

TABLE OF CONTENTS

USING THIS GUIDE	2	MENU SYSTEM	26
PHONE OVERVIEW	3	MENU MAP	26
DISPLAY ICONS	4	ENTERING TEXT	27
GETTING STARTED	6	T9® TEXT INPUT METHOD ..	27
INSERTING THE SIM CARD	6	NETWORK SERVICES OR	
ATTACHING THE BATTERY	6	DIRECT LINKS	30
CHARGING BATTERY	7	PHONE BOOK	31
BATTERY SAFETY TIPS	8	MESSAGES	34
BASIC PHONE		CALLS & TIMERS	39
OPERATIONS	9	SETTINGS	43
TURNING ON THE PHONE	9	OFFICE TOOLS	60
STANDBY SCREEN	9	GAMES	63
MAKING A CALL	9	INTERNET MODE	64
CONVERSATION OPTIONS ..	10	APPENDIX	70
ANSWERING A CALL	10	USING THE HEADSET	70
ENDING A CALL	11	CHANGING THE	
KEYPAD LOCK	11	FRONT COVER	71
TURNING OFF THE PHONE ..	11	ACCESSORIES LIST	72
NETWORK MESSAGES	12	GLOSSARY	73
SAFETY INFORMATION ..	13	TROUBLESHOOTING	75
CARE AND MAINTENANCE .	18	ERROR MESSAGES	76
SECURITY CODES	19	INDEX	78
GENERAL FEATURES	20	WARRANTY	82
DIALING STORED NUMBERS ..	20		
SPEED DIALING	21		
SILENT ALERT MODE	21		
MUTING	22		
VOLUME ADJUSTMENT	22		
HANDSFREE SPEAKING	22		
SENDING DTMF			
TOUCH TONES	22		
HOLDING/RETRIEVING CALL	23		
CALL WAITING	24		
CONFERENCE CALLS	24		

USING THIS GUIDE

Your G320 phone operates on the GSM network which provides fraud protection, short message service (SMS), integrated voice mail, superior voice quality and clear, static-free sound. One of the most important GSM advantages is the removable SIM (subscriber identity module) card, which holds your personal information such as phone numbers, missed calls, voice mail notifications and text messages.

Your phone uses a built-in micro browser to reach the Internet and other services such as e-mail. This micro browser uses the WAP (Wireless Application Protocol) specification, which standardizes the way that wireless devices can access the Internet and many services. WAP uses WML (Wireless Markup Language), a language that translates Web pages into a format that can be viewed on wireless devices. While online, your phone can also view pictures, jump to other links, and enter information into a Web page or service.

When available, your phone will use GPRS (General Packet Radio Service) technology. GPRS is the fastest way yet to transmit data over mobile phone networks. With GPRS, the information is split into separate but related "packets" before being transmitted and reassembled at the receiving end. Packet switching means that GPRS radio resources are used only when users are actually sending or receiving data. No dial-up modem connection is necessary. This is why GPRS users are sometimes referred to be as being "always connected."

Certain features included in this guide called Network Services are supplied by wireless service providers. You must order a subscription to the services from your home service provider to be able to use them. Please ask your service provider for details of Network Services.

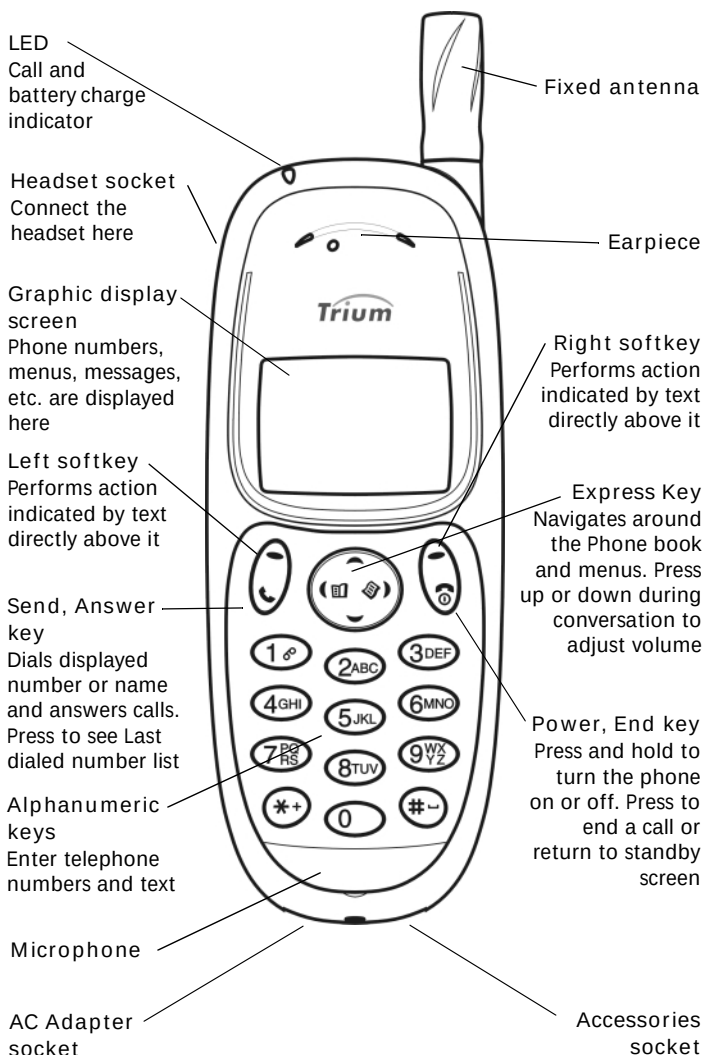
Key Symbols

	Left softkey		Right arrow on Express Key
	Right softkey		Left arrow on Express Key
	SEND key		Up arrow on Express Key
	END/Power key		Down arrow on Express Key

Store  Press softkey below the term to perform that action. For example, **Store**  means press the softkey under the word **Store**. Softkey actions and labels change with each new screen.

Select ____ Use  and  on the Express Key to scroll to the desired item in the menu and choose by pressing .
For example, select **Phone Book** means scroll to the menu item **Phone Book** and choose by pressing .

G320 PHONE OVERVIEW



Display Icons

The display screen shows pictures, icons, numbers, text and animations. The softkey labels are words in bold appearing on the bottom line. See softkey descriptions on pages 2 and 3.



Display screen in standby mode

Icon	Item	Description
	Signal strength level	Four levels indicate the strength of the received signal from network on which phone is currently registered. If no network is available, the icon does not appear
	Phone Book SIM card	Accessing names stored in the SIM Phone Book
	Phone Book Phone card	Accessing names stored in the phone Phone Book
	Roaming	Phone is logged on to a network other than its home network
	Short message service (SMS) or Text message	SMS text message has been received and stored. Must be offered by service provider and subscription purchased
	SMS message bank is full	SMS message bank is full and cannot store new messages
	Voice mail	Voice mail message has been received and stored by the network's voice mail center. Must be offered by service provider and subscription purchased
	Unanswered Call	Incoming call is missed (unanswered)
	Call Forwarding	Incoming calls are being forwarded. Must be offered by service provider and subscription purchased

	Line 2	Indicates Line 2 is in use. Must be offered by service provider and subscription purchased
	CUG	Closed User Group service is active
	Alarm clock	Alarm clock is set
	Vibrate mode	Vibrate alert set for incoming call
	Ring tone off	Incoming ring tone is turned off
	Battery level	Three levels indicate the battery charge level; low, medium, high
	Low battery	Flashes when the battery is nearly empty
	T9® Text Input mode	Enter text with one key press per character
	Text mode Upper case	Upper case text can be entered
	Text mode Lower case	Lower case text can be entered
	Conversation mode	Currently connected to call
	Keypad lock	Keypad lock is activated
	Scroll arrows	More menu items can be displayed if  or  are pressed
	WAP connection	Connected to online services of your service provider
	WAP connection in security mode	Connected to online services of your service provider in secure mode
	Mute	Microphone is muted

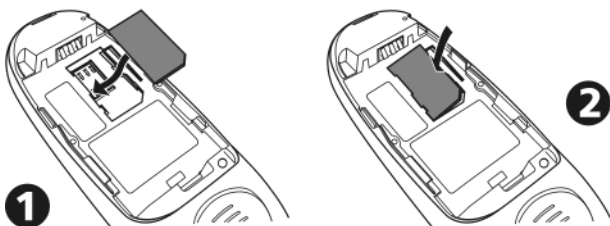
T9® is a registered trademark of Tegic Communications, Inc.

GETTING STARTED

Inserting the SIM Card

Unpack the phone and insert the SIM card into the holder.

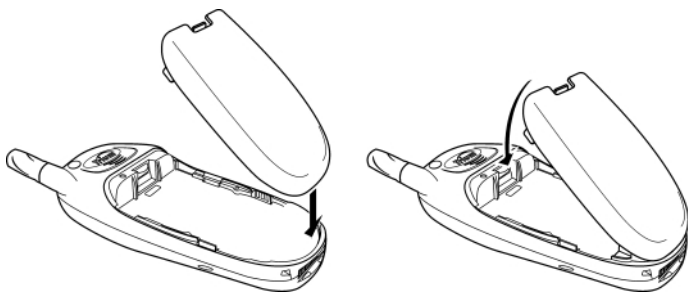
- 1 Open the SIM card holder as shown.
- 2 Insert the SIM card gently as shown with the gold contacts facing down and the bevelled corner of the card at the top left.
- 3 Push the SIM card holder back into position.



If the SIM card has been inserted the wrong way or is damaged, **Check SIM!** will display. Remove the SIM card, check this illustration and re-insert it as described.

Attaching the Battery

- 1 Position the battery onto the phone as shown.
- 2 Push down the opposite end of the battery onto the phone until the battery catch 'clicks' shut. Check that the battery is securely in place.



Charging the Battery

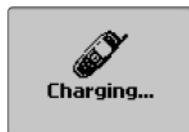
*Note: The battery must be fully charged before using the phone for the first time. To charge the battery, follow procedure below. For the first three times you charge the battery, turn the phone off and charge the battery until the **Battery Full** screen appears. Discharge the battery each time by using the phone until it shuts itself off.*

Connect the AC Adapter to the phone as shown.

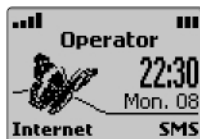
Image not yet available.

- 1 Make sure the battery is properly installed on your phone.
- 2 Connect the AC Adapter to the socket at the base of the phone. Plug in the other side of the AC Adapter to a standard 120 volt outlet.
- 3 Make sure the proper charging indicators are showing as stated below.
- 4 Disconnect the AC Adapter when the **Battery Full!** message displays.

When the phone is off, battery charging is indicated by **Charging...** message. The LED light will be red. When charging is finished, **Battery Full!** displays and the LED light will change to green.



When the phone is on, charging is indicated by the battery icon flashing 1-2-3 bars continuously. When charging is completed, the battery icon will show three solid bars. If a call is received during charging, the LED light will flash green rapidly.



If the phone is used while charging, the charging time will be longer.

Battery Charging Times

Approximate battery recharging time using the AC Rapid Charging Adapter:

Battery	Type	Charging time
1000 mAh NiMH	Standard	TBD

Low Battery Warning

When the battery power falls to its lowest level, the message **Low Battery!** displays and a low battery warning tone sounds.

If you are on a call, end the call and turn off the phone by pressing and holding . Recharge the battery as described or replace it with a charged one.

Battery Safety Tips

- Replace the battery when it will not hold a charge, or when operating time decreases dramatically.
- Use only the Mitsubishi chargers specified for this battery. Using other chargers or batteries will void the warranty and may cause damage.
- It is normal for batteries to become warm during charging.
- Do not leave NiMH batteries connected to a charger longer than necessary; overcharging will shorten battery life.
- Disconnect battery chargers from the power source when not in use.
- Do not leave the phone in a closed car during hot summer or cold winter conditions or exposed to intense sunlight. The phone may temporarily not work with a hot or cold battery.
- The recharging temperature range is 32°--104° F (0°--40° C). If you attempt to recharge when the battery is above or below this range, acid leakage or overheating may result.
- Do not use or leave the battery near a heat source such as a stove, oven, heater or fire (170° F = 76° C or higher).
- The battery is not waterproof. Do not immerse it in liquid or allow it to get wet.
- Avoid contact of the battery terminals with metal objects (such as keys, paper clips, coins, chains) or excessive static electricity which may short circuit the battery.
- If the battery terminals become soiled, clean them with a soft cloth.
- Do not try to disassemble or modify the battery as injury or burns may result.
- Do not drop or subject the batteries to strong physical shocks.
- Keep batteries out of the reach of children.
- Batteries may explode if discarded into a fire or heated.
- Do not dispose of old batteries together with household waste. Starting in 2001, the Rechargeable Battery Recycling Corporation will be collecting many types of batteries. Call 1-800-822-8837 or visit their website at www.rbcc.org.

BASIC PHONE OPERATIONS

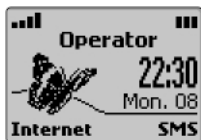
Turning On the Phone

- 1 Press and hold . A picture animation displays and a turn-on tone sounds.
- 2 If the phone is locked, **Enter lock code** will display. Enter the 4-digit Lock Code and press **OK** .
- 3 If your SIM is PIN protected, **Enter PIN** will display. Enter the PIN code and press **OK** .

> See pages 19 and 48 for more details on Lock and PIN Codes.

Standby Screen

The standby screen shows the name of the network and/or service provider, signal strength and battery level icons and **Internet** and **SMS** softkeys.



Press  to go to your Phone Book (see page 31).

Press  to go to the phone main menu (see page 26).

Press  to go to volume control (see page 44).

Press  to silence incoming ring tone (see page 43).

To set time and date, see page 51.

- Press **Internet**  to access the Internet main menu from which you can dial the Home Page offered by your service provider. See page 64 to learn more about this feature.
- Press **SMS**  to access the Short Message Service menu offered by your service provider. See page 35 to learn more about this feature.

Making a Call

The phone can only make and receive calls when it is turned on, unlocked, has a valid SIM card inserted and is located in an area that has GSM network service coverage. If the phone cannot find a network, the display remains blank.

- 1 Enter the telephone number you wish to dial.
Correct any mistakes by pressing **Clear** . Press and hold this key to erase the entire entry.
- 2 Press  to dial (send) the number.

To store the dialed number in the Phone Book, press **Store**  before pressing  to connect the call. Follow the display prompts to finish storing.

International calls can be prefixed either with 00 or +. To enter the + symbol before a number, press and hold  until + appears in the display.

When the call connects, the call timer displays.

- **Busy** Called party's line is busy. If Auto Retry is on, the phone will attempt to call again (see page 48 for details).
- **Not allowed (fixed dialing)** Number dialed is not authorized by the FDN list (see page 34 for details).
- Line 2 icon () appears when call connects (if active) indicating call was made using this line (see page 42 for details).

