

# WIRELESS SERVICE BACKGROUND GUIDE

Questions & Answers About Buying  
and Managing Wireless Service



Wireless**ED**

WIRELESS EDUCATION AND EMPOWERMENT

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## INTRODUCTION

Today, wireless devices are more than just phones. Personal data-ready devices, along with a service plan, let you make a phone call—and more. You can browse the Internet, send and receive email, watch videos, listen to music, and much more while on the go. Staying connected wirelessly can be a great advantage—if you're able to get the service you need without running up your bill. Fortunately, there are many resources available to help you choose the right service plan, monitor and control your usage, and avoid unanticipated charges.

This WirelessED training manual can help answer many questions about wireless service, from how to choose a device and a service plan to how to avoid overages and guard your privacy. This publication is part of an educational module that includes:

- Three multilingual companion brochures—“Using Mobile Data Wisely,” “Roaming the World With Your Phone,” and “Choosing and Using Mobile Devices” (available in Chinese, English, Korean, Spanish and Vietnamese).
- A lesson plan for classes and seminars; PowerPoint slides; and class activities.

The brochures and other materials in this module are free for individuals, non-profits and community-based organizations. For more about these materials, visit the Consumer Action website at [www.consumer-action.org](http://www.consumer-action.org) or call Consumer Action at 800-999-7981.

## WIRELESS DEVICES

### **What's the difference between a feature phone, a PDA and a smartphone?**

A feature phone is the simplest of the three devices. All feature phones enable you to make and receive calls and send and receive text messages. Some models may also allow you to send and receive email and access the web.

A PDA, or personal digital assistant, is a handheld computer and organizer with various features and functions that allow you to send email, store contact information, maintain a calendar, take notes, sync with a computer, and more.

A smartphone is a mobile phone with computer-like functionality, though it is often considered the same device category as a PDA. There's no standard industry definition of a smartphone, so any mobile phone that can also access the Web, send and receive email, sync with a computer, download and use third-party apps (applications), play games, store information, send multimedia messages, run an OS (operating system), and offers a keyboard or touchpad could be called a smartphone.

## What should I consider when choosing a phone?

There are a number of things to look for when choosing a phone:

- Design—Make sure the device is the right size. (Do you need one small enough to fit into your pocket?) Is it comfortable to hold and use, easy to see, sturdy enough, and has a design that appeals to you?
- Features—Determine before you shop what you'll be using the device for. Choose a mobile phone that meets your needs without including a lot of features that you will never use.
- Performance—Look for good call quality, which is partly a function of the antenna and internal receiver. Make a test call, either at the store or by borrowing a friend's phone of the same type. If you'll be listening to music, watching video or taking pictures with your device, check out the quality of those features, too. And don't forget to compare battery life.
- Price—Compare prices at retailers, carriers' stores and online. If you decide to buy from a carrier, ask for a discount on the device you choose or, if you're already a customer, a free upgrade.

## Can I use my smartphone to watch video and TV shows?

Yes. However, using your smartphone to watch video uses significant amounts of your data allowance as well as your battery power. If you are watching "high def" (HD) streaming video instead of standard quality optimized for the Web, you could be using up even more of your data allowance. If you have a wireless network at home (or in a hotel while you are away from home) set your phone to Wi-Fi when watching video so you don't use your mobile data allowance.

## How can I be sure the used phone I'm going to buy isn't stolen?

Before buying a used phone from an online auction site or from someone you don't know well, make sure it has a clean ESN (electronic serial number, used on CDMA phones) or IMEI (international mobile equipment identity) number, used on GSM phones. A clean number means the phone has not been reported lost or stolen and isn't associated with an unpaid service bill. A phone with a "dirty" ESN or IMEI number may be unusable because the carrier will not activate it.

You can usually find the ESN or IMEI number by removing and checking under the battery. It may also appear on the box the phone came in, or in the device information section of the onscreen menu.

Once you have the code, call the carrier that will be providing service for the phone and ask the representative to check the ESN or IMEI number for you.

You also should do your own evaluation of the device's condition, making sure the screen is not cracked, the speakers work, there are no sticking keys and so on.

