

**SINGLE MODE CDMA PHONE
C304SA
MANUFACTURED BY SANYO**

User Guide

Please read this manual before operating the phone,
and keep it future reference.

(USER MANUAL DRAFT V 0.01)
(This Version includes No content Table or Index.)

SANYO



Safety Information: FCC RF Exposure Information

WARNING! *Read this information before using your phone*

In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of this phone complies with the FCC guidelines and these international standards.

CAUTION

Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the phone, or result in violation of FCC regulations.

Do not use the phone with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for replacement antenna.

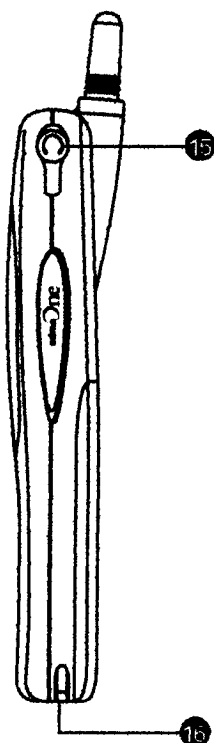
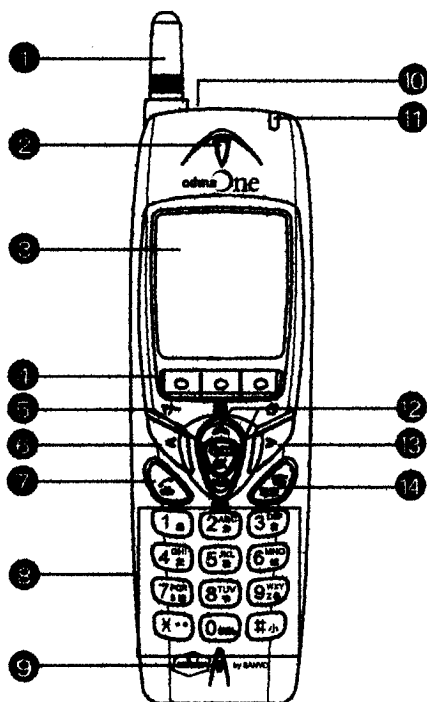
Body-worn Operation

This device was tested for typical body-worn operations with the back of the phone kept 0.4 inches (1.0cm) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 0.4 inches (1cm) must be maintained between the user's body and the back of the phone, including the antenna, whether extended or retracted. All belt-clips, holsters and similar accessories used by this device must not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with FCC RF exposure limits and should be avoided.

Note: For more information about RF exposure, please visit the FCC website at www.fcc.gov

Operating Instructions

Name & function of parts

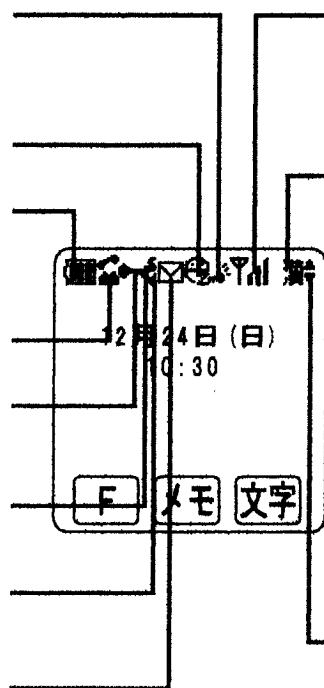


- 1 **Antenna**
- 2 **Earpiece and speaker**
apply to the ear to hear the voice during a call.
- 3 **Display**
shows the status of the phone, phone numbers and other information.
- 4 **Flexible buttons**
use in combination with other buttons to set various functions (refer to "Using the flexible buttons" on page 287).
- 5  **button**
press to show the Memory Dial contents or to use the EZweb service.
- 6 **Good manners/left arrow button**
press to set good manners mode. Use also to select an item in various function.
- 7  **Start button**
press to make or receive a call.
- 8 **Dial buttons**
use to enter phone numbers and letters.
- 9 **Microphone (mouthpiece)**
collects and transmits your voice during a call. Can also be used for recording your voice for certain functions.
- 10 **Hand strap hole**
used to attach the hand strap (included).
- 11 **Incoming call light**
blinks green when the phone rings, and lights red while battery is charging.
- 12  **Up and down search buttons**
press to adjust the volume, scroll through the Memory Dial contents, convert characters, and to make settings in functions.