Volume Adjustment During Conversation

Press  or  on the Express Key to increase or decrease the earpiece volume through eight levels.

Answering a Call

When there is an incoming call, the phone rings. The LED light on the top of the phone flashes green and a flashing  icon appears. The back-light also lights up if the phone was set to do so or if in silent mode.

Press  to answer the call.

Press **Silence**  to stop incoming ring tone.

- If the ring tone volume is set to zero (off) or if the phone is in 'Silent mode' or 'Vibrate mode', no audible sound will be heard.

Press  to send the call to voice mail.

Call Display Notes

- The caller's number (if available) displays. If you stored this number in the Phone Book, the person's name displays.
- If the caller's number is not available, **Unknown number** displays first, then **Call 1** displays when you answer.
- If the caller has withheld their number, **Withheld number** displays first, then **Call 1** displays when you answer.
- When the call connects, the call timer appears.
- Line 2 icon () appears if the call is received on your Line 2 number. See page 42 for details.

Ending a Call

Press  to end a call.

After ending the call, the call timer will stop and  will disappear. Wait a few seconds or press Back softkey to return to the standby screen.

Keypad Lock

When Keypad lock is activated, it prevents accidental key presses or calls being made when the phone is carried in a pocket, briefcase or handbag. Keypad lock is suspended during incoming calls and resumes when the call ends. Emergency calls can still be made.

To activate Keypad Lock,

Press and hold . The screen will show .

To deactivate Keypad Lock,

Press **Unlock** , then press .

Turning Off the Phone

Press and hold .

A turn off tone will sound. During turn off, a picture animation displays, then the phone will turn off.

Do not turn off the phone by removing the battery, as data which may need to be saved in the SIM will be lost.

Network Messages

A Network Message icon will appear when you have missed an incoming call, received a voice message, or received an SMS message. An alert tone will also sound for voice and SMS messages.

- 1

Press **Read**  to view the message.
- 2

If there is more than one type of message, pressing **Read**  will display a list of the message types. Scroll to the desired message and press **Select**  or  to view the message.



The display shows the message type icon and number of messages. Follow these actions to pick up your messages.

Icon	Item	Action
	Unanswered Call	Press Read  . The caller's number appears. Press  to call the number, or press Options  . Unanswered call numbers are stored in the Unanswered Call Log. See page 39 for details.
	Voice Mail	Press  or Call  to speed dial your voice mail message center. See page 52 for details.
	SMS Message	Press Read  to view the SMS Inbox messages. See SMS Messages on page 35.
	SMS Message bank is full	Delete at least one old received message to be able to receive new messages. See Managing SMS Messages on page 35.

SAFETY INFORMATION

STATEMENT OF COMPLIANCE

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

CAUTION: Changes or modifications not expressly approved by Mitsubishi Wireless Communications, Inc. could void your authority from the FCC to operate the equipment.

EXPOSURE TO RADIO FREQUENCY SIGNALS

Your wireless handheld portable telephone is a low power radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) signals.

In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for hand-held wireless phones. These guidelines are consistent with the safety standards previously set by both U.S. and international standards bodies:

*ANSI C95.1 (1992)

*NCRP Report 86 (1986)

*ICNIRP (1996)

*American National Standards Institute; National Council on Radiation Protection and Measurements; International Commission on Non-Ionizing Radiation Protection

Those standards were based on comprehensive and periodic evaluations of the relevant scientific literature. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the ANSI Standard (C95.1).

The design of your phone complies with the FCC guidelines (and those standards).

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 limits for exposure to radiofrequency (RF) energy set by the Federal Communications Com-

mission 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 using standard operating positions accepted by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before a 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 0.57 W/kg and when worn on the body, as described in this user guide, is 0.97 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 BGB MT289.

Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) website at <http://www.phonefacts.net>.

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

Your phone has been tested and meets the limits for radio frequency (RF) exposure set by the FCC for normal handheld use next to the ear or worn on the body using a Mitsubishi brand belt clip accessory specified for this phone, and used as intended. Operation of the phone in other situations such as in shirt pockets or non-Mitsubishi brand belt clips or holsters have not been tested. Therefore operation of the phone in non-tested situations may not meet the limits for RF exposure set by the FCC and must be avoided.

ANTENNA CARE

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate FCC regulations.

PHONE OPERATION

Hold the phone as you would any other telephone with the antenna pointed up and over your shoulder.

For your phone to operate most efficiently, extend the antenna fully (if applicable) and do not touch the antenna unnecessarily when the phone is in use. Contact with the antenna affects call quality and may cause the phone to operate at a higher power level than otherwise needed.

DRIVING

Check the laws and regulations on the use of wireless telephones in the areas where you drive. Always obey them. Also, if using your phone while driving, please:

- Give full attention to driving - driving

safely is your first responsibility.

- Use hands-free operation, if available.
- Pull off the road and park before making or answering a call if driving conditions so require.

ELECTRONIC DEVICES

Most modern electronic equipment is shielded from RF signals. However, certain electronic equipment may not be shielded against the RF signals from your wireless phone.

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of six (6") inches be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.

Persons with pacemakers:

- Should ALWAYS keep the phone more than six inches from their pacemaker when the phone is turned ON
- Should not carry the phone in a breast pocket
- Should use the ear opposite the pacemaker to minimize the potential for interference
- If you have any reason to suspect that interference is taking place, turn your phone OFF immediately

Hearing Aids

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider (or call the customer service line to discuss alternatives).

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if they are adequately shielded from external RF energy. Your physician may be able to help you obtain this information.

Turn your phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equip-

ment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities

Turn your phone OFF in any facility where posted notices so require.

AIRCRAFT

FCC regulations prohibit using your phone while in the air.

Switch OFF your phone before boarding an aircraft.

BLASTING AREAS

To avoid interfering with blasting operations, turn your phone OFF when in a "blasting area" or in areas posted "Turn off two-way radio." Obey all signs and instructions.

POTENTIALLY EXPLOSIVE AREAS

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

FOR VEHICLES EQUIPPED WITH AIR BAGS

An air bag inflates with great force. DO NOT place objects, including both installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.



The U.S. Food and Drug Administration's Center for Devices and Radiological Health

Consumer Update on Mobile Phones

FDA has been receiving inquiries about the safety of mobile phones, including cellular phones and PCS phones. The following summarizes what is known--and what remains unknown--about whether these products can pose a hazard to health, and what can be done to minimize any potential risk.

Why the concern?

Mobile phones emit low levels of radio frequency energy (i.e., radio frequency radiation) in the microwave range while being used. They also emit very low levels of radio frequency energy (RF), considered non-significant, when in the stand-by mode. It is well known that high levels of RF can produce biological damage through heating effects (this is how your microwave oven is able to cook food). However, it is not known whether, to what extent, or through what mechanism, lower levels of RF might cause adverse health effects as well. Although some research has been done to address these questions, no clear picture of the biological effects of this type of radiation has emerged to date. Thus, the available science does not allow us to conclude that mobile phones are absolutely safe, or that they are unsafe. However, the available scientific evidence does not demonstrate any adverse health effects associated with the use of mobile phones.

What kinds of phones are in question?

Questions have been raised about hand-held mobile phones, the kind that have a built-in antenna that is positioned close to the user's head during normal telephone conversation. These types of mobile phones are of concern because of the short distance between the phone's antenna--the primary source of the RF--and the person's head. The exposure to RF from mobile phones in which the antenna

is located at greater distances from the user (on the outside of a car, for example) is drastically lower than that from hand-held phones, because a person's RF exposure decreases rapidly with distance from the source. The safety of so-called "cordless phones," which have a base unit connected to the telephone wiring in a house and which operate at far lower power levels and frequencies, has not been questioned.

How much evidence is there that hand-held mobile phones might be harmful?

Briefly, there is not enough evidence to know for sure, either way; however, research efforts are on-going.

The existing scientific evidence is conflicting and many of the studies that have been done to date have suffered from flaws in their research methods. Animal experiments investigating the effects of RF exposures characteristic of mobile phones have yielded conflicting results. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. In one study, mice genetically altered to be predisposed to developing one type of cancer developed more than twice as many such cancers when they were exposed to RF energy compared to controls. There is much uncertainty among scientists about whether results obtained from animal studies apply to the use of mobile phones. First, it is uncertain how to apply the results obtained in rats and mice to humans. Second, many of the studies that showed increased tumor development used animals that had already been treated with cancer-causing chemicals, and other studies exposed the animals to the RF virtually continuously--up to 22 hours per day.

For the past five years in the United States, the mobile phone industry has supported research into the safety of mobile phones. This research has resulted in two findings in particular that merit additional study:

1. In a hospital-based, case-control study, researchers looked for an association between mobile phone use and either glioma (a type of brain cancer) or acoustic neuroma (a benign tumor of the nerve sheath). No statistically significant association was found between mobile phone use and acoustic neuroma. There was also no association between mobile phone use and gliomas when all types of types of gliomas were considered

together. It should be noted that the average length of mobile phone exposure in this study was less than three years.

When 20 types of glioma were considered separately, however, an association was found between mobile phone use and one rare type of glioma, neuroepitheliomatous tumors. It is possible with multiple comparisons of the same sample that this association occurred by chance. Moreover, the risk did not increase with how often the mobile phone was used, or the length of the calls. In fact, the risk actually decreased with cumulative hours of mobile phone use. Most cancer causing agents increase risk with increased exposure. An ongoing study of brain cancers by the National Cancer Institute is expected to bear on the accuracy and repeatability of these results.¹

2. Researchers conducted a large battery of laboratory tests to assess the effects of exposure to mobile phone RF on genetic material. These included tests for several kinds of abnormalities, including mutations, chromosomal aberrations, DNA strand breaks, and structural changes in the genetic material of blood cells called lymphocytes. None of the tests showed any effect of the RF except for the micronucleus assay, which detects structural effects on the genetic material. The cells in this assay showed changes after exposure to simulated cell phone radiation, but only after 24 hours of exposure. It is possible that exposing the test cells to radiation for this long resulted in heating. Since this assay is known to be sensitive to heating, heat alone could have caused the abnormalities to occur. The data already in the literature on the response of the micronucleus assay to RF are conflicting. Thus, follow-up research is necessary.²

FDA is currently working with government, industry, and academic groups to ensure the proper follow-up to these industry-funded research findings. Collaboration with the Cellular Telecommunications Industry Association (CTIA) in particular is expected to lead to FDA providing research recommendations and scientific oversight of new CTIA-funded research based on such recommendations.

Two other studies of interest have been reported recently in the literature:

1. Two groups of 18 people were exposed to simulated mobile phone signals under laboratory conditions while they performed cognitive function tests. There were no changes in the subjects' ability to recall words, numbers, or pictures, or in their spatial memory, but they were able to make choices more quickly in one visual test when they were exposed to simulated mobile phone signals. This was the only change noted among more than 20 variables compared.³
2. In a study of 209 brain tumor cases and 425 matched controls, there was no increased risk of brain tumors associated with mobile phone use. When tumors did exist in certain locations, however, they were more likely to be on the side of the head where the mobile phone was used. Because this occurred in only a small number of cases, the increased likelihood was too small to be statistically significant.⁴

In summary, we do not have enough information at this point to assure the

public that there are, or are not, any low incident health problems associated with use of mobile phones. FDA continues to work with all parties, including other federal agencies and industry, to assure that research is undertaken to provide the necessary answers to the outstanding questions about the safety of mobile phones.

What is known about cases of human cancer that have been reported in users of hand-held mobile phones?

Some people who have used mobile phones have been diagnosed with brain cancer. But it is important to understand that this type of cancer also occurs among people who have not used mobile phones. In fact, brain cancer occurs in the U.S. population at a rate of about 6 new cases per 100,000 people each year. At that rate, assuming 80 million users of mobile phones (a number increasing at a rate of about 1 million per month), about 4800 cases of brain cancer would be expected each year among those 80 million people, whether or not they used their phones. Thus it is not possible to tell whether any individual's cancer arose because of the phone, or whether it would have happened anyway.

A key question is whether the risk of getting a particular form of cancer is greater among people who use mobile phones than among the rest of the population. One way to answer that question is to compare the usage of mobile phones among people with brain cancer with the use of mobile phones among appropriately matched people without brain cancer. This is called a case-control study. The current case-control study of brain cancers by the National Cancer Institute, as well as the follow-up research to be sponsored by industry, will begin to generate this type of information.

What is FDA's role concerning the safety of mobile phones?

Under the law, FDA does not review the safety of radiation-emitting consumer products such as mobile phones before marketing, as it does with new drugs or medical devices. However, the agency has authority to take action if mobile phones are shown to emit radiation at a level that is hazardous to the user. In such a case,

FDA could require the manufacturers of mobile phones to notify users of the health hazard and to repair, replace or recall the phones so that the hazard no longer exists.

Although the existing scientific data do not justify FDA regulatory actions at this time, FDA has urged the mobile phone industry to take a number of steps to assure public safety. The agency has recommended that the industry:

- support needed research into possible biological effects of RF of the type emitted by mobile phones
- design mobile phones in a way that minimizes any RF exposure to the user that is not necessary for device function
- cooperate in providing mobile phone users with the best possible information on what is known about possible effects of mobile phone use on human health.

At the same time, FDA belongs to an inter-agency working group of the federal agencies that have responsibility for different aspects of mobile phone safety to ensure a coordinated effort at the federal level. These agencies are:

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

The National Institutes of Health also participates in this group.

In the absence of conclusive information about any possible risk, what can concerned individuals do?

If there is a risk from these products--and at this point we do not know that there is--it is probably very small. But if people are concerned about avoiding even potential risks, there are simple steps they can take to do so. For example, time is a key factor in how much exposure a person receives. Those persons who spend long periods of time on their hand-held mobile phones could consider holding lengthy conversations on conventional phones and reserving the hand-held models for shorter

conversations or for situations when other types of phones are not available.

People who must conduct extended conversations in their cars daily could switch to a type of mobile phone that places more distance between their bodies and the source of the RF, since the exposure level drops off dramatically with distance. For example, they could switch to a

- mobile phone in which the antenna is located outside the vehicle,
- hand-held phone with a built-in antenna connected to a different antenna mounted on the outside of the car or built into a separate package, or
- headset with a remote antenna to a mobile phone carried at the waist.

Again, the scientific data do not demonstrate that mobile phones are harmful. But if you are concerned about the radio frequency energy from these products, taking the precautions outlined above can reduce any possible risk.

Where can I find more information?

