

Table 2-6 MC65 Numeric Keypad Descriptions (Continued)


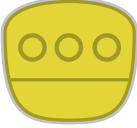



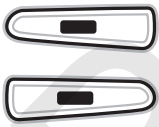


Key	Description
<p>Talk/Start Menu</p> 	<p>Talk (Green Phone): press to display the phone keypad window or to dial a phone number (from the phone keypad window).</p> <p>When on a phone call, press to place the call on hold.</p> <p>Use this key in conjunction with the Blue key to instantly display the <i>Start</i> menu from any application without tapping the screen. This function is user programmable.</p>
<p>Scan (yellow)</p> 	<p>Activates the scanner/imager in a scan enabled application.</p>
<p>End/OK</p> 	<p>End (Red Phone): press when the phone keypad window displays to stop dialing or end a call.</p> <p>Use this key in conjunction with the Blue key as an OK or close button. This function is user programmable.</p>
<p>Scroll Up and Left</p> 	<p>Moves up one item.</p> <p>Moves left one item when pressed with the Orange key.</p>
<p>Scroll Down and Right</p> 	<p>Moves down one item.</p> <p>Moves right one item when pressed with the Orange key.</p>
<p>Soft Keys</p> 	<p>Accesses the command or menu above it on the screen.</p>
<p>Star</p> 	<p>Produces an asterisk in default state.</p> <p>Press and release the blue key, then press the Star key to open the <i>Start</i> menu.</p>
<p>Alphanumeric</p> 	<p>In default state, produces the numeric value on the key.</p> <p>In Alpha state, produces the lower case alphabetic characters on the key. Each key press produces the next alphabetic character in sequence. For example, press and release the Orange key and then press the '4' key once to produce the letter 'g'; press and release the Orange key and then press the '4' key three times to produce the letter 'i'.</p> <p>Press the SHIFT key in Alpha state to produce the upper case alphabetic characters on the key. For example, press and release the Orange key, press and release the SHIFT key, and then press the '4' key once to produce the letter 'G'; press and release the Orange key, press and release the SHIFT key and then press the '4' key three times to produce the letter 'I'.</p>

Table 2-6 MC65 Numeric Keypad Descriptions (Continued)






Key	Description
Backspace 	Produces a backspace.
SHIFT 	Press and release the SHIFT key to activate the keypad alternate SHIFT functions. A single press displays the following icon at the bottom of the screen, until a second key is pressed:  Press the Orange key, then the Shift key to add a temporary shift (that applies only to the next key pressed) to the orange lock state. This displays the following icon at the bottom of the screen: 
Enter 	Executes a selected item or function.

Table 2-7 Numeric Keypad Input Modes

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
1	1	F1	!	*	*	*	*	*	*	*	*
2	2	F2	@	a	b	c		A	B	C	
3	3	F3	#	d	e	f		D	E	F	
4	4	F4	\$	g	h	i		G	H	I	
5	5	F5	%	j	k	l		J	K	L	
6	6	F6	^	m	n	o		M	N	O	
7	7	F7	&	p	q	r	s	P	Q	R	S
8	8	F8	*	t	u	v		T	U	V	
9	9	F9	(	w	x	y	z	W	X	Y	Z
0	0	F10)	.				>			

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

Table 2-7 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	Highlight Up	Left				Left			
Down	Down	Down	Highlight 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 (QWERTY, AZERTY and QWERTZ) 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 and [Table 2-9 on page 2-30](#) for the keypad's special functions. AZERTY keypad is used on configurations installed with the French operating system. QWERTZ keypad is used on configurations installed with the German operating system.

**Figure 2-33** QWERTY Keypad Configuration



Figure 2-34 AZERTY Keypad Configuration



Figure 2-35 QWERTZ Keypad Configuration

Table 2-8 Alpha-numeric Keypad Descriptions








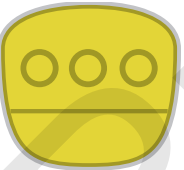



Key	Action
<p>Blue Key</p> 	<p>Press the Blue key once to activate this mode temporarily, followed by another key. This displays the following icon at the bottom of the screen, until a second key is pressed: </p> <p>Press the Blue key twice to lock this mode. This displays the following icon at the bottom of the screen: </p> <p>Press the Blue key a third time to unlock.</p>
<p>Orange Key</p> 	<p>Accesses the secondary layer of characters and actions (shown on the keypad in orange).</p> <p>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.</p>
<p>Talk/Start Menu</p> 	<p>Talk (Green Phone): press to display the phone keypad window or to dial a phone number (from the phone keypad window).</p> <p>When on a phone call, press to place the call on hold.</p> <p>Use this key in conjunction with the Blue key to instantly display the <i>Start</i> menu from any application without tapping the screen. This function is user programmable.</p>
<p>Scan (yellow)</p> 	<p>Activates the scanner/imager in a scan enabled application.</p>
<p>End/OK</p> 	<p>End (Red Phone): press when the phone keypad window displays to stop dialing or end a call.</p> <p>Use this key in conjunction with the Blue key as an OK or close button. This function is user programmable.</p>
<p>Scroll Up and Left</p> 	<p>Moves up one item.</p> <p>Moves left one item when pressed with the Orange key.</p>
<p>Scroll Down and Right</p> 	<p>Moves down one item.</p> <p>Moves right one item when pressed with the Orange key.</p>

Table 2-8 Alpha-numeric Keypad Descriptions (Continued)










Key	Action
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"> 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:  Press the Shift key twice to lock this mode. This displays the following icon at the bottom of the screen:  Press the Shift key a third time to unlock.
Backlight 	Turns the display backlight on and off.
Backspace 	Produces a backspace.
Enter 	Executes a selected item or function.
Star 	Produces an asterisk.
au 	Creates special characters.

Table 2-9 QWERTY Keypad Input Modes

Key	Normal	Shift + Key	Orange + Key	Blue + Key
Q	q	Q	*	q
W	w	W	1	w
E	e	E	2	e
R	r	R	3	r

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

Table 2-9 QWERTY Keypad Input Modes (Continued)

Key	Normal	Shift + Key	Orange + Key	Blue + Key
T	t	T	+	t
Y	y	Y	_	y
U	u	U	-	u
I	i	I	=	i
O	o	O	"	o
P	p	P	áü	p
A	a	A	#	a
S	s	S	4	s
D	d	D	5	d
F	f	F	6	f
G	g	G	(	g
H	h	H	)	h
J	j	J	/	j
K	k	K	:	k
L	l	L	'	l
Backspace	Backspace	Backspace	Backspace	Backspace
Shift	Shift	Shift-Lock	Shift	Shift
Z	z	Z	7	z
X	x	X	8	x
C	c	C	9	c
V	v	V	%	v
B	b	B	&	b
N	n	N	!	n
M	m	M	?	m
,	,	<	@	,
ENTER	Enter	Enter	Enter	Enter
0	0	)	0	0
TAB	Tab	Tab	Back tab	Tab
SPACE	Space	Space	Space	Space

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

Table 2-9 QWERTY Keypad Input Modes (Continued)

Key	Normal	Shift + Key	Orange + Key	Blue + Key
Backlight	Backlight	Backlight	Backlight	Backlight
. (Period)	.	>	.	.

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

Table 2-10 AZERTY Keypad Input Modes

Key	Normal	Shift + Key	Orange + Key	Blue + Key
A	a	A	*	a
Z	z	Z	1	z
E	e	E	2	e
R	r	R	3	r
T	t	T	+	t
Y	y	Y	-	y
U	u	U	-	u
I	i	I	=	i
O	o	O	"	o
P	p	P	áü	p
Q	q	Q	#	q
S	s	S	4	s
D	d	D	5	d
F	f	F	6	f
G	g	G	(	g
H	h	H	)	h
J	j	J	/	j
K	k	K	:	k
L	l	L	'	l
Backspace	Backspace	Backspace	Backspace	Backspace
Shift	Shift	Shift-Lock	Shift	Shift
W	w	W	7	w
X	x	X	8	x
C	c	C	9	c

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

Table 2-10 AZERTY Keypad Input Modes (Continued)

Key	Normal	Shift + Key	Orange + Key	Blue + Key
V	v	V	%	v
B	b	B	&	b
N	n	N	!	n
M	m	M	?	m
,	,	<	@	
Enter	Enter	Enter	Enter	Enter
0	0	)	0	0
TAB	Tab	Tab	Back tab	Tab
SPACE	Space	Space	Space	Space
Backlight	Backlight	Backlight	Backlight	Backlight
. (Period)	.	>	.	.

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

Table 2-11 QWERTZ Keypad Input Modes

Key	Normal	Shift + Key	Orange + Key	Blue + Key
Q	q	Q	*	q
W	w	W	1	w
E	e	E	2	e
R	r	R	3	r
T	t	T	+	t
Z	z	Z	_	z
U	u	U	-	u
I	i	I	=	i
O	o	O	"	o
P	p	P	áü	p
A	a	A	#	a
S	s	S	4	s
D	d	D	5	d
F	f	F	6	f
G	g	G	(	g

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

Table 2-11 QWERTZ Keypad Input Modes (Continued)

Key	Normal	Shift + Key	Orange + Key	Blue + Key
H	h	H	)	h
J	j	J	/	j
K	k	K	:	k
L	l	L	'	l
Backspace	Backspace			
Shift	Shift			
Y	y	Y	7	y
X	x	X	8	x
C	c	C	9	c
V	v	V	%	v
B	b	B	&	b
N	n	N	!	n
M	m	M	?	m
,	,	<	@	,
ENTER	Enter	ENTER	ENTER	Enter
0	0	)	0	0
TAB	Tab	Tab	Back tab	Tab
SPACE	Space	Space	Space	Space
Backlight	Backlight	Backlight	Backlight	Backlight
. (Period)	.	>	.	.

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

PIM Keypad Configuration

The PIM keypad contains application keys and scroll keys. Note that an application can change keypad functions so the MC65's keypad may not function exactly as described. See [Table 2-6](#) for key and button descriptions and [Table 2-7 on page 2-26](#) for the keypad's special functions.

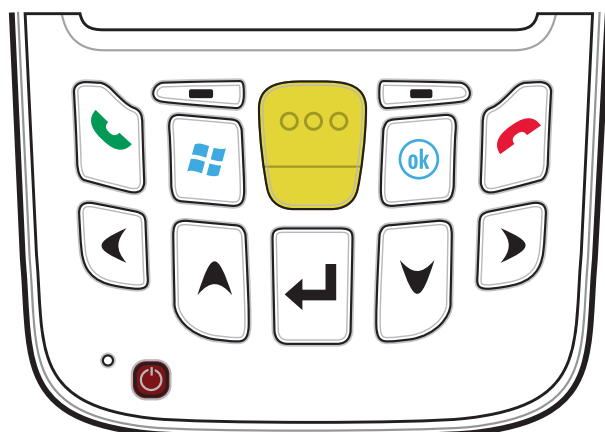


Figure 2-36 MC65 PIM Keypad

Table 2-12 MC65 PIM Keypad Descriptions



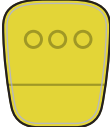







Key	Description
Talk (Green Phone) 	<p>This key is user programmable.</p> <p>To use a key as an application key (APP key) on the keyboard, create and install a new keyboard remap table. However, to remap the green phone key as APP keys through the registry, create an XML provisioning file that includes the following entry:</p> <pre><characteristic type="HKLM\Hardware\DeviceMap\KYBD"> <parm name="GreenKeyOverride" value="xx" datatype="integer" /> [where xx is the new APP key code]</pre> <p>Provision the file to the MC65 to send an APP key code, instead of the original key code, upon pressing the green phone key. Refer to the <i>MC65 Integrator Guide</i> for information on creating XML provisioning files.</p>
End (Red Phone) 	<p>This key is user programmable.</p> <p>To use a key as an application key (APP key) on the keyboard, create and install a new keyboard remap table. However, to remap the green phone key as APP keys through the registry, create an XML provisioning file that includes the following entry:</p> <pre><characteristic type="HKLM\Hardware\DeviceMap\KYBD"> <parm name="RedKeyOverride" value="yy" datatype="integer" /> [where yy is the new APP key code]</pre> <p>Provision the file to the MC65 to send an APP key code, instead of the original key code, upon pressing the red phone key. Refer to the <i>MC65 Integrator Guide</i> for information on creating XML provisioning files.</p>
Scan (yellow) 	<p>Activates the scanner/imager in a scan enabled application.</p>

Table 2-12 MC65 PIM Keypad Descriptions (Continued)

Key	Description
Scroll Up 	Moves up one item.
Scroll Down 	Moves up down item.
Scroll Left 	Moves left one item.
Scroll Right 	Moves right one item.
Soft Keys 	Accesses the command or menu above it on the screen.
Enter 	Executes a selected item or function.
OK 	Use this key as an OK or close button.

