Welcome

Congratulations! As the proud owner of a state-of-the-art Motorola cellular phone, product superiority is yours.

All Motorola cellular phones are designed and manufactured to meet Motorola's rigorous specifications and world-class quality standards. During development, our laboratory testing team took the StarTAC™ cellular phone through its paces. They cooked it, steamed it, shook it, shocked it, dusted it and dropped it—and the phone still worked! We are confident that the one you purchased will meet your own exacting standards.

Thank you for choosing Motorola and, by all means, enjoy your StarTAC™ phone!

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What's New?

What would you say to a telephone that's smaller than your wallet? Hard to believe… if you hadn't already seen it with your own eyes. The company that brought you the world's first commercially available portable cellular telephone has done it again!

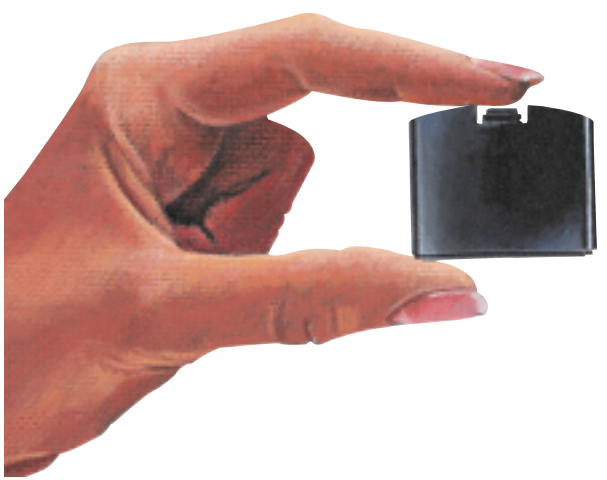
Motorola is proud to present the first generation of wearable phones. Breakthrough technologies bring you a phone so innovative it challenges the status quo. The StarTAC cellular phone is 23% lighter than our previous record holder, and a full 45% smaller! Just look what's in store:

Miniaturized Batteries

StarTAC phone batteries are more portable than ever…

Get the same talk-time with less weight than previous Motorola cellular phone batteries.

Easily carry a spare battery—or two!

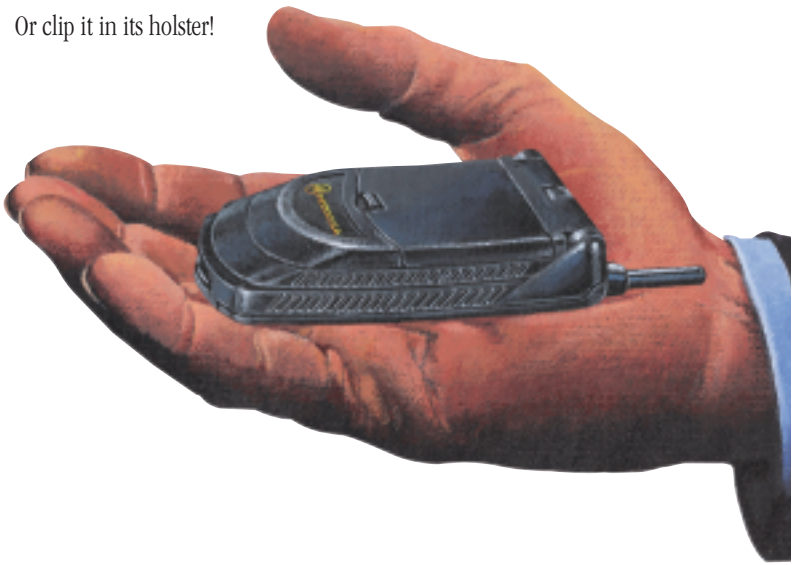


Incredible Portability

Your StarTAC phone is so small and light, you'll always want it with you.

Keep it in your purse or slip it in your pocket!

Or clip it in its holster!





Smart Button

Storing information with the StarTAC phone is a breeze…

Conveniently located for one-handed operation!

Recall numbers, place calls, end calls and more. The Smart Button does it all!

Tip: *If you are familiar with other Motorola cellular phones, you can use many of the same key sequences with your StarTAC phone.* *See page 15 for more details.*

Highlights

As one of the most sophisticated cellular phones around, your StarTAC phone offers exceptional features that make life easier, more organized and more fun! This small miracle of modern technology can help you . . .

- receive calls discreetly with the VibraCall™ Alert function. (available on select models.)
- know when to charge with the Dedicated Battery Level Indicator.
- make calls in a flash with the Turbo Dial™ function.
- charge on the go with the Internal Rapid Charger and an AC Adapter or Cigarette Lighter Adapter.
- enjoy the convenience of Hands-Free operation with the Headset Jack.
- remember phone numbers with the internal Phone Book.
- monitor your calls with Displayed and Audible Call Timers.
- reduce roaming with two-system registration.

As you explore the StarTAC phone, you will discover many more convenient and time-saving features that help you stay in touch with style. A number of accessory options are also available to tailor your cellular system to your individual needs, including special accessories for your car, travel accessories, battery chargers that will get you going in a flash, and more.

Safety Information

Important: Read this information before using your wireless handheld phone.

Exposure to Radio Frequency Energy

TELECOMMUNICATIONS TIA INDUSTRY ASSOCIATION

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 Commission (FCC) adopted RF exposure guidelines with safety levels for handheld wireless phones. Those guidelines are consistent with safety standards previously set by both U.S. and international standards bodies:

- American National Standards Institute (ANSI) C95.1 1992
- National Council on Radiation Protection and Measurement (NCRP) Report 86 1986
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996

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).

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.

Phone Operation

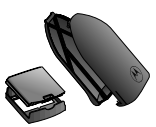


Normal Operation: Hold the phone as you would any other telephone, with the antenna pointed up and over your shoulder.

Tips on Efficient Operation: Observe the following guidelines to operate your phone most efficiently.

- Extend your antenna fully.
- 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.

Batteries



Caution: All batteries can cause property damage, injury, or burns if a conductive material, such as jewelry, keys or beaded chains, touches exposed terminals. The material may complete an electrical circuit and become quite hot. To protect against such unwanted current drain, exercise care in handling any charged battery, particularly when placing it inside your pocket, purse, or other container with metal objects. When the battery is detached from the phone, your batteries are packed with a protective battery cover; please use this cover for storing your batteries when not in use.

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.

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 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
- should turn the phone OFF immediately if you have any reason to suspect that interference is taking place

Electronic Devices *(continued)*

Hearing Aids

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

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.

Aircraft



Airline regulations prohibit using your phone while in the air.

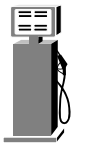
Switch OFF your phone before boarding an aircraft.

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 Atmospheres



Turn your phone OFF and do not remove your battery when 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 gas stations; below deck on boats; fuel or chemical transfer or storage facilities; areas where fuel odors are present, e.g., 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.

Package Content Options

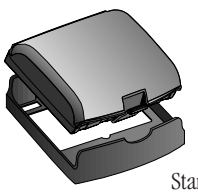
The StarTAC phone comes equipped with a standard battery and an AC adapter to get you up and running. A whole new line of accessory options, now smaller and lighter than ever, can customize your cellular package for maximum performance and portability.



StarTAC Personal Cellular Telephone



Slim Main Battery
with Battery Cover



Standard Main Battery
with Battery Cover



Slim Auxiliary Battery
with Battery Cover

Package Content Options



Holster



Cigarette Lighter Adapter

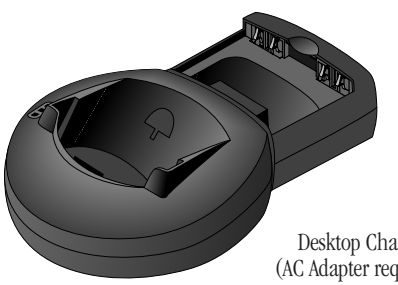


AC Adapter

Note: The detachable plug assembly included with your package can only be used for this power supply. Do not plug it into any wall outlet without the power supply.



Headset



Desktop Charger
(AC Adapter required)

Your phone and accessories may not look exactly as pictured above.

Illustration Reference

(inside front cover)

Retractable Antenna Extend for best performance.

Earpiece Ultra-compact phone speaker.

Headset Jack Provides a connection for an optional headset.

Status Indicators

- IU (In Use)—Flashes when a call is in progress.
- NS (No Service)—Tells you the phone is beyond the range of a cellular service area. When this indicator is lit, calls cannot be placed or received.
- RM (Roam)—Lets you know when your phone is accessing cellular service outside your home system.

Signal Strength Indicator Indicates the strength of the signal your phone is receiving. The stronger the signal, the better your chances of placing and receiving calls successfully.

Battery Level Indicator Tells you the amount of charge left in your battery.

Alphanumeric Display
Displays your input from the keypad, information recalled from memory, help and other messages.

Illustration Reference

(inside front cover)

Volume Keys

or

The upper and lower volume keys can adjust keypad, earpiece and ringer volume. They also scroll through memory entries and menu features.

Smart Button

The Smart Button can recall information from memory, place calls, end calls, select menu features and toggle features ON and OFF. The symbol "⌖" in your display represents the Smart Button.

Function Keys

PWR Turns the phone ON and OFF.

FCN Acts as a "shift" key to access the secondary functions of other keys.

RCL Recalls phone numbers from memory.

STO Stores phone numbers into memory.

CLR Clears characters from the screen.

END Ends phone calls.

SND Places or answers calls.

◀ * and # ▶ can be used to scroll through memory entries and menu features.

Accessory Connector Provides the connection for an external power supply, vehicular accessories and data accessories.

Microphone Positioned for convenient conversation.

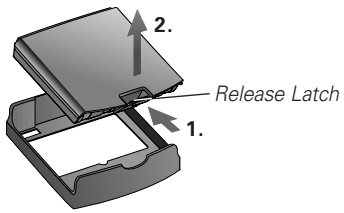
Battery Covers

Your phone's batteries are shipped in an uncharged state with protective covers on them. Save these covers; use them to carry batteries and to store batteries when they are not in use. The cover prevents objects from touching the battery terminals, thereby reducing the risk of injury or damage from a short circuit (see page 8).

To begin using your phone, just slip a battery out of its protective cover, install and charge the battery.

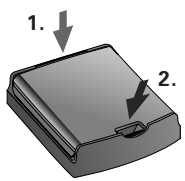
Removing the Main Battery Cover

1. Press in release latch.
2. Continue pushing in and upwards until battery slips free from its cover.



Attaching the Main Battery Cover

1. Lower the side, opposite the release latch, into the cover.
2. Slip the side with the release latch down until it clicks.

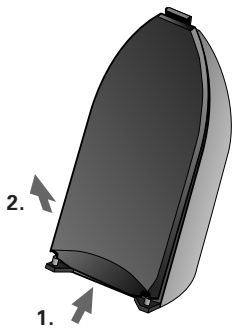


Battery Information

Battery Covers

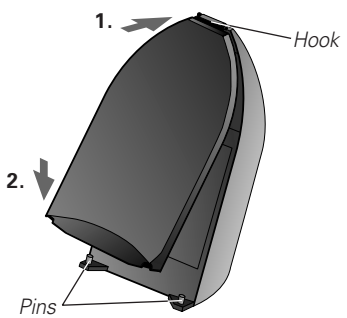
Removing the Auxiliary Battery Cover

1. Hold auxiliary battery securely with one hand. With your other hand's thumb, push up on bottom of the cover.
2. Continue to push up until the cover slides free of the pins on the bottom of the battery, then swing the cover outwards.



Attaching the Auxiliary Battery Cover

1. Slide the cover's narrow end into the small grooved hook on the top of the auxiliary battery.
2. Push cover firmly so the base of cover slides past the pins on the auxiliary battery, then release.



