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For Your Safety

For your safety, please refer to the guideline prior to using the phone. Failure to comply with the guideline may cause malfunctions or hazardous to user.

Road Safety Comes First

Please be careful not to use the phone while driving. In case you need to use the phone, please pull over your vehicle first. In some countries, it is illegal to use a wireless phone while driving. Also, it is recommended to avoid using a mobile phone while refueling at a gas station

Switch off in Aircraft

Mobile phones may cause interference to the aircrafts. Please make sure the phone is switched off while in the airplanes.

Respect Special Regulations

Please follow special regulations in any areas where it is suggested. It is recommended to switch off your phone whenever it is illegal to use, or when it may cause interferences, such as hospitals.

Interference

All mobile phones may be subject to radio interference, which may affect the performance during calling and receiving.

Qualified Service

It is highly recommended to have a repair service by qualified service personnel. Use only the approved accessories and batteries.

Use Properly

Use only in the normal position (hold to the ear). Avoid unnecessary contact with the antenna when the phone is switched on.

Emergency Calls

When making an emergency calls, please ensure that the phone is switched on and is in service. Enter the emergency number (Official Emergency Number or another official emergency number) and press the [Dial key]. Inform your current location. Do not end the call until given permission to do so. You may end the call by pressing the [End Key].

Unpacking

Thank you for purchasing this product. Please check the product contents to see if you have all the available items as below.

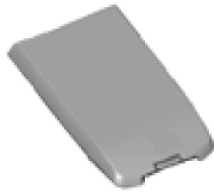
*Images may vary from the actual product in your package.



Handset



Ear/Microphone



Battery



**PC Sync Manager CD &
USB Data Cable**



Manual



Traveler's Charger

YOUR PHONE

Phone Layout



Key Definition



Soft Keys

Performs functions identified by left/right display prompt.

Right button: Cancels numbers & letters when you make a call or input letter for phonebook, message or WAP.



Navigation Keys

Scrolls through the menu options.

Moves the cursor up and down in the normal editing mode.

Moves the cursor to left and right in all editing mode.



Dial Key

Dials or answers a call.

Recalls the last 10 numbers in the idle mode.



Power on/off Key & End Key

Ends a call.

Switches the phone on and off. (press this key and hold)

Cancels your input in the menu facility and returns to the idle mode.



Alphanumeric Keys

You may enter numbers, letters and special characters.

It changes camera settings in camera mode.



Special Function Keys

Enters Special Characters / Performs Various Functions



Side Key(On the right side of your phone)

Adjusts the key tone volume in idle mode.

Flashes light on or off in idle mode by pressing and hold the key.

Adjusts the earpiece volume during a call by pressing briefly.

Starts “voice recording” during a call by pressing and hold the side key (up).

Stops “voice recording” by pressing and holding down the side key.

Adjusts the Audio Player volume.

Moves through months in calendar mode.



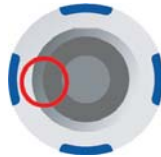
Camera Side Hot Key

You may start the camera mode and work as a shutter.

MP3 Hot Key

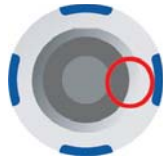
Accesses to Audio Player in idle mode.

Shortcuts



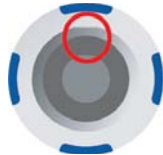
In an idle mode, you can access to “Message” menu.

You may dedicate the left navigation key for favorite menu in ‘Dedicated key’ setting menu (see 4.1.7)



In an idle mode, it accesses to “Fun” menu.

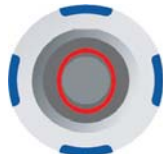
You can dedicate the left navigation key to your favorite menu in ‘Dedicated key’ setting menu (see 4.1.7)



In an idle mode, it accesses to “Shortcuts” menu.



In an idle mode, accesses to “Tone Setup” menu. You can dedicate the left navigation key to your favorite menu in “Dedicated key” setting menu. (See 4.1.7)



WAP Key

You may access to WAP menu (press shortly), and launch WAP browser (press and hold)



To activate the “Keypad Lock” option, press this key and hold. Select time from the Auto Keypad Lock menu.



To activate the “Silent Mode” option, press this key and hold.

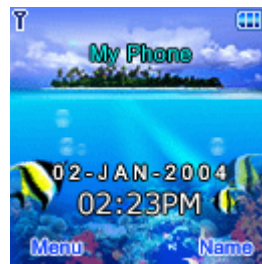


Number 1 key is dedicated for ***86**

Number 9 key is dedicated for “emergencies” such as 911, 112 y 060

Display Layout

The idle screen display includes three areas.

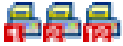


Status Indicator Icons

Text &
Graphic Area
Soft Keys

Icons

Icon	Description
	Signal Strength: Shows the strength of the receiving signal. The greater the number of bars, the better the signal strength.
	GPRS: Shows the strength of the receiving GPRS signal. The greater the number of bars, the better the signal strength.
	GPRS Connect: Appears when you connect to GPRS.
	Roaming: Appears when the phone is roaming.
	L1, L2: Some SIM cards support two phone numbers and you can switch the number (line) with this feature. The phone will display this icon when you set a line.
	Missed Calls: Appears when there is missed call(s).
	New Message: Appears when a new incoming text message is arrived and unread.
	MMS Unread: Appears when a new MMS message is arrived and unread.
	MMS Busy: Appears when MMS is busy.

	Voice Message: Appears when an incoming voice message is arrived.
	WAP Mail: Appears when WAP mail is arrived.
	Fax: Appears when the fax mode is active.
	Call Barring On: Appears when the call barring mode is active.
	Call Forward: Appears when the call forward mode is active.
	Mute: Appears when the phone is in mute mode while you are in a voice call.
	Record: Appears when you are recording the conversation while you are in a voice call.
	Ring: Appears when the Ring mode is active.
	Vibrate and Ring: Appears when the Vibrate and Ring mode is active.
	Vibrator On: Appears when the Vibration mode is active.
	Vibrate then Ring: Appears when the Vibrate then Ring mode is active.
	Silent Mode: Appears when the silent mode (manner mode) is active.
	Alarm On: Appears when you set the alarm.
	Stopwatch: Appears when you set the stopwatch.



Lock: Appears when you set the phone lock.



Battery Strength: Shows the level of your battery.

The more bars you see, the more power you have left.

Backlight

The display is illuminated by a backlight. When you press any key, the backlight lights up.

It dims by two levels of illumination, if no key is pressed within a given period, depending on the **LCD Backlight** option under the **Light** sub menu in the **Sound & Light** menu.

(see 4.Settings/1.Phone Setup/1.Sound & Light)

To specify the length of time for which the backlight is active, set the **LCD Backlight** option.

Phone Features

Your phone is a GPRS mobile phone using DCS 1900 RF. For more information of your phone features, please refer to the below table.

H/W Features

Feature	Description	Remarks
Dimension	40 x 77 x 22.7mm	
Main LCD	1.8" 65K TFT LCD (128 x 160)	
Battery	650mAh (Standard)	
Antenna	Internal Antenna	
Camera	CMOS 330K Pixel VGA Camera	
Flash Light	Yes	
Vibrator	Built-in vibrator	
Speaker	2 in 1 Speaker	
Data	USB Connection	
SIM	3V	

S/W Features

Feature	Description	Remarks
RF	DCS1900	
GSM	GSM Phase 2 & 2+	
GPRS	Class 8	
WAP	WAP Version 2.0	
	WAP Push	SI (Service Indicator) SL (Service Loading)
	Wireless contents download	
	Picture format	JPEG, WBMP, GIF87a, BMP
Java	CLDC1.0 / MIDP2.0	
	Embedded Java Games	
	Application Download	Max. 200KB per Game (15 Applications downloadable, vary from memory of applications)
	JAD/JAR Downloading Protocol	WSP
	Java Connectivity Protocol	HTTP

MMS	Multimedia Message Sending - Picture, Sound & Text - E-Mail & Multi Sending - Page Effect	Max 70KB Max 20 x 3 (To, CC, BCC)
	Multimedia Message Receiving - Saving Message / Each Object	70KB
	Options - SMIL - Validity Period - Report – Read / Delivery - Auto Download	
	Picture format	JPEG, WBMP, GIF87a, BMP
	Audio format	AMR, WAV, Midi, iMelody, MP3
EMS	Sound Object - 10 Pre-defined sound - Support of user-defined sound.	
	Image Object	

	- 20 User-defined small pictures	Embedded, 16 x 16 pixel
	- 20 User-defined large pictures	Embedded, 32 x 32 pixel
	- Downloaded pictures	
	Animation Object - 15 Pre-defined animations	Embedded, 16 x 16 pixels / frames
SMS	Message Concatenation - Maximum 4 messages	
	Editing/Saving Text Template	40 bytes max.
	SMS multi-sending	Predefined List: up to 10 numbers Phonebook Numbers: no limit
	Message Backup	Message editing will be saved upon incoming call
Camera	Image Size Variation	640x480, 320x240, 160x120, 80x60

	Zoom (3 steps)	x1 ~ x4 zoom Captures x2 capture size: 320x240, 160x120 and 80x60 x4 capture size: 160x120 and 80x60
	Self Timer	
	Quality	Fine, High, Normal, Low
	Shutter Sound	
	Multi Shot	3 cuts, 5 cuts 640x480, 320x240, 160x120 and 80x60
	Multi View	
Wallpaper	BMP, GIF, JPG	10 Wallpapers, Analog/Digital Watch BMP,GIF Size: 128x160 JPG Size: 640x480
Sound	64 Poly Stereo	MIDI, iMelody, WAV, MP3
	Selectable Key Tone	
MP3	MP3 Decoder	Phone Storage: 32MB

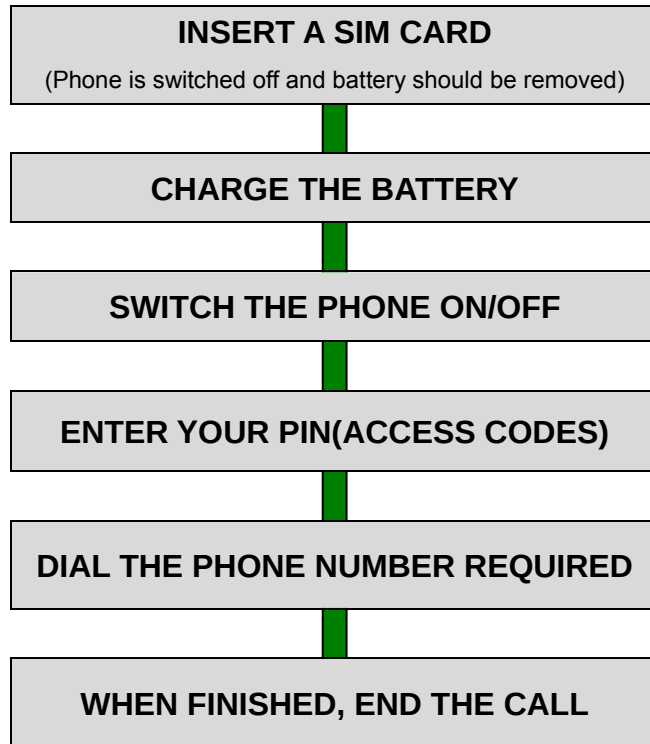
Sound Recorder	Voice Record	Formats: AMR, WAV
Fun	Java Games and Games	
Security	PIN / Phone Lock (Privacy/Phone Lock/PIN Lock)	
Phone-book	Multi Segmented Location Phonebook	Memorize 250 Phonebook Entries
	Caller Group Ring-tone	
Call Record	Last 10 Numbers Redial (Dialed/Received/Missed)	
Tools	Calendar, To-Do List, Alarm, World Clock	
	Calculator, Unit Converter, Currency Converter, Stopwatch	
Sound & Light	General, Meeting, Outdoor, Indoor, Headset	Customized Settings: Tone, Volume, Alert Type, Ring Type, Answer Mode, Backlight
Text Input	Intelligent text input	T9

Shortcuts	Variable Shortcuts	Favorite menu setting
PC Sync Mode & Storage Mode	PC Sync Mode (PC Sync Manager)	Phone Storage: 32MB
	Storage Mode (USB)	

Getting Started

Your First Call

Please refer to the following diagram that describes the main steps to make a first call.



