

Phonocell® SX5T CDMA2000® 1X

Fixed Wireless Terminal

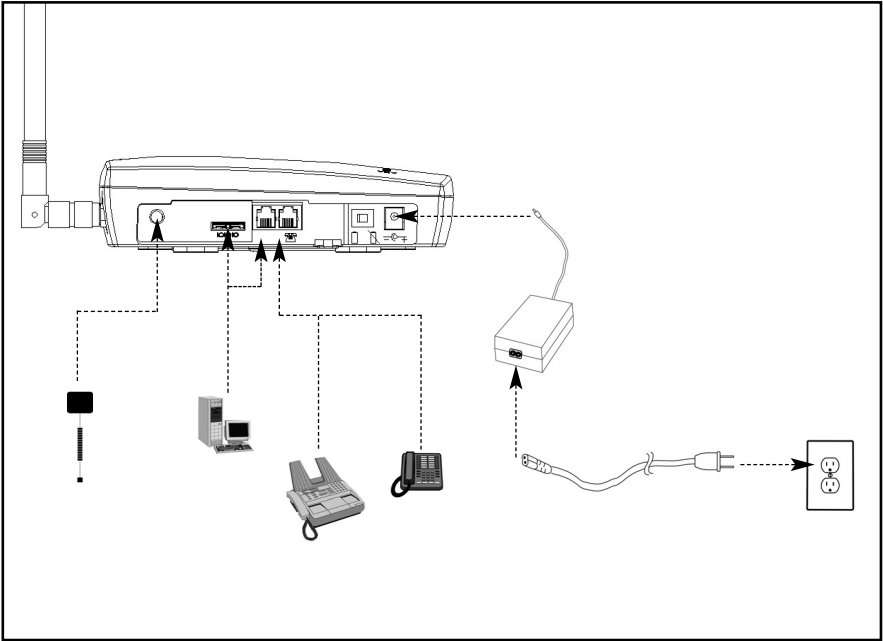
SX5T-505C/-535C DUAL-BAND 800/1900 MHZ CDMA

SX5T-500C SINGLE-BAND 800 MHZ CDMA

SX5T-500C SINGLE-BAND 1900 MHZ CDMA

USER MANUAL

Quick Connection Diagram



SX5T Fixed Wireless Terminal

CONTENTS



Phonecel® SX5T CDMA FWT



Spike Antenna



**Power Supply
or BBU**



AC Power Cord



**GPS Antenna
(Optional)**

Before installing the **Phonecel® SX5T**, carefully remove the contents from the shipping carton and check for evidence of shipping damage. **If damage is found, contact your Authorized Telular Distributor or shipping agent immediately.**

SAFE OPERATION INSTRUCTIONS

IMPORTANT! Before installing or operating this product, read the **SAFETY INFORMATION** section on page 36 of this manual.

- Install the unit indoors.
- Install the unit on a hard, flat surface for proper ventilation.
- Do not expose the unit to rain or moisture.
- Do not place the unit on or close to sources of heat.

PLEASE SEE THE *IMPORTANT NOTICES AND SAFETY INFORMATION* SECTIONS OF THIS MANUAL FOR IMPORTANT INFORMATION ON USE AND INDEMNIFICATION. FOR WARRANTY INFORMATION, PLEASE SEE THE *LIMITED COMMERCIAL WARRANTY CARD* WHICH WAS PACKAGED WITH YOUR DEVICE.

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Setup

RUIM Card Installation (RUIM Model Only)

Consult your service provider to determine if your unit requires the use of a RUIM (Removable User Identity Module) card. If it is a RUIM model, your SX5T will only be able to make emergency calls until you install a RUIM card. It will not receive calls or allow non-emergency outgoing calls without the RUIM card installed.

1. Remove the power supply if it has already been connected. (The power supply must be removed whenever a RUIM Card is removed or installed.) If your unit has emergency batteries installed, make sure the AC/Batter Switch is in the AC Power position (see "Battery Operation" on page 3).
2. Remove the RUIM compartment cover - *see Figure 1*.
3. Open the RUIM compartment holder.
4. Line up the RUIM card with the arrow on the RUIM card holder - *see Figure 2*.
5. Gently insert the RUIM card in the slot of the RUIM card holder.
6. Close the RUIM card holder.

Note: Do not force the RUIM card holder shut. Make sure the RUIM card is aligned properly with the directional arrow on the holder.

7. Reattach the RUIM compartment cover, closing it with the separate cover screw provided.

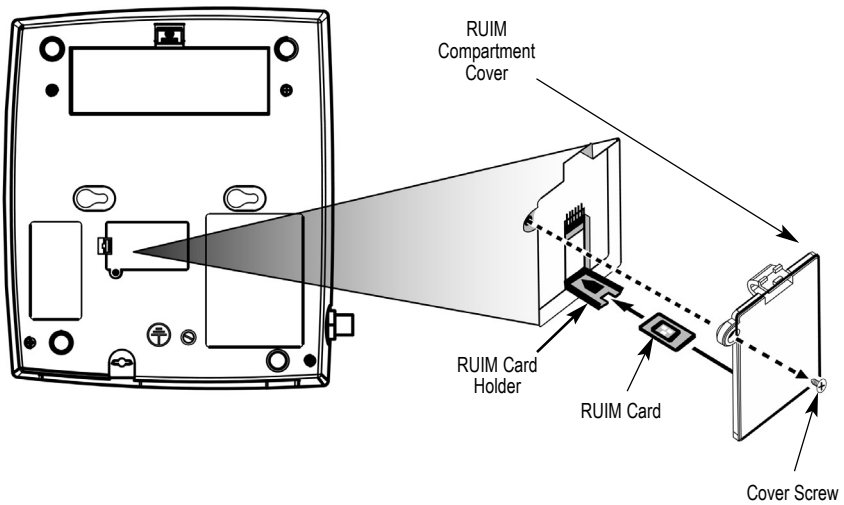


Figure 1 - RUIM Compartment.

