

APPLICANT: MOTOROLA, INC.

FCC ID: IHDT5ZX1

A draft copy of the latest users manual follows.

Note: RF exposure information is provided on page 7.

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Getting Started



Welcome

Thank you for selecting Motorola – a world leader in cellular technology.

All Motorola cellular phones are designed and manufactured in the United States to meet Motorola's exacting specifications and world-class quality standards. These phones withstand our rigorous durability tests including temperature, humidity, shock, dust, vibration, and a drop test.

Product superiority is yours with Motorola.

- For information about your product or accessories for your product, please call Motorola at:
1-800-331-6456
1-800-461-4575 (Canada)
- For any information about your cellular service, please call your service provider (Carrier).

Carrier's Name _____

Carrier's Phone Number _____

Getting Started

- You will need to have the following information when you inquire about your phone or service. Your ESN (electronic serial number) and MSN (mechanical serial number) are located on the transceiver of your telephone.



ESN Number _____

MSN Number _____

Model Number _____

Cellular Phone Number _____

- **Unlock Code** — The sequential code of 123 is the standard unlock code programmed into all phones by the factory. It is often changed to the last three digits of your cellular phone number by the carrier. For easy access to this unlock code in the future, please list it here now: _____.
(Please contact your place of purchase if your unlock code has been changed and you do not have this information.)

Warranty Expiration Date _____

Date of Purchase _____



Safety Information

IMPORTANT: Read this information before using your wireless mobile phone.

Exposure to Radio Frequency Signals

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

International agencies have set standards and recommendations for the protection of public exposure to RF electromagnetic energy.

- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996
- Verband Deutscher Elektrotechniker (VDE) DIN-0848
- United States Federal Commission, Radio Frequency Exposure Guidelines (1996)
- National Radiological Protection Board of the United Kingdom, GS 11, 1988
- American National Standards Institute (ANSI) IEEE. C95. 1-1992
- National Council on Radiation Protection and Measurements (NCRP). Report 86
- Department of Health and Welfare Canada. Safety Code 6

These standards are based on extensive scientific review. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry

reviewed the available body of research to develop the updated ANSI standard.

The design of your phone complies with these standards when used as described under "Phone Operation."

IMPORTANT: To maintain compliance with the FCC's RF exposure guidelines, if you wear a handset on your body use only the Motorola supplied carrying case, holster or other body-worn accessory for this product and ensure that the antenna is at least 1 inch (2.5 centimeters) from your body when transmitting.

Antenna Care

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

Carry Phone Operation

Do not operate your carry phone when a person is within 4 inches (10 centimeters) of the antenna. A person or object within 4 inches (10 centimeters) of the antenna could impair call quality and may cause the phone to operate at a higher power level than necessary and expose that person to RF energy in excess of that established by the FCC RF Exposure Guidelines.

Mobile Phone Operation

Do not operate your mobile telephone when any person is within 12 inches (30 centimeters) of its vehicle-installed antenna.



Getting Started



Driving

Check the laws and regulations on the use of wireless telephones in the areas where you drive. Always obey them. Observe the following guidelines when using your phone while driving.

- Give full attention to driving--driving safely is your first responsibility.
- Use hands-free phone 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 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 inches (6") be maintained between a wireless phone's antenna 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 turn the phone OFF immediately if you have any reason to suspect that interference is taking place

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

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 equipment that could be sensitive to external RF energy.

Vehicles

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

Posted Facilities

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

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.



Getting Started



Potentially Explosive Atmospheres

Turn your phone OFF and do not remove your battery when you are in any area with a potentially explosive atmosphere. Obey all signs and instructions. Sparks from your battery 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, but are not limited to: fueling areas such as gasoline stations; below deck on boats; fuel or chemical transfer or storage facilities; areas where fuel odors are present (for example, if a gas/propane leak occurs in a car or home); areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you normally would be advised to turn off your vehicle engine.

For Vehicles Equipped with an Air Bag

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.

MOB010699

Introduction

The cellular telephone you have selected represents the state-of-the-art in cellular telephones today. The listing below shows just a few of the exceptional features that your telephone provides.

- 14-character alphanumeric color LCD display
- 104 memories, including last number recall and scratch pad
- Last 10 Number Redial
- Turbo Dialing
- Three One Touch Dial Keys
- Signal Strength Meter
- Auto Answer
- Five Call Timers
- Emergency Dialing
- Menu Mode/Alphanumeric Directory
- Two System Registration
- Multiple Key Answer

To help you become familiar with your telephone's features, we will take you through a logical step-by-step learning procedure. The tabs at the edge of the manual mark the different categories that the telephone's operations have been broken into. Please read the general safety information on page 6, and the rules, regulations, & precautions on page 76, before operating the phone.





Phone Overview

NOTE *The telephone you receive may not look exactly like the one shown on the facing page. All features will operate as indicated.*

① **Operating Display and Status Indicators**

Provide a visual indication of telephone numbers and messages associated with mobile telephone service.

Green Dot – Lights when unit is powered.

In Use – Lights when unit is in use.

No Svc – Lights when the unit is out of service range of a cellular system. Calls cannot be placed or received.

Roam – Lights when the unit is within range of a cellular system other than your home registered system.

② **Three One Touch Dial Keys**

Allows for direct access to important phone numbers and carrier network services.

③ **Volume Keys**

Adjust earpiece, ringer, and speaker volume.

Also:

 scrolls forward.

 scrolls backward.

④ **Numeric Keypad**

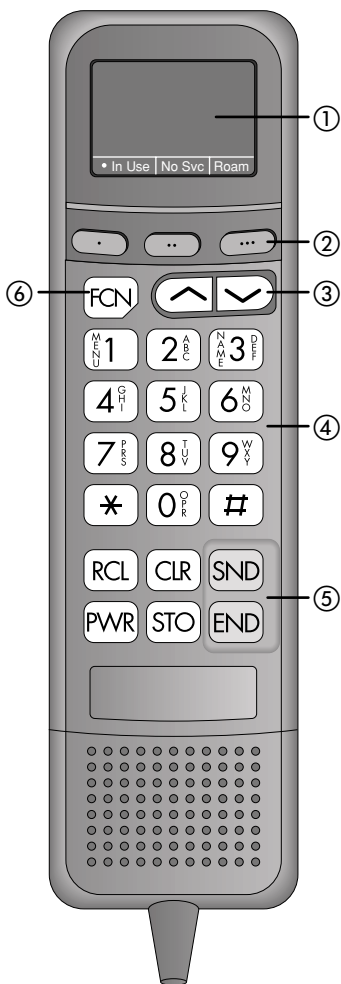
Used to enter call information. Also:

,  enters feature menu.

 or  scrolls forward.

 or  scrolls backward.

Getting Started





⑤ **Control Keypad**

-  Recalls and displays telephone numbers stored in memory.
-  Clears the last digit entered when pressed and released. Press and hold to clear the entire display in the event of an error (does not affect numbers stored in memory).
-  Initiates a call to the entered telephone number or answers a call.
-  Controls power to the unit.
-  Stores telephone numbers into any of the memory locations.
-  Terminates a call in progress.

⑥ **FCN Function Key**

Used in combination with other buttons for specific user-programmed functions (e.g., ,  activates lock mode).

Turn Phone On and Off

1. If your ignition is on and your telephone is off, press .
2. Press  again to turn unit off.

Most users find it convenient to have their mobile telephone turn on and off in conjunction with the vehicle ignition switch. If you want your mobile telephone to operate independently of the ignition switch, discuss this with your installer.

We recommend that the engine be running when using your mobile telephone.

Start-up Self Tests

Each time the telephone is turned on, it performs a series of self tests, sounds a tone, and lights all display positions and status indicators to check their operation.

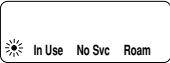
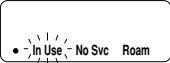
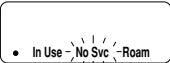
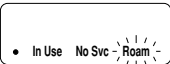
Display Messages

Message	Explanation
   	• If your phone is programmed for two cellular systems, one of these messages will appear in the display upon power up. • These are reminders as to which system and phone number are currently in use.
	• Indicates that the phone has been locked and cannot send or receive calls until unlocked. Refer to page 60, Electronic Lock.