Press  (for more than one second) to display "C mail".
- 13 **Redial/right arrow button**
press to redial the phone number which has been last dialed, or to check the phone number of the call which has been last received. Use also to select an item in various functions.
- 14  **Power/End button**
press to turn the power off, to end a call, or to reset various functions.
- 15 **Ear-microphone jack**
use to connect a switchable ear-microphone (not included).
- 16 **Interface jack**
use to connect an optional device such as a quick-rechargeable (included) cigarette lighter adapter (not included).

How to read the display

-  This is displayed when the decoded information is displayed.
-  is displayed while the phone is connected to the EZweb server.
-  This indicates the 3 approximate levels of remaining battery energy. While charging it displays "充電".
-  This is displayed during a call.
-  This is displayed when you security lock your phone or set the secret mode.
-  This is displayed when you turn off the ringer.
-  This is displayed when you enable the vibrator function.
-  This is displayed when you receive "C mail."



-  This shows signal strength. The more segments, the stronger the signal. When "圏外" is displayed, you cannot receive calls due to weak signal strength.
-  is displayed during "Kanji/Hiragana" entry mode.
-  is displayed during "Katakana" entry mode.
-  is displayed during alphanumeric entry mode.
-  is displayed during pager style entry mode.
-  is displayed during numeric entry mode for entering E-mail address.
-  appears when the display overflows and you need to scroll the contents to view them all.

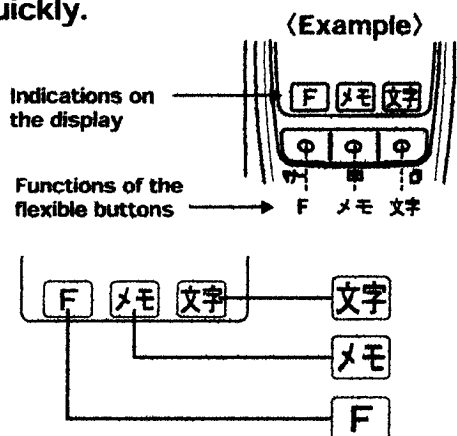
- The above illustration is for explanation purpose only. Not all indications will actually be displayed at the same time.
- When any button is pressed, illumination will turn on for about 10 seconds.

Using the flexible buttons

This model cellular phone has three "flexible buttons" for easier operations. These buttons correspond to the items shown at the bottom of the display, which allows you to call up a desired function quickly.

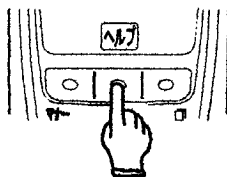
There are several different patterns of indications shown on the display, and the functions of the flexible buttons vary accordingly.

In this instruction manual, the indications for the flexible buttons are expressed as shown below.



※The actual display differs slightly from the illustrations in this manual.

Explanations for each function can be shown on the display.



Press .

(Press the flexible button corresponding to .)

その他

Operating Instructions

Getting started

1 charging the battery pack

The battery pack is not fully charged at the time of purchase. Make sure to charge it to full capacity before use.

When you use it for the first time or you haven't used it for a long time, make sure to charge it to full capacity before using it.

■ How to charge the battery using the desktop Rapid Charger.

1. Insert the connector of the desktop Rapid Charge AC adapter firmly into the battery charging stand with the label facing upwards (see figure 1).

2. Connect the wall plug to an AC 100V outlet (see figure 2).

3. Place the cellular phone telephone unit (with battery pack attached) into the battery charging stand. (The phone unit must lean backwards slightly, then it can be locked into place.)

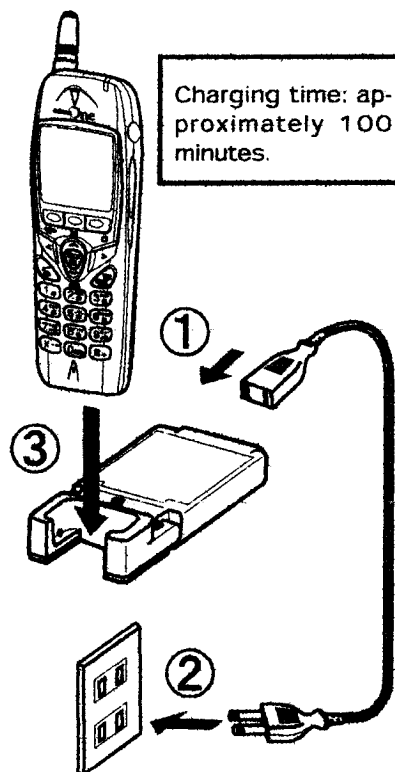
The incoming call/charging lamp will light up in red, the "充電" sign will be displayed in the display area, and the battery will begin to charge. (see figure 3)

When you haven't used the battery pack for a long time or you haven't charged the battery for some time after the "change battery" warning sign has been displayed, sometimes the battery won't charge. If the battery pack is too old or has been damaged, the incoming call/charging lamp will light up and the "充電" sign in the display area will be displayed, then the battery will begin to charge.

