

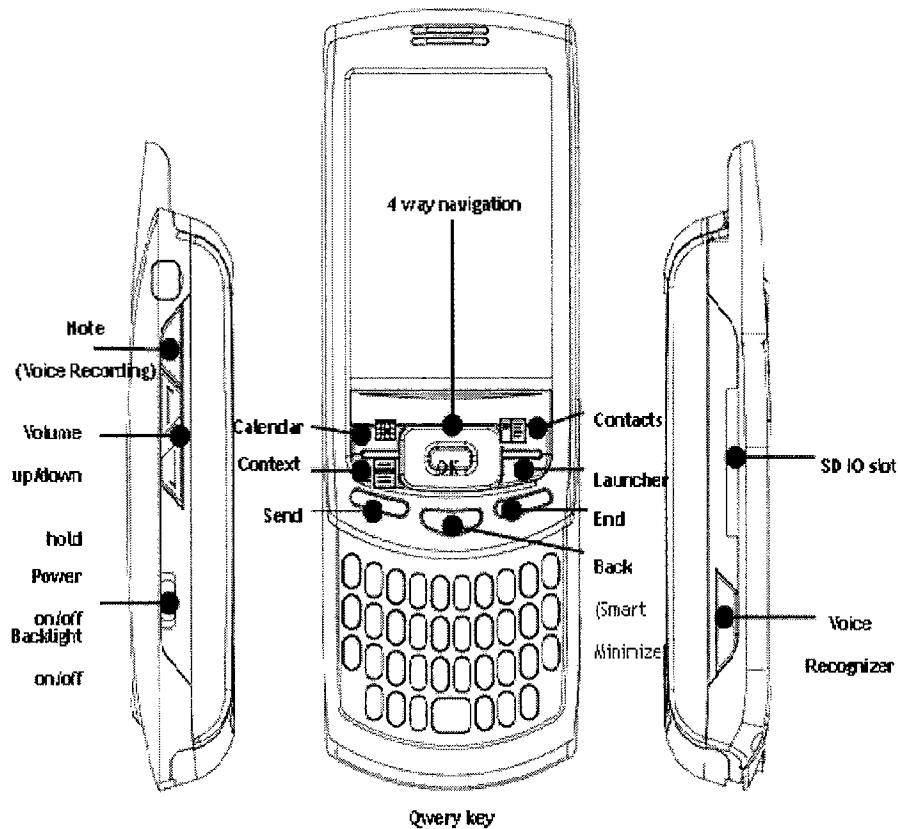
## **9. User Manual**

---

# Contents

- 1. SCH-i730 Key Map**
  - Function Keys
  - QWERTY keyboard
  
- 2. Today Screen**
  - Making calls
  - One Handed Dialling
  - Answering calls
  
- 3. Detailed Features of Phone**
  
- 4. How to make a call and answer it**
  
- 5. Phone Screen Icons**
  
- 6. Personal Settings concerning a phone**
  - Phone
  - Option
  - Alert
  - Service
  - Security
  
- 7. Phone Settings**
  - Setting the Desired Volume Level
  - Tone Length
  - Alerts Sounds & Notifications
  - Turning the Ringer Off
  
- 8. Messaging**
  - Messaging Types
  - Voicemail
  - Text Messaging
  
- 9. Call Logs - Call History**
  
- 10. Call Features**
  - Caller ID
  - Caller Waiting
  - Caller Forwarding
  - Three-Way Calling
  
- 11. Unpacking**
  
- 12. Health and Safty Information**

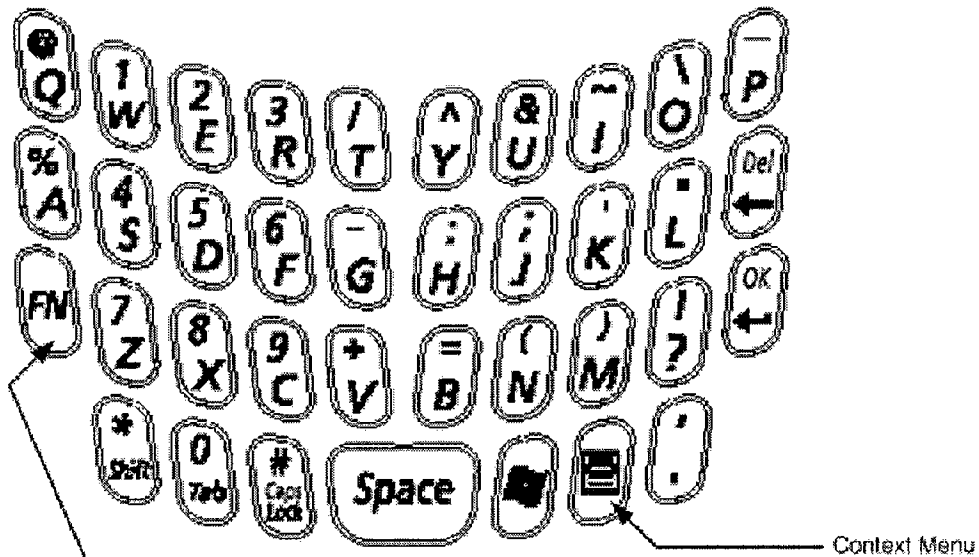
1. SCH-i730 Key Map



■ Function Keys

1. SEND - Make or Receive a call
  - Speaker phone (Long press in calling)
  - Initiate phone dialer in idle mode
2. END - End voice call or data stream
  - Powers phone on or off (Long press)
  - Take back to Today screen
  - Reject incoming call
3. CLR - Close application and Take back one level or one screen
  - Erase Number in the Dialer Mode (Short Press/Long Press)
4. 5-Way Navigation - 4 Directional Navigation Keys with Action Key
5. Calendar/Contacts/Context/Launcher - Initiates specific applications

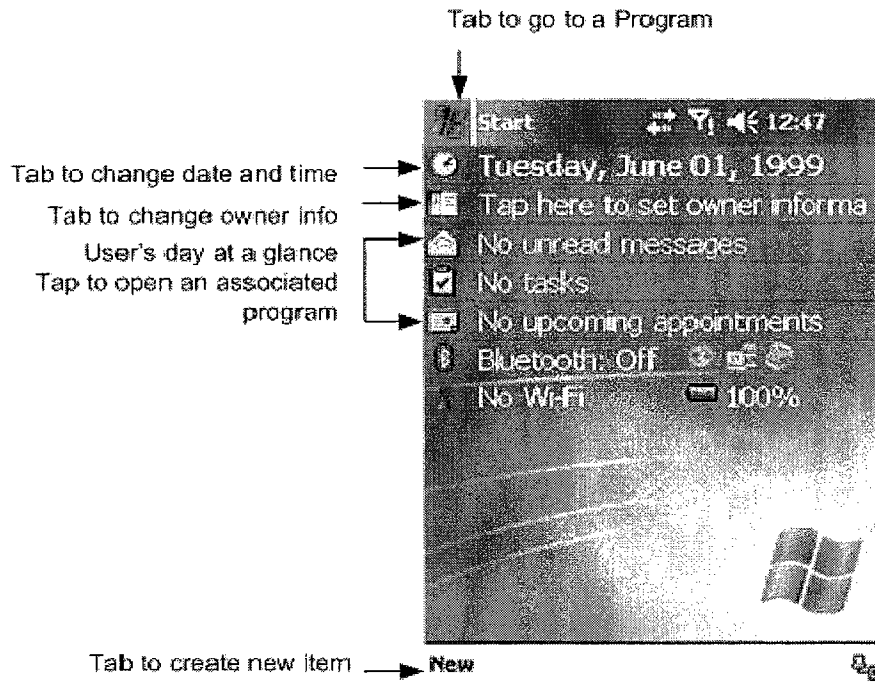
■ QWERTY keyboard



If you want to enter numeric keys, not alphabetic keys, press "FN"(Function) key followed by a numeric key you want to enter.