Figure 2 - Install the RUIM Card.

Connecting an SX5T Model With a Power Supply

Your SX5T has either a Power Supply (part #74007301) or a Battery Backup Unit (BBU; part #74006803). If your unit uses a Power Supply, please follow the instructions below to connect the SX5T to your AC power. If it uses a BBU, please see "Connecting an SX5T Model With a BBU" on page 4.

To connect an SX5T model with a Power Supply:

1. Connect the barrel connector of the power supply to the AC power input receptacle of the SX5T - *see Figure 3*.
2. Plug the AC power cord into the power supply.
3. Plug the AC power cord into the AC Power outlet.

Hint: If there are no emergency batteries in the SX5T, it will only power on if the AC/Battery switch is in the AC power position - *see Figure 5* on page 3 for a detailed view.

4. Check the cellular signal strength and move the unit until you achieve the best signal possible - *see LED Status Indicators* on page 8 for more information.

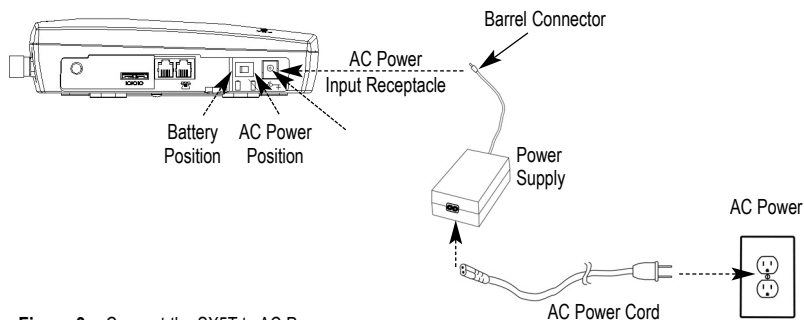


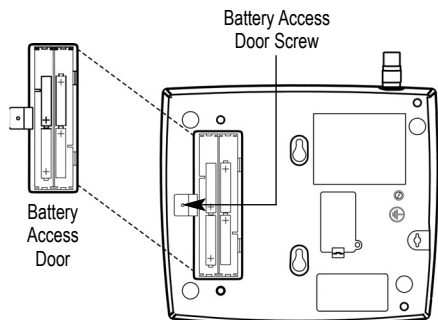
Figure 3 – Connect the SX5T to AC Power.

Emergency Batteries

If your SX5T has a Power Supply, you may install emergency batteries to power the device in the event of a power outage. **Do not install emergency batteries if your SX5T has a BBU.** The SX5T will not automatically switch to battery if AC power fails; you must flip the AC/Battery switch to battery operation - *see Figure 5*.

To install emergency batteries:

1. Remove the battery access door screw located on the bottom of the unit - *see Figure 4*.
2. Press the battery access door tabs and remove the battery access door.
3. Install 4 "AA" alkaline batteries (not supplied) - *see Figure 4*.
4. Reinstall the battery access door using the screw.



WARNING!

Only "AA" alkaline batteries should be used with the Phonecell® SX5T. Use of any other batteries may result in fire and/or other damage to the unit.

Figure 4 – SX5T battery installation.

Note: If you use rechargeable "AA" batteries with the SX5T, they must be recharged externally (the unit will not recharge them automatically).

Battery Operation

SX5T models with Power Supplies will not automatically switch from AC to battery upon loss of AC power. The AC/Battery switch must be changed manually - *see Figure 5*. Battery power will provide up to 3.5 hours of standby or up to one hour of talk time, depending on the SX5T model.

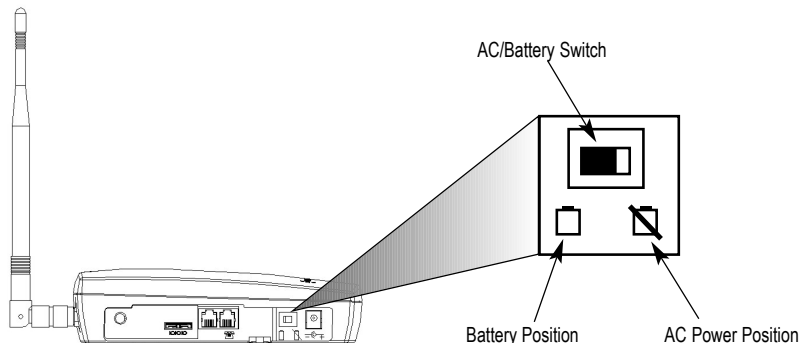


Figure 5 – SX5T AC/Battery switch.