Battery Information

Thanks to Motorola's breakthrough technology, the StarTAC phone's batteries are smaller and weigh less than any previous Motorola cellular telephone battery. Now it's easier than ever to carry a spare or two.

Auxiliary Battery

Your StarTAC phone can use two batteries at the same time. With an auxiliary battery attached to the back of the phone, you get even more talk-time. This is in addition to the talk-time you receive from your main battery.

Now you can use any single battery or battery combination to fit your individual needs. You can even extend your talk-time by attaching an auxiliary battery at any time, without interrupting your call.



Tip: *If two batteries are attached, the phone uses the auxiliary battery first.*

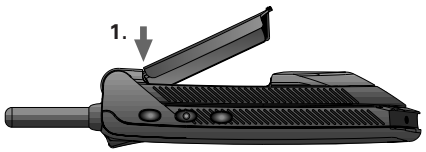
Battery Information

The Main Battery

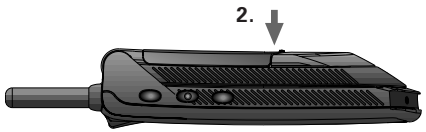
Main Battery Installation

The main battery fits into the top of your phone like a ski boot fits into a ski.

1. Place the battery's "toe" into the compartment as shown.



2. Press its "heel" down until you hear it click into place.



Main Battery Removal

To remove the main battery:

1. Turn your phone OFF.
2. Pull the release latch back toward battery and lift the battery out.



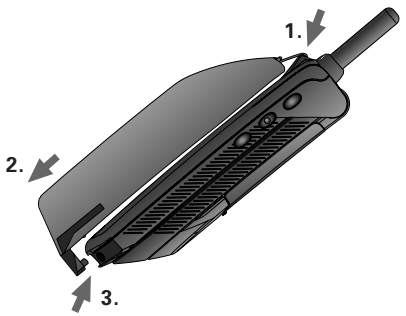
Tip: *If you have a charged auxiliary battery attached to your phone, you can remove and change your main battery during a call.*

The Auxiliary Battery

Auxiliary Battery Installation

The auxiliary battery clips onto the back of your phone:

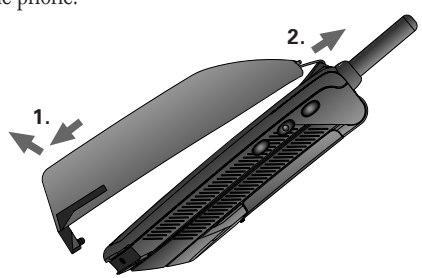
1. Place the hook located on the narrow end of the battery into the slot on the back of the phone.
2. Pull the battery downward and toward the bottom of the phone.
3. Release the battery so that it clicks upward into place. Make sure that the bottom of the battery is firmly attached.



Auxiliary Battery Removal

To remove the auxiliary battery:

1. Pull the battery down and away from the phone.
2. Lift the battery's hook out of the slot on the back of the phone.



Tip: *If you have a charged main battery attached to your phone, you can remove and change your auxiliary battery during a call.*

Battery Levels

Battery Level Indicator

The three bar segments on your phone's Battery Level Indicator display the amount of charge remaining in your battery. The more segments visible, the greater the charge.

For a detailed battery level reading:

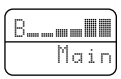
Press FCN then **press** 4 GHI

You will see:

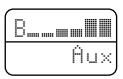


If you are using an auxiliary battery with the main battery the display will indicate which one is in use.

You will see:



or



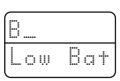
Low Battery Signals

- No bar segments will be highlighted.
- "Low Bat" will appear in the display.
- A short tone will play periodically.

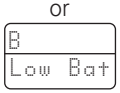
Check your display to confirm low battery signals:

Press FCN then **press** 4 GHI

You will see:



or





High



Low

Battery Information

Battery Types

Your StarTAC phone can use either Lithium Ion (LiIon) or Nickel Metal Hydride (NiMH) batteries. Batteries are available in a variety of sizes: Slim, Standard, and Extra Capacity.

Main Battery Talk and Standby Times:



Slim Main Battery (Lithium Ion) E•P

up to 60 minutes talk-time **or** 12 hours standby-time



Standard Main Battery (Nickel Metal Hydride)

up to 60 minutes talk-time **or** 12 hours standby-time



Standard Extra Capacity Main Battery (Lithium Ion) E•P

up to 110 minutes talk-time **or** 19 hours standby-time

Keep in Mind: Talking on the phone uses more energy than leaving it idle; the more talk-time you use, the less standby-time you'll have and vice versa.

Battery Information

Auxiliary Batteries

With an auxiliary battery attached, you can get even more talk-time and standby-time, in addition to your main battery. You can use any auxiliary battery with any main battery to fit the way you use your phone.

Auxiliary Battery Talk and Standby Times:

Times listed in this table reflect the capacity of the auxiliary battery shown. For a complete measure of talk-time or standby-time, simply combine the time shown for your main battery to the time shown for your auxiliary battery.



Slim Auxiliary Battery (Lithium Ion) E•P

up to 90 minutes talk-time **or** 19 hours standby-time*

*In addition to any main battery.

Using the Internal Charger

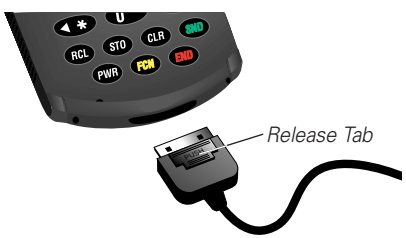
Believe it or not, there's a battery charger built right into your phone! Using either the AC adapter or cigarette lighter adapter, you can plug your phone directly into a power supply and charge attached batteries—whether the phone is ON or OFF. When the internal charger is in use, and the phone is ON, you can still place and receive calls. Just remember, talking on the phone requires energy, so charging will take more time.

1. Plug the AC adapter or cigarette lighter adapter into the accessory connector on the bottom of your phone as shown, with the release tab facing up.
2. Plug the adapter into the appropriate power source. In some cars, the ignition must be ON to use the cigarette lighter.

What you will see when charging:

While your phone is charging, regardless of whether your phone is turned ON or OFF, the battery icon will flash.

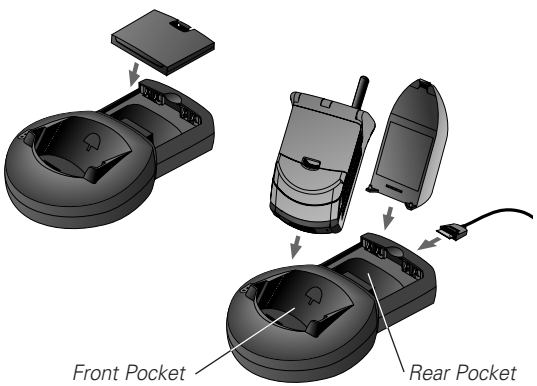
When both batteries are fully charged the battery icon will cease flashing and become solid.



Using the Desktop Charger

The desktop charger's front pocket can charge batteries while they are attached to your phone, and the rear pocket can charge batteries separately.

First plug the AC adapter into the back of the charger, with the release tab facing up. Plug the other end of the AC adapter into an AC wall socket, and you can begin charging your batteries. With battery(s) attached, place the phone into the charger's front pocket. You can also charge an extra auxiliary or main battery in the rear pocket as shown:



Note: The detachable plug assembly included with your package can only be used for this power supply. Do not plug it into any wall outlet without the power supply.

Tip: *When you charge the main and an auxiliary battery, the main battery will be charged first.*

Desktop Charger and Internal Charging Time

The phone's batteries charge in about one to two hours, individually, depending on the battery. Allow extra time if you are charging more than one battery.

Desktop Charger Indicator Lights

- Red means the battery is charging.
- Flashing yellow means the battery is waiting its turn, or that the battery is out of temperature or voltage range. If the battery is out of range, rapid charging will begin when the battery is in range.
- Green means the battery is charged within approximately 90% of its capacity and can be used. An additional hour of charging will bring your battery up to 100% capacity.
- Flashing red indicates that the battery is damaged and cannot be charged.

Charging Two Batteries on the Phone

When you charge your phone with a main and auxiliary battery attached, the main battery will be charged first.

To find out which battery is being charged:

Press FCN then **press** 4 GHI

You will see:

Chrging
Aux

or

Chrging
Main

Tip: "Aux" will be displayed in place of the "on" message when the auxiliary battery is in use or charging.

Leaving Batteries in the Charger

Lithium Ion batteries are different from other batteries in that you can leave them in the charger as long as you like. Nickel Metal Hydride batteries should not be left in the charger for more than 24 hours.

Expert Performance (E•P ™) Charging System

Your Motorola cellular phone implements the Motorola Expert Performance (E•P ™) charging system. This system allows the charger that is built into the phone to communicate with the battery. Based on this communication, the charger can tailor the charging cycle to optimize

performance. If your charging system is not communicating with the battery, your phone will beep and display an Invalid Battery message each time you power up the phone or replace the battery. Your phone is alerting you that you do not have charging capabilities with this battery. There are several reasons why your battery might not be communicating. The most likely reason is that the battery you purchased is not a Motorola original and the battery does not have the appropriate communication technology built into it. All Motorola batteries are built with the appropriate communication technology. We recommend that you use Motorola original batteries and accessories and that you store your batteries in the protective battery cover that comes with the phone.

Quick Change Power Source

The quick change feature lets you switch power sources without losing the call in progress. If you hear a low battery warning while you are in a call, just plug in the cigarette lighter adapter, or replace it with a fully charged battery.

Quick Change Battery Replacement

You can also remove your phone's battery and replace it with a charged spare without losing the call in progress. If you hear a low battery warning while you are in a call, quickly switch batteries and resume your conversation.

Keep in Mind: A quick change must be completed within three seconds to avoid losing the call in progress. Just give your party on the line a warning before beginning this procedure.

Caution:

To prevent injuries or burns, do not allow metal objects to contact or short circuit the battery terminals (see page 8 for additional safety information).

Tip: To extend battery life, do not leave a Nickel Metal Hydride (NiMH) battery in the charger for more than 24 hours.

Turning the Phone On and Off

The next ten pages in this section will tell you everything you need to know to operate your StarTAC cellular phone. Read them once, and you may never need to pick up this manual again. But if you would like to learn some quick and useful features, take a look at "Using Memory." Once you discover these convenient time-savers, you may wonder how you ever lived without them!

Follow these steps to turn your phone ON:

1. **Extend antenna** — Extend the antenna for best performance.
2. **Open phone** — Open your phone to expose the keypad.
3. **Press** PWR — once to turn the phone ON.

   Press PWR — again to turn the phone OFF.



What you will see:

Each time you turn ON your phone, it performs a self-test to let you know your phone is operational. When the self-test is finished, the display reads, "on" or "Aux" and you're ready to go.

To conserve energy, your phone may turn off its lights and most indicators when in standby mode. Don't worry, the display will come back the next time you press a key or open the phone.

Tip: *"Aux" will be displayed in place of the "on" message when the auxiliary battery is in use or charging.*

Optimal Phone Position

Hold your cellular phone as shown below, with the antenna fully extended and pointing up and over your shoulder. For best performance, make sure your hand is not covering the antenna.



Wearing the Phone

To slip your StarTAC cellular phone into its holster, make sure the main battery is facing the inside of the holster. Just clip the holster onto a belt, purse or briefcase and you'll always have it with you!