Basic Operation

Start-up Status Indicators

Indicators	Explanation
	On/Lock Indicator (green light) • Lights steadily to indicate the phone is on and fully operative • Lights steadily to indicate the phone is locked and will not place calls
	In Use Indicator • Lights steadily while a call is in progress
	No Svc (No Service) Indicator • Lights steadily if phone is beyond range of a cellular service area • Calls cannot be placed or received while lit
	Roam Indicator • If flashing, you are accessing a service area outside of your home system • <i>Steady Illumination</i> - Roaming on a home type system • <i>Flashing</i> - Roaming on a non-home type system

Place a Call

1. With power on, enter the number you wish to call.
2. Press **[SND]**. (You may leave the handset mounted while dialing.)

The green *In Use* indicator will illuminate. You will hear conventional ringing as the call is processed, followed by the called party answering. Pick up the handset and bring it up to your ear, or leave the handset mounted and direct your conversation to the Hands Free microphone for a hands free call. If the green *In Use* indicator is extinguished, your call has been terminated.



To Correct an Error

To clear the last digit entered, press and quickly release **[CLR]**. To clear the entire entry, press and hold **[CLR]** until the entire entry is erased.

Unsuccessful Call Attempts

If you hear one of the following signals, you have not successfully completed your call.

Basic Operation

<i>Tone</i>	<i>Description</i>
fast busy (reorder signal) <i>SYSTEM BUSY</i>	Cellular System Busy Press [SND] again before ending the unsuccessful call attempt to automatically redial the call (see Automatic Redial below), or press [END] and dial the call again.
alternating high/low tone (intercept) <i>NO SERVICE</i>	Cellular System Could Not Complete the Call You may have tried to place a call before the green ON/LOCK indicator was lit to let you know your phone was fully operative. Either press [SND] again before ending the unsuccessful call attempt to automatically redial the call (see Automatic Redial below), or press [END] and dial the call again.
busy signal	The Called Party's Line is Busy

Automatic Redial

Your telephone includes a convenient feature designed to make repetitive call attempts unnecessary when a cellular system is busy.

If you receive an alternating high/low signal (intercept), or the fast busy tone (reorder signal), followed by *SYSTEM BUSY* in the display when attempting to place a call and wish to retry the call, press **[SND]** before ending the unsuccessful call attempt. *REDIAL* is then displayed.

Your telephone will make the call attempt continuously over the next four minutes. If four minutes is insufficient time, press **[SND]** to begin another cycle. You may terminate Automatic

Redial by turning off the phone or ignition, or by pressing **END**.

NOTE *Automatic Redial applies when the system is busy, and will not engage when the called party's line is busy.*

End a Call

Press **END** or return the handset to its mount.

The green *In Use* indicator will extinguish. If you have activated the Automatic Hands Free feature, you must press **END** to terminate the call. You may terminate a call or procedure (except Master Reset and Clear) at any time by pressing **END**.



Receive a Call

Press **SND** upon hearing the ring, or lift the handset to your ear.

Power must be on to receive calls.

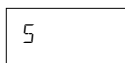
Call in Absence Indicator

If your phone is on and an incoming call is unanswered, **CALL** is displayed. You must press **CLR** or **END** to cancel the message and clear the display.

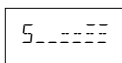
If you wish to receive the **CALL** message while you are away from your vehicle, turn your phone on. When you return to your vehicle, press any key except **CLR**, **END**, or **PWR** to check for incoming calls.

Signal Strength Meter

The Signal Strength Meter (SSM) represents the relative strength of the signal received by your phone. The SSM is displayed as a bar graph following the letter S at the left side of the display. The S alone represents the lowest strength with each additional bar representing a stronger signal.



WEAK SIGNAL



STRONG SIGNAL

The SSM appears every time you turn your phone on, unless this feature is turned off through the feature menu (refer to pg. 48).

To best utilize the SSM, you should familiarize yourself with the relative signal strength levels and their associated call placement and call-in-progress qualities.

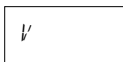
To deactivate the SSM, see pg. 49.

Any messages, such as *LOCKED*, which display as a result of activation of a feature will take priority over the SSM. You will not see the SSM displayed in these cases.

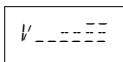
Volume Meter

The Volume Meter represents the current volume setting and will display whenever you adjust the volume control. The volume level is displayed as a bar graph following the letter V at the left side of the display, with each additional bar representing a higher volume setting.

Basic Operation



LOWEST
VOLUME SETTING



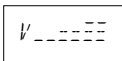
HIGHEST
VOLUME SETTING

The number of bars represents the number of volume steps for speaker, earpiece, and ringer volume. The volume levels can be adjusted by the use of  and .

Speaker Volume

1. With the handset mounted, press and hold . This will raise the volume.
2. To lower the volume, press and hold . The number of bars on the Volume Meter will decrease.

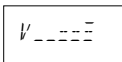
The maximum number of bars that will appear on the display is six bars.



Earpiece Volume

Lift the handset and use  and  as described above.

The maximum number of bars that will appear on the display is five bars.

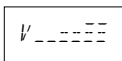


Basic Operation

Ringer Volume

Press **[FON]** and use **[^]** and **[v]** as described above.

The maximum number of bars that will appear on the display is six bars.



Display Own Phone Number

1. Press **[RCL]**, **[#]**.
2. The phone number that is currently active will be displayed.
3. When you have finished viewing, press **[CLR]**.

Switch to Second Phone Number

1. Press **[RCL]**, **[#]**, **[STO]**.
2. The display will go blank to confirm the switch and the newly activated number will appear.
3. When you have finished viewing, press **[CLR]**.

Your telephone can operate over two different home systems, if you have made proper arrangements with your Cellular System Operator. Both are designated as your 'home system' but are accessed with separate telephone numbers.

While you may switch from one system to the other, only one of the two can be active at any given time. Calls are placed and received through the active system only.

If you have two phone numbers programmed into your phone, each time the telephone is turned on,

it displays a message indicating which home system type and phone number is currently active.

The message shows the system type and phone number applied, as follows:

<i>System Type and Phone Number</i>	<i>Display</i>
Non-wireline or A type with phone number 1	A 1
Non-wireline or A type with phone number 2	A 2
Wireline or B type with phone number 1	B 1
Wireline or B type with phone number 2	B 2



If a call is placed to the inactive phone number, the caller will receive the recorded 'Not In Service' message.

When you turn your phone on, the telephone will remember which system was active when you turned it off. That system will stay active until you change to the other system with the sequence **RCL**, **#**, **STO**. You cannot switch systems during a call. If you enter the sequence during a call, the phone will wait until the call is terminated and the *In Use* indicator is extinguished before switching systems.

Each system (and phone number) has its own Selectable System Registration state that you may program (see page 68). That is, you can select Home Only for system 1 (and phone number 1) and

Basic Operation

Standard Mode for system 2 (and phone number 2). Whenever you switch back to System 1, your telephone will operate in Home Only mode again.

The *Roam* indicator will operate based on the active system (see page 67 for detailed information on Roaming). For example, if your active system is A1 and you are roaming on a wireline (B) system, the *Roam* indicator will flash rapidly.

Each system (and phone number) has its own cumulative and resettable call timers. You can only display the call timers of the active system (and phone number).



Place a Hands Free Call

1. Leaving the handset mounted, dial the number you wish to call.
2. Press **[SND]**.
3. When the called party answers, direct your conversation to the Hands Free microphone typically mounted on your vehicle's sun visor. The *In Use* indicator will remain on and *HF* will display for the duration of the call.
4. Press **[END]** to terminate the call.

Receive a Hands Free Call

1. Press **[SND]**.
2. Direct your conversation to the Hands Free microphone. The *In Use* indicator will remain on and *HF* will display for the duration of the call.
3. Press **[END]** to terminate the call.

Manual Handset to Hands Free Operation

1. If you are using the handset and want to switch to Hands Free operation, press **[FCN]**, **[6^{HF}]**.
2. **MUTE** will display. Note that **M** for Mute appears on **[6^{HF}]**.
3. Return the handset to its mount.
4. Press **[FCN]**, **[6^{HF}]** again and **HF** will display.
5. Direct your conversation to the Hands Free microphone.

Automatic Hands Free

1. Press **[FCN]**, **[1^{HF}]**.
2. Scroll the menu by pressing **[V]** or **[^]** (**[*]** or **[#]**) until **_HANG UP FOR HF** displays.
3. Press **[CLR]** once to toggle this feature on (**[]**), and again to toggle it off (**[_]**).
4. To exit the feature menu, press **[END]**.

This feature allows you to automatically go to Hands Free operation without pressing **[FCN]**, **[6^{HF}]**.

NOTE You must first activate the Automatic Hands Free feature through the feature menu on page 48.

To go from handset to Hands Free operation, hang up the handset and begin speaking. To go from Hands Free to handset operation, lift the handset.