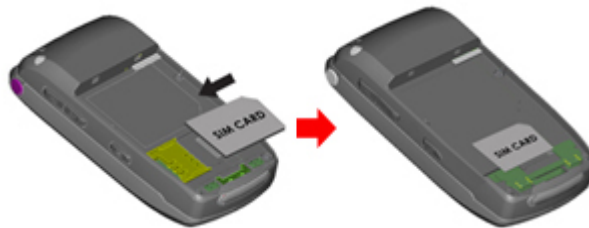
Installing the SIM card

When you subscribe to a cellular network, you will need a plug-in SIM card loaded with your subscription details (PIN, and optional services available).

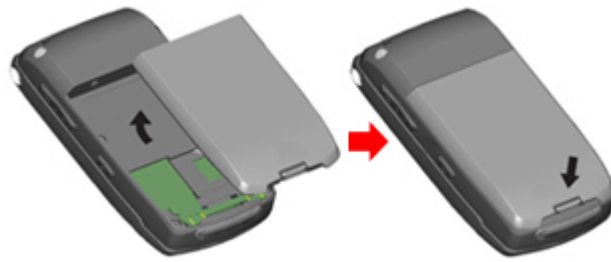
1. If necessary, switch off the phone by holding down the End/Power key until the Power off message appears.
2. Remove the battery by following the steps below:
 - ① Press the locking hook and hold the locking catch above the battery on the back of the phone.
 - ② Lift the battery, as shown below.



3. Put the SIM card into the phone. Ensure that you insert the SIM card properly.



4. Place the battery on the phone. Align the bottom of the battery with the corresponding slots in the phone and press down and place the battery inside the phone.



Charging the Battery

Your phone package comes with a Li-ion battery, and a traveler's charger. You can also use USB data cable to charge your phone, however, the charging time may be different from traveler's charger.

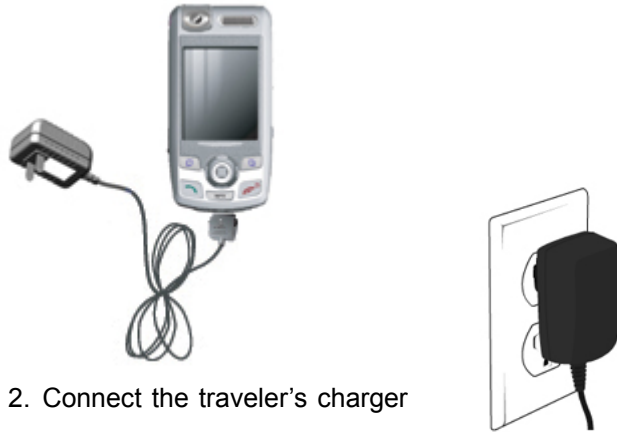
Use only approved batteries and chargers for your safety.

You may use the phone while charging the battery.

Note:

It is highly recommended to fully charge the battery prior to using your phone for the first time

1. After putting the battery to the phone properly, insert the charging plug into the charging port at the bottom of the phone.



2. Connect the traveler's charger to a standard AC outlet.
3. When charging is completed, disconnect the traveler's charger from the power outlet and from the phone by pulling the charging plug.

Low Battery Indicator

When the battery level is low, the phone will make a warning sound and displays a warning message on the screen: When the battery becomes too weak to operate, it switches off automatically.

Note:

When the battery is discharged completely, and not used for a while, the phone will not display the charging image for about 10 minutes while charging. After 10 minutes of charging, the phone will display the charging image.

Switching the Phone On/Off

1. Hold down the power on/off key more than one second to switch on.
2. If the phone asks for a PIN, key-in the PIN.

The phone searches for your network and when it finds it, it will display the idle screen. The external display shows the signal strength, battery strength and current time and date.

Note:

To change the language, use the **Language** menu option in Phone Setup sub menu 4. Settings menu

Access Codes

There are access codes for your SIM card. These codes help

you to protect the phone against unauthorized use.

When requested for any of the code explained below, key-in the appropriate code (displayed as asterisks) and press the **OK** key.

PIN

The **P**ersonal **I**dentification **N**umber or **PIN** (4-8digits) protects your SIM card against unauthorized use. The PIN comes with the SIM card; see the SIM card instruction provided with your card.

If you enter an incorrect PIN three times in succession, the code will be disabled and cannot be used until you re-enable it by entering the PUK.

PUK

The 8-digit PUK (**P**ersonal **U**nblocking **K**ey) is required to change a disabled PIN. The PUK may be supplied with the SIM card. If not, or in case you have lost it, please contact your service provider.

To re-enable your PIN, proceed as follows.

1. Key-in the PUK and press the **OK** key.
2. Enter a new PIN of your choice and press the **OK**

key.

3. When the **Confirm New PIN** message is displayed, key-in the same code again and press the **OK** key.

If you enter an incorrect PUK ten times in succession, the SIM card becomes invalid. Please contact your service provider for a new card.

Pin Password

The 4 ~ 8 digits of password is required when you use the Call barring function. You can obtain the password from your service provider when you subscribe to this function.

General Functions

Making a Call

To make a call on your phone, check the phone if the screen is idle and the phone indicates signal. Then key-in the area code and phone number using the numeric keys and press the Dial key.

If you set the **Connect tone** to **ON**, you will hear the connecting tone when the call is answered by the caller. For details, please refer to 4. Settings>1.Phone Setup>1.**Sound & Light**.

Making International Calls

Press the * key twice to display “+” character.

Input the country code, area code (without the leading zero), and the phone number. Then press the Dial key. The ‘+’ informs the network that it is the international call.

Correcting the Number

Area	Displays
The last digit displayed	Press the [Clear] soft key (right).
Any other digit in the number	Press the Right & Left navigation key until the cursor is exactly to the right of the digit to erase.

	Press the [Clear] soft key (right).
The whole display	Hold down the [Clear] soft key (right) for more than two seconds.

Search number under Phonebook

When you make a call, press the [Name] soft key (right) from the idle screen. You can choose a phonebook name by pressing the up & down navigation keys. It will display a phone number under the name. Press the Dial key to make a call. If you want to view the details of the phonebook entry, select the [Option] soft key and select "View." Press the Dial key to make a call.

If there is no phone number in your phonebook, it will display [Empty] pop-up.

Making a Call from Phonebook

You can store the names and phone numbers in the SIM card and phone memory called [Phonebook]. If you want to find a number by phonebook name, press the [Menu] soft key (left), and then choose "Quick Search" menu or "Search Entry" menu. By inputting full name or a first letter of the name, it will display the matching entry. If you have found a name you want to make a call, choose the name by moving the up & down navigation

keys. Press the Dial key to make a call. However, if there is more than one entry in the selected name, it will display a list of numbers. Then you may simply select one entry and press the Dial key to make a call.

You can also select “Search Entry” menu under Phonebook menu, if you want to search with other than the first letters. If you want to see all lists of phonebook, just choose the [Option] soft key (left) without inputting any letter and select “Search.” Select one entry and press the Dial key to make a call.

Making a Call with Speed Dial

To use Speed Dial feature, press and hold the speed dial number key, the phone will dial to the associated phone number. (See 1.7 Speed Dial, for detail).

Making a Call from Message

You can make a call from message by pressing the [Ok] soft key (left) and [Option] soft key (left) and select “Use Number” and press the Dial key when the number you want to call back is highlighted, or select “Dial” menu in the “Use Number” list.

Redialing the Last Number

The phone stores the last 10 numbers dialed. To recall any of these numbers, proceed as follows.

1. If you have typed any characters on the display, clear the display by pressing the [Clear] soft key, or press the End key to go back to idle screen.
2. Press the Dial key to display a list of the last dialed numbers.
3. Use the navigation keys Up & Down to scroll through the numbers until the required number is highlighted.
4. In order to Dial the number highlighted, press the Dial key

Ending a Call

When you have finished your call, press the End key for a short time.

Answering a Call

When you answer a call, the phone rings or vibrates according to the Sound & Light settings with the incoming call animation. When the caller is identified, the phone will display the caller's phone number and name, if stored in the phonebook. If the caller cannot be identified, only the caller's phone number will be

displayed.

1. Press the Send key, if the **Send Key** answer option is set to **ON**. Press any key to answer a call except for the power on/off key, if the **Any Key answer** option is set to **On**. Slide up the phone to answer a call, if the **Slider Answer** option is set to on.
2. To reject an incoming call, press the [Reject] soft key.
3. End the call by pressing the End key.

Emergency Call

Ensure that the phone is switched on and in service.

Enter the emergency number (Official Emergency Number or second official emergency number) and press the Dial key. Provide your location. Do not end the call until given permission to do so. End the call by pressing the End key.

Note :

When “**Enter Lock Code**” or “**Enter PIN**” messages are prompted on the display during power-on, some network may not allow emergency call. However, some network may request to insert a SIM card and enter **Official Emergency Number**.

Entering a “Pause or Wait”

You may enter a pause (“P”) character into a dial string by pressing the left special function key (*) three times. Press the left special function key (*) four times to enter a wait (“W”) character into a dial string.

Adjusting Earpiece Volume

During calling, you can adjust the earpiece volume by pressing up or down side keys on the right side of this phone.

If you want to change the keypad tone, press the side volume keys to up or down in an idle mode

Using the Ear/Microphone

If you insert the ear/microphone jack to the ear/microphone hole in the left side of your phone, you can use it in the same way as your phone’s earpiece and microphone.

You can answer or end a call by pressing the hook button on the ear/microphone.

To answer another call while you are on the phone, you can answer the waiting call by pressing the hook button on the ear/microphone.

How to Use the Phone memory

Using the USB data cable

When you plug in the USB data cable to the powered off phone, the phone will be in Storage Mode displaying USB connection animation. When you plug in the USB data cable while the phone is powered on, the phone will display USB Configuration menu (Storage Mode/PC Sync Mode). Select



Storage Mode for USB connection mode; otherwise select PC Sync Mode for using the phone and charging it.

If you want to explore and edit the phone memory, select Storage Mode. Open the Windows Explore of your PC and open the Portable Disk Driver; the driver can be D:\, E:\ F:\ and so forth depending on your PC setup.

You can use your phone as a portable disk; saving Music files and Image Files. Press the MP3 key to play the Audio Player; you can listen to the MP3, MIDI, WAV music files.

Note:

It is recommended that your mini SC card should have at least 100KB free space for Audio File play list. If the phone is full, the phone may not able to play a new music file.

If you select PC Sync Mode, the phone will remain powered on and in the idle status for your usual phone usage.

Note:

The USB data cable from your package is used for both data transmission and power charging cable, however, the charging level will differ from the traveler's charger.

Menu Navigation

Selecting Functions and Options

Your phone offers a set of functions that allow you to customize your phone. These functions are arranged in menus and sub-menus, accessible with the two soft keys. Each menu and sub-menu allows you to view and alter the settings of a particular function.

Using Soft Keys

The roles of the **soft keys** vary according to the current context; the label on the bottom line of the display just above each key indicates its current role.

In an Idle screen, by pressing the left soft key (labeled as “Menu”), you can access to menus; by pressing the right soft key (labeled as “Name”), you can view the phonebook list.



Using Navigation Keys

- Left navigation key: You may go to upper depth menu from the current depth.
- Right navigation key: You may go to sub depth menu from the current depth.

Security

There are six types of security setting categories, and you can optimize security mode by choosing sub menus in “Security Setup” in “Settings” menu. These security settings will help you to keep privacy and to prevent other people from using the phone without your permission.

Please see details of security features. For basic key protection, please see the following description of the keypad lock function.

Keypad Lock

You have an option to lock the keypad of your phone to protect from mistakenly pressed keys which may cause malfunctions.

Press the * key to activate the keypad lock, and select the key locking time from 5 seconds to 5 minutes. When the Keypad Lock feature is enabled, you must press the [unlock] soft key (right) and then press the Right soft key and # key in sequence, each time you need to release the keypad lock. You may not make a call or operate the phone if unlock code is not entered. However, answering a call and receiving message are available without entering the unlocking key sequence. (see Settings > Security Setup > Auto Keypad Lock.)

In-Call Options

Your phone provides a number of call control functions which is allowed to use during calling.

Putting a Call on Hold/Un-hold

You can put the current call on hold when the call is in active state if this service is supported on the network. To activate, press the **[Hold]** soft key.

To make the put on hold call reactivate, press the **[Un-hold]** soft key.

Making a Second Call

You can make a second call during calling. To do this, key-in the second phone number or fetch it up with **Phonebook** option and press the Dial key. The first call is automatically put on hold.

Making an International Second Call

Press the ***** key twice to display “+” character.

Key-in the country code, area code (without the leading zero), and the phone number or fetch it up with **Phonebook** option. Then press the Dial key. The first call will be automatically put

on hold.

The '+' tells the network that the call is international.

Answering a Second Incoming Call

You will be notified of an incoming call while you are in a call.