Using the Smart Button

The new Smart Button simplifies the use of the StarTAC phone by allowing you to place calls, end calls, enter the menu system, toggle features ON and OFF, and select items in the display. The Smart Button's central location, the middle key on the left side, makes it easy to feel, easy to find—easy to use.

The symbol "⌖" in your display represents the Smart Button.

The Smart Button →



Once at your fingertip, use the Smart Button to:

Select Items in the Display

The most basic use of the Smart Button is to select. Whenever the phone offers you a choice, such as a ringer setting, press the Smart Button to select the one you want.

Toggle Features ON and OFF

Some of your phone's features toggle ON and OFF. Use the upper or lower volume key to scroll to the desired feature and press Smart Button to toggle.

Enter the Menu System

The StarTAC phone's menu system can be quickly accessed with the following key sequence:

Press FCN then **press** →

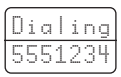
Using the Smart Button

Place Calls

1. **Enter number** — Enter the number you want to call, for example: 555-1234. You can also use any method you choose to recall a previously dialed or stored number.

2. **Press & hold** → to place the call.

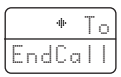
You will see:



End Calls

When you are finished with a call,

1. **Press & hold** → until you hear two tones.



2. **Press** → again to end the call.

Placing and Ending Calls

First check that your phone is ON.

To place a call:

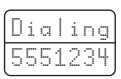
1. **Extend antenna** — Extend the antenna completely for best performance.
2. **Enter number** — Enter the number you want to call, for example: 555-1234.

Press CLR — to erase one digit at a time if you make a mistake.

Press & hold CLR — to clear the entire entry.

You will see:

3. **Press & hold** → until you hear two tones.



or

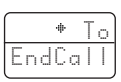
Press SND — to place the call.

To end a call:

Press END — or close the phone to "hang up" your cellular phone.

or

Press & hold → until you hear two tones.



then Press → again to end the call.

You can dial phone numbers with up to 32 digits, but only the last digits will appear in the display.

Press RCL — to see the entire phone number.

The phone will take you to the beginning of the phone number, then flash digits until the end of the number is reached.

Receiving Calls

Your phone must be ON to receive calls.

To answer a call:

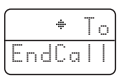
1. **Extend antenna** — Extend the antenna completely for best performance.
2. **Press** SND — or open the phone when the phone rings.

To end a call:

Press END — or close the phone to "hang up" your cellular phone.

or

Press & hold → until you hear two tones.



then Press → again to end the call.

Unanswered Call Indicator

Even with personal cellular technology, sometimes you are not available to answer every call. While your phone is ON, it alerts you with the message, "Call."

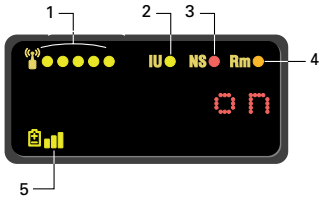
Press CLR — to erase the message, and you can begin placing calls again.

Viewing Your Own Number

To find out your cellular phone's number:

Press RCL then **press** # ▶.

Tip: *To make answering calls even easier, try the Multiple Key Answer feature on page 88.*





Strong



Weak

Signal Strength Indicator (1)

The Signal Strength Indicator (SSI) tells you the strength of the connection between your phone and the local cellular system. A strong signal increases your chances of placing and receiving calls. You may see low signal strength if you're in a fringe area of the cellular system. Buildings, tunnels and bad weather could block or interfere with reception. If the display goes blank to conserve energy, the SSI's lights flash one at a time up to the signal level you are receiving.

In Use Indicator (2)

The In Use (IU) Indicator flashes when a call is in progress.

No Service Indicator (3)

If you travel beyond the range of a cellular system, the No Service (NS) Indicator will flash to let you know that calls cannot be placed or received from your location.

Roam Indicator (4)

The Roam (Rm) Indicator lights up when your phone accesses a cellular service outside your local cellular system. When you leave your cellular service area, your phone roams or seeks another cellular system until it finds one.

If your phone finds another cellular service, of the same system type as your local service, the Roam Indicator flashes slowly. If it finds a different system type, it will flash quickly.

Reading the Indicators

Battery Level Indicator (5)

The three bar segments on the phone's Battery Level Indicator show the amount of charge remaining in your battery. The more segments you see, the greater the charge. Press FCN, then press 4 GHI for more battery information. When your battery is low, the phone alerts you three ways:

- No bar segments will be highlighted.
- "Low Bat" will appear on your screen.
- A short tone will play periodically.

If you ignore these warnings, the phone will automatically turn itself OFF when the battery is on its last legs. Just charge the battery to resume normal operation.



High



Low

Power/Status Indicator

When you are wearing your phone in its holster or just carrying it, the Power/Status Indicator on the top of the phone gives you all the information you need when the phone is closed. Read the chart below to find out what your phone is trying to tell you.

Power/Status



Incoming call	Alternating Red/Green
In Service	Flashing Green
No Service	Flashing Red
Roam: home type system	Yellow, slow flash
Roam: non-home type system	Yellow, fast flash

Redialing Numbers

Automatic Redial

Sometimes the cellular system is busy and you may hear a fast busy signal. With Automatic Redial, your phone will call continuously for the next four minutes. When it makes a connection, the phone will ring or vibrate. When the person you are calling answers, you can begin talking.

You will see:

Press → or **press** SND if you hear a fast busy signal.

```
Redial
```

If the call does not go through after four minutes:

Press → or **press** SND to continue the call attempt.

If you hear an ordinary busy signal, try this sequence. It only works if the cellular system is busy with incoming calls.

1. **Press** END to hang up.
2. **Press** → or **press** SND to place a call to the last number you dialed.

```
Dialing
5551234
```

Display Last Ten Numbers Dialed

This feature makes it easy to call any one of the last ten numbers you've dialed.

1. **Press** RCL then **press** 0 OPR, 0 OPR
   The display will show the last number you dialed.
2. **Press** ↑ or ↓ to scroll through the last ten numbers, starting with the most recent call.
3. **Press & hold** → or **press** SND to call the number in your display.

```
Dialing
5551234
```

Basic Tone Controls

Adjusting Volume

The upper and lower volume keys can be used to adjust both the earpiece and the ringer volume. As you press these keys, the phone's speaker will demonstrate the current volume level.

To adjust earpiece and keypad volume:

Press ↑ or ↓ to raise or lower the volume.

To adjust ringer volume:

1. **Press** FCN
2. **Press** ↑ or ↓ to raise or lower the volume.

Muting the Microphone

If you need some privacy while a call is in progress, try muting the microphone—you will be able to hear the party on the other end, but he or she will not hear you.

You will see:

1. **Press** FCN then **press** 6 MNO MUTE to mute the microphone.

```
Mute
```

2. **Press** FCN then **press** 6 MNO MUTE again to resume normal conversation.

Silent Vibration Mode (optional)

In situations where ringing may not be appropriate, or in noisy places where you may not hear your phone, select the VibraCall function for silent vibration with this quick sequence:

You will see:

Press FCN then **press** 8 TUV to toggle between ringer and vibration mode.

```
Vibrate
Only
```

or

```
Ring
Only
```

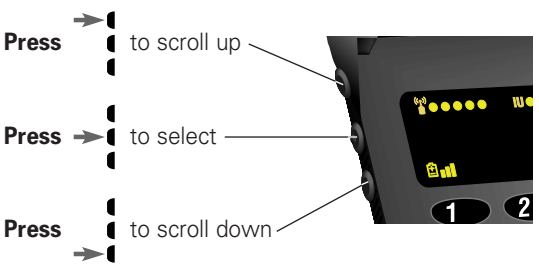
Using Memory

Do you have places to go and people to see? Too many phone numbers to remember? Let your phone remember them for you. Your StarTAC phone's internal Phone Book can store up to 99 names and numbers for easy access on the go.

In this chapter you will learn how to:

- store names and numbers into the Phone Book.
- recall phone numbers from memory.
- dial in a flash with the Super Speed Dial and Turbo Dial functions.

Note: Follow these symbols as a guide for using the keys on the side of your phone.



Making the Most of Memory

Each phone number is stored in a "memory location" numbered 01-99. You can arrange your Phone Book for convenient recall by storing related numbers in groups of ten. For example, store your ten most frequently called numbers in locations 01-09, then you can use the Turbo Dial function to call them with the push of a key. You could store business phone numbers in locations 10-19, family numbers in 20-29, friends in 30-39, and so on.

You can also store names to help identify phone numbers. Later you can easily recall numbers either by memory location or by name. If someone you know has more than one phone number, you could quickly recall the number you need by storing it with a descriptive name, for example:

SMITH J HOME	SMITH J WORK	SMITH J PAGER

The possibilities are endless, so give it a try!

When you feel ready for more, try the advanced storing features in the next chapter.

Storing Names and Numbers

To take advantage of your phone's internal Phone Book, you'll first want to store some names and numbers into memory. With a little practice you'll find it's a piece of cake!

1. Enter number — Enter the phone number you want to store.

You will see:

2. Press STO — to begin storing. The phone will prompt you for a memory location.

```
Locatn
__
```

3. Enter location — Enter the two-digit memory location where you want the sequence stored.

```
Alpha
Or ⌖
```

or

Press ◀ ✱ — to store the sequence in the first available location.

or

Enter digit — Enter the first digit of the memory location and **press ◀ ✱** to store the sequence in the first available location beginning with that digit.

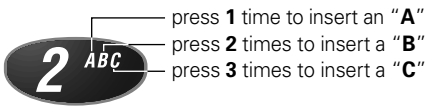
4. Enter name — Enter a name to identify the phone number, or skip this step and continue with step 5. (See the next page for details on entering names.)

5. Press → — or **press STO** when you are finished entering the name. Your phone will confirm your entry by displaying the information you stored.

Tip: *The "⌖" symbol in your display represents the Smart Button.*

Entering Names

When the display shows "Alpha Or ⌖," you can use the keypad to produce any letter in the alphabet by pressing the numeric keys one or more times. Just use the letters printed on each key as a guide and you can't go wrong. For example, press 2 ABC to enter the letters "A," "B," or "C" as shown:



To enter a name into the Phone Book:

1. Enter letter — Enter a letter by pressing a key as many times as necessary.

2. Press # ▶ — to advance the cursor to the next space.

Press ◀ ✱ — or **press CLR** to erase a letter if you make a mistake.

3. Continue storing — Continue with step 5 on the previous page when you are finished entering the name.

This is easier than it looks, so give it a try!

Recall by Name

Once you have stored names and numbers, you can recall them alphabetically and immediately place calls. With one press of the Smart Button you have instant access to the name directory. What could be easier?

1. **Press** → once to enter your name directory.

2. **Press** → or ← to scroll to the name you are looking for.

   or

   Enter letter Enter the first letter of the name you want to recall from memory. The display will show the first name beginning with that letter.

   Press RCL if you want to see the number stored with the name.

3. **Press & hold** → or **press** SND to call the number you selected.

   You will see:

   ```
   Dialing
   5551234
   ```

4. **Press** END or close the phone to end the call.

   or

   Press & hold → until you hear two tones.

   ```
      To
   EndCall
   ```

   then Press → again to end the call.

Clear an Entry

Here's an easy way to erase a memory entry:

1. **Recall** Recall the entry by name that you want to erase.

2. **Press** CLR to clear the entry.

3. **Press** STO to confirm that you want to erase the entry.

Recall by Memory Location

Each name and number you store is placed in a memory location numbered 01-99. Once you have stored names and numbers, you can recall them by memory location.

1. **Press** RCL (This step is optional.)

2. **Enter location** Enter the two-digit memory location of the phone number you're looking for.

   You will see:

3. **Press & hold** → or **press** SND to call the number you selected.