. Pressing any alphabetic key on a Today Screen or Phone Dialer won't work.

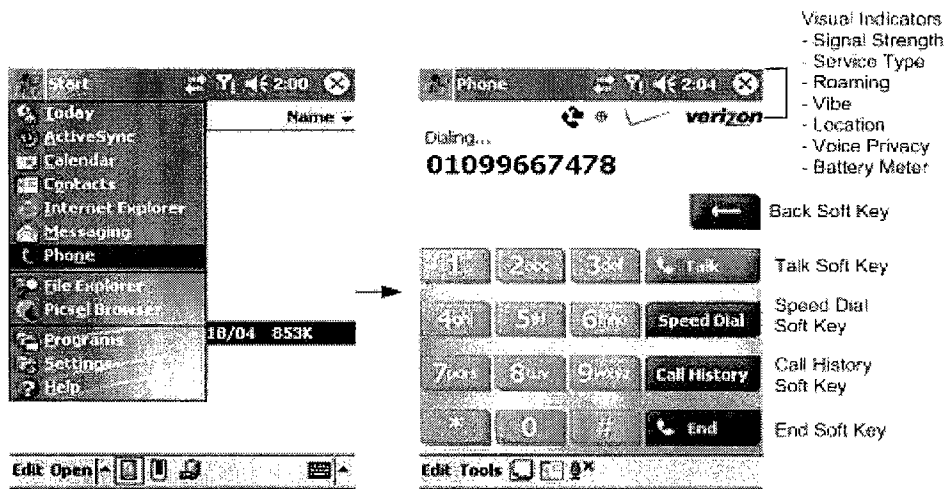
## 2. Today Screen



## 3. Detailed Features of Phone

- . Placing calls (General, Speed dial, Last call, Call from Contacts)
- . Phone Memo / Voice Mail / SMS
- . Call History (All calls/Missed/Outgoing/Incoming/By Caller)
- . Phone Setting (Voice mail, Sound, Security, etc)
- . Caller ID
- . Call Waiting / Call Forwarding / 3-Way Calling
- . Speaker Phone
- . Smart Dial
- . Phone Dialer Skin Changer

#### 4. How to make a call and answer it



##### Making Calls

There are several different options that allow you to make calls on your new i730. You can use speed dial, voice dial, call history, or simply enter the desired number and tap "Talk Soft Key" button on dialer.

##### Steps to Make a Call using the Keypad

1. Press "SEND" button or press any numeric key on Today Screen to display the phone screen as above.  
(Please refer to the i730 Key map in the 1st page)
2. Tap the desired number using the stylus.  
If you make a mistake while dialing, tap "Back Soft Key" button on dialer.  
Tap and hold "Back Soft Key" button to clear all the digits and start over.

**Note:** Always use the stylus when touching the screen to avoid scratching or damage caused by other instruments.

3. Tap "Talk Soft Key" button on dialer

##### One Handed Dialing

One handed dialing allows you to make a call while using just one hand. To make a call:

##### Steps for One Handed Dialing

1. Press the "Contacts" button (Please refer to the i730 Key map in the 1st page).
2. Press the OK/Navigation key up or down to select the desired address book entry.

**Note:** If you press and hold the OK/Navigation key down, letters are displayed that will automatically display the first entry beginning with that letter.

3. Press the OK/Navigation key to display the entry information and phone number.

**Note:** To return to the Contacts screen, press the OK/Navigation button while the entry is displayed.
















4. Press "SEND" button to display the number in the phone screen  
(Please refer to the i730 Key map in the 1st page)
5. Press "SEND" button again to dial the number.

##### Answering Calls

1. Make sure that the phone is turned On.
2. When you receive an incoming call, the Phone Incoming screen is displayed.  
Tap **Answer** to answer the call or **Ignore** to silence the ringer and let the call go to voicemail.

**Note:** When you receive an incoming call, you can silence the ringer by tapping "SEND" button

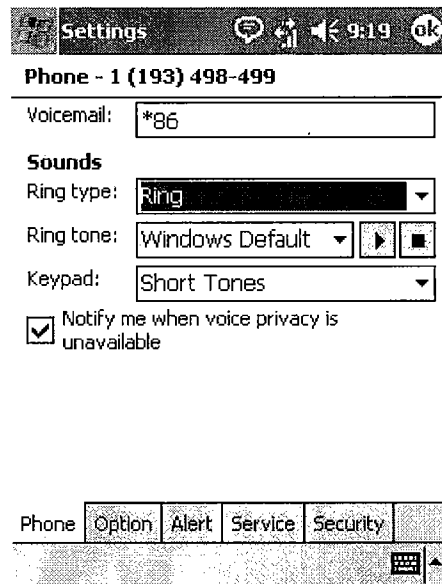
5. Phone Screen Icons

	Indicates that a battery is charging.
	This icon represents the signal strength. The more bars displayed, the better the signal.
	This icon represents the battery charged fully.
	ActiveSync Connected or Data call connected
	This icon represents the critical low battery.
	Voice call missed
	Indicates that a new SMS text message is available. If you tap this icon, a window is displayed that allows you to access the Inbox.
	Messenger connected
	No Voice/Data call service
	This icon is displayed when the phone is off.
	Indicates that the ringer is off.
	Roaming
	ActiveSync Error
	Voice call connecting or connected
	Indicates that a new voicemail messages. If you tap this icon, a window is displayed that allows you to listen to new voicemail messages.

## 6. Personal Settings concerning a phone

The phone options displays all the available options for the phone. The options are divided into the following tabs:

- **Phone** - Allows you to configure a voicemail phone number. View your existing phone number. Select the desired sounds associated with the phone. Volume notification settings are also included.
- **Option** - Allows you to configure the SMS CallBack Number, Answer, and Time settings.
- **Alert** - Allows you to turn on or off the minute beep, connect tone, disconnect tone, or ERI Sound tone. (ERI - Enhanced Roaming Indicator)
- **Service** - Allows you to configure the Data and Roaming settings and to turn GPS on or off. Selects the desired Voice privacy settings.
- **Security** - Allows you to set special numbers, change the password, or reset the phone to the factory default settings. Displays the current hardware and software version of the i730.





## Phone Tab

These options allow you to configure several different settings that are specific to the phone including:

- Changing the Voicemail Dialup Number
- System Volume
- Notifications
- System Sounds

### Voicemail settings

To access the voicemail settings:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**
3. Tap the **Personal** tab
4. Tap the **Phone** icon.
5. Tap the **Phone** tab.
6. The number to call your voicemail is displayed in the Voicemail box.  
To change the number, tap the box and enter the desired number.

**Note:** This number is automatically setup when you receive your phone. You will probably not need to change it unless otherwise instructed by your carrier.