Call Waiting tone will sound in the earpiece, and the display will show that a second call is coming. This feature, known as Call Waiting, is only available if the network supports it.

You can answer the second incoming call by pressing the **[Accept]** soft key or the Dial key.

The first active call is automatically put on hold, and then the incoming call is active.

You can reject the incoming call during a call without answering it by pressing the **End key**.

Storing a Number

You can store phone numbers to the phonebook by using the **[Phonebook]** Menu even during you are in a call.

Mute a Call

You can mute your voice sound while you are on the phone.

Voice Recording a Call

You can record the conversation during a voice call.

Press and hold the side key (up) to start recording the call, and press and hold the side key (down).

Swapping Calls

Between Active Call and Held Call

You can swap calls while there are active held calls on conversation. To swap between the active call and the held call, press the **[SWAP]** soft key.

The current active call is placed on hold and the held call is reactivated.

Conference Call

You can make calls while there are active held calls on conversation by using [Conference Call] menu in [Call Menu]. [Conference Call] menu is appearing only when you accept the second call.

The current active call is placed on hold and the held call is reactivated.

If you want to quit conference call and do not want to hang up any call, you can choose [Split Call] Menu in [Call Menu]. [Split Call] menu appears only when you are on a conference call.

Note:

Some networks do not allow the user to change this setting.

Sending Message

You can send messages by using the [SMS] Menu in [Messages] even during you are calling.

Inter-working Phonebook

You can use [Phonebook] menu and sub menus even while you are calling.

TEXT INPUT

Text Input Tips

Text Input Options:

While you are in text editing mode, you will be in several modes.

When you see [Option] and [Clear] in the soft key, press left soft key for option: you can save the entry or change the Text Input Method. To erase a character, press the right soft key in front of a character you want to erase. You can move among the characters you typed in by pressing the 4 way navigation keys.

There can be more than two options depending on what contents you are editing.

When you see [Select] and [Back] soft key, press left soft key to select the highlighted selection or press navigation key to select from the choices. When you press [Back] soft key (right), you can go back to the previous mode, which might lead you to [Option] and [Clear] soft key display.

You can define the default Input Method of your phone and change input methods time to time.

To define your preferred input method, go to “Phone Setup” sub menu in “Settings” menu. Then select “Preferred Input Method.” Once you set the preferred input method, next time you edit in text input mode, the setting will be applied until you change to another.

If you want to change the text input method temporarily, in the text input mode, press [Option] soft key, and select “Input Method” from the option. In addition, you can change the text input method with the # key; the input methods will swap when you press the # key.

Text Input Methods

You can use several input mode – Spanish ABC / abc, T9 Spanish ABC / abc, English ABC / abc, T9 English ABC / abc, Numeric, and Symbol mode.

Spanish, T9 Spanish, English & T9 English (ABC, abc)

Press	To
Left Soft Key	[Option] Go to option menu screen, it will display several menus depending on the text-editing situation. Usually you will have option to save (done) and change Input method.
Right Soft Key	[Clear] Clear a character of the string entered on the edit screen or a character on the active word (the word remains active). To erase a character, press the right soft key in front of a character you want to erase. When you press and hold [Clear], the entire entry will be cleared. [Back] When you press [Back] soft key (right), you can go back to the previous mode.
Left or Right Navigation Key	Move the cursor to the left or right direction by a character on the edit screen. When you press and hold this key, it will scroll leftward or rightward.

Up or Down Navigation Key	Move the cursor 1 line up or down on the edit screen. When you press and hold this key, it will scroll upward or downward.	[T9 mode] When entering a word and highlighted, up and down navigation key to swap words in database.
	Go back to the idle screen.	
	Insert a blank space (Press shortly) – It means the previous word entry is accepted.	
	Stroke . :) :-)	
	Select Spanish/English characters & Arabic numerals. Switch the character until the desired character is highlighted by pressing the alphanumeric key from 2 to 9.	[T9 mode] Input a word by pressing the alphanumeric keys in order of spellings of the word you wish to type-in.
	Select Symbols.	
	Switch the input methods.	

Numeric mode

Press	To
Left Soft Key	[Option] Go to option menu screen, displaying several menus depending on the text-editing situation. Usually you will have option to save (done) and change Input method.
Right Soft Key	[Clear] Clear a character of the string entered on the edit screen or a character on the active word (the word remains active). To erase a character, press the right soft key in front of a character you want to erase. When you press and hold [Clear], the entire entry will be cleared. [Back] When you press [Back] soft key (right), you can go back to the previous mode.
Left or Right Navigation Key	Move the cursor to the left or right direction by a character on the edit screen. When you press and hold this key, it will scroll leftward or rightward.
Up or Down Navigation	Move the cursor 1 line up or down on the edit screen. When you press and hold this

Key	key, it will scroll upward or downward.
	Go back to the idle screen.
	Input numbers by pressing 0 ~ 9 keys shortly.
	Select Symbols.
	Switch the input methods.

Symbol mode

Press	To
Left Soft Key	[OK] Accept the symbol selected on the symbols screen, and then turns to the edit screen.
Right Soft Key	[Back] When you press [Back] soft key (right), you can go back to the previous mode.
Navigation Keys	Move the cursor to the direction by a symbol on the select symbol screen.
	Go back to the idle screen.
	Go to Select Symbols mode.
	Switch the input methods.

Using Phonebook

You can store phone numbers and its corresponding names in the memory of your SIM card. In addition, you can store up to 250 entries and categorize in 5 groups. The SIM card and phone memories, although physically separate, are used as if they were a single entity, called phonebook.

Storing a Phone Number with a Name and an Image

As soon as you start to enter a number, [Save] appears above the soft key (left) to allow you to store numbers in the phonebook.

1. Key-in the number to be stored. You can input the number up to 40 digits.

Note:

If you make a mistake while entering a number, correct it by using the [Clear] soft key (right). Press the [Clear] soft key to clear one letter/digit at a time. Press and hold the [Clear] soft key to clear the entire message or characters on the edit screen.

2. Select the storage from "To SIM" or "To Phone." You can also check how many you have saved and total entries

you can store in the storage.

3. Select a category to edit. To select the category, scroll to the category and press the **[Edit]** soft key (left). Ten categories are available:

- Name: Max. 30 English characters. Press [Edit] to input the characters.
- Number: Max. 40 digits. Enter digits by pressing alphanumeric keys.
- Home Number: Max. 40 digits. Enter digits by pressing alphanumeric keys.
- Company Name: Max. 30 English characters. Press [Edit] to input the characters.
- Email Address: Max. 60 English characters. Press [Edit] to input the characters.
- Office Number: Max. 40 digits. Enter digits by pressing alphanumeric keys.
- Fax Number: Max. 40 digits. Enter digits by pressing alphanumeric keys.
- Associate Picture: allows you to set an associate picture as a Photo Caller ID; the phone will display the selected image when you have an incoming call or when you make a call. Select by pressing the navigation key to the right or left. You can select

from pre-defined images or select from file manager.

- Associate Sound: Select by pressing the navigation key to the right or left.
- Caller Group: 5 groups (Friends, Family, VIP, Business and Others) or none. Select a caller group by moving the navigation key. If you choose no group, the number is saved and displayed "None."

Note:

When you edit the name, press the [Edit] soft key (left). When you are done with the editing, select the [Option] and then select "Done." This will only save the name.

When you edit the number, enter numbers by pressing alphanumeric keys. If you want to save the phonebook entry, press the [OK] soft key. If you need to correct a number, press the [Clear] soft key.

When you select categories like picture, sound, group or done with editing names, press the [Done] soft key(right) to save the entry.

Storing a Phone Number using the Phonebook Menu

1. Press the [Menu] soft key (left), and select the [Phonebook] menu.

2. Scroll to [Add New Entry] by pressing up or down the navigation key and press the **[OK]** soft key (left).
3. Select the storage from “To SIM” or “To Phone.” You can also check how many you saved in the storage and total entries you can store.

Note:

1. SIM: you can store a name and a number.
2. Phone: you can store up to ten categories per an entry.
(Support for up to 250 entries).

4. Select a category to edit. To select the category, scroll to the category and press the **[Edit]** soft key (left). Ten categories are available (see “Storing a Phone Number with a Name and an Image” for selecting category, edit and save the entries).

Searching the phonebook list

From Idle Screen

When the phone displays the idle screen, press the **[Name]** soft key (right). Then, the phone will display the Phonebook data on the screen sorted by name.

From Phonebook Menu

1. Quick Search (See detail in 1.1 Quick Search)
2. Search Entry (See detail in 1.2 Search Entry)

Menu Map

1. Phonebook

1.1 Quick Search

1.2 Search Entry

1.3 Add New Entry

1.3.1 To SIM

1.3.2 To Phone

1.4 Copy All

1.4.1 From SIM

1.4.2 From Phone

1.5 Delete All

1.5.1 From SIM

1.5.2 From Phone

1.5.3 One By One

1.6 Caller Group

1.7 Speed Dial

1.8 Special Number

1.8.1 Owner Number

1.8.2 Service Dial Number

1.8.3 SOS Number

1.9 Settings

1.9.1 Memory Status

1.9.2 Preferred Storage

1.9.3 Fields

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2.1.3 Draft

2.1.4 Write Message

2.1.5 Template

2.1.6 Message Settings

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2.2.2 Inbox

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2.2.6 Message Settings

2.3 Voice Mail

2.3.1 Voice Message Indicator

2.4 Broadcast Message

- 2.4.1 Receive Mode
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- 2.4.4 Channel Setting

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3.2 Dialed Calls

3.3 Received Calls

3.4 Delete Call Log

3.4.1 Missed Calls

3.4.2 Dialed Calls

3.4.3 Received Calls

3.5 Call Time

3.5.1 Last Call Time

3.5.2 Total Sent

3.5.3 Total Received

3.5.4 Reset All Time

3.6 Call Cost

3.6.1 Last Call Cost

3.6.2 Total Cost

3.6.3 Reset Cost

3.6.4 Max Cost

3.6.5 Price per Unit

3.7 SMS Counter

3.7.1 Sent

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3.8 GPRS Counter

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4.1.2.2 Set Time and Date

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- 4.2.1.2 Send ID
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8.3 Data Account

- 8.3.1 GSM Data
- 8.3.2 GPRS

9. File Manager

Menu Functions

1. Phonebook

Phonebook offers phonebook storage, management and services. You can access to the phonebook from idle screen, phonebook menu, and message writing modes.

From Idle screen, press the **[Name]** soft key (right), it will display the phonebook data sorted by name in your SIM Card and phone memory.

From the Phonebook menu, you will have eight sub menus as following.

1.1 Quick Search

When you select the Quick Search in the Phonebook menu, you will see all entries saved in the phonebook. This function allows you to search the phonebook data by name. You may simply type-in alphabet(s), the phone will show you the search result dynamically.

To change text input method:

Press the # key. It will change the input method and display icon on the top left.

From the phonebook list, you can also View, Edit, Delete, Copy, Move, and Duplicate the entry.

1. View: allows you to view the entry's contents such as name, number and so on.
2. Edit: allows you to edit the entry items.
3. Delete: allows you to delete the entry.
4. Copy: allows you to copy the entry from SIM to Phone or Phone to SIM. You will have the same entry in a different storage. (SIM + Phone)
5. Move: allows you to move the entry from SIM to Phone or Phone to SIM. The entry will be stored in the original storage. (SIM → Phone, Phone → SIM)
6. Duplicate: allows you to duplicate the entry in the same storage. You will have the same data in the same storage. (SIM+SIM, Phone+Phone)

1.2 Search Entry

When you select the Search Entry, after storing numbers to the phonebook, you can search them by Name.

1. Enter a name you want to search in the text input box. Input full name or even a start letter and press the [Option] soft key (left).

To change the text input method:

- 1) Press the [Option] soft key and select Input Method, and then choose the input method from the list, or
 - 2) Press the # key, it will change the input method and display icon on the top left.
2. If there is a name, you want to call, choose the name by moving up & down the navigation key.
 3. Press the Dial key to make a call. However, if there is more than one entry in the selected name, it will display a list. Then you may simply select one entry and press the Dial key to make a call.

Note:

The following options are available.

- 1) View: allows you to view the entry's contents such as name, number and so on.
- 2) Edit: allows you to edit the entry items.
- 3) Delete: allows you to delete the entry.
- 4) Copy: allows you to copy the entry from SIM to Phone or Phone to SIM. You will have the same entry in a different storage. (SIM + Phone)
- 5) Move: allows you to move the entry from SIM to Phone or Phone to SIM. The entry will be stored in the original storage. (SIM → Phone, Phone → SIM)

6) Duplicate: allows you to duplicate the entry in the same storage. You will have the same data in the same storage. (SIM+SIM, Phone+Phone)

1.3 Add New Entry

Please see **[Storing a Number using the Phonebook Menu]**.