Special Character Key

- ✓ **NOTE** Special characters are only available on the alpha-numeric keypad configurations.

To add special characters using the MC65 **áü** key, type the related character first, then press the Orange twice followed by the **áü (P)** key. Continue pressing the **áü** key until the special character displays. To modify an existing

character, move the cursor to the right of the character then press the Orange key twice and then press the **áü** key until the special character replaces the original character. [Table 2-13](#) lists the special characters you can generate.

Table 2-13 *Special Characters*

Key	Special Characters	Key	Special Characters
a	à á â ã ä å æ	A	À Á Â Ã Ä Å Æ
c	ç ć ċ ©	C	Ç Ć Ć ©
d	ð	D	Ð
e	è é ê ë ě	E	È É Ê Ë Ě
i	ì í î ï	I	Ì Í Î Ï
l	ł	L	Ł
n	ñ	N	Ñ
o	ò ó ô õ ö ø œ	O	Ò Ó Ô Õ Ö Ø Æ
p	þ	P	Þ
r	®	R	®
s	ş š ß	S	Ş Š ß
t	ţ	T	Ț
u	ù ú û ü	U	Ù Ú Û Ü
y	ý	Y	Ý
z	ź ź	Z	Ź Ź
\$	€ £ ¥	/	\
“	' « ' »	([{ < «
)] } > »	+	± & - _
!	! ? ¿	.	: ;
*	#	@	~ %
%	^	,	; . :
#	*	&	- _ + ±
_	+ ± & -	'	« » "
?	¿ ! ¡	:	; ; .
-	_ + ± &		

Function Buttons

The MC65's buttons perform certain functions.

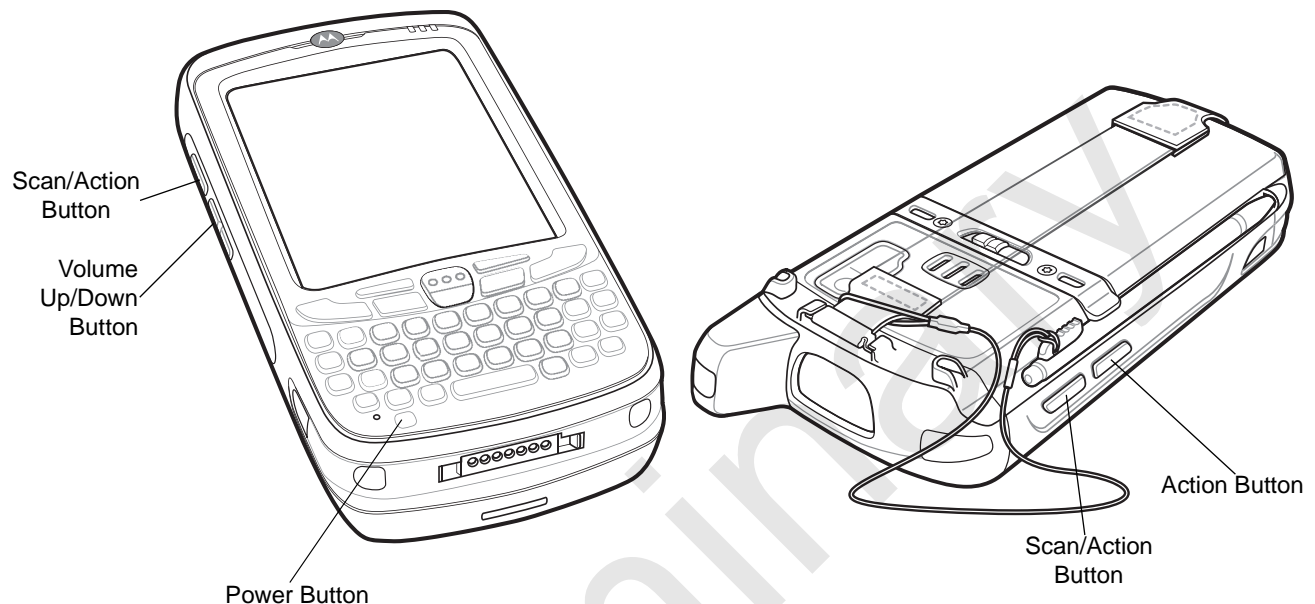


Figure 2-37 Function Buttons

- **Power:** Press the red **Power** button to turn the MC65 screen on and off. The MC65 is in suspend mode when the screen is off. For more information, see [Powering On the MC65 on page 1-8](#). Also use the **Power** button to reset the MC65 by performing a warm or cold boot. See [Resetting the MC65 on page 2-16](#).
- **Scan/Action:** Press to scan bar codes or capture images. See [Data Capture on page 2-40](#). Or, press to open an application or perform a function. See the *Microsoft® Applications for Mobile 6 User Guide* to set an application to open.
- **Volume Up/Down:** Press to increase or decrease the MC65's volume.
- **Action:** Press to open an application or perform a function. See the *Microsoft® Applications for Windows Mobile 6 User Guide* to set an application to open.

Stylus

Use the MC65 stylus to select items and enter information. The stylus functions as a mouse.

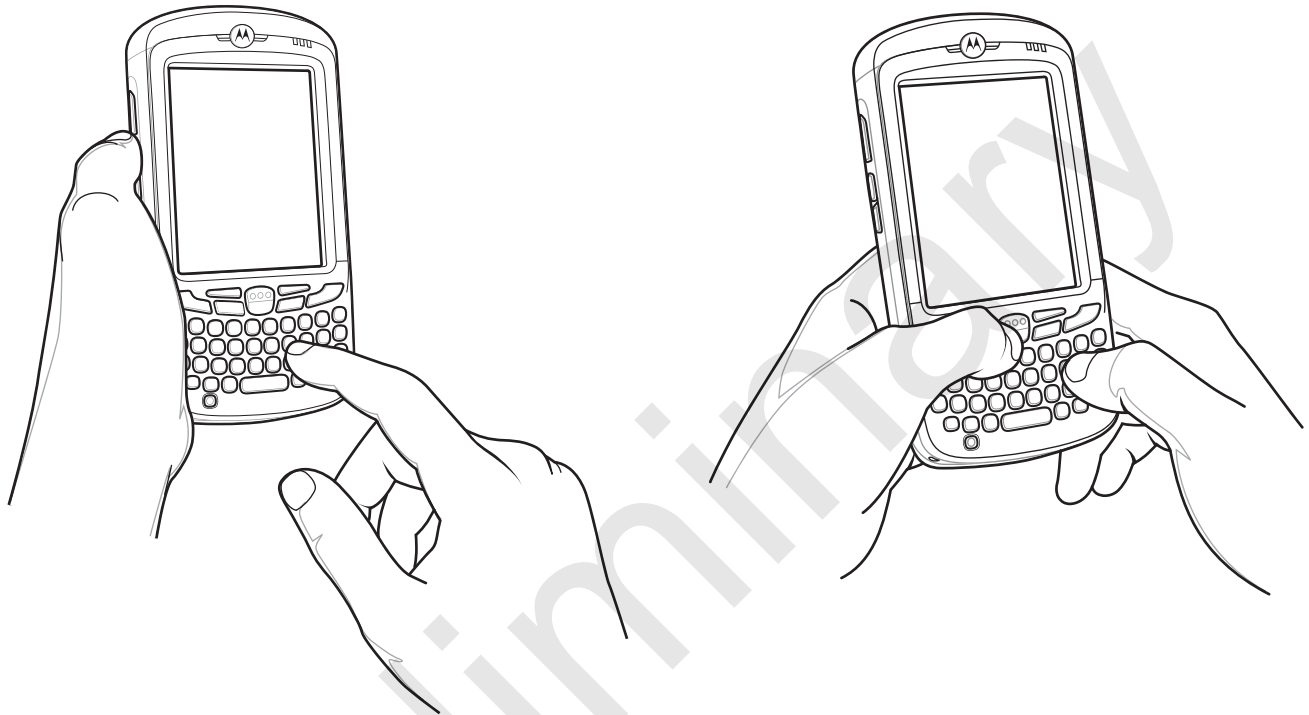
- **Tap:** Touch the screen once with the stylus to press option buttons and open menu items.
- **Tap and Hold:** Tap and hold the stylus on an item to see a list of actions available for that item. On the pop-up menu that appears, tap the action to perform.
- **Drag:** Hold the stylus on the screen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



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 2-38](#).



Single-hand Method

Two-hand Method

Figure 2-38 *Entering Data on the Keypad*

Data Capture

The MC65 offers three types of data capture options:

- Imaging
- Digital camera.

✓ **NOTE** To perform data capture a scanning enabled application must be installed on the MC65. A sample scanning application can be downloaded from the Motorola Support site at <http://support.symbol.com>.

Imaging

MC65 with an integrated imager have the following features:

- Omnidirectional reading of a variety of bar code symbologies, including the most popular linear, postal, PDF417, and 2D matrix code types.
- The ability to capture and download images to a host for a variety of imaging applications.
- Advanced intuitive laser aiming cross-hair and dot aiming) for easy point-and-shoot operation.

The imager uses digital camera technology to take a digital picture of a bar code, stores the resulting image in its memory, and executes state-of-the-art software decoding algorithms to extract the data from the image.

Operational Modes

MC65 with an integrated imager support three modes of operation, listed below. Activate each mode by pressing the **Scan** button.

- **Decode Mode:** In this mode, the MC65 attempts to locate and decode enabled bar codes within its field of view. The imager remains in this mode as long as you hold the scan button, or until it decodes a bar code.

✓ **NOTE** To enable Pick List Mode, download the Control Panel applet from the Support Central web site at <http://support.symbol.com>. Pick List can also be set in an application using a API command.

- **Pick List Mode:** This mode allows you to selectively decode a bar code when more than one bar code is in the MC65's field of view. To accomplish this, move the aiming crosshair or dot over the required bar code to decode only this bar code. This feature is ideal for pick lists containing multiple bar codes and manufacturing or transport labels containing more than one bar code type (either 1D or 2D).
- **Image Capture Mode:** Use this mode to capture an image within the MC65's field of view. This is useful for capturing signatures or images of items like damaged boxes.