   ```
   Dialing
   5551234
   ```

4. **Press** END or close the phone to end the call.

   or

   Press & hold → until you hear two tones.

   ```
      To
   EndCall
   ```

   then Press → again to end the call.

Recall Shortcuts

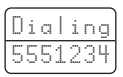
Super Speed Dial

If you know the memory location of the number you want to call, try the Speed Dial function:

1. **Enter location** — Enter the two-digit memory location (01-99).

You will see:

2. **Press & hold** → to place the call.



or

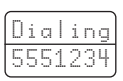
Press SND to place the call.

Turbo Dial

The Turbo Dial function lets you dial numbers stored in locations 01-09 with the push of a button:

You will see:

Press & hold a number on the keypad, 1 through 9 WXYZ and your call is placed!



Your phone's Priority Call feature gives you fast access to any number stored in location 01. To learn how to activate this feature, see page 72.

Scratchpad

In addition to your internal Phone Book, you also have a built-in Scratchpad for quick notes on the fly. The Scratchpad remembers the last phone number that was on your display. If you are on the phone and your party gives you another number to call, enter the number into the Scratchpad to place the call later.

1. **Enter number** — Enter the number into the keypad. (The person on the line will hear tones as you dial.)
2. **Press** END to end the call you are currently in, if necessary.
3. **Press** SND to call the number in the Scratchpad.

You can also store numbers while you are in a call.

1. **Enter number** — Enter the number into the keypad. (The person on the line will hear tones as you dial.)
2. **Press** STO and continue storing with step 3 on page 40.

Pause Dialing

If you often find yourself calling Voice Mail systems, banking by phone or using other automated calling systems, you will appreciate the one-key convenience of Pause Dialing. Simply save the access numbers as a linked sequence, and you'll never need to enter them again!

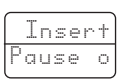
Here's how it works: when you call automated systems, a recorded message prompts you for PIN numbers, Voice Mail numbers, etc. You can store these numbers in your phone's memory, separated by "pauses"— special characters that tell your phone to wait before sending additional numbers.

To use your stored sequence, simply recall it and press and hold the smart button or press SND to place the call. When the recording prompts you for information, just press the Smart Button or press SND and your phone will send the next set of numbers that you stored. Press the Smart Button or press SND as many times as necessary to transmit all the numbers.

1. **Enter number** — Enter the phone number you use to access the automated system.

You will see:

2. **Press** FCN then **press** SND



3. **Press** → to insert a pause into the sequence.

Tip: *You can use the Smart Button instead of* SND

Pause Dialing

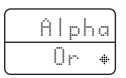
4. **Enter numbers** — Enter the next group of numbers, for example, an account number or PIN number. If the automated system requires a * or #, enter those symbols, too.

5. **Insert pause** — Insert another pause and enter the next group of numbers by repeating steps 2 through 4 as many times as necessary. You can store up to 32 digits, including pauses. When you've entered the entire sequence, store it as you would any phone number.

6. **Press** STO to begin storing.



7. **Enter location** — Enter the two-digit memory location where you want the sequence stored.



8. **Enter name** — Enter a name for your sequence. (See page 41 for details.)

9. **Press** → when you are finished entering the name. Your phone will confirm your entry by displaying the location, number and name you stored.

Storing Calling Card Information

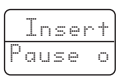
Like Pause Dialing, you can store calling card access numbers, separated by pauses, for easy recall later. You can also store a Number Character in the sequence to save a place for the number you will be calling when you use your calling card.

You can protect your calling card information with your phone's security features. See pages 68-76 for details.

1. **Enter numbers** — Enter the phone number you use to access your calling card system, usually a 1-800 phone number. Skip this step if you only dial 0.

You will see:

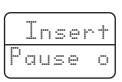
2. **Press** FCN then **press** SND



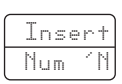
3. **Press** → to insert a pause into the sequence.

4. **Enter numbers** — Enter the next group of numbers. For example, some long distance carriers require you to dial a 0 before the number you are calling.

5. **Press** FCN then **press** SND



6. **Press** → to scroll to the Number Character.



Storing Calling Card Information

7. **Press** → to insert the 'N Character into the sequence. This special character saves a place for the phone number you will be calling. The number will be inserted into the sequence automatically when you place the call.

8. **Press** FCN then **press** SND

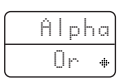
then Press → to insert another pause, as in steps 2 and 3.

9. **Enter numbers** — Enter your calling card PIN number.

10. **Press** STO to store your calling card sequence.



11. **Enter location** — Enter the two-digit memory location where you want the sequence stored.



12. **Enter name** — Enter a name for your sequence. (See page 41 for details.)

13. **Press** → when you are finished entering the name. Your phone will confirm your entry by displaying the location, number and name you stored.

Advanced Storing

Placing a Calling Card Call

After you've stored your calling card information, just recall the information, enter the number of the person you are calling, and your phone will do the rest.

You will see:

1. **Recall** — Recall the calling card information you've stored (see page 48).
2. **Press** SND before entering number. — Enter Number
3. **Enter number** — Enter the phone number you want to call, including the area code. You may enter the number manually, by location, or recall.
4. **Press & hold** → or **press** SND to place the call. Your phone will dial the number to access your long distance provider. — Dialing 1800555
5. **Press** → or **press** SND to send the next group of numbers when the recording prompts you. The phone will automatically insert the selected number to call at the appropriate spot in the sequence.
6. **Send numbers** — Repeat step 5 to send the next group of numbers as many times as necessary.
7. **Press** END or close the phone to end the call.

   or

   Press & hold → until you hear two tones. — * To EndCall

   then Press → again to end the call.

Editing a Memory Location

Edit by Name

After you have stored names and numbers into the Phone Book, you can edit the information or erase entries at any time.

1. **Press** → once to enter your name directory.
2. **Press** → or ← to scroll to the name you are looking for.
3. **Press** RCL to begin editing the phone number. The display will show the phone number.
4. **Press** CLR to erase one digit at a time.

   Press & hold CLR to erase the entire number.

   Enter numbers — Enter your changes to the phone number.
5. **Press** STO when you finish editing the phone number. — Locatn __
6. **Enter location** — Enter the two-digit memory location where you want to store the changed number. The display will show the name stored with the phone number you are editing.

Edit by Name

7. **Press** CLR to erase one letter at a time or skip this step to leave the name unchanged.

   Enter letters Enter your changes to the name. (See page 41 for details on entering names.)

8. **Press** → when you finish editing the name. The display will show the new information and ask if you want to save your changes.

   Change?

9. **Press** → to save your changes. Your phone will confirm your entry by displaying the location, number and name you stored.

   or

   Press CLR to leave the information unchanged.

   Locatn __

   Enter location Enter a new two-digit memory location to avoid overwriting the information in the current location.

10. **Press** END to exit the menu.

Editing a Memory Location

Edit by Number

You will see:

1. **Press** RCL and the 2-digit memory location you want to edit.

2. **Press** STO when you finish editing the phone number.

   Locatn __

3. **Enter location** Enter the two-digit memory location where you want to store the changed number. The display will show the name stored with the phone number you are editing.

4. **Press** CLR to erase one letter at a time or skip this step to leave the name unchanged.

   Enter letters Enter your changes to the name. (See page 41 for details on entering names.)

5. **Press** → when you finish editing the name. The display will show the new information and ask if you want to save your changes.

   Change?

6. **Press** → to save your changes. Your phone will confirm your entry by displaying the location, number and name you stored.

   or

   Press CLR to leave the information unchanged.

   Locatn __

   Enter location Enter a new two-digit memory location to avoid overwriting the information in the current location.

7. **Press** END to exit the menu.

Number Preference

This feature determines the order in which the Phone Book displays information. When you recall information by location and Number Preference is ON, you will first see the stored phone number and must press RCL to see the associated name. When Number Preference is OFF, the Phone Book displays the name first and you must press RCL to see the associated phone number.

Shortcut
Press FCN then press the Smart Button, then 1, 2 ABC and continue with step 4.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** → to scroll to the Number Preference feature.

   Number
   Pref On
   or
   Number
   PrefOff
3. **Press** → to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Features

The Menu

Introducing the Menu Features

The StarTAC cellular phone is loaded with amazing features that can help make life easier, more productive and just a bit more exciting. The phone's simple menu system will help you find what you need quickly and easily.

You can navigate through the menu system using the three keys located on the left side of the phone. Use the upper and lower volume keys to scroll and to control volume. Use the middle Smart Button to choose menus and functions.

Shortcut
Experienced Motorola Users: Watch for the "Shortcuts." You will find many of the same key sequences you have used with other Motorola models!

Navigating the Menu

This manual uses these symbols to instruct you to use the Smart Button and the upper and lower volume keys.

Press → to scroll up

Press → to select

Press → to scroll down



Road Map

To enter your phone's menu system, simply follow these steps:

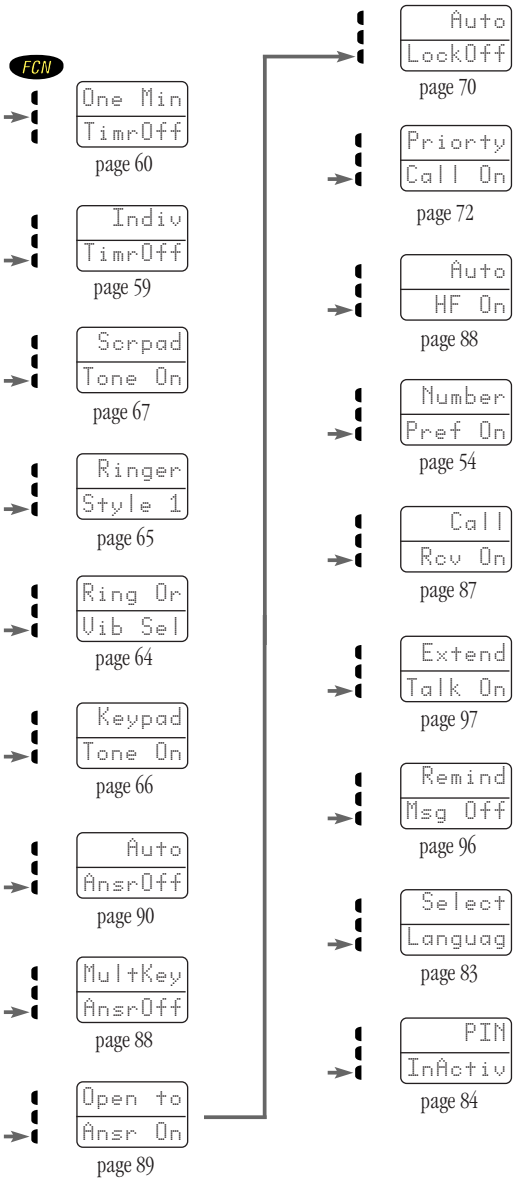
1. **Press** FCN then **press** ⇥ to enter the menu features.
2. **Press** ⇥ or ⇤ to scroll through the menu selections.
3. **Press** END to exit the menu.

Detailed instructions within this chapter describe the operation of all features.

Now it's time to take the plunge. Move at your own pace, experiment, and have some fun!

Previous User Compatibility

If you are already familiar with previous Motorola cellular phones, you can use your phone's ◀ * and # ▶ keys to scroll through the menu system.



Call Timers

Your phone's Call Timer features give you a variety of options for managing your time. You can monitor the length of individual calls, set a timer to track monthly usage, or have the phone alert you at intervals that you specify.

In this section you will learn how to:

- monitor the length of your calls.
- set and view the resettable timer for long-term monitoring.
- program audible timers for your individual needs.

