



# FR6070Enterprise Digital Assistant User Guide



**FR6070EnterpriseDigitalAssistant  
User Guide**

*Rev.A  
Jan.2009*

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## Patents

This product is covered by one or more of the patents listed on the website: [www.symbol.com/patents](http://www.symbol.com/patents).

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## Revision History

Changes to the original manual are listed below:

Change	Date	Description
-01 Rev. A		Initial release.

## ECLARATION OF CONFORMITY

### CE Regulations:

Hereby, declares that this FR6070 product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

To which this declaration relates, is in conformity with the following standards

EN 300328 V1.7.1

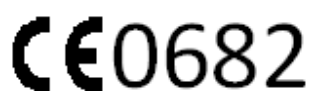
EN 301 489-1 V1.8.1

EN301 489-17 V1.3.2

EN 60950-1:2001+A11:2004

EN 55022:2006+A1:2007

EN55024:1998+A2:2003+A1:2001



### FCC Regulations:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves.

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so

as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

The highest SAR value for the device as reported to the FCC when tested for use at the ear is **0.014** W/kg and when worn on the body, as described in this user guide, is **0.00407** W/kg. (Body-worn measurements differ among device models, depending upon available enhancements and FCC requirements.)

While there may be differences between the SAR levels of various devices and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on FCC ID: **H9PFR6070**.

For body worn operation, this device has been tested and meets the FCC RF exposure guidelines for use with an accessory that contains no metal and the positions the handset a minimum of 1.5 cm from the body. Use of other enhancements may not ensure compliance with FCC RF exposure guidelines.



FCC ID:H9PFR6070



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**Chapter1: Getting Started**

**Chapter2: Using the FR6070**

**Chapter3: Using Bluetooth**

**Chapter4 Accessories**

**Chapter5 Maintenance & Troubleshooting**



# About This Guide

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## Introduction

This guide provides information about using the FR6070 Enterprise Digital Assistant (EDA) and accessories.



*NOTE* Screens and windows pictured in this guide are samples and can differ from actual screens.

## Documentation Set

The documentation set for the FR6070 provides formation for specific user needs, and includes:

- **FR6070 Quick Start Guide** - describes how to get the FR6070 up and running.
- **FR6070 User Guide** - describes how to use the FR6070



## Configurations

This guide covers the following configurations:

Configuration	Radios	Display	Memory	Data Capture	Operating System	Keypads
FR6070	WPAN: Bluetooth	2.8" VGA Color	128 MB RAM/ 256 MB Flash	1D laser scanner	Windows Mobile 6 Professional	Alphanumeric keypad

## Software Versions

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

- Adaptation Kit Update (AKU) version

### AKU Version

To determine the Adaptation Kit Update (AKU) version:

Tap **Start** > **Settings** > **System** tab > **About** icon > **Version** tab.

The second line lists the operating system version and the build number. The last part of the build number represents the AKU number. For example, *Build 18552.0.7.5* indicates that the device is running AKU version *0.7.5*.

## Chapter Descriptions

Topics covered in this guide are as follows:

- [Chapter 1, Getting Started](#) provides information on getting the FR6070 up and running for the first time.
- [Chapter 2, Using the FR6070](#) provides basic instructions for using the FR6070, including powering on and resetting the FR6070, and entering and capturing data.
- [Chapter 3, Using Bluetooth](#) explains Bluetooth functionality on the FR6070.
- [Chapter 4, Accessories](#) describes the available accessories and how to use them with the FR6070.
- [Chapter 5, Maintenance & Troubleshooting](#) includes instructions on cleaning and storing the FR6070, and provides troubleshooting solutions for potential problems during FR6070 operation.

## Notational Conventions

The following conventions are used in this document:

- “Handy” refers to the Motorola FR6070 series of hand-held computers.
- *Italics* are used to highlight the following:
  - Chapters and sections in this and related documents
  - Icons on a screen.
- **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
  - 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.

## Related Documents

- *FR6070 Quick Start Guide*, p/n 72-103079-xx.
- *FR6070 Windows Mobile 6 Regulatory Guide*, p/n 72-103080-xx.
- *FR6070 Integrator Guide*, p/n 72E-103078-xx.
- *Microsoft® Applications for Mobile 6 User Guide*, p/n 72E-108299-xx
- *Enterprise Mobility Application Guide*, p/n 72E-68901-xx
- *Enterprise Mobility Developer Kits (EMDKs)*, available at: <http://support.symbol.com/>.
- Latest ActiveSync software, available at: <http://www.microsoft.com>.

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

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## Service Information

If you have a problem with your equipment, contact Motorola Enterprise Mobility support for your region. Contact information is available at: <http://www.symbol.com/contactsupport>.

When contacting Enterprise Mobility support, please have the following information available:

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

If your problem cannot be solved by Motorola Enterprise Mobility Support, you may need to return your equipment for servicing and will be given specific directions. Motorola 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 Enterprise Mobility business product from a Motorola business partner, contact that business partner for support.



# Chapter 1 Getting Started

## Introduction

This chapter lists the parts and accessories for the FR6070 and explains how to install and charge the batteries, replace the strap, and power on the FR6070 for the first time.

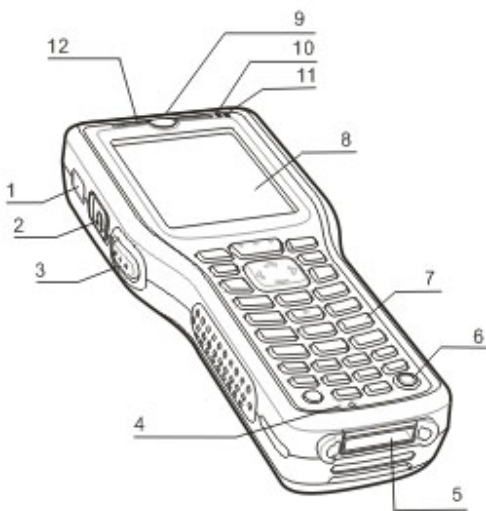


Figure 1-1 FR6070 Front View

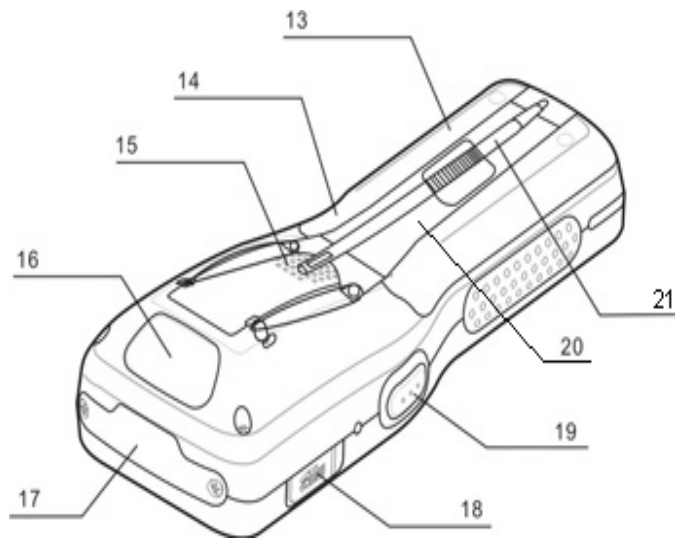


Figure 1-2 FR6070 Rear View

- |                      |                                         |                  |                  |
|----------------------|-----------------------------------------|------------------|------------------|
| 1. IrDA Window       | 2. Headset Jack                         | 13. Battery Door | 14. Door Latch   |
| 3. Scan Button       | 4. Microphone (Not available in FR6070) | 15. Speaker      | 16. Scan Window  |
| 5. I/O Connector     | 6. Power button                         | 17. CF Card Slot | 18. SD Card Slot |
| 7. Keypad            | 8. Touch Screen                         | 19. Scan Button  | 20. Handstrap    |
| 9. Scan/Decode LED   | 10. Charging LED                        | 21. Stylus       |                  |
| 11. Radio Status LED | 12. Receiver                            |                  |                  |

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## Unpacking

Carefully remove all protective material from the FR6070 and save the shipping container for later storage and shipping.

Verify that you received the following:

- FR6070
- 3600 mAh Lithium-ion battery
- Battery cover/strap assembly
- Tethered stylus
- Protective overlay, installed on display window
- Regulatory Guide
- Quick Start Guide.

Inspect the equipment for damage. If any equipment is missing or damaged, contact the Motorola Enterprise Mobility Support center immediately. See [page xvi](#) for contact information.

## Accessories

Table 1-1 lists the accessories available for the FR6070.

**Table 1-1** FR6070Accessories

Manufacturing Part Number	Description		
Cradle			
CRD7X00-1000RR	MC70/MC75/FR68/FR6000 Series RoHS Compliant Single Slot USB Cradle with Spare Battery Charging: Must Order power adapter (KT-14000-148) and US AC Line Cord (23844-00-00R) separately.		
Power Adapter			
KT-14000-148R	Power adapter (HP-O2040D43) manufacture from HIPRO with following (1)Input 100-240V,50-60Hz,1.5A (2)Output 12V, 3.33A.		
50-14000-249R	Power adapter (EADP-16BB A)manufacture from Delta Electronics Ltd. with following (1)Input 100-240V,50-60Hz,0.4A (2)Output 5.4V, 3A.		
USB Charging Cable			
25-118708-01R	FR6000 series USB Charging Cable. Requires power adapter (P/N:50-14000-249R.) Model:EADP-16BBA, Manufacture: Delta Electronics Ltd.		
Miscellaneous			
KT-76490-01R	Battery adapter (shim for 4 slot charge only; packet of 5)		
MN2800AAAPCD	FR6070Cradle Adaptor Clip – Adapts FR6070mobile computer to the cradle. Pack of 3. (Orders are placed directly FCA Shanghai)		
MN2800BAAPCD	FR6070Cradle Adaptor Clip – Adapts FR6070mobile computer to the cradle. Pack of 10. (Orders are placed directly FCA Shanghai)		
MN2800AAAPST	FR6070spare stylus with tether. Pack of 3. (Orders are placed directly FCA Shanghai)		
MN2800AAAPSP	Screen protector for 2.8" QVGA display. Pack of 3. (Orders are placed directly FCA Shanghai)		
90-17C28-001R	Hands free headset (earbud). This note ONLY		

	applies to orders placed directly with Motorola. FCA Manila, Minimum order: 100 (in Multiples of 100's there after).		
50-11300-050R	GSM/GPRS Metal Headset (1 earpiece with speaker boom)		

Grounded Line Cords			
23844-00-00R	AC Line Cord, 2.3M, grounded, NEMA 5-15P plug. Associated Countries: Brazil, United States		
50-16000-217R	AC Line Cord, 1.8M, grounded, AS 3112 plug. Associated Country: Australia, China, New Guinea		
50-16000-219R	AC Line Cord, 1.8M, grounded BS1363 plug. Associated Countries: Hong Kong, Iraq, Malaysia, Singapore, United Kingdom		
50-16000-220R	AC Line Cord, 1.8M, grounded CEE 7/7plug. Associated Countries: Europe, Abu Dabi, Bolivia, Dubai, Egypt, Iran, Korea, Russia, Vietnam		
50-16000-221R	AC Line Cord, 1.8M, grounded, USA NEMA 5-15P. Associated Countries: Brazil, United States		
50-16000-256R	AC Line Cord, 1.8M, grounded, CEE7/7 plug. Associated Country: Korea		
50-16000-257R	AC Line Cord, 1.8M, grounded, IEC 60320 C13 plug. Associated Country: China		
50-16000-669R	AC Lind Cord, 1.8 M grounded, BS 546 Plug. Associated Country: India		
50-16000-671R	AC Line Cord, 1.8M grounded, CIE 23-16 plug. Associated Country: Italy		
50-16000-672R	AC Line Cord, 1.8M grounded, S132 Plug. Associated Country: Israel		
50-16000-678R	AC Line Cord, 36"L grounded. Associated Countries: Brazil, United States		
50-16000-218R	AC Line Cord, 1.8M, grounded, NEMA 1-15P plug. Associated Countries: Japan		

Ungrounded Line Cords			
50-16000-182R	AC Line Cord, 1.8M, ungrounded. Associated Countries: Brazil, United States		
50-16000-255R	AC Line Cord, 1.8M ungrounded, CEE7/16. Europe, Abu Dabi, Bolivia, Dubai, Egypt, Iran, Korea, Russia, Vietnam		
50-16000-666R	AC Line Cord, 1.8M ungrounded, AS 3112 plug. Associated Country: Australia		
50-16000-664R	AC Line Cord, 1.8M ungrounded, GB 2099-1-1996 plug. Associated Country: China		
50-16000-670R	AC Lind Cord, 1.8 M ungrounded, BS 1363 Plug. Associated Countries: Bermuda, Hong Kong, Iraq, Malaysia, Singapore, United Kingdom		

## Getting Started

To start using the FR6070 for the first time:

- Install the SIM card (FR6070 and FR6070 only)
- Install the main battery.
- Charge the FR6070.
- Power on the FR6070.
- Configure the FR6070.