Hands Free to Handset Operation

Lift the handset while in a call.



Storing Information in Memory

Your telephone provides memory capable of storing up to 99 frequently called phone numbers as well as a fourteen-character name tag. Upon entering a phone number in memory, the phone will prompt you to store an associated alphabetic name. If you are not interested in creating a name tag for the selected location, alpha entry may be bypassed and just the phone number would be stored. (Refer to page 28 for details.)

Before setting up your memory, we suggest you read the rest of this section to become familiar with the ways in which you will access and use it.

Storing a Phone Number and a Name

- 
1. Enter phone number to be stored (up to 32 digits).
 2. Press **[STO]**.
 3. Enter two-digit location number or press **[*]** for Autoload.
 4. The phone will then automatically prompt for alphabetic name input. The Alpha Entry Mode display will flash *ALPHA OR STO*.
 5. Utilize the alphanumeric keypad to enter each letter as described below (up to 14 letters). **[#]** advances to the next position. **[*]** backspaces, if necessary. Repeat until name tag is complete. If you do not want to store a name tag, continue with Step 6.
 6. Press **[STO]**.
 7. Phone will confirm storage by displaying memory location number.

Details on Utilizing Alpha Entry Mode

Once in Alpha Entry Mode, you can enter letters using your numeric keypad. For example, 'A' is at the first press of $\boxed{2}$, 'B' is at the second press of $\boxed{2}$, and 'C' is at the third press of $\boxed{2}$.

Key	1st Press	2nd Press	3rd Press	4th Press
$\boxed{2}$	A	B	C	
$\boxed{3}$	D	E	F	
$\boxed{4}$	G	H	I	
$\boxed{5}$	J	K	L	
$\boxed{6}$	M	N	O	
$\boxed{7}$	P	Q	R	S
$\boxed{8}$	T	U	V	
$\boxed{9}$	W	X	Y	Z

EXAMPLE To enter 'Bob' and his phone number 555-1234 into memory location 01:

1. Enter phone number by pressing $\boxed{5}$, $\boxed{5}$, $\boxed{5}$, $\boxed{1}$, $\boxed{2}$, $\boxed{3}$, $\boxed{4}$.
2. Press $\boxed{\text{STO}}$, $\boxed{0}$, $\boxed{1}$. The display will flash *ALPHA OR STO*.
3. Press $\boxed{2}$ twice to select 'B'. Press $\boxed{\#}$ to advance to the next position. Press $\boxed{6}$ three times for 'O'. Press $\boxed{\#}$. Press $\boxed{2}$ twice more to select the second 'B'.
4. Press $\boxed{\text{STO}}$. The display will flash $\boxed{1}$ to confirm that the name and phone number were successfully stored in memory location 01.



Memory

NOTE If *FULL* displays, refer to *Memory Protect* on page 31.

Storing Phone Number Only

1. Enter the phone number you wish to store, up to 32 digits.
2. Press **[STO]**.
3. Enter two-digit location number or press **[*]** for Autoload.
4. The phone is automatically in Alpha Entry Mode. The display will flash *ALPHA OR STO*. Press **[STO]** to bypass.
5. Phone will confirm storage by displaying memory location number.

NOTE If *FULL* displays, refer to *Memory Protect* on page 31.

Storing Area Code and Prefix (Postscripting)

1. Enter area code and prefix to be stored.
2. Press **[STO]**.
3. Enter two-digit location number or press **[*]** for Autoload.
4. The phone is automatically in Alpha Entry Mode. The display will flash *ALPHA OR STO*. Enter a name or press **[STO]** to bypass.
5. Phone will confirm storage by displaying memory location number.

NOTE If *FULL* displays, refer to *Memory Protect* on page 31.

Storing an area code and prefix for a frequently called location such as an office, offers a

convenient means of postscripting the four-digit extension of the party you wish to call. To place a call from this type of memory location, simply recall the location and enter the four-digit extension before pressing **[SND]**.

There are three ways to select a memory location. You can select a specific location number; you can choose to autoload which will store the information in the next sequentially available location; or you can arrange the directory into blocks.

Store to a Location Number

1. Enter phone number to be stored.
2. Press **[STO]**.
3. Enter the two-digit location number in which you wish to place the entry.
4. The phone is automatically in Alpha Entry Mode. Enter a name or continue to step 5.
5. Press **[STO]**.
6. Phone will confirm storage by displaying memory location number.

NOTE If *FULL* displays, refer to Memory Protect on page 31.

Memory Autoload

1. Enter phone number to be stored.
2. Press **[STO]**, **[*]**.
3. The phone is automatically in Alpha Entry Mode. Enter a name or continue to step 4.
4. Press **[STO]**.
5. Phone will confirm storage by displaying the autoload memory location number.



Memory

NOTE If *FULL* displays, refer to *Memory Protect* on page 31.

This procedure automatically stores memory entries into the next available memory location. This method serves particularly well if you do not remember the next available memory location.

Memory Blocks

1. Enter phone number to be stored.
2. Press **STO**.
3. Enter the first digit of the desired block – **0**, **1**, **2**, etc.
4. Press *****.
5. The phone is automatically in Alpha Entry Mode. Enter a name or continue to step 6.
6. Press **STO**.
7. Phone will confirm storage by displaying memory location number.

NOTE If *FULL* displays, refer to *Memory Protect* on page 31.

The directory can be arranged by location number in blocks of ten (0-9, 10-19, 20-29, etc.).

Organizing your directory in this manner greatly speeds review or recall of entries that share a commonality: e.g., business associates, friends, emergency numbers, etc. You will still be able to recall your entries alphabetically.

To take advantage of memory blocks, store entries into the next free location within a block of ten numbers (0-9, 10-19, 20-29, etc.).

Memory Protect

The directory has an automatic memory protect feature which prevents the accidental overwriting and loss of previously stored names and numbers in memory. If you attempt to store a number or name in a location that already contains an entry, the phone will display *FULL* and the name/number in that memory location. The display will then show the previously stored number and alternate between the name stored and *CHANGE?*.

If you wish to save to that location, thus overwriting and erasing the old information, press **[STO]**.

If you wish to store the entry in an alternate location, press **[END]**, **[STO]** and the alternate location number. Memory autoload or memory blocks may also be used in this case (see pages 29 and 30).

Recalling/Scrolling from Memory

Information stored in memory can be recalled or reviewed by location number. You may also scroll the memory during a call. Pressing **[END]** once in this case will cancel scrolling, but not the call.

Recalling/Scrolling by Name

1. Press **[FCN]**, **[3]**.
2. Continually press **[#]** or **[^]** to scroll in alphabetical order until the desired name displays.
3. Press **[SND]** to place a call to the number displayed.



Memory

Use  and  ( and ) to scroll forward and backward.

To begin scrolling from a specific letter of the alphabet, press , , then the letter from which you wish to start. If no entries are stored under this letter, the unit automatically searches forward, alphabetically, until the next name is found.

To view the associated phone number

1. Press . The display will flash the location number, then the phone number.
2. Press  again to view the name. If you have the Name Preferred feature selected, the phone will first show the alpha entry when you recall by the memory location. To view the location and phone number press .



Recalling/Scrolling by Location Number

1. Press .
2. Enter the desired two-digit location number.
or
Press ,  and press  or  to begin scrolling from the beginning of the stored locations.
3. The display will show the location number, then the first 10 digits of the number, or if no number was entered, up to 14 characters of the name will display.
4. Press  to place a call to the number displayed.

Use  and  ( and ) to scroll forward and backward.

To scroll from a specific two-digit location, press , then the location number where you wish to begin scrolling.

The phone will display an apostrophe (') after the memory location number to indicate that memory scrolling is active.

NOTE *If you have the Name Preference feature selected, the above information is reversed. Refer to the Number Preference section on page 52 for more details.*

Last Number Recall

1. Press  (optional, allows you to see number).
2. Press  to place a call to the last number displayed.

This feature automatically remembers the last phone number entered from the keypad or recalled from memory.

Recalling Last 10 Numbers Dialed

1. Press , , .  will display followed by the name or number of the most recently placed call.
2. Scroll the last ten numbers dialed with  and  ( and )
3. To place a call to a displayed number, press .



Memory

This feature allows you to refer to or redial any of the last ten phone numbers to which calls were placed.

The numbers are stored in the order placed and always represent the ten most recent calls.

Successive calls to the same number are stored only once, and all are retained when the unit is shut off.