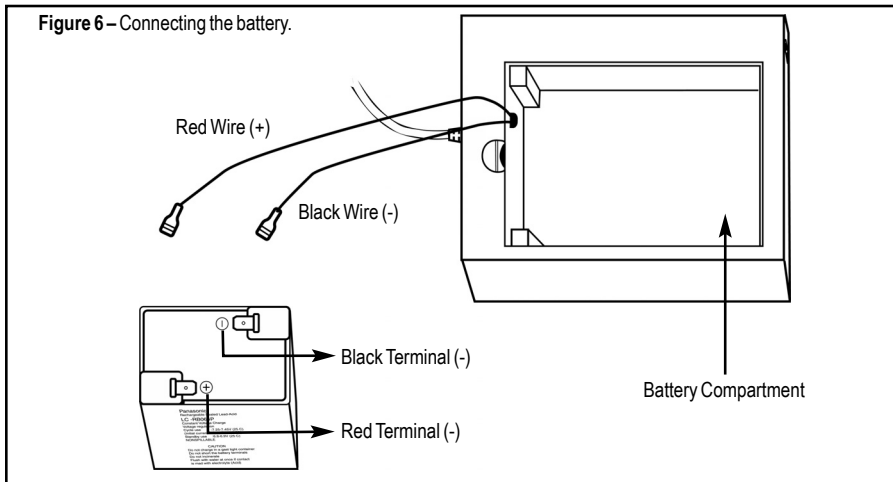
Connecting an SX5T Model With a BBU (Backup Battery Unit)

Your SX5T has either a Power Supply (part #74007301) or a Battery Backup Unit (BBU; part #74006803).

If your model has a BBU, it is shipped with the battery disconnected to prevent it from being prematurely drained. **The BBU must not be connected to a SX5T or to AC power when you connect or replace the battery. Connecting the wrong wires to the battery terminals may cause severe damage to the device.**

To connect an SX5T model with a BBU:

1. Make sure the BBU is disconnected from the SX5T and the AC power cord.
2. Unlatch the battery compartment cover by using a coin to rotate its latch to the open position.
3. Remove the cover.
4. Connect the black wire (-) in the battery compartment to the black terminal (-) on the battery - **see Figure 6.**
5. Connect the red wire (+) in the battery compartment to the red terminal (+) on the battery - **see Figure 6.**
6. Insert the battery into the battery compartment.
7. Reattach the compartment cover and secure it with the cover latch.
8. Insert the barrel connector of the Power Supply and Battery Backup Unit's cord into the SX5T's Power Input - **see Figure 3** on page 2.
9. Connect the AC power cord to the Power Supply and Battery Backup Unit, then plug it into a power outlet - **see Figure 3** on page 2.
10. Press the Battery Power Switch on the BBU to the **ON** (| / right) position.
11. Slide the Power Switch on the SX5T to the **ON** (right) position.
12. Check the cellular signal strength and move the unit until you achieve the best signal possible - see **LED Status Indicators** on page 8 for more information.



SX5T Location and Installation

The SX5T comes with a standard spike antenna (TNC) - **see Figure 7**. For optimal signal strength, choose a location that is above ground and as close to windows (or exterior walls) as possible - **see Figure 8**. Place the unit where you receive the best signal strength possible. (Cellular signal strength is displayed by the Received Signal Strength Indicator [RSSI] LEDs on the unit - **see LED Status Indicators** on page 8 for more information.)

1. Connect the antenna to the terminal - **see Figure 7**.
2. Finger-tighten the antenna. Do not over-tighten the antenna.

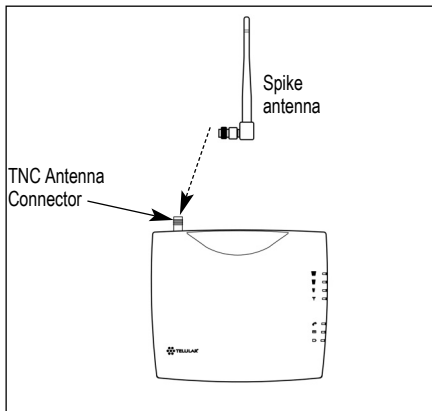


Figure 7 – SX5T antenna connection.

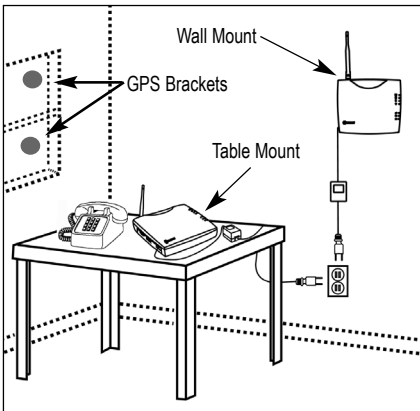


Figure 8 – Typical SX5T installations.

Wall Mounting

1. Mark two hole locations 98.5 mm (3-7/8 inches) vertically apart and drill two holes into the wall.
2. Install the screws (not supplied) into the wall, leaving a gap (approximately 3 mm (1/8 inch)) between screw head and wall.
3. Align the mounting holes with the screws and mount the SX5T onto the screws - **see Figures 9 and 10**.

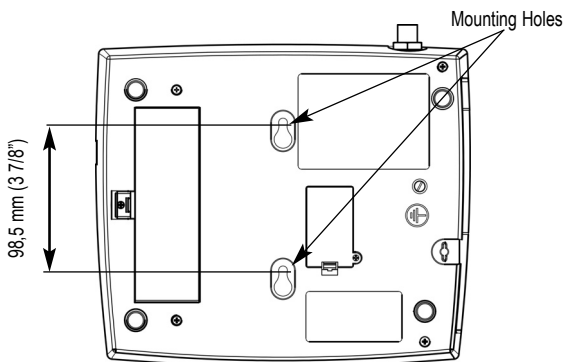


Figure 9 – SX5T mounting holes.