Digital Camera

MC65 with an integrated digital camera have the following features:

- Omnidirectional reading of a variety of bar code symbologies, including the most popular linear, postal, PDF417, and 2D matrix code types.
- Advanced intuitive aiming for easy point-and-shoot operation.

The camera uses digital camera technology to take a digital picture of a bar code, stores the resulting image in its memory, and executes state-of-the-art software decoding algorithms to extract the data from the image.

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 specular 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 MC65 farther away for larger symbols.

- Move the MC65 closer for symbols with bars that are close together.

✓ **NOTE** Scanning procedures depend on the application and MC65 configuration. An application may use different scanning procedures from the one listed above.

Imager Scanning

1. Ensure that a scan-enabled application is loaded on the MC65.
2. Aim the scan window at the bar code.

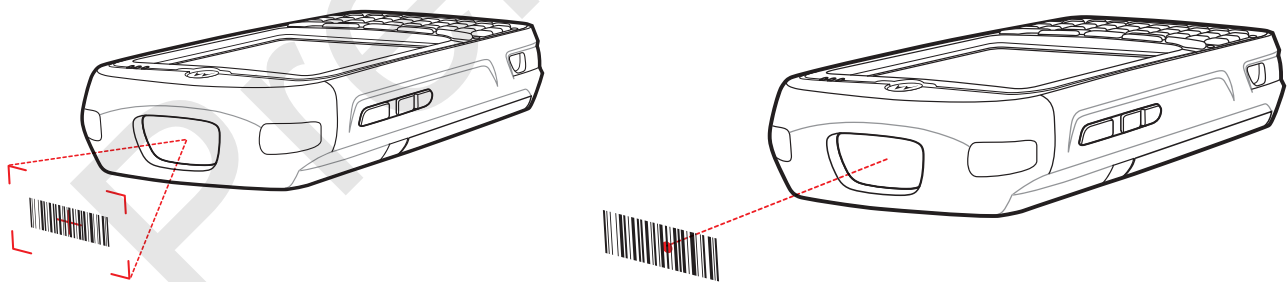


Figure 2-39 Imager Scanning

3. Press the scan button.

The red laser aiming pattern or aiming dot turns on to assist in aiming. Ensure the bar code is within the area formed by the brackets in the aiming pattern or close to the aiming dot. The aiming dot is used for increased visibility in bright lighting conditions.

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. Note that when the MC65 is in Pick List Mode, the imager does not decode the bar code until the crosshair or aiming dot touches the bar code.

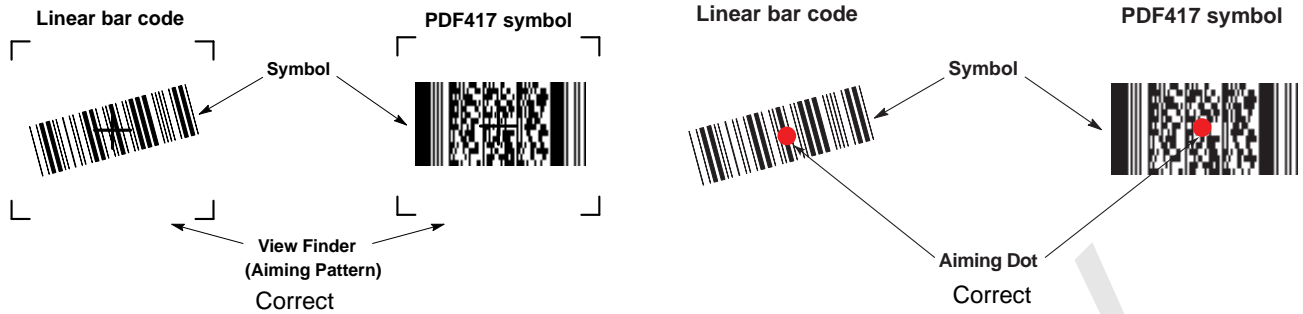


Figure 2-40 Imager Aiming Pattern: Bar Code Centered

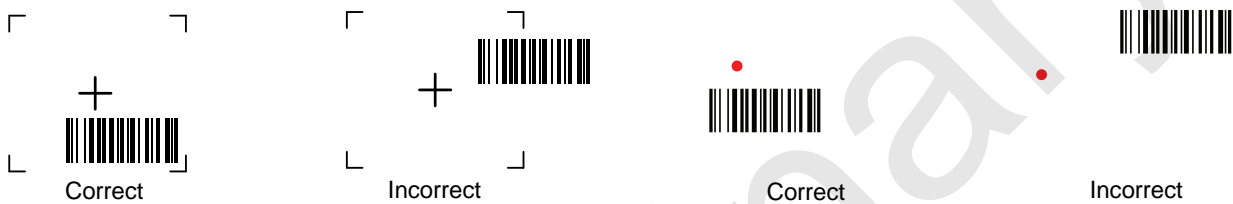


Figure 2-41 Imager Aiming Pattern: Bar Code Not Centered



Figure 2-42 Pick List Mode with Multiple Bar Codes in Aiming Pattern

4. Release the scan button.

✓ **NOTE** Imager decoding usually occurs instantaneously. The MC65 repeats the steps required to take a digital picture (image) of a poor or difficult bar code as long as the scan button remains pressed.

Digital Camera Scanning

1. Ensure that a scan-enabled application is loaded on the MC65.
2. Aim the camera lens on the back of the MC65 at a bar code.
3. Press and hold the scan button. A preview window appears on the display window with a red aiming reticle in the center. The Scan/Decode LED lights red to indicate that scanning is in process.

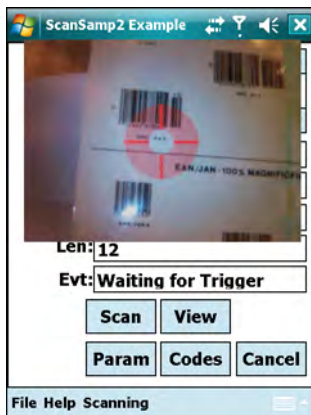


Figure 2-43 Sample Scan Application with Preview Window

4. Move the MC65 until the red aiming reticle is over the bar code to scan.
5. The Scan/Decode LED lights green and a beep sounds, by default, to indicate the bar code was decoded successfully.

✓ **NOTE** The camera decode feature is set by default to automatically decode the bar code when read. This feature can be programmed to display a green aiming reticle upon good decode indicating that the bar code has been successfully decoded and to release the scan button.

Using Voice-Over-IP

The MC65 supports Voice over IP over WLAN (VoWLAN) using Motorola or third party voice clients. The MC65 can communicate using VoIP either using the MC65 supports several audio outputs, including back speaker phone, front receiver or handset, and Bluetooth headset.

It is recommended that the wireless network use the 802.11a (5 GHz) band for voice applications. Using the 5 GHz band avoids some noise sources that may occur on the 802.11b/g (2.4 GHz) band due to wireless interference.

When using a Bluetooth headset with the MC65 and VoWLAN, it is required to use the Bluetooth Headset profile instead of Hands-free profile. Use the buttons on the MC65 to answer and end calls. See [Chapter 5, Using Bluetooth](#) for information on setting up a Bluetooth Headset Profile.

Taking Photos

To take a photo:

1. Tap **Start > Programs > Pictures & Videos** icon.
2. Tap **Camera** on the command bar.
3. Check the image on the view finder, adjust if necessary.
4. Press the **Enter** key to take the picture. Hold the MC65 still until the shutter sound is heard.

Recording Video

To record a video clip:

1. Tap **Start > Programs > Pictures & Videos** icon.
2. Tap **Camera** on the command bar.
3. Tap **Menu > Video** to set shooting mode to video.

The available recording time displays on the screen.

✓ **NOTE** By default, the time limit for recording videos is set to 30 seconds.

4. Press the **Enter** key to begin recording.
Recording stops when you press the **Enter** button again.

Viewing Photos and Videos

To view photos and video clips:

1. Tap **Start > Programs > Pictures & Videos** icon.
2. Tap the picture or video clip to view.

Chapter 3 Using GPS Navigation

Introduction

The MC65 includes Global Positioning System (GPS) technology using the SiRF III chipset. GPS technology is based on a worldwide system of GPS satellites orbiting the earth that continuously transmit digital radio signals. These radio signals contain data on the satellites' locations and their exact clock time and are used to determine your location on the earth.



WARNING! When using the MC65 in a vehicle, it is the user's responsibility to place, secure and use in a manner that will not cause accidents, personal injury or property damage or obstruct their view. It is the responsibility of the driver to operate the vehicle in a safe manner, maintain observation of all driving conditions at all times, and not become distracted by the device to the exclusion of safe driving practices. It is unsafe to operate the controls of the device while driving.

Software Installation

Third-party GPS navigation software is required. Evaluation software is available from various suppliers. For example; VisualGPS, visit: <http://www.visualgps.net/VisualGPSce/>

If interested in purchasing GPS navigation software check with the GPS software vendor (before purchasing, downloading, or installing any software) to determine that the application is compatible with the MC65. Refer to the application's user guide for application installation and setup information.

MC65 GPS Setup

The GPS-enabled MC65 uses Microsoft Windows Mobile 6.1, so the operating system automatically manages access to the GPS receiver to allow multiple programs to simultaneously access GPS data.

By default, the MC65 has the following settings:MC65:

1. Tap **Start > Settings > System > External GPS** icon.
2. In the **Programs** tab, the GPS program port is set to **None**.
3. In the **Hardware** tab, the GPS hardware port is set to COM8.

4. Select **57600** from the **Baud rate** drop-down list.
5. Tap **ok** to close the **Setting** window.

✓ **NOTE** If an application error message appears indicating that the COM port cannot be opened, ensure that a free COM port is selected in the **GPS hardware port** drop-down list.

Operation

Acquiring satellite signals may take a few minutes. It is best to be outside and have a clear, unobstructed view of the sky. Without a clear view, acquisition takes much longer and could result in the MC65 being unable to compute the initial position quickly. When operating the device indoors access to the GPS signals may be limited or unavailable.

✓ **NOTE** When using a GPS navigation application, ensure that the MC65 does not go into suspend mode. If the MC65 suspends then the power to the GPS radio is removed. Upon resume the GPS receiver must reacquire a valid GPS signal, resulting in a delay of positional information.

GPS Maps on microSD Cards

GPS navigation software vendors may sell maps on microSD cards. If using a microSD card with the GPS navigation software install the microSD memory card using procedure in [Installing a microSD Card on page 1-4](#).

Answering a Phone Call While Using GPS

If you receive a phone call while using your GPS navigation software:

1. Answer the phone call by pressing the **Answer** button.
2. Once you end the phone call, press the **End Call** button to resume the audio on the GPS software.

✓ **NOTE** Anytime you are using GPS on the MC65 and you receive a phone call, the audio on the GPS navigation software is muted until you finish the call.

Losing the GPS Signal While in a Vehicle

GPS performance on the MC65 may be affected if the vehicle has thermal glass windows and windshields, which can block the MC65 from receiving a GPS signal from satellites. To improve GPS signal strength, place the MC65 where there is a clear view of the sky. A direct line of sight is required between the MC65 and the GPS satellites to access information from the satellites.

Assisted GPS

GPS can be used in stand-alone or Assisted GPS (aGPS) modes. A Stand-alone GPS receiver downloads data directly from GPS satellites. In challenging environments, such as urban canyons and areas where foliage is very dense, aGPS can be used to improve Time To First Fix (TTFF). By default the MC65 uses the SUPL protocol which requires the use of third party database/service from a carrier. By using GPS Location servers, A-GPS dramatically improves the performance of the TTFF of GPS receivers by providing them with data that they would ordinarily have to download from the GPS satellites. With the aGPS data, GPS receivers can operate faster and more reliably.