NOTE *When scrolling, you may observe that a location number is skipped. This may be caused by pressing **[SND]** when the display is empty and does not mean that a number has been lost.*

Recalling an Area Code and Prefix (Postscripting)

- 
1. Recall two-digit location number where an area code and prefix is stored.
 2. Add additional digits as needed.
 3. Press **[SND]**.

You can add additional digits to the end of recalled numbers by entering them before pressing **[SND]**.

This is particularly useful if you often place calls to the same area code and prefix, e.g., an office, but need to reach different extensions with each call.

Turbo Dial

Press and hold for one second any one of the digit buttons **[2] through **[9]**.**

The digit buttons **[2]** through **[9]** (**[1]** is reserved for Emergency Dialing) provide an advanced form of Super Speed Dialing. Once numbers have been stored in memory location 2-9, calls can be placed from these locations by pressing the associated

key and holding for approximately one second. There is no need to press **[SND]**.

NOTE *If you wish to use memory location 1 for a non-emergency number, the **EMERGENCY** message may be deactivated through the feature menu (refer to page 48).*

In order to prevent the accidental pressing of these keys, Turbo Dial can be deactivated through the feature menu.

NOTE *Turbo Dialing is affected by Call Restriction Service Levels 1, 2, 3, and 8 (see page 62). Do not select these service levels if you wish to use Turbo Dialing.*

One Touch Dialing Keys

Your phone has three special dialing keys, **[•]**, **[..]**, and **[...]**, which allow for easy one touch access to numbers stored in these locations. See page 45 for more details on how to use these keys.

Super Speed Dialing

1. Enter the location number.
2. Press **[SND]**.

Memory locations 1-99 are equipped with Super Speed Dialing capability. Once information is stored in these locations, Super Speed Dialing allows you to place a call without pressing **[RCL]**.

The number dialed will not display for review.

NOTE *Do not attempt the sequence **[0?]**, **[SND]**. This will place a call to the local operator.*



Scratch Pad Memory

The scratch pad permits entry of numbers from the keypad during conversation.

If your party gives you another number to call, simply enter this from the keypad. If you make an error, press **CLR** to erase the last digit entered or hold **CLR** to erase the entire entry.

Advise your party that they will hear tones as you store the number. To call the scratch pad number at the end of an ongoing conversation, press **END**, **SND**.

NOTE Refer to the *Scratch Pad Tones* feature (page 55) for details on silencing the tones.

Tone Dialing (Two-Part Calling)



Your telephone provides the standard Dual Tone Multi-Frequency (DTMF) signals typically used to access alternate long distance services, signal pagers, answering machines, etc. Generally, these services use a two-part procedure: First, a call is placed from the memory or through the keypad to a central telephone number, then a secondary dial tone is heard and the additional tone digits are sent.

To tone dial from the keypad, make the initial call. Append additional tone digits using the keypad. The tones are automatically sent as you press the keys. Do not press **SND**.

EXCEPTION If you have selected silent scratch pad, you must press **RCL**, **SND** after entering the additional digits.

To tone dial from a memory location, place the initial call. Recall from memory (using **RCL**, location number) the number you wish to send as DTMF digits. Press **RCL**, **SND**. Repeat these steps as required to send separate groups of numbers.

Two-part calling can be automated by a unique feature which permits the programming and memory storage of pauses between groups of numbers. When recalled or sent, the telephone stops transmitting at the pause and waits for your response (i.e., secondary dial tone).

Two methods of Pause Dialing are explained below:

- Memory Linking is used when constant number sequences are required, such as banking inquiries, answering machines, and voice mail.
- Calling Card Dialing provides you with a method for storing lengthy calling card information in the phone's memory and sending this information quickly and easily.

Once this information is stored, a few key presses will transmit the linked information. The phone will even prompt you to insert the number you wish to call.



Pause Dialing (Memory Linking)

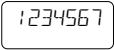
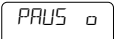
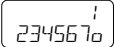
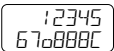
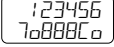
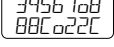
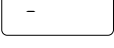
1. Enter the first group of numbers from the keypad or recall them from memory using **RCL**.
2. Insert a pause by pressing **FCN**, **SND**. **□** will appear where the pause is inserted. To store, press **STO**.
3. Enter the next group of numbers, or recall them from memory by pressing **FCN**, **RCL**, two-digit location number.
4. Repeat this sequence for as many groups as you wish up to a maximum of 32 digits. (Each pause occupies a digit.)



EXAMPLE *To construct a number sequence which you might use to inquire about your bank balance, follow this example. The entry sequence required by the bank is to call the access number, wait for the tone, enter your ID number followed by **#**, wait for the tone, then enter your account number and **#**.*

The bank's telephone number is 123-4567. Your ID number is 888. Your account number is 22.

NOTE *Pressing ***** or **#** may be required by the bank.*

Instruction and Key Sequence	Display
1 Enter the phone number of the bank — $\boxed{1}$, $\boxed{2}$, $\boxed{3}$, $\boxed{4}$, $\boxed{5}$, $\boxed{6}$, $\boxed{7}$ or recall it from memory location xx — $\boxed{RCL}$, X, X	
2 Create a pause — $\boxed{FCN}$, $\boxed{SND}$	 
3 Press $\boxed{STO}$	
4 Enter the ID number and a pound sign — $\boxed{8}$, $\boxed{8}$, $\boxed{8}$, $\boxed{\#}$ or recall it from memory location xx — $\boxed{FCN}$, $\boxed{RCL}$, X, X	
5 Create another pause — $\boxed{FCN}$, $\boxed{SND}$	 
6 Press $\boxed{STO}$	
7 Enter the account number and a pound sign — $\boxed{2}$, $\boxed{2}$, $\boxed{\#}$	
8 To store number, press $\boxed{STO}$ and the two-digit location number. Press $\boxed{STO}$ to bypass the Alpha message in the display. The memory location number will be displayed to confirm storage.	 

To place a linked call, press $\boxed{SND}$ to transmit the first group of numbers, prior to the first pause.

Memory

After waiting for the system response, press **[SND]** to send the second group of numbers. Continue to press **[SND]** until all digit groups are sent.

If the PIN code feature is activated (see page 56), the PIN code will automatically be sent after the first pause by pressing **[SND]**.

To store a linked sequence, press **[STO]**, then enter the location number where you wish to store the number. Each memory location will only accept up to 32 digits.

NOTE *Long Tone DTMF signals cannot be sent using this procedure. If Long Tone DTMF signals are required, they must be sent manually. The tone will be sent for as long as the key is depressed.*

NOTE *Do not add the PIN code to the linked sequence. Your phone will automatically insert the PIN code when placing a linked call. Follow the instructions on page 56.*



Calling Card Dialing

The following is a typical example of information required to make a credit card call. The order of information may vary depending on your service provider. The information provided below is designed to accommodate credit card dialing for the three major long distance carriers.

To enter your calling card number into memory:

1. Enter your calling card access phone number. (Typically this is a 1-800 phone number or a 0. If a 0, skip to step 4.)
2. Insert a pause by pressing **[FCN]**, **[SND]**, **[STO]**. □ will appear where the pause is inserted.

3. Press **[0?]**. (Long distance carriers typically require that a 0 be placed before the number you are calling.)
4. Press **[FCN]**, **[SND]**, **[#]**. *NUM 'N'* will display. This serves as a marker for the spot where the phone number you wish to call will be automatically inserted into the sequence.
5. Press **[STO]**. This stores the N character.
6. Insert another pause by pressing **[FCN]**, **[SND]**, **[STO]**. **[]** will appear where the pause is inserted.
7. Enter your credit card PIN number.
8. Press **[STO]** and one of the three One Touch Dial keys or Turbo Dial locations (1-9).
9. The phone will then automatically prompt for alphabetic name input. Enter a name and then press **[STO]** or simply press **[STO]** to bypass the addition of an alphabetic name.
10. The phone will confirm storage by displaying *STORED* for One Touch Dial keys or the memory location number for Turbo Dial locations.

This feature provides you with a convenient method for saving your credit card calling information in the phone's memory. You can then readily place calls without having to enter your credit card information every time you place a credit card call. Your credit card call can conveniently be sent to a phone number stored in any memory location or you can dial the phone number through the keypad. The only requirement is that the number you wish to call through memory recall or dialing, must include the area code.