1.4 Copy All

You can copy all phonebook data from SIM card to Phone or from Phone to SIM. It is a useful function if you want to back up your phonebook data from a SIM card to your phone and vice versa.

1.5 Delete All

You can delete all phonebook data in SIM card or Phone. In addition, you can delete the phonebook data one by one.

1.6 Caller Group

You can setup and edit Caller Group profiles as following.

1. Edit Group Name: Edit the group name, press the [Option] soft key (left), and select "Done" to save the changes.

2. Alert Type: Allows you to select the alert type to be used for this group. Scroll left and right with the navigation keys.
3. Alert Sound: Allows you to select the ring tone to be used when you receive a call from a person in the group. Scroll left and right with the navigation keys.
4. Alert Picture: Allows you to select incoming call picture when you receive a call from a person in the group. Scroll with the navigation keys to change the picture and go to the next line to select. If you want to view and select images, select the [View] soft key (left) and scroll with the left and right navigation keys. To select the picture, press the [OK] soft key (left).
5. Member List
 - A. After storing numbers in the phonebook, you can search them by Group.
 - B. You can add or delete member(s) to the group member list. Press [Option] soft key then select "Add," it will display a phonebook list excluding the members already in the group. It is possible to set a member in multiple groups.

1.7 Speed Dial

When you store phone numbers in the Phonebook, you can set up to eight speed dial entries and dial the number more conveniently by pressing the associated number key. This menu allows you to enable, disable and edit the speed dial on the number 2 ~ 9 keys. To use Speed Dial feature, press and hold the speed dial number key, the phone will dial to the associated phone number.

You can edit the speed dial list; press [Ok] soft key to select the '2. Set Number' option in the 'Speed Dial' menu. It will display the speed dial list. Press [Option] soft key, and select 'Edit' and select the entry from the phonebook list by pressing the [Ok] soft key (right).

1.8 Special Number

You can view and edit your mobile phone number (owner number), Service Dial number and SOS number.

1. Owner Number: displays your mobile phone number.
You can edit owner's name and phone number.
2. Service Dial Number: lists up the SIM SDN (Service Dial Number) and allows you to access to the number by pressing the [Dial] soft key (left) or the Send key.
3. SOS Number – lists up the SOS Number.

1.9 Settings

You can view and edit the settings for the Phonebook as following.

1.9.1 Memory Status

You can check how many names and numbers are stored in the phone book (SIM card and phone memories) or how much free space is remained.

1.9.2 Preferred Storage

You can set your preferred storage either to SIM or to Phone as a default storage in the phonebook.

1.9.3 Fields

There are eight fields that you can set on or off in your phonebook entry. (Home, Office, Fax, Email Address, Company Name, Associate Picture, Associate Sound and Caller Group). Press the [On] or [Off] left soft key (left) to turn on or off the field.

2. Messages

With this menu, you can use SMS, MMS, Voice Mail, and Broadcast Message. These functions are available depending on network services that your service provider supports.

2.1 SMS

The SMS (Short Message Service) function is a network service and your network may not support the service. You can send messages in Fax, Page, E-mail and Text format. To send text messages by phone, you must obtain the SMS center number from your service provider, and enter it on the **SC Address** option in Profile Settings menu (2.1.5.1).

When the  icon appears on the status indicators area, it indicates that you have received a new message.

Note:

The SMS service may not be available on all networks. Some network allows it only within its own network.

2.1.1 Inbox

With this menu, you can view the new text messages or the read messages.

It will display the sender's phone number or name (if stored in the **Phonebook**) on the list.

If you choose the **[Ok]** soft key, you can view the message contents.

Press **[Option]** soft key for the following options:

- 1) **Reply:** Allows you to reply to the sender.
- 2) **Delete:** Allows you to delete the viewed message
- 3) **Edit:** Allows you to edit the message, and send or save the edited message.
- 4) **Forward:** Allows you to forward the message.
- 5) **Delete All:** Allows you to delete all messages in the Inbox.
- 6) **Use Number:** Allows you to call the sender back or save the number to the phonebook.
- 7) **Select Objects:** Allows you to save the objects (NVM) of incoming messages.

2.1.2 Outbox

With this menu, you can view the sent or unsent messages you have saved.

Send, Edit, Delete, Delete All and Use Number options are available.

2.1.3 Write Message

With this menu, you can write a message and insert

EMS objects.

1. Select [Write Message] menu in the [SMS] menu.
2. Make a message. You can insert Template, Object, change format text, and input method.

Note:

Format Text options are as following:

- 1) Text Style: Bold, Italic, Underline, Strikethrough
- 2) Alignment: Automatic, Left, Center, Right
- 3) New Paragraph: Automatic, Left, Center, Right

3. After you completed the message, press the [Option] soft key (left) and then select "Done." Choose one of following options.
 - 1) **Send Only:** Sends the message to the recipient phone number. It will not save the message.
 - 2) **Save and Send:** Saves the message, and send it to the required recipient.
 - 3) **Save Only:** Saves the message so that you can send it later.
 - 4) **Send to Many:** Send the message to multiple recipients. Select Edit List to add up to 10 recipient(s).
 - 5) **Send by Group:** Sends the message to the Caller Group. Select a Caller Group from the list.

4. You can input the number directly or get from the phonebook by pressing the **[Search]** soft key (left).
5. The phone will display the Message sending Success or Fail message on the screen for all recipients.

Note:

If you receive a call while you are writing a message, the message will be backed-up and after hang up, the phone will display [write message] mode. You can finish the message without losing the data.

2.1.4 Templates

You can edit and delete message templates in this menu. You can store your frequently used messages up to 10 messages. For example, "Call Me Now," "How about lunch," "How are you," and so forth. You can store up to 40 English letters in each template. You can use the Template by selecting [2.Use Template] option, when you write a message.

2.1.5 Message Settings

You can setup default Message Information: Profile Setting, Common Settings, Memory Status, Preferred Storage, and Preferred Bearer.

2.1.5.1 Profile Setting

Depending on your service provider and service plan, you can set the message profile setting.

Note:

You can edit the profile as following:

- 1) Profile Name: edit the profile name.
- 2) SC Address: you have to get the number from your service provider.
- 3) Valid Period: choose from Maximum, 1 hour, 12 hours, 1 day, 1 week
- 4) Message Type : choose from Fax, Page, E-mail, Text

2.1.5.2 Common Setting

You can set on or off the following common settings for SMS.

1) Delivery Report

This allows you to set delivery report on or off.

When this function is set to on, the network informs you whether or not your message has been delivered.

2) Reply Path

This menu allows the recipient of your Message to send you a reply via your message center, if the

network provides Message service. Press the [On] or [Off] soft key (left) to turn this option on and off.

2.1.5.3 Memory Status

This shows memory status of SMS in your SIM card or Phone.

2.1.5.4 Preferred Storage

You can set your preferred storage for the SMS messages: to SIM or Phone.

2.1.5.5 Preferred Bearer

You can set your preferred Bearer for SMS.

Bearer options are "Prefer GPRS, Prefer GSM, GPRS Only and GSM Only."

2.2 MMS

The MMS (multimedia messaging service), also called Photo Message, allows end-users to send and receive messages containing multimedia content (including images, video, sound and text). It provides a rich media of personal multimedia messages from between mobile to mobile, and mobile to e-mail.

2.2.1 Write Message

With this menu, you can write a message and insert Image, Sound, and Attachment.

1. Select [Write Message] menu in the [MMS] menu.
2. Make a message. You can edit To, CC, BCC, Subject, and Content.
3. You can input the number directly or get from the phonebook by pressing the **[Search]** soft key.

Note:

Edit Content options are as following:

- 1) Add Text / Edit Text / Remove Text
- 2) Add Image / Edit Image / Remove Image
- 3) Add Audio / Edit Audio / Remove Audio
- 4) Insert New Slide: adds a new slide to the message.
- 5) Preview: plays the MMS message.
- 6) Slide Timing: input slide timing in second.

4. After you complete the message, press the [Option] soft key (left) and then select "Done." Choose one of following options.

- 1) Send Only: Sends the message. It will not save the message.
- 2) Save and Send: Saves the message, and send

it to required recipient(s).

3) Save to Drafts: Saves the message to Drafts.

You may send it later.

4) Send Options: Validity Period, Delivery Report, Read Report, Priority

5) Exit: Exits the Write Message, the phone will ask if you want to save the message.

5. The phone will display the Message sending Success or Fail message on the screen for all recipients.

Note:

If you receive a call while you are writing a message, the message will be backed-up and after hang up, the phone will display [write message] mode. You can finish the rest of the message without losing the data.

2.2.2 Inbox

Please see descriptions in the Inbox in the 2.1 SMS.

2.2.3 Outbox

Please see descriptions in the Outbox in the 2.1 SMS.

2.2.4 Draft

Please see descriptions in the Draft in the 2.1 SMS.

Note:

Options on saved MMS messages are as following:

- 1) View: plays the MMS message.
- 2) Properties: shows properties of the message (From, Cc. Subject, Date, and Memory)
- 3) Send: Sends the saved message to the recipient(s).
- 4) Edits Message
- 5) Delete: Deletes the message.
- 6) Delete All: Deletes all messages in the box.
- 7) Use Number: Dials or Saves to Phonebook.

2.2.5 Template

You can edit the MMS templates and write a message in this menu. You can use the Template by selecting [2.Use Template] option, when you write a message. You can store your frequently using messages up to 10. For example, "Call Me Now," "How about lunch," "How are you," and so forth. You can store up to 40 English letters in each template.

Select a template and press the [Option] soft key:

1. View: allows you to view and listen to the template message.
2. Properties: shows properties of the templates (From, CC. Subject, Date, and Memory).
3. Write Message: allows you to write a message with

the template.

- 1) From, CC., and BCC: allows you to add number(s) or email(s).
- 2) Subject: allows you to edit the text content.
- 3) Edit content: allows you to select from text, image, or sound by pressing navigation keys up and down.

2.2.6 MMS Settings

Within the MMS sub-menu, you can define default values on common parameters for mobile-originated messages. By setting default values for MMS messages, you can experience a more comfortable service.

You can set up the MMS related parameters for sending and retrieving the MMS messages.

1. Sending

This sets up parameters when you send MMS messages.

1) Validity Period

You can select the period in which the service center try to deliver message. When the message expires, message center will not deliver the message.

(1) Max: Maximum period is what service

provider permits.

- (2) 1 Week
- (3) 1 Day
- (4) 12 Hours
- (5) 1 Hour

2) Delivery Report

This allows you to set delivery report on or off.

When this function is set to on, the network informs you whether or not your message has been delivered.

- (1) On
- (2) Off

3) Read Report

You can set whether to receive a read report from every recipient.

- (1) On
- (2) Off

4) Priority

- (1) High
- (2) Normal
- (3) Low

5) Sliding Timing

You can set how long you want the message to

play. Input number(s) in seconds.

6) Delivery Time

You can set how soon the phone will send your message.

- (1) Immediate
- (2) In One Hour
- (3) In 12 Hours
- (4) In 24 Hours

2. Retrieval

This sets up parameters when you retrieve MMS messages.

1) Home Network

- (1) Immediate
- (2) Delayed

2) Roaming

- (1) As Home
- (2) Delayed
- (3) Restricted

3) Read Report

- (1) On Request
- (2) Send
- (3) Never Send

4) Delivery Report

This allows you to set delivery report on or off.

When this function is set to on, the network informs you whether your message has been delivered or not.

(1) On

(2) Off

3. Filters

You can filter MMS Messages by three categories as following.

1) Anonymous (Allow/Reject)

2) Max Size (KB)

3) Advertisement (Allow/Reject)

4. Edit Profile

Select from profile list. You can activate the profile or edit the profile.

Profile Options:

1) Rename Profile: edit the profile name.

2) Homepage: Enter URL

3) Data Account: Select data account from the list.

4) Connection Type:

- (1) Connection Oriented: When you select Connection Oriented, you can edit the IP Address.
- (2) Connectionless: When you select Connectionless, you can edit the IP Address.
- (3) HTTP: when you select HTTP, you can edit the Proxy Address and Proxy Port
- 5) Username: Enter Username
- 6) Password: Enter password

5. Memory Status

This shows usage count, total memory used, and remaining memory.