### Sounds settings

These options allow you to configure the sounds for the i730. These include the ring type, ring tone, keypad sounds, and other sound settings. To access the sound settings:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**
3. Tap the **Personal** tab.
4. Tap the **Phone** icon.
5. Tap the **Phone** tab.
6. Tap the **Ring Type** drop down arrow and select one of the following ring types:

- Ring
- Increasing Ring
- Ring Once
- Vibrate
- Vibrate and ring
- Vibrate then ring
- None

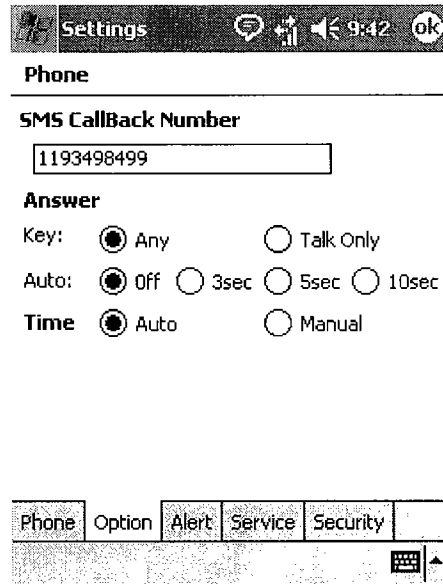
7. Tap the **Ring Tone** drop down arrow and select one of the following ring tones:

- BellDitty
- Chime
- DefaultRing
- Digital
- Guitar
- OldPhone
- RoaringGuitar
- Trio
- Welcome
- Hopmix
- Nobeat
- Scratch
- Solo
- SpanishGuitar
- Techie
- Voice

**Note:** To hear the ring tone, use the player controls located to the right of the ring tone box. Tap the arrow to play the tone and then tap the square to stop.

8. Tap the **Keypad** drop down arrow and select:

**Option tap**



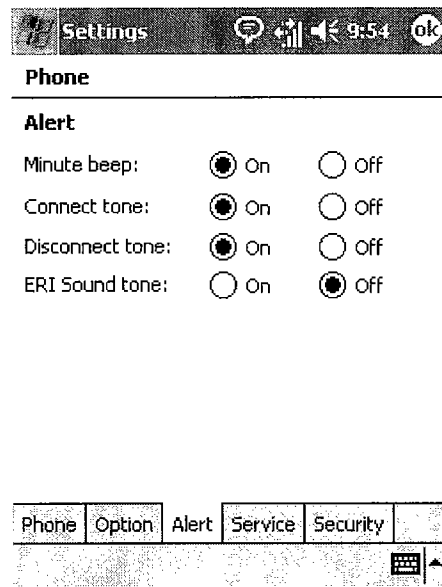
**SMS CallBack Number** : Number used to call back for SMS received

**Answer** :

- **Key** : Which key can be used to receive an oncoming call?  
Any key or only "SEND" key?
- **Auto** : Do you want to receive an oncoming call without pressing a key?  
Off : I'll receive an oncoming call only by pressing a key.  
3 sec : I'll receive an oncoming call after 3 seconds automatically.  
5 sec : I'll receive an oncoming call after 5 seconds automatically.  
10 sec : I'll receive an oncoming call after 10 seconds automatically.

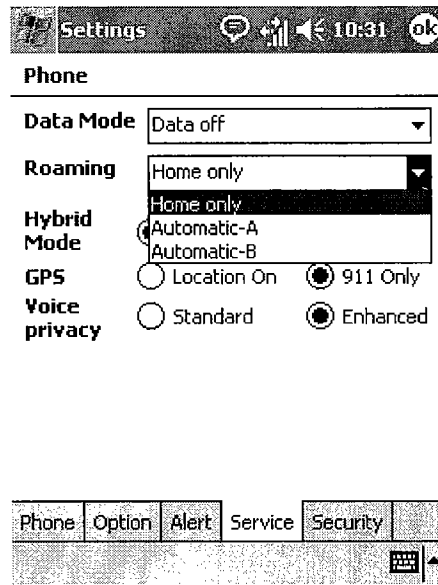
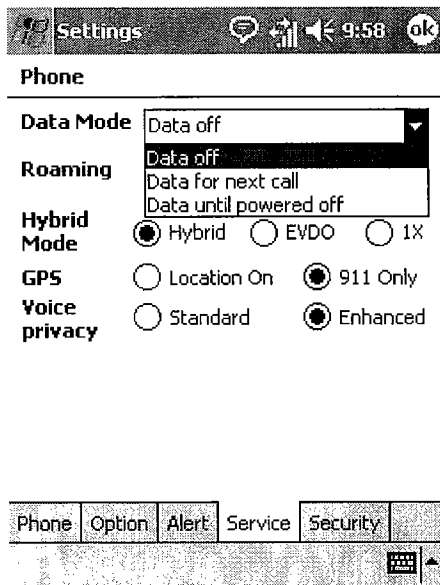
**Time** : Do you want to set your device clock automatically or manually?

**Alert tap**



This tap Allows you to turn on or off the minute beep, connect tone, disconnect tone, or ERI Sound tone.  
(ERI - Enhanced Roaming Indicator)

Service tap



**Data Mode :**

- Data off – Voice will be received as voice and data will be received as data.
- Data for next call – Even voice call will be received as data for only the next call.
- Data until powered off – Even voice will be received as data until the device is powered off.

**Roaming** : Roaming occurs when you travel outside the designated coverage area. Your phone automatically switches to roaming and the roaming icon is displayed on the screen. Your phone can roam on other digital networks. When you are roaming, extra charges may apply when making or receiving a call. When you are roaming, some of the phone's features may not be available. When you are roaming, your phone requires additional power from the battery and may need to be recharged more frequently.

#### **Roaming Options**

The following roaming options are available:

- Home only - Your phone is available for normal operation only in the designated coverage area.
- Automatic-A - The preferred roaming list is used to acquire service. If no preferred systems are found, any digital "A" system is acquired.
- Automatic-B - The preferred roaming list is used to acquire service. If no preferred systems are found, any digital "B" system is acquired.

**Note:** Contact your service provider for information regarding preferred systems.

#### **Hybrid Mode :**

- Hybrid – allows the device to get services from both EVDO and 1X channels.
- EVDO – allows the device to get services from only EVDO channels.
- 1X – allows the device to get services from only 1X channels.

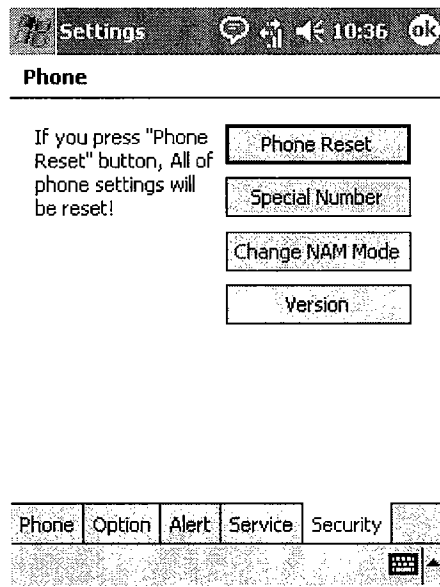
#### **GPS :**

- Location On – always allows the device to inform its location.
- 911 Only - allows the device to inform its location in only case of being pressed "911".

#### **Voice privacy :**

- Standard – allows the voice to be encrypted as a standard mode.
- Enhanced – allows the voice to be encrypted as an enhanced mode

**Security tap**



**Phone reset** : Resets the phone settings to default settings

**Special Number** : Special numbers are numbers that can be called when the phone is placed in lock mode. Up to 10 numbers can be assigned in the special numbers dialog box.

**Change NAM Mode**

**Version** : Displays the current hardware and software version of the i730.

## 7. Phone Settings

- Setting the Desired Volume Level
- Tone Length
- Alerts Sounds & Notifications
- Turning the Ringer Off

### Setting the Volume Levels

There are several different volume levels that can be configured on the i700. They are:

- Voice Volume
- Record Volume
- Ring Volume
- System Volume

#### Voice Volume

The voice volume determines the volume setting of the incoming caller. This setting can be set quickly by pressing the up or down volume button located on the side of the phone. To access the voice volume settings in the phone:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**.
3. Tap the **System** tab.
4. Tap **Volume**.
5. Using the stylus, tap the desired level on the slider located under **Voice Volume**.