View Individual Call Timer

You can view the air-time of the most recent call or the call in progress (in minutes and seconds) at any time using this feature. The Individual Call Timer resets before you place the next call and when you turn the phone OFF. You can also choose to have the timer display automatically while calls are in progress with the Automatic Display feature on page 59.

Press RCL then # ▶ twice for a quick look at this timer.

View Resettable Call Timer

You can track how much air-time you have accumulated during any time period you choose. Use this feature to view the time elapsed, and follow the instructions below to reset the timer.

Press RCL then # ▶ three times for a quick look at this timer.

View Cumulative Timer

This is a non-resettable timer that keeps track of your phone's total air-time (in minutes).

Press RCL then # ▶ four times for a quick look at this timer.

Reset Timer

Scroll over to this feature at the beginning of each billing cycle and you will always be in the know. After you reset the timer, it will continue to keep track of your air-time (in minutes) until you reset it again.

Keep in Mind: The shortcuts will not work if the Reset Timer is already set at zero.

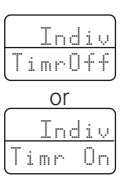
Press FCN then 0 OPR, 7 PQRS, CLR to reset the timer.

Auto Display Timer

When you turn this feature ON, your phone will automatically display your air-time in minutes (XX) and seconds (YY) during and after each call.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** ↓ to scroll to Individual Timer.



Shortcut
Press FCN then press the Smart Button, then 4 GHI, 8 TUV and continue with step 3.

Tip: *Activating the Auto Display Timer may reduce stand-by-time or talk-time.*

Auto Display Timer

3. **Press** → to toggle the feature ON or OFF.

4. **Press** END to exit the menu, or you may scroll to other features.

One Minute Audible Timer (optional)

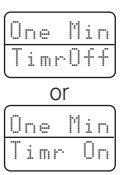
Turn this feature ON to hear an audible beep 10 seconds before the end of every minute during a call. Don't worry, the party on the other end will not hear the beeps.

Shortcut
Press FCN then press the Smart Button, then 4 GHI, 4 GHI and continue with step 3.

You will see:

1. **Press** FCN then **press** → to enter the menu features.

2. **Press** → to scroll to One Minute Timer.



3. **Press** → to toggle the feature ON or OFF.

4. **Press** END to exit the menu, or you may scroll to other features.

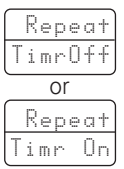
Programmable Timers

You can set this timer to beep during your calls at an interval that you select—from 11-999 seconds. Like the One Minute Audible Timer, you will hear the beep 10 seconds before the end of each interval, and the party on the other end will not hear the beeps.

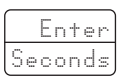
You will see:

1. **Press** FCN then **press** → to enter the menu features.

2. **Press** → to scroll to Repeating Timer.



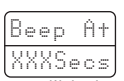
3. **Press** → to toggle the feature ON or OFF.



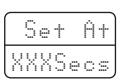
The prompt to enter seconds will appear **only** if you have turned the feature ON. If you have turned it OFF, you will see:



4. **Enter seconds** Enter the number of seconds you would like between audible beeps.



5. **Press** → to set the timer. The phone will confirm by displaying your entry.



6. **Press** END to exit the menu, or you may scroll to other features.

Repeating Audible Timer (optional)

Shortcut
Press FCN then press the Smart Button, then 4 GHI, 1 and continue with step 3.

Programmable Timers

Single Audible Timer (optional)

Like the Repeating Timer, you can set the Single Timer to beep at a time that you select—from 11-999 seconds. It will beep once during each call, 10 seconds before the end of the interval. The party on the other end will not hear the beeps.

Shortcut
Press FCN then press the Smart Button, then 4 GHI, 2 ABC and continue with step 3.

You will see:

1. **Press** FCN then **press** ➔ to enter the menu features.

2. **Press** ➔ to scroll to Single Timer.

   Single / TimrOff

   or

   Single / Timr On

3. **Press** ➔ to toggle the feature ON or OFF.

   Enter / Seconds

   The prompt to enter seconds will appear **only** if you have turned the feature ON. If you have turned it OFF, you will see:

   Audible / TimrOff then Single / TimrOff

4. **Enter seconds** Enter the number of seconds you would like before a beep.

   Beep At / XXXSecs

5. **Press** ➔ to set the timer. The phone will confirm by displaying your entry.

   Set At / XXXSecs

6. **Press** END to exit the menu, or you may scroll to other features.

Tone Controls

If you've been reading along diligently, this may be a good time for a break—put your feet up and have some fun with the Tone Controls. Use these features to select silent vibration mode, personalize your phone's beeps, blips and buzzes—or turn them OFF for some peace and quiet.

In this chapter you will learn how to:

- choose from nine different ringer styles.
- activate and deactivate the VibraCall function.
- silence the keypad.
- silence the Scratchpad.

Ringer or Vibrator Selection (optional)

Using this innovative feature, you can choose to be alerted to incoming calls using the vibrator, ringer, both or neither. Motorola's VibraCall option is ideal for situations where ringing may not be appropriate, or in noisy places where you might not hear the ringer.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** → to scroll to Ringer or Vibrate selection.

Ring Or
Vib Sel

3. **Press** → to select this feature. The display will show your current ringer setting.
4. **Press** → or ← to scroll through your choices:

Vibrate Only	Ring Only	Ring On Vib On	RingOff Vib Off

When both the ringer and vibrator are ON, the phone alerts you by vibrating for three ring cycles and then ringing.

5. **Press** → when you reach the setting you want.
6. **Press** END to exit the menu, or you may scroll to other features.

Shortcut 1
Press FCN then press 8 TUV to toggle the VibraCall function ON and OFF.

Shortcut 2
Press FCN then press the Smart Button, then 3 DEF, 0 OPR and continue with step 3.

Shortcut 3
Press FCN then press the Smart Button, then 3 DEF, 1 and continue with step 3.

Select Ringer Style

The StarTAC phone gives you nine different ringer styles to choose from. After you choose a style, the phone will give you a brief sample of your new alert sound, or vibrate if you have the VibraCall function selected.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** → to scroll to Ringer Style. The phone will show your current ringer style's number.

Ringer
Style X

3. **Press** → to select this feature. You will hear a sample of your current ringer style.

Select
1-9

4. **Enter number** **Press** 1 through 9 WXYZ to hear the different ringer styles, or you may scroll through the ringer styles.
5. **Press** → when you reach the ringer style you want.

Ringer
X Set

6. **Press** END to exit the menu, or you may scroll to other features.

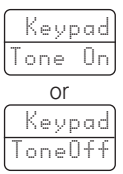
Keypad Tones

Keypad tones are the sounds you hear when you press any key on the phone. If you want to be discreet, use this feature to silence the audio feedback from the keypad.

Keep in Mind: The other party will still hear tones.

You will see:

1. **Press** FCN then **press** ➔ to enter the menu features.
2. **Press** ➔ to scroll to Keypad Tones.



3. **Press** ➔ to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Shortcut
Press FCN then press the Smart Button, then 3 DEF, 2 ABC and continue with step 3.

Scratchpad Tones

Scratchpad tones are the tones that your phone sends to access automated calling systems like Voice Mail. If you don't want your party to hear these sounds when you use the Scratchpad, turn the Scratchpad tones OFF.

You will see:

1. **Press** FCN then **press** ➔ to enter the menu features.
2. **Press** ➔ to scroll to Scratchpad Tones.



3. **Press** ➔ to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Note: If you turned the Scratchpad tones OFF, but you want to access a tone-activated system like Voice Mail, place your call, enter the numbers you need to transmit, then:

Press RCL then **press** SND to send the tones.

Shortcut
Press FCN then press the Smart Button, then 3 DEF, 3 DEF and continue with step 3.

Lock/Security

While you probably would not want to leave your phone unattended, the StarTAC cellular phone has a number of built-in security features to prevent unauthorized use. You can keep your personal information safe and restrict call placement while lending your phone to other people.

In this chapter you will learn how to:

- lock and unlock your phone.
- place Priority calls.
- change your lock code.
- restrict call placement and memory access.
- reset or clear your phone's settings.

Shortcut
Press FCN then press the Smart Button, then 1, 5 JKL LOCK and continue with step 3.

Automatic Electronic Lock

When you turn this feature ON, your phone will automatically lock itself each time the phone is turned OFF.

You will see:

1. **Press** FCN then **press** → to enter the menu features.

2. **Press** → to scroll to Automatic Lock.

   Auto
   LockOff
   or
   Auto
   Lock On

3. **Press** → to toggle the feature ON or OFF.

4. **Press** END to exit the menu, or you may scroll to other features.

Manual Electronic Lock

You can lock your phone manually at any time to help prevent unwanted use. Once locked, you can leave your phone ON or turn it OFF and the phone remains locked.

Locking the Phone

1. **Press** FCN

   You will see:

2. **Press & hold** 5 JKL LOCK for at least one full second.

   Lock ?

"LOCK" is printed on 5 JKL LOCK as a reminder.

3. **Press** → or **press** STO to lock your phone.

   Locked

Unlocking the Phone

Unlocking you phone is quick and easy. Once your phone is ON, just enter your three-digit lock code to unlock your phone. (See page 73.)

You can still receive calls when the phone is locked. Follow these steps to answer the incoming call.

1. **Enter code** Enter your three-digit lock code.

2. **Press** → or **press** SND to receive the call.

Tip: *If you have forgotten your lock code, try pressing 1 2 ABC 3 DEF or the last three digits of your cellular phone number.*

Priority Call

When Priority Call is activated on your cellular phone you can use this feature to call an important number you have stored in memory location 01 even if the phone is locked. At any time if you dial 911 or an emergency number previously stored by your cellular service provider, the display will read "Dialing Emergency." If the unit is locked and you press and hold the number 1 or enter an emergency number, the phone will still display "Locked" but will place the emergency call. If you have stored an alternate non-emergency number in memory location 01, and you press and hold the number 1, the phone will display "Priorty Call." Please keep in mind:

- Your emergency or priority number must be stored in memory location 01 to be able to place a call when the unit is locked. Be careful not to overwrite the number stored in this location.
- Some cellular systems have their own emergency numbers and do not allow access to numbers such as 911. Check with your cellular service provider for details about emergency calling in your area.

Shortcut
Press FCN then press the Smart Button, then 2 ABC, 9 WXYZ and continue with step 3.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** ↓ to scroll to Priority Call. Priorty / CallOff or Priorty / Call On
3. **Press** → to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Secure Options Sub-Menu

The Secure Options sub-menu contains a number of security-minded features to put your mind at ease. For your protection, you must enter the six-digit security code in order to access these features. The factory programmed lock code used to unlock the phone is 123 and the six-digit security code is 000000. These may have been changed at the time your phone was activated. If you need to refresh your memory, this feature displays the currently active three-digit lock code.

View Lock Code

You will see:

1. **Press** FCN, 0 OPR and your six-digit security code.
2. **Press** RCL to display your three-digit lock code. It appears for a few seconds. LocCode / XXX
3. **Press** END to exit the menu, or you may scroll to other features.

Change Lock Code

If you would like to change your three-digit lock code, this feature is for you!

You will see:

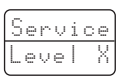
1. **Press** FCN, 0 OPR your six-digit security code, the **new** 3-digit unlock code, and STO.
2. **Enter code** Enter the new three-digit code. It is displayed for a few seconds. Changed / To XXX

Service Level

You may want to restrict call placement or hide memory information when loaning your phone to others. Each of your phone's eight service levels offers a different combination of access privileges and restrictions—choose the one that's right for you!