2.3 Voice Mail

Your phone is capable of dialing with voicemail server number (if provided by your network). If the voicemail has arrived, your phone displays **new message** in the idle screen and sets to inform you of the arrival.

Select the Voice Mail from the list and press [Option] soft key (left). You can **Edit** and **Erase** the Voice Mail server number.

By selecting the **Connect to Voice**, your phone will dial to

the configured number that has been stored in Voice Mail list.
You can then listen to the voicemail.

Note:

Voice mail is a network feature. Please contact your service provider for more information.

2.3.1. Voice Message Indicator

When receiving a voice mail, this function displays voice message as a SMS icon. After a user listens to the voice message, the voice message indicator icon will disappear

2.4 Broadcast Message

This network service allows you to receive the broadcast messages on various topics such as weather, traffic, local district code, local hospitals, taxis or pharmacy in your area. You can also receive the message to be in a particular language (For example, when you are abroad) by using **Language** (2.4.3) option.

For more information about broadcast message topics, please contact your service provider.

The phone will display the Broadcast Messages immediately when they are arrived, providing;

1. The phone is in the idle mode
2. The **Receive Mode** (2.4.1) option is set to **On**
3. The message channel is currently active in the channel list.

Note:

This service may not be available on all networks.

The following options are available:

2.4.1 Receive Mode

You can turn the receive mode on and off by pressing the soft key (left).

Allows you to enable or disable the reception of the broadcasted text messages.

2.4.2 Read Message

With this menu, you can read all the broadcasted text messages received. The title area of the screen will display the name of the message subject item. Whenever the phone receives new contents, the phone will update the contents of the message subject.

2.4.3 Language

Allows you to select your preferred language for displaying cell broadcast messages. The number of languages you can select depends on your SIM card.

2.4.4 Channel

Allows you to indicate the channels from which you wish to receive broadcast messages.

This menu allows you to read, add and delete the list by using **Select**, **Add**, **Edit** and **Delete** option. The number of items in the list depends on your SIM card. It will display all items you selected.

Note: For more information about the available subjects, please contact your network service provider.

3. Call History

With this menu, you can identify all call records that you have dialed, received or missed.

It will display the number and name (if available), together with the date and time at which the call was made or received.

Note: Your phone can keep up to ten numbers in each list.

3.1 Missed Calls

This menu lets you view the last 10 missed calls.

In the missed calls list, you can view the details of the record by pressing the **[Ok]** soft key (left). In the view screen, you can make a call to the number by pressing the Dial key.

There are four options in [Option] menu as following:

- Delete: Allows you to delete the record
- Save to Phone: Allows you to save the record to the phonebook
- Dial: Allows you to call back to the recorded number
- Edit: Allows you to edit the number and save to the phonebook

3.2 Dialed Calls

This menu lets you view the last dialed calls.

In the dialed calls list, you can view the details of the record by pressing the **[Ok]** soft key (left). In the view screen, you can make a call to the number by pressing the Dial key.

There are four options in [Option] menu as following:

- Delete: Allows you to delete the record
- Save to Phone: Allows you to save the record to the phonebook
- Dial : Allows you to call back to the recorded number
- Edit : Allows you to edit the number and save to the phonebook

3.3 Received Calls

This menu lets you see the last 10 received calls.

In the list of received calls, you can view the details of the record by pressing the **[Ok]** soft key (left). In the view screen, you can make a call to the number by pressing the Dial key.

There are four options in [Option] menu as following:

- Delete: Allows you to delete the record
- Save to Phone: Allows you to save the record to the phonebook
- Dial : Allows you to call back to the recorded number
- Edit : Allows you to edit the number and save to the phonebook

3.4 Delete Call Log

This menu lets you delete all call data of each category at once.

There are three categories of call as following.

- Missed Call: Allows you to delete all missed call data
- Dialed Call: Allows you to delete all dialed call data
- Received Call: Allows you to delete all received call data

3.5 Call Time

This menu lets you view the timers for calls made and received. The following timers are available.

- Last Call Time: length of the last call
- Total Sent: total length of all calls made since the last reset
- Total Received: total length of all calls received since the last reset.
- Reset All Time: Allows you to reset the call timers

Note: The actual time invoiced for calls by your service provider may vary, depending on network features, rounding-off for billing purposes and so forth.

3.6 Call Cost

You can view the cost of the last call, or of all calls. It will show costs, only if your network operator supports this service. The following options are available.

- Last Call Cost: Allows you to check the cost of the last call.
- Total Cost: Allows you to check the cost of all calls.
- Reset Cost: Allows you to reset the call cost.
- Max Cost: Enter PIN2 and input a limitation of the Max Cost.
- Price Per Unit: Enter PIN2 and input a limitation of

the price per unit.

Note: Not all SIM cards support this feature. The number of items in these lists depends on the contents of your SIM card.

3.7 SMS Counter

You can view the numbers of sent and received SMS.

3.8 GPRS Counter

You can view how many GPRS message has been sent and received, and reset the counter.

- Last Sent: Allows you to view the last sent GPRS Messages.
- Last Received: Allows you to view the last received GPRS Messages.
- All Sent: Allows you to check the numbers of All GPRS messages sent.
- All Received: Allows you to check the numbers of All GPRS messages received.
- Reset Counter: Allows you to reset the GPRS Counter.

4. Settings

You can change settings for your phone using this menu. There are Phone Setup, Call Setup, Network Setup, Security Setup, and Restore Factory Settings sub menu.

4.1 Phone Setup

With this menu, you can setup settings regarding display and operations of the phone: Sound & Light, Time and Date, Language, Preferred Input Methods, Default Encoding Type, Display Settings, Contrast, Greeting Text, Dedicated Key and Shortcuts setting.

4.1.1 Sound & Light

You can use the Sound and Light setting features to customize various settings depending on environments, such as General, Meeting, Outdoor, Indoor and Headset. Select each environment and select “Activate” to activate the setting, and select “Customize” to customize the Sound and Light settings.

Customizable options are as following:

1. Tone Setup

This menu customizes the tones in the following setups.

1) Incoming Call

This option allows you to select the required ring tone. You can set the ring tone from sound files downloaded from WAP download, MMS and EMS. You can also forward files from Phone Memory to the Tone Setup. Each time you select a tone, the phone will play it for a few seconds.

2) Alarm

This option allows you to select the alarm sound. You can set the alarm tone from sound files downloaded from WAP download, MMS and EMS. You can also forward files from Phone Memory to the Tone Setup. Each time you select a tone, the phone will play it for a few seconds.

3) Power On

You can select power on sound from 10 tones or silent. The phone will play the Power On tone, when you power on the phone by pressing the End/Power key.

4) Power Off

You can select power on sound from 10 tones or

silent. The phone will play the Power Off tone, when you turn off the phone by pressing the End/Power key.

5) Message Tone

You can select power on sound from 10 tones or silent. The phone will play the Message Tone, when you receive a message.

6) Keypad Tone

This option allows you to select the tone that the keypad generates when you press a key.

- Silent: the keys do not make any sound
- Tone: the keys will make sound.

7) Slide up

This option allows you to select a tone when sliding up the phone.

8) Slide down

This option allows you to select a tone when sliding down the phone.

2. Volume

This option allows you to adjust the ringing volumes of keypad, call alert, alarm and message alert. You can set different volume levels for the Ring Tone,

Key Tone and Slide Up/Down tone.

3. Alert Type

This option allows you to customize the alert type.

This setup will control the alerts your phone might play.

You can customize the alert types as following.

- **Ring:** the phone rings the ring tone selected with the [Tone Setup] option.
- **Vibration Only:** the phone vibrates without ringing.
- **Vibra and Ring:** the phone vibrates and rings simultaneously.
- **Vibra then Ring:** the phone vibrates first then rings.

4. Ring Type

You can set the ring type for playing the ring tones.

- **Single:** plays the ring tone once.
- **Repeat:** plays the ring tone in repeated matter.
- **Ascending:** plays the ring tone with ascending volume.

5. Extra Tone

You can set the following alert tones on or off.

- Warning
- Error
- Camp On
- Connection

6. Answer Mode

This option allows you to select the way to answer an incoming call by two ways.

The following options are available.

- **Any Key:** You may select this mode to answer a call by pressing any key except the [End key].
- **Send Key:** You may select this mode to answer a call by pressing **Send Key**.

You may press [Reject] soft key to reject a call in both Any Key and Send Key modes

- **Slide Answer:** You may select this function to answer a call by sliding up the phone without pressing any keys

7. LCD Backlight

You can select whether the phone uses the

backlight or not. You can increase the standby/talk time by turning off the backlight.

The following options are available. The backlight comes on for

- 5 Sec
- 15 Sec
- 30 Sec
- 45 Sec

4.1.2 Time and Date

You can set time and date for your phone.

1) Set Home City

This menu allows you to set a city as your home city. Please select the closest city in the list.

2) Set Time/Date

This menu allows you to set the current time and date displayed in the idle screen.

- 1) HH:MM : You may input hour in 24 hour format and minute, and then press navigation key down
- 2) YYYY/MM/DD: You may input year, month and day.

Press [Ok] soft key (left) to save the time and date.

3) Set Format

Allows you to select a time display type between 12 Hour AM/PM type and 24 Hour type. When the time format is in 12 Hour type, you can change AM and PM by pressing the Navigation keys.

1) Time Format

- 24-Hours
- 12-Hours

2) Date Format

- YYYY/MM/DD (ex. 2004/12/25)
- YYYY-MM-DD (ex. 2004-12-25)
- "MMM DD,YYYY" (ex. "Dec 25, 2004")
- DD-MMM-YYYY (ex. 25-Dec-2004)
- DD/MM/YYYY (ex. 25/12/2004)
- MM/DD/YYYY (ex. 12/25/2004)

4) Auto update of Date and Time

This menu allows the phone to update the current date and time automatically. You can turn on or off this function by pressing the [On] or [Off] soft key (left).

4.1.3 Display Settings

This menu allows you to customize desired phone display items as below.

1) Wallpaper

You can select a wallpaper image as following.

- 1) System: You may select wallpaper image from 12 images including the Analog Clock and Digital Clock.
- 2) User Define: You may search for images and photos in the File Manager. However, there is a size limitation to use an image as wallpaper image.

2) Screen Saver

This menu allows you to set the screen saver setting. The phone will display the selected image in a full screen, when there is no key input on the phone.

1) Setting: On/Off

2) Select

- (1) System: You may select screen saver image from 12 images including Analog Clock and Digital Clock
- (2) User Define: You may search for images

and photos in the File Manager. However, there is a size limitation to use an image as wallpaper image.

3) Main Menu Style

You can select the Main Menu style from Matrix, Page, and List.

4) Theme

You can set the theme of your phone display style. You can choose a theme regarding the menu title bar, select bar, and soft key bar color themes.

5) Greeting Text

The Greeting Text menu allows you to display a greeting text on the idle screen.

You can edit and set the Greeting Text. After you edit the Greeting Text, press the [Done] soft key (right) to save.

6) Show Date and Time

You can set the phone to display or hide the Date and Time on the idle screen.

4.1.4 Language

This menu allows you to set the display language. Select your preferred language and press [Ok] soft key (left) to save the setting. When you change the language setting, the phone will display in the corresponding language mode.

The following options are available.

- **Spanish**
- **English**

4.1.5 Preferred Input Methods

This menu allows you to define your preferred input method. Once you set the preferred input method, next time you edit in text input mode, it will reflect the setting until you change to another.

4.1.6 Contrast

This menu allows you to adjust the LCD contrast setting from level 1 to level 16.

Press the right or left navigation keys to adjust the contrast, while checking the contrast of the sample image.

4.1.7 Dedicated Key

This menu allows you to set the dedicated function for the 4-way navigation key in the idle mode.

You can dedicate the Down/Left/Right navigation keys to menus. Select from the menu lists, and press [Ok] key to change the dedicated menu.

Default Dedicated Keys:

- Up: Shortcuts (Fixed)
- Down: Tone Setup
- Left : Messages
- Right: Fun

4.1.8 Shortcuts

This menu allows you to set shortcuts menu list.

Press the [Edit] soft key (left) to edit the dedicated menu for the shortcut numbers.

4.2 Call Setup

The following Call Setup features are network services. Please contact your network service provider to check availability and subscribe to the feature.

4.2.1 Caller ID

This network service informs your Caller ID to the recipient when you call out.

You can set the following options for the Caller ID function as following.

- **Set By Network:** The network will decide whether to send or hide the Caller ID,
- **Send ID:** It will send the Caller ID when you call out.

Note:

Some networks do not allow the user to change this setting.

4.2.2 Call Waiting

This network service informs when someone is trying to reach you during another call. You can specify the call waiting option for voice calls only.