Refer to the EMDK Help file for information on setting up SUPL on the MC65.

Chapter 4 Using the Phone

Introduction

- ✓ **NOTE** Use this chapter if your MC65 is configured with the Window Mobile dialer.

Use the MC65 to make phone calls, set up speed dials, keep track of calls, and send text messages. Your wireless service provider may also provide other services such as voice mail, call forwarding, and caller ID.

Also use the integrated phone to connect to an ISP or work network in order to browse the Web and read e-mail. Connect to the Internet or work network over High-Speed Downlink Packet Access (HSDPA) or Evolution Data-Optimized (EvDO) using Cellular Line.

Making a Call

- ✓ **NOTE** You can make emergency calls even when the MC65 is locked or when a SIM card is not installed. See [Emergency Calling on page 4-5](#) for more information.

With the MC65, you can make a call from the phone, contacts, speed dial and call history.

Using the Phone Keypad

To make a call using the phone keypad:

1. Press the green Call key.
2. From the **Phone** keypad, tap the number to call. The number appears in the call line.
3. Tap the green Call key.
4. Press the red End Call key to stop dialing or end the call.

- ✓ **NOTE** If you tap a wrong number, tap Delete key to erase each subsequent digit of a number. To erase the entire number, tap and hold the Delete key.

Smart Dialing

Smart Dialing makes it easy to dial a phone number. When you start entering numbers or characters, Smart Dialing automatically searches and sorts the contact entries on the SIM card, in Contacts, and the phone numbers in Call History (including incoming, outgoing, and missed calls). You can then select the desired number or contact from the filtered list to dial.

Open the Phone screen, then tap the keys on the Phone keypad that correspond to the phone number or contact to call. The contact panel lists contacts that match the sequence that you entered.

Smart Dialing starts looking for numbers or contacts that match the sequence entered.

To find a phone number:

- Enter the first one or two digits to find a phone number in Call History.
- Enter the first three digits or more to find a phone number from the saved Contacts and SIM card.

To find a contact name:

- Enter the first letter of a contact's first name or last name. Smart Dialing searches for the letter starting from the first character of a contact name as well as from the character that appears after a space, dash, or underscore in a contact name. For example, if you tap number "2" which is associated with [a, b, c] on the Phone keypad, contact names such as the following will be considered matches: "Smith, Bernard", "Adams, John", "Carlson, Eileen", "Dillon, Albert", "Childs, Larry", "Cooper, Robert" and "Parks, Celine".
- If the matching list is long narrow down the search further by entering another letter. Using the same example above, tap "3" which is associated with (d, e, f), the matching list is narrowed down to the following names: "Smith, Bernard", "Adams, John", and "Parks, Celine".

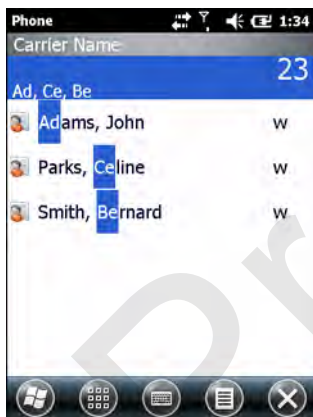


Figure 4-1 Finding a Contact


To make a call or send a text message using Smart Dialing:

1. Begin entering the first few numbers or characters.
2. In the Smart Dialing panel, use the up and down arrows on the keypad to navigate to the desired contact or phone number.
3. When the correct contact is selected, press **TALK** to make a voice call.
4. To send a text message to the selected contact, tap **Menu > Send Text Message**.
5. To call a different phone number associated with the selected contact, tap the contact name and select the phone number to call.

Using Contacts

Use Contacts to make a call without looking up or entering the phone number.

To make a call from Contacts:

1. Tap  > **Contacts**.
2. From the contact list, tap and hold the contact name.

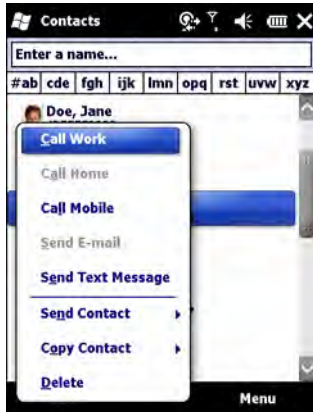



Figure 4-2 *Contacts Menu*

3. Tap **Call Work**, **Call Home** or **Call Mobile**.

✓ **NOTE** To make a call from an open contact, tap the number to call. See On-Device Help for more information about Contacts.

Using Call History

To make a call using Call History:

1. Tap  > **Phone** or press the green phone key on the MC65's keypad.
2. From the Phone keypad, tap **Call History**.

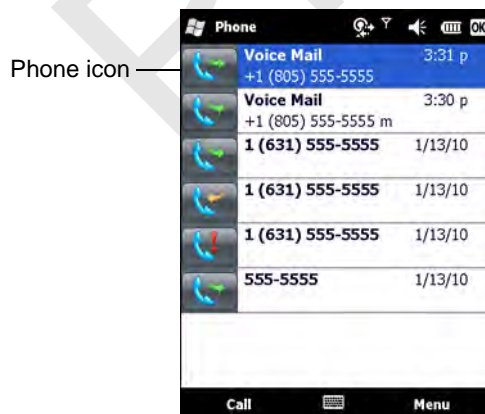


Figure 4-3 *Call History Window*


3. Tap the phone icon next to the number to begin dialing and return to the phone keypad.

4. Tap **End** or press the red phone key on the MC65 keypad to stop dialing or end the call.

Making a Speed Dial Call

Use Speed Dial to call someone saved in the speed dial directory.

To make a speed dial call:

1. Tap  > **Phone** or press the green key.
2. From the Phone keypad, tap and hold the speed dial location number assigned to a contact. (To dial a one-digit speed dial location number, tap and hold the speed dial number. To dial a two-digit speed dial location number, tap the first digit and then tap and hold the second digit.)

or

From the Phone keypad, tap **Speed Dial** and tap the speed dial location number of the desired contact in the list.



Figure 4-4 Speed Dial Contact List

3. To stop dialing or end the call, tap **End** or press the red key.

Answering a Call

A dialog box appears on the MC65 when it receives an incoming call. If the phone is set to ring, a ring tone sounds. Answer or ignore the incoming call.

To answer an incoming call tap **Answer** on the dialog box or press the green key.

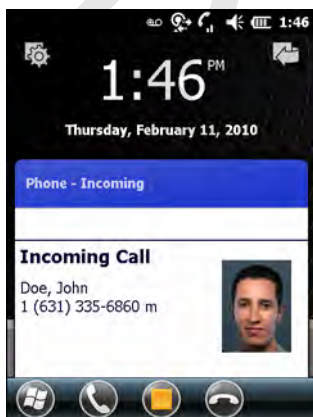



Figure 4-5 Incoming Call

To ignore the incoming call tap **Send to voicemail**. This sends the caller to voice mail, depending on the service provider. Otherwise, this presents **Busy** to the calling party.

To end the call tap **End** or press the red key.

Incoming Call Features

- If you receive a call while in a call, tap **Wait** to place the call in call waiting.
- You can use other programs on the MC65 during a call. To switch back to the Phone, tap **Talk** or tap  > **Phone**. Tap **End** to end the call.
- If a caller isn't in your contact list, create a contact during the call or from Call History by tapping **Menu** > **Save to Contacts**.
- To terminate a call when a second call comes in and answer the waiting call, tap **End** on the Phone keypad to disconnect the active call, then tap **Answer** or press the **Send** key to answer the waiting call.
- To hold the current call and answer a waiting call, tap **Answer** or press the **Send** key to place the current call on hold and answer the incoming call.
- To put a call on hold to call another number or answer an incoming call, tap **Hold**. To move from one call to another, tap **Swap**.

Missed Call Notification

When you do not answer an incoming call, the Home screen displays a **Missed Call** indication.

To display a missed call entry tap the **Missed Call** box on the **Home** screen.

Emergency Calling

Your service provider programs one or more emergency phone numbers, such as 911 or 999, that you can call under any circumstances, even when your phone is locked or the SIM card is not inserted. Your service provider can program additional emergency numbers into your SIM card. However, your SIM card must be inserted in your phone in order to use the numbers stored on it. See your service provider for additional information.

When the alpha primary keypad is locked, press the Orange key twice to set the keypad to numeric mode and then enter the emergency number.

- ✓ **NOTE** Emergency numbers vary by country. Your phone's pre-programmed emergency number(s) may not work in all locations, and sometimes an emergency call cannot be placed due to network, environmental, or interference issues.

Audio Modes ????

The MC65 offers three audio modes for use during phone calls:

- **Handset Mode:** Switches audio to the speaker at the top front of the MC65, so you can use the MC65 as a handset. This is the default mode.
- **Speaker Mode:** Use the MC65 as if on speaker phone. Tap the **Speaker On** button to activate this mode. Tap the **Speaker Off** button to switch back to handset mode.

- **Headset Mode:** Connect a Bluetooth headset or a wired headset to automatically switch audio to the headset.

The MC65 defaults to handset mode. When a wired headset is plugged into the MC65 headset connector or a Bluetooth headset is configured for use with the MC65, the earpiece and speakerphone are muted and audio is heard through the headset.

- ✓ **NOTE** While using a Bluetooth headset during a call, the MC65 will not go into suspend mode.

Using a Wired Headset

- ✓ **NOTE** Remove the headset jack plug before connecting the Headset Adapter to the MC65.

You can use a stereo headset for audio communication when using an audio-enabled application. To use a headset, plug the headset jack of the Headset Adapter Cable into the headset connector on the side of the MC65. Plug the Headset connector into the connector on the Headset Adapter Cable. Set the MC65's volume appropriately before putting the headset on. Plugging a headset into the jack mutes the speaker.

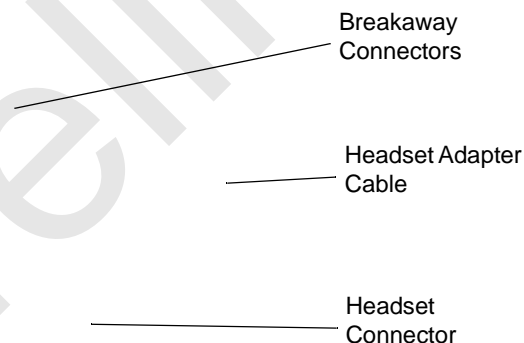


Figure 4-6 Using a Headset

Using a Bluetooth Headset

You can use a Bluetooth headset for audio communication when using an audio-enabled application. See [Chapter 7, Using Bluetooth](#) for information on connecting a Bluetooth headset to the MC65. Set the MC65's volume appropriately before putting the headset on. When a Bluetooth headset is connected the speakerphone is muted.

It is recommended for phone conversations to use the Bluetooth Hands-free profile instead of the Headset profile. See [Chapter 7, Using Bluetooth](#) for more information.

?????? Does the Bluetooth icon appear ????????

Adjusting Audio Volume

Use the Volume Control Slider or the keypad keys to adjust the volume of the ringer when not in a call and the audio volume when in a call.



Figure 4-7 Phone Volume Slider

To adjust the volume tap the **Speaker** icon in the **Title** bar. Move the slider up or down to adjust the volume.

- ✓ **NOTE** Adjust the conversation phone volume during a call. Adjusting the volume while not in a call affects the ring and notification sound levels.