## What if I have an emergency—does 911 work from a cell phone?

Yes, 911 works from a cell phone. If you call 911 from your charged cell phone, your call will be routed to a local public safety answering point (PSAP). In areas where PSAPs have requested enhanced 911 (“E911”) service from local carriers, the PSAP receiving your wireless 911 call will automatically be provided with your callback number and an estimate of your geographic location. Whenever possible, you should also be prepared to tell the PSAP call-taker your physical address and any other information that would aid in sending appropriate emergency help.

In the meantime, the FCC offers these tips for callers:

- When replacing your handset, ask about E911 (enhanced 911) capabilities, which offer better caller location information.
- When calling 911, immediately notify the operator of your exact location.
- Give the dispatcher your wireless phone number. If your wireless phone is not “initialized” (meaning you don’t have a service contract with a carrier) and you get disconnected before you’re able to give your number, you will have to call back.

To avoid unintentional emergency calls, do not program your phone to dial 911 with the touch of a single button. Turn off that function if the phone came preprogrammed.

Consider creating a contact in your wireless phone under the listing “ICE” (In Case of Emergency). Use it to list the phone numbers of anyone you want notified in an emergency.

This information is relevant to calls made in the U.S., Puerto Rico and the U.S. Virgin Islands. Other countries have different numbers for emergency calls.



## WIRELESS SERVICE PLANS

### What should I consider when choosing a carrier?

When comparing carriers, consider:

- Reception—Ask friends, family, neighbors and coworkers which service they use and if they're happy with it. You could also borrow a friend's phone and try it in your home.
- GSM vs CDMA—For many consumers, the type of technology the carrier uses won't matter. But if you travel a lot, GSM technology will give you more freedom to use your phone around the world and to switch out your SIM card for local SIM cards (offering you lower international calling rates), if your device is "unlocked."
- Plan options—After you figure out how much voice, text and data you will use, look for plans that offer the right amount of service at the best price.
- Phone selection—Not all carriers offer the same phones. Find out which devices are available from which carriers and what discounts are being offered.

### What is "SMS" on my service plan?

SMS is the abbreviation for "short message service" or text messaging.

### How do carriers treat text messages versus data?

Carriers typically sell separate "messaging" and "data" packages. Domestic messaging packages often include text, picture, video and Instant Messages and are generally sold either on an unlimited basis or for a set number of messages for a monthly fee (for example, 200 text messages for \$9.99). Customers who do not select a messaging package may be billed per message sent and received (for example, 20¢ per message). Be aware that messages longer than 160 characters may be divided into segments and sent separately, incurring multiple per-message charges. Also keep in mind that like voice calls, messaging charges can vary based on whether messaging is from U.S. to U.S., U.S. to an international destination, or while roaming abroad.

### Is the advertised rate for prepaid wireless service really the "bottom line?"

The advertised rate does not always include taxes, surcharges, daily access fees and other add-ons. In addition, there may be expiration dates on your minutes and minimum purchase requirements that will apply. If you allow your prepaid plan to expire, you may have to pay a reactivation fee. Or, the carrier may close the account, which means you lose the phone number. However, prepaid can be a way to manage wireless costs and usage as it allows you to choose how much voice and/or data you want to pay for. As with other wireless service plans, research different options and decide whether prepaid service is right for you and your family.

## INTERNATIONAL ROAMING

### **What is the difference between CDMA and GSM network technology?**

Most of the differences between the two technologies are minor, and probably are not of concern to the average user. The major difference has to do with travel: GSM is used more widely around the globe, so someone who travels often to countries that use GSM technology will benefit from having a GSM phone. Unlocked GSM phones also enable a traveler to replace the SIM card that came with the phone with a local SIM card, enabling low-cost calls in the destination country.

Some countries do use CDMA. So, if you mainly travel to one particular country and it uses CDMA, then this would not be a major issue for you.

Currently, AT&T and T-Mobile use GSM technology, while Sprint, Verizon and smaller US wireless companies use CDMA. Check the carrier's website for a list of countries where your phone will and won't work.