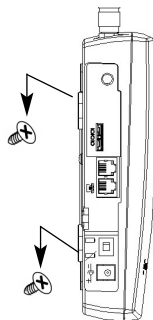


Figure 10 – Mount the SX5T onto the screws.

GPS Antenna Mounting (optional on SX5T-505C/-535C only)

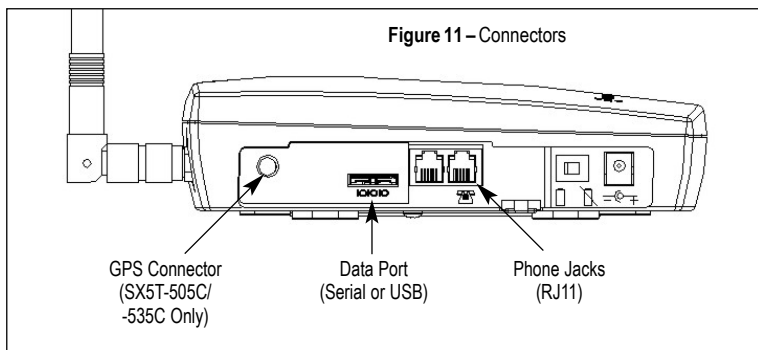
To satisfy the FCC's Enhanced 911 (E-911) Phase II mandate, SX5T-505C and 535C models distributed in the USA include an optional GPS antenna with a mounting bracket and suction cups. The GPS antenna uses satellite technology during emergency calls to automatically report your location to a 911 dispatcher within 50-100 meters in most cases. For this feature to function, you must properly mount the GPS antenna on a window as described below in addition to the standard antenna used for cellular system operation.

1. Mount the bracket on a window with good line of sight (no obstructions to the sky) using the suction cups. A small amount of water or petroleum jelly applied to the window surface of the suction cups will improve their long-term adhesion to the window - **see Figure 8** on page 5.
2. Place the antenna on the topside center of the bracket. The bracket is tilted to aim the antenna out the window and toward the sky.
3. Connect the antenna to the GPS Connector on the side panel of the SX5T - **see Figure 11**.

Note:

Installation of the GPS antenna is not required for normal operation of the SX5T.

Since E-911 service may not be available in all areas, 911 or other emergency calls may not automatically provide a location. **You must be prepared to provide an address during any emergency calls.**



Direct Connection: Phone, Fax and Data

1. Connect a phone to either of your SX5T's phone (RJ11) jacks using a standard telephone cord - **see Figure 11** on page 6.
2. If desired, connect your SX5T's other phone (RJ11) jack to a second telephone or a fax machine using a standard telephone cord - **see Figure 11** on page 6.
3. If desired, connect a computer to the SX5T. You may either:
 - Use a Telular USB cable (part #1L01A043 or 81025901) to connect the computer's USB port to the SX5T's data port;
 - Use a Telular serial cable (part #1L01A042 or 81025801) to connect the computer's serial port to the SX5T's data port;
 - Or use a standard telephone cord to connect the computer's modem out port to either of the SX5T's phone (RJ11) jacks.

Contact your service provider to determine what wireless data transfer services are available. For more information on data connections, see "Windows XP/Windows 2000 Setup for Data & PC Fax" on page 18 or "Windows 98 Setup for Data & PC Fax" on page 24.

Connection via Wall Jacks

If you do not have local phone service, you may use your SX5T to provide a connection to your wireless service for devices that are plugged into your wall jacks.

1. Connect either of your SX5T's phone (RJ11) jacks to any wall jack using a standard telephone cord - **see Figure 11** on page 6.

Important:	DO NOT CONNECT YOUR SX5T TO A WALL JACK IF YOU HAVE OUTSIDE SERVICE (I.E., A DIAL TONE) AT YOUR WALL JACK. Your SX5T will not function properly and may become damaged if outside phone service has not been disconnected.
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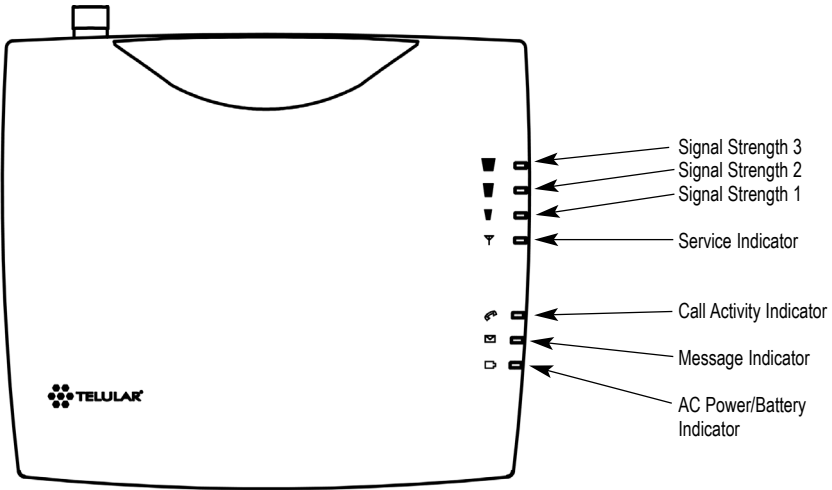
2. If desired, connect your SX5T's other phone (RJ11) jack to a telephone or fax machine using a standard telephone cord - **see Figure 11** on page 6.
3. Connect additional phones, a fax machine and/or a computer modem to any available wall jacks. Contact your service provider to determine what wireless data transfer services are available.

Getting to Know Your SX5T

LED Status Indicators

The LED indicators are activated when the SX5T is powered on. The following tables describe the modes and operation of the indicators.