Memory

Instruction and Key Sequence	Display
1 Enter the access number.	1800 1234567
2 Enter a pause — FCN, SND	INSERT PAUS o
3 Press — STO	18001 234567o
4 Press — 0?	180012 34567o0
5 Enter a pause — FCN, SND	INSERT PAUS o
6 Press — #	NUM 'N
7 Press — STO	8001234 567o0 'N
8 Enter a pause — FCN, SND	INSERT PAUS o
9 Press — STO	0012345 67o0 'No
10 Enter your credit card PIN number	67o0 'No 8901234
11 To store number, press STO and the One Touch Dial key or the Turbo Dial key. Press STO again to bypass Alpha display. The memory location number will be displayed to confirm storage. If you stored the number in a One Touch Dial location, STORE will be displayed to confirm storage.	

To place a call using your credit card:

1. Recall and send the credit card memory location. You can do this in the following ways:
 - a. If the credit card number is stored in a One Touch Dial location, simply press and hold the appropriate One Touch Dial key for one second.
 - b. If the credit card number is stored in a Turbo Dial location (1-9), simply press and hold the appropriate key for one second.
2. The display will flash *ENTER NUMBER*. This is the prompt to enter the phone number you wish to call.
3. Enter the phone number you wish to call or recall it from memory. Note that the area code must be included. You may enter and send the phone number in the following ways:
 - a. Enter the number manually. The number must be three or more digits. Press **[SND]** to initiate the call.
 - b. Enter the Turbo Dial location where the number is stored. You do not need to press **[SND]** to initiate the call.
 - c. Enter **[RCL]** and the two-digit memory location. Press **[SND]** to initiate the call.
4. The call is now initiated. The first group of numbers will be transmitted (i.e., the access number or number you are calling). After waiting for the system response, press the One Touch Dial key to send the second group of numbers (i.e., the number you are calling or the credit card PIN number). If a third group is required for your credit card,



Memory

wait for the next system response and press the One Touch Dial key again.

IMPORTANT *If your credit card number is stored in a Turbo Dial location, you must press  rather than the Turbo Dial key to send additional groups of numbers.*

EXAMPLE *Use the credit card information stored in One Touch Dial location 1 to place a credit card call to a ten-digit phone number stored in memory location 3.*



<i>Instruction and Key Sequence</i>	<i>Display</i>
1 Recall and send your credit card number. In this example, use One Touch Dialing. Press and hold  for one second.	ENTER NUMBER
2 Enter and send the phone number you wish to call. In this example, memory location 3 is sent via Turbo Dialing. Press and hold  for one second. (The Signal Strength Meter will display and the <i>In Use</i> light will begin to flash to let you know that the call has been initiated.)	5 _ _ _ _ _
3 Send the final series of digits (i.e., your credit card PIN number) after you hear the system response. (You will hear the tones as the digits are sent.)	5 _ _ _ _ _

One Touch Dialing Keys

Press and hold the One Touch Dial Key

(.), (..), or (...).

To Store a Number

1. Enter phone number to be stored.
2. Press **STO**.
3. Press specific One Touch Dial Key.
4. The phone is automatically in Alpha Entry Mode. Enter a name or bypass by pressing **STO**.
5. Phone will confirm storage by displaying **STORED**.

These keys function like Turbo Dial keys. When you press and hold (.), (..), or (...), a call is placed to the number stored in that position. To recall the number, press **RCL**, and the specific One Touch Dial Key. To clear the number, press **CLR**, **STO**, and the specific One Touch Dial Key. **ALPHA OR STO** will appear. Press **STO**. The unit will display the name and number along with **CHANGE?**. Press **STO** to clear both name and number.



One Touch Emergency Dialing

1. Press and hold **1**.
2. **EMERGENCY** will display.

Memory location 01, a Turbo Dial location, may be used for 911 or any other emergency number you may wish to dial even if your phone is locked.

NOTE Do not select Call Restriction Service Levels 1, 2, 3, or 8 if you wish to use One Touch Emergency Dialing.

Memory

Emergency dialing can be deactivated by using the feature menu found on page 48. When this feature is deactivated, the number stored in memory location 01 will still be dialed if the phone is *unlocked* and if you press and hold , but *EMERGENCY* will not display.

NOTE *Automatic Redial does not work with emergency dialing while the phone is locked.*

Change Memory Entries - Alpha or Numeric

- 
1. Press  and the two-digit location number.
 2. Press  again, if necessary, so that the phone number to be changed is displayed.
 3. Edit phone number by pressing  to back out the digits to be changed. Enter new digits.
 4. Press  and the same two-digit location number.
 5. *ALPHA OR STO* will be displayed.
 6. Change or add alpha name tag if desired. To edit name, press  to back out the letters to be changed. Enter new alpha characters. (Enter alphabetic characters as described on page 27.)
 7. Press .
 8. You will see a Memory Protect message; press  to overwrite.
 9. Memory location number will display as confirmation.

NOTE *See Number Preference feature on page 52 for more details on step 2 above.*

Clear Memory Entries

Clearing via Memory Name

1. Press **FCN**, **3** to enter alphabetic memory.
2. Review the memory locations using memory review (see page 31), and recall the entry you wish cleared.
3. Press **CLR**. The unit will display *CLEAR?*.
4. Press **STO** to clear both name and number.
or
Press **END** to exit without deleting the entry.

Clearing via Memory Location Number

1. Press **CLR**, **STO**, and the two-digit location number to be cleared.
2. *ALPHA OR STO* will display. Press **STO** to bypass.
3. The phone will display *FULL*, flash number in memory, followed by *CHANGE?*.
4. Press **STO** to clear.
or
Press **END** to exit without deleting the entry.



Feature Menu

The feature menu permits review, selection, and cancellation of most of your telephone's features through the keypad and display. The chart below shows all features available through the menu and the pages where detailed information is found.

<i>Feature</i>	<i>Page</i>
Auto Answer	52
Auto Lock	61
Call Receive	19
Emergency Call	45
Extended Talk	65
HF Auto	25
Individual Timer	59
Keypad Tones	54
Multi Key Answer	53
Number Preferred	52
One-Minute Timer	59
PIN Active	56
Remind Message	55
Ringer On	54
Ringer Style	65
Scratch Pad Tones	55
Select Language	64
Signal Meter	49
Theft Alarm	61
Turbo Dial	34



Additional telephone features, that may be available with your phone but are not accessed through the feature menu, are also described in this section.

To Select/Cancel Menu Features

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until the desired feature displays.
3. Press **CLR** to toggle the feature off or **STO** to activate.
4. Press **END** to exit the feature menu.

EXAMPLE To activate silent keypad, press **FCN**, **1**, and scroll with **#** or **△** until the display shows **KEYPAD TONE ON**.

Press **CLR** to deactivate this feature. The display will then show **KEYPAD TONE OFF**.

Press **END** to exit the menu.

Signal Strength Meter

To Disable the SSM from Displaying

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until **SIGNAL METER ON** displays.
3. Press **CLR** once to disable the SSM. To reactivate the SSM press **STO**.
4. Press **END** to exit the feature menu.

See page 20 for more details on the operation of the SSM.



Feature Status Review

To Review Status

1. Press **FCN**, **0**, **9**, **RCL**.
2. Press **^** or **v** (***** or **#**) to scroll messages.
3. To activate a feature that is displayed press **STO**. To deactivate a feature press **CLR**.

To End Review

Press **END**.

Microphone Muting

To mute microphone

Press **FCN**, **6**.

To disable mute

Press **FCN**, **6** again.

This feature allows you to confer privately with others in the car during a call. It will disable the microphone and display **MUTE**. Note that M for Mute appears on **6**. The mute feature is canceled if you end your call.



Auxiliary Alert

1. Press **FCN**, **4** with the unit on, unlocked, and Theft Alarm and Silent Ringer inactive. **ALERT** will display.
2. Turn off the vehicle ignition.

The Auxiliary Alert feature allows an additional alerting device (horn or lights) to be activated for the first five rings (20 seconds) of an incoming

call. This is useful if you intend to be outside of the vehicle and expect a call.

NOTE *Determination of whether the Auxiliary Alert feature is desired and, if so, which alerting device is to be used is made at the time of installation.*

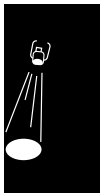
Note that H for Horn appears on . The external alerting device (horn or lights) will only respond if the vehicle ignition switch has been turned off.

NOTE *A call cannot be in progress when you enable Auxiliary Alert. Auto Answer is disabled during Auxiliary Alert.*

When the Auxiliary Alert mode is enabled, the mobile telephone remains on despite the vehicle ignition being turned off. Calls may be placed while in the Auxiliary Alert mode unless the unit has also been locked subsequent to pressing , .

NOTE *If left active for more than eight hours, the telephone will turn itself off to preserve your vehicle's battery.*

The Auxiliary Alert mode is automatically disabled the next time the ignition is turned from off to on. The Auxiliary Alert mode can also be disabled by pressing  or by pressing ,  again. **ALERT** will turn off when the feature is disabled.