See the following websites:

Federal Communications Commission (FCC)
RF Safety Program (select "Information on Human Exposure to RF Fields from Cellular and PCS Radio Transmitters"):
<http://www.fcc.gov/oet/rfsafety>

World Health Organization (WHO)
International Commission on Non-Ionizing Radiation Protection (select Qs & As):
<http://www.who.int/emf>

United Kingdom, National Radiological Protection Board
<http://www.nrp.org.uk>

Cellular Telecommunications Industry Association (CTIA)
<http://www.wow-com.com>

U.S. Food and Drug Administration (FDA)
Center for Devices and Radiological Health:
<http://www.fda.gov/cdrh/consumer/index.html>

1. Muscat et al. Epidemiological Study of Cellular Telephone Use and Malignant Brain Tumors. In: State of the Science Symposium; 1999 June 20; Long Beach, California.
2. Tice et al. Tests of mobile phone signals for activity in genotoxicity and other laboratory assays. In: Annual Meeting of the Environmental Mutagen Society; March 29, 1999, Washington, D.C.; and personal communication, unpublished results.

3. Preece, AW, Iwi, G, Davies-Smith, A, Wesnes, K, Butler, S, Lim, E, and Varey, A. Effect of a 915-MHz simulated mobile phone signal on cognitive function in man. *Int. J. Radiat. Biol.*, April 8, 1999.
4. Hardell, L, Nasman, A, Pahlson, A, Hallquist, A and Mild, KH. Use of cellular telephones and the risk for brain tumors: a case-control study. *Int. J. Oncol.*, 15: 113-116, 1999.

Care and Maintenance

This telephone is the product of advanced engineering, design and craftsmanship and should be treated with care. The suggestions below will help you enjoy this product for many years.

- Do not expose the phone to high temperatures or humidity.
- Do not expose or store in cold temperatures. When the phone warms up after power on, moisture can form inside and may damage the electrical parts.
- Do not try to disassemble the phone. There are no serviceable parts inside that you can replace.
- The phone is not waterproof. Water or liquids can damage it.
- Dropping, knocking or violent shaking can damage the phone.
- Wipe the phone only with a soft, slightly dampened cloth. Do not clean it with strong chemicals or solvents.
- Do not place the telephone near computer discs, credit cards or other magnetic media. The information on discs or cards may be affected by the phone.
- The use of third party equipment or accessories not made or authorized by Mitsubishi Wireless Communications Inc. may invalidate the warranty of your phone and may be a safety risk.
- The numbers on the labels are important for service purposes. Do not remove the labels.
- Contact an authorized service center if a defect is noticed.

Emergency Calls

In the U.S., provided the phone has GSM service, emergency calls can be made by dialing 911. Emergency calls can even be made if the phone is PIN or electronically locked or call barred.

Security Codes

The phone and SIM card are pre-programmed with codes that protect the phone and SIM card against unauthorized use.

When asked to enter any of the codes, key in the numbers (appear as * asterisks) and press **OK** .

Press **Clear**  to erase mistakes. If you enter the wrong code, a warning message appears.

PIN and PIN2 codes (4-8 digits)

All SIM cards are supplied with a PIN (Personal Identity Number) to protect the card against unauthorized use.

Some SIM cards are supplied with a PIN2 code for another security level for certain features such as fixed dialing numbers.

If **Enter PIN** appears, enter the PIN code and press **OK** .

If the wrong PIN code is entered three times in a row, **SIM Blocked** appears and the SIM card is disabled. **Contact provider** also appears. To unblock the SIM, you must enter the PUK (PIN Unblock Key) code, available only from your service provider. See page 50 for more details.

PUK and PUK2 codes (8 digits)

Also supplied with the SIM card is the PUK (PIN Unblock Key) code to unblock a disabled SIM card.

When requested, enter the PUK code and press **OK** . Then you will be asked to reset the PIN code.

If the wrong PUK code is entered ten times in a row, the SIM card must be replaced. Contact your service provider.

The PUK2 code must be used to unblock the PIN2 code.

Call barring password (4 digits)

Used to bar certain types of calls from the phone, this password is supplied by the service provider. See page 50 for details.

Phone lock code (4 digits)

This code is set to four zeros by the manufacturer and can be reset. Once changed, it cannot be identified by the manufacturer over the phone. See page 48 for details.

Keep a record of your codes and store them in a safe place.

GENERAL FEATURES

Dialing Stored Numbers

Any number stored in the phone's memory can be recalled to the display and dialed.

...from the Phone Book

- 1 Press  to enter the Phone Book list.
- 2 Press  or  to scroll to the desired number. If you choose a multiple number Phone Card, then scroll to select one of the numbers to dial (for example, Work or Cellular).
- 3 Press  to dial the number.

> See **Phone Book**, page 31.

...from the Last numbers dialed list

The last 10 numbers you have dialed are stored in the Call logs.

- 1 Press  to display the Last numbers dialed list.
- 2 Press  or  to scroll to the desired number.
- 3 Press  to dial the number.

...from the Call logs list

The last 10 numbers dialed, the last 10 received call numbers, and the last 10 unanswered call numbers are stored in the Call logs.

- 1 Press  to enter the main menu. Select **Calls & Timers**.
- 2 Select **Call log**.
- 3 Select **Last dial**, **Received call**, or **Unanswered call**.
- 4 Press  or  to scroll to the desired number.
- 5 Press  to dial the number.

...from SMS text messages

The call-back number on an SMS message header or a phone number included within an SMS message can be dialed directly.

- 1 Press  to enter the main menu. Select **Messages**.
- 2 Select **Inbox**.
- 3 Press  or  to scroll to the desired message header.
- 4 Press and hold  to dial the number.

> See **Messages**, page 34.

...from the Scratchpad

- 1 Press  to enter the main menu. Select **Office Tools**.
- 2 Select **Scratchpad**, then select **Read**.
- 3 Press  or  to scroll to the desired memo entry.
- 4 Press and hold  to dial the number.

> See **Scratchpad**, page 60.

Speed Dialing

Any number stored in the SIM, except Fixed Dialing Numbers (see page 34), can be speed dialed using the 1-9 keys.

Press and hold the desired key ( - ) from the standby screen. The stored name will be recalled to the screen and the number will be dialed. If it is a multiple number Phone card, scroll to the desired number and press **Select** .

> By default,  is always assigned to the voice mail number.

> See **Speed Dialing** on page 47 to set up Speed Dial numbers.

Silent Alert Mode

Controls whether the incoming ring and alert tones will be heard. To activate silent alert mode,

- 1 Press .
- 2 Select **Silent**, **Vibrate** or **Vibrate then ring**.

The vibrate icon  displays when this feature is turned on.

To deactivate silent alert mode,

- 1 Press .
- 2 Select **Ring**.

> If the ring tone volume is set to zero, the Ring Tone Off icon  displays as a warning. See Tones - Alert mode on page 43.

To turn off ring of current incoming call,

Press **Silence** .

You can turn on or off the following alert tones separately.

Voice Mail alert -- p. 53

Broadcast (CB) alert -- p. 60

SMS Message alert -- p. 38

Alarm clock alert -- p. 62

Conversation Options

Mute/Unmute

To mute or unmute your phone's microphone during conversation,

- 1 To mute, press **Options** . Select **Mute** and select **Yes**. The microphone turns off.  appears.
- 2 To unmute, press **Options**  and select **Unmute**. The microphone turns back on and  disappears.

Adjusting Volume

To adjust the caller's audio level during conversation,

- 1 Press  or  on the Express Key to increase or decrease the earpiece volume through eight levels.
- 2 The new volume level stores automatically.

> See also **Volume adjustments** on page 44.

Handsfree Speaking

While in your car or if you wish to share the conversation with others nearby, use the handsfree speaker to send your caller's voice through the phone's loudspeaker.

During conversation or while accepting an incoming call, press **Speak.on**  to broadcast your caller's voice.

To turn off the loudspeaker, press **Speak.off** .

Sending DTMF Touch Tones

You can send Dual Tone Multi-Frequency (DTMF) touch tones to communicate with computerized systems, such as answering machines, voice mail or banking-by-phone. These tones can also be used for credit card calls or long distance calling cards.

A DTMF touch tone is a digit or string of digits that produces tone signals. DTMF strings can also be stored in the Phone Book. Refer to Storing Names and Telephone Numbers on page 31.

MANUALLY

To send DTMF touch tones directly from the keypad during conversation,

Press the desired keys (0-9, * and # keys). The tones will be heard in the earpiece and sent immediately.

AUTOMATICALLY

To send a consecutive string of DTMF tones during conversation,

- 1 Press **Options**  and select **Auto DTMF**.
- 2 Enter the DTMF numbers by using the keypad or from a number stored in the Phone Book (under **Names** .
- 3 Press **OK**  to send the tones. After the tones have been sent the normal conversation screen displays.

> DTMF touch tones cannot be sent when a call is on hold.

Pause Feature

DTMF number strings, separated by pauses, can be stored in the Phone Book the same way you store phone numbers.

To insert an automatic 1.5 second pause before DTMF tones are sent,

Press and hold . The symbol * appears first, then the symbol +, then the letter **p** will appear on the screen.

To automatically pause for 3 seconds, enter 'pp.'

Any number of pauses can be stored together with a maximum of 20-46 characters (dependent upon the SIM and the phone's memory capacity).

Holding and Retrieving a Call

Press  to put a call on hold during conversation.

Press  or **Unhold**  to retrieve a call.

To make a second call when one call is on hold,

- 1 After putting the call on hold, enter a number, press  and establish the call.
- 2 Press  to swap between the two calls.
- 3 To end either the current call or the held call, select **End active** or **End held call** in the **Options** menu. The remaining call is automatically retrieved.
- 4 Press  to end the remaining call.

> Both calls can be ended at the same time by pressing .

Another way to hold, retrieve and make a second call during conversation is to press **Options**  and select **Hold**. Follow the steps listed above.

When a call is on hold, the Options menu has **Retrieve** choice.

See also **Conference Calls** on page 24.

Call Waiting

Call waiting is a network service that allows you to put an existing call 'on hold' while you answer or make a second call.

To activate or cancel call waiting,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Call waiting**.
- 3 To check the current setting, select **Status**. The network will send a display stating whether Call Waiting is active or not.
- 4 To change the setting, select **Activate** or **Cancel**. **Requesting** displays. The network will confirm your request.

USING CALL WAITING

When a second call comes in, you will hear a 'double beep'; and an animated phone icon and the phone number (if available) will display.

- Either press to answer the call and put the first call on hold or press **Reject** to send the incoming call to voice mail.
- Press to swap between the two calls.
- Press **Replace** to end the first call and take the incoming call.
- See Step 3 in **Holding and Retrieving a Call** to end one or both calls.

Example of a multiparty call screen.

The signal strength, time of day, Line 2 in use, and battery level icons appear on the top line.

The **active call** type is in bold, displaying name and call time elapsed.

If possible, the time elapsed from the start of the multiparty call may display.



Conference Calls

This feature allows you to make or receive between 2 to 5 calls at the same time with all parties being able to hear and talk with each other.

- 1 Enter a number, press and establish the call.
- 2 Enter another number and press . The first call will be put on hold while the second call becomes active.
- 3 Press **Options** for these options:

Option	Confer- ence	Non- confer- ence	Description
Auto-DTMF		•	Allows a DTMF string to be entered to the active call only
Swap		•	Swaps between active and call on hold
Join	•		Joins active and call on hold to make a conference call
Mute/Unmute	•	•	Turns on or off the microphone
Hold/Retrieve	•	•	Holds or retrieves the call
Private with	•		Allows you to select and have a private conversation with one of the conference callers while putting all the other calls on hold
End held		•	Ends the call on hold
End active		•	Ends active call and connects with call on hold
End one	•		Allows you to select and end one of the conference call participants
End all	•	•	Ends all the calls

Throughout the call, the screen confirms the actions you have selected.

- For alternate line service (ALS) subscribers, conference calls cannot be made between Line 1 and Line 2. For details, see Alternate Line Service on page 42.

MENU SYSTEM

Use the Express Key to access the easy to use menu system, where all of the phone's features and function settings are stored. The menu is also used for features you have requested from your service provider. Your SIM card presents these features through the menu system.

- Press  (labeled MEM) to go to all stored telephone numbers in the Phone Book.
- Press  (labeled MENU) to enter the main menu from the standby screen.
- To navigate through the main menu items, press  or .
- All other functions and features are then selected by pressing  or **Select** .
- To return to a previous menu, press  or **Back** .
- To exit the menus, press and hold **Clear** ; or  if no call is in progress.

Menu Map

Network Serv. *

Direct Links *
Applications *
Services *
Information *

Calls & Timers

Call log
Call timers
Call costs *
Line selection *

Internet

Home page *
Bookmarks *
Other site *
Profile list *
Settings *

Phone Book

Recall
Store
Remaining
Own numbers
Fixed dialing *

Settings

Phone settings
Voice mail
Services
Broadcast

Messages

Inbox *
Outbox *
Write new
Settings *
Draft texts *
Alert *
Storage *

Office Tools

Scratchpad
Currency converter
Alarm clock

Games *

Reshape *
Push *
Options *

* Appears if offered by service provider and subscription is purchased.

ENTERING TEXT

To store names and email addresses in the Phone Book, write SMS text messages, use the Scratchpad or use the Internet services, you will enter and edit text in the display.

In the text input screen, select from two modes:

- Alpha -- to enter alpha characters
- T9 -- to enter alpha characters using quick T9 Text Input

Press and hold  to switch between the modes.

These icons appear in the text input screen:

	Alpha mode Upper case	Upper case text can be entered
	Alpha mode Lower case	Lower case text can be entered
	T9® Text Input mode	Enter text with one key press per character

> The upper and lower case icons appear both in Alpha mode and T9 mode.

T9® Text Input Method

There are two methods for entering characters and numbers. In the conventional alpha method, you keep pressing each key until the desired letter appears. This can be cumbersome when entering a lot of text. For a quick text entry method, use T9 Text Input to press each key just once to allow the T9 software to assemble the word for you. The T9 database ranks words by common usage so one entry gives the choice of several words.

To use T9 Text Input mode:

- 1 To enter a word, press each key containing the desired letters only once.
Be sure to type the entire word first before editing.
- 2 Check to see if the desired word appears. If it does, press  to enter a space and continue entering text.
- 3 If the desired word is not displayed, press  to cycle to other word choices.
- 4 If the desired word doesn't appear, press  to change to the alpha mode to enter the word.
- 5 Use the arrow keys to move the cursor to insert characters or make corrections.

T9® Text Input Example

T9 Text Input mode is ready when the  icon displays.

Press keys corresponding to the letters you need, just as if the phone keypad were a typewriter. Type  for space and  for period.

For example:

           
h e l l o w o r l d .

T9 Text Input key actions

Key	Action
	Press to shift - upper/lower case Press briefly to automatically capitalize the current letter
Clear 	Clear character or backspace Press and hold to clear entire entry
	Press to enter space Press and hold to view symbols
	Scroll to other word choices
	Enters a period , --, or ... Press 1 key, then press zero key repeatedly to scroll to , - ' @ : ? To type contractions such as you're, type y-o-u-1-r-e. The period will change to an apostrophe.
number keys	Press and hold to enter numbers
	Press to switch between T9 Text Input and alpha modes
 	Press to move cursor between words

Adding words to T9 Text Input database

Words that do not appear in T9 Text Input database can be added easily using the alpha mode. In alpha mode, type the desired word into the text of your message. The unknown word is automatically added to the database so you can type it using T9 Text Input in the future.