### **How do I know if my phone is “locked?”**

Most phones that you get through a carrier are locked so they work only on that carrier's network. It may be possible to unlock your phone so that you can insert a local SIM card when traveling to take advantage of lower rates. Ask your carrier if it's possible to unlock your phone. Your carrier is the best source for providing the correct code and instructions for unlocking.

You can tell if your phone is unlocked if it works when you insert the SIM card from a friend's phone that gets service from a different carrier. If it doesn't work, it's locked. Check YouTube ([www.youtube.com](http://www.youtube.com)) to view free videos that show you how to remove the SIM card from various models of mobile phones.

### **I'm going on a cruise this summer. Will my cell phone work on the ship?**

Your phone should work on most major cruise ships since the most widely used company that provides roaming services aboard cruise ships supports both GSM and CDMA technology.

Your own carrier will determine the rates for calls made and received on the ship—they can start from about \$2.50 per minute and higher.

## What else should I know before I travel outside the U.S. with my phone?

Before you leave home, do the following:

- Verify that your phone supports the technology/frequency required in the country you are visiting.
- Verify that your line is activated with international roaming service. Ask your carrier about any international plans it offers that will save you money when you use your phone overseas.
- Make sure you have the proper plug adapter for the countries you are visiting so that you can charge your phone. Bring an extra battery if you think you may need it.
- Review how to do things like place a call back to the U.S., access voicemail, use text messaging, turn functions on and off, and use Wi-Fi before you leave.
- Write down your carrier's international customer service number.

It's always a good idea to know the emergency services number—the equivalent of 911—for the places you'll be traveling. For the most accurate information, check with the tourist information office upon arrival in the country you're visiting. Or visit Wikipedia for a list ([http://en.wikipedia.org/wiki/Emergency\\_telephone\\_number](http://en.wikipedia.org/wiki/Emergency_telephone_number)), but it is not always comprehensive or completely accurate.

## MANAGING YOUR USAGE

### What is tethering?

Tethering is connecting your smartphone to your computer so that you can get data service for your computer through your phone's service plan. This is an optional service in which you must enroll, and it costs extra. Some smartphones can be used as Wi-Fi hotspots to allow access to more than one computer—but again, this is an option that comes at an additional price.

Make sure you fully understand the way the service works before using it. It can be very easy to get carried away and exceed your data allowance when using the service on your computer, so monitor it closely. Some popular usage monitoring tools include 3G Watchdog, NetCounter and Consume—but check the tools offered by your carrier and on your device, as well.



## **My kids' phone use keeps putting us over the allowances on our family plan. What can I do?**

All the major carriers offer some type of parental controls feature. Check with your carrier about the features' capabilities to determine how they can help manage your kids' usage. Some carriers may provide limited functionality for free. Another option is to switch to a prepaid plan—your family can only use the amount of service you choose to buy.

## **Are there any ways to reduce my monthly bill for wireless voice service?**

One way to decide if you are getting the most value for your money (and to potentially save money) is to evaluate your current wireless service needs and make sure you have a plan that meets your needs. For example, if you make a lot of phone calls, but rarely use text messaging or other data-capabilities on your device, you might want to look for a plan that allows for a lot of voice minutes, but not much data. For data usage, you can track your current usage via your device's usage meter or an app provided by your carrier or a third party. Check with your carrier about plans they offer that fit your usage needs.

## **I thought I was avoiding a data overage by using my phone in a Wi-Fi hotspot, but it turns out I was using my carrier's network all along! What happened?**

Just because your device is Wi-Fi-enabled and you are in Wi-Fi range doesn't mean that you're not using network service. You have to make sure your device settings are correct to use Wi-Fi. Make sure you turn off your mobile wireless network and turn on Wi-Fi. Then go to Wi-Fi settings and scan for open Wi-Fi networks. Make sure you have established the Wi-Fi connection (most private Wi-Fi networks require you to log in with a password before you can access them). Check your manual or contact your carrier for guidance.

## **My bill was higher than usual this month because I called 411 (directory assistance) a number of times. Aren't those calls free?**

Directory assistance (411) calls are not free. In fact, they can cost up to \$2 each. If you have a data plan, it may be cheaper to get the information you need on the Web. Or, you can send a text message with the name and location of a business to 466453 ("GOOGLE") and you will receive a text with the information.