## Installing the Main Battery

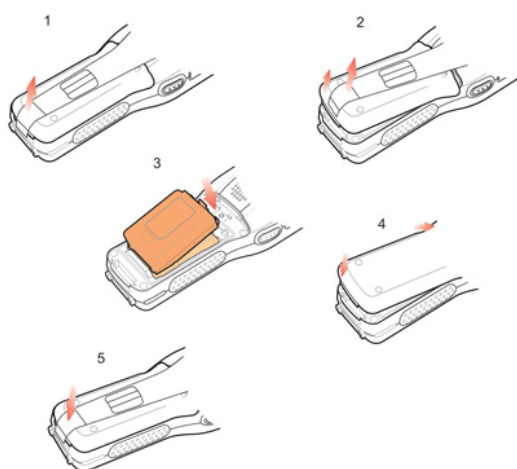
**NOTE** The FR6070 ships with a 3600 mAh battery.

To install the main battery:

1. Insert the battery, top first, into the battery compartment in the back of the FR6070.

**NOTE** Position the battery correctly, with the battery charging contacts on top of the charging contacts in the battery compartment.

2. Press the battery down into the battery compartment until the battery release latch snaps into place.



**Figure 1-4** Inserting the Battery

3. With the battery cover latches open, insert the cover, bottom first, then press down on the top of the cover.
4. Close the battery cover latches on either side of the battery cover.
5. Insert the handstrap through the handstrap slot, then tighten and press down to secure.

The FR6070 powers up after inserting the battery and replacing the battery cover.

## Charging the Battery

**CAUTION** Ensure that you follow the guidelines for battery safety described in *Battery Safety Guidelines on page 7-2*.

### Charging the Main Battery and Memory Backup Battery

Before using the FR6070 for the first time, charge the main battery until the amber Charging/Battery Status LED remains lit (see [Table 1-2 on page 1-7](#) for charge status indications). To charge the FR6070, use a cable or a cradle with the appropriate power supply. For information about the accessories available for the FR6070, see [Chapter 6, Accessories](#).

The FR6070 is equipped with a memory backup battery which automatically charges from the fully-charged main battery. When using the FR6070 for the first time, the backup battery requires approximately 36 hours to fully charge. This is also true any time the backup battery is discharged, which occurs when the main battery is removed for several hours. The backup battery retains RAM data in memory for at least 15 minutes (at room temperature) when the FR6070's main battery is removed. When the FR6070 reaches a very low battery state, the combination of main battery and backup battery retains RAM data in memory for at least 48 hours.

To charge the main battery, use either a charging cable or a cradle. For cable and cradle setup and charging procedures refer to the *FR6070 Integrator Guide*.

- Single Slot USB/Serial Cradle
- Vehicle Cradle.

To charge the main battery:

1. Connect the charging accessory to the appropriate power source.
2. Insert the FR6070 into a cradle or attach to a cable. The FR6070 begins charging. The Charging/Battery Status LED blinks amber while charging, then turns solid amber when fully charged. See [Table 1-2](#) for charging indications.

The 3600 mAh battery fully charges in approximately five hours.

**Table 1-2** LED Charge Indicators

Charging/Battery Status LED	Indication
Off	FR6070 is not charging. FR6070 is not inserted correctly in the cradle or connected to a power source. Charger/cradle is not powered.
Slow Blinking Amber (1 blink every 2 seconds)	FR6070 is charging.
Solid Green	Charging complete. Note: When the battery is initially inserted in the FR6070, the amber LED flashes once if the battery power is low or the battery is not fully inserted.
Fast Blinking Red (2 blinks/second)	Charging error, e.g.: <ul style="list-style-type: none"> <li>• Temperature is too low or too high.</li> <li>• Charging has gone on too long without completion (typically eight hours).</li> </ul>

**Table 1-2** LED Charge Indicators (Continued)

Charging/Battery Status LED	Indication
Single Blink Amber (when device is turned on)	Battery depleted.
Blink Amber (Battery charger temperature is too high.)	Battery over-temperature condition.

## Charging Spare Batteries

See [Chapter 6, Accessories](#) for information on using accessories to charge spare batteries.

## Charging Temperature

Charge batteries in temperatures from 0°C to 45°C (32°F to 113°F). Charging is intelligently controlled by the FR6070.

To accomplish this, for small periods of time, the FR6070 or accessory alternately enables and disables battery charging to keep the battery at acceptable temperatures. The FR6070 or accessory indicates when charging is disabled due to abnormal temperatures via its LED. See [Table 1-2](#).

## Powering On the FR6070

Press the **Power** button to turn on the FR6070. If the FR6070 does not power on perform a warm boot. See [Resetting](#)

the FR6070 on page 2-14.

When turning the FR6070 on for the first time, the splash screen displays for about a minute as the FR6070 initializes its flash file system, then the calibration window appears. Note that these windows also appear upon cold boot.

✓ **NOTE** When the FR6070 powers up after inserting a battery for the first time, the device boots and powers on automatically.

## Calibrating the Screen

To calibrate the screen so the cursor on the touch screen aligns with the tip of the stylus:

1. Remove the stylus from its holder on the back of the FR6070.
2. Carefully press and briefly hold the tip of stylus on the center of each target that appears on the screen.
3. Repeat as the target moves around the screen, then tap the screen to continue.

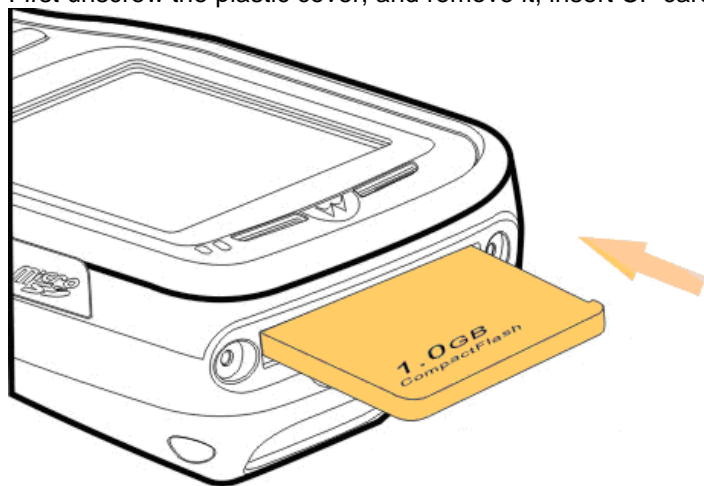
## Checking Battery Status

To check the charge status of the main battery or backup battery in the FR6070, tap **Start > Settings > System tab > Power icon** to display the **Power** window.

To save battery power, tap the **Advanced** tab and set the FR6070 to turn off after a specified number of minutes.

## CF Card Installation

First unscrew the plastic cover, and remove it, insert CF card with the front facing up.



## Micro Secure Digital (microSD) Card

The microSD card slot provides secondary non-volatile storage. The slot is located on the side of the FR6070 (see [Figure 1-7](#)). Refer to the documentation provided with the card for more information, and follow the manufacturer's recommendations for use.

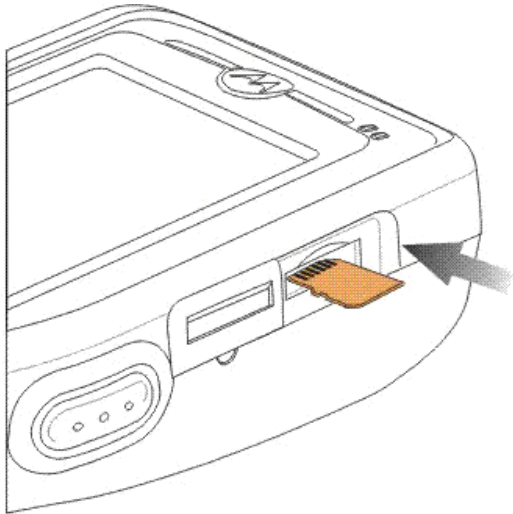


**CAUTION** Follow proper ESD precautions to avoid damaging the microSD card. Proper ESD precautions include, but are not limited to, working on an ESD mat and ensuring that the operator is properly grounded.

To install the microSD card:

1. Power off the FR6070.

2. Remove the memory card cover on the side of the FR6070.



**Figure 1-6** *Card Installation*

3. Insert the card with the card contacts facing up and the cut corner on the left, until you feel a click.
4. Replace the memory card cover .

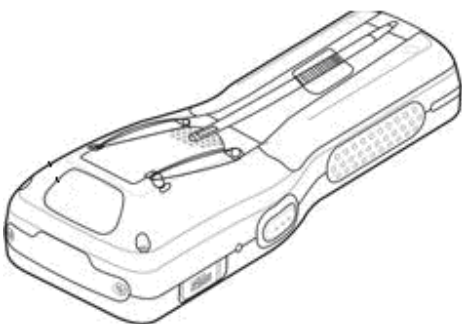
To remove an microSD card:

1. Power off the FR6070.
2. Remove the memory card cover.
3. Carefully press and release the card to eject it.
4. Remove the card from the card slot. 11/28
5. Replace the memory card cover.

## Adjusting the Handstrap

The FR6070 handstrap is attached to the bottom of the battery cover. Adjust the handstrap to increase comfort when holding the FR6070 for extended periods of time. To adjust the handstrap:

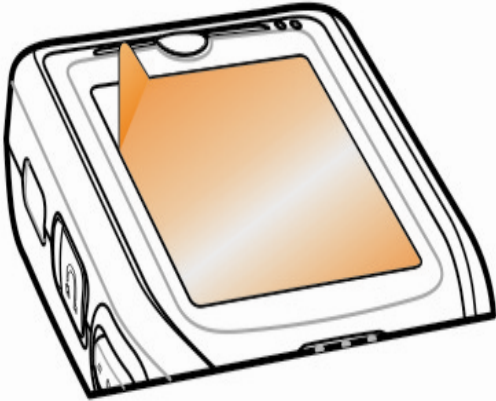
1. Feed the handstrap through the handstrap slot in either direction, to tighten or loosen.
2. Secure the handstrap by pressing the two sides together.



## Removing the Screen Protector

A screen protector is applied to the FR6070. Motorola recommends using this to minimize wear and tear. Screen protectors enhance the usability and durability of touch screen displays.

To remove the screen protector, lift the corner using a thin plastic card, such as a credit card, then carefully lift it off the display.