For example, to enter 'Jenna' to the T9 database,

1. Press  to go to alpha mode.
2. Press  to capitalize, then press 5 key once to enter 'J.' Press 3 key twice to enter 'e.' Press 6 key twice to enter 'n.' Wait for cursor to move then press 6 key twice to enter another 'n.' Press 2 key once to enter 'a.'

3. Press  to go to T9 Text Input mode to complete the message.
4. The name Jenna is automatically stored in the T9 database.

T9® is a registered trademark of Tegic Communications, Inc.

Alpha Text Entry Method

- 1 To type each letter of a word, press the desired key one, two, three or four times, corresponding to the letter's position on the key.
- 2 See chart below:

Alpha method key actions

Key	Action
	Press to shift - upper/lower case Press briefly to automatically capitalize the current letter Press and hold to shift lock upper/lower case
Clear 	Clear character or backspace Press and hold to clear entire entry
	Press to enter space Press and hold to view symbols
	Press to enter 1 . , - @ : ?
number keys	Press and hold to enter numbers
	Press to switch between T9 Text Input and alpha modes
 	Press to move cursor between letters or words

For example, to enter 'Card' in the Scratchpad,

1. Press , then press  three times to select **Office Tools**.
2. Select **Scratchpad**, then select **Write**.
3. Press  briefly to go to upper case mode,  icon is displayed. Press  briefly three times to enter **C** in the screen.
4. Wait for the cursor to move or press  to move to the next position, notice that  is displayed. Press  briefly once to enter **a**.
5. Press  briefly three times to enter **r**.
6. Press  once to enter **d**. The word **Card** will now be in the screen.
7. Press  to exit from this example.

Entering Symbols

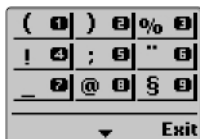
Shortcut for entering punctuation marks in alpha mode,

Press **1** from one to eight times to enter **1 . , - ' @ : ?**

To select and insert a symbol into the text,

- 1 Press and hold **#** to view symbols. Press **↓** to scroll to additional symbols on pages 2 and 3.
- 2 The symbols are arranged as the 1 - 9 keys are arranged on the keypad. To select and enter a symbol into your text, press the number key corresponding to the desired symbol's location on the screen. For example, press **1** to select **(** and insert it directly into the text.
- 3 You will be returned to the text entry screen and the symbol will be in place.

Symbol page 1



NETWORK SERVICES OR DIRECT LINKS

The menu item **Network Serv.** or **Direct Links** may appear at the beginning of the menu if your network provider elects to offer certain value added services and contact phone numbers. These services and phone numbers will be stored in your SIM. Contact your network provider for details on these services. A service provider may present these in one of three ways:

SIM application tool kit

An automatic way to provide services related to your network and not to your phone. These services are SIM dependent.

SDN numbers stored in the SIM

Up to 32 Service Dialing Numbers may be stored in the SIM which cannot be changed.

Information numbers

A list or a menu to enable you to call network or information services offered by your network.

Some providers can offer two of the above services on the same SIM, in which case the **Network Serv.** or **Direct Links** item in the main menu will present two menu items, **Applications** and **Services** or **Information**.

PHONE BOOK

The SIM and the phone have areas of memory used for storing names and telephone numbers known as the Phone Book.

The phone can store up to 100 “extended” vCards (called Phone Cards). These cards store first and last names; home, work, and cell phone numbers; and note. The phone also supports SIM Cards with up to 255 entries but the actual number and capacity is dependent upon the SIM itself. The SIM Cards store name and number.

The phone and SIM memory locations are interconnected, and both are searched when you recall a name or number.

Storing Names and Telephone Numbers

Names and numbers can be stored directly in the Phone Book or moved from other stored areas such as from SMS messages, scratchpad (numbers only) or last dialed number list, etc.

If you travel abroad, it is best to store numbers in international format using the '+' prefix before the country code followed by the telephone number. To enter +, press and hold  until + appears on the screen.

See page 27 for instructions on entering text.

To store Phone Card entries,

- 1 Enter the number. Press **Store** . Another way is to press , select **Phone Book**, and select **Store**.
- 2 Select **Phone names**.
- 3 Select the category of the number you entered. Choices are Home, Work, or Cellular.
- 4 Enter last name and press **OK** .
- 5 Enter first name and press **OK** .
- 6 Enter information into any of these categories. Press **OK**  after each entry.

Home phone number
Work phone number
Cellular phone number
Notes

- 7 **Stored** displays and the remaining number of open entries.

To store SIM Card entries,

- 1 Enter the number. Press **Store** . Another way is to press , select **Phone Book**, and select **Store**.
- 2 Select **SIM names**.
- 3 Confirm the number and press **OK** .
- 4 Enter the name and press **OK** . **Stored** displays and the remaining number of open entries.

Numbers stored in the last dialed, received, unanswered, scratchpad (numbers only) and SMS message locations can all be stored in the Phone Book.

To enter a Phone or SIM Card from other stored locations,

- 1 Display a number from one of the above, press **Options** .
- 2 Select **Store**, then select **Phone names** or **SIM names**. Follow directions above for storing Phone Cards or SIM Cards, starting at step 3.

> During number and name entry, press **Clear** to erase the last character. Press and hold **Clear** to erase the entire entry.

- The characters *, +, P (pause), # and _ can be stored together with numbers.
- If the SIM or Phone Book is full, a warning message will display when selecting the Phone Book.

Free Space in the Phone Book

To see how many empty Phone Book spaces remain in the SIM or the phone,

- 1 Press . Select **Phone Book**.
- 2 Select **Remaining** and use  or  to display the remaining available spaces in the phone or SIM.

> If available, the free memories in the FDN list will also be shown.

Viewing and Dialing Numbers in the Phone Book

Phone Book entries can be recalled into the screen to be edited, deleted, copied, moved or dialed from either the phone or SIM.

To go to a Phone Book entry,

- 1 Press  to view the Phone Book or press  and select **Phone Book**.
- 2 Select **Recall**.

- 3 Either press **OK**  or enter up to the first 3 initials of the name desired and then press **OK** .

If no initial is entered, the screen will show the first alphabetical entry in the Phone Book. The list of Phone Book entries will be displayed in alphabetical order. An icon indicates whether the entry is stored in the SIM or the phone memory.

- 4 Press  or  to scroll to the desired phone entry.

To go directly to an entry, press the corresponding alphabet key. For example, to go directly to entries starting with 'N' press  twice.

- 5 Press  to dial the number, or

press **Options**  to display the following menu:

Item	Action
Edit	Edits the entry
Delete	Deletes the entry
Copy	Copies the entry to the SIM or the phone or vice versa. Editing allowed before copying
Move	Moves the entry to another position. Editing allowed before moving
Call	Calls the number displayed. If there are multiple numbers, a list will display from which you can choose the desired number to dial.

Own Number Display

You can view your own PCS number, and if you have a subscription, your Line 2 PCS number (Alternate Line Service), data and fax numbers. All of these numbers are stored in the SIM by your service provider.

To view your own number(s),

- 1 Press . Select **Phone Book**.
- 2 Select **Own numbers**. Your PCS number displays.
- 3 Use  or  to view Line 2, data and fax numbers (if you have a subscription for them).

Fixed Dialing Numbers (FDN)

Fixed dialing restricts outgoing calls to 'fixed' numbers or 'prefixes' contained in SIMs that support this feature. It prevents dialing numbers, call forwarding and sending SMS messages to numbers that are not in the FDN list. The amount of FDN numbers that can be stored depends on the SIM capacity. PIN 2 code is required to turn on FDN or enter numbers into the FDN list.

To turn on or off FDN operation,

- 1 Press . Select **Phone Book**.
- 2 Select **Fixed dialing**. Select **Status**.
- 3 Select **On** or **Off**. If selecting **On**, enter the PIN2 code.
- 4 Press **OK**  to confirm the setting.

To view the numbers in the list,

- 1 Press . Select **Phone Book**.
- 2 Select **Fixed dialing**.
- 3 Select **View** and use  or  to view all the entries. Press **Options**  to edit, delete or copy numbers to phone or SIM.

To enter, edit or delete numbers in the FDN list,

- 1 Press . Select **Phone Book**.
- 2 Select **Fixed dialing**.
- 3 Select **Add new**. Enter the PIN2 code if not entered yet. It is now possible to add new numbers as well as edit, delete and copy numbers to the phone or SIM.

> Wild card spaces can be used with the numbers stored in the FDN list. For example, the number 727 8__9 allows calls to all numbers between 727 8009 to 727 8999 to be dialed. When recalled to the standby screen, the number can be edited and dialed.

MESSAGES

SMS message service enables you to send or receive short text messages of up to 160 characters to or from other digital cellular phones with the same capability. The messages are not sent directly to the other mobile phone but go via your service provider's message center. Store, edit and forward text messages, as well as saving any of the numbers they may contain. You can also use the Outbox to store, edit, and forward messages as well as saving any of the numbers they contain.

Reading a New SMS or Email Message

When the phone receives an SMS message, an SMS message alert tone sounds and  displays. The message is automatically stored in the SIM.

Press **Read**  to read all new received messages (Inbox).

READING STORED SMS MESSAGES

- 1 Press . Select **Messages**.
- 2 Select **Inbox** to display the first message header.
- 3 Press  or select **Options** , then select **Read text** to read the message text.

- Each message header displays the sender's call-back number, date/time stamp, first line of message, message state icon, and number of messages in the Inbox.
- Message state icons:  Unread (new) message  Read message
- Use  and  to scroll between pages or between messages.
- If  appears, the SMS message storage is full. Delete old messages to be able to receive new messages.

Managing SMS Messages

After reading the text message, press **Options**  for these options:

Item	Action
Read text	Displays remainder of text
Delete	Deletes the message
Reply	Replies to sender of the message
Reply (+ text)	Replies to sender of the message with the initial text
Forward	Forwards the message to another phone
Forward to n	Forwards a set of several messages (5 maximum) to 5 different addresses
Numbers	Stores or calls the number(s) contained in the SMS header or text

> The items of this menu may vary and are dependent upon the type of message received.

Set up to Send SMS Messages

Before writing a new SMS message, check to see that the network's SMS message center number is stored in the phone.

- 1 Press . Select **Messages**.
 - 2 Select **Settings**.
 - 3 Select **Message center**.
If a number already appears, your service provider supplied the number. Press **OK** . If empty, call your service provider.

If desired, you can select and change the following options.
The default settings are in place unless you change them.

Option	Description	Default
Validity	Time held at message center. 12 hrs, 1 day, 2 days or Maximum (defined by service provider)	Maximum
Format	Selects format of message; Text, Voice, Fax or Pager	Text
Paid reply to	You may pay for the reply to a message, if a reply is sent by the addressee	Off
Status report to	Requests a status report. Must be supported by your service provider	Off

The phone is now ready to send SMS messages.

Creating a Draft Message

A set of 10 message texts or templates, initially empty, may be used as text templates when entering message text. Each of these texts can be up to 50 characters in length. These draft messages are stored in the phone draft text memory.

To create a draft text,

- 1 Press . Select **Messages**.
 - 2 Select **Draft texts**.
 - 3 Choose a blank template [...] and press **Edit** .
 - 4 Enter the message text. See **Entering Text** on page 27. When finished, press **OK** .

To edit an existing draft text,

- 1 Press . Select **Messages**.
 - 2 Select **Draft texts**.
 - 3 Select the draft text to modify and press **Edit** .
 - 4 Edit the text. When finished, press **OK** .

Sending a New SMS Message to One Addressee

- 1 Press . Select **Messages**.
- 2 Select **Write new**.
- 3 Choose a draft text or enter the message text. See **Entering Text** on page 27. When finished, press **OK** .
- 4 Select **Send**.
- 5 Enter the destination number or select **Names**  to choose a number from a Phone Book entry and press  to select. Press **OK** . Sent confirmation will display.
- 6 If you select **Store**, the message will store in the Outbox.

Sending a New SMS Message to Many Addressees

- 1 Press . Select **Messages**.
- 2 Select **Write new**.
- 3 Choose a draft text or enter the message text. See **Entering Text** on page 27. When finished, press **OK** .
- 4 Select **Multicast**.
- 5 Enter up to 5 destination numbers or select **Names**  to choose up to 5 numbers from the Phone Book and press  to select. Press **OK** . Sent confirmation will display.
- 6 If you select **Store**, the message will store in the Outbox.

Outbox Messages

The Outbox contains unsent draft messages and stored sent messages, identified by their headers. These messages can be selected from the Outbox menu and can be modified and resent as new SMS messages.

To select an Outbox message,

- 1 Press . Select **Messages**.
- 2 Select **Outbox**.
- 3 Use  or  to scroll to the desired message header. Each message header displays whether the message has already been “sent”  or “not sent” , the first line of message, and number of messages.
- 4 Press **Options**  for the following menu:

Item	Action
Read	Display the remainder of the text
Delete	Delete the message
Status	Available only for sent messages. Requests a status report. Must be supported by your service provider
Send	Send (or resend) to one addressee
Edit	Edit the message
Send to many	Send (or resend) to many addressees

- 5 Use  or  to select and follow the screen prompts.

SMS Alert Tone

To hear a tone each time an SMS message arrives,

- 1 Press . Select **Messages**.
- 2 Select **Alert**. Select **On** or **Off**.

Default = On

Storage Available in SMS Memory

To view the amount of available memory in the Inbox and Outbox,

- 1 Press . Select **Messages**.
- 2 Select **Storage**.
- 3 Scroll to view total **SMS storage**, **SMS outbox** and **SMS inbox**.

Message Templates

If your SIM can store message templates, then **Msg templates** will appear in the **Messages - Settings** menu. Each of these templates can be named, then selected and used whenever needed.

- 1 Press . Select **Messages**. Select **Settings**.
- 2 Select **Msg templates**. Choose any blank [...] template and press **Edit** .
- 3 Enter the template Name, Msg Center number, Validity period and Format.

- Default settings for Reply and Status are set to 'No' unless you change them to 'Yes.'
- If only one template is set, it is automatically used by default.
- If more than one is set, any one can be selected to write a new message.

CALLS & TIMERS

Details of incoming and outgoing calls, duration of the last call, and accumulated total of all calls made are stored in **Calls & Timers** menu.

Call Log

The Call log stores details of the last 10 numbers dialed, the last 5 unanswered calls, and the last 5 received (answered) calls. The call logs are common for both Line 1 and Line 2.

To view or dial a number from the call log,

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call log**.
- 3 Select **Last dial, Unanswered** or **Received**.
- 4 Use or to scroll through the call lists.
- 5 Press at a highlighted number to dial that number.

- The most recent number dialed or received is displayed first.
- For unanswered and received calls, if the caller's number is in your Phone Book, the name is shown. If not, 'Unknown number' displays.