Muting a Call

During a call, you can mute the microphone so you can hear the person on the line but he or she cannot hear conversation from the microphone. This is useful when there is conversation or background noise on your end.

To mute or unmute a call:

1. During a call, tap **Mute** on the dialer to mute the audio. The **Mute** button become **Unmute**.

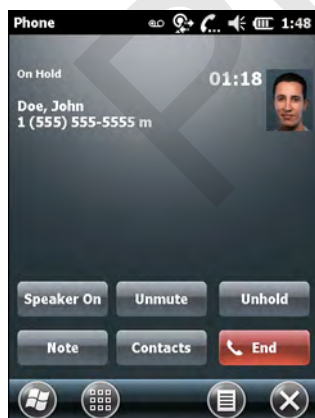





Figure 4-8 Unmute Key

Using Call History

Use Call History to call someone who was recently called, or recently called in. Call History provides the time and duration of all incoming, outgoing, and missed calls. It also provides a summary of total calls and easy access to notes taken during a call. [Table 4-1](#) lists the call history icons that appear in the **Call History** window.


Table 4-1 *Call History Icons*

Icon	Description
	This icon appears next to the contact information for all outgoing calls.
	This icon appears next to the contact information for all incoming calls.
	This icon appears next to the contact information for all missed calls.

Managing Call History

Change views, reset the call timer, and delete calls to manage the calls stored in Call History.

Changing the Call History View

1. Tap  > **Phone** or press the green phone key to display the Phone keypad.
2. From the Phone keypad, tap **Call History**.
3. Tap **Menu** > **Filter** to show the menu.

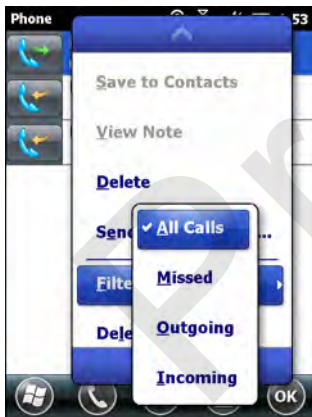




Figure 4-9 *Call History - All Calls/Show Menu*

4. Select a view type from the menu to display only missed calls, outgoing calls, incoming calls, or calls listed alphabetically by caller name.
5. Tap  to exit the **Call History** window.

Resetting the Recent Calls Counter

1. Tap  > **Phone** or press the green phone key to display the Phone keypad.

2. From the Phone keypad, tap **Call History**.
3. Tap **Menu**.

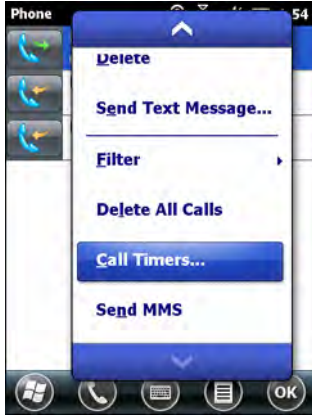


Figure 4-10 Call History - Tools Menu

4. Select **Call Timers...**

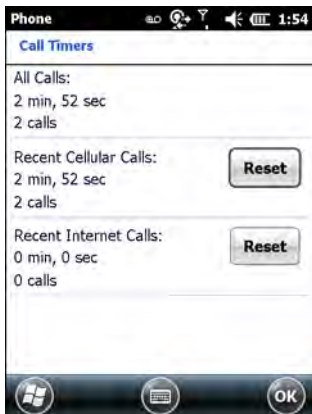



Figure 4-11 Call History - Call Timers

5. Tap **Reset**. (The **All Calls:** counter cannot be reset.)
6. Tap **OK** to exit the **Call Timers** window.

Deleting All Call History Items

1. Tap  > **Phone** or press the green key to display the Phone keypad.
2. From the Phone keypad, tap **Call History**.
3. Tap **Menu**.

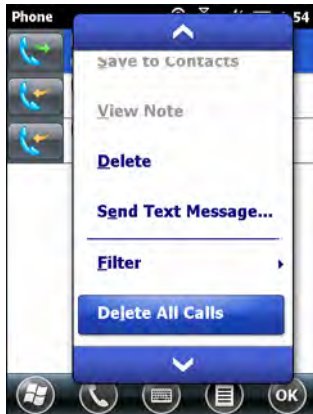


Figure 4-12 Call History - Tools Menu

4. Select **Delete all calls**.

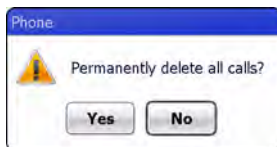



Figure 4-13 Call History - Delete All Dialog

5. Tap **Yes**.
6. Tap **ok** to exit the **Call History** window.

Viewing Call Status

1. Tap  > **Phone** or press the green key to display the Phone keypad.
2. From the Phone keypad, tap **Call History**.
3. Tap an entry. The **Call Status** window appears.

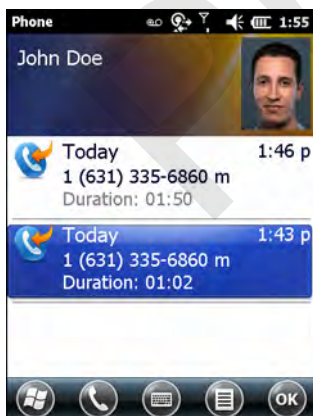


Figure 4-14 Call History - Detail




NOTE When more than one call is on the phone line, only the duration of the first call is recorded.

4. Tap **ok** and then **ok** to exit.

Using the Call History Menu

Use the **Call History** menu to dial voice mail, access the Activation Wizard, save to contacts, view a note, delete a listing, send an SMS, and make a call.

1. Tap  > **Phone** or press the green key to display the Phone keypad.
2. From the Phone keypad, tap **Call History**.
3. Tap and hold an item in the list.

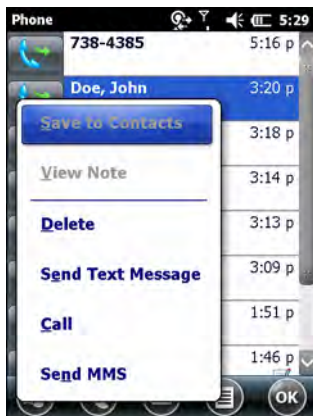



Figure 4-15 Call History - Menu

4. Select an applicable item from the menu, as needed.
5. Depending on the item selected, the appropriate window displays. For example, select **Send Text message** to display the **Text Messages** window.
6. Tap **ok** to exit the **Call History** window.

Swapping Calls on GSM

To move between two phone calls:

1. Tap  > **Phone** or press the green phone key on the MC65's keypad to display the Phone keypad.
2. Enter the first phone number and press **Talk**. When the call connects, **Hold** appears on the keypad.

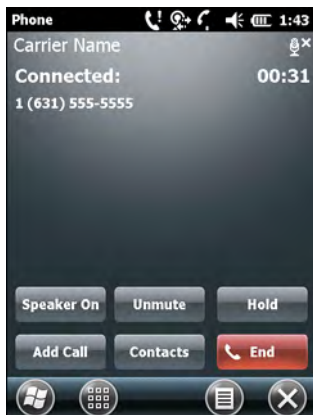


Figure 4-16 *Call Swapping - Hold*

3. Tap **Hold** on to place the first number on hold.
4. Enter the second number and tap **Talk**.

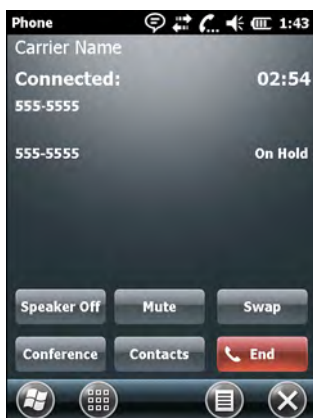


Figure 4-17 *Call Conferencing - Conferencing*

5. Tap **Swap** to move from one call to the other.
6. Tap **End** or press the red phone key on the MC65 keypad to end each call.

Swapping Calls on CDMA

To swap between two incoming phone calls:

1. Tap **Answer** to connect to the first call.

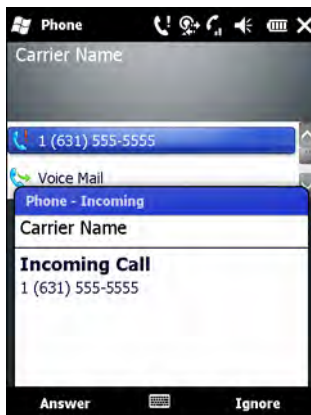


Figure 4-18 Answer a Call

2. When a second call arrives, tap **Answer**. The first call is placed on hold.
3. Tap **Talk** to swap from one call to the other.

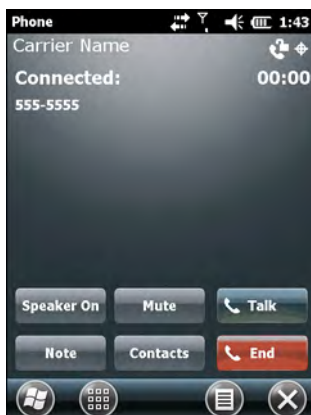


Figure 4-19 Call Swapping

4. Tap **End** or press the red phone key on the MC65 keypad to end active call. The remaining call re-connects, tap **Answer** to connect to the call.
5. Tap **End** or press the red phone key on the MC65 keypad to end the last call.

Conference Calling on GSM

- ✓ **NOTE** Conference Calling and the number of conference calls allowed may not be available on all services. Please check with your service provider for Conference Calling availability.

To create a conference phone session with multiple people:

1. Tap > **Phone** or press the green phone key on the MC65's keypad to display the Phone keypad.
2. Enter the first phone number and press **Talk**. When the call connects, **Hold** appears on the keypad.

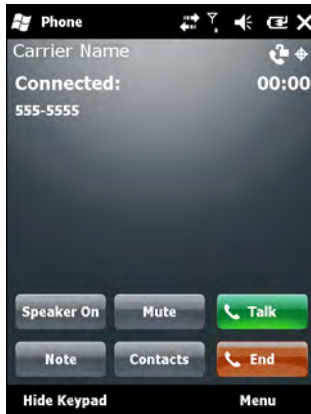


Figure 4-20 Conference Call - Hold

3. Tap **Hold** to place the first call on hold.
4. Enter the second phone number and tap **Talk**.
5. After the call is answered, tap **Menu** > **Conference** to place the calls in conference mode.

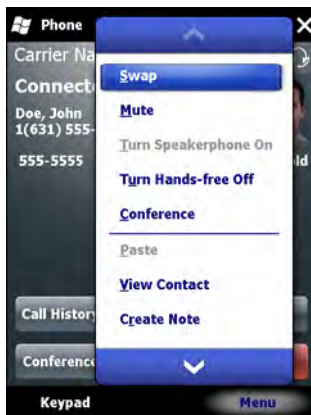


Figure 4-21 Creating a Conference Call


6. Tap **Hold** to place the conference on hold.
7. Enter another phone number and tap **Talk**.
8. After the call is answered, tap **Menu** > **Conference** to place all the calls in conference mode.
9. Repeat steps 6 through 8 for up to six phone numbers.
10. Tap **End** or press the red phone key on the MC65 keypad to end the conference call.

✓ **NOTE** To speak privately with one party during a conference call, tap **Menu** > **Private**. To include all parties again, tap **Menu** > **Conference**.

Three-way Calling on CDMA

- ✓ **NOTE** Three-way Calling may not be available on all services. Please check with your service provider for availability.