## CONSUMER PRIVACY

### Are my conversations on a wireless phone private?

Calls made on a wireless phone are usually, but not always, private, because it may be possible for others to intercept calls made and received on your cell phone. The likelihood of this happening depends on your device. An analog signal can be picked up on a basic radio scanner, while digital signals can only be intercepted and unscrambled with much more sophisticated equipment (but still possible!). Some phones can be switched back and forth between analog and digital.

One of the greatest threats to your privacy when speaking on a cell phone is simple eavesdropping. Unless you speak quietly or in a private area, someone could overhear your half of the conversation and gather personal information. Be especially cautious about being overheard when providing payment card account numbers, Social Security numbers or other sensitive information while speaking on a cell phone.

Also, you should be aware that your wireless carrier is obligated to comply with legal requirements regarding access to wireless conversations for law enforcement purposes, as well as for purposes related to service quality. This means call records could be released in response to a subpoena or court order.

### What are the security risks of using a wireless network?

Many homes and offices use a wireless network to enable multiple devices to get online at the same time or to “talk” to each other via a wireless router.

To protect your wireless network at home so that it's much more difficult for your data to be stolen or for uninvited wireless devices to use your service without your knowledge, do the following:

- Change the default password for your router.
- Consider turning off SSID (service set identifier) broadcast so that your network is invisible to your neighbors and others nearby.
- Enable WPA encryption, if you have the option. If your device offers only WEP encryption, use that. While not as secure as WPA, it's much better than nothing. Check your router manual for details.
- If your router gives you the option, consider lowering the power of your WLAN transmitter to limit the range of the signal so that it's not accessible far outside your home.

Check your user manuals and Web resources for more information on wireless network security.

## Is the data I transmit in a Wi-Fi hotspot secure?

Wi-Fi hotspots can be unsecured and unencrypted, making your data open to strangers. It's up to you to take steps to protect your privacy when using public Wi-Fi.

The Privacy Rights Clearinghouse offers these tips:

- Before entering sensitive information (account numbers and passwords, for example), make sure the website encrypts it or that your Wi-Fi connection is encrypted.
- Use VPN software or a hosted VPN service to set up a “virtual private network,” which provides encryption over an unencrypted Wi-Fi connection.
- Add an “s” after “http” (in other words, “https://”) in the web address to try to get an SSL (secure sockets layer) connection.
- Change your settings to ensure you don't automatically connect to the nearest available Wi-Fi access point, which may be insecure or illegitimate.
- Disable file sharing to close access from the network.
- Install, or enable, a firewall.
- Update your phone's security and operating system software to take advantage of the latest protections.
- Learn more from LifeHacker at <http://lifelife.com/#!5576927/how-to-stay-safe-on-public-wi-fi-networks> and OnGuard Online at <http://www.onguardonline.gov/topics/hotspots.aspx>.

Beware of networks with names such as “Free Wi-Fi,” which can be a trap set up by a nearby hacker. And if your phone has Bluetooth technology, which enables it to swap information with other nearby wireless devices, you might want to disable Bluetooth when it's not needed.

## How can I make sure nobody can access the information on my smartphone?

It's common practice to save sensitive data, including account numbers and passwords, on your cell phone. That's why it's so important to take precautions to prevent someone from accessing your phone's hard drive if the device is ever lost or stolen.

Start by creating a strong password for the device—one that is at least eight characters long and uses numbers and symbols as well as letters. Consider locking the phone when you're not using it and, if possible, setting the phone to automatically lock after a certain period of inactivity. There may be software, a carrier-provided tool, or a third-party service available for your phone that allows you to lock it or erase the data remotely, if necessary.

Be sure to erase the phone's hard drive before you donate, discard or sell the device. This typically is a process that requires more than just deleting files. As on a full-size computer, deleting files creates new space and makes the file names invisible to the average user, but it leaves the data on the phone's hard drive, where a hacker could find it.

