

MC18 PRODUCT REFERENCE GUIDE



symbol[®]

MC18
Product Reference Guide

MN000834A01

Rev. A

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Revision History

Changes to the original manual are listed below:

Change	Date	Description
01 Rev. A	06/27/14	Initial release.

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Glossary

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ABOUT THIS GUIDE

Introduction

This guide provides information about setting up and configuring MC18 mobile computers and installing its accessories.



NOTE Some screens or windows shown in this guide may differ from the actual screens shown on the MC18.

Documentation Set

The documentation set for the MC18 is divided into guides that provide information for specific user needs.

MC18 documentation includes:

- **MC18 Quick Reference Guide** - describes basic set up and operation of the MC18 and it's cradles. The guide also includes regulatory and safety information.
- **MC18 Product Reference Guide** (this guide) - describes how to set up, operate and program the MC18 and it's accessories.
- **Microsoft Applications for Windows Mobile and WinCE 7.0 User Guide** - describes how to use Microsoft developed applications.
- **Application Guide for Symbol Technologies Enterprise Mobility Devices** - describes how to use Symbol Technologies developed applications.
- **EMDK Help File** - provides API information for writing applications.

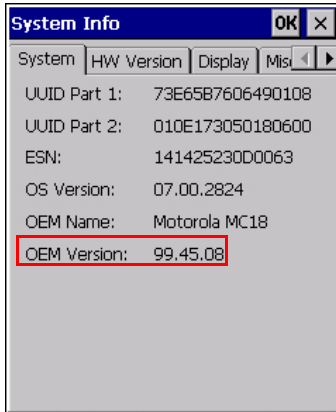
Software Versions

This guide covers various software configurations and references are made to operating system or software versions.

OEM Software

Use this procedure to determine the OEM software version on the MC18:

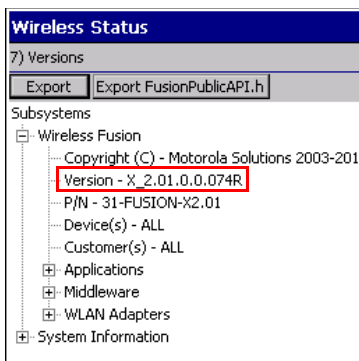
1. Connect the MC18 to a host computer (see [Connecting the MC18 to a Host Computer on page 4-2](#)).
2. Click **Start > Settings > Control Panel > System Info** icon.
3. Make sure that the OEM software version on the MC18 is 99.42.00 or greater:



Fusion Software

To determine the Fusion software version on MC18 with OEM version X_2.01.0.0.062R or greater:

Start > Programs > Fusion > Wireless status > Versions.



Chapter Descriptions

Topics covered in this guide are as follows:

- [Chapter 1, Getting Started](#), describes the features and basic operation of the MC18, lists the accessories for the MC18 and explains how to install and charge the batteries and start the MC18 for the first time.
- [Chapter 2, Staging and Provisioning](#), provides information for staging and provisioning the MC18 using Mobility Software Platform (MSP).
- [Chapter 3, Wireless Applications](#), provides instructions for configuring the wireless adapter.
- [Chapter 4, Sync with Host Computer](#), provides instructions on installing a sync application and setting up a partnership between the MC18 and a host computer.
- [Chapter 5, Using the Windows CE Desktop](#), provides instructions for connecting the MC18 to a host computer and using the OS desktop of the MC18.

- [Chapter 6, *Special Considerations*](#), provides information to consider when using and developing applications for the MC18.
- [Chapter 7, *Pocket Browser*](#), provides information on Sample Pocket Browser (mobile application development tool) provided with the MC18.
- [Chapter 8, *Cradle Installation*](#), provides installation instructions for the MC18 cradles and other accessories.
- [Chapter 9, *Application Deployment*](#), provides instructions for installing the Device Configuration Package (DCP) for MC18 and the EMDK for C on the host computer and downloading software and files to the MC18.
- [Chapter 10, *Maintenance and Troubleshooting*](#), includes instructions on cleaning and storing the MC18, and provides troubleshooting solutions for potential problems during MC18 operation.
- [Appendix A, *Technical Specifications*](#), includes a table listing the technical specifications for the MC18 and accessories.
- [Appendix B, *App Launcher Configuration*](#), provides information for configuring the App Launcher application.

Notational Conventions

The following conventions are used in this document:

- “Mobile computer” refers to the Symbol Technologies MC18 of mobile computers.
- *Italics* are used to highlight the following:
 - Chapters and sections in this guide
 - Related documents
- **Bold** text is used to highlight the following:
 - Dialog box, window and screen names
 - Drop-down list and list box names
 - Check box and radio button names
 - Icons on a screen
 - Key names on a keypad
 - Button names on a screen.
- Bullets (•) indicate:
 - Action items
 - Lists of alternatives
 - Lists of required steps that are not necessarily sequential.

Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.



NOTE This symbol indicates something of special interest or importance to the reader. Failure to read the note will not result in physical harm to the reader, equipment or data.



CAUTION This symbol indicates that if this information is ignored, the possibility of data or material damage may occur.



WARNING! This symbol indicates that if this information is ignored the possibility that serious personal injury may occur.

Related Documents and Software

The following documents provide more information about the MC18 mobile computers.

- *MC18 Quick Reference Guide*, p/n MN000835A01
- *Microsoft Applications for Windows Mobile and CE 7.0 User Guide*, p/n 72E-78456-xx
- *Enterprise Mobility Developer Kits*, available at:
- Device Configuration Package (DCP for MC18 v99.45.00xx) and Platform SDK for MC18 with Windows CE 7.0, available at: <http://www.motorolasolutions.com/support>
- Latest ActiveSync (Windows xp) or Windows Mobile Device Center (Windows 7) software, available at: <http://www.microsoft.com>.

For the latest version of this guide and all guides, go to: <http://www.motorolasolutions.com/support>

Service Information

If you have a problem with your equipment, contact Symbol Technologies Global Customer Support for your region. Contact information is available at: <http://www.motorolasolutions.com/support>.

When contacting Symbol Technologies Global Customer Support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number.

Symbol Technologies responds to calls by E-mail, or telephone within the time limits set forth in support agreements.

If your problem cannot be solved by Symbol Technologies Global Customer Support, you may need to return your equipment for servicing and will be given specific directions. Symbol Technologies is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Symbol Technologies business product from a Symbol Technologies business partner, contact that business partner for support.

CHAPTER 1 GETTING STARTED

Introduction

This chapter describes the features of the MC18 and explains how to install and charge the battery, how to capture data using the integrated Imager and how to reset the MC18.

Unpacking

Carefully remove all protective material from the MC18 and save the shipping container for later storage and shipping.

Verify that box contains all the equipment listed below:

- MC18
- Lithium-ion battery
- Quick Reference Guide

Inspect the equipment for damage. If you are missing any equipment or if you find any damaged equipment, contact Symbol Technologies Support immediately. See [Service Information on page xiv](#) for contact information.

Removing the Screen Protection Film

A screen protection film is applied to the MC18 screen to protect the screen during shipping. To remove the screen protector, carefully lift the thin film off the display.

Features

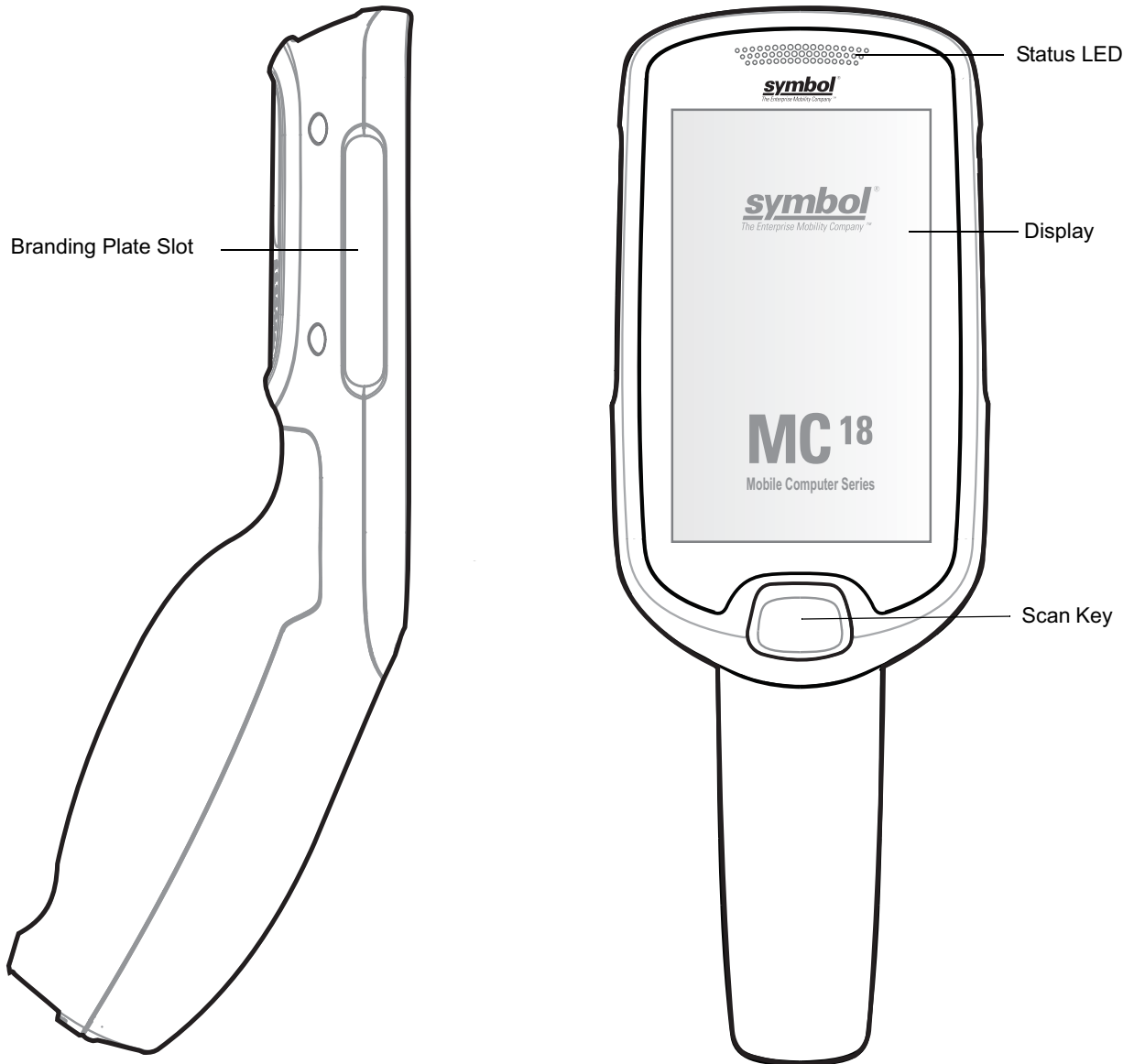


Figure 1-1 Front View

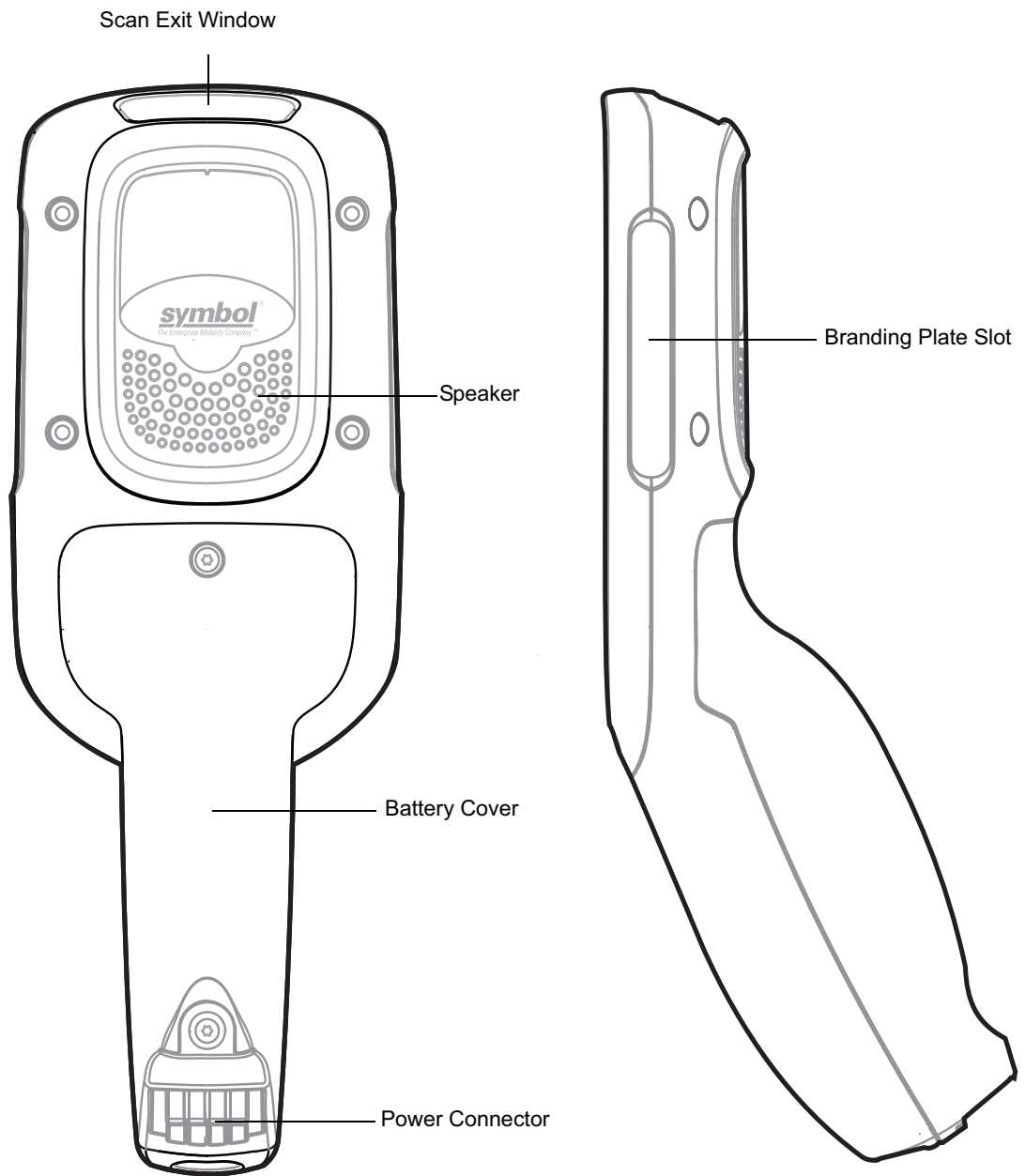


Figure 1-2 Back View

Accessories

Table 1-1 *Accessories*

Accessory	Part Number	Description
MC18 Lithium Ion Battery	BTRY-MC18-27MAG-01	MC18 Lithium Ion Battery.
	BTRY-MC18-27MAG-10	MC18 Lithium Ion Battery (QTY-10).
High Density (HD) Three Slot Cradle (Locking).	CRD-MC18-3SLCKH-01	The cradle is used for docking up to three MC18 units in HD installation configuration. The cradle slots are equipped a mechanism that locks the MC18 units inside the slots. Three Slot Cradle Requires PWRS-14000-241R, DC line cord and Country Specific AC line cord sold separately.
High Density (HD) Three Slot Cradle (Non-Locking)	CRD-MC18-3SLOTH-01	The cradle is used for docking up to three MC18 units in HD installation configuration. Requires PWRS-14000-241R, DC line cord and country specific AC line cord (sold separately).
Super High Density (SHD) Three Slot Cradle (Locking)	CRD-MC18-3SLCKS-01	The cradle is used for docking up to three MC18 units in SHD installation configuration. The cradle slots are equipped a mechanism that locks the MC18 units inside the slots. Requires PWRS-14000-241R, DC line cord and country specific AC line cord sold separately.
Single Slot Cradle	CRD-MC18-1SLOT-01	The cradle is used for docking a single MC18. Requires power supply unit (PWRS-14000-241R), DC line cord and country specific AC line cord sold separately.
Release Key.	KT-MC18-CKEY-20	Tool used to mechanically unlock the MC18 from a Three Slot Cradle.
MC18 Terminal Reboot Tool	KT-MC18-REBOOT-05	Tool used for cold reboot of the MC18 (QTY-5).
Three Slot Cradle Front Panel Removing Tool	KT-MC18-CTOOL-01	Tool used for removing the cradle cover.
Deployment Kit	KT-MC18-CSTKIT-01	Includes: <ul style="list-style-type: none"> • 20-pack of Release Key (KT-MC18-CKEY-20) • 5-pack of Terminal Reboot Tool KT-MC18-REBOOT-05) • One Three Slot Cradle Front Panel Removing Tool (KT-MC18-CTOOL-01)
Single Slot Cradle Release Key	PSS-3KY01-00R	Key used to mechanically unlock the MC18 from a single slot cradle (QTY-20).