**Note:** You can also press and hold the slider tab and move it back and forth along the slider using the stylus.

6. Tap "OK" to exit.

#### Record Volume

The record volume determines the recording levels for voice memo's, notes, or recorded conversations. The higher the setting, the more sensitive the microphone.

To access the record volume settings:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**.
3. Tap the **System** tab.
4. Tap **Volume**.
5. Using the stylus, tap the desired level on the slider located under **Record Volume**.
6. Tap "OK" to exit.

#### Ring Volume

The ring volume determines the volume setting for the ringer associated with the phone. You can also set the ringer silent if needed to avoid disturbing others in a quiet setting. To access the ring volume settings:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**.
3. Tap the **System** tab.
4. Tap **Volume**.
5. Using the stylus, tap the desired level on the slider located under **Ring Volume**.
6. Tap "OK" to exit.

#### System Volume

The system volume determines the volume settings for the operating system installed on the i730. A beep or other sound is heard while navigating through the menus. To access the system volume setting:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**.
3. Tap the **Personal** tab.
4. Tap **Sounds & Notifications**.
5. Using the stylus, tap the desired level on the slider located under **System Volume**.
6. Tap "OK" to exit.

## Setting the Tone Length

When dialing a phone number, tones are emitted each time a key is tapped. These tones can be set up to be short, long, or turned off. In some cases, longer tone lengths may be required for accessing automated systems or voicemail. To set the tone length:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**.
3. Tap the **Personal** tab.
4. Tap **Phone**.
5. Tap the drop down arrow next to **Keypad** and select **Short Tones**, **Long Tones**, or **Off**.
6. Tap "OK" to exit.

## Alert Sounds & Notifications

Alert sounds can be configured for the following events:

- ActiveSync: Begin sync
- ActiveSync: End sync
- Beam: Autoreceive
- Inbox: New e-mail message
- Inbox New SMS message
- MSN Messenger: Contact online
- MSN Messenger: New message
- Phone: Incoming call
- Phone: Missed call
- Phone: Voice mail
- Reminders

### Selecting a Ringer for Incoming, Missed Calls, or Voice Mail

To select a ringer for incoming calls:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**.
3. Tap the **Personal** tab.
4. Tap **Phone**.
5. Tap **Other Settings**.
6. Tap the drop down arrow under **Select an event** and select **Phone: Incoming Calls**, **Phone: Missed Calls**, or **Phone: Voice Mail**.

7. If you selected Phone: Incoming Calls, tap the drop down arrow next to **Ring Type** and select one of the following:

- Ring
- Increasing Ring
- Ring Once
- Vibrate
- Vibrate and ring
- Vibrate then ring
- None

8. If you selected Ring, Increasing ring, or Ring Once, tap the drop down arrow next to **Ring Tone** and select the desired ringer.

**Note:** To play the selected ringer, tap the play button arrow located under the ring tone box.

9. Tap "OK" to exit.

**Note:** If you save .wav files in the windows/rings directory, the file can be selected as a Ring Tone.

### Turning the Ringer Off

In some cases, it may be necessary to turn off the ringer to avoid causing a problem for those around you. To turn off the ringer or set it to vibrate:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Settings**.
3. Tap the **Personal** tab.
4. Tap **Phone**.
5. Tap the drop down arrow next to Ring Type and select:
  - Vibrate
  - None
6. Tap "OK" to exit.

**Note:** You can also change the setting quickly by pressing the volume key up or down when the phone screen is displayed.



## 8. Messaging

- Message Types
- Voicemail
- Text Messaging

### Message Types

Your phone can send and receive the following types of messages:

- Voicemail
- SMS Text Messages
- E-mail messages
- Numeric Pages

Messages are received at all times, even when the phone is powered off or locked. When a new message is received, a notification is displayed and a tone is sounded.

### Voicemail

If a new voicemail is received, a notification screen is displayed alerting you that a new message is available. If multiple voicemail messages are received, the notification screen displays the number of new messages received.

### Connecting to the Voicemail System

To connect to voicemail:

1. Tap the alert icon at the top of the screen.  
**Note:** The alert icon is displayed when more than one alert is available.
2. Tap the voice mail icon .  
**Note:** You can also tap and hold to speed dial voicemail.
3. Tap the Voice Mail button to connect.
4. When the voicemail system connects, tap .
5. Enter your password.
6. Press to listen to your messages.

### Text Messaging

The i700 allows you to create and send text messages to other users with SMS capability. Text messaging, also known as SMS (Short Message Service) allows short text messages to be received and displayed on your phone. 2-Way Text Messaging, also known as MO-SMS (Mobile-Originated Short Message Service,) allows messages to be sent from your phone. Messages can be sent from one phone to another by addressing the message to the recipient's phone number.

### Creating a New Message

1. From the phone screen, tap **Tools** and select **Send Text Message**.
  2. Enter the phone number of the message recipient(s) in the **To:** field.(Up to ten people can be sent the same SMS message at one time. For multiple numbers, use a semicolon).
- Note:** To select a number from contacts, tap . Tap the icon again to display the text area.
3. Tap the **Subj:** field and enter a title for the message.
  4. Tap the message area and enter the desired message using the desired input method. When finished, tap the double drop down arrows to the right of the **Subj:** field.
  5. Tap the drop down arrow next to **Service** and make sure that **SMS** is selected.
  6. If you would like a delivery confirmation that the message was delivered, tap **Edit** and select **Options**. Tap the check box next to **Request SMS text message delivery notification**.
  7. Tap **Send** to send the message.

### E-mail Messages

E-mail messages can be sent and received using Microsoft Outlook and ActiveSync. Messages are sent and received using the desktop/laptop computer during an ActiveSync operation. To send an e-mail message:

1. From the phone screen, tap **Tools** and select **Send Text Message**.
2. Enter the e-mail address in the **To:** field. (Up to ten people can be sent the same SMS message at one time. For multiple e-mail addresses, use a semi-colon)

**Note:** To select an e-mail address from contacts, tap . Tap the icon again to display the text area.

3. Tap the **Subj:** field and enter a title for the message.
4. Tap the message area and enter the desired message using the desired input method. When finished, tap the double drop down arrows to the right of the **Subj:** field.
5. Tap the drop down arrow next to **Service** and make sure that **ActiveSync** is selected.
6. Tap **Send**.
7. Perform an ActiveSync operation to send the e-mail message. For more information on performing an ActiveSync operation.

### Message Options

Several options are associated with sending an SMS message. They are:

- Edit My Text Messages
- Spell Check
- Language
- Cancel Message

### My Text Messages

My Text Messages are default text messages that can be used quickly to send common text (SMS) messages without having to type the message. A total of 10 messages can be saved. The default messages are:

- Yes.
- No.
- I can't talk right now.
- I'll be right there.
- I'm running late.
- Where are you?
- Hi.
- Goodbye.
- Call me later.
- I love my Pocket PC!

### Using My Text Messages

1. Create a new SMS Message.
2. Tap **My Text** and select the desired message from the list.
3. Tap **Send** to send the message.

### Editing My Text Messages

To edit My Text Messages:

1. Open an SMS Message.
2. Tap **Edit** and select **Edit My Text Messages**.
3. Select the message that you would like to edit.
4. Delete the old message from the box and enter the new message.
5. Tap "OK" to save and exit.

### Performing a Spell Check

To perform a spell check:

1. Create a new SMS Message.
2. Tap **Edit** and select **Spell Check**.
3. When the spell check is finished, tap "OK".
4. Tap **Send** to send the message.

### Language

There are several different languages available when creating a new message. To select the desired language:

1. Create a new message from the **Inbox**.
2. Tap **Edit** and select **Language**.
3. Select the desired language from the list.