Note: If you are getting no service, contact your service provider for more information.



Service Indicator

LED Color	Activity	Description
Green	Continuous	Full Service
Amber	Continuous or Flashing (network dependent)	Roaming
Red	Continuous	No Service*

*Contact your service provider to verify that service has been activated.

Signal Strength Indicator (Received Signal Strength Indicator – RSSI)

Signal Strength LEDs	Activity	Cellular Signal Strength
Signal Strength 1 (RSSI 1)	Continuous	Poor
Signal Strength 2 (RSSI 2)	Flashing	Fair
	Continuous	Good
Signal Strength 3 (RSSI 3)	Flashing	Very Good
	Continuous	Best

Call Activity Indicator

LED Color	Activity	Description
Green	Flashing (phone will also be ringing)	Incoming call
Green	Continuous	In an active call
Green	Fast Flashing	Processing data call
Amber	Continuous	Programming Mode

Message Indicator

LED Color	Activity	Description
Green	Flashing	New voicemail

AC Power/Battery Indicator

Color	Activity	Description
Green	Continuous	AC power applied
Amber	Continuous	Battery level good (battery switch on)
Amber/Green	Alternating	Battery level poor (battery switch on)

Important Dial Tones

You may hear these tones through the receiver when your phone is off-hook:

Steady Tone (dial tone): Service – Indicates that your phone is ready for use.

Fast Beeping Tone: No Service – Indicates that there is no service available.

Short Tone: Call Waiting – During an active call, a short tone indicates that you have another incoming call.

Pulsed Dial Tone, followed by a Steady Dial Tone: Voicemail – Indicates that you have a new voicemail message.

Using the SX5T

Once you have installed and activated your SX5T, you'll be ready to make and receive calls, set up voicemail, and send and receive faxes. This section explains how to use the features of the SX5T for all your communications.

Making Calls

To make a call:

1. Pick up the telephone handset. (The phone is now "off-hook.")
2. Listen for a dial tone. (If you hear a No Service tone [fast beeping], hang up and try again. If the No Service tone continues, contact your service provider to verify that cellular service is available.)
3. Dial a phone number. (When you have finished dialing, the call will be sent automatically.)

Tip:	Pressing the Flash key or pressing and releasing the switch-hook after dialing a number will send the call immediately.
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Receiving Calls

- When the telephone rings, pick up the handset and begin talking.

Ending Calls

- When you are finished with a call, hang up the phone by placing the handset back on the telephone cradle or by pressing the **Off** or **End** button.

Using In-Call Features

To place a call on hold:

- During a call, press the **Flash** key on your handset (if your phone doesn't have a **Flash** key, press and release the switch-hook).
 - If you hang up your phone when a call is on hold, the call will be disconnected.

To retrieve a call on hold:

- Press the **Flash** key on your phone (or press and release the switch-hook).

To answer a call waiting call:

- When you're on an active call and a new incoming call arrives, you will hear a short tone on your phone. To place the current call on hold and answer the incoming call, press the **Flash** key on your phone (or press and release the switch-hook). (To switch between calls, simply repeat the process.)

To answer a call when you are dialing or with the phone off the hook:

- If a call comes in while you are dialing or when you have the phone off the hook, you will hear a call waiting tone on your phone. To answer the incoming call, press the **Flash** key on your phone (or press and release the switch-hook).

Note:	Call Hold and Call Waiting are not available with all service providers. These services may not be available if you are using your SX5T in a roaming area. To determine these services' availability in your area, contact your service provider.
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Accessing Your Voicemail

With your SX5T, you have two options for accessing your voicemail account from your phone: **One-Touch Voicemail Retrieval** and **Direct Dial**. (For more information about your voicemail settings, see "Voicemail Number" and "One-Touch Voicemail Retrieval" on page 16. For information about your voicemail service, please contact your service provider.)

To access your voicemail using One-Touch Voicemail Retrieval:

- Press and hold the **1** button on any home phone for two seconds.

To access your voicemail using Direct Dial:

1. Dial your phone number.
2. Follow the voice prompts to retrieve your messages.

Note: If your phone doesn't support a continuous tone (i.e., if you only hear a short tone when you press and hold a key), One-Touch Voicemail Retrieval will not work on your phone. To access your voicemail, you will have to use the Direct Dial method of voicemail retrieval.

You may also use the Direct Dial method to retrieve your voicemail from any other phone.

Clearing Your Voicemail Indicator

- The message light on your SX5T will flash when you have a new voicemail message. The indicator should clear after you have listened to all of your new messages. If your voicemail message indicator does not clear (or if you just want to clear it manually), press **# * 1 0 5 #**.

Making a Three-Way Call

Your SX5T supports three-way calling, if it is supported by your service provider.

To make a three-way call:

1. Place or answer a call on your phone.
2. Once you have established the connection with the first caller, press **Flash**, enter the second number you wish to call, then press **Flash** again. (This puts the first caller on hold and dials the second number.)
3. When you're connected to the second party, press **Flash** again to begin your three-way call.

If one of the people you called hangs up during your call, you and the remaining caller stay connected. If you initiated the call and are the first to hang up, all three callers are disconnected.

Note: Certain cellular systems may use a different method to connect three-way calls. Please contact your service provider for more information.

Using Call Forwarding

Call Forwarding lets you forward all your incoming calls to another phone number. You can continue to make calls from your phone when Call Forwarding is activated.

To activate call forwarding, contact your service provider for instructions.