Table 1-1 *Accessories*

Accessory	Part Number	Description
Cart Holder Mounting Kit	PSS-3SH01-00R	Kit for mounting the MC18 on a shopping cart.
Programming Cable	CBL-MC18-USB1-01	USB communication cable for connecting the MC18 to a host computer.
Interconnection Cable	25-66431-01R	An extension cable (12.6 Inch / 32 centimeter) for connection three slot cradle to DC "Y" charging cable that is connected to power supply unit (PWRS-14000-241R).
Power Extension Cable	CBL-MC18-EXINT1-01	Cable (12.6 Inch / 32 centimeter) for daisy chain connection of two Three Slot Cradles to one power supply unit (PWRS-14000-241R).
DC Charging Cable	25-66420-01R	DC charging cable (19.5 Inch / 49.5 centimeter) used to connect a power supply unit (PWRS-14000-241R) to one single-slot cradle.
DC "Y" Charging Cable Long	25-67592-01R	DC "Y" charging cable (39.7 Inch / 1 meter). Connects a power supply unit (PWRS-14000-241R) to two separate Three Slot Cradles.
DC "Y" Charging Cable Short	25-66210-01R	DC "Y" charging cable (19.5 Inch / 1 meter). Connects a power supply unit (PWRS-14000-241R) to two separate Three Slot Cradles.
Power Supply Unit	PWRS-14000-241R	100-240VAC, 12VDC, 9A. Requires country specific AC line cord and DC cable - all sold separately.
AC Line Cord	23844-00-00R	AC Line Cord, 7.5 feet long, grounded, three wire for power supplies. Associated Country: United States
AC Line Cord	50-16000-221R	AC Line Cord, 1.8 meter, meter grounded, three wire, USA NEMA 5-15P. Associated Country: United States
AC Line Cord	50-16000-671R	AC Line Cord, 1.8 meter, grounded, three wire, CIE 23-16 plug. Associated Country: Italy.
AC Line Cord	50-16000-217R	AC Line Cord, 1.9 meter, grounded, three wire, AS 3112 plug. Associated Country: Australia, New Guinea
AC Line Cord	50-16000-218R	AC Line Cord, 1.8 meter, grounded, three wire, NEMA 1-15P plug. Associated Country: Japan.
AC Line Cord	50-16000-219R	AC Line Cord, 1.8 meter, grounded three wire, BS1363 plug. Associated countries: Hong Kong, Iraq, Malaysia, Singapore, United Kingdom.

Table 1-1 *Accessories*

Accessory	Part Number	Description
AC Line Cord	50-16000-220R	AC Line Cord, 1.8 meter, grounded three wire CEE 7/7plug. Associated countries: Europe, Abu Dhabi, Bolivia, Dubai, Egypt, Iran, Russia, Vietnam.
AC Line Cord	50-16000-257R	AC Line Cord, 1.8 meter, grounded three wire, IEC 60320 C13 plug. Associated Country: China.
AC Line Cord	50-16000-669R	1.9 meter grounded three wire, BS 546 Plug. Associated country: India.
AC Line Cord	50-16000-672R	1.9 meter grounded three wire, S132 Plug. Associated country: Israel.
AC Line Cord	50-16000-678R	36 Inch grounded three wire. Associated country: United States

Status LED

The Status LED indicates the condition of the MC18. [Table 1-2](#) describes the Status LED indications.



Figure 1-3 MC18 Status LED

Table 1-2 Status LED Indications

LED State	Indication
Off	Normal operation or MC18 is turned off.
Single Green blink	Successful Decode.

Scan Key

The scan key operates the imager camera when a scanning application is active. When turned off, pressing the scan key powers on the MC18.

Note that Scan Key functions can be changed by an application so the MC18's Scan Key may not function exactly as described. Refer to the *EMDK Help* file for detailed information for programming the Scan Key.

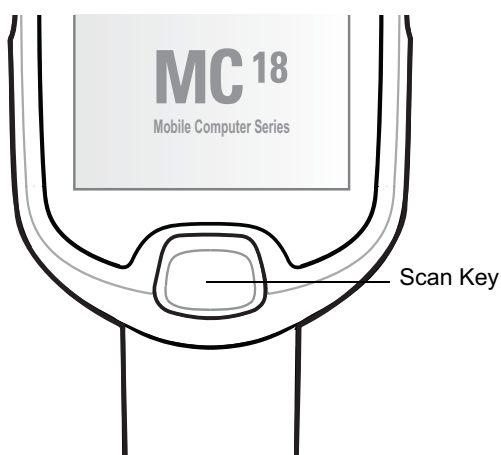


Figure 1-4 Scan Key

Getting Started

To start using the MC18 for the first time:

- Install the battery
- Charge the battery.

Installing the Battery

To start using the MC18, the battery must be installed and charged.

To install the battery:

1. Using Torx T8 drive, remove two screws that secure the battery cover.
2. Lift the battery cover from the handle.
3. Guide and press the battery cable connector into the female connector inside the battery compartment. The connector is designed to only fit one way.
4. Place the battery inside the battery compartment.
5. Place the battery cover onto the handle.
6. Secure the battery cover with the two Torx screws using a T8 Torx drive. Torque the screws to 3.6 Kgf-cm (3.1 in-lb).

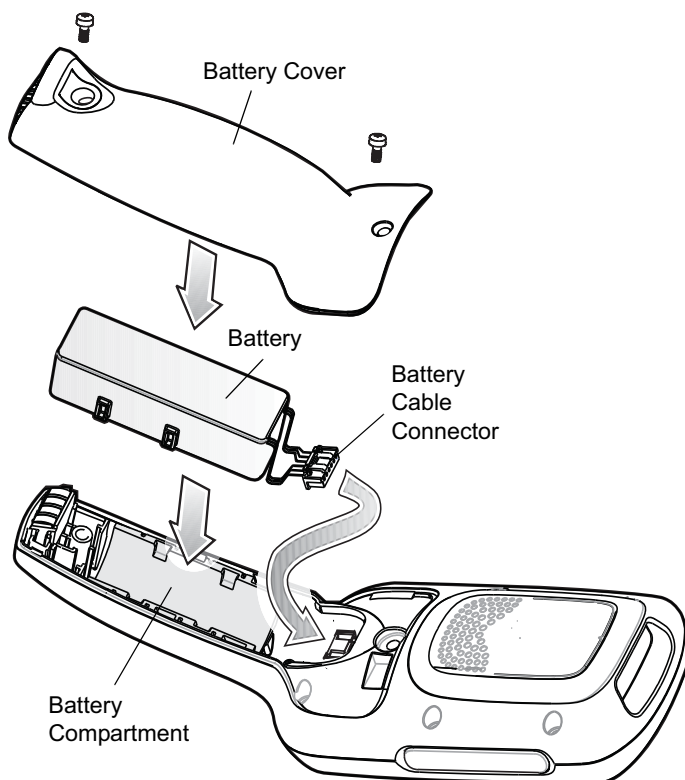


Figure 1-5 *Installing the Battery*

Removing the Battery

To remove the battery:

1. Use T8 Torx drive to remove the two screws that secure the battery cover.
2. Lift the battery cover from the handle.
3. Inside the battery compartment, press down the plastic tab of the Battery cable connector and slide it out of the female connector.
4. Remove the battery from the battery compartment.

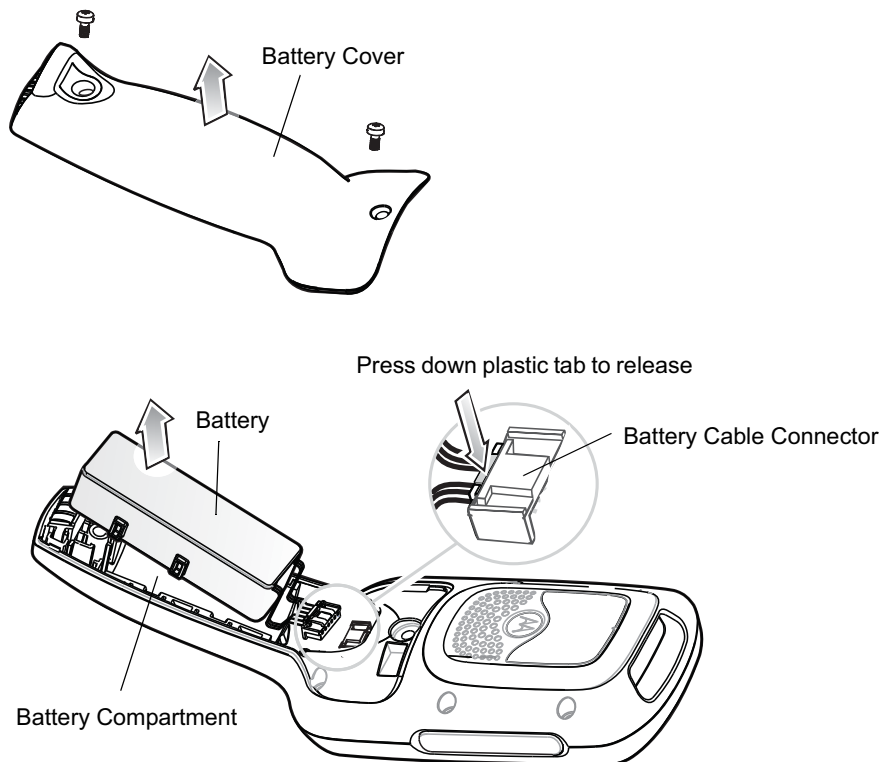


Figure 1-6 Removing the Battery

Charging the Battery



CAUTION Ensure that you follow the guidelines for battery safety described in [Battery Safety Guidelines on page 10-1](#).




NOTE Battery life is based upon the following; MC18 usage, WLAN radio is set to maximum power mode, WLAN is associated with an Access Point and display backlight set to 25% brightness.

Before using the MC18 for the first time, charge the battery. The battery fully charges in approximately four hours.

Use this procedure to charge the battery:

1. Ensure the cradle is connected to the appropriate power source. See [Chapter 8, Cradle Installation](#) for more information.

2. Dock the MC18 in a cradle. The MC18 starts to charge automatically and  is shown on the taskbar.

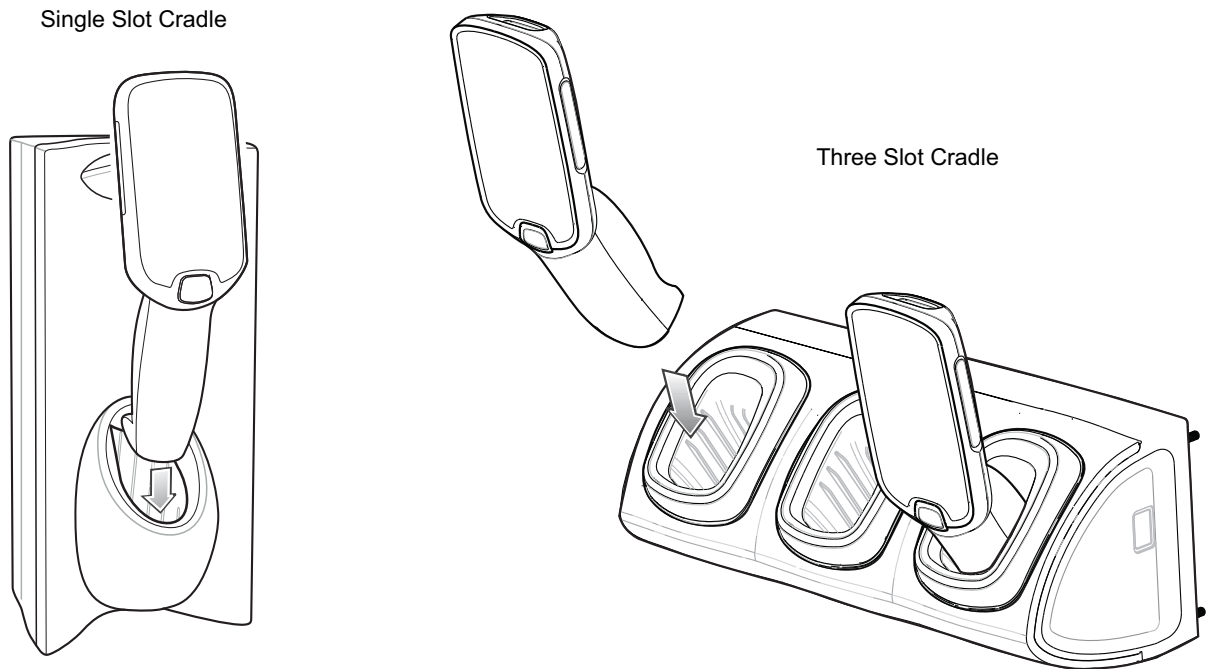


Figure 1-7 Docking MC18 into Cradle

Starting the MC18

The MC18 starts automatically as soon as power is applied; either with a charged battery installed or when inserted into the cradle.

If charged battery is installed and the MC18 is turned off, hold the scan key pressed for five seconds to turn on.

If the MC18 does not power on, perform a cold boot (see [Performing a Cold Boot on page 1-17](#)).

When the MC18 is powered on for the first time, it initializes its system. The splash screen appears for a short period of time.



Figure 1-8 *Splash Screen*

On the MC18, the splash screen is followed by the **App Launcher** window.

✓ **NOTE** App Launcher window may vary depending upon the MC18 operating system version.



Figure 1-9 *App Launcher Window*

Data Capturing

The MC18 uses an imager to allow collection of data by scanning bar codes.

The scanner has the following features:

- Reads a variety of bar code symbologies, including the most popular linear, postal, and 2-D code types (see [Appendix , Technical Specifications](#)).
- Contains advanced intuitive aiming light for easy point-and-shoot operation.

Scanning Considerations

Typically, scanning is a simple matter of aim, scan/decode and a few quick trial efforts master it. However, two important considerations can be used to optimize any scanning performance:

- Range

Any scanning device decodes well over a particular working range — minimum and maximum distances from the bar code. This range varies according to bar code density and scanning device optics.

Scanning within range brings quick and constant decodes; scanning too close or too far away prevents decodes. Move the MC18 closer and further away to find the right working range for the bar codes being scanned. However, the situation is complicated by the availability of various integrated scanning modules. The best way to specify the appropriate working range per bar code density is through a chart called a decode zone for each scan module. A decode zone simply plots working range as a function of minimum element widths of bar code symbols.

- Angle

Don't scan at too sharp an angle; the scanner needs to collect scattered reflections from the scan to make a successful decode. Practice quickly shows what tolerances to work within.

✓ **NOTE** Contact the Symbol Technologies Global Customer Support if chronic scanning difficulties develop. Decoding of properly printed bar codes should be quick and effortless.

Scanning Bar Codes

1. Ensure that a scan enabled application (for example: Scanning Sample) is loaded and enabled on the MC18.
2. From the App Launcher screen, touch **Demo Applications > Scanning Sample**.
3. Aim the scan exit window at the bar code.
4. Press the scan key.
Ensure the red aiming dot is at the center of the bar code. The LED changes from red to green and audible beep sounds if bar code was decoded successfully.

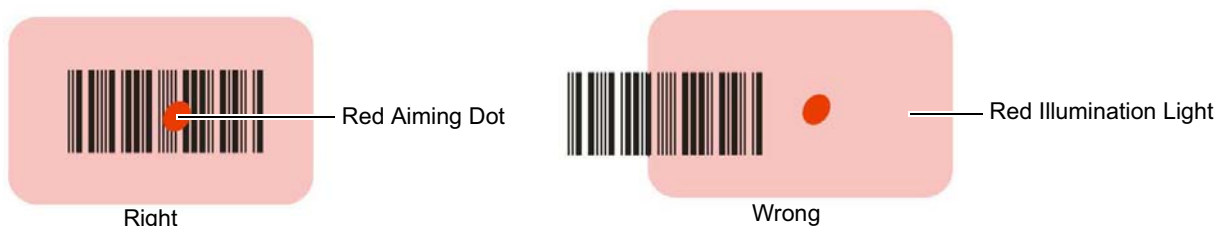


Figure 1-10 Imager Aiming Pattern

5. Release the **Scan** key. The bar code data is displayed on the screen.

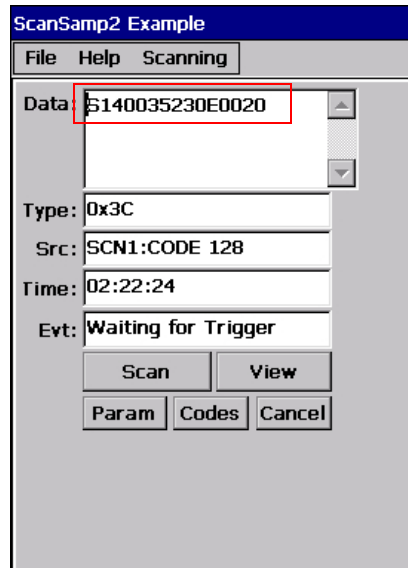


Figure 1-11 Scanning Sample Application Screen

Scanning Tips

Optimal scanning distance varies with bar code density and scanner optics.