4. When the battery finishes charging, the charging lamp will go out and the "充電" sign will disappear from the display area. The battery is now charged. (to remove the cellular phone from the charging stand)

When the phone unit's Power is OFF, the "充電" sign will disappear.

When the phone unit's Power is ON, the "■" sign will light up.



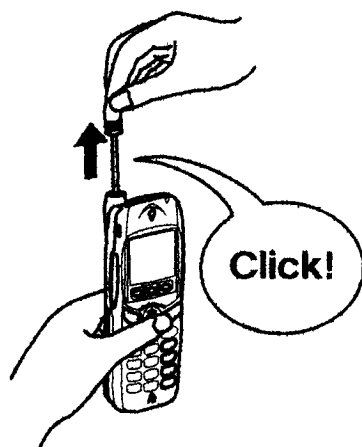
- You can charge the battery with the phone unit's power ON, but it will take longer.
- When you charge the battery in weak signal strength areas, it might take time for the charging lamp to light up after you set the phone unit into the desktop charger holder.
- Don't plug the desktop rapid charger directly into a 100 volt electrical socket, always use the AC adapter that comes with the phone.

	While charging	Complete charging
call lamp	lights up red	no light
「充電」 sign	will be displayed	Phone unit's power is ON → The 「■」 sign will be displayed Phone unit's power is OFF → won't be displayed

2 Extending the antenna

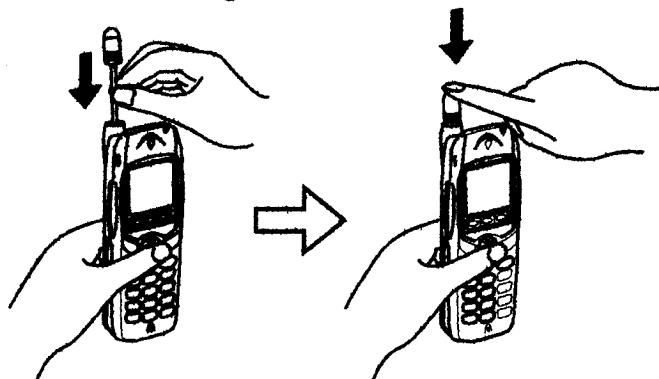
The radio waves cannot be transmitted or received well if the antenna is not extended. To facilitate transmission and reception of radio waves, use the phone by positioning the antenna vertically with respect to the ground.

• Extending the antenna.



Extend the antenna until it stops with a click.

• Retracting the antenna.



Move it straight down by pulling on a lower part of the antenna.

To avoid damaging the antenna, never apply direct pressure to the top part of the antenna.

3 Turning the power on.

Press and hold  for more than one second.

When you turn the power on, you'll hear the wake up tone and the sign will be displayed (see figure right). After a few seconds the sign will change to standby. (the display remains lit for about 10 seconds).

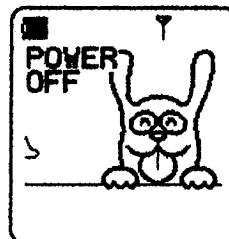
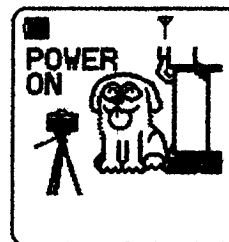
- The function condition is shown with illustrations and letters/words (see figure right) when you turn the illustration function on.
- Illustration function is on at the time of purchase.
- The key response tone and the wake up tone are connected.

◆ Turning the power off.

Press and hold  for more than one second.