**Figure 1-7** *Removing the Screen Protector*



**CAUTION** Do not use a sharp object to remove the protector. Doing so can damage the display.



**NOTE** Not using a screen protector can affect warranty coverage. To purchase replacement protectors, contact your local account manager or Motorola, Inc. These include screen protector installation instructions. Part number: KT-93765-01R Screen Protector 3/pk.

## Replacing the Main Battery

1. Press the red **Power** button to suspend the FR6070.
2. Loosen the handstrap.
3. Open the battery cover latches on either side of the battery cover.
4. Lift the top of the battery cover and remove.
5. Press the battery release latch on the bottom of the battery to unlock, and lift the battery out of the well.
6. Insert the replacement battery, top first, into the battery compartment in the back of the FR6070.
7. Press the battery down into the battery compartment until the battery release latch snaps into place.



**NOTE** Position the battery correctly, with the battery charging contacts on top of the charging contacts in the battery compartment.

8. With the battery cover latches open, insert the cover, bottom first, then press down on the top of the cover.
9. Close the battery cover latches on either side of the battery cover.
10. Insert the handstrap through the handstrap slot, then tighten and press down to secure.

The FR6070 powers up after the battery is inserted and the battery cover is replaced.

## Battery Management

Observe the following battery saving tips:



**NOTE** The FR6070 factory default settings for the WWAN and WLAN radios are set to ON.

- Leave the FR6070 connected to AC power at all times when not in use.
- Set the FR6070 to turn off after a short period of non-use.
- Set the backlight to turn off after a short period of non-use.
- Turn off all wireless activities when not in use.
- Power off the FR6070 when charging to charge at a faster rate.

## Changing the Power Settings

To set the FR6070 to turn off after a short period of non-use:

1. Tap **Start > Settings > System tab > 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.
3. Select **ok**.

## Changing the Backlight Settings

To change the backlight settings in order to conserve more battery power:

1. Tap **Start > Settings > System tab > Backlight icon > Power tab**.
2. Select the **Turn off backlight if device is not used for** check box and select a value from the drop-down list.
3. Select the **Brightness tab**.
4. Use the slider to set a low value for the backlight.
5. Select **ok**.

## Turning Off the Radios

Windows Mobile 6 devices include **Wireless Manager**, which provides a simple method of enabling, disabling, and configuring all the device's wireless capabilities in one place.

To open **Wireless Manager**, tap the **Connectivity** icon or tap **Wireless Manager** on the **Today** screen.

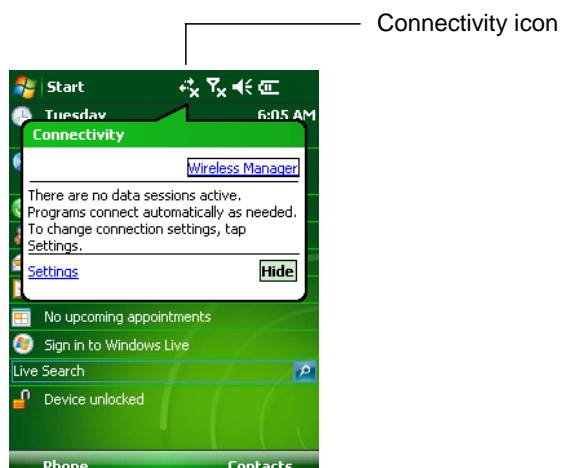


Figure 1-8 Opening Wireless Manager

Select **Wireless Manager**.

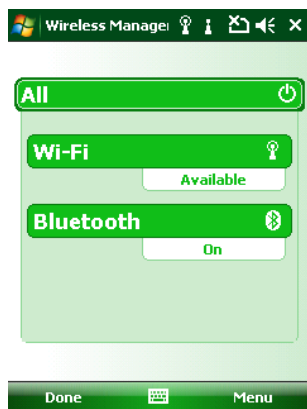


Figure 1-9 Wireless Manager Window

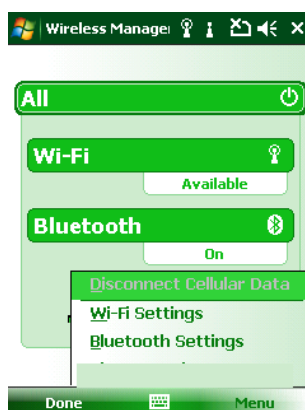


Figure 1-10 Wireless Manager Menu



**NOTE** Wireless connection options vary depending upon configurations.

To enable or disable a wireless connection, tap the specific button.

To enable or disable all wireless connections, tap the **All** button. To configure settings for a connection, tap **Menu**.

# Chapter 2 Using the FR6070

## Introduction

This chapter explains the buttons, status icons, and controls on the FR6070, and provides basic instructions for using the FR6070, including powering on and resetting the FR6070, and entering and capturing data.

The FR6070 factory default radio states are:

- Bluetooth - OFF
- Wireless LAN - ON.

## Today Screen

The Today screen displays important information, such as upcoming appointments and status indicators. Tap a section on the screen to open the associated program. Alternatively, tap **Start** > **Today** to display the **Today** screen.

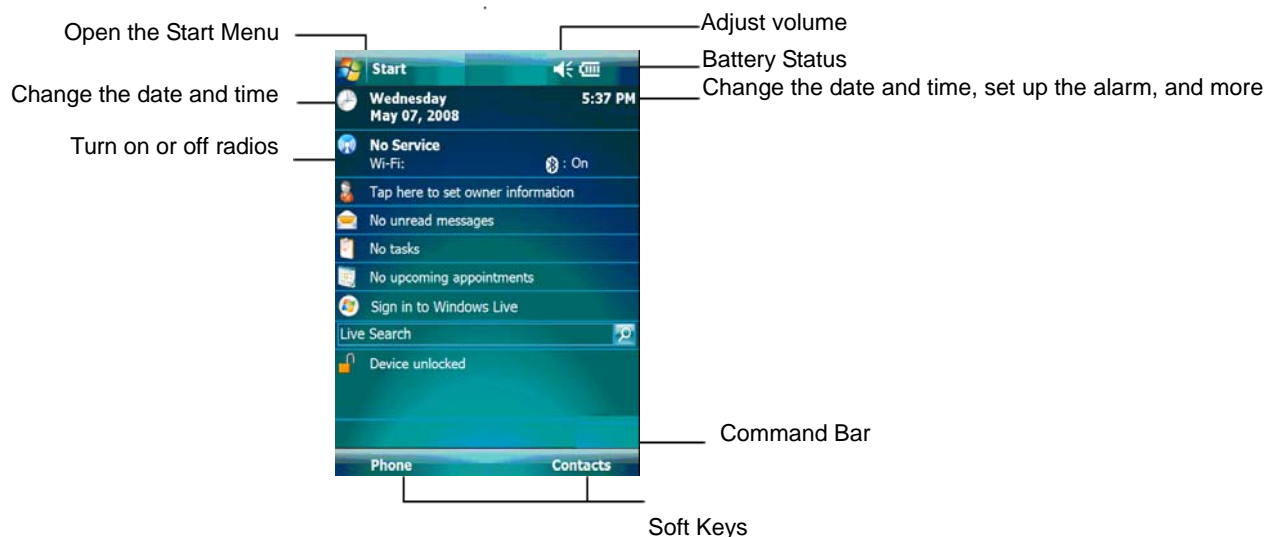


Figure 2-1 Today Screen



To customize the **Today** screen, tap **Start > Settings > Today** icon. Use the **Appearance** tab to customize the background and the **Items** tab to change the list and order of items that appear on the screen.








## Status Icons

The Navigation bar at the top of the screen can contain the status icons listed in [Table 2-1](#).

**Table 2-1** *Status Icons*





Icon	Function	Description
	Notification	Backup Battery Low.
		Notification that one or more instant messages were received.
		Notification that one or more e-mail/text messages were received.
		There are more notification icons than can be displayed. Tap to display remaining icons.
		Indicates a reminder of an upcoming calendar event.
	Connectivity	Connection is active.
		Connection is not active.
		Synchronization is occurring.
		Wi-Fi available.
		Wi-Fi in use.
		Dormant State - no data transmission during a 1x connection. (FR6070 and FR6070)

**Table 2-1** *Status Icons (Continued)*

Icon	Function	Description
	Speaker	Vibrate is on.
		Main battery is charging.
		Battery power completely depleted.
	Battery	Main battery is low.
		Main battery level.
1:20 		Displays current time in analog or digital format.
		
	Time and Next Appointment	

The command bar at the bottom of the screen can contain the task tray icons listed in [Table 2-2](#).







**Table 2-2** *Task Tray Icons*

Icon		
	Bluetooth Enabled	Bluetooth radio is on.
	Bluetooth Disabled	Bluetooth radio is off.
	Bluetooth Connection	Bluetooth radio is connected to another Bluetooth device.
	ActiveSync	Active serial connection between the FR6070 and the host computer.

## Programs









[Table 2-3](#) lists the default programs in the **Start** menu.

**Table 2-3** *Programs in the Start Menu*








Icon	Name	Description
	Office Mobile	Use the complete suite of Microsoft® Office applications for your mobile device. Excel Mobile - Create new workbooks or view and edit Microsoft® Excel® workbooks. OneNote Mobile - Create new notes or view existing notes. PowerPoint Mobile - View Microsoft® PowerPoint® slides and presentations. Word Mobile - Create, view, and edit Microsoft® Word documents.
	Calendar	Keep track of appointments and create meeting requests.
	Contacts	Keep track of friends and colleagues.
	Internet Explorer Mobile	Browse Web and WAP sites as well as download new programs and files from the Internet.
	Messaging	Send and receive e-mail, MMS, and text messages.
	Help	See Help topics for the current screen or program.

[Table 2-4](#) lists programs that are listed in the Programs window.

**Table 2-4** *Programs in Program Window*

Icon	Name	Description
	ActiveSync	Synchronize information between the FR6070 and a host computer or the Exchange Server.
	Games	Bubble Breaker, Solitaire
	Sample AP	DataWedge, Notify, and Scanner
	Calculator	Perform basic arithmetic and calculations, such as addition, subtraction, multiplication, and division.
	File Explorer	Organize and manage files on your device.
	Getting Started	Display help on how to use some functions
	Internet Sharing	Connect a notebook computer to the Internet using the FR6070's data connection.
	Messenger	Use this mobile version of Windows Live Messenger.













**Table 2-4** *Programs in Program Window (Continued)*













Icon	Name	Description
	Notes	Create handwritten or typed notes, drawings, and voice recordings.
	Pictures & Videos	View and manage pictures, animated GIFs, and video files.
	Search	Search contacts, data, and other information on your FR6070.
	Task Manager	Show and stop all the tasks on run
	Tasks	Keep track of your tasks.
	Windows Live	Use this mobile version of Windows Live™ to find information on the web.
	Windows Media Player Mobile	Play back audio and video files.

## Settings







Table 2-5 lists control applications pre installed on the FR6070. Tap **Start** > **Settings** to open the **Settings** window.

Table 2-5 Settings in the Setting Window

Icon	Name	Description
<b>Personal Tab</b>		
	Buttons	Assign a program to a button.
	Input	Set options for each of the input methods.
	Lock	Set a password for the FR6070.
	Menus	Set what programs appear in the Start menu.
	Owner Information	Enter personal information on the FR6070.
	Sounds & Notifications	Enable sounds for events, notifications, and more, and set the type of notification for different events.
	Today	Customize the appearance and the information to be displayed on the Today screen.
<b>System Tab</b>		
	About	View basic information such as the Windows Mobile® version and type of processor used on the FR6070.
	802.11d Tools	Enable or disable 802.11d
	Backlight	Set the display backlight time-out and adjust brightness.
	Certificates	See information about certificates installed on the FR6070.
	Clock & Alarms	Set the device clock to the date and time of your locale or to a visiting time zone when you're traveling. Alarms can also be set at specified days and times of a week.