Adjusting Your Phone's Settings

Volume Level

If the volume level on your phone's receiver is too high or too low during a call, you can adjust the levels using the telephone keypad.

To increase the phone's volume level:

- Press **# * 8**.

To decrease the phone's volume level:

- Press **# * 3**.

Note: The SX5T volume setting allows you to adjust the volume three levels from the default setting. The adjusted volume setting remains in effect for future calls until it is manually changed. When the SX5T's power is turned Off and On, the default mid-range volume setting is restored.

Entering Configuration Mode

Many device configuration settings require you to enter Configuration Mode – the device's programming mode – before you may input the commands.

To enter Configuration Mode:

- Press **# * 0 * <lock code> #**.

You will hear a steady tone indicating that you have entered Configuration Mode. When you press any additional key, the tone will stop.

If you correctly enter a configuration sequence for any of the settings listed, the steady tone will return and the SX5T will have accepted the new setting. If you do not enter a valid sequence, you will hear three brief ascending tones followed by the steady tone (at which point you may re-enter your configuration settings).

Note: You may change multiple settings during a single Configuration Mode session. If you enter an incorrect sequence during a Configuration Mode session, only the setting you were entering will need to be re-entered; all previous changes will be retained.

To exit Configuration Mode, simply hang up the phone.

Changing the Lock Code

Your SX5T is preconfigured with a lock code for use in entering Configuration Mode and to use with the Call Barring feature. **The default lock code is the last four digits of the phone number.** (If no number is programmed, the default is 0000).

You may use Configuration Mode to change your lock code to any 4-digit number.

To change the Lock Code:

- From Configuration Mode, press **# * 1 4 3 * <old lock code> * <new lock code> * <new lock code> #**.

(For example, to change the default lock code from 0000 to 5555, press **# * 1 4 3 * 0 0 0 0 * 5 5 5 5 * 5 5 #**.)

Audio Line Level

If using **# * 8** and **# * 3** does not provide satisfactory volume options for you (see "Volume Level" on page 12), you may adjust your phone system's audio line level.

To adjust your phone system's audio line level:

- From Configuration Mode, press **# * 6 9 * <0, 1, or 2> #**.

0 = Low

1 = Normal (default)

2 = High

Auto-Send Delay

The auto-send delay is the amount of time the SX5T waits to dial after you make an entry on the phone keypad. The default setting is 3 seconds and the valid range is 2-20 seconds.

To change the auto-send delay:

- From Configuration Mode, press **# * 1 1 * <2 - 20> #**, where you enter a number between 2 and 20 seconds. (For example, if you want the auto send delay to be five seconds, press **# * 1 1 * 5 #**.)

Frequently Dialed Numbers (Zero Delay Dialing)

If you dial a phone number twice and stay connected for at least 15 seconds, the SX5T will remember that phone number in the future and automatically send it without the auto-send delay whenever you subsequently dial the number. This feature is enabled by default.

To enable Zero Delay Dialing (default setting):

- From Configuration Mode, press **# * 2 1 * 1 #**.

To disable Zero Delay Dialing:

- From Configuration Mode, press **# * 2 1 * 0 #**.

Call Barring

To avoid inadvertent service charges, you may enable your device's Call Barring feature to bar all outgoing calls (except emergency calls).

To enable Call Barring:

- From Configuration Mode, press **# * 1 4 2 * 1 * <lock code> #**.

To disable Call Barring (default setting):

- From Configuration Mode, press **# * 1 4 2 * 0 * <lock code> #**.

Call Restrict (SX5T-500C only)

Call Restrict allows you to determine which calls may or may not be placed through your SX5T. When the Call Restrict level is set to **Use Table**, the Call Restrict feature checks outgoing calls against user-defined permit and deny tables to determine whether to permit or deny the outgoing call. Each table (permit and deny) may contain up to ten entries.

To set the Call Restrict level:

- From Configuration Mode, press **# * 1 4 5 * <1, 2, 3, or 4> #** , where **<1, 2, 3, or 4>** are as follows:

1 = No Restriction (default setting)

2 = Use Table

3 = Emergency Only (only emergency calls permitted; all other calls denied)

4 = Clear Table

To set the Call Restrict table entries:

- From Configuration Mode, press **# * 1 4 6 * <0 or 1> * <index> * <number> #** , where the options are as follows:

<0 or 1> = Table mode (0 = Deny table; 1 = Permit table)

<index> = Table entry

<number> = 10-digit phone number for the Call Restrict entry

(For example, if you wanted to add 555-123-4567 as the third entry in your Deny table, you would press **# * 1 4 6 * 0 * 3 * 5 5 5 1 2 3 4 5 6 7 #**)

Dial Tone After Remote Disconnect (DTARD)

To allow you to place another call when a connection has been terminated remotely (when the other party has hung up the phone), you may elect to have the SX5T return to dial tone automatically. If you elect not to enable DTARD, you will need to hang up the phone before placing another call.

To enable Dial Tone After Remote Disconnect (to return to dial tone):

- From Configuration Mode, press **# * 8 * 1 #** .

To disable Dial Tone After Remote Disconnect:

- From Configuration Mode, press **# * 8 * 0 #** .

Note: If Dial Tone After Remote Disconnect is disabled, additional remote disconnect options may be available. See "Disconnect Tone" on page 33 for more information.

Hotline

The Hotline feature allows you to program the SX5T to automatically dial a specific phone number after a selected timeout delay whenever you take the phone off-hook.