The following options for each service are available:

- **Activate:** activates the call waiting service.
- **Deactivate:** deactivates the call waiting service.
- **Query Status:** displays the status of the call waiting service.

4.2.3 Call Divert

This network service reroutes incoming calls to the number that you specify.

Example: you may wish to divert your business calls to a colleague while you are busy. Call diverting can be set up in the following ways.

You must enter a forward number when you have incoming call(s).

- All Voice Calls: diverts all voice calls.
- If Unreachable: diverts calls, if you are not in a coverage area of your service provider.
- If No Answer: diverts calls, if you do not answer the phone.

Note:

A network may impose a constant time for the unanswered delay time.

- If Busy: diverts calls, if you are already making another call.
- All Data Calls: diverts all data calls.
- Cancel All Divert: cancels all call diverting options.

Note:

The phone sends your settings to the network and the network will acknowledge the settings. You can deactivate all

The following options for each service are available:

- **Activate:** activates the call diverting service selected.
- **Deactivate:** deactivates the call diverting service selected.
- **Query Status:** displays the status of the call diverting service selected.

4.2.4 Call Barring

This network service allows you to restrict your calls.

Call barring can be set up in the following ways

1) Outgoing Calls

- 1) All Calls: prohibits outgoing calls.
- 2) International Calls: prohibits outgoing International calls.
- 3) International Except Home: When abroad, you can only make a call to numbers within the current country and to your home country where your home network provider is located.

2) Incoming Calls

- 1) All Calls: prohibits receiving all incoming calls.
- 2) When Roaming: prohibits receiving calls when you are using your phone outside of your home service area.
- 3) Cancel All
Deactivated all call barring settings. You will be able to make and receive calls normally.
- 4) Change Barring Password
You can set and change the call barring password obtained from your service provider using this option. You must enter the current password before you can specify a new one.

The following options for each service are available:

- 1) Activate: activates the call barring service selected.
- 2) Deactivate: deactivates the call barring service selected.
- 3) Query Status: displays the status of the call barring service selected.

Note:

The phone sends your settings to the network and the network returns the acknowledgement. You can deactivate all call barring settings by selecting the **Cancel All**.

4.2.5 Line Switching

Some SIM cards support two phone numbers and you can switch the number (line) with this feature.

4.2.6 Call Time Reminder

You can set the call time reminder.

- Off
- Single
- Periodic

4.2.7 Call Time Display

You can set if you want the phone to display the call time or not.

4.2.8 Auto Redial

This option allows you to set redial automatically when the call receiver is busy. If you set [Auto Redial] on, it will redial 10 times to make a call. To redial proceed as

following.

- When the other party does not answer, the phone automatically hangs up the phone and redials the phone number.
- Press the Dial key or hook button on your ear/microphone when you are using ear/microphone

The phone will redial 10 times to make a call

4.3 Network Setup

These menu functions are network services. Please contact your service provider to check their availability and subscribe to them, if you wish. These settings might affect your monthly bill and your phone's network performances.

4.3.1 Network Selection

The Network Selection feature enables you to select automatically or manually the network used when roaming outside your home area.

Note:

You can select a network other than your home network only if it has a valid roaming agreement with your home network.

Options are as following:

- 1) Automatic: You will be connected to the first available network when roaming
- 2) Manual: The phone scans for the available network, and you can select the network manually.

4.3.2 Preferred Networks

You can set your preferred networks. The phone will list up PLMN list.

The following options are available:

- 1) Add From List
Select from PLMN list and press [Ok] key and select priority. The priority is for among your preferred networks.
- 2) Create New:
 - 1) MCC/MNC: input 5 digit numbers.
 - 2) Priority: select from Set the priority by pressing navigation keys to the right or left.
- 3) Change Priority
Set the priority by pressing navigation keys to the right or left.
- 4) Delete
Delete the selected preferred network from the list.

4.3.3 GPRS Connection

Press [Change] soft key (left) to change the setting for the GPRS connection.

It will switch and save the GPRS connection to set on:

- 1) Always
- 2) When Needed.

4.4 Security Setup

There are six types of security setting categories, and you can optimize security mode by choosing sub menus in “Security Setup” in “Settings” menu. These security settings will help you to keep privacy and to prevent other people from using the phone without your permission.

4.4.1 PIN Lock

When the PIN Lock feature is on, the phone only works when you enter PIN code for the SIM card. If you turn on the phone with the SIM card, the phone will ask the password. Once the correct password has entered, the phone will work with the SIM card.

4.4.2 Phone Lock

When the Phone Lock feature is on, user must enter the

password each time you turn on the phone. Making a call or operating the phone is not available without the password.

4.4.3 Auto Keypad Lock

Your phone is a sliderr type and the keys may be pressed accidentally. To prevent unwanted key presses, you can use this auto keypad lock function.

You can select the Auto Keypad Lock options from none/ 5 sec / 30 sec / 1 min / 5 min.

When the Keypad Lock feature is enabled with such time, you must press the [unlock] soft key (right) and then press the Right soft key and # key in sequence, each time you need to release the keypad lock. You may not make a call or operate the phone if unlock code is not entered. However, answering a call, receiving message are available without entering the unlocking key sequence.

Press and Hold the * key to activate the keypad lock. It will show you auto keypad lock options. Select from none/ 5 sec / 30 sec / 1 min / 5 min and press [Ok] soft

key to save the setting. The keypad lock will be activated in 5 seconds from your last key presses, when you set the Auto Keypad Lock option to 5 sec.

If you want to change the keypad lock setting,

1. Press the * key and select the keypad lock options, or
2. Press the menu key and select 4. Settings / 4.4 Security Setup / 4.4.3 Auto Keypad Lock.

4.4.4 Fixed Dial

When the Fixed Dial mode is enabled, the person using this phone can call to the phone numbers stored in the Fixed Dial List only. To make a call to the number not starting the numbers stored in Fixed Dial List, you must enter the PIN2 to disable Fixed Dial mode. If the SIM card does not have PIN2, this feature is not supported.

In the Fixed Dial Mode, you can use several useful functions as following.

1. View and Edit: you can see and edit FDN entry after input PIN2.
2. Add : you can add FDN entry after input PIN2.
3. Delete: you can delete FDN entry after input PIN2.
4. SMS: you can send SMS to the phone numbers

starting with the numbers stored in FDN.

5. Short Type: you can choose short type among Number / Name / Sequence.

4.4.5 Barred Dial

When the Barred Dial mode is enabled, the person using this phone cannot call to numbers in the barred dial list. To make a call to the barred number, you must enter the PIN2 to disable the barred dial mode. If the SIM card does not have PIN2, it does not support the Barred Dial feature.

4.4.6 Change Password

To change the password, input the current password, and then enter the new password.

Note:

The initial password is "0000." After you change your password, you will need to input the password. If you forgot your password, contact the service center.

4.5 Restore Factory Settings

This feature would reset the phone to the same settings as those configured at the factory.

In this case, it does not delete the downloaded objects and phonebook records.

You will need to input password to restore factory settings.

5. Multimedia

The Multimedia menu provides you several multimedia functions such as Camera, Audio Player, Sound Recorder and Melody Composer. You can enjoy your phone as multimedia device.

5.1 Camera

This phone has a 330K Pixel Camera sensor (CMOS). You can enjoy taking photos and see the saved photos (or images).



You can access to Camera preview mode by pressing the Camera side hot key on the right side of your phone when the phone is displaying the idle screen.

You can also use [Camera] menu after pressing the [Menu] soft key (left) to open the main menus and choosing the fifth menu [Multimedia] then [Camera] menu.

Before taking a picture, you can set your camera settings on screen by pressing navigation keys, alphanumeric keys

(1~6), and [Option] soft key (left).

1. Taking and Saving a Photo

By using these functions, you can take a photo and save.

- 1) Choose [Camera] menu or press the Camera side hot key.
- 2) Then the screen will display the camera preview.
- 3) Set your camera using [Option] or pressing the navigation key right and left to set brightness or up and down to set zoom.
- 4) After setting fit the view and take a picture by pressing the Camera side hot key.
- 5) If you want to save the picture, select the [Save] soft key (left) and edit the picture name, and press the left soft key [Option] then select "Done."
- 6) You can view the image in the Image Viewer.

2. Key Usages in Camera Menu

※ Navigation Keys

- 1) In Camera preview mode,
 - (1) Brightness Setting (Left & Right Navigation Key): allows you to adjust the brightness (exposure value). When you press the right

navigation key, the camera preview screen will become brighter, and the left navigation key the opposite.

(2) Zoom Setting (Up & Down Navigation Key): By pressing the navigation key up or down, you can zoom in and out the preview. You can zoom in the image maximum 4 times.

(3) Shutter (Camera side hot key): you can take a picture by pressing the Camera side hot key.

2) In Camera option mode,

(1) You can use the left and right navigation keys to select an option.

(2) You can use the up and down navigation keys to navigate through the option list.

※ Function Keys

There are more functions. You can use these functions by pressing the keys.

1) Option (Left Soft key) – press the [Option] soft key (left) to view and select options for the Camera settings and viewer. See details the following descriptions for Options.

2) Cancel or Back (Right Soft key)– if you want to

cancel your key input or go back to upper menu,
press the [Back] soft key (right).

※ Alphanumeric Keys (1 ~ 6)

You can easily change the camera setting by pressing the following alphanumeric keys. The screen will display and toggle camera option icons, when you press the following keys.

-  : White Balance (Auto, Daylight, Tungsten, Fluorescent)
-  : Flash On Off (turns on and off the camera flash)
-  : Timer (  )
-  : Multi Shot (  )
-  : Quality (normal , low , high , fine )
-  : Image Size (    )

3. Options

From the camera preview mode, you can access to the Camera Options by pressing the [Option] soft key (left) for the following options and settings for the Camera.

- 1) To Image Viewer

By selecting this menu, you can view the saved photos in the Image Viewer.

2) Camera Settings

- (1) White Balance (Auto/Daylight/Tungsten/Fluorescent)
- (2) Flash Light (On/Off): You can set the camera flash light on or off with this setting. When the Flash is on, the camera flash will lit on when you take a picture.
- (3) Shutter Sound (Sound1/2/3/Off)
Allows you to select a shutter sound among three kinds of shutter sounds or turn off the shutter sound. The sound makes you feel the sense of taking a picture.
- (4) EV (-4/-3/-2/-1/0/+1/+2/+3/+4): You can set the EV (Exposure Value) and the preview will look darker in lower EV and brighter in higher EV.
- (5) Night mode (On/Off)
- (6) Banding (60Hz/50Hz): You can select the sampling bandwidth of the camera sensor. When bandwidth increases, the memory size and the picture quality will increase.

3) Image Setting

You can set image size and quality of your photo as following.

(1) Image Size: 640x480, 320x240, 160x120 and 80x60 are available.

(2) Image Quality (Low/Normal/Fine/High): allows you to choose the JPEG quality. The captured image memory size will increase if you choose higher quality.

Note:

If you chose 640x480, it takes 4 times image size of 320x240. In other words, when the image size increases, the image file size will increase likewise. Also the better quality of image, the more memory for the phone

4) Cont. Shot

It allows you to take multiple continuous shots by pressing the camera key. You can set this function off or take 1, 3, or 5 continuous shots.

5) Delay Timer

It allows you to take a picture with delayed timer. If you set the delay timer at 5 sec, and press the camera key (center navigation key), it will take a picture 5 seconds later.

Timer options are (Off/ 5 sec / 10 sec / 15 sec).

6) Restore Default

This menu allows you to restore to the camera's default settings.

5.2 Image Viewer

You can see your photos in your phone by choosing [Image Viewer] menu in [Multimedia] menu. It will display the photos with thumbnail, image name, and image size.

There are 7 options as following:

- 1) View: allows you to view the image in full screen.
Press the navigation key up and down to view other images.
- 2) Forward: allows you to forward the image to Wallpaper, Screen Saver, Phonebook, MMS and EMS.
- 3) Rename: allows you to edit the image name.
- 4) Delete: allows you to delete the selected image.
- 5) Delete All Files: allows you to delete all images in the storage.
- 6) Sort: allows you to sort the image by Name, Type, Time and Size.

5.3 Audio Player

You can listen to MP3, MIDI, WAV music files with the Audio

Player. You will be able to listen to the music files downloaded from the PC.

Three ways to access to the Audio Player:

- 1) By pressing the MP3 key on the keypad
- 2) By pressing the [Menu] soft key and select 5. Multimedia menu and 3. Audio Player sub menu.
- 3) By pressing the [Menu] soft key and select 9. File Manager menu and select the memory drive, and press [Option] and select "Open" to play one file at a time.