## SMS Message

### SMS Inbox

SMS messages are saved in the SMS Inbox. If the memory is full, new messages are rejected. Older messages can be deleted to free up space for the incoming messages. To access the SMS Inbox:

1. Tap **Start** located in the upper left corner of the screen and Tap **Messaging** on **Start Menu**.
2. Tap **Inbox**.
3. Tap the drop down arrow next to **Inbox** and select **Inbox** under the SMS directory.

**Note:** The i700 does not support the alert function when a repeated message is received. If a duplicate message is received, "New Message" instead of "Duplicate Message" is displayed on screen.

### SMS Outbox

When you send a message, it is stored in the SMS Outbox until sent. Messages are sent using the i730 and the SMS Outbox is cleared.

To access the SMS Outbox:

1. Tap **Start** located in the upper left corner of the screen and Tap **Messaging** on **Start Menu**.
2. Tap **Inbox**.
3. Tap the drop down arrow next to **Inbox** and select **Outbox** under the SMS directory.

### SMS Sent Items

Sent Items keeps a record of all the SMS messages sent from your phone.

To access sent items:

1. Tap **Start** located in the upper left corner of the screen and Tap **Messaging** on **Start Menu**.
2. Tap **Inbox**.
3. Tap the drop down arrow next to **Inbox** and select **Sent Items** under the SMS directory.

### SMS Drafts

SMS Drafts contain all the SMS messages that were not completed and saved to send at a later time. These messages are accessed from the drafts folder in the SMS Inbox. To access the stored folder:

1. Tap **Start** located in the upper left corner of the screen and Tap **Messaging** on **Start Menu**.
2. Tap **Inbox**.
3. Tap the drop down arrow next to **Inbox** and select **Drafts** under the SMS directory.

### SMS Deleted Items

SMS Deleted items keeps a copy of all the messages that were deleted. Once the messages are removed from the SMS deleted items folder, they are permanently erased. To access the SMS deleted folder:

1. Tap **Start** located in the upper left corner of the screen and Tap **Messaging** on **Start Menu**.
2. Tap **Inbox**.
3. Tap the drop down arrow next to **Inbox** and select **Deleted Items** under the SMS directory.

## Inbox Tools

The Inbox Tools menu displays status information and allows you to manage the Inbox settings. The following options are available in the Inbox Tools menu:

- **Manage Folders** - Allows you to organize the folders in the Inbox.
- **Empty Deleted Items** - Deletes the messages in the Deleted Items folder.
- **Edit My Text Messages** - Edits the canned text messages.
- **Status** - Displays a list of how many messages sent, copied, to be copied, or deleted.
- **Options** - Displays the services, message, address, and storage options of the phone.

To access the Inbox Tools menu:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Messaging** on Start menu.
3. Tap **Inbox**.
4. Tap **Tools** at the bottom of the display.

### Options

The options menu allows you to display configuration settings for:

- **Accounts** - Allows you to create a new account.
- **Message** - Displays the message configuration settings.
- **Address** - Displays the address options.
- **Storage** - Allows you to view the amount of space free space left in memory or on the optional storage card.

### Accounts Options

#### Message Options

To access the message options:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Messaging** on Start menu.
3. Tap **Inbox**.
4. Tap **Tools** and select **Options**.
5. Tap the **Message** tab.

#### Address Options

To access the message options:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Inbox**.
3. Tap **Tools** and select **Options**.
4. Tap the **Address** tab.

#### Storage Options

To access the message options:

1. Tap **Start** located in the upper left corner of the screen.
2. Tap **Inbox**.
3. Tap **Tools** and select **Options**.
4. Tap the **Storage** tab.

## 9. Call Logs – Call History

When a call is received, made, or missed a record of the call is saved with all the available information in a call log. The call logs are:

- **All** - Displays all call received, sent, or missed.
- **Missed** - Displays any missed calls.
- **Outgoing** - Displays all outgoing calls made from your phone.
- **Incoming** - Displays all the incoming calls that were answered.
- **By Caller** - Allows you to select an entry from the contacts and then displays any call information related to the contact. If you tap the entry, the time, date, and duration of the call is displayed.

### Making a Call from the Call Log

To make a call:

1. From the phone screen, tap "Call History" soft key.
2. Tap the drop down arrow in the upper left corner and select the desired call log list.
3. Tap the phone icon located to the left of the entry to make a call.
4. When finished, tap "END" key.

### Call Log Options

Call log options allows you to view the call times for all calls and recent calls. You can also set the amount of time to keep call log items before they are deleted. To access the call log options:

1. From the phone screen, tap "Call History" soft key.
2. Tap **Tools** and select **Options**.
3. Tap the drop down arrow under **Delete call log items older than** and select one of the following:

- 1 week
- 1 month
- 2 months
- 3 months
- 6 months
- 1 year
- never

4. Tap "OK" to exit.

### Creating a New Contact from the Call Log

To create a new contact from a call log entry:

1. From the phone screen, tap "Call History" soft key.
2. Tap the drop down arrow in the upper left corner and select the desired call log list.
3. Tap and hold on the desired entry. Select **New Contact** from the menu.
4. Enter the contact information. When finished, tap "OK".

### Deleting Call Log Entries

To delete the call log entries:

1. From the phone screen, tap "Call History" soft key.
2. Tap the drop down arrow in the upper left corner and select the desired call log list to delete.

**Note:** To delete all call log entries, select All Calls.

3. Tap **Tools** and select **Delete All Calls**.
4. Tap **Yes** to confirm the deletion.
5. Tap "OK" to exit.

### Sending a SMS Message from a Call Log Entry

SMS or Short Messages can be sent to other users that support SMS capabilities.

**Note:** Contact your service provider for more information on SMS messaging services.

To send a new SMS message from a call log entry:

1. From the phone screen, tap "Call History" soft key.
2. Tap the drop down arrow in the upper left corner and select the desired call log list.
3. Tap and hold on the desired entry. Select **Send SMS** from the menu.
4. Enter the subject and message in the spaces provided. When finished, tap "OK".

**Note:** Make sure that SMS is selected in the Services field or else the message cannot be sent.

## 10. Call Features

- Caller ID
- Call Waiting
- Call Forwarding
- Three-Way Calling

### Caller ID

Caller ID alerts you to who's calling by displaying the phone number of the person calling when you receive an incoming call. Similarly, if you call someone who has this feature, your phone number displays on their phone. If the caller's name and number are already stored in your Internal Phone Book, the corresponding name appears with the number. To block caller ID from displaying when you call another user:

1. Tap and then dial the phone number.

### Call Waiting

You can answer an incoming call while on an existing call. If you are on an existing call and another call is received, a tone is heard and a call waiting message is displayed on the screen. If the caller is stored in the address book, their name is also displayed.

### Answering a Waiting Call

1. Tap the **Answer** button. The phone connects to the other call while placing the existing caller on hold.
2. Tap the button again to switch back over to the original caller.

### Call Forwarding

Call Forwarding allows you to forward all your incoming calls to another phone number - even when your phone is turned off. You can still make calls from your phone with Call Forwarding activated.

To activate call forwarding:

1. Tap .
2. Enter the area code and phone number where the incoming calls are forwarded.
3. Tap . A confirmation recording confirms the feature change.

To deactivate call forwarding:

1. Tap
2. A confirmation recording confirms the feature change.

### Three Way Calling

Three way calling allows you to talk to two different people at the same time. When using this feature, normal airtime rates apply for each of the two calls.

To use three way calling:

1. Enter the number you wish to call and tap .
2. During the conversation, tap .
3. Dial the second person and tap .
4. When the person answers, tap again to connect all three parties.

If one of the people you called hangs up, you and the remaining caller stay connected. If you initiated the call and are the first one to hang up, all three calls are disconnected.