Check your manual for instructions on how to permanently delete items. You could also contact your carrier for guidance. Or visit ReCellular online ([www.recellular.com/recycling/data\\_eraser/default.asp](http://www.recellular.com/recycling/data_eraser/default.asp)) to find instructions for many phone models. If your employer provided the phone, contact the person on staff who is in charge of technical issues.

Be aware that if your employer provides your phone, the company may have the right to access the information stored on it.

### **How do I prevent someone from accessing my cell phone bills and records?**

Your phone records contain sensitive, private information—everything from the numbers you call and who calls you to your home address and your bank or credit card number. That's why there are regulations in place to keep your records private.

Carriers must ensure they are speaking with the account owner. On the phone, they may ask you to provide personal information, or to create a password, in order to access your records. In person, you may be asked to provide identification. And they must notify you when a password has been changed or if there is an unauthorized disclosure ("data breach").

There are some steps you can take to further protect your phone records. These are particularly important if you believe you are at increased risk (for example, because you have a stalker or are the victim of domestic violence).

- Create a strong account password that is impossible for anyone to guess. Set strong password reminders—not things many others know about you, such as your pet's name.
- If you think someone might access your account online, change your password frequently and never tell anyone else your password.
- Ask your carrier if call details can be removed from your bills.

It's a crime for someone to pretend to be you or otherwise obtain your phone records under false pretenses. If you believe you are the victim of "pretexting," contact law enforcement and your carrier immediately. (Your information may be shared to comply with court orders, subpoenas, lawful discover requests and other legal or regulatory requirements.)

## CONSUMER RIGHTS

### **Can I keep my current number if I switch wireless carriers?**

Yes. Federal Communications Commission (FCC) rules generally allow you to “port” your phone number as long as you remain in the same geographic area. “Porting” means keeping your existing phone number when you switch to a new carrier.

Your old carrier is not allowed to refuse to port your number even if you owe them money or you have not paid a porting fee. (If your new carrier charges a fee, ask if it can be waived.)

To avoid losing your number, wait until the transfer is complete before canceling your old phone service.

### **My carrier just notified me that they are discontinuing their “unlimited data” plan and switching customers to a new, limited usage plan. Can it do that?**

Yes. However, many of the leading carriers have voluntarily agreed to provide at least 14 days notice and give you the right to cancel your contract with no early termination fee, if the carrier makes significant changes-in-terms, like raising the cost of a plan or limiting the number of minutes/data from what the contract originally stated. Call your carrier and ask whether the changes will apply to existing customers using the plan. Many carriers have been “grandfathering” existing unlimited data customers and allowing them to remain on an unlimited plan.

### **My service contract includes an arbitration clause. Do I have to agree to that?**

Some contracts allow you to opt in or out of an arbitration agreement. (Arbitration itself is not a bad thing, however “binding mandatory arbitration” means that you give up your rights to go to court.) There are pros and cons to both. Read your contract carefully and determine for yourself what the best option is for you.

### **What are my rights and responsibilities if I lose my cell phone?**

It's very important to keep track of your phone so that you can notify the carrier immediately if you notice it lost or stolen. You are responsible for all charges until you report the phone missing. If you can't find your phone but you're not sure it's been lost or stolen, notify your carrier and ask if the line of service can be temporarily suspended until you find your phone.

As a precaution against unauthorized calls or stolen information, always use your phone's lock and/or passcode feature when you're not using it. That way, if it gets into the wrong hands, it may be rendered useless.

Don't leave your phone unattended. Your phone is valuable—not just for the device, but for the cost of the service you are liable for. In most cases, a phone will continue to work even after your plan allowance has been used up—and you'll be charged much higher overage rates. If a thief uses your data service, or places international calls, a bill in the thousands of dollars could accrue before you report the theft. Talk with your carrier—it may work out a solution with you.

### **What should I do if I become the victim of cell phone fraud?**

Cell phone fraud, or subscription fraud, is a form of identity theft in which the thief opens up a new cell phone account or adds a line of service under your name using your Social Security Number. Eventually, the unpaid bill leads debt collectors to you for payment. While you are not legally responsible for the calls, it can be a time-consuming process to get your name and your credit report cleared.