To view the music list, press [List] soft key. It will display available music list from the Phone. To play the music, press the left or right navigation key, or press [Option] soft key and select "Play."

The following **Options** are available:

- 1) Play
- 2) Detail: displays details of the music file, such as a Music Title, Artist, Album, Play Time, File Size and so forth.
- 3) Add to Rings: allows you to set the music file in the phone memory as a ring tone.
- 4) Add: allows you to add a directory to the play list.

This option is available when you set the List Auto Generate to Off.

- 5) Remove: allows you to remove the selected file from the play list. This option is available when you set the List Auto Generate to Off.
- 6) Remove All: allows you to remove all files in the play list. This option is available when you set the List Auto Generate to Off.
- 7) Refresh List: allows you to refresh the music list.
- 8) Settings
 - (1) Play List (From Phone)
 - (2) List Auto Generation (On/Off): you can select whether to generate the music list automatically or manually. When this option is On, music files in the main directory will be selected in the play list; when the option is Off, you can add a file or a directory to the play list.
 - (3) Skin (Skin 1/2/3): you can select the Audio Player skin depending on your taste.
 - (4) Repeat (One/All/Off): allows you to set repeat option. When you select one or all, it will repeat the selected file or all music files. When you select this option to off, it will play the music file one time

and stop.

- (5) Shuffle (On/Off): allows you to set the shuffle feature on or off. This function is useful if you want to listen to the music in random order rather than from first file to the last.
- (6) Background Play (On/Off): allows you to set the Audio Player to play the music while you are using the phone other than audio player, such as menu navigation. When Background Play option is On, it will play the music, even if you press the End key or [Back] soft key (right). When the Background Play option is Off, and you press the End key or [Back] soft key (right), it will stop playing the music file.

To make a play list from the selected directory:

- 1. Access to the Audio Player.
- 2. Press the [List] soft key (left).
- 3. Press the [Option] soft key (left), and select **Settings**, and set the **List Auto Generate** to **Off**.
- 4. Select **4. Add** from the [Option] menu, the phone will display the File Manager. Using the navigation keys, highlight the desired directory or file in the File Manager

5. Press the [Option] soft key (left), and select **1.Select**.
The music files in the selected directory will be added to the play list.

5.4 Sound Recorder

With this menu, you can record sound in AMR and WAV format and use it as voice memo, ring tone, MMS and EMS attachment.

1. **When there is no record file in the Sound Recorder, there are two options:**
 - 1) Record
 - 2) Settings
2. **If you have more than one record file, there are eight options:**
 - 1) Record: allows you to start recording.
 - 2) Play: when there is a file in the list, it will play the recorded sound file.
 - 3) Rename: allows you to change the file name.
 - 4) Delete: allows you to delete the selected file.
 - 5) Delete All: allows you to delete all files in the sound record list.
 - 6) Settings
 - (1) File Format (AMR / WAV): allows you to select

recording the sound in AMR and WAV format.

7) Forward

- (1) To Tone Setup: allows you to use the sound file as a Ring Tone in Tone Setup.
- (2) To MMS: allows you to write an MMS message with the selected sound file.
- (3) To EMS: allows you to write an EMS message with the selected sound file.

5.5 Melody Compose

With this menu, you can create an iMelody file. You can use this melody as your Ring Tone, MMS and EMS attachment.

How to compose a melody:

1. When you first use the Melody Compose,

- 1) Press the [Add] soft key (left)
- 2) Start composing a melody pressing the numeric keys.

Note :

1 : Do, 2 : Re, 3 : Mi, 4 : Fa, 5 : Sol, 6 : La, 7 : Ti

8: Vibration – allows the phone vibrates.

9: Light – allows the LED lit.

0: Rest – indicates the rest place.

 : toggles options, and increases or decreases the note () and rest ().

 : changes the accidentals. Press 1~7 and then press the sharp key; the musical scale will be switched with between Sharp () / Flat () , if applicable.

There are four options while editing:

- (1) Play: allows you to play the composed file before you save the file.
 - (2) Play Speed (Fast / Normal / Slow)
 - (3) Select Instrument
(Piano / Guitar / Violin / Saxophone / Steel Drums / Flute / Harmonica / Trumpet / Music Box / Xylophone)
 - (4) Save: when you are done composing, select "Save."
- 3) Press the [Option] soft key and select "Save." Edit and save a file name by pressing the [Option] soft key (left) and select "Done."

2. If you have more than a record file,

Press the [Option] soft key (left), and select 'Add' to start composing a melody.

There will be seven options:

- (1) Play: allows you to play the selected file.
- (2) Edit : allows you to edit the composed music.
- (3) Add : allows you to compose a new music file.
- (4) Rename : allows you to rename the selected file.
- (5) Delete : allows you to delete the selected file.
- (6) Delete All Files: allows you to delete all files in the list.
- (7) Forward : allows you to forward the composed file to the following usages.
 - A)To Tone Setup: allows you to forward the sound file to Tone Setup as a Ring Tone.
 - B)To MMS: allows you to write an MMS message with the selected sound file.
 - C)To EMS: allows you to write an EMS message with the selected sound file.

6. Fun

The Fun provides you Java interface and Games. You can use your phone as your entertainment center.

6.1 Java

Using this menu you can enjoy the embedded Java games and downloaded Java games or Java Applications from the WAP Service on the phone. Follow the instruction of the application or game. Loading time will vary from applications.

There are two embedded Java games for your mobile phone.
(Depending on Software version)

Press [Option] soft key (left) and select 'Launch' to execute the java game or application.

Java Options:

- 1) Launch: allows you to launch the selected game or application.
- 2) Setting: allows you to change the setting for Java.
 - (1) Network Access: allows you to set if you wish to access to the network. Select from Allow, Prompt Always, and Never.
 - (2) Auto Invocation: allows you to set if you wish to invoke automatically. Select from Allow, Prompt Always, and Never.
 - (3) Messaging: allows you to set if you wish to use

messaging. Select from Allow, Prompt Always, and Never.

(4) **Recording:** allows you to set if you wish to use recording. Select from Allow, Prompt Always, and Never.

3) **Information:** displays Java Midlet information of the selected java game or application, such as name, size, version, vendor, and jad or jar website of a Midlet.

6.2 Java Setting

You can setup audio, network profile, and free data space.

- 1) **Java Audio:** allows you to set the Java audio sound to on or off.
- 2) **Java Network Profile:** you can select the java network profile from the list.
- 3) **Free Data Space:** you can view the free data space.

6.3 Games

This phone provides you four embedded games. Please see the following instructions for each game, and enjoy the games.

When you select a game, you will have the following menu:

1. **Start Game:** allows you to start playing the game.

When you press the right soft key, it will go back to menu with Resume option added. Select “Resume” to continue playing the game.

2. **Game Level:** you can choose the game level from Easy/Normal/Hard.
3. **Best Grades:** will display the best records in each level. Press [Reset] soft key (left) to reset the best grades record.
4. **Game Help:** describes about the game and an instruction.

6.4 Game Setting

You can select the game setting. This will be applied to the game plays in **6.3 Games**.

Press the left or right navigation key to select the setting and press the [Ok] soft key to save the setting.

1. Game Audio (On/Off): allows you to set the audio sound on or off while you are playing a game.
2. Game Vibration (On/Off): allows you to set the vibration on or off while you are playing a game.

7. Tools

You can utilize this feature as a personal scheduler and calendar. You can use this feature to set alerts to remind you of events as an alarm clock. In addition, this menu contains world clock for you to view worldwide time. You can use the Tools menu as your calculator, unit converter, currency converter, and stopwatch.

7.1 Calendar

The calendar helps you to keep track of memos, calls that you need to make, anniversaries, and To-Do.

First, choose the date you want to view by moving the navigation keys. Move to the previous or the next month by pressing the side volume keys located on the right side of the phone, and then press the **[Option]** soft key (left).

There are two Options as following:

1) View Tasks

Allows you to view the task list and add task(s) on the selected date.

Task Items:

Date (YYYY / MM / DD): input year, month and day.

Time (00:00 ~ 00:00): input a start time and end time.

Note (text input): input a task

Alarm (Off / On): select On or Off pressing the left and right

navigation keys.

Repeat (Once / Every Day / Day (S, M, T, W, T, F, and S) / Weekly / Monthly): select the repeat characteristics of the task.

From the Task List, there are five Options available:

- (1) View: allows you to view the details of the selected task.
- (2) Add: allows you to add a task.
- (3) Edit Task: allows you to edit the selected task.
- (4) Delete Task: allows you to delete the selected task.
- (5) Delete All: allows you to delete all tasks listed on the selected date.

2) Jump To Date

Allows you to jump to the date you input in the date box (YYYY / MM / DD).

7.2 To Do List

You can view all saved tasks. It displays a task or tasks saved in the Organizer. The To Do List shows the notes of the tasks from the oldest task to the latest task.

- 1. View: allows you to view the details of the selected task.

2. Add: allows you to add a task.
3. Edit Task: allows you to edit the selected task.
4. Delete Task: allows you to delete the selected task.
5. Delete All: allows you to delete all tasks listed on the selected date.

7.3 Alarm

This menu allows you to set the alarm to ring at a specific time. You can save up to three alarms.

The following Edit options are available.

1. Alarm (On/Off)
2. Time (HH:MM): input the hour in 24 hour scale and minute.
3. Repeat (Once / Every Day / Day (S, M, T, W, T, F, S) / Weekly / Monthly): select the repeat characteristics of the task.

After you completed editing the options, press the [Done] soft key (right) to save the changes.

To stop the alarm when it rings, press the [Stop] soft key (left) to stop the alarm or press the [Snooze] soft key (right) to snooze the alarm so that it will remind you again in four minutes.

To set this option, press [Edit] soft key (left) and edit the following options.

- Status (Disable/ Enable)
- Power On/Off: Choose on or off by pressing the left or right navigations keys.
- Time: Input time in 24-hour scale.

7.4 World Clock

This feature allows you to check the current time for Greenwich Mean Time (GMT) and major cities around the world, using the right and left navigation keys.

The screen shows the;

- City name
- Current date and time
- Day or Night icon (☀️🌙).

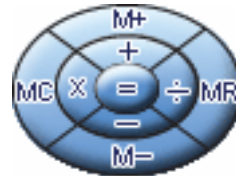
To set the time zone of your location, select the city corresponding to your time zone by pressing the left and right navigation keys. The phone will display the local date and time.

7.5 Calculator

Using this feature, you can use the phone as a calculator. The calculator performs the basic arithmetic functions and memory functions; Addition, Subtraction, Multiplication and Division; Add to Memory, Subtract to Memory, Memory Clear and Memory Read.

To perform a calculation:

1. Enter the first number using the numeric keys.
2. Press the up navigation key once to use [+] (add), and twice to use [M+] (add to the previous result). Press the navigation key down to use [-] (subtract), and twice to use [M-] (subtract to the previous result).



Press the right navigation key once to use [x] (multiply), and twice to use [MC] (erase the previous result) Press the left navigation key once to use [/] (divide), and twice to use [MR] (memory read). Press the sharp key (#) to enter a [.] (Decimal point).

3. Enter the next number.
4. Repeat Steps 2 to 3 as many times as required.
5. To calculate the result, enter the **[Ok]** soft key.
6. When you have finished, press the [Back] soft key

(right) or the End key to exit.

Note:

To erase any mistakes and clear the display, press the [Clear] key.

7.6 Unit Converter

You can convert from one type of unit to another with this function.

To convert a value:

- 1) Select the weight or length options.
- 2) Press the left or right navigation keys and select the type of conversion to be performed. (Example: Kg ↔ Pound)
- 3) Using the up and down navigation keys, place the cursor on the desired unit
- 4) Input the value to be converted, and then press [Ok] to get the result.

You can enter a decimal point (.) using the # key.

7.6.1 Weight

Kg ↔ Pound

Kg ↔ Ounce

7.6.2 Length

Km ↔ Mile

M ↔ Yard

M ↔ Foot

cm ↔ Inch

7.6.3 Currency Converter

You can convert currency if you know the exchange rate.

To convert currency:

- 1) Input a currency rate.
- 2) Press the [Ok] soft key (left).
- 3) Press the left or right navigation keys to choose how you want the currency to be calculated.
(xxx:1 or 1: xxx)
- 4) Press down the navigation key and input the local currency value.
- 5) Press the [Ok] soft key (left) to get the result.
- 6) If you want to convert other local amount, press the up navigation key and select the currency convert type (xxx:1 or 1: xxx), and repeat the 4) and 5). If you want to convert with other currency rate, press the [Back] soft key.