	Customer Feedback	Submit feedback on the Windows Mobile 6 software.
	Device information	Displays the FR6070's software and hardware information.
	Encryption	Allow files on a storage card to be encrypted. Encrypted files are readable only on your device.
	Enroller	Allow you to get a Certificate from Certificate servers.
	Error Reporting	Enable or disable the device's error reporting function. When this function is enabled and a program error occurs, technical data about the state of the program and your computer is logged in a text file and delivered to Microsoft's technical support if you choose to send it.
	Managed Programs	View installation history.
	Memory	Check the device memory allocation status and memory card information and stop currently running programs.
	Power	Check battery power and set the time-out for turning off the display to conserve battery power.
	Regional Settings	Set the regional configuration to use, including the format for displaying numbers, currency, date, and time on the FR6070.
	Remove Programs	Remove programs that you installed on the FR6070.
	Screen	Change the screen orientation, re-calibrate the screen, and change the screen text size.
	Windows Update	Link to Microsoft's web site and update Windows Mobile® on your device with the latest security patches or fixes. Do not use. Obtain updates from Motorola.

**Table 2-5** *Settings in the Setting Window (Continued)*

Icon	Name	Description
<b>ConnectionsTab</b>		
	Beam	Set the FR6070to receive incoming IrDA beams and bluetooth beam.
	Bluetooth	Search for other Bluetooth devices.
	Domain Enroll	Enroll in domain.
	USB to PC	Enables or disables the enhanced network connectivity.
	Wi-Fi	Setup wireless network connection and customize settings.
	Wireless Manager	Enables or disables the FR6070's wireless radios and customizes Wi-Fi, Bluetooth



## Adjusting Volume

To adjust the system volume using the **Speaker** icon in the navigation bar:

1. Tap the **Speaker** icon. The **Volume** dialog box appears.



Figure 2-2 Volume Dialog Box

2. Tap and move the slide bar to adjust the volume.
3. Select the **On** or **Off** radio button to turn the volume on or off.

You can also adjust the system volume using the **Sounds & Notifications** window, or use the **Up/Down** button on the side of the FR6070.

## Battery Status Indications

Battery icons appear on the navigation bar indicating the battery power level. When the main battery or backup battery power falls below a predetermined level, the icon indicates the status and a battery dialog box appears indicating the status of the main or backup battery.



Figure 2-3 Battery Status Dialog Box

The **Battery** icon always appears in the **navigation bar** when the Today screen is visible. The icon indicates the battery power level. The message displays until the **Dismiss** button is pressed.



Figure 2-4 Battery Icon on the Title Bar

Also view the battery status using the **Power** window.

## Power Setting

1. Tap **Start > Settings > Power icon > Main** tab. A power remaining capacity bar appears.

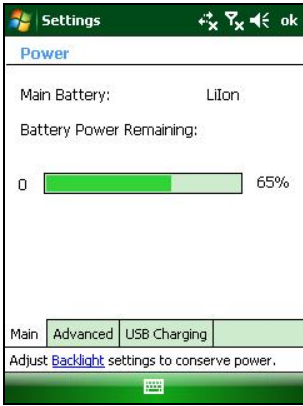


Figure 2-5 Main Tab

2. Tick the following options to save the power, and tap **ok**.

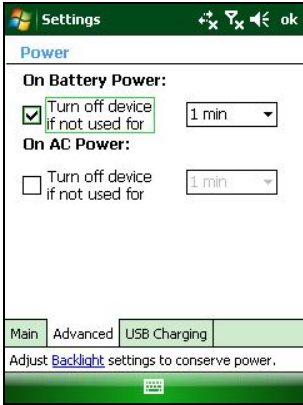


Figure 2-6 Advanced Tab

3. Select Slow charge or Fast charge, and tap **ok**.

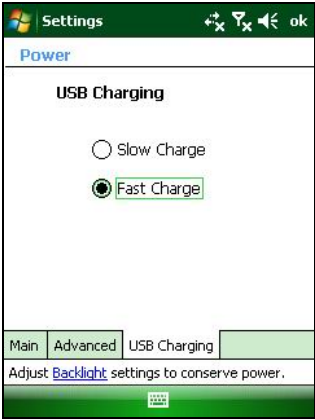


Figure 2-7 USB Charge Tab

## Main Battery Temperature Notifications

The temperature notification system implements three levels of notification when the temperature within the battery exceeds specific temperature thresholds:

- **Level 1: Temperature Watch**; this level is similar to main battery low warning. It indicates that the battery temperature has reached the first threshold level. The user should move to an environment within proper operating temperature.
- **Level 2: Temperature Warning**; this level is similar to main battery very low warning. It indicates the battery temperature has reached the second threshold level. The user should stop using the FR6070.
- **Level 3: Temperature Error**; this level indicates the battery has reached an unusable temperature threshold and immediately suspends the FR6070. This level does not have any graphical notification associated with it.



Figure 2-8 Main Battery Temperature Watch Dialog Box Figure 2-9 Main Battery Temperature Warning Dialog Box

✓ **NOTE** The **Temperature Warning** dialog box remains visible until you tap **Hide**.

## LED Indicators

The FR6070 has three LED indicators. The Scan/Decode LED indicates status for bar code scanning. The Charging/Battery Status LED indicates battery charging and status. The Radio Status LED indicates WAN radio status. [Table 2-6](#) describes the LED indications.



Figure 2-10 LED Indicators

1. Scan/Decode LED
2. Charging LED
3. Radio Status LED

Table 2-6 LED Indications

LED status	Indication
<b>Scan/Decode LED</b>	
Solid Green	Successful decode/capture
Solid red	Laser enabled, scanning in process
Off	Not enabled
<b>Charging/Battery Status LED</b>	
Slow blinking amber	Main battery in FR6070 is charging.
Solid green	Main battery in FR6070 is fully charged.
Fast blinking amber	Charging error
Off	Not charging
Single blink amber (when power button is pressed)	Battery depleted
Blinking amber (when power button is pressed)	Battery over-temperature condition
<b>Radio Status LED</b>	
Slow blink green	The radio (BT,WIFI,GPS,RIL) can work correctly when it is on
Slow blink red	Some radio (BT,WIFI,GPS,RIL) can not work correctly when it is on.
Off	All radio off.

## Resetting the FR6070

There are two reset functions, warm boot and cold boot. A warm boot restarts the FR6070 by closing all running programs. A cold boot also restarts the FR6070, and also resets the clock. Data saved in flash memory or a memory card is not lost.

If the FR6070 is not functioning properly, perform a warm boot first. If the FR6070 still does not respond, perform a cold boot.

## Performing a Warm Boot

Press the reset button to reboot the device.

## Performing a Cold Boot

Put the battery into the device, lock the battery cover, and press the power button

---

## Waking the FR6070

The wake-up conditions define what actions wake up the mobile computer after it has gone into suspend mode. The mobile computer can go into suspend mode by either pressing the Power button or automatically by Control Panel time-out settings. These settings are configurable and the factory default settings are shown in [Table 2-7](#) are subject to change/update.

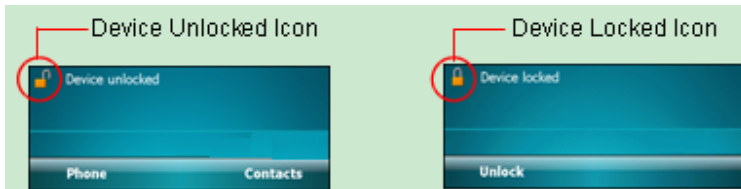
**Table 2-7** Wake-up Default Settings

Condition for Wake-up	Power Button	Automatic Time-out
AC power is applied.	No	Yes
Mobile computer is inserted into a cradle.	No	Yes
Mobile computer is removed from a cradle.	No	Yes
Mobile computer is connected to a USB device.	No	Yes
Mobile computer is disconnected from a USB device.	No	Yes
A key is pressed.	No	Yes
The scan triggered is pressed.	No	Yes
The screen is touched.	No	No
Audio Jack	No	No
Audio Btn	No	No
Bluetooth communication	Yes	Yes

## Locking the FR6070

Use the Device Lock feature to prevent use of the device. Note that when locked, the FR6070 does not respond to screen or keypad input.

To lock the device, tap the **Device unlocked** icon. The icon changes to locked.



**Figure 2-11** *Device Locked/Unlocked Icons*

To unlock the device and free it for use, tap **Unlock**.



**Figure 2-12** *Unlock Device Window*

Tap **Unlock** on the **Unlock** window.



**NOTE** You can make emergency calls even when the FR6070 is locked. See *Making an Emergency Call* on page 5-7 for more information.

## Keypads

The FR6076 offers one type of modular keypad configuration: alpha-numeric.

**Table 2-8** Alpha-numeric Keypad Input Modes

Key	Numeric Mode			Orange Key (Alpha Lowercase Mode)								
	Blue+ Key	SHIFT + Key		1st Press	2nd Press	3rd Press	4th Press	5th Press	6th Press	7th Press	8th Press	9th Press
1	1	1	!	Space	Space	Space	Space	Space	Space	Space	Space	
2	2	2	@	a	B	c		2	A	B	C	
3	3	3	#	d	e	f		3	D	E	F	
4	4	4	\$	g	h	i		4	G	H	I	
5	5	5	%	j	k	l		5	J	K	L	
6	6	6	^	m	n	o		6	M	N	O	
7	7	7	&	p	q	r	s	7	P	Q	R	S
8	8	8	*	t	u	v		8	T	U	V	
9	9	9	(	w	x	y	z	9	W	X	Y	Z
0	0	0	)	+	+	+	+	+	+	+	+	+

Note: An application can change the key functions. The keypad may not function exactly as described.

**Table 2-8** Alpha-numeric Keypad Input Modes (Continued)

Key	Numeric Mode			Orange Key (Alpha Lowercase Mode)				Orange + Shift Keys (Alpha Uppercase Mode)			
		Blue+ Key	SHIFT + Key	1st Press	2nd Press	3rd Press	4th Press	1st Press	2nd Press	3rd Press	4th Press
Up	Up	Up	Hilight Up	Left				Left			
Down	Down	Down	Hilight Down	Right				Right			
Enter	Action	Action	Action	Action				Action			

Note: An application can change the key functions. The keypad may not function exactly as described.

## Alpha-numeric Keypad Configurations









The three types of alpha-numeric keypads produce the 26-character alphabet (A-Z, both lowercase and uppercase), numbers (0-9), and assorted characters. The keypad is color-coded to indicate which modifier key to press to produce a particular character or action. The keypad default is alphabetic, producing lowercase letters. See [Table 2-8](#) for key and button descriptions.