To program the Hotline phone number:

- From Configuration Mode, press **# * 1 1 8 * <phone#> #**, where **<phone#>** is the phone number you want to dial automatically.

To enable the Hotline feature:

- From Configuration Mode, press **# * 1 1 7 * 1 * <1-8> #**, where **<1-8>** equals the selected timeout delay, in seconds.
(For example, if you wanted the phone to wait five seconds before dialing the hotline number, you would press **# * 1 1 7 * 1 * 5 #** from configuration mode.)

To disable the Hotline feature (default setting):

- From Configuration Mode, press **# * 1 1 7 * 0 * 1 #**.

One-Minute Alert

You can keep track of your in-call duration by configuring your SX5T to sound a short beep at one-minute intervals during active calls.

To enable One-Minute Alerts:

- From Configuration Mode, press **# * 9 9 * 1 #**.

To disable One-Minute Alerts (default):

- From Configuration Mode, press **# * 9 9 * 0 #**.

TTY Use

A TTY device (also known as a TDD or Text Telephone) is a telecommunications device that allows people who are deaf, hard of hearing, or who have speech or language disabilities to communicate by telephone.

Your SX5T is compatible with select TTY devices. Please check with the manufacturer of your TTY device to ensure that it supports digital wireless transmission.

To establish TTY service, contact your cellular service provider.

To set your phone's TTY mode:

- From Configuration Mode, press **# * 1 3 9 * <0 or 3> #**, where **<0 or 3>** are as follows:

0 = TTY Off

3 = TTY Always

Vicemail Number

You can use Configuration Mode to set the default voicemail number for your SX5T.

Note: The voicemail settings for your SX5T should have been configured prior to purchase. The instructions for Voicemail Number and One-Touch Voicemail Retrieval are mainly for your reference.

To set the default voicemail number:

- From Configuration Mode, press **# * 1 0 1 * <voicemail number> #**.

For example, to set 555-123-4567 as your voicemail number, you would press **# * 1 0 1 * 5 5 5 1 2 3 4 5 6 7 #**.

If your voicemail access number includes a special character, such as an asterisk (*) or a pound sign (#), you can program it by adding an extra asterisk in front of the special character. Please refer to the examples below:

To set *86 as the default voicemail number:

- From Configuration Mode, press **# * 1 0 1 * * * 8 6 #**.

To set #86 as the default voicemail number:

- From Configuration Mode, press **# * 1 0 1 * * # 8 6 #**.

One-Touch Voicemail Retrieval

You can configure your SX5T to connect to your voicemail box using one-touch voicemail retrieval, allowing you to retrieve messages by pressing and holding **1**. (One-Touch Voicemail Retrieval is enabled by default.)

To enable One-Touch Voicemail Retrieval (default setting):

- From Configuration Mode, press **# * 1 4 8 * 1 #**.

To disable One-Touch Voicemail Retrieval:

- From Configuration Mode, press **# * 1 4 8 * 0 #**.

Note: If your phone doesn't support a continuous tone (i.e., if you only hear a short tone when you press and hold a key), One-Touch Voicemail Retrieval will not work on your phone. To access your voicemail, you will have to use the Direct Dial method of voicemail retrieval (see page 11).

For more information about retrieving voicemail, see "Accessing Your Voicemail" on page 11. For information about your voicemail service, please contact your service provider.

Restore User Defaults

To restore your SX5T to its default settings after changing configuration settings:

- From Configuration Mode, press **# * 1 0 7 * <0 or 1> #**, where **0 = Keep Current Settings** and **1 = Restore to Default Settings**.

Using Additional Hardware Devices

Using an External Answering Machine

The SX5T can be used with an external answering machine in place of voicemail. If you plan to use an external answering machine, be sure your service provider has not activated voicemail on your account.

Setting Up Data Transfer for a Digital Video Recorder (DVR) or Satellite Receiver

The SX5T can be configured to dial out over your phone line so that a Digital Video Recorder (DVR) or a satellite receiver can send and receive the data required for its operation. Your DVR or satellite receiver must also be configured to tell the SX5T that it needs to send data. You must insert the prefix **# * 2 #** before the phone number that the DVR or satellite receiver dials. Consult your DVR or satellite receiver manual or provider if you need further assistance with this feature.

Note:	Contact your service provider to confirm the availability of data transfer service on your wireless account.
--------------	--

Using a Fax Machine With Your SX5T

Your SX5T supports sending and receiving faxes with a fax machine. You can connect your fax machine to an existing wall phone (RJ11) jack or into either phone (RJ11) jack of the SX5T. In order to send or receive a fax, the SX5T must be placed in fax mode, as it cannot automatically detect an incoming fax. (This is standard procedure for faxing over wireless networks.) **You must disable any “turbo” fax modes or other non-standard transmission modes on your fax machine.** Consult your fax machine’s manual for more information.

The SX5T has two fax modes: **1-time fax mode** and **Always fax mode**.

- **1-time fax mode** will allow you to send or receive one fax, after which the SX5T will automatically return to voice mode.
- **Always fax mode** will keep the SX5T in fax mode until it is set back to voice mode.

Note:	Fax machine must use Group 3 facsimile protocol, transmitting at 9.6 to 14.4 kbps. Contact your service provider to confirm the availability of fax service on your wireless account.
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To send a fax (1-time fax mode):

1. Lift up the fax machine handset or press the **Fax** button.
2. Press **# * 1 #**, then dial the fax number.
3. Press **Start** on the fax machine.