- Hold the scanner farther away for larger symbols.
- Move the scanner closer for symbols with bars that are close together.



NOTE Scanning procedures depend on the application and MC18 configuration. An application may use different scanning procedures from the one listed above.

DataWedge

DataWedge is an application that reads data from a scanning source, processes the data and sends the data to an application as if the user is entering it on a keyboard. By default, DataWedge is disabled. To use DataWedge Enable DataWedge.

Enable DataWedge

Use this procedure to enable DataWedge:

1. Select **Start > Settings > Control Panel > DataWedge** icon.
2. Select **Basic Configuration**.
3. Select **1. Scanner input**.
4. Select **Low cost Imager**:
5. Select **1. Enabled**.
6. Click **0. Back**.
7. Click **0. Back**.

8. Click **0. Back**.
9. Click **0. Exit**.

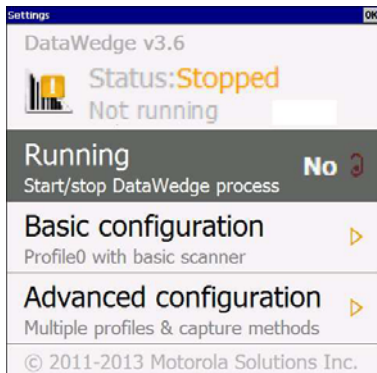


Figure 1-12 *DataWedge Stopped*

10. Select **Running** to start the DataWedge process. The DataWedge Status changes to **Ready**.

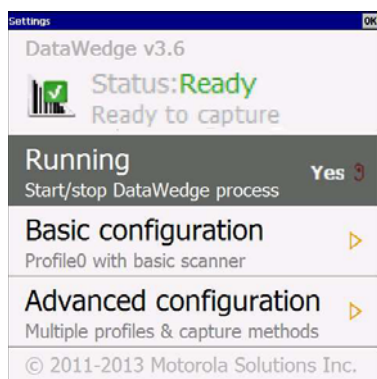


Figure 1-13 *DataWedge Running*

11. Click **OK** to exit.

Disable DataWedge

Use this procedure to disable DataWedge:

1. Select **Start > Settings > Control Panel > DataWedge** icon.
2. Select the **Running** option to end the DataWedge process. The **DataWedge Status** changes to **Stopped**.
3. Select **OK**.

Using DataWedge to Read bar Codes

To read bar codes with DataWedge:

1. Enable DataWedge.
2. Open an application and select a text box or field for entering the bar code data.
3. Use one of the optional scanners and capture the bar code data. The data appears in the text box.

Manual Release of MC18 from Cradles

The MC18 cradles contain a locking mechanism that locks the MC18 inside the cradle when docked. The MC18 releases from the cradle when a software command is received from the system. If the MC18 fails to un-lock during normal operation, use a release key to un-lock the MC18.

Manual Release of MC18 from the Single-Slot Cradle

- ✓ **NOTE** The MC18 also can be released by software command using the PocketBrowser application (see [Sample Application on page 7-1](#)).

To release a locked MC18 from a single slot cradle:

1. Insert the release key into the slot located at the bottom side of the cradle.
2. While pressing the release key all the way into the slot, remove the MC18 from the cradle

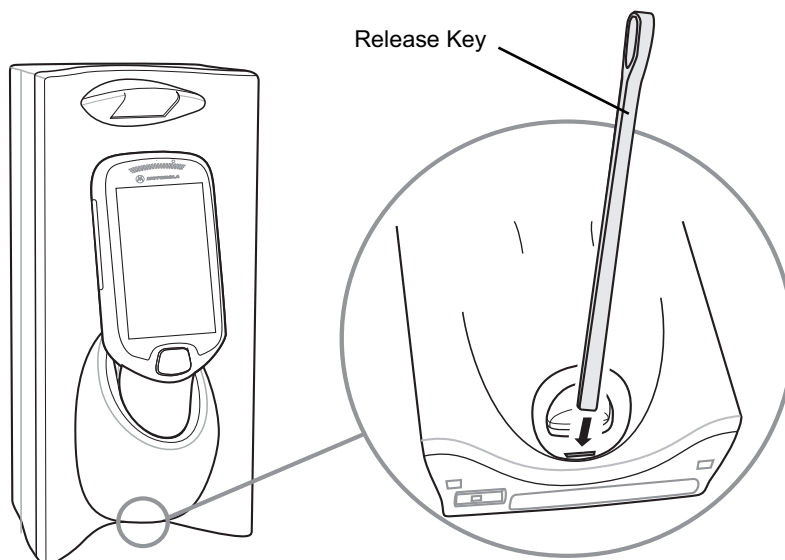


Figure 1-14 Manual Release of MC18 from a Single Slot Cradle

Three Slot Cradles

- ✓ **NOTE** The cradle includes models that do not have locking mechanism. To identify the model of cradle, refer to [Table 1-1 on page 1-4](#).
- ✓ **NOTE** The MC18 also can be released by software command using the Cradle Utility application (see [Setting and Controlling the Cradle on page 6-9](#)).

To release a locked MC18 from a three slot cradle:

1. Insert the release key straight into the slot, to a point where the bend stops.
2. Hold the release key pressed inside the slot and remove the MC18 from the slot.

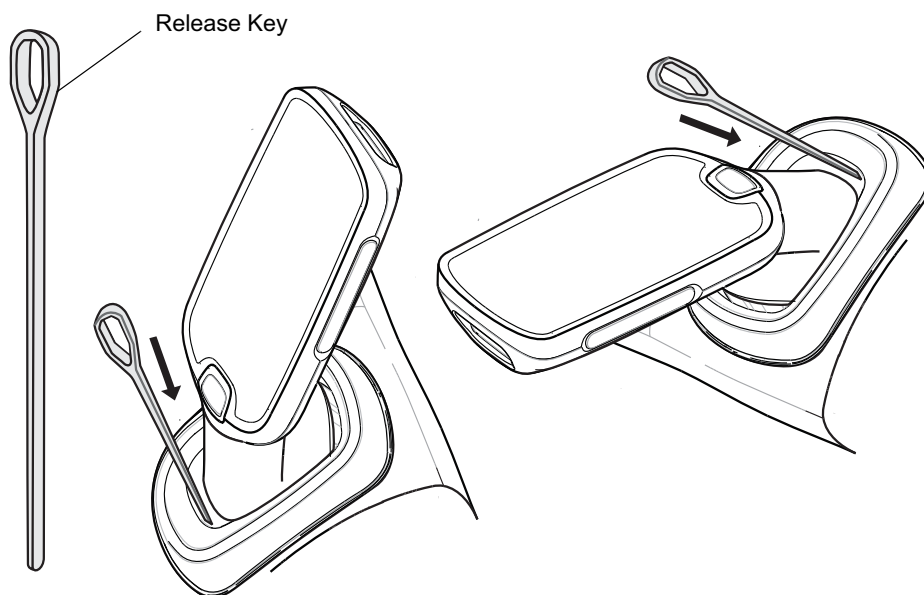


Figure 1-15 Manual Release of MC18 from a Three Slot Cradle

Resetting the MC18

There are two types of resets, warm boot and cold boot. A warm boot restarts the MC18 by closing all running programs.

A cold boot also restarts the MC18, but erases all stored records and entries in RAM. In addition it returns formats, preferences and other settings to the factory default settings.

Perform a warm boot first. This restarts the wearable terminal and saves all stored records and entries. If the wearable terminal still does not respond, perform a cold boot.

Performing a Warm Boot

Use this procedure to perform a warm boot:

1. From the **Start** menu, click **Programs** to launch the **Programs** menu.
2. Click **Warm Boot**.

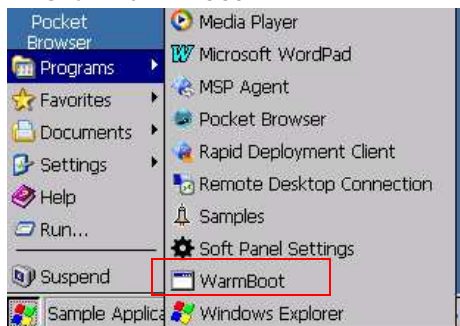


Figure 1-16 Performing a Warm Boot

Performing a Cold Boot

A cold boot restarts the MC18 and erases all user stored records and entries that are not saved in flash memory (Application and Platform folders). *Never perform a cold boot unless a warm boot does not solve the problem.*

✓ **NOTE** Any data previously synchronized with a computer can be restored during the next ActiveSync operation.

Performing Cold Boot when the MC18 is Docked Inside the Cradle

Use this procedure to perform a cold boot when the MC18 is docked inside the cradle:

1. Press and hold the scan key for 10 seconds until the display powers off.
2. Release the scan key when the MC18 re-boots.

Performing Cold Boot when MC18 is Out of the Cradle

Use this procedure to perform a cold boot when the MC18 is out of the cradle:

1. Insert the terminal reboot tool into the MC18 power connector and then press and hold the scan key for 10 seconds until the display powers off - the MC18 reboots.
2. Release the scan key and remove the terminal reboot tool from the MC18.

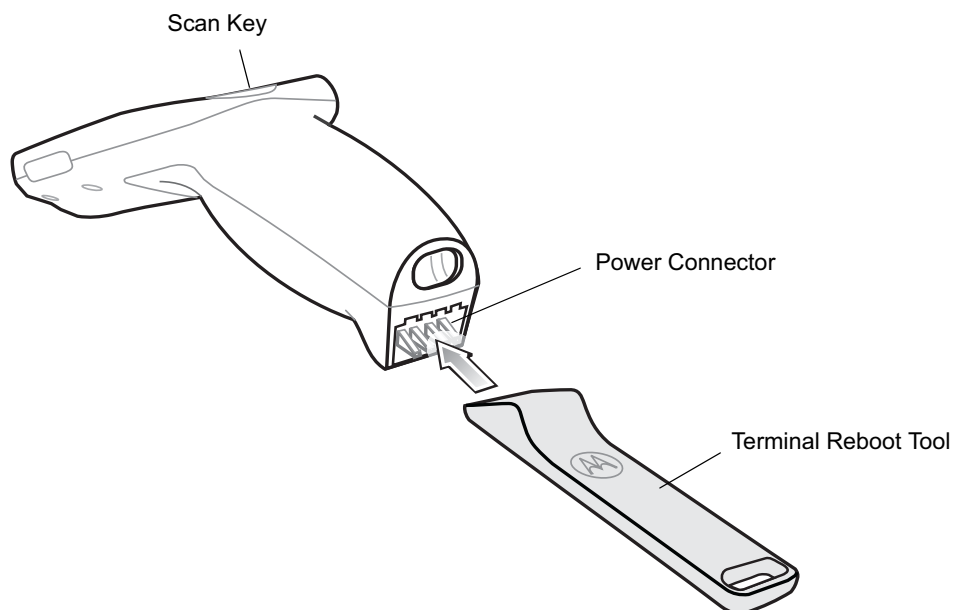


Figure 1-17 Terminal Reboot Tool

CHAPTER 2 STAGING AND PROVISIONING

Introduction

This chapter describes how to stage and provision the MC18 mobile computers using Mobility Services Platform (MSP) 3.X.

Staging

Staging is the process of setting up the MC18 to download packages for provisioning. The MC18 uses the Rapid Deployment (RD) Client for staging.

The RD Client enables simple and rapid provisioning of new (out of the box) mobile computers and simplifies the out-of-box provisioning by scanning bar codes or connecting to a profile server. The RD Client acts as a frontend for wireless radio configuration and AirBEAM Smart components, automating the manual configurations that would normally be required to use these tools.

- ✓ **NOTE** The MSP 3.0 Rapid Deployment Client enables staging by scanning staging profiles encoded into staging bar code sheets. It also enables staging to be performed without scanning bar codes through the use of On-Demand Staging. When using On-Demand Staging, the RD Client pulls staging profiles directly from an On-Demand Profile Server over some form of pre-configured or automatically-configured IP connection.

For detailed information about the MSP 3.X, refer to the *Mobility Services Platform 3.X User's Guide*.

An MSP Administrator uses the MSP Console for the creation of an RD profile that contains all the wireless network and security information (for example, ESSID, WEP Keys, etc.) required to get a MC18 onto the wireless network. The profile also contains FTP server access information needed to connect to the provisioning MSP and the list of software packages to be provisioned to the MC18 from the provisioning MSP. The RD profile can then be encoded into an RD bar code sheet and printed from the MSP Console or loaded onto a profile server.

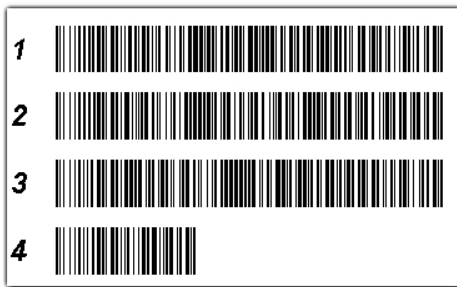


Figure 2-1 RD Bar Code Printout Sample

Bar Code Staging

When the MC18 boots for the first time (or after a cold boot) the **App Launcher** window appears. The **RD Client** option is highlighted.

✓ **NOTE** If the **App Launcher** screen does not display see your administrator.

Use this procedure to set bar code:

1. Obtain the appropriate RD bar code sheet from the MSP Administrator.
2. On the App Launcher screen, click **Rapid Deployment Client**.



3. **Result:** The **Scan Barcodes To Deploy** window displays.

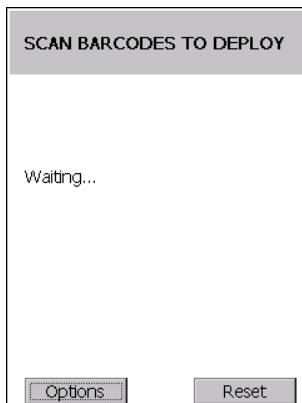


Figure 2-2 *Scan Barcodes To Deploy window*

The **RD Client** waits for the first bar code scan.

4. Scan the first bar code. The window indicates which bar code to scan next.

✓ **NOTE** Multi-part linear bar codes (1-D bar codes) can require scanning several bar codes. Bar codes can be scanned in any order. The display indicate the bar code to scan.

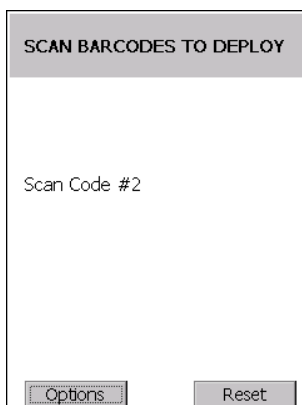


Figure 2-3 *Rapid Deployment Window - Scanning Bar Codes*

5. After all the bar codes are scanned successfully, the MC18 connects to the server and the **PROCESSING PROFILE** window displays while network settings are configured.

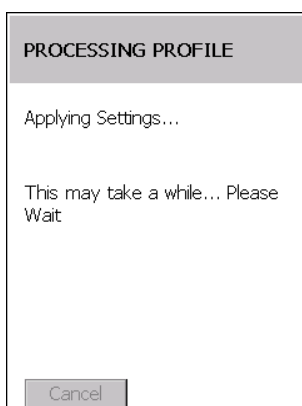


Figure 2-4 *Rapid Deployment Window - Processing Profile*

- When staging is complete the **STAGING COMPLETE** window displays.

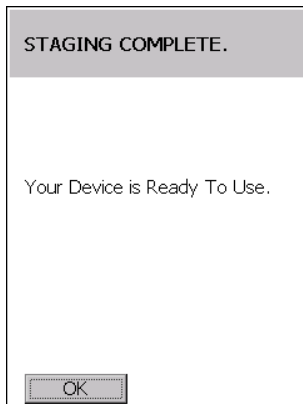


Figure 2-5 *Staging Complete Window*

- Use **Options > Exit** button in RD client application to exit.

On-Demand Staging

The MSP 3.0 **RD Client** also enables staging without having to scan bar codes through the use of On-Demand Staging (Electronic Staging).

When using On-Demand Staging, the RD Client pulls staging profiles directly from an On-Demand Profile Server over some form of pre-configured or automatically-configured IP connection. The following types of IP connection modes are currently supported for Electronic Staging:

ActiveSync Connection Mode

This mode uses the IP connection that is established when the MC18 is directly connected (via a USB cable, serial cable or cradle) to a host computer running ActiveSync. The most common scenario would be where the On-Demand Profile Server is running on the host computer to which the MC18 is connected via ActiveSync. It would, however, also work with the On-Demand Profile Server running on any other host computer that is on the same subnet as the host computer to which the MC18 is connected via ActiveSync.