7.7 Health

With the Health menu, you can check your health.

7.7.1 BMI

BMI is the Body Mass Index. BMI is an index for your health, keeping in the Normal range is recommended for your health. Low BMI and high BMI both are critical for the health.

	Thin	Normal	Fat
Female	~ 18	18 ~ 23	23 ~
Male	~ 20	20 ~ 25	25 ~

7.8 Stopwatch

This is a tool to measure timing and there are three types of stopwatches available; Split Stopwatch, Lap Stopwatch and nWay Stopwatch. You can use the stopwatch functions for various sports; for example, running, swimming races, or car races.

7.8.1 Typical Stopwatch

There are Split Timing and Lap Timing stopwatch functions in this typical stopwatch menu.

7.9.1.1 Split Timing

Split Timing is useful for measuring each player's record from start. The timing will be recorded earliest to latest.

- (1) Press [Split] to measure the timing and press again for next timing, and so on.
- (2) Press [Stop] when you are done measuring the timing. If you want to continue, press the [Resume] soft key. You can record up to 20 measurements per record.
- (3) It will ask if you want to save. Press [Yes] to save.
- (4) Edit the name for the record. Press [Option] and select "Done" to save.
- (5) You can view the record by selecting View Record and press the [Option] soft key (left) and select "View."

7.9.1.2 Lap Timing

You can use the Lap Timing function to measure each lap record.

- (1) Press [Lap] to measure the timing and press again

for next lap timing, and so on.

- (2) Press [Stop] when you are done measuring the timing. If you want continue, press the [Resume] soft key. Repeat this step for the other stopwatches. You can record up to 20 measurements per a record.
- (3) It will ask if you want to save. Press [Yes] to save.
- (4) Edit the name for the record. Press [Option] and select "Done" to save.
- (5) You can view the record by selecting View Record and press the [Option] soft key (left) and select "View."

7.9.1.3 View Record

When you save the timing records from the Split Timing and the Lap Timing, it will be saved and listed in this menu.

Press the [Option] soft key and select from the following options:

- (1) View: allows you to view the timing record.
Press the up and down navigation keys to scroll among the records.
- (2) Delete: allows you to delete the selected record.

(3) Delete All: allows you to delete all records.

7.8.2 nWay Stopwatch

You can use 4-way navigation keys for measuring times for each direction.

When you press a navigation key, the direction stopwatch will start timing, and other direction stopwatch will pause the timing. When you press the paused direction's navigation key, the stopwatch will resume timing.

8. Services

This menu allows you to use services including SIM card additional services, WAP Service and Data Service.

8.1 GSM Access

If you use a SIM card that provides additional services, the GSM Access menu displays. For details, please refer to your SIM card instructions. If you have any questions, please call After Sales support center.

8.2 WAP Service

You can connect to WAP site by this phone, and use the services provided by the sites. The WAP browser works as Internet browser of PC. And the services are provided by the connected sites.

8.2.1 Homepage

When you choose [Homepage] menu, WAP browser opens the main page of home site that you had activated among the sites in [Profile].

8.2.2 Bookmarks

You can make bookmark data in your phone. And you can connect to the site directly.

There are 3 options as following.

- Connect: Connect to the bookmarked WAP page
- Edit : Edit the name and URL of the selected entry
- Delete : Delete the selected entry

8.2.3 Recent Pages

When you choose [Recent Pages] menu, WAP browser opens the latest WAP page.

8.2.4 Enter Address

If you know the URL of the site, you can go to the site directly by inputting the URL.

8.2.5 WAP Push

Your phone receives WAP service messages and saves them in the WAP Push. You can read the message in the Inbox.

8.2.6 Settings

This option allows you to set the WAP settings. There are 5 profiles of sites in this phone. You can activate one of them as a home site and change or set each profile.

There are 5 options as the following.

- Edit Profile: Shows the name of selected site and you can edit the profile(s).
- Browser Options: Time out, Show Image
- WAP Push Setting: On/Off
- Clear Cache: clears the most recent site files that you have downloaded in the temporary memory.
- Clear Cookie: deletes cookies in the memory.
- Clear Recent Page List: clears recent page list in the memory.
- Trusted Certificates: saves and lists the Trusted

Certificated from the WAP sites.

You can view and delete the certificates.

8.3 Data Account

This menu allows you to change the settings for the GSM and GPRS network services. For further details, contact your service provider.

8.3.1 GSM Data

This setting allows you to change the settings for the GSM Data network as following.

- Account Name: Edit the account name.
- Number: Enter the server phone number.
- User Name: Enter the user name required to connect to GSM Data network.
- Password: Enter the password required to connect to GSM Data network.
- Line Type: Choose a network connection type between Analogue and ISDN.
- Speed: Select the desired speed from 9.6 Kbps, 14.4 Kbps and 4.8Kbps.
- DNS(000.000.000.000): Enter the IP address

8.3.2 GPRS

This setting allows you to change the settings for the GSM Data network as following.

- Account Name: Edit the account name.
- APN: Enter the access point name used for the address of the GPRS network gateway.
- User Name: Enter the User Name required to connect to GPRS network.
- Password: Enter the password required to connect to GPRS network
- Auth. Type: Select the authorization type from Normal and Secure.

9. File Manager

This menu allows you to see the total memory used and free space in the storage.

1. Checking the Memory of the Phone.

You can view the remaining memory (free) and total memory of the phone.

2. Opening the memory storage

There are three options as following:

- (1) Open: allows you to open the storage, and view folder(s) and file(s).
- (2) Create Folder: allows you to create a folder.
- (3) Format: allows you to format the selected memory.
Be careful that it will delete all data files in the storage.

3. Opening a Folder

- (1) Open: allows you to open the folder and view a list of files in the folder.
- (2) Create Folder: allows you to create a folder.
- (3) Rename: allows you to edit the folder name.
- (4) Delete: allows you to delete the folder.
- (5) Sort: allows you to sort the files in the folder by name, by type, by time, and by size.

4. Opening a file

You can view, play, and setup files in the storage disks or in the folder.

- 1) View / Play: allows you to view or play the file.
- 2) Forward: allows you to forward the file to use as the following:

Image File (bmp, jpg, and gif format) options:

- (1) Wallpaper: allows you to set the file as idle screen wallpaper.
- (2) Screen Saver: allows you to set the file as screen saver.
- (3) Phonebook:
 - A. To New Entry: allows you to set the file as an Associated Picture and to enter a new phonebook entry.
 - B. Selected Entry: allows you to select a phonebook entry and set the file as associated picture.
 - C. To Caller Group: allows you to designate the file as an Associated Picture for the selected Caller Group.
- (4) To MMS: allows you to send the file through MMS (see 2.Messages for detail).
- (5) To EMS: allows you to send the file through EMS (see 2.Messages for detail).

Sound File (mid, wav, mp3 and iMelody format)

options:

- (1) To Tone Setup: allows you to forward the sound file to the Tone Setup.

- (2) To MMS: allows you to send the file through MMS
(see 2.Messages for detail).
- (3) To EMS: allows you to send the file through EMS
(see 2.Messages for detail).
- 3) Detail: displays information of the file, date and size.
- 4) Rename: allows you to edit the file name.
- 5) Copy: allows you to copy the file to the other folder or
other storage.
 - (1) Select the folder and press the [Option] soft key
(left)
 - A. Done: copies the file to the selected folder or
storage disk.
 - B. Open: opens the selected folder
 - C. Create Folder: allows you to create a folder.
 - (2) Press the [Back] soft key (right) to save the file to
the other storage. Select the storage disk name
either C:\ or E:\, then select a folder. It will give you
the same option as (1).
- 6) Move: allows you the move the file to the selected
folder or storage. The file will be removed from the
original folder and paste to the selected folder.
- 7) Delete: allows you to delete the selected file.
- 8) Delete All Files: allows you to delete all files in the

selected folder.

9) Sort: allows you to sort the files by name, by type, by time, and by size.

SIM AT Service

SIM Card provides several value-added services.

These functions will only display and work on the menu of the phone when your SIM card is supported. If your SIM Card does not support such services, the phone will not display those menus.

The content and the terms of the function lists will depend on your network service provider.

Please contact your network service provider (a network operator or the service provider) in regards with availability of any services related to the SIM card, application information and the costs.

Note:

Please be aware that charges may be applied to your bill due to activated SMS or Call when you perform those services. The text of SIM AT menus may be different from your phone language setting because the text directly comes from your SIM card

Solving Problems

Before contacting the after-sales service, perform the following simple checking items to save your time and expense for unnecessary services.

When you switch your phone on, the following messages may appear.

Insert SIM Card

Check the SIM card is correctly installed.

Phone Locked, Enter Password

The automatic locking function has been enabled. You must enter the phone's password before you can use the phone.

Enter PIN

- When using your phone for the first time, you must enter the Personal Identification Number supplied with the SIM card.
- The option requiring that the "PIN to be entered each time the phone is switched on" was enabled. You must

enter your PIN and then disable this option if required.

Enter PUK

The PIN code was entered incorrectly three times in succession and the phone is now blocked. Enter the PUK supplied by your network operator.

“No service” is displayed

- The network connection was lost. You may be in a weak signal area (in a tunnel or surrounded by buildings). Move to a different location and try again.

You have entered a number but it was not dialed

- Have you pressed the Dial key?
- Are you accessing the right cellular network?
- You may have set an outgoing call barring option.

Your correspondent cannot reach you

- Is your phone switched on (Power on/off key pressed for more than two seconds)?
- Are you accessing the right cellular network?
You may have set an incoming call barring option.

Your correspondent cannot hear you speaking

- Have you switched off the microphone?
- Are you holding the phone close enough to your mouth?

The microphone is located at the bottom of the phone.

The phone starts beeping and “Low Battery” flashes in the display

The battery is insufficiently charged. Replace the battery and recharge it.

The audio quality of the call is poor

- Check the signal strength indicator in the display (); the number of bars after it indicates the signal strength from strong () to weak ().
- Try moving the phone slightly or moving closer to a window if you are in a building.

No number is dialed when you recall a phonebook entry

- Check that the numbers have been stored correctly, by using the Phonebook Search feature.
- Re-store the number, if necessary.

Using the Batteries

Precautions When Using Batteries

- Never use any charger or battery that is damaged in any way.
- Use the battery only for intended purpose.
- If you use the phone near the network's base station, it uses less power; talk and standby times 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 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 the battery 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 it 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 not work temporarily, 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 short-circuiting 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-circuit.
- Dispose the used batteries in accordance with local regulations. Always recycle. Do not dispose of batteries in a fire.

Safety Information

1 . SAFETY INFORMATION FOR FIXED WIRELESS TERMINALS

.POTENTIALLY EXPLOSIVE ATMOSPHERES

Turn your phone OFF 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.

INTERFERENCE TO MEDICAL DEVICES

Certain electronic equipment may be shielded against RF signal from your wireless phone. (pacemakers, Hearing Aids, and so on) Turn your phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. RF signals may affect improperly installed or inadequately shielded electronic system in motor vehicles.

.EXPOSURE TO RF ENERGY

Use only the supplied or an approved replacement antenna. Do not touch the antenna unnecessarily when the phone is in use. Do not move the antenna close to, or touching any exposed part of the body when making a call.

SAFETY INFORMATION FOR RF EXPOSURE

Body worn operation

This device was tested for typical body-worn operations with the back of the phone kept 15 mm. from the body. To maintain compliance with FCC RF exposure requirements, use only belt-clips, holsters or similar accessories that maintain a 15 mm. separation distance between the user's body and the back of the phone, including the antenna. The use of belt-clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

SAR INFORMATION

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 radiofrequency (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 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, or SAR. The SAR limit set by the FCC is 1.6 W/kg. *

Tests for SAR are conducted 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 phone model 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 value for this model phone when tested for use at the ear is 0.166 W/Kg and when worn on the body, as described in this user guide, is 0.248 W/Kg. (Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements). While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure. 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: RV2EZ300.**

Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) web-site at <http://www.wow-com.com>. * In the United States 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.

U.S.A.

U.S.FEDERAL COMMUNICATIONS COMMISSION **RADIO FREQUENCY INTERFERENCE STATEMENT**

INFORMATION TO THE USER

NOTE : 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 of a circuit different from that to which the receiver is connected.
- *- Consult the dealer or an experienced radio/TV technician for assistance.

Changes or modification not expressly approved by the party responsible for Compliance could void the user's authority to operate the equipment. Connecting of peripherals requires the use of grounded shielded signal cables.

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.