To create a three-way phone session with two people and you as the initiator:

1. Tap  > **Phone** or press the green phone key on the MC65's keypad to display the Phone keypad.
2. Enter the first phone number and press **Talk**.
3. To call a second person, tap **Keypad**. Enter the second number and tap **Talk**.

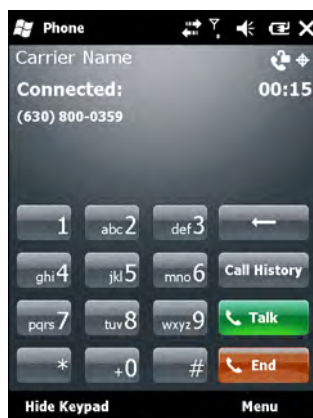


Figure 4-22 Calling Another Person

4. When the second person answers the call, tap **Talk** to create a three-way calling session.
5. Tap **Talk** to drop the last call.
6. Tap **End** to drop the first call.

Establishing a GSM Data Connection

✓ **NOTE** Refer to the *MC65 Series Enterprise Smartphone Integrator Guide* for information on configuring a data connection.

7. Ensure a SIM card is installed in the MC65.
8. Configure a GPRS data connection. See *MC65 Series Enterprise Smartphone Integrator Guide*.
9. Tap the connectivity icon **H**, **G** or **E** at the top of the screen.



Figure 4-23 Connectivity Dialog Box

10. Tap **Settings**.
11. Tap **Connections** icon.
12. Tap **Managing existing connections**.
13. Tap and hold on the data connection until a menu appears.

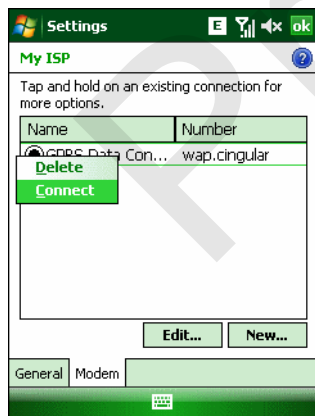


Figure 4-24 Data Connection

14. Select **Connect**.



Figure 4-25 Connecting Using GPRS

15. If the SIM card is protected with a Personal Identification Number (PIN), a dialog box pops up requesting the appropriate PIN to unlock the SIM card. In this case, enter the PIN and tap **ok**.

✓ **NOTE** Place emergency calls at any time, without entering a PIN or a SIM card.

16. When a connection is established, launch **Internet Explorer** to browse the Internet or launch an applicable application.

Ending a Data Connection

To cancel a data connection in progress, tap **Cancel** in the **Connecting...** dialog window.

To end an established data connection:

1. Tap **H**, **G** or **E** to display the **Connectivity** dialog box.

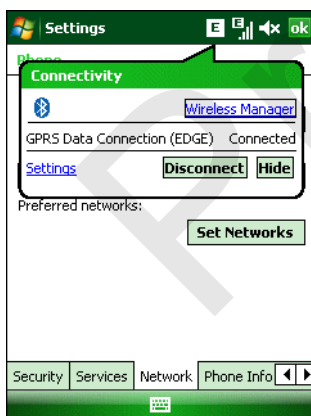


Figure 4-26 Connectivity Dialog Box

2. Tap **Disconnect**.

✓ **NOTE** Tapping **Disconnect** during an active data transfer (e.g., downloading a web page) automatically reconnects the connection. You cannot disconnect the connection until the data transfer is complete.

Establishing an CDMA Data Connection

- ✓ **NOTE** Ensure that you have data service activated with your service provider.

A data connection allows Internet access across a wireless network. Data connection is pre-packaged with service accounts.

To verify active data service:



1. Tap  > **Internet Explorer**.
2. In the address bar, enter a URL for a web site.
3. Tap  to display the **Connectivity** dialog. The dialog box displays the data connection information.



Figure 4-27 Data Connection

Ending a Data Connection

To cancel a data connection in progress, tap **Cancel** in the **Connecting...** dialog window.

To end an established data connection:

1. Tap  to display the **Connectivity** dialog box.

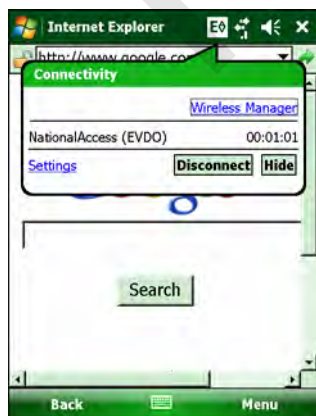


Figure 4-28 Connectivity Dialog Box


2. Tap **Disconnect**.

✓ **NOTE** Tapping **Disconnect** during an active data transfer (e.g., downloading a web page) automatically reconnects the connection. You cannot disconnect the connection until the data transfer is complete.

Configuring a GSM Data Connection

A data connection allows Internet access across a wireless network.

To set up a new data connection:

1. Acquire an Access Point Name (APN) from the service provider.
2. Tap  > **Settings** > **Connections** tab > **Connections** icon > **Tasks** tab.

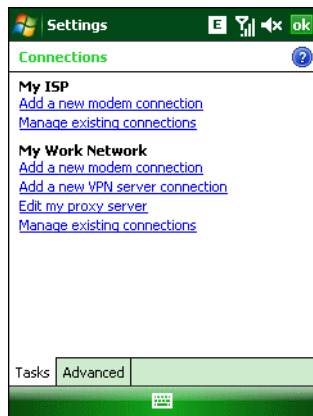


Figure 4-29 Connections Window

3. Under **My ISP** select **Add a new modem connection**.

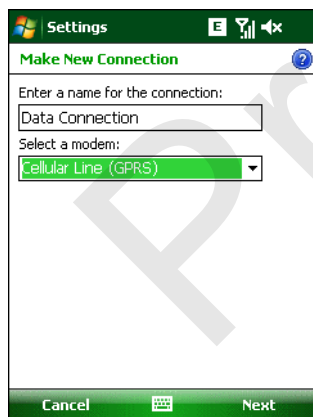


Figure 4-30 Connections Window - Make New Connection

4. Enter a connection name in the *Enter a name for the connection:* text box.
5. Select **Cellular Line (GPRS)** from the **Select a modem:** drop-down list.
6. Tap **Next**.

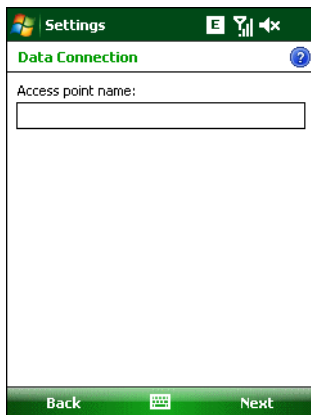


Figure 4-31 Connections Window - Access Point Name

7. Enter the APN from the service provider in the **Access point name:** text box.
8. Tap **Next**.

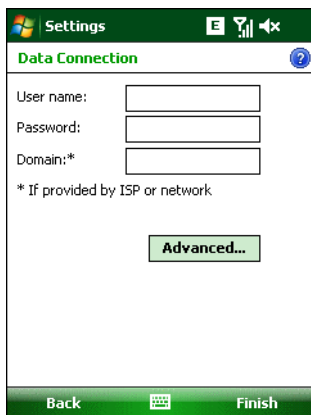


Figure 4-32 Connections Window - User Name & Password


9. Enter a username in the User name text box, if required by the service provider.
10. Enter a password in the Password text box, if required by the service provider.
11. Enter a domain name in the Domain text box, if required by the service provider.
12. Tap **Finish**.
13. Tap **ok** to exit **Connections**.

MC65 Settings


Use the **Phone Settings** window to customize settings, such as the ring type and ring tone for incoming calls, security options, and other options depending on the type of service.

Phone

Use the **Phone** tab to customize ring type, ring tone, keypad tone.

Tap  > **Settings** > **Personal** tab > **Phone** icon > **Phone** tab

or

 > **Phone** > **Menu** > **Options** > **Phone** tab.

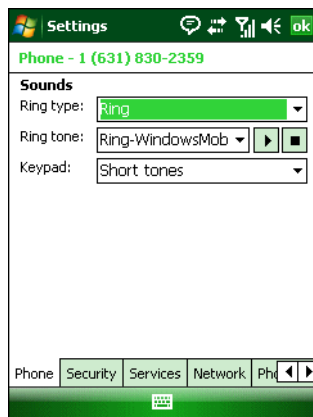




Figure 4-33 MC65 Phone Window - Phone Tab

Sounds

1. **Phone Number** automatically displays on the **Phone** tab when a live SIM card is installed.
2. Select a ring type from the **Ring type:** drop-down list. The ring type changes the way the MC65 rings when you receive an incoming call. Regardless of the ring type selected, a dialog box appears on the MC65's display for incoming calls.
3. Select a ring tone for incoming calls from the **Ring tone:** drop-down list. To hear a sample of the selected ring tone, tap . Tap  to end the ring tone.

✓ **NOTE** To use custom .wav, .mid, or .wma files as ring tones, use ActiveSync on the host computer to copy the file to the /Windows/Rings folder on the MC65. Then select the sound from the ring tone list.

4. Select a keypad tone from the **Keypad:** drop-down list. This selection determines the tone that sounds when entering a phone number on the keypad.
Select **Short tones** or **Long tones** to specify the duration of the sound when you press a number on the keypad. Select **Off** to disable tones.

✓ **NOTE** Turning off sounds saves power and prolongs battery life.

Security

Enabling a PIN



NOTE Place emergency calls at any time, without requiring a PIN or a SIM card.

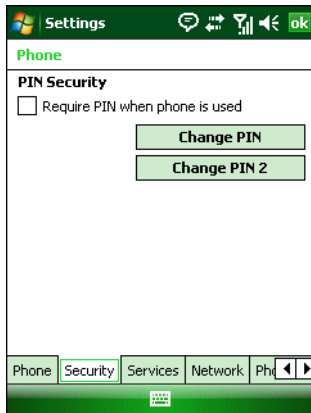


Figure 4-34 Security Tab

To require a PIN when using the phone:

1. From the **Security** tab ([Figure 4-34](#)), select the **Require PIN when phone is used** check box under **Security**.

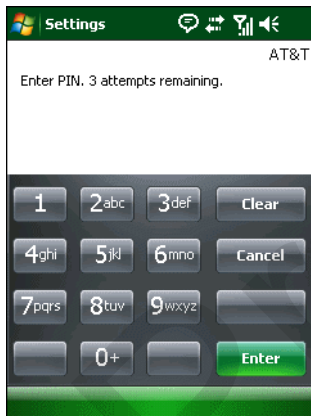


Figure 4-35 Enter PIN

2. Use the touch keypad to enter a four to eight digit PIN.
3. Tap **Enter** to enable the PIN and return to the **Phone** tab.

Changing a PIN



CAUTION If you enter an incorrect PIN, the message “SIM PIN incorrect: Try again” appears. After three consecutive incorrect attempts, the SIM card is blocked. The phone does not allow you to attempt to enter your PIN again and you must obtain a PIN Unblock Key from your service provider.

1. From the **Security** tab ([Figure 4-34](#)), tap **Change PIN**.
2. Use the touch keypad to enter the current PIN.



3. Tap **Enter**.
4. Use the touch keypad to enter a new four to eight digit PIN.
5. Tap **Enter**.
6. Reenter the new PIN for confirmation and tap **Enter**.
7. Tap **ok** to confirm the change.

Disabling a PIN

1. From the **Security** tab ([Figure 4-34](#)), deselect the **Require PIN when phone is used** check box.
2. Use the touch keypad to enter the current PIN.
3. Tap **Enter**.
4. Tap **ok** to confirm the change and exit settings.