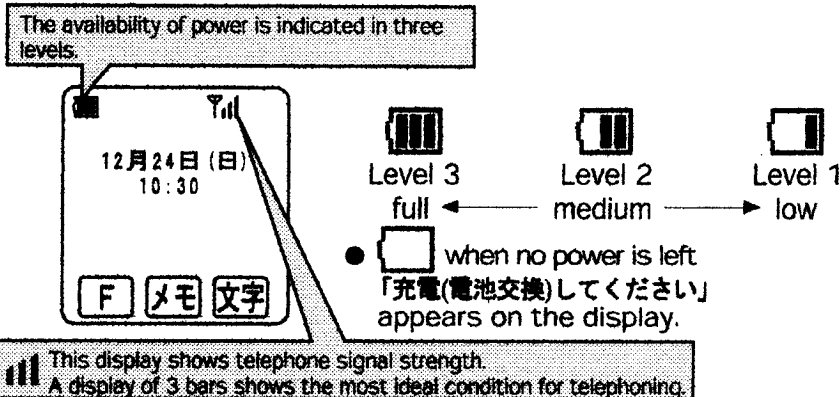
Power is turned off.

There are 4 kinds of illustrations for power on/off, they are changed at random.



4 Checking the display screen

Check the display screen and make sure it is as shown in the figure below after you turn the power on. This will indicate if the phone is in good working order.



- Even in main service areas there are places that only receive weak signals. In this case, you might not hear well or your call may be cut off.

The above battery level figures show remaining battery strength. Certain charges in conditions may cause the battery level figures to fluctuate..(See example of figure right.)



Displaying your own phone number.

1. While in standby mode or while making a call, press .
2. Pressing displays your telephone number.

Calling a landline, a mobile, PHS phone.

1. Enter the phone number you want to call.

Area code - local code - subscriber's number.

example: 090-XXXX-XXXX

Always include the area code, even when calling to a number in the same area you are in.

2. Press to place a call.

If you enter a wrong number:

- Press briefly - the last dialed digit will be deleted.
- Press and hold the entire phone number will be deleted.

Making an International Call

1. Enter the phone number you want to call using the following pattern.

International dial code - Country code - Area code - subscriber's number

example: to call the United States (country code 1),

New York City (area code 212), number 123-4567,

call:

0078-1-212-1234567

2. Press to place the call.

To make international calls, you need to fill out an application from DDI international call services. Call numbers are given below for your reference:

DDI Customer Service Center:

From landline phone (toll free) 0077-778

From cellular phone (charged) 03-3375-0222

(9:00 to 21:00)

その他

■ Operating instructions

Answering a call

1. The ring tone sounds/vibrator buzzes, and the incoming call lamp flashes.

2. Press  to answer the call.

An incoming call can also be answered by pressing any of the    ~ , , or  buttons.

If you do not answer the call or the caller disconnects before the call is answered, "着信あり" will be displayed.

Entering characters:

This is the method of entering names for registering memory dials and writing mail for "C mail."

Each time you press , the entry mode will change:

Press the panel and find the entry mode you want.

"Kanji", "Hiragana" entry mode:「漢」 is displayed.



"Katakana" entry mode:「カナ」 is displayed.



"Alphanumeric" entry mode:「英」 is displayed.



"Phone number" entry mode.

その他

Operating Instructions

("␣" expresses a space.)

Registering Memory Dials.

You can register the numbers and names you call often.
Once you register them, you can call them with fewer operations.
You can store up to 500 phone numbers and names in the phone's memory.
Numbers 000 to 499.

■ How to store a name and a phone number into memory.

There are 7 steps to enter a phone number into Memory Dial.

1. Enter the phone number.
2. Press  three times and enter the name.
3. Press  more than 1 second.
4. Press  and enter the E-mail address.
5. Press .
6. Enter the Memory Dial number.

(   ~   )

The next available number will automatically blink in the display. You can assign this number as your Memory Dial number by pressing , or you can enter a number of your choice from 000 to 499 and press .

7. Press , ,  or  to select the type of phone.

「」 other

「」 for a landline phone

「」 for a mobile phone

「」 for a PHS

「」 for a beeper

「」 for a fax.

8. Press .

9. Enter the Group Number.

You can register up to 11 Group Numbers from  to  and . Each Group Number will have an index.

One Touch Dialing

You can register the phone numbers you use often or phone numbers needed for emergencies in  Press and hold  and the call will be made automatically.

■ Registering One Touch dial phone numbers.

See "Registering Memory Dial" steps 1 to 5.

Press .

Display will show 「ワンタッチダイヤルを登録しました」

■ Making a call by One Touch dialing.

Press and hold 

You hear a tone and the call that you registered will be made automatically.

Making a call with Memory Dial.

You can call by using phone numbers saved in Memory Dial.

There are 8 ways to recall numbers saved in Memory Dial.