Number Preference

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until **NUMBER PREF ON** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

The Number Preference feature reverses the display order of memory entries so that the number will be displayed before the name.

Automatic Answer

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until **AUTO ANSR OFF** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

This feature permits you to answer calls without pressing **SND**. When your phone receives a call, it will ring twice, then activate the Hands Free system.

NOTE We suggest that you do not select the Automatic Answer and Silent Ringer simultaneously since incoming calls will then be announced only by the flashing **CALL** in the display. Also, this feature may be incompatible with certain enhanced system services, such as no-answer transfer. Consult your Cellular Service Provider.



Multiple Key Answer

1. Press **[FCN]**, **[1]**.
2. Scroll the menu by pressing **[^]** or **[v]** (**[*]** or **[#]**) until **MULTKEY ANSR OFF** displays.
3. Press **[CLR]** once to toggle this feature off, and **[STO]** to toggle it on.
4. To exit the feature menu, press **[END]**.

The Multiple Key Answer feature allows you to answer an incoming call by pressing **[SND]** or any digit key **[1]** through **[9]**.

Call Receive

1. Press **[FCN]**, **[1]**.
2. Scroll the menu by pressing **[v]** or **[^]** (**[*]** or **[#]**) until **CALL RCV ON** displays.
3. Press **[CLR]** once to toggle this feature off, and **[STO]** to toggle it on.
4. To exit the feature menu, press **[END]**.

Use this feature if you prefer not to receive incoming calls but wish to be informed of the attempt. If your cellular service offers No-Answer Transfer, the calls received while this feature is in effect can be routed to a secretary or answering machine.

When the phone is on and this feature is selected, incoming calls are signaled by several short bursts of tone, **CALL** in the display, and the green on indicator. Without No-Answer Transfer, the caller will receive the 'Not in Service' recording.

As a reminder that incoming call screening is selected, the unit will sound the special tone burst each time it is turned on.



NOTE We suggest you do not select Incoming Call Screening and Silent Ringer simultaneously since the incoming call will not be signalled by a short burst of tone.

Ringer

1. Press **FCN**, **MENU 1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until **RINGER ON** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

The telephone's ring tones may be silenced where they could prove a distraction, as during a business conference, etc. In this case, incoming calls are announced only by a flashing **CALL** in the display.

NOTE We suggest you do not select the Silent Ringer and Automatic Answer simultaneously, since the phone will then answer a call without audible indication.

Keypad Tones

1. Press **FCN**, **MENU 1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until **KEYPAD TONE ON** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

When selected, this feature silences the tones used to indicate keypad depressions.



Scratch Pad Tones

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until **SCRPA] TONE ON** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

Use this feature to enter scratch pad numbers during a call without transmitting DTMF tones. You will hear the tones, but your called party will not.

NOTE Should you wish to transmit DTMF tones (to access answering machines, pagers, automatic menus, etc.) while Silent Scratch Pad is activated, enter the digits and press **RCL**, **SND**.

Remind Message

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until **REMIN] MSG OFF** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

Reminder tone is an audible message to alert the user that they have received a short message. It will beep every two minutes until the new messages are read.

Your cellular carrier may offer enhanced features, such as short messaging. Ask your cellular service provider if this is supported in your system. If short messaging is not supported in your system, reminder beep selection will have no effect.



PIN Code Activation

Activate PIN Code

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until *PIN INACTIVE* displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

Store PIN Code in Memory Location 07

1. Enter PIN code.
2. Press **STO**.
3. Press **0**, **7**.

Place a Call With PIN Code Active

1. Enter number to be called, or recall from memory.
2. Press **SND**. Wait for double tone – “beep, beep.”
3. Press **SND**. The phone will automatically send the PIN code stored in memory location 07.



Your cellular carrier may require a personal identification number (PIN) when placing outbound calls. This code assures the cellular system that the person placing the call is an authorized user. Ask your cellular service provider if this is required in your system.

Only select this feature if your cellular service provider requires it.

This feature will allow you to automatically send your PIN code with all outbound calls. If *INVALID PIN* displays, check to see if you have activated the feature in the menu without storing a PIN

number in memory location 7. The PIN code must be less than seven digits.

If you enter a service area which does not require a PIN code, disable the feature in the feature menu.

Timers

Call timers provide a useful means of monitoring the air-time spent in conversation. Several of these operate in the background and can be displayed at any time. Another offers tones heard only on your side of the conversation.

Each timer begins counting as a cellular channel is assigned, or when the phone rings to signal an incoming call. If an incoming call is not answered, the timers revert to their previous values.

Individual Call Timer

To Display

Press , , .

This timer accumulates the air-time of a call in minutes and seconds.

It automatically resets before a new call is placed and when the phone is turned off.



Resettable Call Timer

To Display

Press **RCL**, **#**, **#**, **#**.

To Reset

Press **FCN**, **0**, **7**, **CLR**.

This timer accumulates the air-time in minutes from the point at which it is reset.

This resettable timer is generally utilized to track monthly air-time usage and is set in conjunction with the monthly billing cycle.

NOTE *If you have two phone numbers programmed in your phone, each phone number has its own resettable call timer. To view the resettable call timer associated with the other phone number, switch your phone to that number, then use the sequence above.*

Cumulative Call Timer

To Display

Press **RCL**, **#**, **#**, **#**, **#**.

This is a non-resettable timer which accumulates the phone's total air-time in minutes, starting with the initial factory setting.

NOTE *If you have two phone numbers programmed in your phone, each phone number has its own cumulative call timer. To view the cumulative call timer associated with the other phone number, switch your phone to that number, then use the sequence above.*



Individual Timer

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until *INDIV TIMROFF* displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

This feature automatically displays the accumulated time in minutes and seconds during and after each call.

One-Minute Timer

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **▽** or **△** (***** or **#**) until *ONE MIN TIMROFF* displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

This timer provides a tone ten seconds before the end of each minute during calls.

Security Features

Your telephone offers several forms of security against unauthorized use. These require either your three-digit unlock code, or the six-digit security code. The factory programmed unlock code is 123 and the factory programmed security code is 000000.



Electronic Lock

To Lock

1. Press **[FCN]**, **[5]**.
2. **LOCK?** will display.
3. Press **[STO]** to lock.
4. Press **[END]** to exit.

To Unlock

Enter your three-digit unlock code. If you make an error, press **[CLR] and start again.**

The electronic lock prevents use of the telephone by disabling both incoming and outgoing calls. To help remember which key to use, note that L for Lock appears on **[5]**.

If a call is received during this period, the phone will ring and you must enter the unlock code before the call can be answered.

Change Unlock Code

1. Press **[FCN]**, **[0?]**.
2. Enter your six-digit security code.
3. Enter the new desired three-digit unlock code.
4. Press **[STO]**. The new unlock code will display to confirm storage.

Display Unlock Code

1. Press **[FCN]**, **[0?]**.
2. Enter your six-digit security code.
3. Press **[RCL]**. The phone will display **LOCODE** and the three-digit unlock code.



NOTE Use this procedure if you have forgotten your current three-digit unlock code.

Automatic Lock

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **^** or **v** (***** or **#**) until **AUTO LOCK OFF** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. To exit the feature menu, press **END**.

This feature automatically locks your phone each time it is turned off.

Theft Alarm

To Select (On)

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **^** or **v** (***** or **#**) until **THEFT ALARM OFF** displays.
3. Press **CLR** once to toggle this feature off, and **STO** to toggle it on.
4. Press **END** to exit the feature menu. The phone will display **ARMED**.
5. Enter the phone number to be called or recall a number from memory.
6. Turn off the ignition. Your telephone will turn off as well.

To Cancel (Off)

1. Turn on the ignition.
2. Enter your three-digit unlock code within 30 seconds.

When the theft alarm is selected or an unauthorized person turns on your phone and does



Features

not enter your unlock code within 30 seconds, an alerting call will be placed to the phone number you have stored in this feature. If the phone receives a busy signal, it will repeat the call automatically.

Anyone answering the call will hear alternating high and low pitched tones (siren). If you elected to have the Auxiliary Alert feature installed, the auxiliary alerting device will also be activated. The phone will then repeat the call.

The removal of the control unit will not prevent your mobile telephone from attempting to place the call. However, if the antenna has been removed, the phone will be prevented from successfully completing the call. The Auxiliary Alert device will still be activated.