To edit or delete call log entries,

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call log**.
- 3 Select **Last dial, Unanswered** or **Received**.
- 4 Select the desired entry.
- 5 Press **Options** to go to the following menu:

Item	Action
Store	Store number in Phone Book
Delete	Delete the entry
Delete all	Delete all the entries
Edit	Edit the displayed number
Details	View the name, number, date, time, and call length of the highlighted number.
Call	Dial the number

- 6 Use or to select and follow the screen prompts.
 - > Press in the standby screen for one touch access to the 10 last dialed calls.

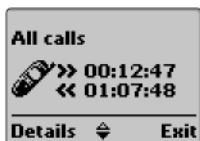
Call Timers

The length of the last call, total accumulated time of all calls, and total time of calls for Line 1 and Line 2 are stored.

Times for calls made and received through the home subscription network and through other networks are displayed in **Details** .

To view call timers,

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call timers**.
- 3 Select **Show**.
- 4 Use  or  to view **Last call**, **All calls**, **Calls L1**, and **Calls L2**. The top time (>>) indicates time of outgoing calls and the bottom time (<<) indicates time of incoming calls.
- 5 Press **Details**  for call times on My network, National roaming, and International roaming calls.



Balance Information (subscription service only)

This subscription service provided by some networks enables you to ask for your remaining airtime balance. Contact your service provider for details.

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call timers**.
- 3 Select **Balance information**.
- 4 Select **Call** or **Set number**.

- If **Call** is selected and the balance information number is entered, the balance information center is dialed.
- If a number has not been entered, select **Set number** and enter the number. Press **OK**  to store your number or  to store and dial the information center number.

- 5 Press  when the call is ended.

Reminder - Call Duration

A call duration reminder beeps to remind you of how long you have been on a call. It can be set in 1 minute increments (1 - 59 mins).

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call timers**.
- 3 Select **Reminder**. Select **On** (or **Off** to turn off).
- 4 Enter 2 digits (to signify 1 to 59 mins). Press **OK** .

Default = Off

Reset Call Timer

To reset all the call timers,

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call timers**.
- 3 Select **Reset**.
- 4 Select **Yes** (or **No** to exit).
- 5 Enter your 4-digit phone lock code and press **OK** .
A confirm message will appear.

Call Costs - Management (subscription service)

Some networks offer an Advice of Charge (AoC) subscription service to see the cost of the last call made, the accumulated total cost of all calls, and the remaining balance in units or currency of any 'cost limit' set. To display these costs in the currency of your choice, first select the currency and cost per unit. If not selected, call costs in units will display.

To set currency and cost per unit,

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call costs**. Select **Display cost type**.
- 3 Select **Currency**. The present currency settings display.
- 4 Press **Edit** . Enter the PIN 2 code and press **OK** .
- 5 Enter the abbreviated letters of the currency. Press **OK** .
- 6 Enter the cost per unit in the selected currency.
Press **OK** to confirm. The screen will confirm your selection.

To set call cost type to units,

- 1 Press . Select **Calls & Timers**.
- 2 Select **Call costs**. Select **Display cost type**.
- 3 Select **Units**.

> When the cost type is set to units, the credit limit and the remaining credit are shown in units.

Setting the Credit Limit

After setting the currency and cost per unit, if desired and available in your subscription, you can also set a credit limit. When the credit limit is reached, the phone cannot make or receive any chargeable calls. This does not prevent the phone from making emergency calls.

- 1 Press . Select **Calls & Timers**. Select **Call costs**.
- 2 Select **Credit limit**. Screen shows the present credit limit.
- 3 Press **Edit** . Enter the PIN 2 code and press **OK** .
- 4 Enter the credit limit (use  to enter a decimal point). Press **OK**  to confirm.

> When a credit limit is entered, the 'Credit Limit' selection will be Edit or Set No Limit.

Show Costs

If offered by your service provider, you can view the cost of your last call, all calls, and your remaining credits.

- 1 Press . Select **Calls & Timers**. Select **Call costs**.
- 2 Select **Show**.
- 3 Scroll to display the cost of the **Last Call**, **All Calls** and the **Remaining credits**.

> The remaining credit is shown in either units or currency as set by Cost Type menu above.

Reset Call Costs

To reset all the call costs to zero,

- 1 Press . Select **Calls & Timers**. Select **Call costs**.
- 2 Select **Reset**.
- 3 Select **Yes** to reset the costs or **No** to exit.
If **Yes** is selected, enter the PIN 2 number and press **OK** .
All Costs Reset will briefly display.

Alternate Line Service - Line 2 (subscription service)

Some GSM 1900 operators offer the use of a second line. This is normally a subscription service and allows, for example, separating calls for business or private use. Line 2 has a separate PCS number.

- 1 Press . Select **Calls & Timers**.
- 2 Select **Line selection**. The current line selection displays.
- 3 Scroll to the desired line. Press **Select**  or .

SETTINGS

Phone Settings

KEYPAD LOCK

When keypad lock is activated, it prevents accidental key presses and menu access. The key tones are also silenced.

Keypad lock is suspended during incoming calls and resumed when the call ends. Emergency calls can still be made.

- 1 Press and hold  to activate keypad lock.  displays.
- 2 Press **Unlock**  plus  to deactivate keypad lock.

> Keypad lock is cancelled when connected to the handsfree car kit.

To activate or deactivate keypad lock from the menu,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Keypad lock** to activate keypad lock.
- 3 Press **Unlock**  plus  to deactivate keypad lock.

LANGUAGE SELECTION

If offered by your service provider, all the screen messages can be shown in one of three languages: English, French, or Spanish.

To select the language of your choice,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Language**.
- 3 Use  or  to select a language from the list. Press .

> To reset the phone to the language of the SIM, enter *#0000#.

To reset the phone language to English, enter *#0044#.

Default = English

TONES - ALERT MODE

There are two ways to turn off the incoming ring tone, key tones and all alert tones and alarm tones. If either 'Vibrate' or 'Vibrate then ring' options are chosen, all alert and alarm tones are replaced by the vibrating action.

Shortcut to turn alert tones on or off,

- 1 Press  to display **Ring, Silent, Vibrate, Vibrate & ring, or Vibrate then ring**.
- 2 Scroll to desired setting. Press  to select. If any of the vibrate options are selected, the phone will vibrate briefly.

To turn alert tones on or off from the menu,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Tones**.
- 3 Select **Alert tones**.
- 4 Select **Ring**, **Vibrate**, **Vibrate & ring**, or **Vibrate then ring**.

Default = Ring

- If any **Vibrate** options are selected, the icon appears. It takes precedence over the icon.
- If **Ring** is selected but the ring tone volume is set to Off, the icon appears.
- When the phone is connected to either the Desktop Charger, Handsfree Headset, Cigarette Lighter Adapter, or AC Adapter, the vibrator mode cannot work so the phone will ring instead.

RING TONE SELECTION

Choose the sound of the incoming ring tone from a stored selection. To hear your chosen ring tone or melody, wait several seconds before confirming your choice. The tone or the melody will play.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Tones**. Select **Melodies**.
- 3 To help you identify incoming calls, you can give different ring tones to **Standard/Line 1**, **Phone names**, **SIM names**, **Line 2** and **Alarm**.
- 3 Use or to scroll to the different ring tones. Wait several seconds to hear the tone. After choosing a tone, press to select the tone.

Default = Trium

VOLUME ADJUSTMENTS

During a call, you can adjust the volume by using or .

Shortcut to adjust volume of the ring tone, key tones and incoming audio,

- 1 Press . Continue with step 4 below.

To adjust volumes from the menu,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Tones**.

- 3 Select **Volume**.
- 4 Select **Ring, Keys, Conversation** or **Alarm**.
The screen will name the volume type to be adjusted.



- 5 Use or to adjust the setting. Press **OK** to confirm.

> The ring tone volume off setting is not saved when the phone is turned off.

Default = mid-levels

RAMPING

Ramping causes the incoming ring tone to gradually increase to maximum volume level if the call is not answered after the first ring.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Tones**.
- 3 Select **Volume**.
- 4 Select **Ramping**.
- 5 Select **On** or **Off**. Press **OK** to confirm.

Default = Off

BACKLIGHT - SETTING

This option controls the backlight during key entry or incoming ring tone. Choose from two settings:

- **On for 10 sec.:** Screen and key backlight stay on for 10 seconds after the last key press or incoming call.
- **Off:** Backlight stays off.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Display**.
- 3 Select **Backlight**.
- 4 Select **On for 10 sec.** or **Off**. Press **OK** to confirm.

Default = Off

- The backlight setting will be On for 10 sec. when the phone is connected to the Desktop Charger, Handsfree Headset, Cigarette Lighter Adapter or AC Adapter.

DISPLAY CONTRAST

To modify the screen contrast,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Display**.
- 3 Select **Contrast**.
- 4 Adjust the contrast using  or . Press **OK**  to confirm.

Default = mid-level

MENU GRAPHICS

Choose a preferred set of menu graphics. Selecting a set immediately changes the phone graphics: main menu images, sprites and icons.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Menu graphics**.
- 3 Use  or  to scroll to the sets of menu graphics.
Press **Select**  or .

Default = TBD

ANY KEY ANSWER

This feature enables any key (except  and **Silence** ) to be pressed to answer an incoming call.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Keys**. Select **Any key answer**.
- 3 Select **On** or **Off**.

Default = Off

SOFTKEYS FUNCTIONS

The right and left softkey shortcut can be changed so your standby screen can have a shortcut to the menus of your choice. The options available are shown in the menu during selection.

Shortcut to softkeys functions:

- 1 Press and hold  or . Continue with Step 5 below.

To change softkey functions from the menu:

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Keys**.
- 3 Select **Softkey functions**.
- 4 Select **Left softkey** or **Right softkey**.
- 5 Use  or  to scroll through the softkey option choices.

- 6 Press **Select**  to select an option.
- 7 Press **Back**  or  to return to the standby screen, which shows your new softkey function.

> If **(.....)** appears, it means the softkey has no function. Either you chose **No function** in the menu option or a previously SIM dependent or subscription service assigned to that softkey is no longer available, for example, Line 2 selection.

Defaults: Left softkey = Internet
Right softkey = Messages

SPEED DIALING

Phone Book numbers can be assigned to Keys 2 - 9 which when held down will dial those numbers. Key 1 is reserved for the voice mail center number. Numbers stored in the SIM and in the phone (except fixed dialing numbers) can be selected.

To assign Phone Book numbers to the speed dialing keys,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Keys**.
- 3 Select **Speed dial**.
- 4 Use  or  to scroll to the next Empty Key number.
- 5 Select **Names**  to go to the Phone Book and scroll to the desired entry.
- 6 Press **Select** . The Phone Book name will appear with the assigned Key number.

> If a number which was assigned to a speed dial key is deleted from the Phone Book, the same number is automatically deleted from the speed dial key.

If you choose a Phone Card with multiple numbers, then when you speed dial that Key, you will have to select one of the numbers to dial (for example, Work or Cellular).

To change or delete assigned speed dial keys,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Keys**. Select **Speed dial**.
- 3 Use  or  to scroll to the desired Key number.
- 4 Select **Options** . Select **Names** to go to the Phone Book to replace current phone number. Scroll to desired Phone Book entry and press **Select**  to replace with new Phone Book entry. The Phone Book name will appear with the assigned Key number.
- 5 Select **Delete** to delete the current Phone Book Entry. The Key screen will display 'Empty.'

> Key 1 cannot be changed or deleted.

AUTO ANSWER

When the phone is connected to a handsfree car kit or headset, the phone will automatically answer an incoming call after approximately 5 seconds without having to press any keys.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Auto features**. Select **Auto-answer**.
- 3 Select **On** or **Off**.

Default = Off

AUTO RETRY

The phone will automatically redial the number of a failed call up to 10 times, due to a busy system or unavailable signal from the network.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Auto features**. Select **Auto-retry**.
- 3 Select **On** or **Off**.

Default = Off

When activated, **Auto-retry** and a countdown timer to the next call attempt appears. A warning tone sounds each time a new call attempt is made. If it is successful, proceed with the call. Press **Back**  or any key during **Auto-retry** to end dialing for that call.

SECURITY FEATURES

The following security features protect your phone from unauthorized use.

Tips on using security codes:

- When requested, enter the code, which appear as asterisks (*), and press **OK** .
- If you make a mistake, press **Clear**  then enter the correct digit(s).
- Do not use codes such as emergency 911 to prevent accidentally dialing these numbers.

Change your default codes at once, write them down and store them in a separate place.

PHONE LOCK CODE

When Phone lock is turned on, the phone lock code must be entered each time the phone is turned on. The phone lock code is also required to reset the call timers.

The factory setting is 0000. In order for the security system to work properly, reset this code, write it down and keep it in a safe place, separate from the phone.

To change the phone lock code,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Security**. Select **Phone lock**.
- 3 Select **Change code** and follow the screen prompts.
- 4 Press **OK** to confirm the new code.

Default = 0000

To turn Phone lock on or off,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Security**. Select **Phone lock**.
- 3 Select **On** or **Off**.
- 4 Enter the phone lock code to confirm your selection.

> Emergency calls can still be made when Phone lock is turned on.

Default = Off

PIN CODE

Your SIM is provided with a 4 to 8-digit PIN code to protect it from unauthorized use. When PIN code lock is enabled, the PIN code must be entered each time the phone is turned on. If you enter the wrong PIN code three times in a row, your SIM card is blocked and you must enter the 8-digit PUK code supplied from your service provider (see page 19).

To enable or disable the PIN code lock,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Security**.
If already off, **PIN enable** will show.
If already on, **PIN disable** and **PIN change** will show.
- 3 Press **Select** and follow the screen prompts.
- 4 Press **OK** to confirm. **PIN enabled** or **PIN disabled** briefly displayed will confirm your action.

To change the PIN code (PIN lock must first be enabled),

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Security**.
- 3 Select **PIN change** and follow the screen prompts.
- 4 Press **OK** to confirm your new PIN. Confirmation will display.

PIN2 CODE

The PIN2 code prevents access to some features such as turning on or off FDN operations, modifying the FDN Phone Book, setting calls costs to zero, or modifying the costs display. It can be changed but not turned on or off.

To change the PIN2 code,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Security**.
- 3 Select **PIN2 change** and follow the screen prompts.
- 4 Press **OK**  to confirm your new PIN2 code.

PUK AND PUK2 CODES

See page 19 for details of PUK and PUK2 codes.

CALL BARRING PASSWORD

The call barring password, supplied by your service provider, selects the call barring levels listed in the **Services - Call Barring** menu (see page 57).

To change the call barring password,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Call barring**.
- 3 Select **Change password** and follow the screen prompts.
- 4 Press **OK**  to confirm.