Figure 2-13 FR6070 Numeric Keypad












Table 2-9 Alpha-numeric Keypad Descriptions

Key	Action
Blue Key 	<p>Launches applications (shown on the keypad in blue).            Press the Blue key once to activate this mode temporarily, followed by another key. This displays the following icon at the bottom of the screen, until a second key is pressed: </p> <p>Press the Blue key twice to lock this mode. This displays the following icon at the bottom of the screen: </p> <p>Press the Blue key a third time to unlock.            Press and hold the Blue key while selecting a sequence of keys to activate this mode temporarily. This displays the following icon at the bottom of the screen as long as the key is pressed: </p>
Orange Key 	<p>Accesses the secondary layer of characters and actions (shown on the keypad in orange).            Press the Orange key once to activate this mode temporarily, followed by another key. This displays the following icon at the bottom of the screen, until a second key is pressed: </p> <p>Press the Orange key twice to lock this mode. This displays the following icon at the bottom of the screen: </p> <p>Press the Orange key a third time to unlock.            Press and hold the Orange key while selecting a sequence of keys to activate this mode temporarily. This displays the following icon at the bottom of the screen as long as the key is pressed: </p>



Talk/End  	Not available in FR6070 Not available in FR6070
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------

**Table 2-9** Alpha-numeric Keypad Descriptions(continued)

Key	Action
Scroll Up and Left 	Moves up one item. Moves left one item when pressed with the Orange key.
Scroll Down and Right 	Moves down one item. Moves right one item when pressed with the Orange key.
Soft Keys 	Accesses the command or menu above it on the screen.
Shift 	Changes the state of the alpha characters from lowercase to uppercase. <ul style="list-style-type: none"> <li>Press the Shift key to activate this mode temporarily, followed by another key. This displays the following icon at the bottom of the screen, until a second key is pressed: </li> <li>Press and hold the Shift key while selecting a sequence of keys to activate this mode temporarily. This displays the following icon at the bottom of the screen as long as the key is pressed: </li> <li>Press the Shift key twice to lock this mode. This displays the following icon at the bottom of the screen: </li> <li>Press the Shift key a third time to unlock.</li> </ul>
Backlight 	Turns the display backlight on and off.
Backspace 	Produces a backspace.
Enter 	Executes a selected item or function.
Star 	Produces an asterisk.
Key	Action
Menu	Use this key in conjunction with the Blue key to instantly display the context menu from any application without tapping the screen. This function is user programmable.

Phonepad	Use this key in conjunction with the Blue key to display the Phonepad application without tapping the screen. This function is user programmable.
----------	---------------------------------------------------------------------------------------------------------------------------------------------------

## Function Buttons

The FR6070's buttons perform certain functions.



**Figure 2-14** *Function Buttons*

1. Scan button
2. Power button

- **Power:** Press the red **Power** button to turn the FR6070 screen on and off. The FR6070 is in suspend mode when the screen is off. For more information, see *Powering On the FR6070* on page 1-8. Also use the **Power** button to reset the FR6070 by performing a warm or cold boot. See *Resetting the FR6070* on page 2-14.
- **Scan:** Press to scan bar codes. See *Data Capture* on page 2-29.

## Stylus

Use the FR6070 stylus to select items and enter information. The stylus functions as a mouse.

- **Tap:** Touch the screen once with the stylus to press option buttons and open menu items.
- **Tap and Hold:** Tap and hold the stylus on an item to see a list of actions available for that item. On the pop-up menu that appears, tap the action to perform.
- **Drag:** Hold the stylus on the screen and drag across the screen to select text. Drag in a list to select multiple items.



**NOTE** Motorola recommends using the spring-loaded tip of the stylus to write on the screen, and the back end of the stylus to tap the screen. Use your finger to press the **Power** button and keypad buttons.



**CAUTION** To prevent damage to the screen, do not use any device other than the Motorola-provided stylus.

## Entering Data

When entering data on the keypad, use either the single-hand method or the two-hand method as shown in [Figure 2-15](#).



Single-hand Method



Two-hand Method

**Figure 2-15** *Entering Data on the Keypad*

## Data Capture

The FR6070 offers linear scanning as data capture.



**NOTE** To perform data capture a scanning enabled application must be installed on the FR6070. A sample scanning application can be downloaded from the Motorola Support site at <http://support.symbol.com>.

## Linear Scanning

FR6070 with an integrated linear scanner have the following features:

- Reading of a variety of bar code symbologies, including the most popular linear, postal, and 1-D code types.
- Intuitive aiming for easy point-and-shoot operation.

## Scanning Considerations

Typically, scanning is a simple matter of aim, scan, and decode and a few quick trial efforts master it. However, consider the following to optimize 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 scanner closer and further away to find the right working range for the bar codes being scanned.

- Angle

Scanning angle is important for promoting quick decodes. When laser beams reflect directly back into the scanner from the bar code, this special reflection can “blind” the scanner.

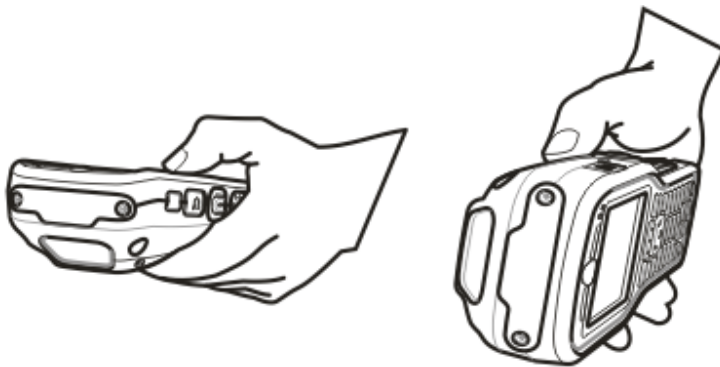
To avoid this, scan the bar code so that the beam does not bounce directly back. But don't scan at too sharp an angle; the scanner needs to collect scattered reflections from the scan to make a successful decode. Practice quickly shows what tolerances to work within.

- Hold the FR6070 farther away for larger symbols.
- Move the FR6070 closer for symbols with bars that are close together.



**NOTE** Scanning procedures depend on the application and FR6070 configuration. An application may use different scanning procedures from the one listed above.

1. Ensure that a scan enabled application is loaded on the FR6070.
2. Aim the scan window at the bar code.



**Figure 2-16** *Linear Scanning*

3. Press the scan button. Ensure the red scan beam covers the entire bar code. The Scan/Decode LED lights red to indicate that scanning is in process, then lights green and a beep sounds, by default, to indicate the bar code was decoded successfully.



**Figure 2-17** *Linear Scanner Aiming Pattern*

4. Release the scan button.

## Using IrDA

In a Microsoft Windows Mobile program (except Messaging), and Picture & Videos, you can exchange files using either infrared or Bluetooth.



**NOTE** You can also beam files (not folders) from the **File Explorer** window. Tap and hold the item you want to send, then tap **Beam File** from the pop-up menu.

First activate the beam function before exchanging files with another IrDA device.

To activate the Beam function:

1. Tap **Start > Settings > Connections** tab > **Beam** icon.
2. Tap **Receive all incoming beams** check box.

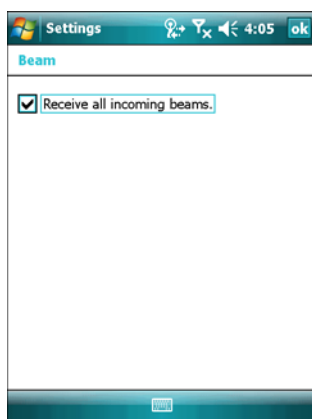


Figure 2-18 *Beam Window*

3. Tap **ok**.

## Infrared Connection

Using infrared, you can enable short-range file exchange between your FR6070 and another IrDA device.

### Exchanging Files using IR Connection

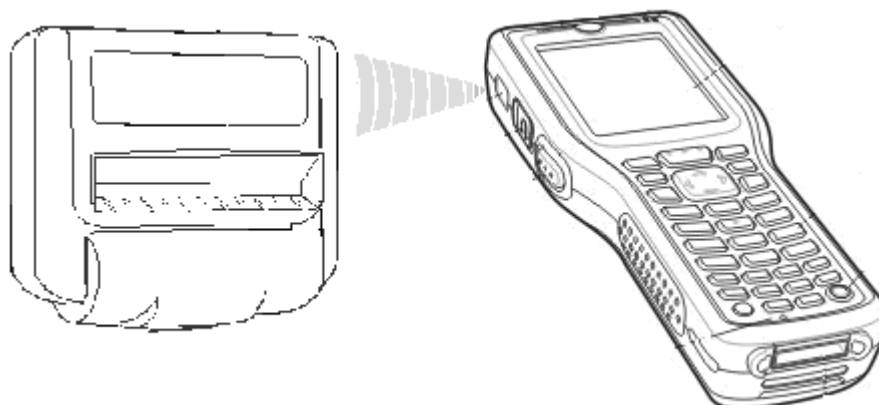
Ensure that the IrDA function on both the FR6070 and the other device are enabled. To send files via IrDA connection:

1. Switch to the program where you created the item you want to send and locate the item in the list.



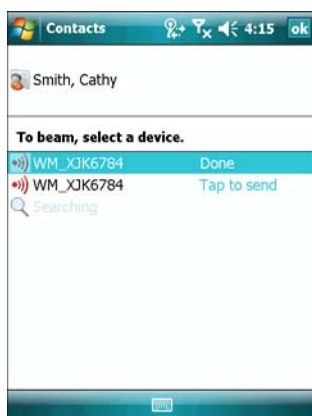
**NOTE** Do not cover or block the IrDA window.

2. Align the IrDA port of the FR6070 with that of the IrDA device so that they are unobstructed and within a close range.



**Figure 2-19** *Align FR6070 with IrDA Device*

3. Tap and hold the item, then tap Beam [type of item] on the pop-up menu.
4. Tap the device that you want to send the file to.



**Figure 2-20** *Beam Contact*



**Figure 2-21** *Receive File*

To receive files via IrDA connection:

1. Align the IrDA port of the FR6070 with that of the other IrDA device so that they are unobstructed and within a close range.
2. On the other device, send the file to the FR6070.
3. When the **Receiving Data** dialog displays, tap **Yes**.

# Chapter 3 Using Bluetooth

---

## Introduction

Bluetooth-equipped devices can communicate without wires, using frequency-hopping spread spectrum (FHSS) radio frequency (RF) to transmit and receive data in the 2.4 GHz Industry Scientific and Medical (ISM) band (802.15.1). Bluetooth wireless technology is specifically designed for short-range (30 feet/10 meters) communication and low power consumption.

FR6070s with Bluetooth capabilities can exchange information (e.g., files, appointments, and tasks) with other Bluetooth enabled devices such as phones, and other mobile computers.

---

## Adaptive Frequency Hopping

Adaptive Frequency Hopping (AFH) is a method of avoiding fixed frequency interferers, and can be used with Bluetooth voice. All devices in the piconet (Bluetooth network) must be AFH-capable in order for AFH to work. There is no AFH when connecting and discovering devices. Avoid making Bluetooth connections and discoveries during critical 802.11b communications. AFH for Bluetooth consists of four main sections:

- Channel Classification - A method of detecting an interference on a channel-by-channel basis, or pre-defined channel mask.
- Link Management - Coordinates and distributes the AFH information to the rest of the Bluetooth network.
- Hop Sequence Modification - Avoids interference by selectively reducing the number of hopping channels.
- Channel Maintenance - A method for periodically re-evaluating the channels.

When AFH is enabled, the Bluetooth radio “hops around” (instead of through) the 802.11b high-rate channels. AFH coexistence allows Motorola mobile computers to operate in any infrastructure.



The Bluetooth radio in this FR6070 operates as a Class 2 device power class. The maximum output power is 2.5mW and the expected range is 32.8 feet (10 meters). A definition of ranges based on power class is difficult to obtain due to power and device differences, and whether one measures open space or closed office space.



**NOTE** It is not recommended to perform Bluetooth wireless technology inquiry when high rate 802.11b operation is required.

---

## Security

The current Bluetooth specification defines security at the link level. Application-level security is not specified. This allows application developers to define security mechanisms tailored to their specific need. Link-level security occurs between devices, not users, while application-level security can be implemented on a per-user basis. The Bluetooth specification defines security algorithms and procedures needed to authenticate devices, and if needed, encrypt the data flowing on the link between the devices. Device authentication is a mandatory feature of Bluetooth while link encryption is optional.

Pairing of Bluetooth devices is accomplished by creating an initialization key that is used to authenticate the devices and create a link key for them. Entering a common PIN number in the devices being paired generates the initialization key. The PIN number is never sent over the air. By default, the Bluetooth stack responds with no key when a key is requested (it is up to user to respond to the key request event). Authentication of Bluetooth devices is based-upon a challenge-response transaction. Bluetooth allows for a PIN number or passkey that is used to create other 128-bit keys used for security and encryption. The encryption key is derived from the link key used to authenticate the pairing devices. Also worthy of note is the limited range and fast frequency hopping of the Bluetooth radios that makes long-distance eavesdropping difficult.