You will see:

1. **Press** FCN , 0 OPR .
2. **Press** your six-digit security code.
3. **Press** the number of the service level you wish to select (1-6).
4. **Press** STO .



Secure Options Sub-Menu

Service Level Settings

Level 1: Calls can be placed from memory locations 1-10 only. • No dialing from keypad. • No memory edit or storage. • No access to alphabetic memory.	1 Mem 1-10
Level 2: Calls can be placed from all memory locations. • No dialing from keypad. • No memory edit or storage.	2 Mem Only
Level 3: Calls can be placed manually from the keypad only. • No access to memory information. • No memory edit or storage.	3 Keypd Only
Level 4: This is the standard setting. • No Restrictions.	4 Std Setting
Level 5: Seven-digit (local) dialing is allowed only. DTMF tones will not be transmitted to prevent calling card calls.	5 Local Only
Level 6: Calls can be placed from the keypad and from memory. • No edit or memory storage to memory locations 1-10. • Memory cannot be changed.	6 NoSto 1-10

Secure Options Sub-Menu

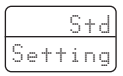
Master Reset

Use this feature to reset all user-selectable options back to the original factory setting.

Keep in Mind: Once you select this feature, the reset process cannot be canceled or reversed.

You will see:

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



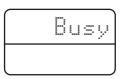
Master Clear

If you want to start with a clean slate, use Master Clear to reset all user-selectable options, clear the resettable timer and erase all Phone Book information.

Keep in Mind: Once you select this feature, the process cannot be canceled or reversed.

You will see:

1. **Press** FCN , 0 OPR .
2. **Press** your six-digit security code twice.
3. **Press** 9 WXYZ , STO .



Phone Options

The Phone Options features are your "command center" for adjusting the way your phone sends and receives calls. You can tweak your system for optimal performance, view information about the phone's settings and choose from a number of convenient features.

In this chapter you will learn how to:

- switch cellular phone numbers.
- select the system mode.
- review your phone's feature settings.
- place calls automatically at a later time.
- select features for vehicular use.
- conserve battery power, and much more.

Change Your Phone Number

Your phone can operate on two different home systems. If you travel often, you can have your phone programmed with two cellular numbers to reduce roaming. This feature allows you to change your active number to the one appropriate for the area you're in.

When your phone has two numbers, both are designated as your home system but only one number can be active at any given time. Calls are placed and received by the currently active number only. Each time you turn your phone ON, you'll see a message in the display that indicates which phone number and home system are currently active:

Non-wireline type with phone number 1	A1
Non-wireline type with phone number 2	A2
Wireline with phone number 1	B1
Wireline with phone number 2	B2

In most areas, there are two competing cellular carriers, the "wireline" carrier and the "non-wireline" carrier. If your cellular service is from the non-wireline carrier, the display will indicate that your home system is system A. If your cellular service is from the wireline carrier, the display will indicate that your home system is system B.

To change to your other phone number

1. **Press** RCL , # ▶ , STO .

System Mode

Your cellular service provider configures this feature when you receive a cellular phone number. If you want to get into the nitty-gritty of your cellular phone's operation, read on. System Mode allows you to select the type of cellular system your phone will access.

1. **Press** RCL , ◀ * .
2. **Press** ↕ to scroll through the system mode settings. (See the chart on the next page for a description of System Mode Settings.)
3. **Press** ↕ to select the system mode setting you want.
4. **Press** END to exit the menu.

System Mode Settings

Standard Mode: Your phone first seeks a home type system, then a non-home type system. *If home system is non-wireline (type A)* ◄ *If home system is wireline (type B)* ◄	Std AB Std BA
Reversed Preference Mode: Your phone first seeks a non-home type system, then a home type system. (This mode may be useful in fringe areas or certain roaming situations.) *If home system is non-wireline (type A)* ◄ *If home system is wireline (type B)* ◄	Scan BA Scan AB
Home Only Mode: Phone will not operate outside its home system.	Home
Scan A Mode: Phone will operate only within non-wireline (A) systems.	Scan A
Scan B Mode: Phone will operate only within wireline (B) systems.	Scan B

Enhanced Preferred Scanning Mode: Phone scans for home or programmed preferred System ID numbers (SIDs) first. This mode required entry of up to sixty SIDs for the systems in which you wish to operate. Contact your cellular service provider for SID information. If you have selected two system operation, the pone seeks cellular service according to the system type mode selected for each phone number.	P Scan

Programming Preferred SIDs in Preferred Scanning Mode

To program the preferred SIDs to be used in P Scan mode:

1. **Press** 7 PQRS , 9 WXYZ , 7 PQRS , 4 GHI , 3 DEF (spells SYSID).
2. **Press** FCN , FCN and enter the appropriate 5-digit SID number (from your cellular service provider).
3. **Press** STO to store the SID number.
4. **Press** ◄ * **or** # ► to scroll through the system type choices (Home, Roam, or Inhibit).
5. **Press** STO to select the desired system type.
6. **Press** # ► and repeat steps 1 through 5 to program another preferred SID,

   or

   Press END to exit preferred SIDs programming.

Feature Review

After you've spent some time adjusting your phone's settings, use this feature to review the selections you've made. When you enter the Feature Review, your phone will display any features that you have changed from their default factory settings.

Keep in mind: Feature Review is an opportunity to review all your current settings. Settings cannot be changed while scrolling through Feature Review.

You will see:

1. **Press** FCN , 0 OPR , 9 WXYZ , RCL .

   If all of your phone's features are set to their default settings, the following will display:

   ```
   Std
   Setting
   ```

2. **Press** ↕ to scroll through any features you have changed from their default settings.

3. **Press** END to exit the menu.

Call Options Sub-Menu

Select Language

Your phone can display messages and prompts in three different languages. Just scroll over to Select Language (Select Languag) to choose from English (English), Spanish (Espanol), French (Franc) or Portuguese (Portug).

To choose a display language:

1. **Press** FCN then press 1 to enter the Feature Menu.

   You will see:

2. **Press** ◄ * **or** # ► to scroll to Select Language.

   ```
   Select
   ```

   and

   ```
   Languag
   ```

3. **Press** STO to display the currently selected language.

   ```
   English
   ```

4. **Press** ◄ * **or** # ► to scroll to the language you wish to select.

5. **Press** STO to select the language.

6. **Press** END to exit the Feature Menu, or you may scroll to other features.

PIN Code

The Call Options sub-menu contains special features that control the way your phone places and receives calls.

Your cellular carrier may require a Personal Identification Number (PIN) when placing calls. This code assures the cellular system that the person calling is an authorized user. Ask your cellular service provider if a PIN is required by your system. If so, you will need to activate this feature before you can place calls. If you enter a service area which does not require a PIN code, make sure PIN Inactive is set.

You will see:

1. **Press** FCN then **press** ➔ to enter the menu features.
2. **Press** ➔ to scroll to the PIN Code feature.

   PIN / InActiv

   or

   PIN / Activ
3. **Press** ➔ to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

PIN Code

The following feature will allow you to automatically send your PIN code with all outbound calls.

Store PIN Code in Memory Location 07

You will see:

1. **Enter PIN code.**
2. **Press** STO

   Locatn / __
3. **Press** 0 OPR, 7 PQRS

   Alpha / Or ⌖
4. **Press** STO **or** ⌖

   Stored / at 07

Place a Call With PIN Code Active

1. **Enter number** — Enter number to be called, or recall from memory.
2. **Press** SND

   or

   Press & hold ➔ — wait for double tone – “beep, beep”.
3. **Press** SND

   or

   Press ➔ — The phone will automatically send the PIN code stored in memory location 07.

If you see Invalid / PIN, 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.

Delayed Call Placement (optional)

This handy feature will automatically place a call for you at a later time. If you know that you need to call someone soon, enter the number you want to call and the delay time in minutes—your phone will help you keep your telephone appointment! Your phone will ring or vibrate once to let you know the call has been placed and you can begin talking.

Keep in mind: The phone number you enter for delayed call placement will be stored in memory location 99 of your Phone Book and will overwrite any information already in that location!

Shortcut
Press FCN then press the Smart Button, then 2 ABC, 2 ABC and continue with step 3.

		You will see:
1. **Press** FCN	then **press** → to enter the menu features.	
2. **Press** →	to scroll to the Delayed Call Placement feature.	Delay / CallOff or Delay / Call On
3. **Press** →	to toggle the feature ON or OFF. When you turn this feature ON, the display will prompt you for a telephone number.	Enter / Number
4. **Press** →	to see the previously stored number if you entered one earlier.	
or		
Enter number	Enter the number you want to call later.	

Call Options Sub-Menu

Delayed Call Placement (optional)

5. **Press** →	when you finish entering the number.	Delay / __ Min
6. **Enter minutes**	Enter the number of minutes (0-99) you would like the phone to wait before placing the call.	Delay / Set
Press →	if you entered only one digit.	
7. **Press** END	to exit the menu, or you may scroll to other features.	

Call Receive (optional)

There are times when you can't be bothered. Turn this feature OFF to disable call reception. Your phone will inform you of incoming calls without receiving them. While this feature is ON, your display will indicate number of calls.

Shortcut
Press FCN then press the Smart Button, then 2 ABC, 1 and continue with step 3.

		You will see:
1. **Press** FCN	then **press** → to enter the menu features.	
2. **Press** →	to scroll to Call Receive.	Call / RcvOff or Call / Rcv On
3. **Press** →	to toggle the feature ON or OFF.	
4. **Press** END	to exit the menu, or you may scroll to other features.	

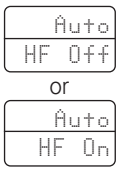
Automatic Hands-Free

Turn this feature ON when you are using Hands-Free vehicular accessories. To find out more about accessories for your car, turn to page 98.

Shortcut
Press FCN then press the Smart Button, then 2 ABC, 8 TUV and continue with step 3.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** → to scroll to Automatic Hands-Free.



3. **Press** → to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

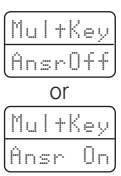
Multiple Key Answer

Why fumble for the SND key to answer calls when you can have it all? With Multiple Key Answer ON, you can answer calls by pressing the Smart Button, any key on the upper keypad 1 - # ▶, or the upper and lower volume keys.

Shortcut
Press FCN then press the Smart Button, then 2 ABC, 0 OPR and continue with step 3.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** → to scroll to Multiple Key Answer.



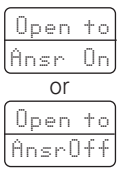
3. **Press** → to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Answer Calls on Phone Opening (optional)

Your phone company may offer services like Caller Line Identification that may make it handy to be able to see the display before answering the call. By setting Open to Answer OFF, you can open the phone to see the message in the display and then answer the call by pressing SND or the Smart Button!

You will see:

1. **Press** FCN then **press** → to enter the Menu Features.
2. **Press** → to scroll to Open to Answer



3. **Press** → to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Call Options Sub-Menu

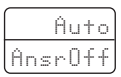
Automatic Answer

Easier still, turn Auto Answer ON to have your phone automatically answer incoming calls after two rings.

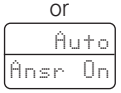
Shortcut
Press FCN then press the Smart Button, then 2 ABC, 6 MNO MUTE and continue with step 3.

You will see:

1. **Press** FCN then **press** ↕ to enter the Menu Features.
2. **Press** ↕ to scroll to Automatic Answer.



or



3. **Press** ↕ to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Tip: *If the ringer and VibraCall functions are OFF, your phone will answer without ringing or vibrating.*

Using Messaging

Your phone is messaging ready. If you subscribe to messaging services through your Service Provider, you can receive Caller ID, Voice Mail Notification and pager-like alphanumeric messages.*

In this section you will learn how to:

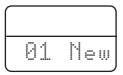
- view your messages
- delete one or all of your messages
- set reminder tones to remind you of unread messages

*Contact your Service Provider for availability.