Code/Password Entry Summary Chart

Password	Length	Number of tries allowed	If blocked or forgotten
Unlock code	4 digits	Unlimited	Return phone to manufacturer
PIN	4-8 digits	3	PUK code unblocks
PIN2	4-8 digits	3	PUK2 code unblocks
PUK	8 digits	10	Call service provider
PUK2	8 digits	10	Call service provider
Call barring password	4 digits	Network determined	Call service provider

TIME & DATE SETTING

To set the current time,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Time & date**.
- 3 Select **Set time**.
- 4 Enter the time using the number keys. Enter 0 (zero) first for single digit hours and minutes. In the standby screen, the zero before the hour digit will not appear. Use and to move the cursor. Press **OK** to set.
- 5 Select **am** or **pm**. Press **OK** to set.

To set the current date,

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Time & date**.
- 3 Select **Set date**.
- 4 Enter the date using the number keys. When entering date, format is month/day/year. Enter 0 (zero) first for single digit months and days. Enter all four digits of the year. Use and to move the cursor. In the standby screen, the day of the week and the date will appear.
- 5 Press **OK** to set.

- Time and date appear only while the phone is turned on. The time, the day of the week and the date appear on the standby screen.
- An internal battery maintains the date and time setting for up to 3 hours when the phone is turned off and without a battery, or with a completely discharged battery attached. After this 3 hour period, you may need to reset the clock when the phone is turned on again.
- An error message appears if you make an incorrect entry.

DEFAULT (FACTORY) SETTINGS

Use **Default settings** to return the phone settings back to the factory settings. The Phone Book entries, phone lock code, or voice mail and SMS message alert tones will not change. Only the features named below will be affected.

- 1 Press . Select **Settings**. Select **Phone settings**.
- 2 Select **Default settings**.
- 3 Select **Yes** or **No**.

Factory Default Settings Summary

Feature	Factory setting
Alert Tones	Ring
Ring Tones	Trium
Volume, Ring, Key, Conversation, Alarm	Mid-levels
Backlight Contrast	On for 10 sec. Mid-level
Any key answer, Auto-retry and Auto-answer features	Off
Ramping	Off
Menu graphics	Trium

Voice Mail

You can receive voice mail messages if offered by your service provider. Your voice mail box must first be set up with your service provider before receiving voice mail messages.

CALLING THE VOICE MAIL CENTER TO CHECK FOR MESSAGES

To dial the voice mail center directly after receiving a message,

Press and hold **1**.

To dial the voice mail center using the menu,

- 1 Press **5**. Select **Settings**. Select **Voice mail**.
- 2 Select **Call**.

VIEWING YOUR VOICE MAIL CENTER NUMBER

To view your voice mail center number,

- 1 Press **5**. Select **Settings**. Select **Voice mail**.
- 2 Select **Number**. The phone number of your voice mail center appears.

> If you subscribe to 'Line 2' service, you can view the voice mail center number the same way.

The voice mail number is automatically assigned to speed dial location Key 1.

See **Speed Dialing** on page 47.

VOICE MAIL ALERT TONE

To hear a tone each time that a voice mail message arrives,

- 1 Press . Select **Settings**. Select **Voice mail**.
- 2 Select **Alert**. Select **On** or **Off**.

Default = On

Services

CALL FORWARDING (NETWORK SERVICE)

Call forwarding service forwards incoming calls, whether voice, fax or data, to another number.

To set up call forwarding,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Call forwarding** for the following menu:

Forward options	Action
All Voice calls	Forwards all incoming voice calls before call is sent to your phone
When not reachable	Forwards all voice calls only when the phone cannot be reached (out of service)
On no reply	Forwards all voice calls only when the phone does not answer
When busy	Forwards all voice calls only when the phone is busy
All conditions	Forwards all voice calls only during 3 conditions; When not reachable, On no reply and When busy. Your phone will ring first before call is forwarded
Cancel all	Cancels all Forwards
All FAX calls	Forwards all incoming fax calls before call is sent to your phone
All DATA calls	Forwards all incoming data calls before call is sent to your phone

- 3 Scroll to select the desired forwarding condition and select.
- 4 Select **Activate**.
- 5 Select **Names** or **Number**.
- 6 If **Names** was selected, choose the number to forward your incoming calls to from the Phone Book. If **Number** was selected, enter a phone number. Press **Select** or **OK** . **Requesting** displays. The network will confirm your request.

CALL FORWARDING NOTES

- If the 'On no reply' option is selected, you must enter a delay period of 5, 15, or 30 seconds.
- Call forwards for Line 1 and 2 must be set for each line. During call forward set up, only the line currently selected is affected. To choose a call forward for the other line, you must select this other line first (see Alternate Line Service on page 42).

To cancel or check the status of individual call forwards,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Call forwarding**.
- 3 Select the desired forward option and press .
- 4 Select **Cancel** or **Status**. **Requesting** displays.
The network will respond with current status.

To cancel all (multiple) call forwards,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Call forwarding**.
- 3 Select **Cancel all**.
- 4 Select **Cancel**. **Requesting** displays. The network will confirm your request.

> This action cancels all voice forwards (for voice, faxes and data calls) for the line currently in use. To cancel call forwards for the other line, first select this other line (see Alternate Line Service on page 42).

CALLER LINE IDENTITY - SHOWING/HIDING YOUR PCS NUMBER

Most networks allow the Caller Line Identity feature (CLI) which shows the incoming number (ID) while receiving a call. Select **Receiving caller ID** to check if this is available from your network.

RECEIVING CALLER ID

To check if a network presents the caller ID of incoming calls,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Receiving caller ID**. **Requesting** displays.
The network will return either **Calling user ID presentation available** or **presentation unavailable**.

To disable sending your own number on a call by call basis,

- 1 Enter **#31#** before the number you are calling.

If your service provider has disabled sending your PCS number, then to show your number on a call by call basis,

- 1 Enter ***31#** before the number you are calling.

SENDING CALLER ID

To check if your PCS phone number is sent to other phones,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Sending my ID**.
- 3 Select **Status. Requesting** displays. The network will respond with your current setting.

To show or hide your PCS phone number to other phones,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Sending my ID**.
- 3 Select **My settings**.
- 4 Select **Hide my ID** or **Show my ID. Requesting** displays. The network will respond with an appropriate message.

To reset to the standard network setting for sending your PCS number,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Sending my ID**.
- 3 Select **My settings**.
- 4 Select **Preset. Requesting** displays. The phone resets to the network setting agreed to with your service provider.

NETWORK SEARCH

When the phone is turned on, it automatically searches for the last network it was registered on (usually the home network). If this is not available, the phone will automatically search and select a network from the preferred network list contained in the SIM.

PREFERRED NETWORK LIST

The phone contains a list of networks which can be selected and transferred to the preferred networks list stored in the SIM. When traveling, you may wish to choose a particular network to use.

To edit or change the order and name of the networks in the preferred networks list,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Network**.
- 3 Select **Preferred list**. A Preferred list screen appears with several [...] signifying empty lines.
- 4 The highlighted [...] will be filled with your choice.
- 5 Press **Options**  to select:

Option	Description
Modify by list	Displays a list of all known networks contained in the phone in alphabetical order
Modify by code	Edits or enters a network number (MCC MNC) if you know this information
Delete	Deletes an entry (appears only when network name is already listed)

- 6 A list of networks displays. Scroll to your preferred network and highlight it. Press **Select**  to place your selection in the preferred list.
- 7 To add more to the list, scroll to the next empty line [...] and continue with step 4. To replace or delete an entry on your preferred list, highlight the entry, press **Options**  and continue with step 5.

FORBIDDEN NETWORK LIST AND HOME NETWORK NAME

Your SIM may contain a forbidden list of networks which cannot be used. The SIM also stores the home network name.

To view the forbidden list or show the home network name,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Network**.
- 3 Select either **Forbidden** or **Home network**.
A list of forbidden networks or the home network displays.

AUTOMATIC NETWORK SEARCH (NORMAL DEFAULT SETTING)

To perform an automatic search from the preferred list,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Network**.
- 3 Select **Search**.
- 4 Select **Automatic**. An automatic search is performed.

MANUAL NETWORK SEARCH

When you wish to select a specific network which has better coverage in your current location, choose manual network search.

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Network**.
- 3 Select **Search**.

- 4 Select **Manual. Scanning for Networks** displays, followed by a list of the networks found.
- 5 Choose a network and press .
- 6 **Requesting** displays. The network will send a confirmation.

> You cannot delete a network from the forbidden list. This list automatically updates when the manual network selection is performed.

CALL BARRING (NETWORK SERVICE)

Call barring stops certain types of calls from being made or received. You must use a Call barring password available only from your service provider.

To put on a call bar,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Call barring**.
- 3 Select **Outgoing calls** or **Incoming calls**. Choose from:

Options	Description
Outgoing - All outgoing	All outgoing calls are barred
- Int'nal calls	Only outgoing international calls are barred
- Int'nal excl. home	All outgoing international calls except to other subscribers within your home network
Incoming - All incoming	All incoming calls are barred
- Roaming only	All incoming calls when not on the home network

- 4 Select the desired option. Press **Select** .
 - 5 Select **Activate**. Enter the Call barring password and press **Select** .
- The network will respond with a confirm message.

To remove or check the status of a Call bar,

- 1 Press . Select **Settings**. Select **Services**.
 - 2 Select **Call barring**.
 - 3 Continue with step 3 above, then select **Cancel** to remove a Call bar or select **Status** and press .
- If removing a Call bar, the password is required.

To change the Call bar password,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **Call barring**.
- 3 Select **Change password**.
Enter the old password. Enter the new password, then enter it again to confirm. The network will confirm.

CLOSED USER GROUP -- CUG (SUBSCRIPTION SERVICE)

This network service allows the phone to make or receive calls only from selected groups of people. The groups, level of access, and if one of the groups has preferential calling access is set up at the time of subscription. This is mainly for businesses wishing to use closed, internal communications. This feature is not available for personal use.

Up to 10 groups may be set up. Unauthorized calls made or received from numbers outside the group are not permitted.

To turn on and off CUG and select type of CUG service,

- 1 Press . Select **Settings**. Select **Services**.
- 2 Select **CUG**. The current CUG status displays.
- 3 Press **Set** to display these options:

Options	Description
No CUG	CUG is off. No groups active. Calls can be made outside the group
Partial CUG	Limited calls to and from users outside the group and from users within the group
CUG Only	Only able to make and receive calls from users within the group

- 4 Select an option. Press . Follow the screen prompts.

Default = No CUG

Broadcast - Cell Broadcast (CB) Messages

These are messages broadcast by the networks to all GSM customers. They provide general information about local area dialing codes, weather reports and traffic news, etc.

Choose up to 3 message types to receive from the 16 standard message types stored. Contact your service provider for details on the types and quantity of CB broadcast messages available. Before you can turn on the broadcast service, enter at least one message type in the Message types list.

ENTER A CB MESSAGE TYPE

- 1 Press . Select **Settings**. Select **Broadcast**.
- 2 Select **Message types**. Press **Options** .
- 3 Select **Modify by list** or **Modify by code** (if known).
- 4 Scroll to the desired message type. Press **Select** to add the message type. The screen confirms your choice.
- 5 To add more message types, press to highlight an empty row [...]. Press **Options** and continue at Step 3.

CHANGE OR DELETE A CB MESSAGE TYPE

- 1 Press . Select **Settings**. Select **Broadcast**.
- 2 Select **Message types**.
- 3 Scroll to the desired message type and press **Options** .
- 4 To change a message type, select **Modify by list** or **Modify by code** and continue with Step 4 in **Enter a CB Message**.
- 5 To delete a message type, select **Delete**.

Standard Message Type Codes Chart

Code No.	Description	Code No.	Description
000	Index	052	Network Information
022	Doctors	054	Operator services
030	National road report	056	Phone directory
032	Local road report	057	Int'l directory
034	Taxis	058	Customer care
040	Weather reports	059	Int'l customer care

TURN ON OR OFF CB BROADCAST SERVICE

- 1 Press . Select **Settings**. Select **Broadcast**.
- 2 Select **On/Off**.
- 3 Select **On** or **Off**.

➤ When the broadcast service is turned on continuously, the battery standby time is reduced.

Default = Off

READING CB BROADCAST MESSAGES

Broadcast messages are shown in the standby screen only. A message can be up to 93 characters in length and cover several pages. Pages will scroll automatically approximately every five seconds or press to scroll.

Options during message display:

Press **Clear**  to clear the message currently displayed.

Press  to dial the number shown within the message.

Press **Options**  for these options:

Option	Action
Delete	Delete the current message
Delete All	Deletes all stored messages
Numbers	Displays all phone numbers in message text. Option to dial or store in scratchpad
Broadcast Off	Turns off cell broadcast service

BROADCAST MESSAGE ALERT TONE

- 1 Press . Select **Settings**. Select **Broadcast**.
- 2 Select **Alert**.
- 3 Select **On** or **Off**.

Default = On

BROADCAST LANGUAGE

If offered by your service provider, all the CB Broadcast messages can be shown in one of three languages: English, French, or Spanish.

To select a language,

- 1 Press . Select **Settings**. Select **Broadcast**.
- 2 Select **Language**.
- 3 Use  or  to select a language from the list. Press .

Default = English

OFFICE TOOLS

Office Tools menu contains a scratchpad, currency converter, and Alarm clock.

Scratchpad

Scratchpad can store up to 5 separate entries of 20 characters each.

- 1 Press . Select **Office Tools**.
- 2 Select **Scratchpad**.
- 3 Select **Read**. Use  or  to scroll through the entries. Select **Write** to make a new scratchpad entry. See **Entering text** on page 27. Press and hold desired key to enter a number. When entering phone numbers, do not enter spaces or dashes. The entry will be date and time stamped.

Press **Options**  for these options while in Read mode:

Item	Action
Store *	To save a number to the phonebook
Edit	Modifies an entry
Delete	Deletes an entry
Delete all	Deletes all entries
Call *	Calls the number displayed in the entry

* These items appear only if the scratchpad entry is a telephone number.

Currency Converter

To use the currency converter, you must first set up the currencies and the exchange rate. The conversion is calculated on the per unit exchange rate of the second currency selected.

To select the currencies and the exchange rate,

- 1 Press . Select **Office Tools**.
- 2 Select **Currency converter**.
- 3 Select **Settings**.
- 4 Enter the first currency name (e.g. Dollar). Press **OK** .
Enter the second currency name (e.g. Yen). Press **OK** .
- 5 Enter the exchange rate using  to enter a decimal point.
Press **OK**  to confirm the entry.

> If you wish to use your Currency converter as a Euro converter for participating currencies to the European Monetary Union ("Euroland currencies"), please enter the complete Euro exchange rate with at least three significant figures.
For example: 1 Euro = £ 1.52.

To calculate the conversion between the chosen currencies,

- 1 Press . Select **Office Tools**.
- 2 Select **Currency converter**.
- 3 Select one of the two first options.
In our example: either **Dollar->Yen** or **Yen->Dollar**.
- 4 Enter the amount to be converted. Press  to insert a decimal point, if needed. Press **OK** . The converted amount displays.