Already existing IP Connection Mode

This mode uses any IP connection that is already active on the MC18. This could be a direct Ethernet port (if available), or a WLAN connection that was configured and established before the **RD Client** was launched. It could also be any other form of IP connection that might be available on the MC18. The **RD Client** does not do anything to configure or establish such connections, but uses them if they exist. The On-Demand Profile Server must be running on a host computer that is on the same subnet that is accessible from the connection.

Well-known WLAN Connection Mode

This mode works only on supported Symbol Technologies WLAN adapters. The **RD Client** attempts to configure and establish WLAN IP connections using pre-defined Symbol Technologies WLAN settings. If the **RD Client** is able to successfully configure and establish such a connection, and if an On-Demand Profile Server is running on a host computer that is on the same subnet that is accessible from the connection, then Electronic Staging proceeds using that connection.

Use this procedure to perform On-Demand Staging:

- In the **App Launcher** menu, launch the **RD Client**. The **Scan Barcodes To Deploy** window displays.

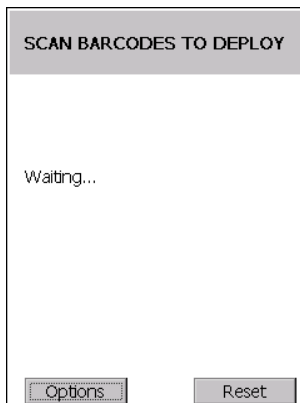


Figure 2-6 *Waiting for Bar Codes*

2. Use **Options > Exit** button in RD client application to exit. The **Main Menu** window appears.

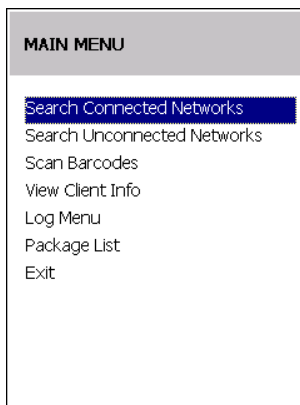


Figure 2-7 *RD Client Main Menu*

3. Select **Search Connected Networks** or **Search Unconnected Networks**. The **SEARCHING NETWORKS** window appears.

Connected networks are networks that are already connected and can be checked to see if a Staging Server can be found. Unconnected Networks are the well-known WLAN connections that are automatically configured and established to see if a Staging Server can be found.

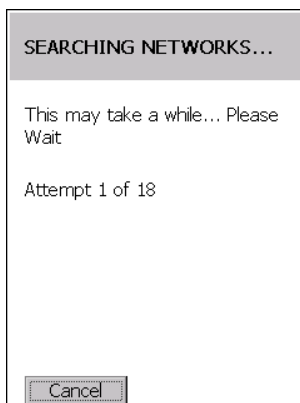


Figure 2-8 *RD Client Searching for On-Demand Profile Server*

4. When complete, the **STAGING COMPLETE** window displays.

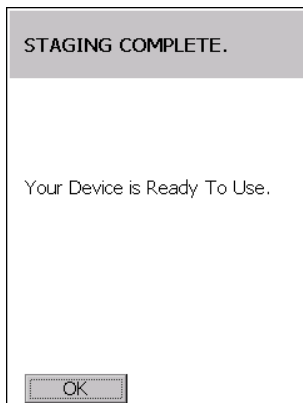


Figure 2-9 *Staging Complete Window*

Use **Options > Exit** button in RD client application to exit.

RD Client Main Menu

The RD Client **Main Menu** contains the following options:

- Search Connected Networks. See [On-Demand Staging on page 2-4](#) for detailed information.
- Search Unconnected Networks. See [On-Demand Staging on page 2-4](#) for detailed information.
- Scan Barcodes See [Bar Code Staging on page 2-2](#) for detailed information.
- View Client Info
- Log Menu
- Package List
- Exit - Closes the RD Client application.

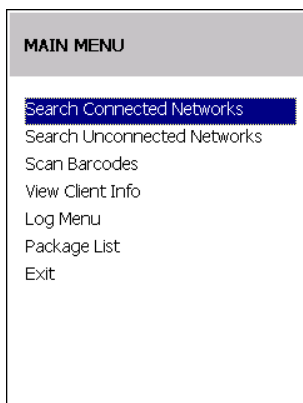


Figure 2-10 *RD Client Main Menu*

Client Info

Use the **Client Info** window to view the following information:

- RD Client version
- Product name

- Operating system type
- Plug-in type.

Select **View Client Info** option.

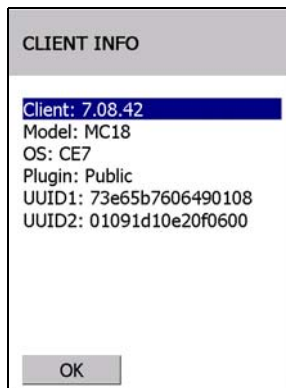


Figure 2-11 Client Info Window

Press the **OK** to return to the **Main Menu**.

Log Menu

The **Log Menu** contains the following options:

- View Log
- View Job Log
- Set Log Level
- Set Job Log Level.

Select **Log Menu** option.

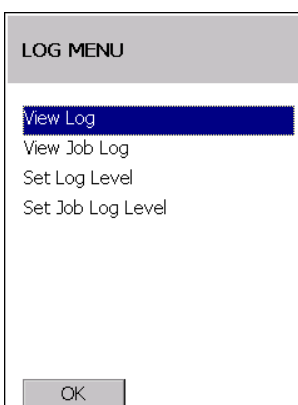


Figure 2-12 Log Menu Window

Press **OK** to return to the **Main Menu**.

View Log

Use the **View Log** option to display a list of events that have occurred.

Select **View Log** option.

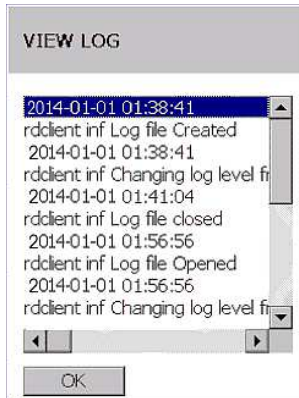


Figure 2-13 *View Log Window*

Return to the **Log Menu**.

View Job Log

Use the **View Job Log** option to display a list of jobs that have be processed.

Select **View Job Log** option.



Figure 2-14 *View Job Log Window*

Return to the **Log Menu**.

Set Log Level

Use the **Set Log Level** option to set the level of the information that appears in the log.

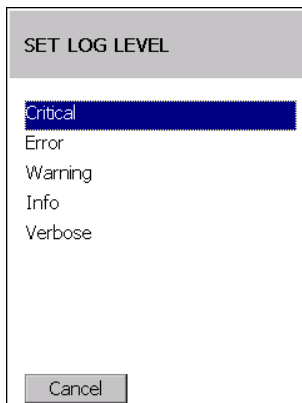


Figure 2-15 *Set Log Level Window*

Select a level option.

Set Job Log Level

Use the **Set Job Log Level** option to set the level of the information that appears in the Job log.

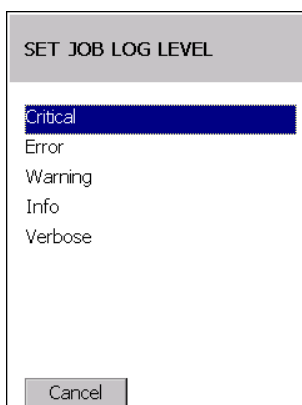


Figure 2-16 *Set Job Log Level Window*

Select a level option.

Package List

Use the **Package List** option to display the packages that have been installed on the MC18.

Select the **Package List** option.

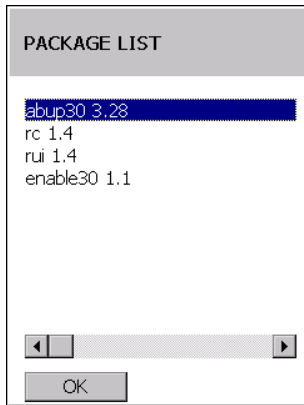


Figure 2-17 *Package List Window*

Return to the **Main Menu**.

Provisioning

Provisioning is the process of installing software packages onto the MC18 mobile computers.

MSP Agent

✓ **NOTE** MSP Agent is also known as MSP 3.X Provisioning Client.

The Provisioning Client is responsible for implementing device-side provisioning activities as defined by a policy. A policy is evaluated on the MSP 3.X system and delivered to mobile computers as job documents via relay servers.

The MSP 3.X Provisioning Client is 100% backward compatible to prior versions of the AirBEAM Client. Existing AirBEAM Smart users can use the MSP 3.X Provisioning Client as a 100% backward compatible replacement for prior versions of AirBEAM Client, when used in classic AirBEAM mode with existing FTP servers.

Existing MSP 2.X users can use the new Provisioning Client as a 100% backward compatible replacement for previous versions of AirBEAM Client, when used in Level 2 Agent and Level 3 Agent modes with existing MSP 2.X Appliances.

For more detailed information on MSP Agent (Provisioning Client), refer to the MSP 3.X User's Guide (p/n 72E-100158-xx).

MSP Agent Main Menu

The MSP Agent **Main Menu** contains the following options:

- Monitoring Processing
- Force Check-In
- Package List
- View Client info
- Log Menu
- Hide UI
- Exit - exits the MSP Agent application.

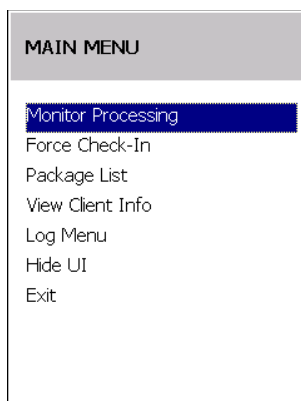


Figure 2-18 MSP Agent Main Menu

Monitor Processing

Use the **Monitor Processing** option to view the status of packages being processed.

Select the **Monitor Processing** option.

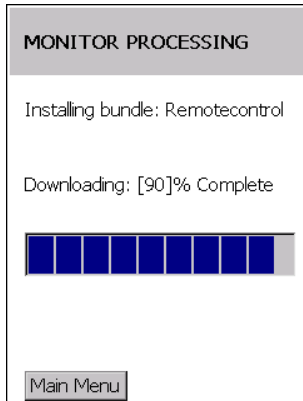


Figure 2-19 *Monitor Processing Window*

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

Force Check-In

Use the **Force Check-In** option to check instantly for pending package downloads instead of waiting for the next automatic check that the client performs.

Select the **Force Check-In** option.

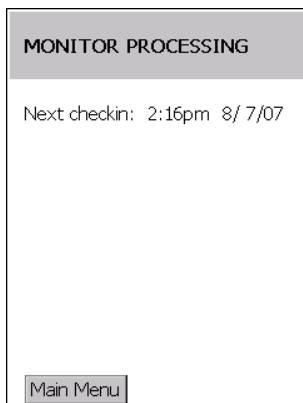


Figure 2-20 *Force Check-in Window*

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

Package List

Use the **Package List** option to display the packages that have been installed on the MC18.

Select the **Package List** option.

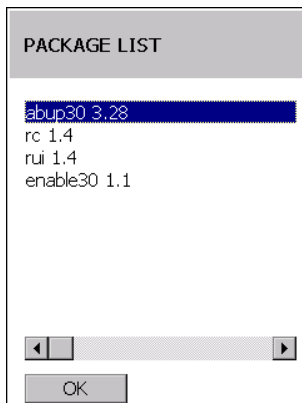


Figure 2-21 *Package List Window*

Press **OK** to return to the **Main Menu**.

Client Info

Use the **Client Info** window to view the following information:

- RD Client version
- Product name
- Operating system type
- Plug-in type.

Select **View Client Info** option.

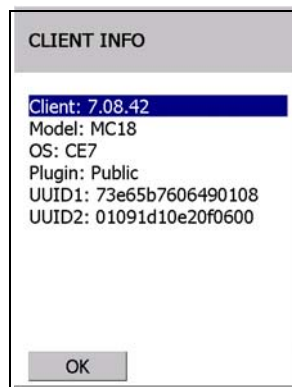


Figure 2-22 *Client Info Window*

Press **OK** to return to the **Main Menu**.

Log Menu

The **Log Menu** contains the following options:

- View Log
- View Job Log
- Set Log Level
- Set Job Log Level.

Select **Log Menu** option.

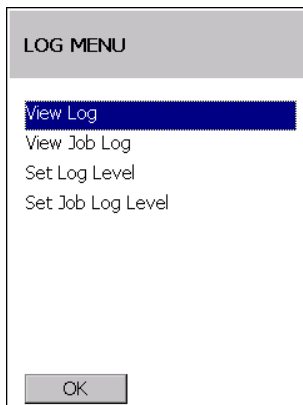


Figure 2-23 *Log Menu Window*

Press **OK** to return to the **Main Menu**.

View Log

Use the **View Log** option to display a list of events that have occurred.

Select **View Log** option.

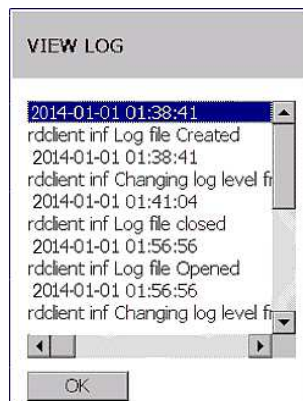


Figure 2-24 *View Log Window*

Press **OK** to return to the **Log Menu**.

View Job Log

Use the **View Job Log** option to display a list of jobs that have be processed.

Select **View Job Log** option.



Figure 2-25 *View Job Log Window*

Press **OK** to return to the **Log Menu**.

Set Log Level

Use the **Set Log Level** option to set the level of the information that appears in the log.

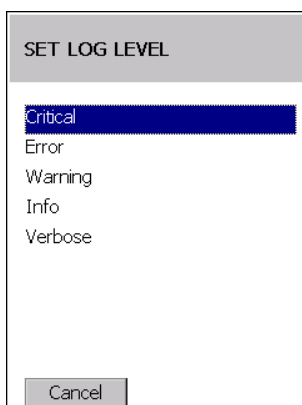


Figure 2-26 *Set Log Level Window*

Select a level option.

Set Job Log Level

Use the **Set Job Log Level** option to set the level of the information that appears in the Job log.

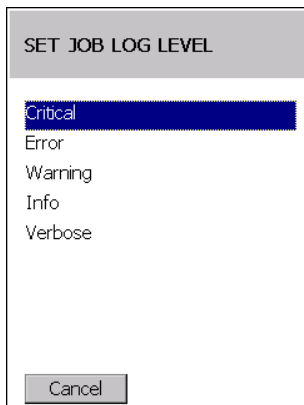


Figure 2-27 *Set Job Log Level Window*

Select a level option.

Hide UI

Use the **Hide UI** option to minimize the MSP Agent application. The MSP Agent application runs in the background while minimized.

To un-hide the application, select the **MSP Agent** icon in the task tray and select the **UnHide UI** menu item.

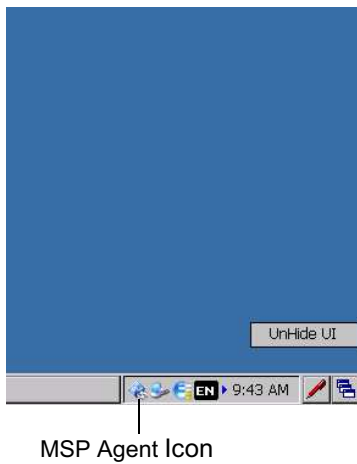


Figure 2-28 *UnHide UI Selection*

CHAPTER 3 WIRELESS APPLICATIONS

Introduction

Wireless Local Area Networks (WLANs) allow the MC18 mobile computers to communicate wirelessly and send captured data to a host device in real time. The MC18 supports the 802.11a, 802.11b, 802.11g and 802.11n standards. Before using the MC18 on a WLAN, the facility must be set up with the required hardware to run the wireless LAN and the MC18 must be configured. Refer to the documentation provided with the access points (APs) for instructions on setting up the hardware.

To configure the radio in the MC18, use the Fusion APIs in the Enterprise Mobility Developer's Kit (EMDK). Refer to the *EMDK Help* file for detailed information.

The MC18 contain the Wireless Applications to allow configuration of the WLAN radio. On the MC18, use the touch screen to access the Wireless Application. MC18 requires the use of remote control software. See [Chapter 4, Sync with Host Computer](#) for more information.

802.11d Overview

IEEE 802.11d, is an amendment to the IEEE 802.11 specification that adds support for additional regulatory domains. This includes additional country information to beacons, probe requests, and probe responses. The country information simplifies the creation of 802.11 wireless access points (APs) and clients that meet the different regulations enforced in various parts of the world.

