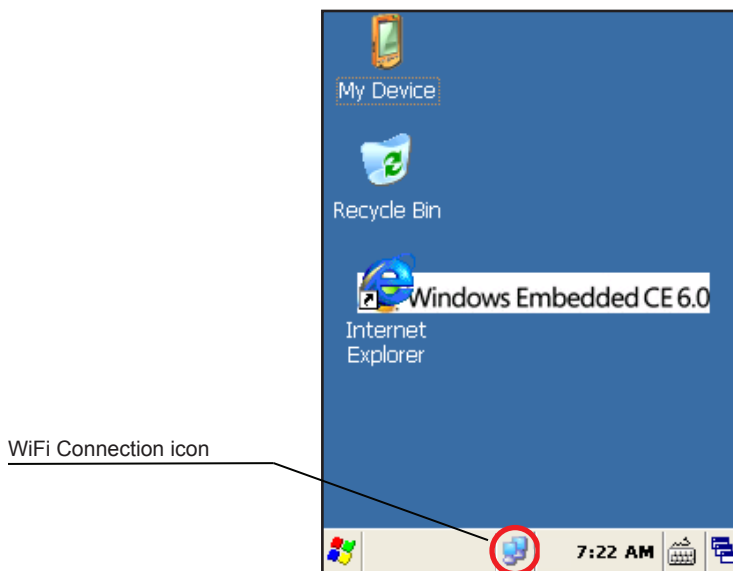



Figure 6-4 Wi-Fi Setting

Bluetooth Connection

Go to Start > Setting > Control Panel > Bluetooth 



www.IDScan.net

Wizz Systems LLC
9Ct. #E
San Diego, CA 92123
Tel: (888) 430-8936

Rev: K