- ① Dial Memory Dial numbers by using the number pad.
- ② Dial by Japanese phonetic symbols, i.e. hiragana or katakana.
- ③ Dial by letters.
- ④ Dial by telephone book order.
- ⑤ Dial by type of phone.
- ⑥ Dial by group number.
- ⑦ Dial by phone number fragment.
- ⑧ Dial by memory number order.

■ Finding a name using the dial buttons:

You can dial from a list of the names whose first letters are entered using a same dial button.

1. While in standby mode, press a desired dial button from - and hold it for more than one second.

example: to find a name that begins with カ, キ, ク, ケ, コ, A, B, C, a, b, c, 2, press .

2. Press and hold or press several times to scroll through and display the name you want.

3. Press .

■ Finding a name in the Japanese alphabetical order:

1. Press and hold (for more than one second).

2. Use to scroll through and display the name you want.

3. Press .

■ Finding a name using its first letter(s):

1. Press the three times.

2. Enter the first letter(s) of the desired name.

3. Use to scroll through and display the name you want.

4. Press .

■ Finding a name in the stored telephone book:

1. Press , , then again.

2. Press or to access the telephone book.

3. Use to scroll through and display the name you want.

4. Press .

■ Finding a name by the phone type:

1. Press ,  twice, then  again.
2. Press  or  to select the desired phone type.
3. Use  to scroll through and display the name you want.
4. Press .

■ Finding a name by the Group number:

1. Press ,  three times, then  again.
2. Press  or  to select the desired Group number.
3. Use  and scroll through and display the name of the person in the group you want to call.
4. Press .

■ Finding a name by the phone number:

1. Enter the first several digits of the desired phone number.
2. Press  twice.
3. Use  to scroll through and display the name you want.
4. Press .

■ Finding a name in the order of the Memory Dial number:

1. Press  twice.
2. Use  to scroll through and display the name you want.
3. Press .

Checking the contents of Memory Dial:

When the contents (phone numbers or names) of Memory Dial are not displayed entirely, the missing information can still be accessed in full.

■ Displaying the pronunciation for the name:

1. Call up Memory Dial and display the desired item.
2. Press **[F4]**. The entire pronunciation for the name will be displayed.
Press **[F4]** again, and the display will return to the waiting mode display.

■ Displaying the E-mail address:

1. Call up Memory Dial and display the desired item.
2. Press **[F5]**. The entire E-mail address will be displayed. Press **[F5]** again, and the display will return to the waiting mode display.

List of functions

Group F0

Mode No.	Function Description
F0	Instructions of functions besides F functions

Group F10

Mode No.	Function Description
F11	Auto-lock ON/OFF
F12	Checking the estimated time and charge for the previous call
F13	Checking the estimated total time and charge for calls
F14	Displaying the duration for the current call
F15	Displaying the estimated charge for the current call after ringing off
F16	Setting the remote talk function using an ear-microphone
F17	Setting the auto answering function using an ear-microphone

Group F20

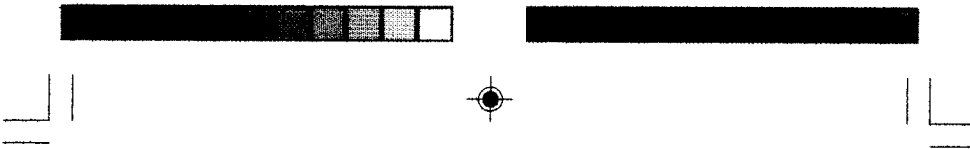
Mode No.	Function Description
F21 ※	Adjusting ringer volume
F22 ※	Selecting ringer pattern
F23	Setting the vibrator with the ringer turned off
F24	Adjusting key response tone volume
F25	Turning off wake-up tone
F26	Setting the disconnection alert
F27 ※	Composing a melody
F28	Adjusting speaker tone

Group F30

Mode No.	Function Description
F31	Turning on the display illumination while a car cigarette lighter adapter is used
F32	Turning off the button illuminations
F33	Changing the illumination color
F34	Adjusting contrast of display
F35	Setting the screen-saver

Group F40

Mode No.	Function Description
F40	Displaying the Memory Dial number registration status
F41	Resetting the estimated time for calls
F42	Resetting the estimated charge for calls
F43	Resetting the contents of memory
F44 ※	Resetting the function settings
F45 ※	Resetting the entire memory
F46	Changing the password
F47	Registering the area code
F48	Setting the rate for calls
F49	Registering group names



Usage guidelines: All about performance and safety

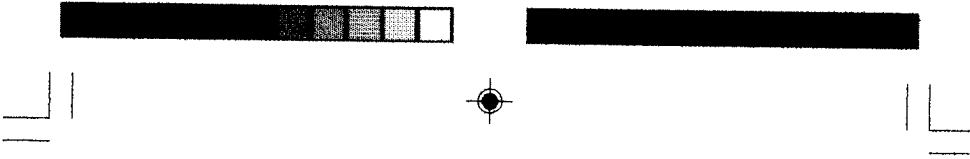
Keeping tabs on signal strength

The voice quality of your Sprint PCS Phone™ will always be at its best when the antenna is fully raised. If you're inside a building, reception may be better near a window.