Recommendations are:

- Perform pairing in a secure environment
- Keep PIN codes private and don't store the PIN codes in the mobile computer
- Implement application-level security.

---

## Turning the Bluetooth Radio Mode On and Off

Turn off the Bluetooth radio to save power or if entering an area with radio restrictions (e.g., an airplane). When the radio is off, other Bluetooth devices cannot see or connect to the FR6070. Turn on the Bluetooth radio to exchange information with other Bluetooth devices (within range). Communicate only with Bluetooth radios in close proximity.



**NOTE** To achieve the best battery life turn off radios not in use.

## Disabling Bluetooth

To disable Bluetooth, tap **Bluetooth** icon to enter **Wireless Manager**. Tap **Bluetooth** icon to change **on** to **off**. The **Bluetooth** icon changes to indicate that Bluetooth is disabled.

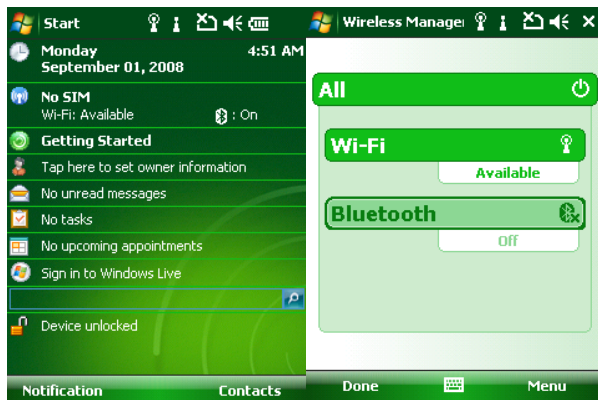


Figure 4-1 *Disable Bluetooth*

## Enabling Bluetooth

To enable Bluetooth, tap **Bluetooth** icon to enter **Wireless Manager**. Tap **Bluetooth** icon to change **off** to **on**. The **Bluetooth** icon changes to indicate that Bluetooth is enabled.

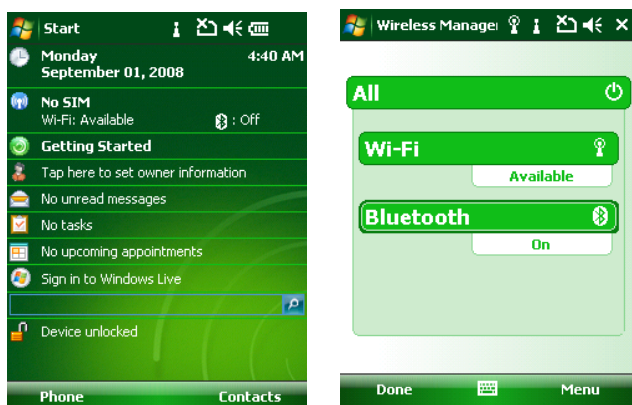


Figure 4-2 *Enable Bluetooth*

## Bond New Device(s)

The FR6070 can exchange information with bonded devices.

To find Bluetooth devices in the area:

1. Ensure that Bluetooth is enabled on both devices.
2. Ensure that the Bluetooth device to discover is in discoverable and connectable modes.
3. Ensure that the two devices are within 30 feet (10 meters) of one another.
4. Tap the **Bluetooth** icon to enter **Wireless Manager**. Then tap **Menu**.

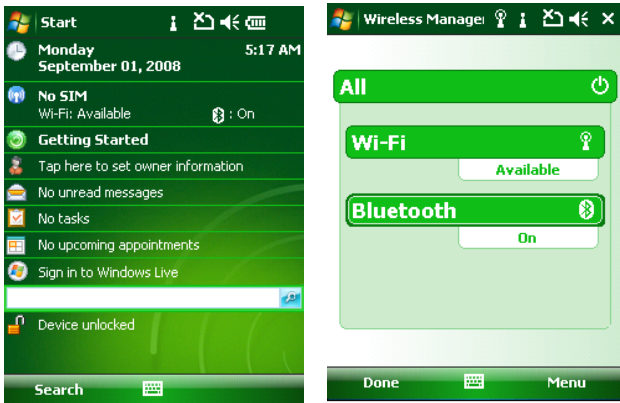


Figure 4-3 Enter Bluetooth Window

5. Tap **Menu** to enter **Settings** window. Then tap **Add new device** to search for Bluetooth Devices.

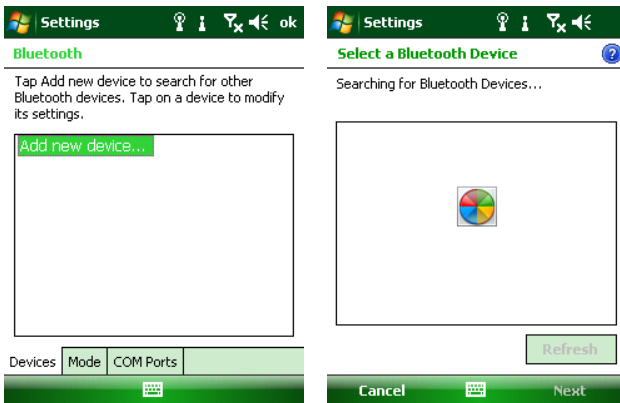


Figure 4-4 Add new device Window

6. After the device appears, tap it and enter a passcode to establish a secure connection with it. Meanwhile enter the passcode on the target device.



Figure 4-5 Discover Devices Dialog Box

## File Transfer Services

To transfer files between the FR6070 and another Bluetooth enabled device, please ensure the FR6070 is discoverable and connectable.



**NOTE** Some devices might not require a PIN. This depends upon the device's authentication.

1. Choose one file as below, tap **Menu > Beam picture** Menu.

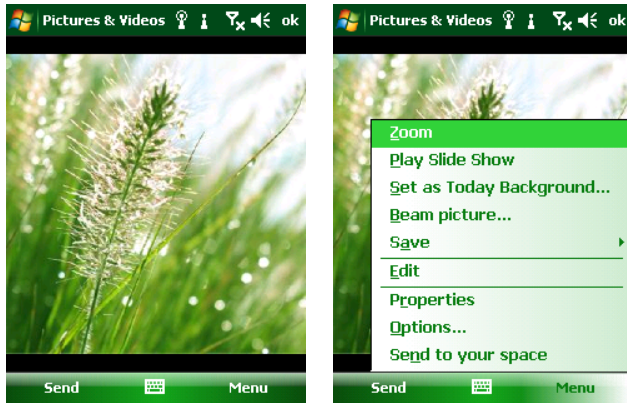


Figure 4-6 Select file

2. Then choose the destination device, and wait till **Done** is showed.

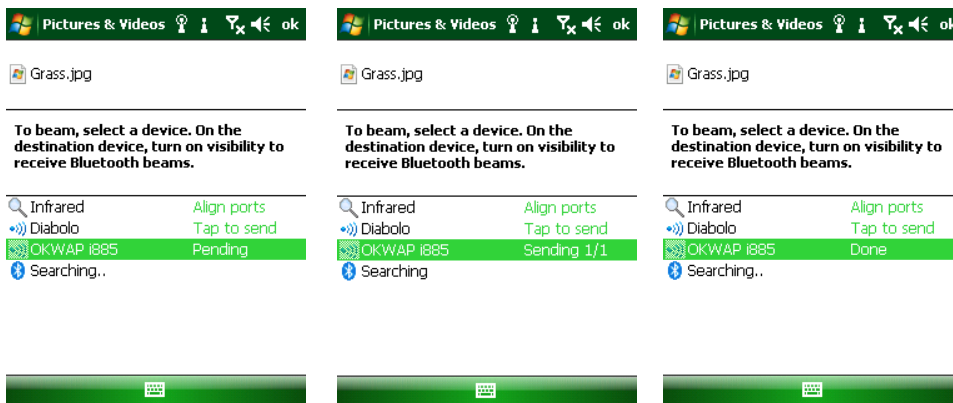


Figure 4-7 Transfer file Window

## Bluetooth Settings

Use the **Bluetooth Settings** window to configure the operation of the application. Tap **Menu > Settings**. The **Bluetooth Settings** window appears.

## Device Info Tab

Use the Device Info tab to add and bond new devices. Please refer to **Bond new device(s)**.

## Mode Tab

Use the **Mode** tab to configure the FR6070's Bluetooth connection modes.

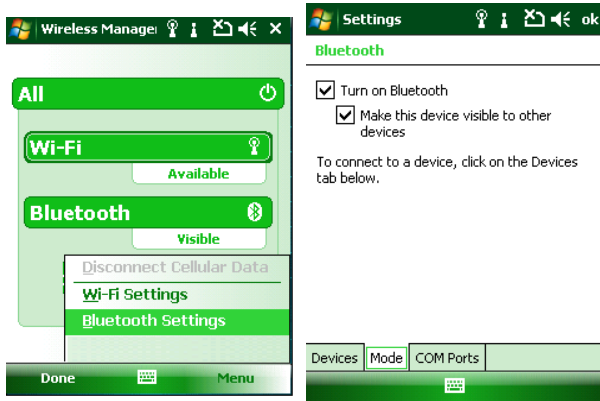


Figure 4-8 BTE Explorer Settings - Device Info Tab



1. Before bonding a new device, make sure to turn on Bluetooth.
2. If you want other devices to find your FR6070, please tick "Make this device visible to other devices".

## COM Ports Tab

Use the **COM Ports** tab set specific outgoing ports for bonded devices.

### 1. Tap New Outgoing Port.

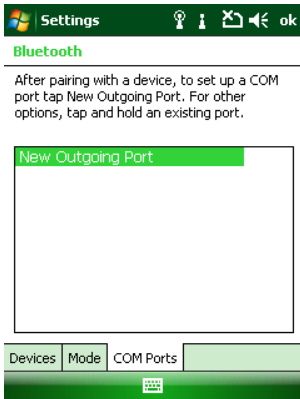


Figure 4-9 Add COM Ports

### 2. Select the device you want to add. Then tap **Next**.

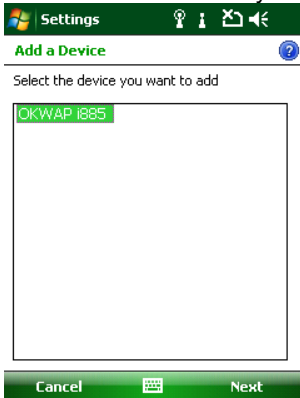
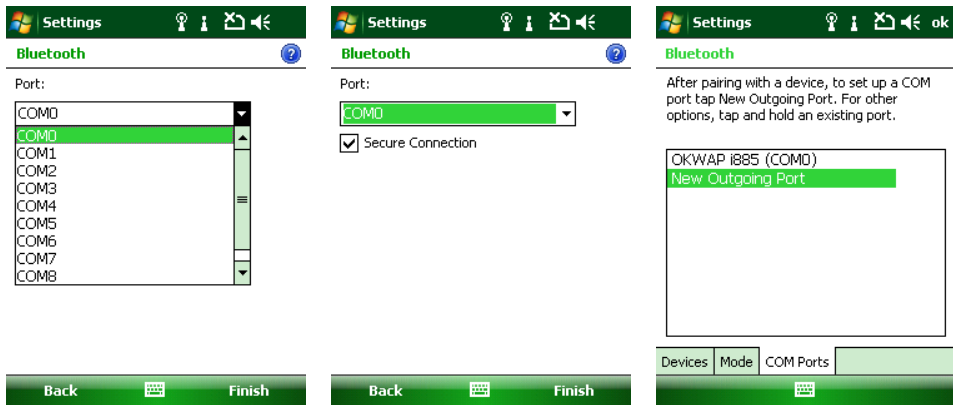


Figure 4-10 Select device

### 3. Select a port from drop-down list. Then tap **Finish**.



**Figure 4-11** *Select a Port for device*

# Chapter 4 Accessories

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## Introduction

FR6070 accessories, listed below, provide a variety of product support capabilities.