NOTE *If you inadvertently trip the theft alarm and the alarm call is placed, you can stop the alarm by entering your three-digit unlock code. This feature must be reset in the feature menu each time the phone is disarmed.*

If PIN code is activated, the theft alarm will not work as the PIN code must be sent manually in order to complete the call.

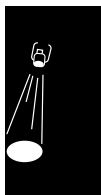


Change Service Level

1. Press **[FON]**, **[0]**.
2. Enter your six-digit security code.
3. Enter the number of the service level you wish to use.
4. Press **[STO]**. The phone will display **SERVICE LEVEL** and the number selected.

Your telephone can be set to restrict call placement (as when lending the phone to another person). Using the six-digit security code, you may select one of the following levels of restriction.

Service	Level
No restrictions. (Standard setting)	4
Full keypad and directory dialing. No storage in directory locations 1-10 or One Touch Dial locations.	6
Keypad dialing only. No directory or Turbo Dial access.	3
Phone will place calls from all directory locations (RCL, 0, 1 - 9, 9, SND). No keypad dialing. No directory change or storage.	2
Seven-digit (local) dialing only, including directory and message calls (if seven digits or less).	5
Phone will place calls only from directory locations 1-10 (RCL, 0, 1 - 1, 0, SND). If locations 1-10 are cleared, no outgoing calls can be made. No keypad dialing. No directory or One Touch Dial storage.	1
Turbo Dial and One Touch Dial locations are restricted from display access.	8



To change the phone to unrestricted operation, use the procedure above and enter service level 4.

Master Reset

CAUTION *Once begun, this procedure cannot be canceled or reversed.*

1. Press **FCN**, **0**.
2. Enter your six-digit security code twice.
3. Press **1**, **STO**.

This feature allows you to reset the user selectable options to their standard settings.

Master Clear

CAUTION *Master Clear performs all the functions of Master Reset, in addition to erasing all names and numbers stored in memory, and clearing the Resettable Call Timer. Once begun, this procedure cannot be canceled or reversed.*

1. Press **FCN**, **0**.
2. Enter your six-digit security code twice.
3. Press **9**, **STO**. **BUSY** may display. You must wait for this to clear before operating the phone further. It may take several minutes, depending on how full your dialing memory is. Do not turn the phone off during this operation.

Language Selection

1. Press **FCN**, **1**.
2. Scroll the menu by pressing **^** or **v** until **SELECT LANGUAGE** displays.
3. Press **STO** to select this feature.
4. Scroll through menu by pressing **^** or **v**.



5. Press **[STO]** to choose the desired language.

6. To exit the feature menu, press **[END]**.

This feature allows you to change the language that your menus and messages are displayed in. You can choose from four different languages (English, Spanish, French and Portuguese).

Extended Talk

1. Press **[FCN]**, **[1]**.

2. Scroll the menu by pressing **[^]** or **[v]** until **EXTEND TALK ON** displays.

3. Press **[CLR]** once to toggle this feature off and **[STO]** to toggle it on.

4. To exit the feature menu, press **[END]**.

The extended talk feature allows you to conserve battery power when operating in a strong signal area.

Ringer Style

1. Press **[FCN]**, **[1]**.

2. Scroll the menu by pressing **[^]** or **[v]** until **RINGER STYLE _** displays.

3. Press **[STO]** to select this feature.

4. Press **[1]** - **[9]** to sample the different ringer styles.

5. Press **[STO]** to select the desired ringer style.

6. To exit the feature menu, press **[END]**.

This feature allows you to select one of nine different ringer styles to differentiate when your phone is ringing. When selected, the phone will give you a brief sample of that ringer style.



The Cellular System

There are generally two types of cellular systems serving any metropolitan area. One of these will most likely be operated by the telephone company that provides telephone service to your community, generally referred to as a wireline carrier. The other cellular service provider is a radio common carrier, referred to as a non-wireline carrier.

Your Cellular Service Operator will provide information concerning specific features, procedures, and coverage in your particular area.

Service Area

The area within which the telephone operates is defined by your cellular service provider. Since this is a radio system, no exact boundaries (as on a map) can be drawn. The red *No Svc* (No Service) indicator will be displayed if you are beyond range of a service area. There may be locations within your area, such as tunnels and underground parking facilities, where the phone may act as if it were beyond range.

Weak Signal Alert

If you are called while in a location the system determines is inadequate for high quality service, you may hear a series of beeps to inform you of the call attempt. The caller will receive the recorded 'not in service' message, *CALL* will display, and the green on indicator will flash quickly. If this occurs, you must press  before



the phone will operate. Most systems do not impose air-time charges for such call attempts.

NOTE *This indicator is controlled through the initial programming of your phone and is usually deactivated. Refer to the Programming Guide under Step 11 for more details.*

Switchhook and Enhanced System Services

Press .

During a call, pressing  performs a switchhook function used to access enhanced Cellular System features such as call waiting and conference calls. For the functioning of these features with , consult your Cellular Service Provider.

Roaming

The term 'Roaming' applies to the use of cellular telephones within systems other than those designated as their 'Home' system. *Roam* will be displayed whenever the phone comes within range of a visited system. As your phone begins to roam, it seeks service according to the conditions you have selected (see page 68).

Steady illumination of *Roam* signals that your phone is accessing a home type system, while flashing indicates the phone is attempting connection through a non-home type system.

Contact your system operator, or that of the visited system, for information on dialing and billing procedures.



To use alternate long distance services when roaming, be certain to dial the appropriate area code and local number to access the alternate carrier in the visited area. Then use the tone dialing sequence described on page 36. If you selected two-system operation (see page 22), enter **RCL**, **#** to verify the currently active number. This is especially important if your two home systems have different area codes, or if *Roam* is flashing within your home service area.

Selectable System Registration

To Review Current Setting

1. Press **RCL**, *****. The display will show the current active system choice.
2. Press **END** to exit without changing selection.

To Select (On)

1. Press **RCL**, *****. The display will show the current active system choice.
2. Repeatedly press ***** to review the system type modes. (Press **END** to exit without changing selections.)
3. If you chose Pref'd SIDs, press **STO** and then enter the five-digit number at this time. Use ***** and **#** to move to the next SID location.
4. Press **STO** to activate the displayed selection.
5. Press **END** to exit.



System Type Selection

Your telephone seeks cellular service according to the mode you have selected. If you have selected two-system operation, the phone seeks cellular service according to the system type mode selected for each phone number.

Constant flashing of *Roam*, or a steadily lit *No Svc* while within your home service area may indicate an unintentional choice has been made. If this occurs, re-enter system type selection to see if the unit is operating in standard mode, or if an alternate selection has been made.



System Type Selection	Display
Standard Mode Your phone first seeks a home type system, then a non-home type.	STD A B STD B A
Invert Preference Mode Your phone first seeks a non-home type system, then home type. (Select this mode if in a fringe area of your home system or in certain roaming situations.) If home system is type A Fast flashing <i>Roam</i> = call on B system Slow flashing <i>Roam</i> = call on home type system Slow flashing <i>In Use</i> = call on home system If home system is type B Fast flashing <i>Roam</i> = call on A system Slow flashing <i>Roam</i> = call on home type system Slow flashing <i>In Use</i> = call on home system	SCAN B A SCAN A B
Home Only Mode Phone will not operate outside its home system.	HOME
Scan A Mode Phone will operate only within A systems.	SCAN A
Scan B Mode Phone will operate only within B systems.	SCAN B
Enter SID Mode Unit will operate only within specifically identified systems. This choice requires entry of up to 60 system ID numbers for those systems over which you wish to operate. The SID digits are entered as obtained from your Cellular Service Operator.	P SCAN



Troubleshooting

Is the unit locked?

See Electronic Lock, page 60.

Is the *No Svc* (No Service) indicator lit?

See Status Indicators, page 16.

Have you programmed a unique operating mode?

Constant flashing of the *Roam* indicator while in your home service area may indicate that an incompatible system type has been selected. See Roaming, page 67.

Is the unit operating with non-standard settings?

You may have inadvertently selected improper operating characteristics. See Feature Status Review, page 50.

Are you having difficulty accessing devices such as answering machines which require longer access tones?

Your phone ships with Long Tone DTMF (Dual Tone Multiple Frequency) Signal enabled. Check your user NAM programming to be sure this feature is enabled.



Quick Reference Feature Guide

Basic Operation

- Turn It On .
- Lock , .
- Unlock Three-digit unlock code.
- Turn It Off .
- Place a Call Enter number, .
- Receive a Call , or lift handset to ear.
- End Call , or return handset to its mount.

Volume Control

- Earpiece Lift handset,  or .
- Speaker With handset mounted, press and hold  or .
- Ringer , then  or .