The quality of each call you make or receive depends on the signal strength in your area. Your phone will inform you of the current strength by displaying a number of bars next to the signal strength icon. The more bars displayed, the stronger the signal. (See page 7 for an illustration of the signal strength indicators.)

Understanding Power Save mode

If you're trying to use your phone in an area where the signal cannot be found, the Power Save feature will automatically activate to conserve battery power when you've been unable to pick up a signal for 15 minutes. If your phone is on, it will periodically recheck service availability, or you can do so yourself manually by pressing any key. A message will be displayed on the screen any time Power Save has been activated.



Understanding how your phone operates

Your Sprint PCS Phone is basically a radio transmitter and receiver. When it's turned on, it receives and transmits radio frequency (RF) signals. Your phone operates in the frequency range of 1.9 GHz and 800 MHz. When your phone is in use, the system handling your call controls the power level.

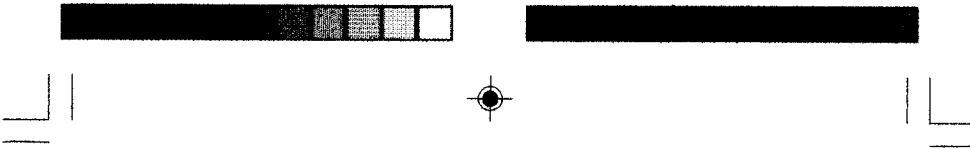
Maintaining your phone's peak performance

To operate your phone properly – that is, to maintain safe and satisfactory service – you should follow these rules:

- ▶ For best reception, fully extend the antenna.
- ▶ Hold the phone with the antenna up and over your shoulder.
- ▶ Do not hold the phone antenna at any time.
- ▶ Do not use the phone with a damaged antenna.
- ▶ Speak directly into the mouthpiece.

Avoid exposing your phone and accessories to rain or liquid spills. If your phone does get wet, turn the power off immediately and remove the battery. If it is inoperable, you should return it to a Sprint PCS Center or call Sprint PCS Customer Care for service.

Only authorized personnel should service your phone and its accessories. Faulty service may invalidate the warranty.



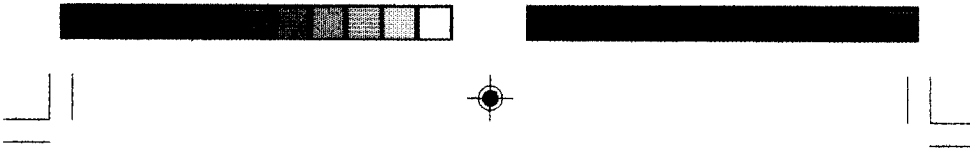
Protecting your battery

For best battery performance, you should follow these guidelines:

- ▶ Use only SANYO-approved batteries and AC adapter, cigarette lighter adapter, and desktop charger.

These chargers are designed to maximize battery life. Using other batteries or chargers will invalidate your warranty and may cause damage as well.

- ▶ To avoid damage, charge the battery only in temperatures that range from 32°F to 104°F (0°C to 40°C).
 - ▶ Do not use the battery charger in direct sunlight or in high humidity areas, such as the bathroom.
 - ▶ Never dispose of the battery by incineration.
 - ▶ Keep the metal contacts at the bottom of the battery clean.
 - ▶ Do not attempt to disassemble or short-circuit the battery.
 - ▶ You may need to recharge the battery if it has not been used for a long period of time.
- 

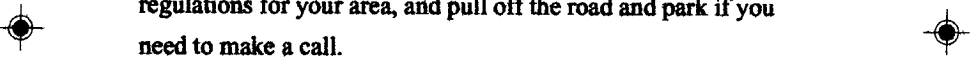
- 
- ▶ Replace the battery when it no longer provides acceptable performance. It can be recharged hundreds of times before it will need to be replaced.