> Conversion from one Euroland currency to another, or to non-Euroland currencies, should normally follow "triangulation" rules (i.e. conversion of local currency to Euro and then Euro to other local currency). Your Currency converter cannot do this. Your result will be only a close approximation

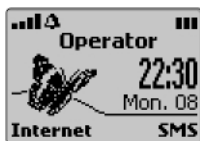
Alarm Clock

You can set a daily 'Power On' or a daily 'Reminder alarm.'

Caution - Please remember to turn off the alarm feature in places where cellular phone use is not permitted. You can also remove the battery after turning off the phone. See the Safety warnings on page 13.

To set a time and turn on the alarm,

- 1 Press . Select **Office Tools**.
- 2 Select **Alarm clock** (If a previous alarm time was entered, then that time displays).
- 3 Select **On**. Enter the alarm time using 0 (zero) for single digit hours or minutes. Press **OK** .
- 4 Select **am** or **pm** and press **Select** . **Stored** displays briefly.
- 5 Press **Back** or to return to the standby screen.
 icon appears on the top line of the screen.



Standby screen with alarm icon

When alarm time arrives, an alarm sounds for up to to 1 minute. **Alarm clock!** and vibrating bell icon appear and the LED light flashes red.

Silence turns off the alarm tone only. **Valid.** validates the alarm (that is, turns off the alarm until the next day). To clear (turn off) the alarm permanently, you must select Off in the Alarm clock menu. See next page.

If the phone is off at alarm time, the phone will automatically turn on and the alarm tone sounds and screen messages appear.

To use as a Reminder or Snooze Alarm,

Press **Silence** , or any other key (except **Valid.**) to stop the alarm tone. The alarm icon and **Alarm clock!** warning remain on screen. The alarm rings again 3 minutes later.

or

Press **Valid.** to validate the alarm (that is, turn it off until the next day).

ALARM CLOCK NOTES

- If the phone is turned off and is locked or the PIN lock is set, the alarm will turn on the phone. However, the phone remains blocked until you enter the phone lock code or PIN code.
- The alarm rings for 1 minute until any key (except **Valid.** softkey) is pressed to stop the alarm tone. The alarm is still active, and it repeats 3 minutes later. If **Valid.** softkey is not pressed after the third alarm tone, the alarm is not repeated but the phone remains turned on and alarm indicators remain for up to 15 minutes. Then it reverts back to the standby screen.
- If the alarm time arrives during a call, an 'In Call' alert beep sounds every 20 seconds. Press **Valid.** softkey to turn off alarm.
- If the alarm time arrives while dialing or receiving a call, the alarm is suspended until the call connects. An 'In Call' alert beep sounds every 20 seconds.
- If the phone is turned off when alarm time arrives, the phone will turn on. If the alarm is not validated, the phone remains on for 15 minutes, then turns off.

To turn off the alarm permanently,

- 1 Press . Select **Office Tools**.
- 2 Select **Alarm clock**.
- 3 Select **Off**. Confirmation displays.

GAMES

If available from your service provider, two games are available in the phone, **Reshape** and **Push**.

Choose from 3 sound effects options - Music, electronic sound effects (Sfx), or No sound in the **Options** item in the menu.

To select a game,

- 1 Press . Select **Games**.
- 2 Choose the desired game and press **Select** .
- 3 Select **Help** for instructions on how to play the game and the controls to be used.
- 4 Select **Play** to start the game.
- 5 Select **Code** to enter and play the game at your skill level.

- **Reshape** is a game with 250 skill levels in which you reorder shapes on the right side to be the same as the left side. **Push** is a game with 50 skill levels in which you move blocks of ice to their final place. As each level is successfully played within the allotted time, you will play at the next higher skill level.
- After successfully playing 'X' amount of levels, you are given a code to re-enter the game at your previously attained skill level.
- The player's name can be entered with final scores.
- If a call is received while a game is being played, the game is suspended and you may answer the call normally. When the call is ended, the game will resume.
- To exit from the games menu, press **Back**  or press  to return to the standby screen.

INTERNET MODE

Your G320 phone has an Internet browser allowing you access to services such as News, Sports, Weather and Stock quotes.

The types of service and content offered while in Internet Mode are supplied entirely by your service/ Internet provider.

To access Internet Mode, your service provider must first set up and register unique IP and email addresses for your phone. You must also purchase a data subscription from your service provider.

Set Up Connection Settings

Before starting, check with your service provider as to whether the connection settings have been already set up or if you must enter the settings yourself. If your service provider has already completed these connection settings, these options may not appear or they may be locked.

If you have not already done so, set the current time and date as described on page 51.

PROFILES

To create a new profile,

- 1 Press . Select **Internet**.
- 2 Select **Profile list**.
- 3 Select an empty profile [...] and press **Options** .
- 4 Select **Edit**. Enter the 4 digit lock code (default code 0000). Press **OK** .
- 5 Enter a **Proxy name**,
a **Phone number** (to access data services),
an **Analog** or **Numeric** connection type,
the speed if required (**9600** or **14400**),
a **Login name**,
a **Login password** (each character will change to an * asterisk),
an **IP address**,
a **Home Page** address
Select **On** or **Off** to activate **security**.
Enter the **Port number** if required.
Press **OK**  after each entry.
The new profile will appear in the profiles list.

SELECT A PROFILE

If your service provider offers multiple WAP profiles, you may select a WAP profile to connect to at start-up, or edit or delete profiles.

- 1 Press . Select **Internet**.
- 2 Select **Profile list**.
- 3 Use  or  to scroll to the desired profile and press **Options**  to choose **Select**, **Edit** or **Delete**. Follow screen prompts.

INTERNET SETTINGS

Select if you want to clear cache memory, turn off downloading pictures to speed up data transmission, allow scripting, and set the auto-disconnect time period.

- 1 Press . Select **Internet**.
- 2 Select **Settings**.
- 3 Scroll to these options:

Option	Action
Clear cache	While you are online, some of the services and web pages you have accessed are stored in a memory area called the cache. Select Yes to delete this cache memory.
Download pictures	Some Internet pages may have pictures which take time to download to the phone. Select Off to stop picture downloads.
Scripting	Many Internet pages use scripts to run a sequence of commands. Select Off to turn off scripting.
Auto-disconnect	Set a time period that your phone will disconnect from the Internet if there is no activity. Enter the period (0-60 minutes) and press OK  . 0 deactivates the auto-disconnect.

Connecting to the Internet

To connect to the Internet services offered by your service provider,

- 1 Press **Internet**  from the standby screen or press  and select **Internet**.
- 2 Select **Start**.
- 3 **Connecting to...** then your profile name will display while the phone is connecting to the data network.
Then **Loading...** will display while the Home page is loading.

Once your phone displays your service provider's Home page, you can access the online services presented on the Home page. Check with your service provider for information on the content of their online services.

The Internet icon  on the bottom of the screen indicates that you are connected to the online services of your service provider.

SECURE CONNECTION

While online, you can request a secure connection via "Security on" (see page 65). This closes the current non-secure session and allows you to navigate within the cache pages. When an Internet connection is needed again, a secure connection will be requested. When the secure connection is established, the  icon appears to confirm it. In some cases the secure connection procedure may not work properly because of server restrictions. In this case, you may need to start a new Internet session.

Interactive Web browsing

- 1 Use  and  to move line-by-line through the page.
- 2 If a page contains an interactive line; for example, a link to another web page, press  or  to highlight the interactive phrase or picture.
- 3 To select it, either press the right softkey  (labeled **Link, Edit, Enter, Expand, Reduce, View**) or press . For Options menu, press . See Options menu chart below.

To return to the previous page, either press **Back** softkey (when displayed), or press left softkey  or  and select **Back**.

PICTURES

You may view pictures on screen. If the picture is wider than the screen, press **View**  to see the complete picture. Navigate within the picture by using , , , and  keys as in a map.

LINKS

To go to an underlined link of another web page,

- 1 Use  or  to highlight the link.
- 2 Press **Link**  to go to the linked address.

ENTER INFORMATION

You may wish to enter information into a Web page. For example, a people search website usually has a box in which you begin by entering the last name of a person that you want to find.

- 1 Use  or  to highlight the box.
- 2 Press **Edit**  to type the name into the box. See **Entering Text** on page 27. Follow screen prompts.

Options Menu

While online, press **Options**  or  to access these options:

Item	Action
Back	Returns to previous page
Zoom + / -	Increases or decreases text size

Disconnect	Disconnects the browser from the network but leaves the current page locally active within the phone browser
Clear cache *	Clears the browser's cache, which contains the most recent Web files you downloaded
Add bookmark *	Adds a current card or page to the list of bookmarks
Go to bookmark *	Goes to a previously stored bookmark
Home page	Reloads and returns to the Home page
Reload	Reloads the current page
Close session	Disconnects the phone from the Internet

* The appearance of these items in the options menu depends on the service provider and/or the settings in the Settings menu.

Ending Connection

Press  to end the Internet connection.
You can also select **Close session** under the Options menu.

Other site

This Internet menu option allows you to type in a known website address and go directly to that website. If the phone cannot link to that website, it's possible that the website may not be able to be translated into Wireless Markup Language (WML) which is the language your phone uses to present Internet information. Also, just as when you surf the Internet from your computer, web server traffic may be too heavy to allow a connection.

- 1 Press **Internet**  from the standby screen or press  and select **Internet**.
- 2 Select **Other site**.
- 3 Enter the desired website address. For example, enter www.yahoo.com. Press **OK** .
Internet connection will begin.

To store a favorite website address, see **Bookmarks**.

Bookmarks

Most likely, you will want to use some services and websites frequently. These services or pages can be stored as Bookmarks which take you directly

to that web address. Your phone can store up to 5 Bookmarks, if they are available on the current connection settings of your service provider.

CREATE A BOOKMARK

Shortcut to create a bookmark while currently viewing a Web site,

- 1 Press  to display the Options menu.
- 2 Select **Add bookmark**, enter a shortcut name and press **OK** .

To create a bookmark from the standby screen,

- 1 Press **Internet**  from the standby screen or press  and select **Internet**.
- 2 Select **Bookmarks**.
- 3 Press **Options**  and select **Modify**.
- 4 In the **Alias** screen, type in the name you wish to give your bookmark. Press **OK** .
- 5 Type in the Internet address of the desired bookmark in the **Go to** screen. Press **OK** .

Bookmarks can only be edited or deleted while offline.

- 1 Press **Internet**  from the standby screen or press  and select **Internet**.
- 2 Select **Bookmarks** and scroll to the desired bookmark.
- 3 Press **Options**  to choose from **Go here**, **Modify**, **Remove** or **Clear list**.

Go to a Bookmark

Shortcut to go to a bookmark while online,

- 1 Press  to display the Options menu.
- 2 Select **Go to bookmark**.
- 3 Select the desired Bookmark.

To go to a bookmark from the standby screen,

- 1 Press **Internet**  from the standby screen or press  and select **Internet**.
- 2 Select **Bookmarks**.
- 3 Scroll to the desired bookmark and press .
- 4 The phone will connect to the Internet and go to your Bookmark web address.

ACCESSORIES

Using the Headset

Insert the headset plug in the phone headset connector as shown. TBD

Place the headset earpiece in your ear. The headset microphone is then at a convenient level for speaking.

You can answer calls by pressing  and end calls by pressing .

Adjust the earpiece volume using  and .



Disconnect the headset plug as shown. TBD

Changing the Front Cover

Before changing the front cover, always turn off the phone and disconnect from any charging device or car kit.

Removing the Front Cover

- 1 To be determined.
- 2 .

Replacing the Front Cover

- 1 To be determined.
- 2
- 3

- Do not use excessive force when changing the front cover.
- Avoid bending the front cover.
- Do not leave in direct sunlight.
- Always use the phone with the front cover attached.
- Do not clean the phone with alcohol, strong chemicals or solvents. Wipe it only with a soft, slightly dampened cloth. Read the **Care and Maintenance** instructions on page 18.

Accessories List

Handsfree kits	Part numbers
Headset (earphone + microphone)	
Simple Holder with bracket (mounts in car to hold phone)	
Batteries and Chargers	Part numbers
Standard battery (Nickel Metal Hydride)	
Desktop Battery Charger (for phone + spare battery)	
AC Rapid Charging Adapter 120V (for battery charging using wall outlet)	
Cigarette Lighter Adapter - plug one end into car cigarette lighter, other end into phone jack to use and charge phone in your car	
Miscellaneous	Part number
Belt Clip w/Button	
Data Connector	Part number
PC cable (RS232C)	
Contact Data Kit (Software + PC cable) To use data and fax numbers, refer to the instructions in the Contact Data kit and/or contact your service provider for details. Also allows you to create and download melodies, manage abbreviated dial numbers, and perform SMS functions on your PC.	

To purchase accessories, contact your service provider or shop online at www.mitsubishiwireless.com.

Do you have questions about accessories or would you like to place an order by phone?

Please call toll free 1-877-581-8776

M-F 5:00 am - 9:00 pm PT • Sat 6:00 am - 8:00 pm PT • Sun 8:00 am - 5:00 pm PT

GLOSSARY

Term	Description
AC adapter	Alternating Current adapter
Active call	The call currently in conversation
ALS	Alternate Line Service (Line 2)
AoC	Advice of Charge. Cost of calls made
CB	Cell Broadcast. General messages broadcast to GSM customers
CLI	Caller Line Identity. Displays caller's telephone number
Conversation mode	When the phone is making or receiving a call
CUG	Closed User Group. Preset group of user phone numbers
DTMF	Dual tone multifrequency tones or touch tones
FDN	Fixed Dialing Number. Outgoing calls restricted to fixed phone numbers
Forwarding	Forwards incoming calls to another number
GPRS	General Packet Radio Service. Packet-switched data transmission in which the wireless phone sends and receives bursts, or packets, of data. A radio channel is occupied only for the duration of the data transmission instead of continuously as in circuit-switched.
GSM	Global System for Mobile communications. One of three American digital cellular phone technologies in the 1900 MHz band. Allows roaming between North America and Europe by removing SIM card from American phone and placing in European network's phone or vice-versa
LCD	Liquid Crystal Display
LED	Light Emitting Diode
PIN/PIN2	Personal Identification Number. Supplied by your network/service provider
PUK/PUK2	PIN Unblocking Key. Used to unlock PIN and PIN2. Supplied by your network/service provider

Roaming (Rm)	Make and receive calls on networks other than your home network at home or abroad
SDN	Service Dialing Number of your service provider
SIM	Subscriber Identity Module card. Supplied by your network/service provider, holds phone numbers and other network information
SMS	Short Message Service. Text messages can be sent and received to your phone via the service provider's message center.
Standby mode	When the phone is on, registered onto a network but not making or receiving a call
Standby time	Amount of time a fully charged wireless phone can be on before the phone's battery will lose power
URL	Uniform Resource Locator. Address of a file (resource) accessible on the Internet
WAP	Wireless Application Protocol. Specification that standarizes the way that wireless devices can be used for Internet access
WML	Wireless Markup Language. Language derived from HTML that translates Web pages into a format that can be viewed on wireless devices. Formerly called HDML (Handheld Devices Markup Language)

TROUBLESHOOTING

Problem	Possible cause and solution
Phone will not turn on	Remove and replace battery assuring that the battery is charged and correctly attached to the phone
Charging LED not lit red and no flashing battery icon	- Check wall outlet. Power may be out - The AC/DC charger may be defective. Return it to your dealer, try another Mitsubishi adapter
Short standby and talk times	- Cell broadcast is permanently on, using more battery power - Phone is in a poor signal area and therefore always on full power - Incorrect charging and discharging. Always charge and discharge your battery fully - The battery is wearing out. Replace the battery
Calls cannot be made or received	- Check that you have at least one signal strength bar (📶). Try in a stronger signal strength area - If the name of a network is not displayed, check that your SIM is OK, check registration with your service provider - Call barring option is turned on. Turn it off (see page 57) - Call cost limit is reached (see page 42)
Stored telephone numbers cannot be recalled	Fixed Dialed Number or Call Barring features are turned on. Turn off the features (see pages 34 and 57)
Numbers cannot be entered in the screen	- Keypad lock is on (🔒 is displayed). Press Unlock (🔓) and # to turn Keypad lock off - Remove and replace battery assuring that the battery is charged and correctly attached to the phone
Phone turns on but there is no display	Display contrast is turned down to low. Reset contrast (see page 46)
Battery icon (🔋) not flashing 1-2-3 during charging	Indicates a charging or battery problem. Turn off and disconnect the adapter. Reconnect and try again. If the problem persists, contact your dealer.
Flashing 📧	There is not enough memory to store another SMS message. You must delete one or more of the existing stored messages.