Fusion fully supports 802.11d for Regulatory purposes. By using 802.11d, the MC18 can easily connect to a wireless network and use only the valid channels for the country specified in the AP's beacons. By default, the MC18 software enables 802.11d mode to determine regulatory requirements.

Configuring My Country for Use with WLAN on the MC18

Configuration can be done on:

- an enabled 802.11d network
- a disabled 802.11d network.

Enabled 802.11d Network

There is no need to configure a country if 802.11d is used by the Access Point (AP). Verify that the wireless network infrastructure has 802.11d enabled.

Use this procedure to connect to a network with 802.11d enabled:

1. Use Mobility Services Platform (MSP) to generate bar codes that contain a Fusion wireless network profile for use with Rapid Deployment (RD). This profile should match the network that is being connected to (a properly configured ESSID).
2. On the MC18, use RD to scan the MSP Fusion Profile bar codes.
3. RD imports the Fusion Profile into the Fusion Database and attempts to connect to the network configured in the profile. Fusion uses the country code information provided in the AP's beacon (802.11d) to determine the regulatory requirements and connect to the network using a valid WLAN channel.

Disabled 802.11d Network

If the network does not have 802.11d enabled, it is necessary to create:

A Fusion Options gpdexport file on another device, running Fusion X2.00 or above on a new staging network dedicated to the transition from 802.11d to using a specific country code.

This staging network needs to have 802.11d enabled. This staging network could be as simple as an AP connected to a host computer and multiple MC18s. A separate non-MC18 Fusion based device (MC67, MC92N0, VC70, etc.) is needed to create the Fusion Options gpdexport file.

Create Fusion Options gpdexport File

To export the Fusion Options to a gpdexport file that contains the proper settings for the network, perform the following steps:

1. Obtain another device that has Fusion applications on it. This device should have Fusion X2.00 or later version on it.
2. On this device, tap the Wireless icon in the system tray and select Options from the menu. The Options window appears.
3. In the Options drop-down list, select Regulatory.
 - a. In the Settings drop-down list, select the country code to use.
 - b. Un-check the Enable 802.11d checkbox.
 - c. Tap Save.
4. In the Options drop-down list, select Import/Export.
 - a. Tap the Export Options button. The Export File Wizard window appears.
 - b. Select Fusion Options and Overwrite conflicting records checkboxes. Uncheck all other checkboxes and tap on Export to file button.
 - c. The Save As window appears.
 - d. Save the Fusion Options gpdexport file to the device (name the file as desired).
5. Tap X to close the Options window.
6. Using a Sync application, copy the Fusion Options gpdexport file to a host computer. This file will be downloaded to configure MC18 devices with the correct country and 802.11d mode.

Update MC18 via 802.11d Enabled Staging Network

Use the staging network to configure all devices with the correct country code and 802.11d mode:

1. Configure RD to download packages from a FTP server that is accessible from the staging network. This may require MSP bar codes, etc.
2. The Out of Box magic profile for the MC18 devices automatically attempts to connect to a wireless network with an ESSID of "101". This should be the same ESSID of the staging network.
3. Place the Fusion Options gpdexport file (created using the alternate Fusion based device), on the staging network's FTP server.
4. The MC18 should download the Fusion Options gpdexport file from the staging network to and configure 802.11d mode and the country code.
5. The MC18 should perform a cold boot so that the new configuration takes effect.

Connect to the Non-802.11d Network

Since the MC18 is now setup to not use 802.11d and is configured with the correct country code for the network, the normal RD procedure should be used from this point forward.

Wireless Application on the MC18

To configure the MC18, a set of wireless applications provide the user with the tools to configure and test the wireless radio embedded the MC18. The following wireless applications are available on the task tray from the **Wireless Application** menu:

- Wireless Status
- Wireless Diagnostics
- Find WLANs
- Manage Profiles
- Options
- Log On/Off
- Enable/Disable Radio.

Refer to the *Wireless Fusion Enterprise Mobility Suite User Guide for Version X.XX*, for information on configuring wireless profiles, where X.XX indicates the Fusion version. To determine the Fusion version see [Fusion Software on page xii](#).



NOTE The Windows CE 7.0 desktop may not be visible because the App Launcher application is active. To view the desktop, close all running applications.

By default, the task tray is displayed below the screen. If the taskbar is set to be hidden, display the task tray by placing your finger over the portion of the task tray that is visible (a thin gray line at the bottom of the screen). The task tray automatically appears.

Touch the **Signal Strength** icon to display the **Wireless Application** menu.



Signal Strength Icon

Figure 3-1 *Wireless Applications Menu*

Signal Strength Icon

The **Signal Strength** icon in the task tray indicates the MC18 wireless signal strength as follows:

Table 3-1 *Wireless Applications Icons, Signal Strength Descriptions*

Icon	Status	Action
	Excellent signal strength	Wireless LAN network is ready to use.
	Very good signal strength	Wireless LAN network is ready to use.
	Good signal strength	Wireless LAN network is ready to use.
	Fair signal strength	Wireless LAN network is ready to use. Notify the network administrator that the signal strength is only "Fair".
	Poor signal strength	Wireless LAN network is ready to use. Performance may not be optimum. Notify the network administrator that the signal strength is "Poor".
	Out-of-network range (not associated)	No wireless LAN network connection. Notify the network administrator.

Turning Off the Radio

To turn off the WLAN radio click the **Wireless Connection Status** icon on the task tray and select **Disable Radio**.

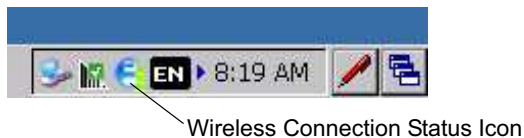


Figure 3-2 Wireless Connection Status Icon - Radio On

A red i appears at the bottom of the icon indicating that the radio is disabled (off).

To turn the radio back on, click the **Wireless Connection Status** icon on the task tray and select **Enable Radio**.

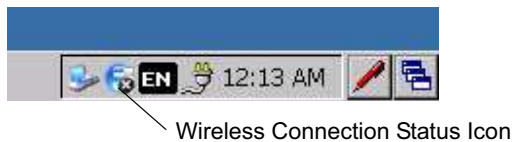


Figure 3-3 Wireless Connection Status Icon - Radio On

The red X disappears from the icon indicating that the radio is enabled (on).

Bluetooth

Microsoft Bluetooth stack only for printing use case Version 2.1 with EDR compliance Maximum theoretical bandwidth of 921.6Kbps.

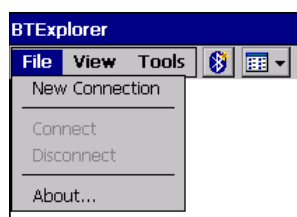
The MC18 supports the following Bluetooth profiles:

- Generic Access Profile - GAP
- Service Discovery Access Profile - SDAP
- Serial Port Profile – SPP
- Wake on BT

Bluetooth Printing

Use this procedure to pair the MC18 to a Bluetooth printer:

1. Launch **BT Explorer** by clicking the BT Icon in notification area.
2. Click **File -> New Connection**.



3. Click Next on New Connection wizard to start device discovery.



4. Select the printer and choose next to start pairing process.



5. Enter the PIN. Once the printer is paired with MC18, services of printer are listed.
6. Choose serial printer service and connect.
7. Select the port MC18 to connect to printer.

CHAPTER 4 SYNC WITH HOST COMPUTER

To communicate with a host computer, the host computer requires a synchronization program. After synchronizing the MC18 with a host computer, changes made on the MC18 or host computer appear in both places.

To communicate with a host computer running Windows XP, install Microsoft ActiveSync (version 4.5 or higher).

To communicate with a host computer running Windows 7, install Windows Mobile Device Center (WMDC version 6.1 or higher).

Using a synchronization software:

- Allows working with MC18-compatible host applications on the host computer. The synchronization software replicates data from the MC18 so the host application can view, enter, and modify data on the MC18.
- Synchronizes files between the MC18 and host computer, converting the files to the correct format.
- Backs up the data stored on the MC18. Synchronization is a one-step procedure that ensures the data is always safe and up-to-date.
- Copies (rather than synchronizes) files between the MC18 and host computer.
- Controls when synchronization occurs by selecting a synchronization mode, e.g., set to synchronize continually while the MC18 is connected to the host computer, or set to only synchronize on command.
- Selects the types of information to synchronize and controls how much data is synchronized.

Installing the Synchronization Software

To install ActiveSync or Windows Mobile Device Center software on the host computer, logon to Microsoft web site at <http://www.microsoft.com>. Refer to the installation instructions included with the software.

Connecting the MC18 to a Host Computer

Perform this procedure to connect the MC18 to a host computer:

1. Ensure that synchronization program (ActiveSync for Windows XP or Windows Mobile Device Center for Windows 7) is installed properly on the host computer.
2. Using a T8 Torx drive, remove the two Torx screws securing the battery cover to the back housing of the MC18 (see [Figure 4-1](#)).

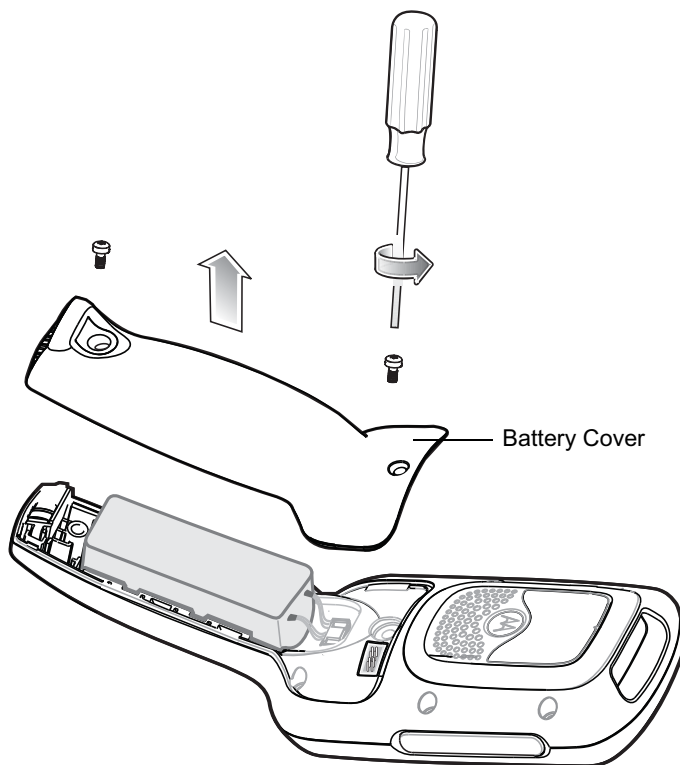


Figure 4-1 Remove Battery Cover



CAUTION Do not remove the battery cover while the MC18 is on and do not operate the MC18 with the battery cover removed. Follow proper Electro-Static Discharge (ESD) precautions to avoid damaging the MC18. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is properly grounded.

3. Align the connector on the programming cable panel with the sync connector on the MC18 and lower the panel to fit on the MC18.
4. Hand-tighten the two T8 Torx screws securing the programming cable panel to the MC18.

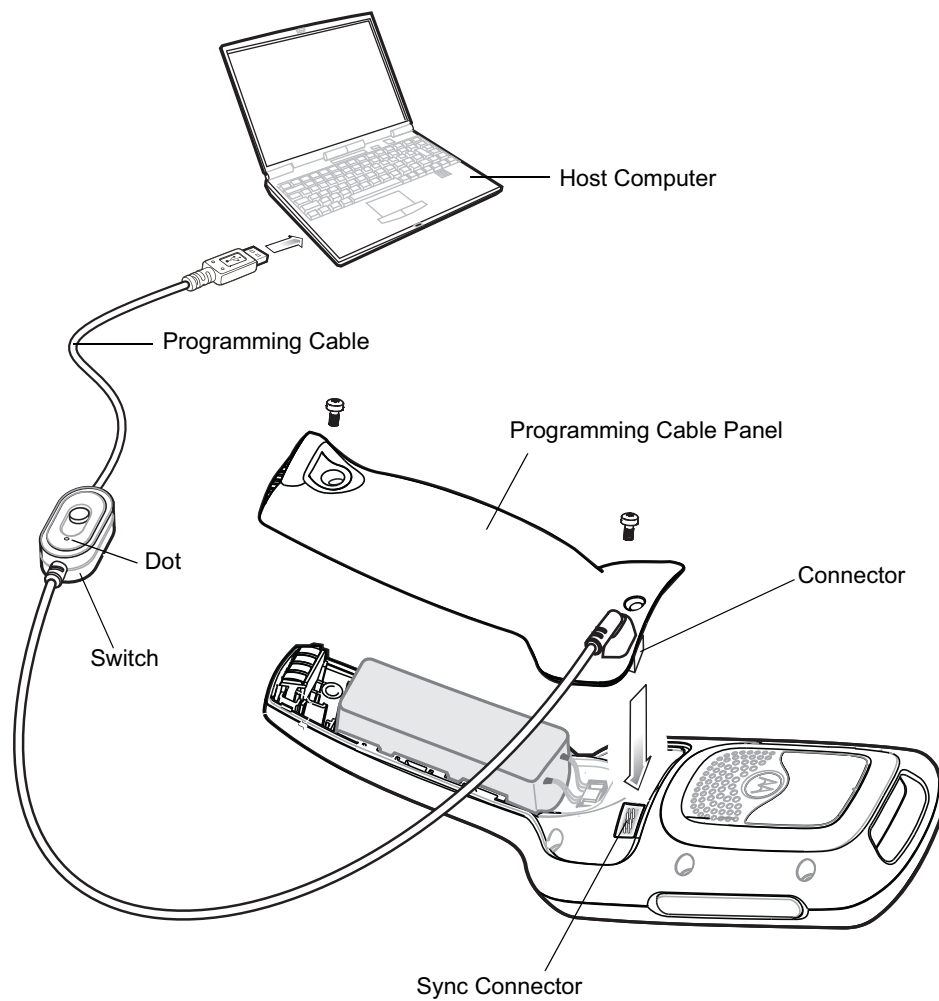
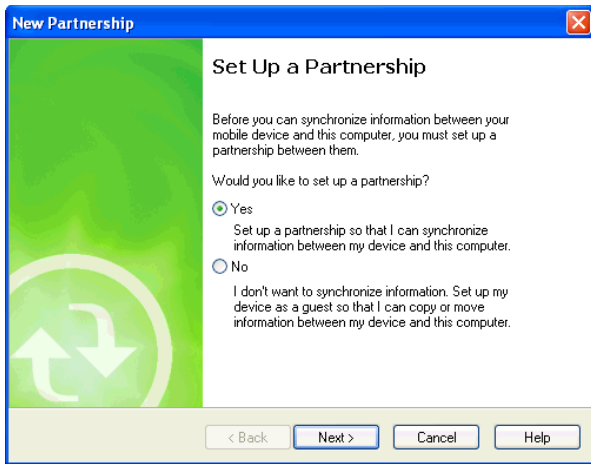


Figure 4-2 *Installing the Programming Cable*

5. Set the switch on programming cable of the programming cable panel to the side marked with a dot (see [Figure 4-2](#)).
6. Connect the USB connector of the programming cable panel to the Host Computer. The host computer automatically detects the MC18 and starts ActiveSync or Windows Mobile Device Center - the synchronization program window appears on the host computer screen.



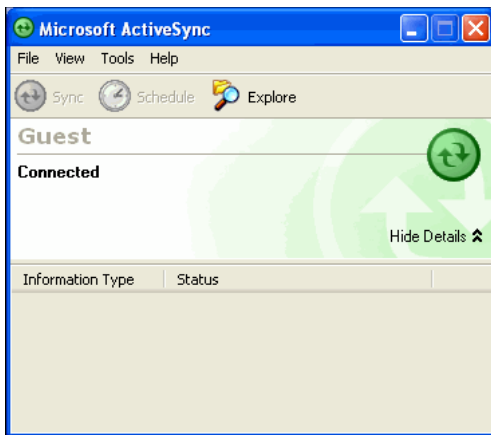
ActiveSync



Windows Mobile Device Center

Figure 4-3 Synchronization Program Windows

7. For ActiveSync, select the **Yes** radio button to create a partnership with the host computer or **No** radio button to connect as a guest.
For Mobile Device Center, select **Set up your device** or select **Connect without setting your device** to connect as a guest.
8. For ActiveSync, click **Next**. The Microsoft ActiveSync window indicates that it is connected to the MC18.
For Windows Mobile Device Center, select the required option.



ActiveSync



Windows Mobile Device Center

Figure 4-4 ActiveSync / Windows Mobile Device Center Connected Window

Removing the Programming Cable Panel

Perform this procedure to remove the programming cable panel.



CAUTION Follow proper Electro-Static Discharge (ESD) precautions to avoid damaging the MC18. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is properly grounded.