When You Receive a Message

If your phone is ON and you receive a Caller ID, Voice Mail* Notification, or alphanumeric message:

1. Your StarTAC™ phone will beep to inform you of an incoming message.
2. The display will show the number of new messages you've received:



See Receiving Calls on page 33 for information on receiving a Caller ID message.

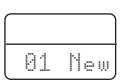
The Message Center

The Message Center is like a virtual bulletin board where up to 20 Caller ID, Voice Mail Notification or pager-like alphanumeric messages can be stored. If the Message Center becomes full, it will replace the oldest messages with new messages as they are received.

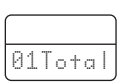
To enter the Message Center:

You will see:

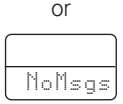
Press RCL then
press & hold RCL
The display will show you how many new and total messages you have received.



or



or



*Contact your Service Provider for availability.

Viewing Your Messages

You can scroll through your messages easily using the side volume buttons, or ◀ * and # ▶. Each message will be numbered from 01 to 20 with a label such as: 01 New (any new message) or 01 CID (old Caller ID message). The display will cycle through the message information as shown in the following example of an old Caller ID: 01 Cid 1847 5551212.

1. **Press** RCL then **press & hold** RCL to enter the Message Center.

   or

2. **Press** ◀ * and # ▶ to scroll through your messages.

Storing Displayed Number

3. **Press** STO to store the displayed number in your Phone Book. See Storing Numbers on page 40 for more information.

   or

Dialing Displayed Number

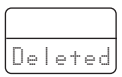
   Press SND to dial the displayed number.

4. **Press** END to exit the Message Center.

Deleting a Message

To delete a message:

1. **Press** RCL then **press & hold** RCL to enter the Message Center.
2. **Press** the side volume buttons or ◀ * and # ▶ to scroll to the message you want to delete.
3. **Press & hold** CLR until you see:



4. **Press** END to exit the Message Center.

Tip: *If the ringer and VibraCall functions are OFF, your phone will answer without ringing or vibrating.*

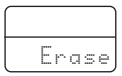
Deleting All Messages

To delete all messages:

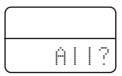
1. **Press** RCL then **press & hold** RCL to enter the Message Center.

You will see:

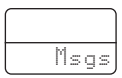
3. **Press & hold** CLR until you see:



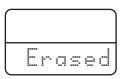
and



3. **Press** CLR again to confim.



and



4. **Press** END to exit the Message Center.

Digital Message Reminder

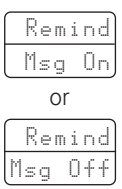
When your StarTAC cellular phone receives an incoming digital message, a tone will notify you. If your phone is set to vibrate, using the VibraCall function (page 64), you will feel your phone vibrate to notify you of an incoming digital message.

If you are unable to immediately view a new message, you have the option to set reminder tones or vibrations, which repeat every two minutes. These reminders are especially helpful in jogging your memory if you're either busy at the time when your digital message arrives or are temporarily away from your phone.

Remember that this Digital Message Reminder feature is only available if your cellular service provider offers Digital Message Access.

You will see:

1. **Press** FCN then **press** → to enter the menu features.
2. **Press** ↑ ↓ to scroll to Digital Message Reminder.



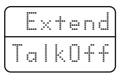
3. **Press** → to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Battery Options Sub-Menu

Here's a bonus feature for when you're in strong signal areas. Turn the Extended Talk-time feature ON and receive extra talk-time from your phone's battery!

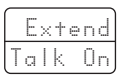
You will see:

1. **Press** FCN then **press** → to enter the menu features.



or

2. **Press** ↑ ↓ to scroll to Extended Talk-time.



3. **Press** → to toggle the feature ON or OFF.
4. **Press** END to exit the menu, or you may scroll to other features.

Extended Talk-time (optional)

Shortcut
Press FCN then press the Smart Button, then 2 ABC, 5 JKL LOCK and continue with step 3.

Accessory Options

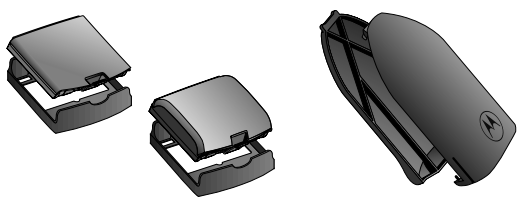
An exciting line of StarTAC phone accessories, now smaller and lighter than ever, can enhance and personalize your cellular experience.

Batteries

Lithium Ion batteries are different from other batteries in that you can leave them in the charger as long as you like. Nickel Metal Hydride batteries should not be left in the charger for more than 24 hours.

If your cellular phone is quickly becoming your companion, an optional auxiliary battery will give your phone a boost. Auxiliary batteries attach to the back of your phone and provide extra talk-time in addition to your main battery.

See page 22-23 for battery talk-times and standby-times.



Cigarette Lighter Adapter

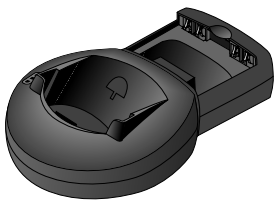
With the cigarette lighter adapter, you can power your phone and charge your phone's battery directly from your vehicle's cigarette lighter! In some cars, the engine must be running in order for the cigarette lighter to operate.



Accessory Options

Desktop Charger (AC Adapter required)

The desktop charger is designed for optimal performance and compatibility with Motorola's new generation of cellular telephones. The desktop charger's front pocket can charge batteries while they are attached to your phone, and the rear pocket can charge batteries separately. Now it's easy to rotate batteries and always have a charged spare.



Holster

The StarTAC phone is so small and light, it's positively wearable. Slip it in and clip it on—for the ultimate in high-tech fashion.



Headset

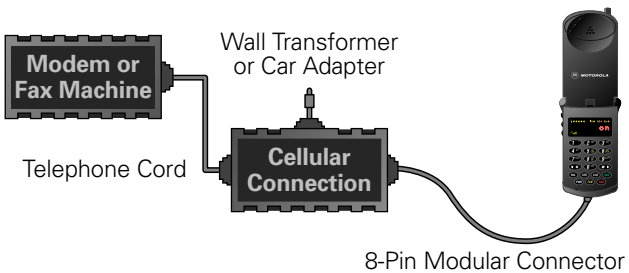
The convenient headset provides both an earphone and microphone in one small piece for simple hands-free and private telephone conversations. The headset plugs directly into the jack on the top of your phone, so that you can wear your phone and move freely. Place the foam cover on the earpiece for a more comfortable fit.

When you use the headset, your phone's intelligent circuitry automatically enables the Multiple Key Answer feature (page 88), so you can answer calls with any key on the side of your phone. You can even use the Smart Button to end calls (page 30). You'll never need to open your phone to take a call.



THE Portable Cellular Connection™ Interface

Your StarTAC cellular phone is data compatible, so you can send and receive faxes, e-mail and data with Motorola data accessories. THE Portable Cellular Connection Interface connects your phone to a computer or FAX machine for unparalleled convenience. THE Portable Cellular Connection Kit includes the Portable Cellular Connection Interface box with rechargeable battery and a cable that plugs into the accessory connector on the bottom of your phone.



PCMCIA or POCKET Modems

These compact modems are made for mobility. Both modems plug directly into the bottom of your StarTAC phone, so you can send and receive FAXes, e-mail and data. The PCMCIA modem works with data devices using a standard PCMCIA Type II slot, and the Pocket modem connects to a data device with a standard serial cable.

Compaq Direct Connect

Connect your cellular phone directly to your Compaq SpeedPAQ™ 144 internal modem with a single cable. Just connect one end to your phone, the other end to the modem, and you're in business.

SpeedPAQ is a trademark of Compaq Computer Corporation.

Accessory Options

Hands-Free Vehicle Kit

The optional Hands-Free Kits give you the convenience of hands-free, speaker phone operation while in your car. Full duplex operation lets you simultaneously talk and listen, so both parties can interrupt each other for a normal sounding conversation.

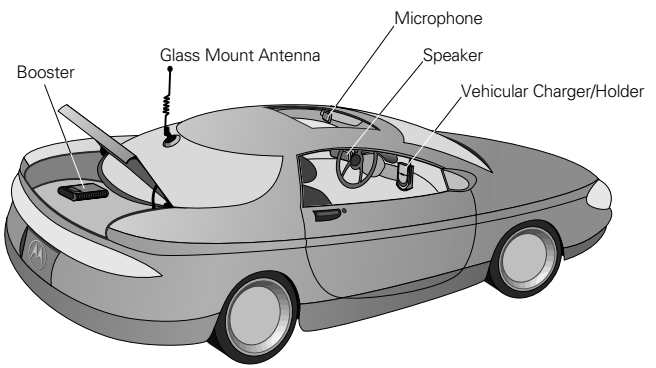
The Hands-Free Kit powers the phone and charges its battery whenever your car's engine is running. An optional external antenna can improve your signal reception and boost performance.

3-Watt Vehicular Kit

The 3-Watt Vehicular Kit for the StarTAC phone delivers a full 3 watts of power. This booster works behind the scenes to increase performance, especially in fringe areas.

Vehicular Kit components:

- Hands-Free phone holder with battery charger
- External microphone
- Optional external speaker
- Optional 3-watt booster
- External antenna (not included)



We recommend you use genuine Motorola batteries and accessories. Under its cellular telephone warranty, Motorola specifically disclaims any responsibility for damage caused by the use of portable cellular telephone accessories not manufactured by Motorola.

Q. I pressed the power button, but nothing happened. What's wrong with my phone?

A. Check that you have installed a battery and that the battery is charged. See pages 16-27 for more information about batteries for the StarTAC phone.

Q. My battery didn't last as long as I expected. What can I do to extend battery life?

A. Keep in mind that your battery's "talk-time" and "standby-time" are a relative measurement of the battery's capacity. The more you talk on the phone, the less standby-time you will have and vice versa.

To get the most from your battery, make sure it is fully charged. To charge the battery to 100% of its capacity, leave it in the charger for an extra hour after the charger's light turns green.

Certain features can demand power from your battery and reduce battery life. If you have selected the Automatic Display of Individual Call Timer feature, the display uses battery power to remain active during each call. Turn this feature OFF to conserve battery energy. (See page 59 for more information on this feature.)

Exposing your battery to extreme temperatures—below -10°C (14°F) or above 45°C (113°F)—can shorten battery life. Batteries are especially sensitive to high temperature extremes. As a good rule of thumb, always take your phone with you when you leave your car.

Q. Every time I turn on my phone it beeps and the display reads `Invalid Battery`. What is going on?

A. Your Motorola cellular phone implements the Motorola Expert Performance (E•P ™) charging system. This system allows the charger that is built into the phone to communicate with the battery. Based on this communication, the charger can tailor the charging cycle to optimize performance. If your charging system is not communicating with the battery, your phone will beep and display an `Invalid Battery` message each time you power up the phone or replace the battery. Your phone is alerting you that you do not have charging capabilities with this battery.

There are several reasons why your battery might not be communicating. The most likely reason is that the battery you purchased is not a Motorola original and the battery does not have the appropriate communication technology built into it. All Motorola batteries are built with the appropriate communication technology. We recommend that you use Motorola original batteries and accessories and that you store your batteries in the protective battery cover that comes with the phone.

Q. The display says, "`Locked`." How do I unlock my phone?

A. Try entering the last three digits of your cellular number. If that doesn't work, try using the factory preset lock code: 123. If all else fails, call your cellular service provider (the company that sends you your monthly cellular bill) for assistance. (See page 68 for more information on your phone's Security Features.)