- ▶ Do not store the battery in high temperature areas for long periods of time. Follow these storage rules:

Less than one month: -4°F to 131°F (-20°C to 55°C)

More than one month: -4°F to 95°F (-20°C to 35°C)

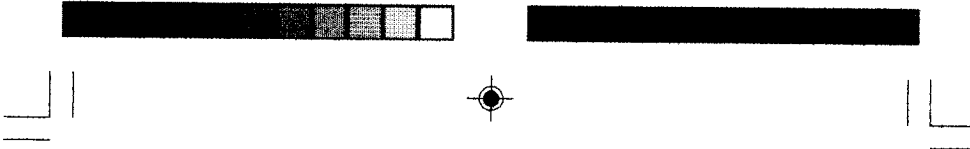
Driving



Using a wireless phone while driving is illegal in some states and countries. For your safety, become familiar with the laws and regulations for your area, and pull off the road and park if you need to make a call.

If you must use the phone while driving, purchase and have installed the optional hands-free car kit or the headset.





Disposal of Lithium Ion batteries

This product contains a Lithium Ion battery. Please ensure that disposal of this battery is in accordance with applicable laws and regulations.

- ▶ Do not dispose of the battery in a fire; the cell may explode.
- ▶ Do not open or puncture the battery; the released electrolyte is corrosive and may cause damage to the eyes and skin.

This substance also can be toxic if swallowed.

Following safety guidelines



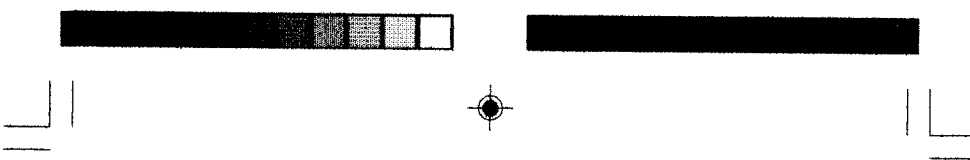
To operate your phone safely and efficiently, you should always follow any special regulations in a given area, and turn your phone off in areas where use is forbidden or when it may cause interference or danger.



Using your phone near other electronic devices

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, RF signals from PCS telephones may affect inadequately shielded electronic equipment.

RF signals may affect improperly installed or inadequately shielded electronic operating and entertainment systems in motor vehicles. Check with the manufacturer to determine if these systems are adequately shielded from external RF signals. You should also check with the manufacturer regarding any equipment that has been added to your vehicle.



Consult the manufacturer of any personal medical devices (such as pacemakers and hearing aids) to determine if they are adequately shielded from external RF signals.

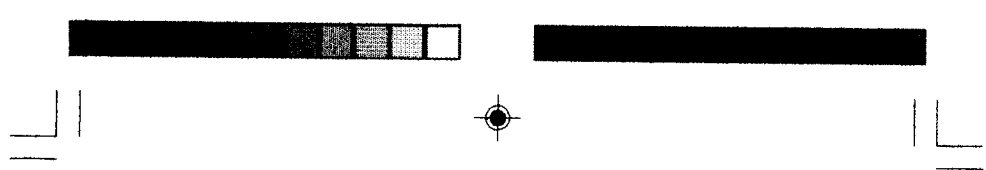
Turn off the phone in healthcare facilities and request permission before using the phone near medical equipment.

Turn off your phone before flying

You should turn off your Sprint PCS Phone before boarding any aircraft. To prevent possible interference with aircraft systems, U.S. Federal Aviation Administration (FAA) regulations require you to have permission from a crew member to use your phone while the plane is on the ground. To prevent any risk of interference, FCC regulations prohibit using your phone while the plane is in the air.

Restricting children's access to your phone

Your phone is not a toy, and should not be played with by children. They could hurt themselves and others, damage the phone or make calls that increase your telephone bills.



Turn off your phone in dangerous areas

To avoid interfering with blasting operations, you should turn off your phone when in a blasting area or in other areas with signs indicating that two-way radios should be turned off. Construction crews often use remote-control RF devices to set off explosives.