## 11. Unpacking

Your package contains the following items:

- Handset
- Battery
- User's manual
- Travel charger
- Desktop charger
- Headset
- Holster Mini-USB cable Stylus

In addition, you can obtain the following accessories for your phone from your local Samsung dealer.

- Headset
- Travel adapter
- Data cable
- Hands-free kit
- Car charger
- Holster
- Battery

## 12. Health and Safety Information

### Exposure to Radio Frequency (RF) Signals

Your wireless phone is a radio transmitter and receiver.

It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on the safety standards that were developed by independent scientific organizations through periodic and through evaluation of scientific studies.

The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless phones employs a unit of measurement known as Specific Absorption Rate (SAR). The SAR limit set by the FCC is 1.6W/kg \*.

\*In the U.S. and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg (W/kg) averaged over one gram of tissue. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurements.

SAR tests are conducted using standard operating positions specified by the FCC with the phone 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 phone while operating can be well below the maximum value. This is because the phone 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 of the phone.

Before a new model phone is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure.

The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model phone 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 printed in the label on the phone. FCC certification information for this model phone is attached separation paper.



**For Body Operation**

For body worn operation, this model phone has been tested and meets the FCC RF exposure guidelines when used with a Samsung-supplied or approved accessory designated for this product or when used with an accessory that contains no metal and that positions the handset a minimum from the body.

The minimum distance for this model phone is written in the FCC certification information from the body. Non-compliance with the above conditions may violate FCC RF exposure guidelines.

For more information concerning exposure to radio frequency signals, see the following websites:

Federal Communications Commission (FCC)

<http://www.fcc.gov/rfsafety>

Cellular Telecommunications Industry Association (CTIA):

<http://www.wow-com.com>

U.S. Food and Drug Administration (FDA)

<http://www.fda.gov/cdrh/consumer>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en>

### **Precautions When Using Batteries**

- . Never use any charger or battery that is damaged in any way.
- . Use the battery only for its intended purpose.
- . If you use the phone near the network's base station, it uses less power; talk and standby time are greatly affected by the signal strength on the cellular network and the parameters set by the network operator.
- . Battery charging time depends on the remaining battery charge and the type of battery and charger used. The battery can be charged and discharged hundreds of times, but it will gradually wear out. When the operation time (talk time and standby time) is noticeably shorter than normal, it is time to buy a new battery.
- . If left unused, a fully charged battery will discharge itself over time.
- . Use only Samsung-approved batteries and recharge your battery only with Samsung-approved chargers. When a charger is not in use, disconnect it from the power source. Do not leave the battery connected to a charger for more than a week, since overcharging may shorten its life.
- . Extreme temperatures will affect the charging capacity of your battery: it may require cooling or warming first.
- . Do not leave the battery in hot or cold places, such as in a car in summer or winter conditions, as you will reduce the capacity and lifetime of the battery. Always try to keep the battery at room temperature. A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Li-ion batteries are particularly affected by temperatures below 0 °C (32 °F).
- . Do not short-circuit the battery. Accidental shortcircuiting can occur when a metallic object (coin, clip or pen) causes a direct connection between the + and . terminals of the battery (metal strips on the battery), for example when you carry a spare battery in a pocket or bag. Short-circuiting the terminals may damage the battery or the object causing the short-circuiting.
- . Dispose of used batteries in accordance with local regulations. Always recycle. Do not dispose of batteries in a fire.

## Road Safety

Your wireless phone gives you the powerful ability to communicate by voice, almost anywhere, anytime. But an important responsibility accompanies the benefits of wireless phones, one that every user must uphold.

When driving a car, driving is your first responsibility. When using your wireless phone behind the wheel of a car, practice good common sense and remember the following tips.

1. Get to know your wireless phone and its features, such as speed dial and redial. If available, these features help you to place your call without taking your attention off the road.
2. When available, use a hands-free device. If possible, add an extra layer of convenience and safety to your wireless phone with one of the many hands-free accessories available today.
3. Position your wireless phone within easy reach. Be able to access your wireless phone without removing your eyes from the road. If you get an incoming call at an inconvenient time, let your voice mail answer it for you.
4. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice and even heavy traffic can be hazardous.
5. Do not take notes or look up phone numbers while driving. Jotting down a To Do list or flipping through your phonebook takes your attention away from your primary responsibility, driving safely.
6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan calls when your car will be stationary. If you need to make a call while moving, dial only a few numbers, check the road and your mirrors, then continue.
7. Do not engage in stressful or emotional conversations that may be distracting. Make the people with whom you are talking aware that you are driving and suspend conversations that have the potential to divert your attention from the road.
8. Use your wireless phone to call for help. Dial the emergency number in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless phone!

9. Use your wireless phone to help others in emergencies. If you see a car accident, crime in progress or other serious emergency where lives are in danger, call the emergency number, as you would want others to do for you.
  
10. Call roadside assistance or a special nonemergency wireless assistance number when necessary. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured, or a vehicle you know to be stolen, call roadside assistance or any other special nonemergency wireless number.

### **Operating Environment**

Remember to follow any special regulations in force in any area and always switch off your phone whenever it is forbidden to use it, or when it may cause interference or danger.

When connecting the phone or any accessory to another device, read its user's guide for detailed safety instructions. Do not connect incompatible products.

As with other mobile radio transmitting equipment, users are advised that for the satisfactory operation of the equipment and for the safety of personnel, it is recommended that the equipment should only be used in the normal operating position (held to your ear with the antenna pointing over your shoulder).

### **Electronic Devices**

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, certain electronic equipment may not be shielded against the RF signals from your wireless phone. Consult the manufacturer to discuss alternatives.

#### **\*Pacemakers**

Pacemaker manufacturers recommend that a minimum distance of 15 cm (6 inches) be maintained between a wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research and recommendations of Wireless Technology Research.

Persons with pacemakers:

- . Should always keep the phone more than 15 cm (6 inches) from their pacemaker when the phone is switched on
  - . Should not carry the phone in a breast pocket
  - . Should use the ear opposite the pacemaker to minimize potential interference
- If you have any reason to suspect that interference is taking place, switch off your phone immediately.

**\*Hearing Aids**

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may wish to consult your hearing aid manufacturer to discuss alternatives.

**\*Other Medical Devices**

If you use any other personal medical devices, consult the manufacturer of your device to determine

if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information. Switch off your phone in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

**\*Vehicles**

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle.

You should also consult the manufacturer of any equipment that has been added to your vehicle.

**\*Posted Facilities**

Switch off your phone in any facility where posted notices require you to do so.

**Potentially Explosive Atmospheres**

Switch off your phone when in any area with a potentially explosive atmosphere and obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Users are advised to switch off the phone while at a refueling point (service station). Users are reminded of the need to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.

Areas with a potentially explosive atmosphere are often but not always clearly marked. They include below deck on boats, chemical transfer or storage facilities, vehicles using liquefied petroleum gas (such as propane or butane), areas where the air contains chemicals or particles, such as grain, dust or metal powders, and any other area where you would normally be advised to turn off your vehicle engine.

## **Emergency Calls**

This phone, like any wireless phone, operates using radio signals, wireless and landline networks as well as user-programmed functions, which cannot guarantee connection in all conditions. Therefore, you should never rely solely on any wireless phone for essential communications (medical emergencies, for example).

Remember, to make or receive any calls the phone must be switched on and in a service area with adequate signal strength. Emergency calls may not be possible on all wireless phone networks or when certain network services and/or phone features are in use. Check with local service providers.

To make an emergency call, proceed as follows.

1. If the phone is not on, switch it on.
2. Key in the emergency number for your present location. Emergency numbers vary by location.
3. Press TALK.

If certain features are in use (call barring, for example), you may first need to deactivate those features before you can make an emergency call. Consult this document and your local cellular service provider.