- Single Slot USB/Serial Cradle - Charges the FR6070 main battery and a spare battery. Synchronizes the FR6070 with a host computer through a USB connection.
- Four Slot Battery Charger - Charges spare standard and high capacity batteries.
- Auto Charge Cable - Plugs into a vehicle cigarette lighter to charge the FR6070 while on the road.
- Charge Only Cable - Provides power to the FR6070.
- USB Charging Cable - Provides power to the FR6070 and USB communication with a host computer.
- Headset - Used in noisy environments.

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## Single Slot USB/Serial Cradle

This section describes how to use a Single Slot USB/Serial cradle with the FR6070. For USB communication setup procedures refer to the *FR6070 Integrator Guide*.

The Single Slot USB/Serial Cradle:

- Provides 5.4 VDC power for operating the FR6070.
- Synchronizes information between the FR6070 and a host computer. Refer to the *FR6070 Integrator Guide* for information on setting up a partnership between the FR6070 and a host computer.
- Charges the FR6070's battery.
- Charges a spare battery.

## Charging the FR6070 Battery

Connect the cradle to power. Insert the FR6070 into the slot to begin charging.

Note : Please put the adaptor clip into the cradle before charging.

\*Charging LED

Slow Blinking Amber=Charging  
 Solid Green=Fully Charged  
 Fast Blinking Red=Charging Error

\*It is recommended that this product be charged for 24 hours before the first use to ensure that the internal battery is fully charged.

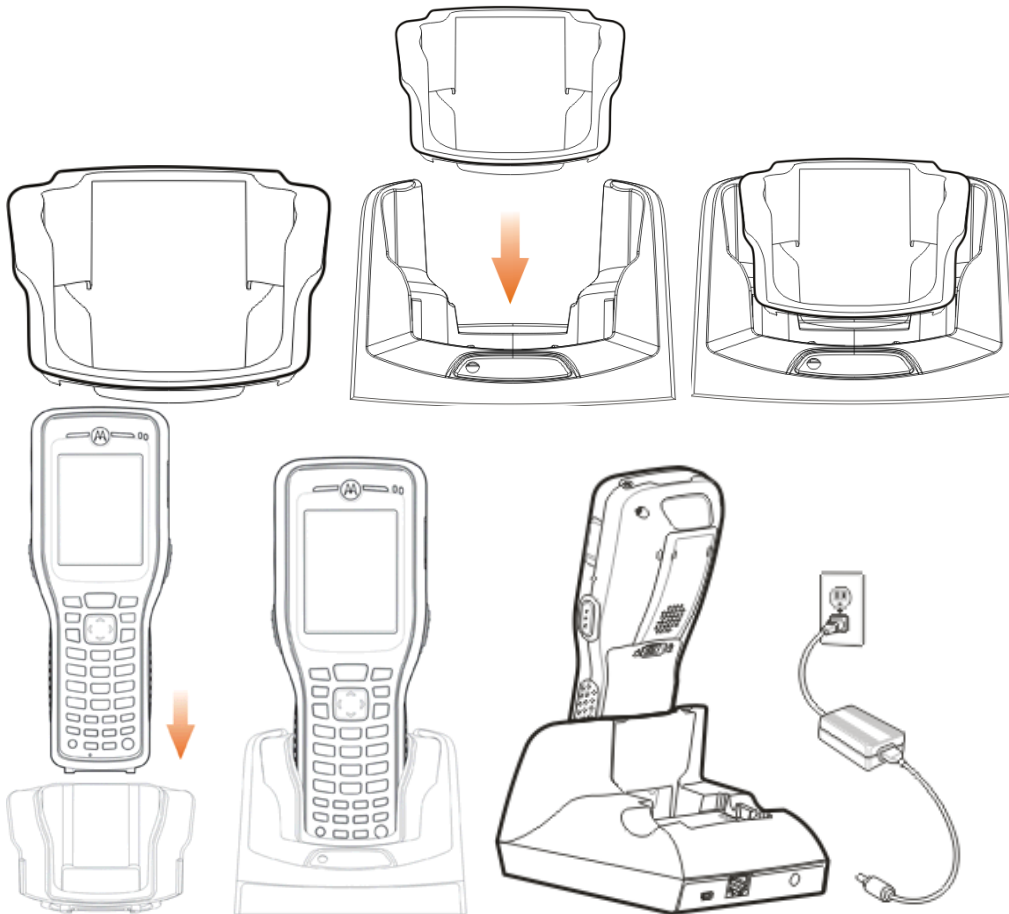


Figure 6-1 FR6070 Battery Charging

### Charging the Spare Battery

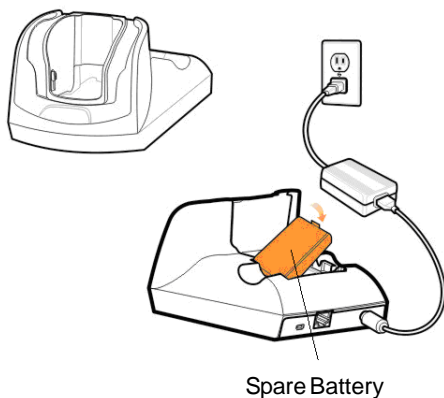


Figure 6-2 Spare Battery Charging



## Battery Charging Indicators

The Single Slot USB/Serial Cradle charges the FR6070's main battery and a spare battery simultaneously.

The FR6070's charge LED indicates the status of the battery charging in the FR6070. See [Table 1-2 on page 1-7](#) for charging status indications.

The spare battery charging LED on the cradle indicates the status of the spare battery charging in the cradle. See [Table 6-1](#) for charging status indications.

The 3600 mAh battery fully charges in less than five hours.

## Charging Temperature

Charge batteries in temperatures from 0°C to 45°C (32°F to 113°F). Charging is intelligently controlled by the FR6070

To accomplish this, for small periods of time, the FR6070 or accessory alternately enables and disables battery charging to keep the battery at acceptable temperatures. The FR6070 or accessory indicates when charging is disabled due to abnormal temperatures via its LED. See [Table 1-2 on page 1-7](#) and [Table 6-1](#).

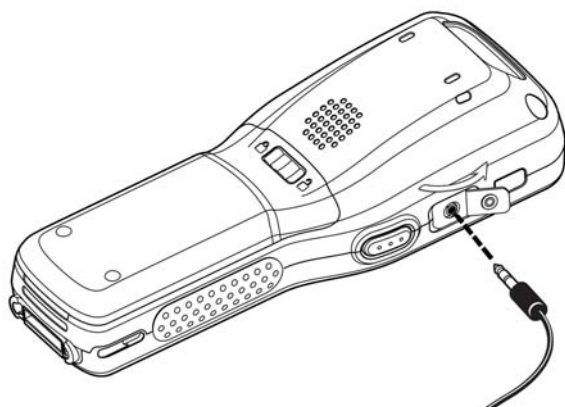
**Table 6-1** Spare Battery LED Charging Indicators

Spare Battery LED (on cradle)	Indication
Off	Battery is not charging; battery is not inserted correctly in the cradle; cradle is not powered
Slow Blinking Amber	Spare battery is charging.
Solid Amber	Charging complete.

## Headset

Use the headset to communicate via Voice-Over-IP (VOIP) or for audio playback and telephony applications. To connect the headset, remove the plug from the headset jack at the top of the FR6070 and insert the headset connector. Contact a Motorola representative for compatible headsets.

For best performance, Motorola recommends a 2.5mm jack headset, p/n 50-11300-050R.



**Figure 6-5** *Headset Connection*

## Cables

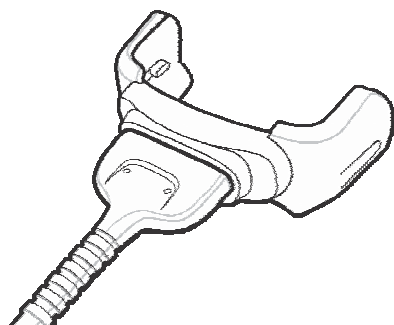
This section describes how to set up and use the cables. The cables are available with a variety of connection capabilities.

The following communication/charge cables are available:

- USB Client Charge cable (standard-A connector and a barrel receptacle for power)
- Auto charge cable
- Charge only cable.

The following printer cables are available directly from Motorola:

- O'Neil Printer cable
- Zebra Printer cable.



**Figure 6-6** *Cables*

Communication/charge cables:

- Provide the FR6070 with operating and charging power when used with the Motorola approved power

supply.

- Synchronize information between the FR6070 and a host computer. With customized or third party software, it can also synchronize the FR6070 with corporate databases.
- Provide USB connection through the USB pass-through port for communication with a USB device, such as a host computer. For communication setup procedures, refer to the *FR6070 Integrator Guide*.

Dedicated printer cables provide communication with a printer.

## Battery Charging and Operating Power

The communication/charge cables can charge the FR6070 battery and supply operating power. To charge the FR6070 battery:

1. Connect the communication/charge cable power input connector to the Motorola approved power source.
2. Slide the bottom of the FR6070 into the connector end of the communication/charge cable and gently press in until it latches into the FR6070. The FR6070 amber Charge LED indicates the FR6070 battery charging status. The 3600 mAh standard battery charges in less than five hours. See [Table 1-2 on page 1-7](#) for charging status indications.
3. When charging is complete, remove the cable by gently pulling the FR6070 and the cable apart.

## LED Charge Indications

The amber Charge LED on the FR6070 indicates battery charging status. See [Table 1-2 on page 1-7](#) for charging status indications.

## Charging Temperature

Charge batteries in temperatures from 0°C to 45°C (32°F to 113°F). Charging is intelligently controlled by the FR600

To accomplish this, for small periods of time, the FR6070 or accessory alternately enables and disables battery charging to keep the battery at acceptable temperatures. The FR6070 or accessory indicates when charging is disabled due to abnormal temperatures via its LED. See [Table 1-2 on page 1-7.4](#)

# Chapter 5 Maintenance & Troubleshooting

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## Introduction

This chapter includes instructions on cleaning and storing the FR6070, and provides troubleshooting solutions for potential problems during FR6070 operation.

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## Maintaining the FR6070

For trouble-free service, observe the following tips when using the FR6070:

- Do not scratch the screen of the FR6070. When working with the FR6070, use the supplied stylus or plastic-tipped pens intended for use with a touch-sensitive screen. Never use an actual pen or pencil or other sharp object on the surface of the FR6070 screen.

Motorola recommends using a screen protector, p/n KT-67525-01R.

- The touch-sensitive screen of the FR6070 is glass. Do not drop the FR6070 or subject it to strong impact.
- Protect the FR6070 from temperature extremes. Do not leave it on the dashboard of a car on a hot day, and keep it away from heat sources.
- Do not store or use the FR6070 in any location that is dusty, damp, or wet.
- Use a soft lens cloth to clean the FR6070. If the surface of the FR6070 screen becomes soiled, clean it with a soft cloth moistened with a diluted window-cleaning solution.
- Periodically replace the rechargeable battery to ensure maximum battery life and product performance. Battery life depends on individual usage patterns.

- A screen protector is applied to the FR6070. Motorola recommends using this to minimize wear and tear. Screen protectors enhance the usability and durability of touch screen displays. Benefits include:
  - Protection from scratches and gouges
  - Durable writing and touch surface with tactile feel
  - Abrasion and chemical resistance
  - Glare reduction
  - Keeping the device's screen looking new
  - Quick and easy installation.