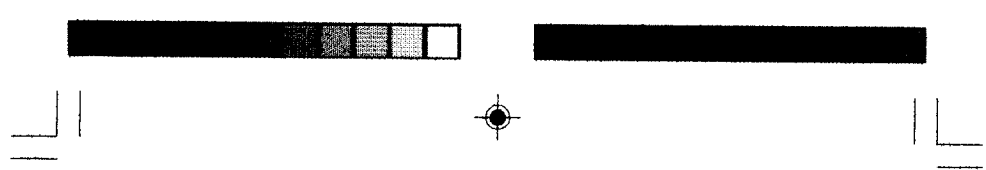
Turn off your phone when you are in any area with a potentially explosive atmosphere. It is rare, but your phone or its accessories could generate sparks. Sparks could cause an explosion or a fire resulting in bodily injury or even death.

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

Do not transport or store flammable gas, liquid or explosives in the compartment of any vehicle that contains your phone or accessories.

Cautions

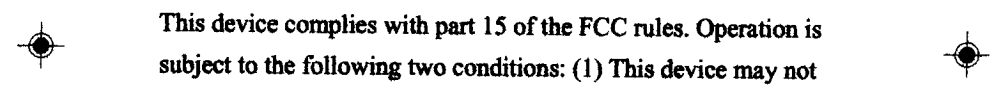
Any changes or modifications to your Sprint PCS Phone not expressly approved in this document could void your warranty for this equipment and void your authority to operate this equipment. Use only SANYO approved batteries, antennas and chargers. The use of any other type of accessory may invalidate the warranty.



FCC notice

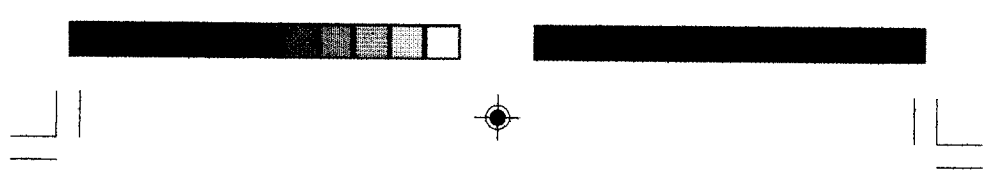
The phone may cause TV or radio interference if used in close proximity to receiving equipment. The FCC can require you to stop using the telephone if such interference cannot be eliminated. If you need assistance, contact Sprint PCS Customer Care.

And last, but certainly not least, vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (NFPA-58). For a copy of this standard, contact the National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269, Attn: Publication Sales Division.



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

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which



can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help and for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful: "How to Identify and Resolve Radio-TV interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

Warning

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

PATENT INFORMATION

The products/Equipment described in the attached documentation are manufactured under one or more of the following U.S. Patents:

4,901,307,	D356,560,	5,506,865,	5,566,357,	5,608,722,
5,056,109,	5,408,697,	5,509,015,	5,568,483,	5,614,806,
5,099,204,	5,414,728,	5,509,035,	5,574,773,	5,617,060,
5,101,501,	5,414,796,	5,511,067,	5,574,987,	5,621,752,
5,103,459,	5,416,797,	5,511,073,	D375,740,	5,621,784,
5,107,225,	5,426,392,	5,513,176,	5,576,662,	5,621,853,
5,109,390,	5,437,055,	5,515,177,	5,577,022,	5,625,876,
5,193,094,	D361,065,	5,517,323,	5,577,265,	5,627,857,
5,228,054,	5,442,322,	5,519,761,	D375,937,	5,629,955,
5,257,283,	5,442,627,	5,528,593,	5,588,043,	5,629,957,
5,265,119,	5,452,473,	5,530,928,	D376,804,	5,638,412,
5,267,261,	5,461,639,	5,533,011,	5,589,756,	5,640,414,
5,267,262,	5,469,115,	5,535,239,	5,590,069,	5,642,398,
5,280,472,	5,469,471,	5,539,531,	5,590,406,	5,644,591,
5,283,536,	5,471,497,	5,544,196,	5,590,408,	5,644,596,
5,289,527,	5,475,870,	5,544,223,	5,592,548,	5,646,991,
5,307,405,	5,479,475,	5,546,459,	5,594,718,	5,652,814,
5,309,474,	5,483,696,	5,548,812,	5,596,570,	5,654,979,
5,337,338,	5,485,486,	5,559,881,	5,600,754,	5,655,220,
5,339,046,	5,487,175,	5,559,865,	5,602,834,	5,657,420,
5,341,456,	5,490,165,	5,561,618,	5,602,833,	5,659,569,
5,383,219,	5,497,395,	5,564,083,	5,603,096,	5,663,807,
5,392,287,	5,499,280,	5,566,000,	5,604,459,	Other patents
5,396,516,	5,504,773,	5,566,206,	5,604,730,	pending