Q. I tried to place a call and received a fast busy signal.

A. This sound means that the cellular system did not process your call. For example, the cellular system may be overloaded with call attempts. To redial the number, press SND before ending your call attempt, or press END and try the call again later. (See page 36 for more information on redialing.)

Q. I tried to place a call and received an alternating high/low tone.

A. This sound means your call did not reach the cellular system. Most likely, you dialed the number too soon after turning the phone ON. Wait until the red NS light stops blinking before placing a call.

An alternating tone may also indicate that your phone's signal is blocked. Make sure the antenna is fully extended and move clear of any obstructions, like bridges, parking garages, tall buildings, etc.

Q. My phone started beeping and the display says: "Call 01." What happened?

A. This sound means that someone tried to call you while you were in an area where the cellular signal was weak. Press CLR to clear your display, extend your phone's antenna and avoid obstructions like tunnels, parking garages and tall buildings whenever possible.

Q. I am in my home service area but the Roam indicator is flashing.

A. If your phone is programmed with more than one telephone number, you might not have switched to the number appropriate for your current location. Press RCL , # ▶ , STO to switch to your other number.
(See page 78 for more information on multiple phone numbers.)

Q. I tried to read my Voice Mail (or use a paging service, a calling card, etc.) but nothing happened.

A. You have probably turned OFF the Scratchpad tones. Place your call, enter the access numbers when prompted by the recording, then press RCL , SND To avoid this problem in the future, follow the directions on page 67 to turn the Scratchpad tones ON.

Q. I tried to place a calling card call using the internal Phone Book, but it didn't work.

A. You may have turned OFF your Scratchpad tones. Follow the directions on page 67 to turn the Scratchpad tones ON.

Check that you stored your calling card information in the correct order, and make sure the groups of numbers are separated by pauses. The easiest way to correct the sequence may be to start from scratch. Follow the instructions on page 48, enter your calling card information again and store it in the same memory location as your previous attempt.

Also keep in mind that when using your calling card, you must enter the number you are calling with the area code, but without the initial "1." Check with your long distance carrier for details on using your calling card.

Q. My phone was stolen. What should I report and to whom?

A. Report a stolen phone to the police and to your cellular service provider (the company that sends you your monthly cellular service bills).

A

AC adapter An accessory device that allows you to power your phone and charge any attached batteries from a wall outlet.

AMPS (Advanced Mobile Phone System) A cellular technology that operates on 832 channels.

accessory connector A socket on the bottom of the phone where you can attach accessories such as an AC adapter, battery charger, cigarette lighter adapter or data accessories.

air-time The amount of time you spend using a cellular system, between the time you successfully place a call and the termination of that call.

antenna The device on your phone that sends and receives cellular signals.

C

callback message A numeric message left by a caller, usually the caller's current phone number.

cellular carrier One of the two competing organizations in a given geographic area that owns and operates a cellular system.

cellular service provider A company affiliated with a cellular carrier that provides cellular service to its customers.

cellular signal The radio waves that carry information between your cellular phone and the cellular system.

cellular system The cellular equipment in a given geographic area that relays signals to and from individual cellular telephones and the landline telephone system.

cigarette lighter adapter An accessory device that allows you to power your phone and charge any attached batteries from a car's cigarette lighter.

D

DTMF tones See Dual Tone Multi-Frequency tones.

default A feature's original setting as pre-programmed in the factory.

digital message See callback message.

Dual Tone Multi-Frequency tones The tones that your telephone transmits when you press a key on the keypad. These tones are used to access automated calling systems such as Voice Mail, paging services, banking-by-phone, etc. These tones will also be heard by the party on the other line if you use the Scratchpad while a call is in progress. Synonymous with Scratchpad tones.

F

fringe area The outermost range of a cellular system where cellular signals are weak.

function keys The seven keys at the bottom of your phone's keypad used to perform specific tasks.

H

home system The local cellular system where you obtain your cellular service.

home type system A cellular system of the same type as your local cellular system. See also non-home type system, and system type.

I

indicator A light on your phone that gives you information about your phone's status.

L

landline The telephone system used for conventional office and home phones.

Lithium Ion (LiIon) A battery technology used in personal cellular telephones. Lithium Ion batteries provide more energy capacity than Nickel Metal Hydride batteries of the same weight.

lock To prevent unauthorized access to the cellular telephone.

lock code A three-digit code used to unlock a locked phone.

M

memory location A space in the internal Phone Book where you can store a

telephone number and a name. Each of the Phone Book's 99 memory locations (numbered 01-99) can hold up to 32 digits and 14 letters.

modem An electronic device that allows a computer to send and receive data through a telephone line.

N

NAMPS (Narrow-Band AMPS) A high-capacity cellular technology, available in some areas, that operates on 2,412 channels. See also AMPS.

name directory An alphabetical list of the names and telephone numbers you have stored into your phone's internal Phone Book.

Nickel Metal Hydride (NiMH) A battery technology used in personal cellular telephone batteries.

non-home type system A system type different from your home system. See also home type system, and system type.

non-wireline See system type.

Number Character A special character used in a calling card sequence to save a place for the telephone number you will call when you use your calling card.

P

PIN See Personal Identification Number.

pause A special character that tells your phone to "pause" or wait for your input before sending a group of numbers stored in memory.

Personal Identification Number (PIN) A private numeric "password" that allows you to access some cellular systems or automated systems such as telephone banking, while preventing unauthorized use.

prompt A message requesting input.

R

roam To use a cellular system outside of your home system, usually when you travel beyond the range of your home system.

S

SID See System Identification.

Scratchpad A memory feature that automatically remembers the most recent number entered into the keypad.

Scratchpad tones The tones that your telephone transmits when you press a key on the keypad. These tones are used to access automated calling systems such as Voice Mail, paging services, banking-by-phone, etc. These tones will also be heard by the party on the other line if you use the Scratchpad while a call is in progress. Synonymous with Dual Tone Multi-Frequency tones.

scroll To move backward or forward through a list; for example: to move backward or forward through the menu system or the name directory using either the side keys or the ◀ * and # ▶ keys.

security code A six-digit code used to access sensitive features in the Secure Options sub-menu of the Lock/Security menu.

signal See cellular signal.

Smart Button The middle key on the side of your phone used to access the Phone Book's name directory, send calls, end calls, enter the menu system, select features, and toggle features ON and OFF.

Speed Dial To use this feature, enter the two-digit location of your number, 01-99, then press and hold Smart Button or press SND and the call is placed.

standby-time The amount of time that your phone is left ON to receive calls.

status indicator See indicator.

sub-menu A secondary level of your phone's menu system hierarchy.

System Identification A five-digit number that identifies your home cellular system. An even number indicates a wireline system and an odd number indicates a non-wireline system. See also system type.

system mode A setting that determines the system type that your cellular phone will access.

system type A designation that indicates one of the two competing cellular carriers in a given geographic area. The non-wireline carrier operates on the "A" block

of cellular frequencies, and the wireline carrier operates on the "B" block of cellular frequencies.

T

talk-time The amount of time that you spend talking on the phone.

toggle To switch between two possible options; for example: ON vs. OFF.

Turbo Dial™ function To use this feature, press and hold a number on the keypad, 1 through 9 WXYZ and your call is placed.

V

VOX See Voice Operated Transmission.

VibraCall™ function Motorola's silent vibration mode that discreetly alerts you to incoming calls.

Voice Operated Transmission A battery-saving feature that lets your phone reduce its power usage when you are not talking during a call. Not all cellular systems support this feature.

volume keys Located on the side of your phone, the upper and lower volume keys are used to adjust ringer and keypad volume. They also scroll within the menu system and the name directory.

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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. This information may be used to respond to questions.

Why the concern?

Mobile phones emit low levels of radiofrequency energy (i.e., radiofrequency radiation) in the microwave range while being used. They also emit very low levels of radiofrequency 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 ongoing. 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 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, neuroepithelliomatous 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; and
- 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 interagency 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 every day 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,
- a 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
- a 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 people are concerned about the radiofrequency energy from these products, taking the simple precautions outlined above can reduce any possible risk.

Where can I find additional information?

For additional 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.nrpb.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/

[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.

Patent Information

Manufactured under one or more of the following U.S. patents:

4124879	D286778	4751737	4972355	5128834	5262710
4127824	4626309	D296187	4972432	D328302	5263052
4128740	4628529	4761621	4972455	5142551	5276707
4138681	4629829	4764737	4975808	5142696	5278994
4193036	4630304	D297734	4984290	5146620	D343173
4254382	4630305	D297735	D314173	5148471	5280637
4302845	4633141	4777564	D315330	5148473	D344087
4312074	4636593	Re.32768	D315346	5148961	5287553
4327319	4636741	D299136	D315543	5150359	5287555
4329666	D288432	4797929	D315559	5150384	5287556
4369516	4648125	4798975	D315565	5152006	D344511
4369522	4649543	4800348	5004992	5157693	5301365
4378603	D288683	4802236	D315907	5163159	5321847
4390963	4654655	4809356	5008925	5164652	D348880
D269873	D289156	4811377	D316417	5166596	5349588
4398265	4662691	4811404	D316859	5175759	5359696
4400584	4667333	4827226	5017856	5175874	5361400
4400585	4668917	4827507	5018188	D332261	5363071
D270835	4670747	4829274	5020091	5182749	5365549
D271491	4672502	4837534	5020092	D332785	D352497
Re.31470	4680787	D301476	5020093	5185566	5366826
4431977	4681476	4843621	5028083	5187809	D353131
4434461	4683585	4845772	5028859	5193223	D353361
4455534	4692726	D302015	5029044	5195106	5375143
4462098	4704588	4851966	5029233	5195108	5375258
D275951	D292578	4868576	5031028	5201069	5379324
4484153	4706036	4870686	5036532	5204977	D354055
4485486	D292920	D303656	5053924	5210793	D354062
4486624	4710724	4876552	5057762	5214675	5384825
D276809	4711361	4879533	D320780	5222104	D356084
4491972	4715063	D305427	5059885	5222251	5402447
D277667	4716319	4896124	5060294	D337332	5406146
4504834	4716391	4897873	D322783	5230007	5406562
D278708	4723305	D305717	D322955	5230093	D357224
4523155	D294257	4904549	5081674	5233633	D357457
4546329	4727306	4905288	5083304	5235492	5410741
4550426	4727583	4905301	D324024	5237257	D357680
4551696	4730195	D306293	D324388	5239127	D357681
4564821	4734635	D306441	5095503	5241545	5428836
D282169	4736277	D306594	D325028	5241548	D359734
4571595	4737976	4912602	D325583	5241650	D359735
4573017	4740794	4918732	5109536	5241693	D359959
4574243	4741018	4922178	D325915	5242767	5432017
4585957	4741034	4945570	5113436	D339582	D360632
4602218	4742562	4954796	5117450	5249302	5438684
D284759	D295627	4959851	5121047	5251331	
D285439	4746242	4963812	5122480	D340710	
4616314	D295973	4963843	5122722	5260988	
4617520	D295975	4965537	D327061	5261119	

Other patents pending.



Recycling
This product may be powered by a Nickel Metal Hydride or Lithium Ion rechargeable battery which must be recycled or disposed of properly.

Refer to the battery label for battery type.

Contact your local recycling center for a battery recycler near you.

MOTOROLA

Personal Communications Sector
600 North U.S. Highway 45
Libertyville, Illinois 60048
1-800-331-6456 (in the United States)
1-888-390-6456 (TTY, in the U.S. only)
1-800-461-4575 (in Canada)

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