ERROR MESSAGES

Message	Possible cause and solution
Allowed credit reached!	• Allowed credit limit has already been reached • Allowed credit limit is reached during an outgoing call (the call is then cancelled).
Busy	• Destination number is being used
Call failed	• Caller's phone is turned off • Number is out of order or unreachable • Network system is busy or does not answer • Option to hide your phone number when calling is not supported by the network • CUG is in use and the call is not allowed or not recognized by the network • Control and verification of CUG parameters not confirmed, or CUG availability on network
Cancelled. No type selected	• Cell broadcast activation has been requested but no message type is selected
Cannot execute command	• Cannot perform request in the current call situation
Can't display message	• Characters not recognized, incorrect format of short message text
Check SIM!	• No SIM is present or the SIM is incorrectly inserted. See page 6 for more details
Check your password	• Call barring password was changed • Call barring service status was changed • Entered password is incorrect
Check your request	• Your request for a service cannot be fulfilled
Check your subscription	• You have no subscription for requested network service. Check your subscription regarding the related service use rights or access
CUG call failed	• CUG (Closed user group) call is rejected because the network does not recognize the CUG parameters • Dialed number is not in the same CUG • Dialed number has no CUG association
Error!	• Network cannot perform your request
Failed	• An SMS message cannot be sent
Incorrect entry	• Character string has a syntax error
Invalid number	• Network does not recognize the phone number • Phone number is too long to be stored or moved to the selected location

Locked! Press (Unlock)(#) to unlock	• A key was pressed while keypad is locked
Low battery!	• Battery is too low and phone will soon turn off automatically
Network busy	• Call is rejected by the network due to overload
Network not allowed	• When selecting network manual search, you have selected a network that rejects the connection
New PIN1 incorrect. Try again	• Second new PIN code entry is different than first
New PIN2 incorrect. Try again	• Second new PIN2 code entry is different than first
No response	• Call was made to a remote phone with no response
Not allowed	• Number or character entry is not allowed
Not allowed (fixed dialing)	• Number dialed does not match any of the fixed dialing numbers in memory
Not Available	• No more SIM storage available
Number changed	• Called number has changed
PIN blocked	• Wrong PIN code entered 3 times. Enter PUK code
PIN2 blocked	• Wrong PIN2 code entered 3 times. Enter PUK2 code
PUK2 blocked	• Wrong PUK2 code has been entered 10 times. The SIM services protected by the PIN2 code have now been permanently disabled
Reaching allowed credit!	• Cost limit is about to be reached. Connected call will end automatically when limit is reached.
Ring volume Off	• Ring volume is set to 0 (no volume)
Service not available	• You have requested some services that are not available on the network
SIM blocked. Contact provider	• Wrong PUK has been entered 10 times. The SIM card has been permanently disabled and must be replaced by a new one.
SIM fixed full SIM names full Phone names full	• Corresponding phone book memory is full
SMS memory locations are full	• New message storage is full while writing a new SMS
Wrong code. Try again	• Wrong phone lock code has been entered
Wrong PIN/PIN2, or Wrong PUK/PUK2, try again	• Wrong code has been entered

INDEX

A

- Accessories 70
- Adjusting volume 22
- Alarm clock 62
- Alert mode 43
- Alert tone
 - Broadcast 60
 - SMS message 38
 - Voice mail 53
- Alternate line service 42
- Auto answer 48
- Auto retry 48
- AutoDTMF, sending 23
- Automatic search 56

B

- Backlight 45
- Balance information 40
- Basic phone operations 9
- Battery
 - Attaching 6
 - Charging 7
 - Safety Tips 8
- Bookmarks 68
- Broadcast
 - Alert tone 60
 - Language 60
 - Message types 59
 - Messages 58
 - On/Off 59

C

- Call
 - Answering 10
 - Ending 11
 - Holding 23
 - Making 9
 - Retrieving 23
- Call barring 57

- Call barring password 19, 50
- Call costs 41
- Call duration reminder 41
- Call forwarding 53
- Call log 20, 39
- Call timers 40
- Call waiting 24
- Caller line identity (Caller ID) 54
- Calls & Timers 39
 - Call costs 41, 42
 - Call log 39
 - Call timers 41
 - Dialing from 20
 - Line selection 42
- Care and Maintenance 18
- CB messages 58
 - Alert tone 60
 - Language 60
 - Message types 59
 - On/Off 59
 - Reading 59
- Cell broadcast messages 58
- Changing front cover 71
- Charging battery 7
- Clear cache 68
- Closed user group 58
- Conference calls 24
- Consumer Update on
 - Mobile Phones 15
- Contrast 46
- Creating a draft message 36
- Credit limit 42
- CUG 58
- Currency converter 61

D

- Date & time setting 51
- Default settings 51
- Dialing a number 9
- Dialing stored numbers 20

- Direct Links 30
- Display contrast 46
- Display icons 4
- Draft texts 36
- DTMF tones, send 22, 23

E

- Edit online 67
- End key 2, 3
- Ending a call 11
- Ending Internet connection 68
- Entering symbols 30
- Entering text 27
- Error messages 76
- Express Key 2, 3

F

- Fixed dialing numbers (FDN) 34
- Forwarding, call 53
- Front cover, changing 71

G

- Games 63
- Getting started 6
- Glossary 73
- GPRS 2
- GSM network 2

H

- Headset, using 70
- Holding a call 23

I

- Icons, display 4
- Inbox 20, 35
- Information numbers 30
- Interactive Web browsing 67
- Internet
 - Bookmarks 68
 - Clear cache 68
 - Connecting to 66

- Edit online 67
- Ending connection 68
- Links 67
- Mode 64
- Options menu 67
- Other site 68
- Profile list 65
- Secure connection 66
- Set up connection 64
- Settings 65

K

- Keypad lock 11, 43

L

- Language
 - Broadcast 60
 - Menus 43
- Last dial 20, 39
- LED light 3, 7, 10
- Line selection 42
- Links, Internet 67
- Lock keypad 11, 43
- Lock phone 48

M

- Making a call 9
- Managing SMS Messages 35
- Melodies, ring tone 44
- Menu
 - Graphics 46
 - Language 43
 - Map 26
 - System 26
- Messages
 - Error 76
 - Network 12
- Messages (SMS) 34
 - Alert tone 38
 - Draft texts 36
 - Indicator 12
 - Managing 35

- Reading 35
- Settings 36
- Storage 38
- Templates 38
- Write new 37
- Messages, broadcast 58
- Multicast 37
- Mute/Unmute 22

N

- Network messages 12
- Network search 55
- Network Services 30

O

- Office Tools 60
 - Alarm clock 62
 - Currency converter 61
 - Scratchpad 60
- On/off key 2, 3
- Other site 68
- Outbox messages 37
- Overview 3
- Own number, showing/hiding 54
- Own numbers 33

P

- Pause feature 23
- Phone Book 31
 - Dialing numbers 32
 - Fixed dialing 34
 - Own numbers 33
 - Recall 32
 - Remaining 32
 - Storing in Phone memory 31
 - Storing in SIM memory 32
 - Storing numbers 31
 - Viewing numbers 32
- Phone lock 48
- Phone lock code 19, 48
- Phone names, storing numbers in 31

- Phone overview 3
- Phone settings 43
 - Auto features 48
 - Default 51
 - Display 45, 46
 - Keypad lock 43
 - Keys 46, 47
 - Language 43
 - Security 49
 - Time & date 51
 - Tones 44, 45
- Pictures, view 67
- PIN/PIN2 codes 19, 49, 50
- Power key 2, 3
- Problems 75, 76
- Profile list, Internet 65
- PUK/PUK2 codes 19
- Push (game) 63

R

- Ramping 45
- Reading a new SMS message 35
- Received call 20, 39
- Receiving Caller ID 54
- Reset call costs 42
- Reset call timer 41
- Reshape (game) 63
- Retrieving a call 23
- Ring tone 43
- Ring tone selection 44

S

- Safety information 13
- Scratchpad 21, 60
- SDN numbers 30
- Security codes 19
- Security features 48
- Send key 2, 3
- Sending a new SMS message to many addressees 37
- Sending a new SMS message to one addressee 37

- Sending my ID 55
- Services 53
 - Call barring 50, 57
 - Call forwarding 53
 - CUG 58
 - Network search 56
 - Receiving ID 54
 - Sending ID 55
- Settings
 - Broadcast 58
 - Phone settings 43
 - Services 53
 - Voice mail 52
- Show costs 42
- Silent alert mode 21, 43
- SIM application tool kit 30
- SIM card 6
- SIM names, storing
 - numbers in 32
- SMS messages 34
- Softkeys 2, 3
- Softkeys functions 46
- Solutions 75, 76
- Speed dialing 21, 47
- Standby screen 9
- Storage -- available
 - SMS memory 38
- Storing names/numbers 31
- Symbols, entering 30

T

- T9 text entry 27
- Text entering
 - Alpha method 29
 - T9 Text Input 27
- Time & date setting 51
- Touch tones (DTMF) 22
- Troubleshooting 75
- Turning off the phone 11
- Turning on the phone 9

U

- Unanswered call 12, 20, 39
- Unlock keypad 11
- Using this guide 4

V

- vCards 31
- Vibrate mode 43
- View pictures 67
- Voice mail 52
 - Alert tone 53
 - Call 52
 - Indicator 12
 - Number 52
- Volume
 - Alarm 44, 45
 - Conversation 10, 22, 44, 45
 - Keys 44, 45
 - Ring 44, 45

W

- WAP 2
- WAP connection 5, 66
- WAP connection, secure 5, 66
- Web browsing 67
- Write new SMS message 37

ONE YEAR LIMITED WARRANTY

MODEL G320

Mitsubishi Wireless Communications Inc.
800-888-9879

Mitsubishi Electric Sales Canada Inc.
Corporate Service Division
4299 14th Avenue, Markham, Ont. L3R OJ2
(905) 475-7728

Mitsubishi Wireless Communications, Inc. (MWCI) warrants this product to the original purchaser (Purchaser) against defects in materials and workmanship as set forth below. If ownership of the product is transferred, this warranty is terminated. This warranty applies only to product purchased or repaired in the United States or Canada.

For the period of time specified below from the date of first retail purchase, MWCI shall at its sole and absolute opinion either repair or replace the defective product or part with a new or comparable refurbished product or part. Mitsubishi brand accessories are covered under this warranty for one year. Batteries are covered under this warranty for 90 days. Carrying cases are covered under this warranty for one year.

To obtain warranty service in the US, please contact MWCI at 1-800-888-9879 to obtain the nearest location of the MWCI authorized service center so as to make arrangements for repair or replacement. To obtain warranty service in Canada, please contact Mitsubishi Electric Sales Canada, Inc. (MESCA) at (905) 475-7728 or at the Canadian address above. Purchaser must present proof of purchase in the form of a retail bill of sale, invoice or other document that will show that the product is within the applicable warranty period. No charge will be made for parts or labor directly related to the repair or replacement of the defective product or part. The repaired or replaced product will be warranted for 90 days from the date of return shipment or for the balance of the original warranty, whichever is longer.

Repair or replacement, as provided under this warranty, is the only remedy provided to the purchaser. MWCI SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCURRED BY PURCHASER such as, but not limited to, interruption of service, loss of anticipated

benefits or profits, or damage to any other equipment resulting from the use or operation of the product, or arising from breach of express or implied warranties on this product. MWCI SHALL NOT BE LIABLE FOR DAMAGE TO TELEPHONE EQUIPMENT, VEHICLES, AND/OR PERSONAL PROPERTY CAUSED BY IMPROPER INSTALLATION OR USAGE.

THIS WARRANTY DOES NOT COVER FUSES OR CLAIMS OF DAMAGE DUE TO ALTERATION, ACCIDENT, MISUSE, ABUSE, NEGLIGENCE, IMPROPER INSTALLATION OR MAINTENANCE, CONNECTION TO AN IMPROPER VOLTAGE SUPPLY, RECEPTION PROBLEMS CAUSED BY INADEQUATE SIGNALS, LIQUID SPILLS, OR DAMAGE THAT IS ATTRIBUTABLE TO ACTS OF GOD. REMOVAL AND INSTALLATION COSTS ARE NOT COVERED BY THIS WARRANTY. COSMETIC DAMAGE, SUCH AS MARKS, SCRATCHES, CRACKS, BLEMISHES, AND THE WEARING OF PRINTED LOGOS OR KEYS, IS NOT COVERED BY THIS WARRANTY. DAMAGE RESULTING FROM THE USE OF ACCESSORIES THAT ARE NOT MITSUBISHI BRAND ACCESSORIES IS NOT COVERED.

LOSS AND DAMAGE OCCURRING DURING TRANSIT ARE NOT COVERED BY THIS WARRANTY. Products repaired or replaced under warranty will be returned to the Purchaser transportation prepaid. Return shipping costs for out-of-warranty repairs shall be paid by the Purchaser.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS EXCLUDED EXCEPT WHERE PROHIBITED BY LAW, AND WHERE PROHIBITED, IS LIMITED TO THE MINIMUM PERIOD PERMITTED BY SUCH LAW.

Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, or limitations on an implied warranty, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from State to State, or Province to Province.