Store to Memory

- Number Only Phone number, , two-digit location. To store in next available location, , .

Memory Recall

- By Location , two-digit location.  to place call.
- Super Speed Dialing Memory location, .
- Turbo Dialing Press and hold memory location (-) for one second.



Feature Menu

Enter Menu	FCN , 1 , ▽ or △ (* or #) to scroll.
Select Feature	STO .
Cancel Feature	CLR .
Exit	END .

Additional Features

Status Review	FCN , 0 , 9 , RCL , ▽ or △ (* or #) to scroll.
Last Number Recall	RCL , SND .
Display Own Number	RCL , # .
Activate Other Number	RCL , # , STO .
Mute Microphone	FCN , 6 .
Scratch Pad	Enter numbers during call. END to terminate call and SND to place call to scratch pad number.



Message Glossary

'	(Apostrophe) Scrolling activated
A	 displayed as "A"
A1	Two System Operation (Active system is non-wireline, using phone number 1.)
A2	Two System Operation (Active system is non-wireline, using phone number 2.)
ARME	Theft Alarm selected
B-----	Battery Strength Meter (number of bars indicates relative level of strength)
B1	Two System Operation (Active system is wireline, using phone number 1.)
B2	Two System Operation (Active system is wireline, using phone number 2.)
BUSY	Master Clear functioning
C	Precedes Cumulative Timer display (also used to display )
CALL	Shows incoming call (also used to indicate call in absence)
DELAYED	Delayed Call Placement activated
HOME	System Type Selection – Home Mode
LEVEL 1	Service level selected
LEVEL 2	Service level selected
LEVEL 3	Service level selected
LEVEL 4	Service level selected
LEVEL 5	Service level selected
LEVEL 6	Service level selected
LEVEL 8	Service level selected
MUTE	Microphone muted



ON	Telephone is on
R	Precedes display of Resettable Timer
S _ _ _ _ _	Signal Strength Meter (SSM) (number of bars indicates relative signal strength)
SCAN A	System Type Selection (scan "A" only)
SCAN AB	System Type Selection (scan "A" type first, then "B")
SCAN B	System Type Selection (scan "B" only)
SCAN BA	System Type Selection (scan "B" type first, then "A")
STD	All user features set to standard
SYSTEM BUSY	Cellular system is busy
V _ _ _ _ _	Volume Meter (number of bars indicates relative volume level)



Rules, Regulations, & Precautions

The U. S. Federal Communications Commission and the Canadian Department of Communications regulate cellular radiotelephone service in their respective countries. It is important for you, the cellular radiotelephone user, to observe the applicable regulations when operating your cellular phone in either country. In addition to these U. S. and Canadian regulations, you may also be bound by certain state, provincial, territorial, and local rules and regulations, as well as by your cellular carrier's tariff (the rates, terms, and conditions of its service). If you wish to use your cellular radiotelephone in both the U.S. and Canada, please consult with your system operator.

Furthermore, you should remember that your cellular phone is a radiotelephone, – i.e., it combines both wireline technology, as used in your home or office telephone system, and radio technology – and that the scope of regulations and precautions is therefore broader than the scope of regulations and precautions relating to wireline-only telephone usage.

Some of the major points of consideration are set out below. Please note, however, that this 'Rules, Regulations, & Precautions' section does not constitute legal advice; and is intended merely for general information purposes. If you have any specific questions, please contact your Cellular Carrier (System Operator).



License

If your home system is in the U. S., you do not require a separate license to operate your cellular telephone; obtaining a cellular telephone access number is sufficient to register you as a user. If your home system is in Canada, a separate license is required; your carrier will assist you in the licensing process. If you wish to use your cellular phone on both sides of the border, please contact your Cellular Carrier (System Operator).

Denial of Service

A cellular carrier may deny service temporarily, or terminate service for violation of any government regulations or of its tariff.

Consumer Responsibilities

Remember that the wireline and radio regulations with respect to harassing calls, false distress calls, obscene language, etc. apply to cellular phone usage.

Privacy

As a telephone user, you have come to assume a certain standard of privacy when you place or receive a telephone call via the traditional wireline systems. However, because cellular radiotelephones utilize radio transmissions to effect calls, the same standard cannot always be assured. While it is unlawful for an unauthorized person to divulge or use any information obtained from intercepting or "listening in on" conversations intended for others, you should not assume that your conversation is completely secure. Commercially available scanning equipment can



Reference

permit a third party to monitor the radio channels used for cellular telephone calls.

Interference

No person shall interfere with or cause interference to any radio communication or signal.

Equipment Modifications

The U.S. Federal Communications Commission has type-approved and the Canadian Department of Communications has granted technical acceptance to the model of cellular telephone which you have purchased, and both have allocated a specific frequency range for cellular service. No changes or adjustments are to be made to your cellular phone.



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Patent Information

Manufactured under one or more of the following US patents.

4121218	4648125	4829274	5036532	5233633	5432017	D375734
4138681	4649543	4837534	5053924	5235492	D360632	D375932
4193036	D288683	D301476	5057762	5237257	5438684	D375952
4254382	4654655	4843621	D320780	5239127	D361070	D376127
4302845	D289156	4845772	5059885	5241545	5442680	5588041
4312074	4662691	D302015	5060294	5241548	5446763	5589796
4327319	4667333	4851966	D322783	5241650	5448763	5590177
4329666	4668917	4868576	D322955	5241693	5448771	5594778
4369516	4670747	4870686	5081674	5242767	5453997	5594951
4369522	4672502	D303656	5083304	D339582	D362840	D377792
4378603	4680787	4876552	D324024	5249302	5457744	D377934
4390963	4681476	4879533	D324388	5251331	5459640	5604050
D269873	4683585	D305427	5095503	D340710	5463646	5606730
4398265	4692726	4896124	D325028	5260988	5465412	D378366
4400584	4704588	4897873	D325583	5261119	5469177	5613229
4400585	D292578	D305717	5109536	5262710	5475752	5613863
D270835	4706036	4904549	D325915	5263052	D365094	5615233
D271491	D292920	4905288	5113436	5276707	D365817	5621763
Re.31470	4710724	4905301	5117450	5278994	5468643	
4431977	4711361	D306293	5121047	D343173	5487184	
4434461	4715063	D306441	5122480	5280637	5488335	
4455534	4716319	D306594	5122722	D344087	5488649	
4462098	4716391	4912602	D327061	5287553	D366872	
D275951	D293305	4918732	5128834	5287555	5493198	
4484153	D294257	4922178	D328302	5287556	5493714	
4485486	4727306	4945570	5142551	D344511	5497126	
4486624	4727583	4954796	5142696	5301365	5497382	
D276809	4730195	4959851	5146620	5321847	D367640	
4491972	4734635	4963812	5148471	D348880	5499394	
D277667	4736277	4963843	5148473	5349588	5506490	
4504834	4737976	4965537	5148961	5359696	D368696	
D278708	4740794	4972355	5150359	5361400	5510693	
4523155	4741018	4972432	5150384	5363071	5511235	
4546329	4741034	4972455	5152006	5365549	D369162	
4550426	4742562	4975808	5157693	D352497	5513078	
4551696	D295627	4984290	5163159	5366826	D369359	
4564821	4746242	D314173	5164652	D353131	5519303	
D282169	D295973	D315330	5166596	D353361	5519346	
4571595	D295975	D315346	5175759	5375143	5524276	
4573017	4751737	D315543	5175874	5375258	5524278	
4574243	D296187	D315559	D332261	5379324	D370463	
4585957	4761621	D315565	5182749	D354055	5530922	
4602218	4764737	5004992	D332785	D354062	5542116	
D284759	D297734	D315907	5185566	5384825	5544250	
D285439	D297735	5008925	5187809	D356084	D372481	
4616314	4777564	D316417	5193223	5402447	5546275	
4617520	Re.32768	D316859	5195106	5406146	5546380	
D286778	D299136	5017856	5195108	5406562	D372896	
4626309	4797929	5018188	5201069	D357224	5551078	
4628529	4798975	5020091	5204977	D357457	5559471	
4629829	4800348	5020092	5210793	5410741	D374424	
4630304	4802236	5020093	5214675	D357680	D374872	
4630305	4809356	5028083	5222104	D357681	5572193	
4633141	4811377	5028859	5222251	5428836	5574976	
4636593	4811404	5029044	D337332	D359734	5577268	
4636741	4827226	5029233	5230007	D359735	D375732	
D288432	4827507	5031028	5230093	D359959	D375733	

Other patents pending



Memory Location Directory

[illegible]