When making an emergency call, remember to give all the necessary information as accurately as possible. Remember that your phone may be the only means of communication at the scene of an accident; do not cut off the call until given permission to do so.

## **Other Important Safety Information**

- . Only qualified personnel should service the phone or install the phone in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty applicable to the device.
- . Check regularly that all wireless phone equipment in your vehicle is mounted and operating properly.
- . Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the phone, its parts or accessories.
- . For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If wireless equipment is improperly installed and the air bag inflates, serious injury could result.

- . Switch off your phone before boarding an aircraft. The use of wireless phones in aircraft may be dangerous to the operation of the aircraft, and is illegal.
- . Failure to observe these instructions may lead to the suspension or denial of telephone services to the offender, or legal action, or both.

### **Care and Maintenance**

Your phone is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you fulfill any warranty obligations and allow you to enjoy this product for many years.

- . Keep the phone and all its parts and accessories out of the reach of small children's.
- . Keep the phone dry. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.
- . Do not touch the phone with a wet hand while it is charging. Doing so may cause an electric shock to you or damage to the phone.
- . Do not use or store the phone in dusty, dirty areas, as its moving parts may be damaged.
- . Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- . Do not store the phone in cold areas. When the phone warms up to its normal operating temperature, moisture can form inside the phone, which may damage the phone's electronic circuit boards.
- . Do not drop, knock or shake the phone. Rough handling can break internal circuit boards.
- . Do not use harsh chemicals, cleaning solvents or strong detergents to clean the phone. Wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.
- . Do not paint it. Paint can clog the device's moving parts and prevent proper operation.
- . Do not put the phone in or on heating devices, such as a microwave oven, a stove or a radiator. The phone may explode when overheated.

- . Use only the supplied or an approved replacement antenna. Unauthorized antennas or modified accessories may damage the phone and violate regulations governing radio devices.
  
- . If the phone, battery, charger or any accessory is not working properly, take it to your nearest qualified service facility. The personnel there will assist you, and if necessary, arrange for service.

## **Acknowledging Special Precautions and the FCC and Industry Canada Notice**

### **Cautions**

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

### **FCC Compliance Information**

This device complies with Part 15 of 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.

### **Information to User**

This equipment 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 radiate 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.



## APPENDIX

### Appendix A: CERTIFICATION INFORMATION (SAR)

THIS MODEL PHONE MEETS THE GOVERNMENT'S REQUIREMENTS FOR EXPOSURE TO RADIO WAVES.

Your wireless phone is a radio transmitter and receiver. It 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. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on safety standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate(SAR). The SAR limit set by the FCC is 1.6 W/kg. SAR Tests are conducted using standard operating positions accepted by the FCC with the phone 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 phone while operating can be well below the maximum value. This is because the phone 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. Before a new model phone is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government adopted requirement for safe exposure. The tests are performed in positions and locations(e.g., at the ear and worn on the body) as required by the FCC for each model.

The highest SAR values for SCH-i730 as reported to the FCC are Head: 1.15W/Kg, Body-worn: 0.740W/Kg (CDMA Mode), and Head: 1.31 W/Kg, Body-worn: 0.586 W/Kg (PCS Mode).

Body-worn operations are restricted to Samsungsupplied, approved or none Samsung designated accessories that have no metal and must provide at least 1.5cm separation between the device, including its antenna whether extended or retracted, and the user's body. None compliance to the above restrictions may violate FCC RF exposure guidelines

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model phone 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 A3LSCHI730.

In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kilogram(W/kg) averaged over one gram of tissue. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurements.

## **Appendix B: GUIDE TO SAFE AND RESPONSIBLE WIRELESS PHONE USE**

Cellular Telecommunications & Internet Association

“ Safety is the most important call you will ever make.”

A Guide to Safe and Responsible Wireless Phone Use

TENS OF MILLIONS OF PEOPLE IN THE U.S. TODAY TAKE ADVANTAGE OF THE UNIQUE COMBINATION OF CONVENIENCE, SAFETY AND VALUE DELIVERED BY THE WIRELESS TELEPHONE. QUITE SIMPLY, THE WIRELESS PHONE GIVES PEOPLE THE POWERFUL ABILITY TO COMMUNICATE BY VOICE-ALMOST ANYWHERE, ANYTIME-WITH THE BOSS, WITH A CLIENT, WITH THE KIDS, WITH EMERGENCY PERSONNEL OR EVEN WITH THE POLICE. EACH YEAR, AMERICANS MAKE BILLIONS OF CALLS FROM THEIR WIRELESS PHONES, AND THE NUMBERS ARE RAPIDLY GROWING.

But an important responsibility accompanies those benefits, one that every wireless phone user must uphold. When driving a car, driving is your first responsibility. A wireless phone can be an invaluable tool, but good judgment must be exercised at all times while driving a motor vehicle-whether on the phone or not.

The basic lessons are ones we all learned as teenagers. Driving requires alertness, caution and courtesy. It requires a heavy dose of basic common sense-keep your head up, keep your eyes on the road, check your mirrors frequently and watch out for other drivers. It requires obeying all traffic signs and signals and staying within the speed limit. It means using seatbelts and requiring other passengers to do the same. But with wireless phone use, driving safely means a little more. This brochure is a call to wireless phone users everywhere to make safety their first priority when behind the wheel of a car. Wireless telecommunications is keeping us in touch, simplifying our lives, protecting us in emergencies and providing opportunities to help others in need. When it comes to the use of wireless phones, safety is your most important call.

Wireless Phone "Safety Tips" Below are safety tips to follow while driving and using a wireless phone which should be easy to remember.

1. Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.

2. When available, use a hands free device. A number of hands free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
3. Position your wireless phone within easy reach. Make sure you place your wireless phone within easy reach and where you can grab it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voice mail answer it for you.
4. Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.
5. Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a "to do" list while driving a car, you are not watching where you are going. It's common sense. Don't get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.
6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light or otherwise stationary. But if you need to dial while driving, follow this simple tip-dial only a few numbers, check the road and your mirrors, then continue.
7. Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix-they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.
8. Use your wireless phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations with your phone at your side, help is only three numbers away. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!

9. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a "Good Samaritan" in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.
10. Call roadside assistance or a special wireless nonemergency assistance number when necessary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you still can use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

Careless, distracted individuals and people driving irresponsibly represent a hazard to everyone on the road.

Since 1984, the Cellular Telecommunications Industry Association and the wireless industry have conducted educational outreach to inform wireless phone users of their responsibilities as safe drivers and good citizens. As we approach a new century, more and more of us will take advantage of the benefits of wireless telephones. And, as we take to the roads, we all have a responsibility to drive safely.

" The wireless industry reminds you to use your phone safely when driving."

Cellular Telecommunications & Internet Association

For more information, please call 1-888-901-SAFE.

For updates: <http://www.wowcom.com/consumer/issues/driving/articles.cfm?ID=85>

## **Appendix C: CONSUMER UPDATE ON WIRELESS PHONES**

U.S. Food and Drug Administration

### 1. What kinds of phones are the subject of this update?

The term wireless phone refers here to hand-held wireless phones with built-in antennas, often called cell, mobile, or PCS phones. These types of wireless phones can expose the user to measurable radiofrequency energy (RF) because of the short distance between the phone and the user's head. These RF exposures are limited by Federal Communications Commission safety guidelines that were developed with the advice of FDA and other federal health and safety agencies. When the phone is located at greater distances from the user, the exposure to RF is drastically lower because a person's RF exposure decreases rapidly with increasing distance from the source. The so-called "cordless phones," which have a base unit connected to the telephone wiring in a house, typically operate at far lower power levels, and thus produce RF exposures well within the FCC's compliance limits.