1. Using a T8 Torx drive, loosen the two screws securing the programming cable panel to the MC18.
2. Lift the programming cable panel straight up.

Installing the Battery Cover

1. Align the battery cover on the MC18 and lower the panel to fit on the MC18.
2. Using a T8 Torx drive, secure with battery cover to the MC18 using the two Torx screws. Torque the screws to 3.6 kgf/cm (3.1 in-lbs).

Setting Up an ActiveSync Connection on the Host Computer (with Windows XP)

✓ **NOTE** The normal function of the product may be disturbed by Strong Electro Magnetic Interference (for example, static electricity). If so, simply remove and re-insert the MC18 to resume normal operation. In case the function does not resume, please use the product in another location.

Use this procedure to start ActiveSync:

1. Select **Start > Programs > Microsoft ActiveSync** on the host computer. The **ActiveSync** window displays.

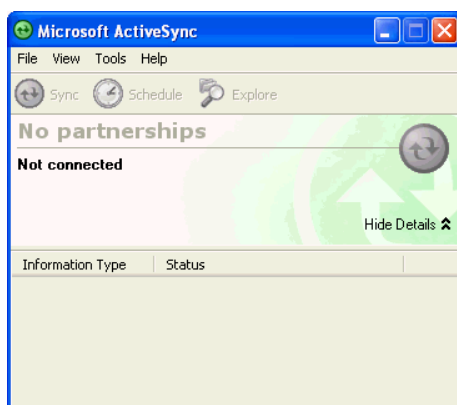


Figure 4-5 ActiveSync Window



NOTE Assign each MC18 a unique device name. Do not try to synchronize more than one MC18 to the same name.

2. In the **ActiveSync** window, select **File > Connection Settings**. The **Connection Settings** window appears.



Figure 4-6 *Connection Settings Window*

3. Select **Allow USB connections** check box.
4. Select the **Show status icon in Taskbar** check box.
5. Select **OK** to save any changes made.

Setting up a Partnership

Use this procedure to set up a partnership:

1. If the **Get Connected** window does not appear on the host computer, select **Start > All Programs > Microsoft ActiveSync**.



Figure 4-7 *New Partnership Window*

2. Select if you want to set up a partnership. Select either the **Yes** or **No** radio button.
3. Click **Next**.
4. If **No** is selected, skip to step 7.

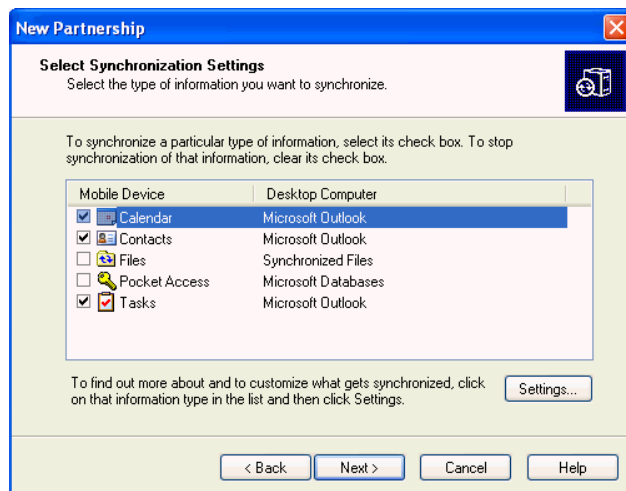


Figure 4-8 *Select Synchronization Setting Window*

5. Select the appropriate settings and click **Next**.

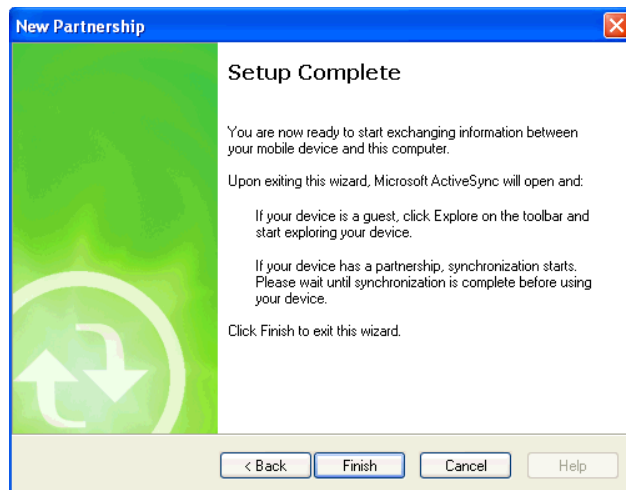


Figure 4-9 *Setup Complete Window*

6. Click **Finish**.
7. The Microsoft ActiveSync window displays.

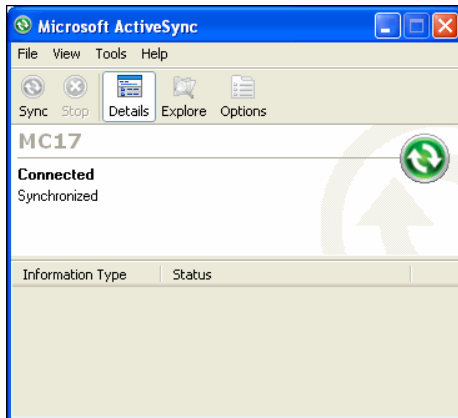


Figure 4-10 *ActiveSync Connected Window*

During the first synchronization, information stored on the MC18 is copied to the host computer. When the copy is complete and all data is synchronized, the MC18 can be disconnected from the host computer.

- ✓ **NOTE** The first ActiveSync operation must be performed with a local, direct connection. To retain partnerships after a cold boot, capture partnership registry information in a .reg file and save it in the Flash File System. See the detailed information provided in the EMDK Windows CE Help File for Mobile Computers.

For more information about using ActiveSync, start ActiveSync on the host computer, then see ActiveSync Help.

Setting Up a Windows Mobile Device Center Connection on the Host Computer (with Windows 7)

To set up a Sync connection using Windows 7:

1. Select **Start > All Programs > Windows Mobile Device Center** on the host computer.



Figure 4-11 *Windows Mobile Device Center (WMDC) Window*

2. In the WMDC window, under **Mobile Device Settings**, click **Connection settings**.

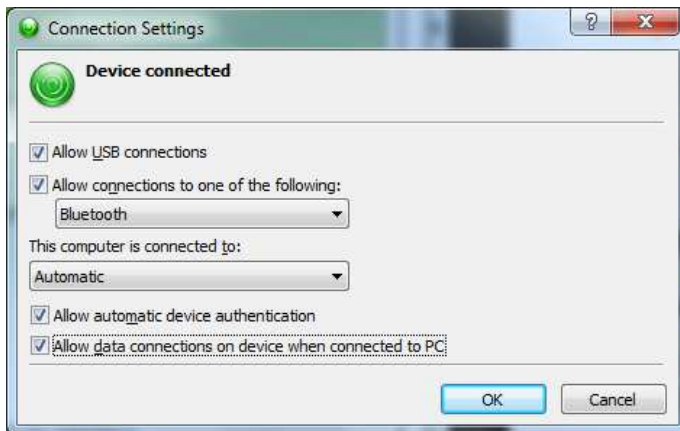


Figure 4-12 Connection Settings Window

3. Select **Allow USB connections** and adjust any additional settings as needed.
4. Click **OK** to save your settings.

Setting up a Partnership

To set up a partnership:

1. In the WMDC window, under **Mobile Device Settings**, click **Set up your device**.
2. Check the **Files** check box and click **Next**.

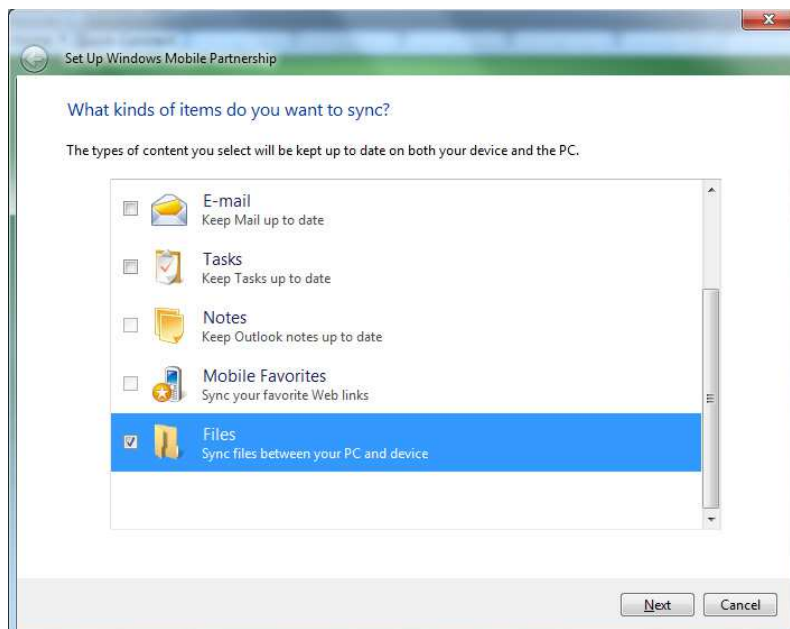


Figure 4-13 Select Synchronization Setting Window

3. Set your device name and click **Set Up** - the Connected Window will display.

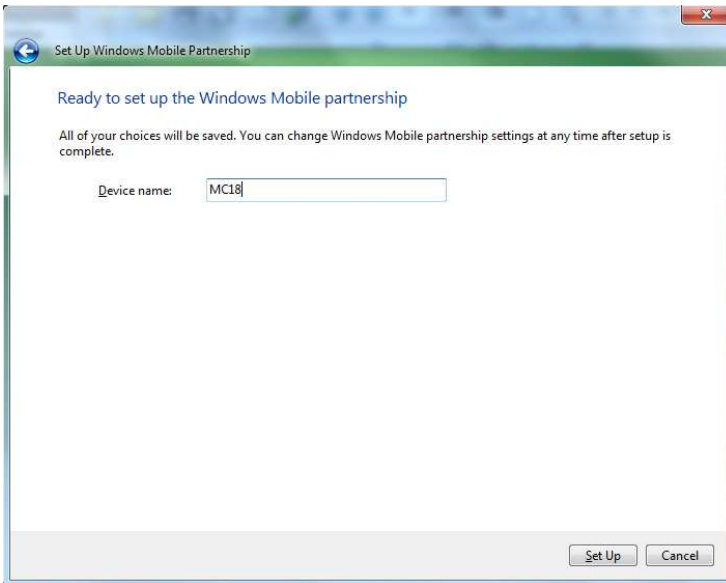


Figure 4-14 Setup Complete Window



Figure 4-15 Connected Window

During the first synchronization, information stored on the MC18 is copied to the host computer. When the copy is complete and all data is synchronized, the MC18 can be disconnect from the host computer.

For more information about using WMDC, start the application on the host computer, then see Help.

CHAPTER 5 USING THE WINDOWS CE DESKTOP

Introduction

The MC18 runs Windows CE 7.0 operating system and the operating system is only available for configuration when connected to a host computer via sync program.

The MC18 enabled device is available using the user interface (UI).

App Launcher Window

The **App Launcher** window allows the user to launch specific applications by tapping on a menu an item. If the **App Launcher** window is closed, launch the **App Launcher** window by touching the **App Launcher** shortcut on the MC18 desktop or selecting **AppLauncher.exe** in the **Start > Programs > Windows Explorer** directory.

See [Appendix B, App Launcher Configuration](#) for instructions on modifying the **App Launcher** menu.

✓ **NOTE** App Launcher window may vary depending upon the operating system version.

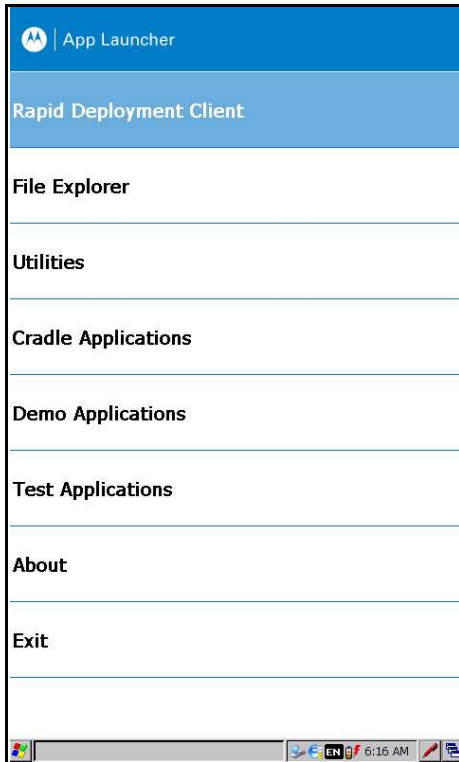


Figure 5-1 App Launcher Window

Table 5-1 App Launcher Item Descriptions

Item	Description
Rapid Deployment Client	Launches the Rapid Deployment application.
File Explorer	File Explorer enables working with files, folders and network on the MC18.
Utilities	Provides easy access to most used applications such as Internet Explorer.
Cradle Applications	Provides for cradle software update, control and settings and diagnostics applications.
Demo Applications	Provides applications that demonstrate the operation of the MC18 such as scan application.
Test Applications	Provides applications for performing diagnostics and testing of the MC18.
About	Displays information about the App Launcher.
Exit	Closes the Up Launcher window.

Windows CE 7.0 Desktop

- ✓ **NOTE** The Windows CE 7.0 desktop may not be visible because the App Launcher application is active. To view the desktop, close all running applications.

The following paragraphs describe the Windows CE 7.0 desktop. Depending upon the customer's configuration of the MC18, the desktop may not be available.

Status Icons

The Taskbar at the bottom of the window displays the active programs, battery status and communication status. The taskbar (at the bottom of the screen) displays the **Start** button, active programs, battery status and communication status. The taskbar icons are described in [Table 5-2](#). The taskbar icons display the function status, indicate what programs are active and indicate the battery charge status. The Taskbar buttons are used to access menus, select/deselect functions or to change display windows.

- **Active Programs Icons:** The active applications icons are displayed on the taskbar. If more than one program is active, icons can be used to toggle between the open programs (applications). Touch on a taskbar application to maximize the application.
- **AC Power/Battery Status Icons:** The AC Power/Battery Status icons are shown in the taskbar to indicate the present power supply status of the MC18. The battery status icons provide the battery status in 10% increments from 10% to 100%.

The Taskbar is shown on the lower part of the MC18 screen. To set the properties of the taskbar, see [Properties on page 5-6](#).

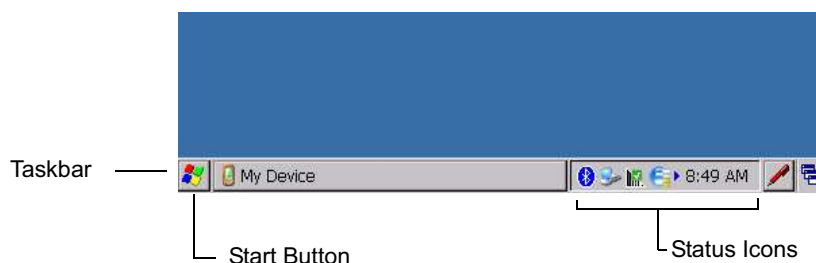


Figure 5-2 Taskbar

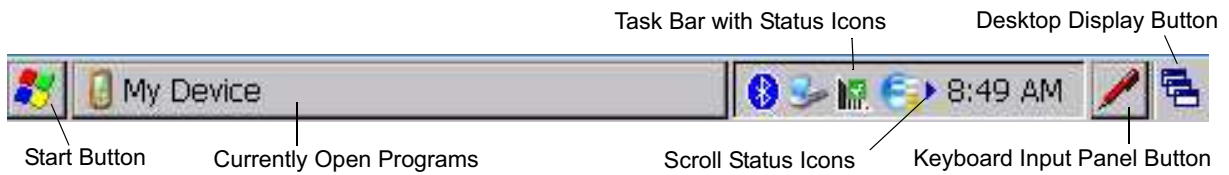









Figure 5-3 Taskbar

Table 5-2 Taskbar Icons

Icon	Description
	Indicates that the battery is charging.
	Indicates that the battery is fully charged (100% charged). The battery status icons provide the battery status in 10% increments from 10% to 100%.
	Indicates that the battery is fully charged and the MC18 is running on external power.
	Indicates IP status. Only displays when the MC18 is in emulation mode.
	Indicates that the Sync application is running.
	Indicates that the wireless application radio is connected to a wireless LAN network with excellent signal strength.
	Indicates that the wireless application radio is not connected to a wireless LAN network.

Start Button

Touch the **Start** button to launch the *Start* menu.