Services

Use the *Services* tab to configure settings for subscribed phone services. For example, block certain types of incoming and/or outgoing calls ([page 4-23](#)), disclose the caller's identity when making outgoing calls ([page 4-24](#)), forward incoming calls to a different phone number ([page 4-24](#)), receive notification of incoming calls when a phone session is in use ([page 4-25](#)), and set up voice mail and short message service ([page 4-25](#)).

1. Tap  > **Settings** > **Personal** tab > **Phone** icon > **Services** tab.
or
 > **Phone** > **Menu** > **Options** > **Services** tab.

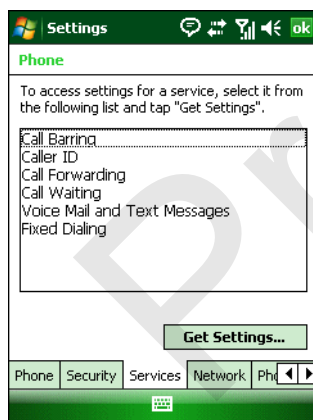


Figure 4-36 MC65 Phone Window - Services Tab

2. Select a service from the list and tap **Get Settings...**
3. Change services settings as follows.

Call Barring (Call Blocking)

Use call barring to block certain types of incoming and/or outgoing calls. Select the type of incoming and/or outgoing calls to block.

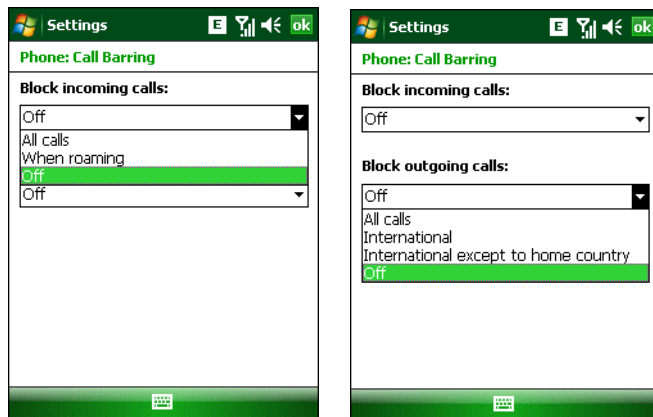


Figure 4-37 Call Barring/Call Blocking

Caller ID

Enable caller ID to reveal the identity of the person making an outgoing call. Select the **Everyone** radio button to always display the caller ID. Select the **No one** radio button to prevent the caller's identity from appearing to others.

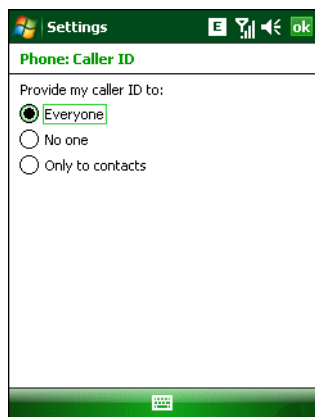


Figure 4-38 Caller ID

Call Forwarding

✓ **NOTE** Call Forwarding may not be available on all networks. Check with your service provider for availability.

Use call forwarding to forward incoming calls to a different phone number.

- To forward all calls to a different phone number:
 - select the **Forward all incoming phone calls** check box.
 - enter the phone number to receive forwarded calls in the **To:** text box.

- To forward incoming calls to a different phone number based on a specific situation, select one or more of the check boxes under **Forward phone calls only if:**
 - **No answer:** enter the phone number to receive forwarded calls only when the phone cannot be answered. Then select a time period from the **Forward after:** drop-down list. Options are 5, 10, 15, 20, 25, and 30 seconds.
 - **Unavailable:** enter the phone number to receive forwarded calls only when the phone is turned off or the user is unreachable.
 - **Busy:** enter the phone number to receive forwarded calls only when the line is busy.

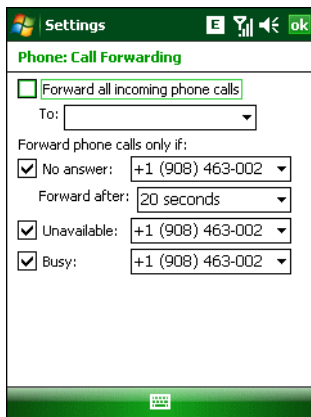


Figure 4-39 Call Forwarding

Call Waiting

- ✓ **NOTE** Call Waiting may not be available on all networks. Check with your service provider for availability.

Call waiting notifies you of an incoming call when the phone is in a phone session. Select the **Notify me** radio button to enable call waiting. Select the **Do not notify me** radio button to disable call waiting.

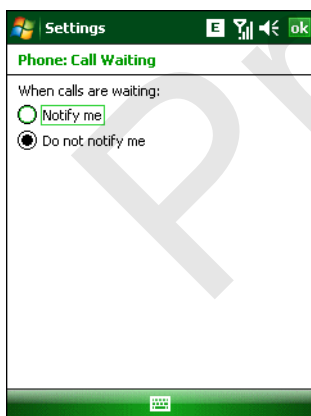


Figure 4-40 Call Waiting

Voice Mail and Text Messages

To use voice mail and send short messages, enter the voice mail and/or text message phone number in the appropriate text boxes.

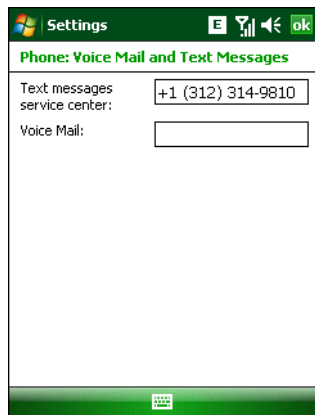


Figure 4-41 Voice Mail and Text Messages

Fixed Dialing

Use Fixed Dialing to restrict the phone to dial only the phone number(s) or area code(s) specified in a Fixed Dialing list.

1. Select **Fixed Dialing** and tap **Get Settings**.

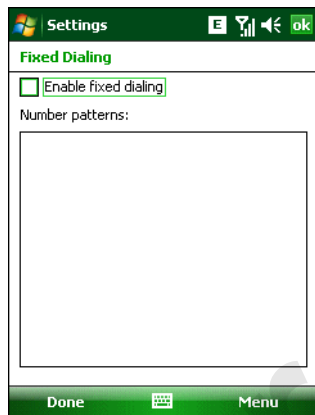


Figure 4-42 Fixed Dialing Window

2. Select the **Enable fixed dialing** check box.
3. To add a number to the list, tap **Menu > Add**.
4. Enter the phone number or area code to restrict and tap **Done**.
5. Repeat steps 3 and 4 to add more numbers, and tap **Done** twice when complete.
6. Enter **PIN2** and tap **Done**.

✓ **NOTE** PIN2 is buffered in the MC65 indefinitely after entry and will not be requested again until a warm boot of the MC65 has been performed. Should PIN2 be required, then the user must perform a warm boot of the MC65.

Internet Calling

Phone Network Setup

Activation Test

Approximately four hours after activation is completed, test the service.

1. Tap  > Phone.

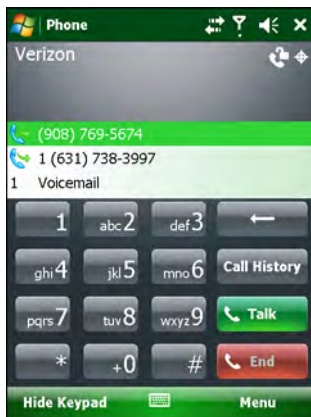


Figure 4-43 Phone Window - Example

2. Ensure the carrier name displays on the window.
3. Make a voice call to ensure activation was successful.

✓ **NOTE** If activation was not successful, contact the service provider.

NITZ

The ability to enable/disable network time synchronization provides the user flexibility on time zone changes.

If you enable network time synchronization, users can turn this feature on or turn it off and set up user notifications for time changes.

This feature is inaccessible by the user.

Tap  > **Settings** > **Clock & Alarms** > **Time Zone** tab.



Figure 4-44 Clock & Alarms - Time Zone Tab

Chapter 5 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.

MC65s with Bluetooth capabilities can exchange information (e.g., files, appointments, and tasks) with other Bluetooth enabled devices such as phones, printers, access points, and other mobile computers. To use the MC65 as a modem, create a dial-up modem connection between a computer and MC65.

MC65 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 MC65 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.

The Microsoft stack supports Smart-pairing. For detailed information, refer to the Microsoft MSDN.

Bluetooth Configuration

MC65MC65MC65The services supported by the Microsoft Bluetooth stack.

- OBEX Object Push Services
- Hands-Free Audio Gateway Services
- Serial Port Services
- Personal Area Networking Services
- PBAP Services

The COM ports available for the Microsoft Bluetooth stack.

- COM5
- COM9

Bluetooth Power States

Cold Boot

Performing a cold boot on the MC65 turns off Bluetooth after initialization (which takes a few moments). It is normal to see the **Bluetooth** icon appear and disappear, as well as a wait cursor, when initialization proceeds in all modes.

Warm Boot

Performing a warm boot on the MC65 turns off Bluetooth.

Suspend

Suspending the MC65 turns off Bluetooth.

- ✓ **NOTE** If there is an active Bluetooth connection between the MC65 and another Bluetooth device, the MC65 will not timeout. However, if the user presses the Power button on the MC65, the MC65 will suspend and upon receiving data from a remote Bluetooth device, the MC65 will wake from suspend mode. For example, headset redial or Bluetooth scanner sending data to the MC65.

Resume

When the MC65 resumes, Bluetooth turns on if it was on prior to suspend.

Using Microsoft Bluetooth Stack

Table 5-1 *Miscellaneous tab Data*

Item	Description
Highlight Connections	Select the connection type to highlight when connected. In the Wizard Mode, the only options are <i>Favorites</i> or <i>None</i> . In the Explorer Mode the options are None , Tree View Only , List View Only , or Tree and List View .
Apply Text Style	Select the text style to apply to the connection text.
Apply Text Color	Select the text color to apply to the connection text.

The following sections provide information on using the Microsoft Bluetooth stack.

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 MC65. 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.

Enabling Bluetooth

To enable Bluetooth:

1. Tap **Wireless Manager** and then tap the **Bluetooth** bar or
Tap **Start > Setting > Connections > Bluetooth** icon > **Mode** tab.

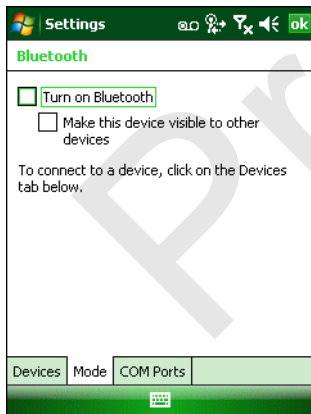


Figure 5-1 *Bluetooth Mode Tab*

2. Check the **Turn On Bluetooth** checkbox.
3. Tap **ok**.

Disabling Bluetooth

To disable Bluetooth:

1. Tap **Wireless Manager** and then tap the **Bluetooth** bar or
Tap **Start > Setting > Connections > Bluetooth** icon > **Mode** tab.
2. Un-check the **Turn On Bluetooth** checkbox.
3. Tap **ok**.

Discovering Bluetooth Device(s)

The MC65 can receive information from discovered devices without bonding. However, once bonded, the MC65 and a bonded device exchange information automatically when you turn the Bluetooth radio on.

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 **Start > Settings > Connections** tab > **Bluetooth** icon > **Devices** tab.