### 2. Do wireless phones pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that wireless phones are absolutely safe. Wireless phones emit low levels of radiofrequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the stand-by mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

### 3. What is FDA's role concerning the safety of wireless phones?

Under the law, FDA does not review the safety of radiation-emitting consumer products such as wireless phones before they can be sold, as it does with new drugs or medical devices. However, the agency has authority to take action if wireless phones are shown to emit radiofrequency energy (RF) at a level that is hazardous to the user. In such a case, FDA could require the manufacturers of wireless phones to notify users of the health hazard and to repair, replace or recall the phones so that the hazard no longer exists.

Although the existing scientific data do not justify FDA regulatory actions, FDA has urged the wireless phone industry to take a number of steps, including the following:

Support needed research into possible biological effects of RF of the type emitted by wireless phones; Design wireless phones in a way that minimizes any RF exposure to the user that is not necessary for device function; and Cooperate in providing users of wireless phones with the best possible information on possible effects of wireless phone use on human health

FDA belongs to an interagency working group of the federal agencies that have responsibility for different aspects of RF safety to ensure coordinated efforts at the federal level. The following agencies belong to this working group:

National Institute for Occupational Safety and Health  
Environmental Protection Agency  
Federal Communications Commission  
Occupational Safety and Health Administration  
National Telecommunications and Information Administration

The National Institutes of Health participates in some interagency working group activities, as well.

FDA shares regulatory responsibilities for wireless phones with the Federal Communications Commission (FCC). All phones that are sold in the United States must comply with FCC safety guidelines that limit RF exposure. FCC relies on FDA and other health agencies for safety questions about wireless phones.

FCC also regulates the base stations that the wireless phone networks rely upon. While these base stations operate at higher power than do the wireless phones themselves, the RF exposures that people get from these base stations are typically thousands of times lower than those they can get from wireless phones. Base stations are thus not the primary subject of the safety questions discussed in this document.

4. What is FDA doing to find out more about the possible health effects of wireless phone RF?

FDA is working with the U.S. National Toxicology Program and with groups of investigators around the world to ensure that high priority animal studies are conducted to address important questions about the effects of exposure to radiofrequency energy (RF).

FDA has been a leading participant in the World Health Organization International Electromagnetic Fields (EMF) Project since its inception in 1996. An influential result of this work has been the development of a detailed agenda of research needs that has driven the establishment of new research programs around the world. The Project has also helped develop a series of

public information documents on EMF issues.

FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research and Development Agreement (CRADA) to do research on wireless phone safety. FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts to independent investigators. The initial research will include both laboratory studies and studies of wireless phone users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

5. What steps can I take to reduce my exposure to radiofrequency energy from my wireless phone?

If there is a risk from these products, and at this point we do not know that there is, it is probably very small. But if you are concerned about avoiding even potential risks, you can take a few simple steps to minimize your exposure to radiofrequency energy (RF). Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless phone will reduce RF exposure.

If you must conduct extended conversations by wireless phone every day, you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless phone away from your body or use a wireless phone connected to a remote antenna.

Again, the scientific data do not demonstrate that wireless phones are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless phone use.

6. What about children using wireless phones?

The scientific evidence does not show a danger to users of wireless phones, including children and teenagers. If you want to take steps to lower exposure to radiofrequency energy (RF), the measures described above would apply to children and teenagers using wireless phones. Reducing the time of wireless phone use and increasing the distance between the user and the RF source will reduce RF exposure.

Some groups sponsored by other national governments have advised that children be discouraged from using wireless phones at all. For example, the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000. They noted that no evidence exists that using a wireless phone causes brain tumors or other ill effects. Their recommendation to limit

wireless phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

7. Do hands-free kits for wireless phones reduce risks from exposure to RF emissions?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that hands-free kits reduce risks. Hands-free kits can be used with wireless phones for convenience and comfort. These systems reduce the absorption of RF energy in the head because the phone, which is the source of the RF emissions, will not be placed against the head. On the other hand, if the phone is mounted against the waist or other part of the body during use, then that part of the body will absorb more RF energy. Wireless phones marketed in the U.S. are required to meet safety requirements regardless of whether they are used against the head or against the body. Either configuration should result in compliance with the safety limit.

8. Do wireless phone accessories that claim to shield the head from RF radiation work?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that accessories that claim to shield the head from those emissions reduce risks. Some products that claim to shield the user from RF absorption use special phone cases, while others involve nothing more than a metallic accessory attached to the phone. Studies have shown that these products generally do not work as advertised. Unlike "hand-free" kits, these so-called "shields" may interfere with proper operation of the phone. The phone may be forced to boost its power to compensate, leading to an increase in RF absorption. In February 2002, the Federal Trade Commission (FTC) charged two companies that sold devices that claimed to protect wireless phone users from radiation with making false and unsubstantiated claims. According to FTC, these defendants lacked a reasonable basis to substantiate their claim.

9. What about wireless phone interference with medical equipment?

Radiofrequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, FDA helped develop a detailed test method to measure electromagnetic interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless telephones.

This test method is now part of a standard sponsored by the Association for the Advancement of Medical Instrumentation (AAMI). The final draft, a joint effort by FDA, medical device manufacturers, and many other groups, was completed in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless phone EMI.



FDA has tested hearing aids for interference from handheld wireless phones and helped develop a voluntary standard sponsored by the Institute of Electrical and Electronic Engineers (IEEE). This standard specifies test methods and performance requirements for hearing aids and wireless phones so that no interference occurs when a person uses a compatible phone and a compatible hearing aid at the same time. This standard was approved by the IEEE in 2000.

FDA continues to monitor the use of wireless phones for possible interactions with other medical devices. Should harmful interference be found to occur, FDA will conduct testing to assess the interference and work to resolve the problem.

10. What are the results of the research done already?

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of radiofrequency energy (RF) exposures characteristic of wireless phones have yielded conflicting results that often cannot be repeated in other laboratories. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. However, many of the studies that showed increased tumor development used animals that had been genetically engineered or treated with cancer-causing chemicals so as to be pre-disposed to develop cancer in the absence of RF exposure. Other studies exposed the animals to RF for up to 22 hours per day. These conditions are not similar to the conditions under which people use wireless phones, so we don't know with certainty what the results of such studies mean for human health.

Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless phones and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects from wireless phone RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of phone use in these studies was around three years.

11. What research is needed to decide whether RF exposure from wireless phones poses a health risk?

A combination of laboratory studies and epidemiological studies of people actually using wireless phones would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human

populations, but 10 or more years follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop - if they do - may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

12. Which other federal agencies have responsibilities related to potential RF health effects?

Additional information on the safety of RF exposures from various sources can be obtained from the following organizations.

FCC RF Safety Program:  
<http://www.fcc.gov/oet/rfsafety/>

Environmental Protection Agency (EPA):  
<http://www.epa.gov/radiation/>

Occupational Safety and Health Administration's (OSHA):  
<http://www.osha-slc.gov>

[gov/SLTC/radiofrequencyradiation/index.html](http://www.osha-slc.gov/SLTC/radiofrequencyradiation/index.html)  
National Institute for Occupational Safety and Health (NIOSH):  
<http://www.cdc.gov/niosh/emfpg.html>

World Health Organization (WHO):  
<http://www.who.int/peh-emf/>

International Commission on Non-Ionizing Radiation Protection:  
<http://www.icnirp.de>

National Radiation Protection Board (UK):  
<http://www.nrpb.org.uk>

Microsoft®, Windows® and ActiveSync® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

\*\*\*

Licensed by Qualcomm incorporated under one or more of the following patents.

U.S Patent No. 4,901,307	5,056,109	5,099,204
5,101,501	5,103,459	5,107,225
5,109,390		