- *Programs*: Use to access available programs.
- *Favorites*: Displays files in *Favorites* directory.
- *Documents*: Displays files in *Documents* directory.
- *Settings*: Accesses the Control Panel, the Network and Dial-up Connections and the Taskbar and *Start* menu.
- *Help*: Accesses the Windows CE Help.
- *Run . . .* : Runs a program or application.
- *Suspend*: Places the MC18 in the suspend state.

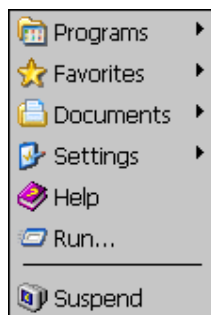


Figure 5-4 Start Menu

Programs Menu

From the **Start** menu, click **Programs** to launch the **Programs** menu. Refer to the Application Guide for *Symbol Technologies Enterprise Mobility Devices*, p/n 72-68901-xx and the *Microsoft® Applications for Windows Mobile and WinCE 7.0 User Guide*, p/n 72E-78456-xx for application information.



Figure 5-5 Programs Menu

Desktop Display Button

Use the **Desktop Display** button to minimize all open programs and display the desktop.

Entering Information Using the Keyboard Input Panels


Use the keyboard input panels (soft keyboard) to enter information in any program. To launch the keyboard input panel, click the  button on the taskbar. Select the type of input panel (Keyboard or XAMLIM). Touch a key to enter the value. Touch the keyboard input panel button to display or to hide the keyboard input panel.



Figure 5-6 Keyboard Input Panel

Task Bar and Start Menu Properties

Use the **Properties** functions to set display and clock options.

Properties

1. Touch **Start > Settings > Taskbar and Start Menu ...**. The **Taskbar and Start Menu** window displays.

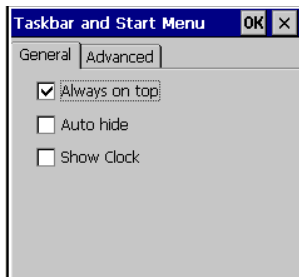


Figure 5-7 Taskbar and Start Menu- General Tab

2. This window provides taskbar options:
 - Check the **Always on Top** check box to keep the taskbar on top of all other windows.
 - Check the **AutoHide** check box to make the taskbar disappear, click the bottom of the display to make the taskbar return.
 - Check the **Show Clock** check box to display the clock on the taskbar.
3. Touch **OK** to save the settings and exit the window.

Advanced Tab

1. Touch the **Advanced** tab.

2. Touch the **Clear** button to delete all of the documents listed in the **Start > Documents** entry, see [Start Button on page 5-4](#). Typically this list is empty, but if there were documents in the list the **Clear** button would delete them.
3. Touch the **Expand Control Panel** check box to display the entire contents of the Control Panel in list form, rather than icons.



Figure 5-8 Taskbar and Start Menu-Advanced Tab

4. Touch **OK** to save the settings and exit the window.

Waking the MC18

The wake up conditions define what actions wake up the MC18 after it has gone into suspend mode. The MC18 can go into suspend mode automatically by control panel time-out settings. These settings are configurable and the factory default settings are shown in [Table 5-3](#). To set the wake up conditions select **Start > Settings > Control Panel > Power icon > Wakeup** tab.

Table 5-3 Wakeup Default Settings

Condition for Wakeup	Automatic Time-out
Touch Panel (Screen)	No
Trigger 1 (Scan key)	Yes
USB Cable	Yes



Figure 5-9 Wakeup Tab

CHAPTER 6 SPECIAL CONSIDERATIONS

Introduction

The chapter provides information for:

- Using language fonts
- software development considerations
- Improving battery charge time
- Improving battery life
- Cradle applications
- MC18 Hardware Diagnostics

Fonts

The MC18 supports the following language fonts:

- English
- French
- Italian
- German
- Spanish
- Swedish
- Russian
- Greek (fonts support only)
- Arabic (fonts support only)

The MC18 supports the installation of font libraries for use with application and web development. Simplified Chinese, Korean, and Japanese font libraries are available on the Support Central Web site, <http://supportcentral.motorola.com>. Other standard UTF-8 encoded fonts are available from third party font

vendors. Developers should refer to Microsoft and third party vendor documentation for development and usage details.

It should be noted that installing a language font library will not change the language configuration of the operating system image, i.e., Windows messages will still be displayed in the language designated in the factory supplied operating system image.

Asian Font Installation

The Asian fonts must be installed onto the MC18.

Use this procedure to install Asian fonts onto the MC18.

1. Download the font package from Support Central.
2. Copy the language font files into the *Application* folder on the MC18:
 - .ttf, .ttc or .ac3 files
 - .reg files (required for Asian fonts)
 - .cpy files.
3. Cold boot the MC18.

After the MC18 re-boots, the installed fonts are available for use.

Refer to <http://msdn2.microsoft.com/en-us/library/aa911446.aspx> for an explanation of font usage and installation.

Software Development Considerations

- Dim or turn off the backlight when the MC18 is idle.
- Whenever possible use default key code settings.
- To improve performance, use RAM instead of flash memory.
- Always lock the cradle after unlocking it.
- Cold booting the MC18 erases all files in RAM. Be sure to save any critical files in *Application* folder, e.g.; Radio profile, time zone setting, license keys etc.
- User developed applications should provide a method for exiting or launching Rapid Deployment to enable re-staging the MC18.
- For detailed information on how to control the cradle LEDs and locking/unlocking the MC18 in the cradle, refer to the EMDK Help file.

Tips for Improving Battery Charge Time

To improve battery charging time:

- Avoid unnecessary wireless communication while the MC18 is in the cradle.
- Use maximum power save mode when setting up the wireless profile. (This greatly improves charging time since the radio accounts for a large amount of power).
- Ensure there is a good wireless signal nearby (a poor signal causes the radio to enter high power mode much more often than normal.)
- Turn off display while in the cradle.

Tips for Improving Battery Life

The MC18 has many functions to allow server/client applications control over its power management. To improve battery life:

- Place the MC18 in a cradle connected to AC power when not in use.

✓ **NOTE** In suspend mode, the radio cannot communicate with an AP.

- After the customer check-out, place the MC18 in suspend mode. This prevents the MC18's battery from discharging while sitting at a counter before being returned to the cradle. Once inserted in the cradle, the MC18 wakes up automatically.
- If placed in suspend mode, scan key press can be set to wake up the MC18. This can greatly increase battery life.
- If the user application does not allow placing the MC18 in suspend mode, turn off the backlight after the time-out period.
- Set the backlight brightness to the minimum required by the application.
- Ensure a good wireless signal.
- Set the wireless profile to MAX Power Save mode. If CAM mode is selected, the device does not maximize power savings.

Running time for the MC18 is expected to be approximately 6 to 7 hours with the following profile:

- 2 scans/minute
- transmitting 32K bytes of data per scan
- 75% display brightness
- 50% On/Off backlight
- Associate to an access point (AP) with "Good" signal strength and configure the wireless profile to MAX Power Save mode.

Changing the Power Settings

✓ **NOTE** Use remote control software to navigate the operating system. See [Chapter 5, Using the Windows CE Desktop](#) for instructions.

Use this procedure to set the MC18 to turn off after a short period of non-use:

1. Select **Start > Settings > Control Panel > Power icon > Advanced** tab.
2. Select the **On battery power: Turn off device if not used for:** check box and select a value from the drop-down list box.
3. Select **OK**.

Changing the Display Backlight Settings

✓ **NOTE** Use remote control software to navigate the operating system. See [Chapter 5, Using the Windows CE Desktop](#) for instructions.

Use this procedure to change the display backlight settings to conserve battery power:

1. Select **Start > Settings > Control Panel > Backlight icon > Battery Power** tab.
2. Select the **On battery power: Disable backlight if not used for:** check box and select a value from the drop-down list box.
3. Select the **Brightness** tab.
4. Select the **Disable backlight** check box to completely turn off the display backlight.
5. Use the slider to set the brightness of the backlight. Set it to a low value to save battery power.
6. Select **OK**.

The display backlight value can also be set using a registry setting.

✓ **NOTE** By default, backlight is set NOT to time-out on user inactivity – this can be modified using the Backlight control panel applet.

Key Name: [HKEY_CURRENT_USER\ControlPanel\BackLight]

"BatteryTimeout"=dword:00000000 ; timeout set to never

"ACTimeout"=dword:00000000 ; timeout set to never

Cradle Utility

The cradle Utility enables to:

- Updating the cradle firmware
- Setting and controlling the cradle
- Performing cradle diagnostics
- Viewing cradle information

Cradle Firmware Update

The CradleFWUpdater application allows to manually update cradle firmware using MC18 terminal.

Use this procedure to update Cradle Firmware:

1. Using a synchronization program, copy the new firmware file to the MC18 (see [Chapter 4, Sync with Host Computer](#)).
2. On the home screen of the MC18, double click the **AppLauncher** icon.
Result: The App Launcher screen is displayed.



Figure 6-1 MC18 Home Screen

3. On the App Launcher screen, click **Cradle Applications**.
Result: The **Cradle Applications** menu is displayed

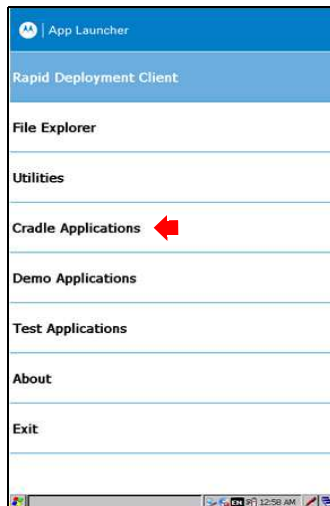
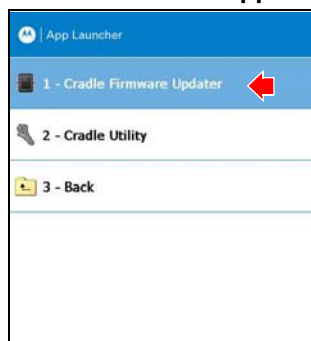


Figure 6-2 App Launcher Screen

4. On the **Cradle Applications** menu, click **Cradle Firmware Update**.



5. Dock the MC18 inside the cradle.
 6. Double click **FW File location**.
Result: The **Select HEX** box is displayed.



7. From the **Select HEX box**, select a firmware file and click **OK**.



8. Click **Program Firmware**. A warning box displays **Please don't remove the device from the cradle until PW Update completes**.
9. Click **OK** to initiate the firmware update process.

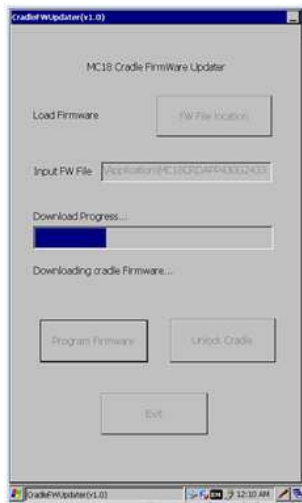


- ✓ **NOTE** During the firmware initiation process, the application resets the cradle. If the following error box displays: **Please manually rest the cradle and then press "OK" button**. The user is required to manually reset the cradle.

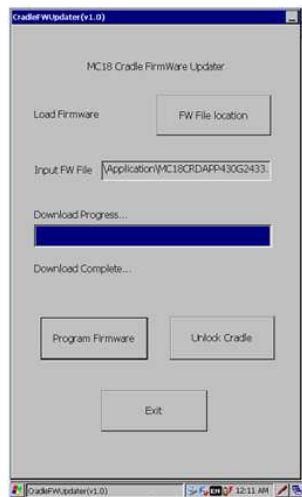
Perform this procedure to manually reset the cradle:

- a. Disconnect power from the power supply unit of the cradle.
- b. Reconnect power to the power supply unit of the cradle.
- c. Click **OK** before the LEDs on the cradle start glowing, to remove the error message and continue. Failing to click **OK** before the LEDs starts glowing will re-display the error message. If user fails continuously 5 times, the firmware update process stops.
- d. If application is successful, it will start downloading process as from step 6.

1. After resetting the cradle, the application starts the firmware download process.



2. When **Download Complete** is displayed on the screen, the firmware update process is completed successfully. Click **Unlock Cradle** to unlock and remove the MC18 from the cradle.



Setting and Controlling the Cradle

- ✓ **NOTE** Setting and Controlling the cradle can also be done through the Pocket Browser application.

The Cradle Utility application allows to manually set and control cradle features.

- **Unlock:** enables to set a 10 to 30 seconds time-out delay before the MC18 is releases from the cradle.
- **Cradle Information:** Setting or retrieving the cradle ID and location (row, column and dispenser wall).

- ✓ **NOTE** The cradle ID and location information and charge settings is retained across firmware upgrades.

- **Setting the cradle charging rate:** Depending on the cradle installation configuration, the store technician can configure each individual cradle slots to enable/disable fast charge. Each cradle can be configured

to charge its docked terminal at 1Ah (normal charging mode - default setting) or 1.5Ah (fast charging mode).

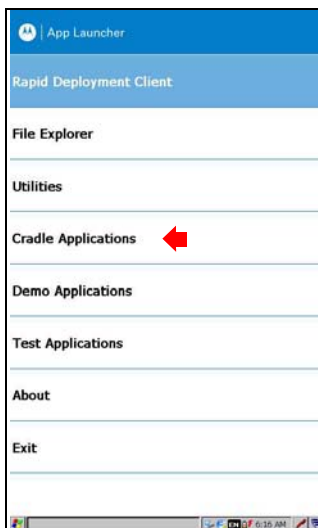
✓ **NOTE** The cradle charging rate is retained across firmware upgrades.

Use this procedure to set and control the cradle:

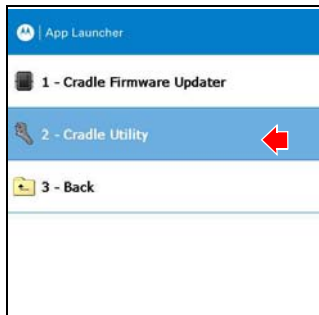
1. Dock the MC18 inside the cradle.
2. On the home screen of the MC18, double click the **AppLauncher** icon on the home screen of the MC18
Result: The App Launcher screen is displayed,



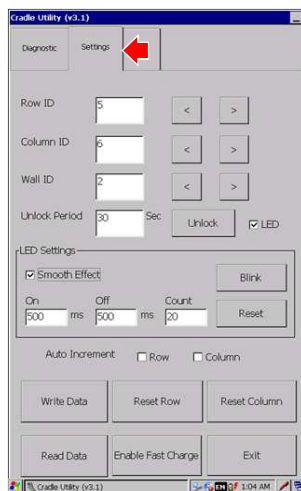
3. On the App Launcher screen, click **Cradle Applications**.
Result: The **Cradle Applications** menu is displayed



4. On the **Cradle Applications** menu, click **Cradle Utility**.



5. Click the **Settings** tab to set the cradle information:

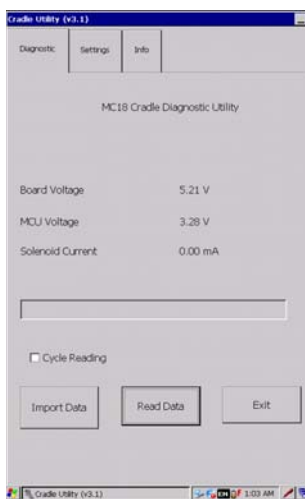


- a. **Row ID:** The cradle row number in the dispenser wall.
- b. **Column ID:** The cradle column number in the dispenser wall.
- c. **Wall ID:** The number of dispenser wall where the cradle is positioned.
- d. **Unlock Period:** The number of seconds that pass from the time the unlock signal is received to unlocking the MC18 from the cradle.
- e. **Unlock:** Press **Unlock** to manually unlock the MC18 from the cradle.
- f. **LED:** Check the LED box to enable the cradle LED indication.
- g. **Smooth Effect:** Check the Smooth Effect box to enable soft on/off blink of LED.
- h. **LED Setting > On:** The cradle LED is set to blink during unlock. Set the duration that the LED remains off.
- i. **LED Setting > Off:** The cradle LED is set to blink during unlock. Set the duration that the LED will remain off during a blink.
- j. **LED Setting > Count:** The cradle LED is set to blink during unlock. Set the number of blinks that the LED after receiving an unlock signal.
- k. **Blink:** Click to test the cradle LED operation.
- l. **Write Data:** Program the information shown on the screen to the cradle memory.
- m. **Reset Row:** Remove row information from the cradle memory.
- n. **Reset Column:** Remove column information from the cradle memory.

- o. **Read Data:** Retrieve setting data from the cradle memory and display on the screen.
- p. **Enable Fast Charge:** Enable the cradle to charge the MC18 at a current of 1.5A (default setting is 1A)
- q. **Exit:** Exit the **Cradle Applications** menu.