The key to minimizing the damage of cell phone fraud is early detection. Check your phone bill carefully as soon as you receive it to make sure there aren't any unauthorized calls or transactions. Contact your carrier immediately if you see suspicious activity on your bill.

As always, check your credit report at least once a year. You have the right to a free report once every 12 months from each of the three national credit reporting agencies (Equifax, Experian and TransUnion) upon your request. Better yet, stagger your reports so you receive one from a different agency every four months. Order your free credit reports online at [www.annualcreditreport.com](http://www.annualcreditreport.com) or by calling 877-322-8228. If someone opened a phone service account in your name, you'll see an "inquiry" from the phone company. You'll also see if the account has gone into collection.

Here are three resources for dealing with identity theft:

- Identity Theft Resource Center ([www.idtheftcenter.org](http://www.idtheftcenter.org) or 888-400-5530)
- Federal Trade Commission ([www.consumer.gov/idtheft](http://www.consumer.gov/idtheft) or 877-IDTHEFT)
- Privacy Rights Clearinghouse, Fact Sheet 17a, 'Identity Theft: What to Do if It Happens to You' ([www.privacyrights.org/identity.htm](http://www.privacyrights.org/identity.htm))

If you're having a problem resolving the unauthorized charges with your service provider, you can file a complaint with the Federal Communications Commission (FCC) (Online: <http://esupport.fcc.gov/complaints.htm>; email: [fccinfo@fcc.gov](mailto:fccinfo@fcc.gov); phone: 888-225-5322 (888-835-5322/TTY).

## CONSUMER RESOURCES

### **Where can I learn more about my privacy rights when using my cell phone?**

Your wireless carrier should have a privacy policy that describes the information it collects from and about its customers, how it uses and secures that information and the ways in which it shares that information with other parties. In most circumstances you can find your wireless carrier's policy at the "Privacy Policy" link found at the bottom of any page of the carrier's website. Additional information on a wide range of privacy issues also is provided by the Privacy Rights Clearinghouse issues on its website ([www.privacyrights.org](http://www.privacyrights.org)).

### **Where can I learn more about monitoring and limiting my children's wireless access?**

Ask your wireless carrier about parental control options. And visit [www.wiredkids.org](http://www.wiredkids.org) or the Family Online Safety Institute ([www.fosi.org](http://www.fosi.org)) to learn more about protecting children on the Internet.

### **How do I avoid unwanted calls on my cell phone?**

You can add your wireless phone number to the National Do Not Call Registry ([www.donotcall.gov](http://www.donotcall.gov) or 888-382-1222) to reduce unwanted marketing calls and text messages. This won't eliminate all unsolicited calls—for example, non-sales calls and calls from businesses you already do business with are permitted—but it can reduce them significantly. Surveyors and political campaigns are exempt from the Do Not Call Registry.

You can register your landline number as well, but if you register by phone, you must call from the phone you wish to register.

### **Who do I talk to if I have a complaint about my wireless service account?**

Always try to resolve billing errors and other problems directly with the carrier. If you are not satisfied with the outcome of your complaint, your other options are to contact regulators, your local Better Business Bureau ([www.bbb.org](http://www.bbb.org)) and your local and state consumer protection agencies (<http://consumeraction.gov/state.shtml>).

The Federal Communications Commission (FCC) regulates cellular/wireless service. Visit [www.fcc.gov](http://www.fcc.gov) to learn more. To file a complaint with the FCC, visit <http://esupport.fcc.gov/complaints.htm>, email [fccinfo@fcc.gov](mailto:fccinfo@fcc.gov), or call 888-225-5322 (888-835-5322/TTY).

Your state's public utilities commission may also handle complaints against wireless companies doing business in your state. You can find the PUC for your state at <http://www.naruc.org/commissions.cfm>, the site of the National Association of Regulatory Utility Commissioners.

# WirelessED

WIRELESS EDUCATION AND EMPOWERMENT



## Consumer Action

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## Consumer advice and referral hotline

Submit consumer complaints about consumer problems to our advice and referral hotline:  
[http://www.consumer-action.org/hotline/complaint\\_form/](http://www.consumer-action.org/hotline/complaint_form/) or 415-777-9635

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