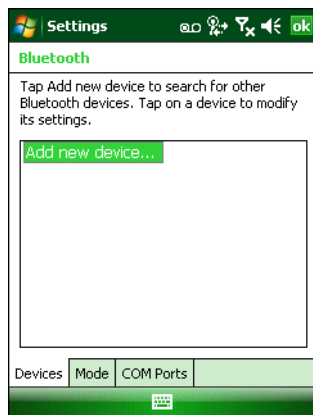


Figure 5-2 Bluetooth - Devices Tab

5. Tap **Add new device**. The MC65 begins searching for discoverable Bluetooth devices in the area.



Figure 5-3 Searching for Bluetooth Devices

6. Select a device from the list.

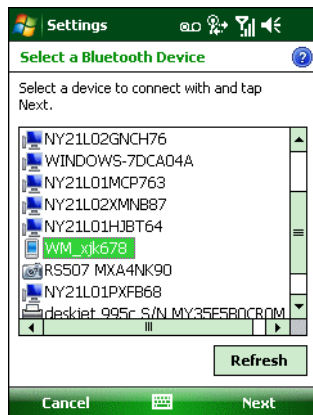


Figure 5-4 *Select a Bluetooth Device*

7. Tap **Next**. The **Enter Passcode** window appears.

✓ **NOTE** If Smart-pairing is configured and the device is requesting one of the pre-defined PINs, the **Enter Passcode** window does not appear.

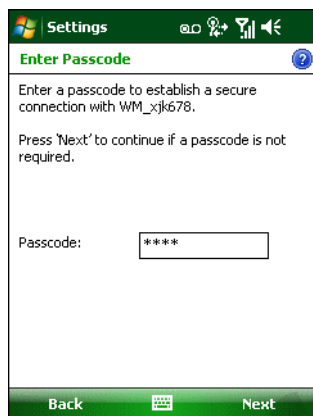


Figure 5-5 *Enter Passcode*

8. Enter the Passcode on the other device. The device is added to the Bluetooth list.



Figure 5-6 Bluetooth Connection Confirmation

You are prompted to enter a passcode. If the device has a specific passcode, enter it in the Passcode field and tap Next. If the device does not have a specific passcode, enter one in the Passcode field and tap Next. The Bluetooth radio tries to connect with the device.

9. If you created a passcode, you will be prompted by the other device to enter the same passcode. Enter the created passcode to establish a paired connection. (If you entered a passcode from the device, you shouldn't have to do anything on the other device.)
10. When the connection is complete, a list of matching and supported services on the device appears.
11. Select the services you want to use and tap Finish. The services on the new devices have to be selected or else the pairing won't include those services, even though the devices are paired. If services are not selected, you will be continually reprompted for the passcode from the device.
12. The device appears in the list on the main window.

After the passcodes have been accepted on both sides, you have a trusted ("paired") connection.

Available Services

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

The MC65 with Microsoft Bluetooth stack offers the following services:

- OBEX Object Push Services via Beam
- Hands-Free Audio Gateway Services
- Serial Port Services
- Personal Area Networking Services
- PBAP Services.

See the following sections for information on these services.

Object Push Services via Beam

- ✓ **NOTE** You can only send files to a remote device using the Beam function.

Use the OBEX Push Service to send files and contacts to another Bluetooth device. To transfer files between the MC65 and another Bluetooth enabled device:

1. Ensure that Bluetooth is enabled and discoverable on both devices.
2. Ensure that the two devices are within 30 feet (10 meters) of one another.
3. Tap **Start > Programs > File Explorer**.
4. Navigate to the file to transfer.
5. Tap and hold on the filename until the pop-up menu appears.

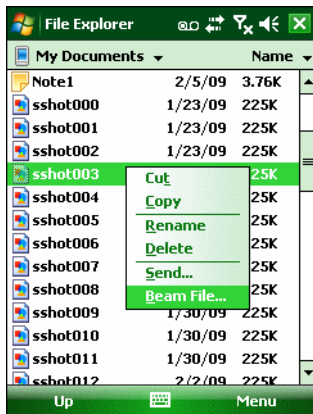


Figure 5-7 File Explorer Window

6. Select **Beam File**. The MC65 searches for Bluetooth devices in the area.
7. Tap **Tap to send** next to the Bluetooth device to send the file to. The MC65 communicates with the device and send the file. When completed, **Tap to send** changes to **Done**.

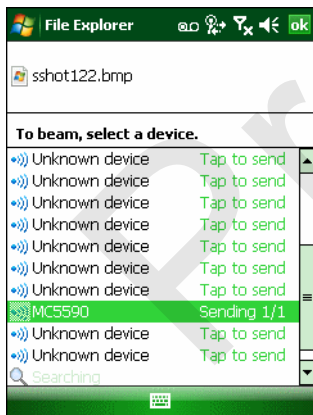


Figure 5-8 Beam File Window

To transfer a contact between the MC65 and another Bluetooth enabled device:

1. Ensure that Bluetooth is enabled and discoverable on both devices.
2. Ensure that the two devices are within 30 feet (10 meters) of one another.
3. Tap **Start > Contacts**
4. Navigate to the contact to transfer.

5. Tap and hold on the contact until the pop-up menu appears.

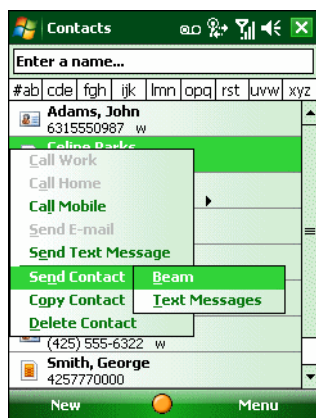


Figure 5-9 Contact Window

6. Select **Send Contact > Beam**. The MC65 searches for Bluetooth devices in the area.
7. Tap **Tap to send** next to the Bluetooth device to send the file to. The MC65 communicates with the device and send the contact. When completed, **Tap to send** changes to **Done**.

Internet Sharing

Internet Sharing allows the user to connect a computer or laptop to the MC65 and use the MC65 as a modem to connect to an office network or ISP.

To use MC65 as a modem using Bluetooth:

1. Ensure that the device is not connected to the computer or laptop.
2. On the MC65, ensure that the Phone is on and a data connection is configured.
3. Tap **> Programs > Internet Sharing**.
4. In the **PC Connection** list, select **Bluetooth PAN**.
5. In the **Network Connection** list, select the connection type.
Select the network connection that the device should use to connect to the Internet.
6. Tap **Connect**.
7. On the computer or laptop, setup a Bluetooth PAN with your device.
 - a. Select **Start > Control Panel > Network Connections**.
 - b. Under **Personal Area Network**, select **Bluetooth Network Connection**.
 - c. Right-click on **Bluetooth Network Connection** and select **View Bluetooth** network devices.
 - d. In the **Bluetooth Personal Area Network Devices** window select your device.
 - e. Click **Connect**. The computer connects to the device via Bluetooth.

✓ **NOTE** If your computer is Bluetooth-enabled and you select Bluetooth as the PC connection, you must initiate and complete the Bluetooth PAN partnership before Internet Sharing will work. For more information, refer to Windows Help and Support.

8. To verify, on the PC or laptop, launch **Internet Explorer** and open a web site.

- To end dial-up networking, on the MC65 tap **Disconnect**.

Hands-free Services

To connect to a Bluetooth headset:

- ✓ **NOTE** Newer Bluetooth headsets are device dependant and remember the last device they connected to. If problems occur while connecting to the headset, place the headset in discovery mode. Refer to the headset user manual for more information.

Only WAN audio is routed to the headset. System audio is still emitted through the MC65 speaker.

You can accept calls and re-dial using the Hands-free profile.

Hands-free profile does not support 3-way calling.

- Ensure that Bluetooth is enabled and discoverable on both devices.
- Ensure that the two devices are within 30 feet (10 meters) of one another.
- Tap **Start > Settings > Connections > Bluetooth** icon.
- Tap New device. The MC65 searches for Bluetooth devices in the area.
- Select the headset name and tap **Next**. The Passcode window appears.
- Enter the headset's passcode.
- Tap **Next**. The MC65 connects to the headset. Refer to the headset user manual for instructions on communicating with a Bluetooth device.

- ✓ **NOTE** During an active connection, the MC65 cannot go into suspend mode when the Power Button is pressed. A message appears notifying the user.

Once the WAN call is disconnected (with Hands-free profile) the Power button is enabled.

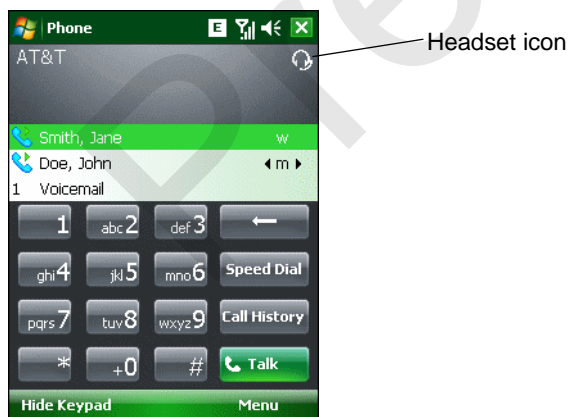


Figure 5-10 WWAN Bluetooth Audio Notification Dialog Box

Serial Port Services

Use the wireless Bluetooth serial port connection as you would a physical serial cable connection. Configure the application that will use the connection to the correct serial port.

To establish a serial port connection:

1. Ensure that Bluetooth is enabled and discoverable on both devices.
2. Ensure that the two devices are within 30 feet (10 meters) of one another.
3. Tap **Start > Settings > Connections** tab > **Bluetooth** icon > **Devices** tab.
4. Tap **Add new device**. The MC65 begins searching for discoverable Bluetooth devices in the area.
5. Select a device from the list.
6. Tap **Next**. The **Enter Passcode** window appears.

✓ **NOTE** If Smart-pairing is configured and the device is requesting one of the pre-defined PINs, the **Enter Passcode** window does not appear.

7. Enter the Passcode and the tap **Next**. The device is added to the Bluetooth list.
8. In the device list, tap the serial device. The **Partnership Settings** window displays.
9. Select the **Serial Port** checkbox.
10. Tap **Save**.
11. Tap **COM Ports** tab.
12. Tap **New Outgoing Port**. The add device window appears.
13. Select the serial device in the list and then tap **Next**.
14. Select a COM port from the drop-down list.
15. Tap **Finish**.

✓ **NOTE** No connection is made at this point. An application must open the selected COM port to trigger Microsoft Bluetooth stack to open the connection.

ActiveSync Using Serial Port Services

Use the wireless Bluetooth serial port connection for ActiveSync just as you would a physical serial cable connection. You must configure the application that will use the connection to the correct serial port.

To set up a Bluetooth ActiveSync connection:

Before setting up a Bluetooth ActiveSync connection, configure the Bluetooth function of your device.

✓ **NOTE** For additional security, disable network bridging on the computer (specifically, bridging to a Remote NDIS adapter) before connecting to the computer to pass through to the Internet or a network. For more information on network bridging, see **Windows Help** on your computer.

The instructions below are for computers that support the Windows XP SP2 or later version operating system.

1. Ensure that Bluetooth is enabled and discoverable on both devices.
2. Ensure that the two devices are within 30 feet (10 meters) of one another.
3. On the computer, click **Start > Settings > Control Panel**.
4. Double-click **Bluetooth Devices**.
5. On the **Options** tab, select the **Turn discovery on** and **Allow Bluetooth devices to connect to this computer** checkboxes.