---

## Battery Safety Guidelines

- The area in which the units are charged should be clear of debris and combustible materials or chemicals. Particular care should be taken where the device is charged in a non commercial environment.
- Follow battery usage, storage, and charging guidelines found in the user's guide.
- Improper battery use may result in a fire, explosion, or other hazard.
- To charge the mobile device battery, the battery and charger temperatures must be between +32 °F and +113 °F (0 °C and +45 °C)
- Do not use incompatible batteries and chargers. Use of an incompatible battery or charger may present a risk of fire, explosion, leakage, or other hazard. If you have any questions about the compatibility of a battery or a charger, contact Motorola Enterprise Mobility support.
- For devices that utilize a USB port as a charging source, the device shall only be connected to products that bear the USB-IF logo or have completed the USB-IF compliance program.
- To enable authentication of an approved battery, as required by IEEE1725 clause 10.2.1, all batteries will carry a Motorola hologram. Do not fit any battery without checking it has the Motorola authentication hologram.
- Do not disassemble or open, crush, bend or deform, puncture, or shred.
- Severe impact from dropping any battery-operated device on a hard surface could cause the battery to overheat.
- Do not short circuit a battery or allow metallic or conductive objects to contact the battery terminals.
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard.
- Do not leave or store the equipment in or near areas that might get very hot, such as in a parked vehicle or near a radiator or other heat source. Do not place battery into a microwave oven or dryer.
- Battery usage by children should be supervised.
- Please follow local regulations to promptly dispose of used re-chargeable batteries.
- Do not dispose of batteries in fire.
- Seek medical advice immediately if a battery has been swallowed.
- In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with large amounts of water and seek medical advice.
- If you suspect damage to your equipment or battery, contact Motorola Enterprise Mobility support to arrange for inspection.

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## Cleaning



**CAUTION** Always wear eye protection.

Read warning label on compressed air and alcohol product before using.

If you have to use any other solution for medical reasons please contact Motorola for more information.



**WARNING!** Avoid exposing this product to contact with hot oil or other flammable liquids. If such exposure occurs, unplug the device and clean the product immediately in accordance with these guidelines.

## Materials Required

- Alcohol wipes
- Lens tissue
- Cotton tipped applicators
- Isopropyl alcohol
- Can of compressed air with a tube.

## Cleaning the FR6070

### Housing

Using the alcohol wipes, wipe the housing including keys and in-between keys.

### Display

The display can be wiped down with the alcohol wipes, but care should be taken not to allow any pooling of liquid around the edges of the display. Immediately dried the display with a soft, non-abrasive cloth to prevent streaking.

### Scanner Exit Window

Wipe the scanner exit window periodically with a lens tissue or other material suitable for cleaning optical material such as eyeglasses.

### Connector

1. Remove the main battery from mobile computer. See *Replacing the Main Battery on page 1-11*.
2. Close battery door.
3. Dip the cotton portion of the cotton tipped applicator in isopropyl alcohol.
4. Rub the cotton portion of the cotton tipped applicator back-and-forth across the connector on the bottom of the FR6070. Do not leave any cotton residue on the connector.
5. Repeat at least three times.
6. Use the cotton tipped applicator dipped in alcohol to remove any grease and dirt near the connector area.
7. Use a dry cotton tipped applicator and repeat steps 4 through 6.

8. Spray compressed air on the connector area by pointing the tube/nozzle about ½ inch away from the surface. CAUTION: Do not point nozzle at yourself and others, ensure the nozzle or tube is away from your face.
9. Inspect the area for any grease or dirt, repeat if required.

## Cleaning Cradle Connectors

To clean the connectors on a cradle:

1. Remove the DC power cable from the cradle.
2. Dip the cotton portion of the cotton tipped applicator in isopropyl alcohol.
3. Rub the cotton portion of the cotton tipped applicator along the pins of the connector. Slowly move the applicator back-and-forth from one side of the connector to the other. Do not let any cotton residue on the connector.
4. All sides of the connector should also be rubbed with the cotton tipped applicator.
5. Spray compressed air in the connector area by pointing the tube/nozzle about ½ inch away from the surface. CAUTION: do not point nozzle at yourself and others, ensure the nozzle or tube is pointed away from your face.
6. Ensure that there is no lint left by the cotton tipped applicator, remove lint if found.
7. If grease and other dirt can be found on other areas of the cradle, use lint free cloth and alcohol to remove.
8. Allow at least 10 to 30 minutes (depending on ambient temperature and humidity) for the alcohol to air dry before applying power to cradle.

If the temperature is low and humidity is high, longer drying time is required. Warm temperature and dry humidity requires less drying time.

## Cleaning Frequency

The cleaning frequency is up to the customer's discretion due to the varied environments in which the mobile devices are used. They may be cleaned as frequently as required. However when used in dirty environments it may be advisable to periodically clean the scanner exit window to ensure optimum scanning performance.

## Troubleshooting

### FR6070

Table 7-1 Troubleshooting the FR6070

Problem	Cause	Solution
FR6070 does not turn on.	Lithium-ion battery not charged.	Charge or replace the lithium-ion battery in the FR6070.
	Lithium-ion battery not installed properly.	Install the battery properly. See <i>Installing the Main Battery</i> on page 1-6.
	System crash.	Perform a warm boot. If the FR6070 still does not turn on, perform a cold boot. See <i>Resetting the FR6070</i> on page 2-14.
Rechargeable lithium-ion battery did not charge.	Battery failed.	Replace battery. If the FR6070 still does not operate, perform a warm boot, then a cold boot. See <i>Resetting the FR6070</i> on page 2-14.
	FR6070 removed from cradle while battery was charging.	Insert FR6070 in cradle. The 3600 mAh battery fully charges in less than six hours.
	Extreme battery temperature.	Battery does not charge if ambient temperature is below 0°C (32°F) or above 45°C (113°F).
Cannot see characters on display.	FR6070 not powered on.	Press the <b>Power</b> button.
During data communication, no data transmitted, or transmitted data was incomplete.	FR6070 removed from cradle or disconnected from host computer during communication.	Replace the FR6070 in the cradle, or reattach the communication cable and re-transmit.
	Incorrect cable configuration.	See the system administrator.
	Communication software was incorrectly installed or configured.	Perform setup. Refer to the <i>FR6070 Integrator Guide</i> for details.
No sound.	Volume setting is low or turned off.	Adjust the volume. See <i>Adjusting Volume</i> on page 2-10.



**Table 7-1** Troubleshooting the FR6070(Continued)

Problem	Cause	Solution
FR6070 shuts off.	FR6070 is inactive.	The FR6070 turns off after a period of inactivity. If the FR6070 is running on battery power, set this period from 1 to 5 minutes, in one-minute intervals. If the FR6070 is running on external power, set this period to 1, 2, 5, 10, 15, or 30 minutes. Check the <i>Power</i> window by selecting <b>Start &gt; Settings &gt; System</b> tab and tapping the <b>Power</b> icon. Select the <b>Advanced</b> tab and change the setting for a longer delay before the automatic shutoff feature activates.
	Battery is depleted.	Replace the battery.
	Battery is not inserted properly.	Insert the battery properly. See <i>Installing the Main Battery</i> on page 1-6.
Tapping the window buttons or icons does not activate the corresponding feature.	Screen is not calibrated correctly.	Re-calibrate the screen. See <i>Calibrating the Screen</i> on page 1-8.
	The system is not responding.	Warm boot the system. See <i>Resetting the FR6070</i> on page 2-14.
A message appears stating that the FR6070 memory is full.	Too many files stored on the FR6070.	Delete unused memos and records. If necessary, save these records on the host computer (or use an SD card for additional memory).
	Too many applications installed on the FR6070.	Remove user-installed applications on the FR6070 to recover memory. Select <b>Start &gt; Settings &gt; System</b> tab and tap the <b>Remove Programs</b> icon. Select the unused program and tap <b>Remove</b> .
FR6070 keeps powering down to protect memory contents.	The FR6070's battery is low.	Recharge the battery.
	The internal Bluetooth radio is powered on for a long time.	Because this mode requires battery power, power it off when not needed.

**Table 7-1** *Troubleshooting the FR6070(Continued)*

Problem	Cause	Solution
The FR6070 does not accept scan input.	Scanning application is not loaded.	Load a scanning application on the FR6070. See the system administrator.
	Unreadable bar code.	Ensure the symbol is not defaced.
	Distance between exit window and bar code is incorrect.	Place the FR6070 within proper scanning range.
	FR6070 is not programmed for the bar code.	Program the FR6070 to accept the type of bar code being scanned.
	FR6070 is not programmed to generate a beep.	If the FR6070 does not beep on a good decode, set the application to generate a beep on good decode.
	Battery is low.	If the scanner stops emitting a laser beam upon a trigger press, check the battery level. When the battery is low, the scanner shuts off before the FR6070 low battery condition notification. Note: If the scanner is still not reading symbols, contact the distributor or Motorola.

## Bluetooth Connection

**Table 7-2** *Troubleshooting Bluetooth Connection*

Problem	Cause	Solution
FR6070 cannot find any Bluetooth devices nearby.	Too far from other Bluetooth devices.	Move closer to the other Bluetooth device(s), within a range of 10 meters.
	The Bluetooth device(s) nearby are not turned on.	Turn on the Bluetooth device(s).
	The Bluetooth device(s) are not in discoverable mode.	Set the Bluetooth device(s) to discoverable mode. If needed, refer to the device's user documentation for help.

## Single Slot USB/Serial Cradle

**Table 7-3** *Troubleshooting the Single Slot USB/Serial Cradle*

Symptom	Possible Cause	Action
LEDs do not light when FR6070 or spare battery is inserted.	Cradle is not receiving power.	Ensure the power cable is connected securely to both the cradle and to AC power.
	FR6070 is not seated firmly in the cradle.	Remove and re-insert the FR6070 into the cradle, ensuring it is firmly seated.
	Spare battery is not seated firmly in the cradle.	Remove and re-insert the spare battery into the charging slot, ensuring it is firmly seated.

**Table 7-3** Troubleshooting the Single Slot USB/Serial Cradle (Continued)

Symptom	Possible Cause	Action
FR6070 battery is not charging.	FR6070 was removed from cradle or cradle was unplugged from AC power too soon.	Ensure cradle is receiving power. Ensure FR6070 is seated correctly. Confirm main battery is charging under <b>Start &gt; Settings &gt; System &gt; Power</b> . The 3600 mAh battery fully charges in less than six hours.
	Battery is faulty.	Verify that other batteries charge properly. If so, replace the faulty battery.
	The FR6070 is not fully seated in the cradle.	Remove and re-insert the FR6070 into the cradle, ensuring it is firmly seated.
	Ambient temperature of the cradle is too warm.	Move the cradle to an area where the ambient temperature is between 0°C (32°F) and 35°C (95°F).
	Extreme battery temperature.	Battery does not charge if ambient temperature is below 0°C (32°F) or above 45°C (113°F).
Spare battery is not charging.	Battery not fully seated in charging slot.	Remove and re-insert the spare battery in the cradle, ensuring it is firmly seated.
	Battery inserted incorrectly.	Re-insert the battery so the charging contacts on the battery align with the contacts on the cradle.
	Battery is faulty.	Verify that other batteries charge properly. If so, replace the faulty battery.
	Ambient temperature of the cradle is too warm.	Move the cradle to an area where the ambient temperature is between 0°C (32°F) and 35°C (95°F).
During data communication, no data transmits, or transmitted data was incomplete.	FR6070 removed from cradle during communications.	Replace FR6070 in cradle and retransmit.
	Incorrect cable configuration.	See the system administrator.
	Communication software is not installed or configured properly.	Perform setup as described in the <i>FR6070 Integrator Guide</i> .