Performing Cradle Diagnostics

1. On the home screen of the MC18, double click the **AppLauncher** icon.
Result: The App Launcher screen is displayed.
2. On the **AppLauncher screen**, double click **Cradle Applications > Cradle Utility**.
3. Click the **Diagnostics** tab to perform the cradle diagnostics:
 - a. **Cycle Reading:** Check the **Cycle Reading** box to perform continues diagnostics and display the cradle status information. During diagnostics, a progress bar is shown of the screen.
 - b. **Import Data:** Click to save the recorded results of the diagnostics on a file.
 - c. **Read Data:** Click to start performing diagnostics.



Viewing Cradle Information

1. On the home screen of the MC18, double click the **AppLauncher** icon.
Result: The App Launcher screen is displayed.
2. On the **AppLauncher screen**, double click **Cradle Applications > Cradle Utility**.

3. Click the **Info** tab to read the cradle information:



MC18 Hardware Diagnostics

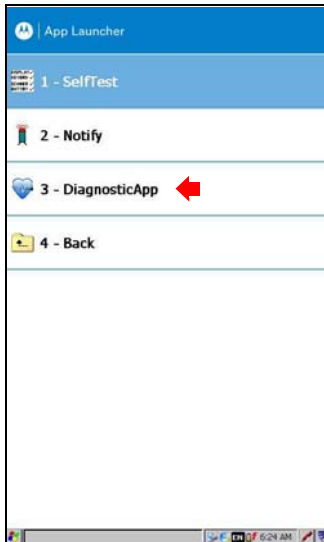
MC18 has an in built diagnostics engine that test the following hardware sections:

- Battery health in percentage
- Battery remaining capacity in minutes
- Battery remaining capacity in percent (while charging and discharging)
- Battery manufacturing date
- Time remaining in minutes to be put in cradle for 'x' minutes of shopping trip
- Time since battery was replaced last
- Duration in which the battery was charged during the current charge cycle
- Time since last reboot.

Use this procedure to view hardware diagnostics to the MC18

✓ **NOTE** Performing hardware diagnostics to the MC18 can also be done through the Pocket Browser application.

1. On the App Launcher screen, click **Test Applications**.
Result: The **Test Application** menu is displayed



2. Click **DiagnosticApp**. |
Result: The Diagnostic Test App screen is displayed.

The screenshot displays the 'Diagnostic Test App V1.4' window. The title bar includes 'OK' and 'X' buttons. The main content area is titled 'Diagnostic Data' and is divided into four sections:

- Generic Diagnostic Data:**
 - Battery Health: %
 - State of Charge: %
 - Battery Manufacture Date:
 - Days since battery was last replaced: Days
 - Time Since last ReBoot: Mins
- Battery Dependent Data:**
 - Time to Battery Empty: Mins
- AC Dependent Data:**
 - Required time in mins for unit to remain in cradle for a shopping trip of "X" mins: Mins
 - Battery has been Charging for: Mins
- Input Data:**
 - Shopping Time in "X" mins: Mins
 - Average Current Consumption: mA

At the bottom of the 'Input Data' section, there are two buttons: 'EDIT' and 'SAVE'. The Windows taskbar at the bottom shows the application name 'DIAGApTest', the language 'EN', and the time '12:03 AM'.

Figure 6-3 Diagnostic Test App Screen

Soft Button Panel

The Soft Button Panel application enables to create a soft button panel at the lower part of the MC18 screen. The soft button panel includes three buttons that can be customize to perform the following basic keyboard operations:

- Up
- Down
- Escape (Esc)
- Enter
- Left
- Right

Use this procedure to create and configure a soft button panel:

1. From the home screen of the MC18, click **Start > Programs > Soft Panel Settings**.

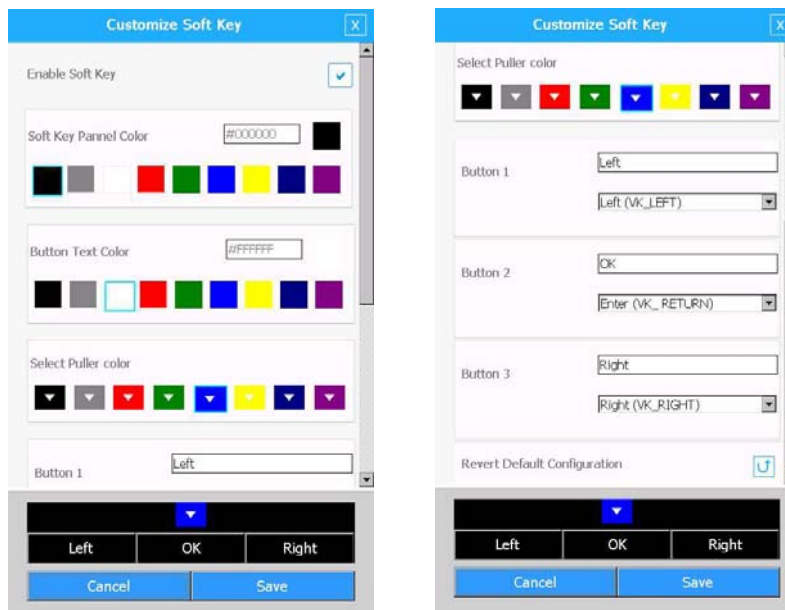


Figure 6-4 *Soft Panel Settings Window*

2. Check the **Enable Soft Key** box to enable settings.
3. Using the provided pallets, select the soft keys panel, buttons and puller color.
4. Scroll to the button of the window and type the text that will display on each button.
5. Use the drop menu to select the operation of each button.
6. Click **Save**.

MC18 Demo Application

The MC18 Demo application enables the customers to develop a self-service shopping assistance application.

The demo application can be custom to reflect your brand name, logo and text colors.

The application provides customers the following:

- Plan a shopping list(s) at home and follow the list as they shop.
- Scanning products as they shop, customers get accurate data before they pay.
- Get total cost and saving information as they shop.
- Target promotions based on the record of their shopping history.
- Help find the products they are looking for and suggests related items to complement their primary purchase.

Demonstrating the Application

To demonstrate the demo application:

1. To start creating a demo application, tap **Start > Programs > MC18 Demo** - the MC18 Demo Application start screen is displayed.

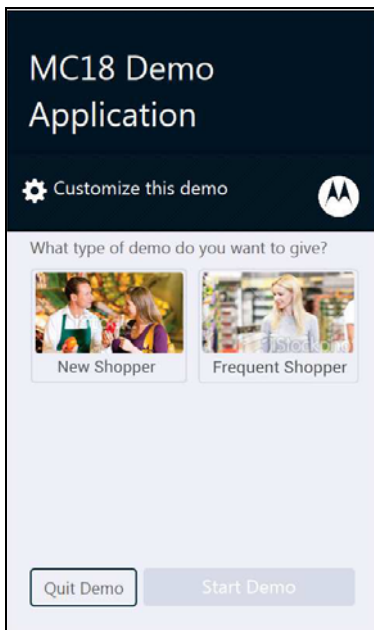


Figure 6-5 MC18 Demo Application Start Screen

2. Tap on **New Shopper** to demo the experience of a new shopper or **Frequent Shopper** to demo the experience of a frequent shopper.

3. Tap **Start Demo** to start the demonstration - the Welcome Shopper Screen is displayed.

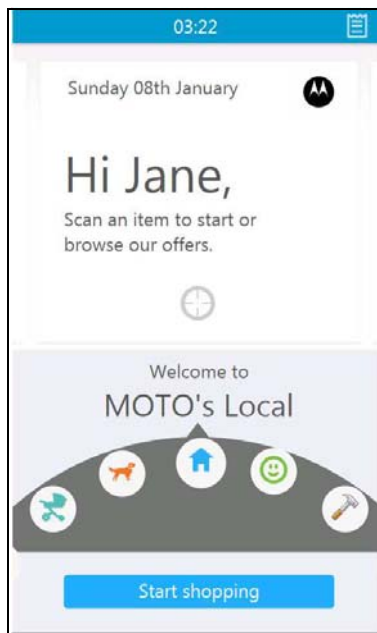


Figure 6-6 Shopper Welcome Screen

4. Scan a product bar code to start shopping. Alternatively, turn the shopping dial left or right to view and select offers, tips and social media content or tap **Start shopping** to see your Basket Screen.

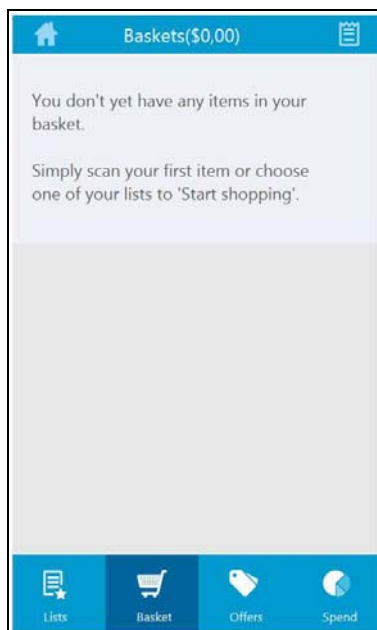





Figure 6-7 Basket Screen

5. On the basket screen, tap a navigation icon to display:
 - **Lists:** Select a shopping lists with your products. A shopping list created at the customer home will show and followed shopping. The status of the products is indicated by the following icons:

-  : Product on your shopping list that was not purchased yet
-  : Product on your shopping list that you have purchased
-  : Product you have purchased that was not on your shopping list.

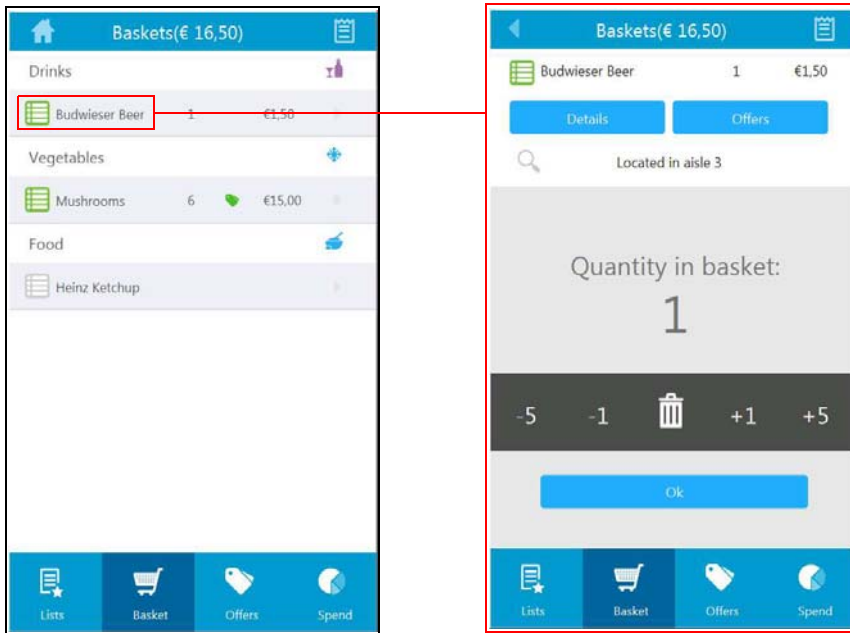


Figure 6-8 Basket Screens

- **Basket:** A list of all scanned products in your basket
- **Offers:** List of special offers and location of the product on an aisle

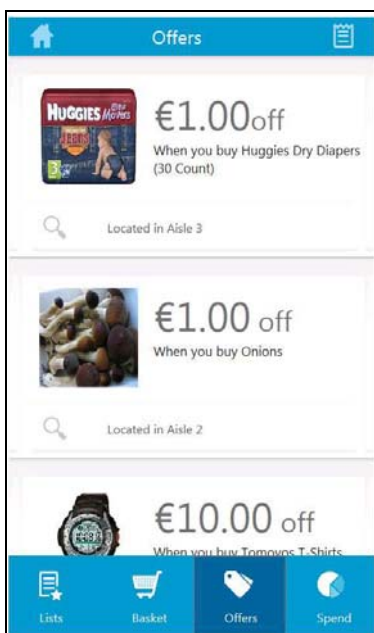


Figure 6-9 Offers Screen

- **Spend:** Weekly and monthly spending information and analysis

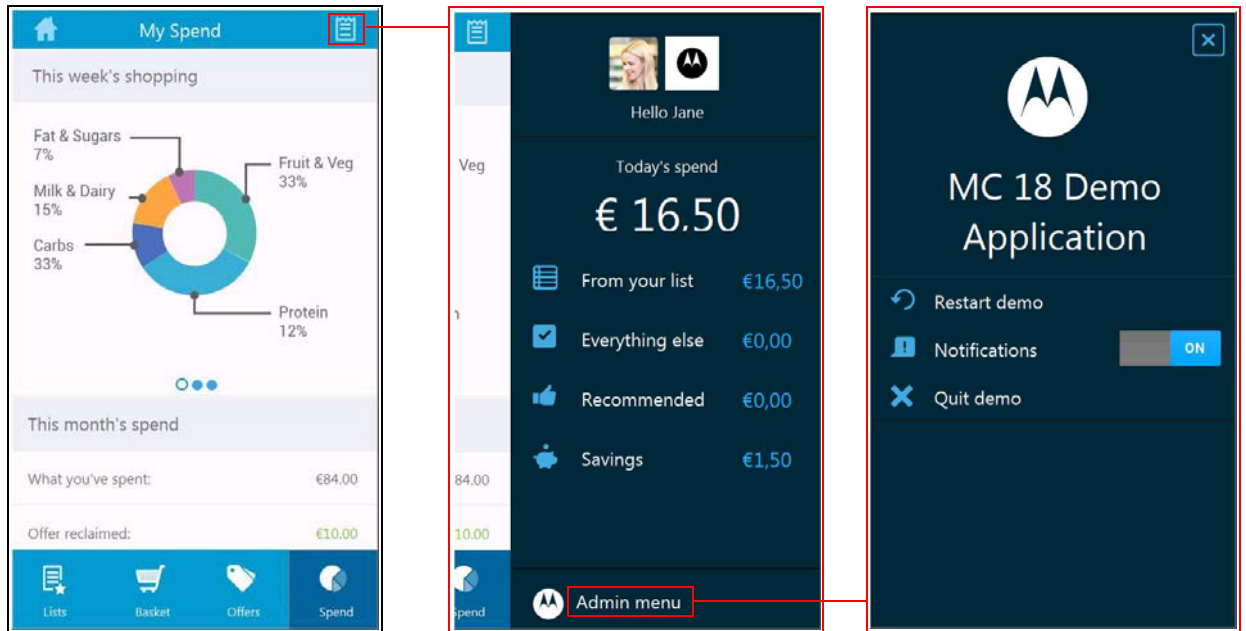





Figure 6-10 Spend Screen

-  : Tap to return to shopper welcome screen
-  : Tap to display today's spend information
-  Admin menu : Tap to restart, quit or enable/disable notifications

Customizing the Application

To customize the application:

1. From the MC18 Demo Application start screen is displayed, tab **Customize this demo**.

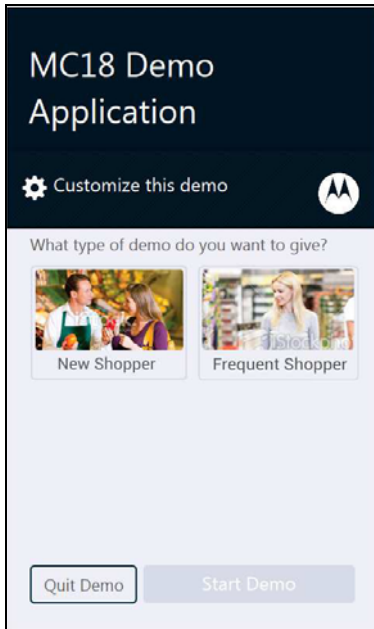
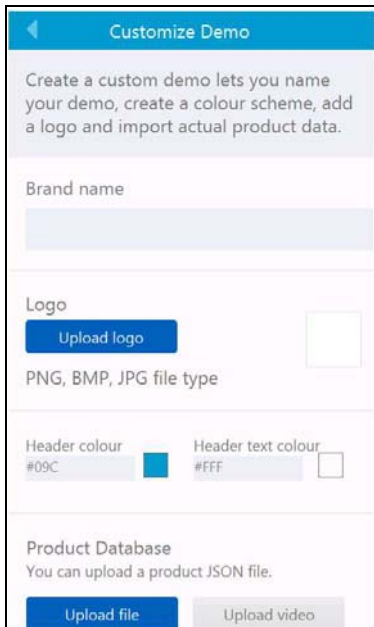


Figure 6-11 MC18 Demo Application Start Screen

2. In the Customize Demo screen, enter Brand name, Logo and set the color of header and text.



3. Use the **Upload file** option to upload a database file in JSON (JavaScript Object Notation) format from the MC18 or a web location.
4. Use the **Upload video** option to upload a video file from the MC18 or a web location.