To receive a fax (1-time fax mode):

1. Set your fax machine to connect after the minimum number of rings allowed.
2. Press **# * 1 #**.
3. Notify the sender that you are prepared to receive the fax.

To set your device to “Always fax mode”:

- Press **# * 5 #**.

To make one voice call while in “Always fax mode”:

- Press **# * 4 #**.

To return your device to voice mode (default setting):

- Press **# * 7 #**.

Sending/Receiving Circuit Switched Data

A PC with a serial, USB or phone (RJ11) connection to the SX5T can send and receive circuit switched data using the SX5T. Check with your service provider to see if your account supports circuit switched data transfer.

Set Your Computer's Port and Modem Speeds for Circuit Switched Data

To send or receive circuit switched data, you need to set the port and modem speeds your computer uses for the SX5T to 115200 bps. See **Windows XP/2000 Setup** (page 19) or **Windows 98 Setup** (page 25) for details. This is the communication speed between the computer and SX5T; actual data transfer rates will be slower.

Choose Data Mode

1. To receive one data transfer, enter **Data Next Call** mode. Press **# * 2 #**. Your SX5T will treat the next incoming call as data, then return to normal operation. If you are using an RJ11 port to receive the data, you may skip the remaining steps.

2. To receive data indefinitely, enter **Data Always** mode. Press **# * 6 #**.

(Your SX5T will treat all incoming calls as data. To resume receiving voice calls, you must switch back to **Voice** mode: Press **# * 7 #**. If you wish to make a single voice call while remaining in Data Always mode, press **# * 4 #**.)

If you are using an RJ11 port to receive the fax, you may skip the remaining steps.

3. To send circuit switched data, set the Data Port and Baud Rate, then follow your service provider's directions for sending circuit switched data. Whenever your software asks you what modem to use, select the **Standard 19200 Modem**.

(For Windows XP and Windows 2000, you can start by opening **Control Panel > Network and Dial Up Connections**, then double-clicking on **Make New Connection** to start the Network Connection Wizard.)

(For Windows 98, you can start by running **Dial-Up Networking** and double-clicking on **Make New Connection**.)

Choose the SX5T's Data Port

1. Enter Configuration Mode – Press **# * 0 * <lock code> #**.

2. Select **Data Port** – Press **# * 1 1 3 * 0 * 0 #**.

– OR –

Select **RJ11 Port** – Press **# * 1 1 3 * 1 * 0 #**.

3. If you selected **Data Port**, select which Data port to use.

Select **Serial** by pressing **# * 1 3 5 * 0 #**.

– OR –

Select **USB** by pressing **# * 1 3 5 * 1 #**

(Windows XP/2000 only).

Set the SX5T's Baud Rate for Circuit Switched Data

1. Enter Configuration Mode – Press **# * 0 * <lock code> #**.

2. Select Baud Speed 115200 – Press **# * 1 3 6 * 5 #**.

Note: If you take the phone off-hook while sending or receiving circuit switched data via serial or USB cable, you will hear a busy tone; the data transmission/reception will not be disrupted.

If you take the phone off-hook while sending or receiving circuit switched data using an RJ11 phone jack connection, the fax data transmission/reception may be disrupted.

Windows XP/Windows 2000 Setup for Data & PC Fax

Contact your service provider to determine data/PC fax service availability, then follow these steps.

1. Connect and Select Data Ports.

Serial Connection – default setting (Allows PC Fax, 1X Data and Circuit Switched Data)

- Use a Telular serial cable (part #1L01A042 or 81025801) to connect the computer's serial port to the SX5T's data port.
- Enter Configuration Mode.
Press **# * 0 * <lock code> #**.
- Set the SX5T Data Port to Serial.
Press **# * 1 3 5 * 0 #**.

USB Connection (Allows PC Fax, 1X Data and Circuit Switched Data)

- Use a Telular USB cable (part #1L01A043 or 81025901) to connect the computer's USB port to the SX5T's data port. (You will also need to run the Telular USB Driver CD to load the appropriate USB driver onto your PC.)
- Enter Configuration Mode.
Press **# * 0 * <lock code> #**.
- Set the SX5T Data Port to USB.
Press **# * 1 3 5 * 1 #**.

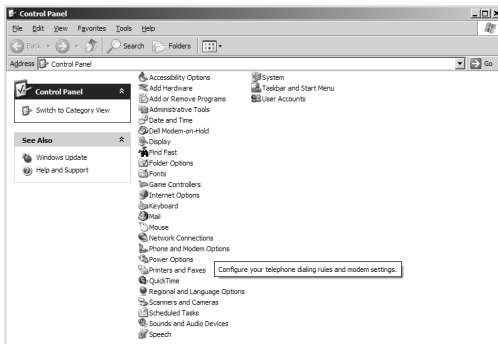
Modem/Phone Connection (Allows PC Fax and Circuit Switched Data)

- Use a standard telephone cord to connect the computer's modem out port to either of the SX5T's phone (RJ11) jacks.
- Enter Configuration Mode.
Press **# * 0 * <lock code> #**.
- Set the SX5T Data Port to RJ11.
Press **# * 1 1 3 * 1 * 0 #**.

2. Set Baud Speed.

- Enter Configuration Mode.
Press **# * 0 * <lock code> #**.
- For fax, set speed to 19200. Press **# * 1 3 6 * 2 #**.
- For data, set speed to 115200. Press **# * 1 3 6 * 5 #**.

3. Install the SX5T as a new modem by opening the **Start > Settings > Control Panel > Phone and Modem Options > Modems** tab.



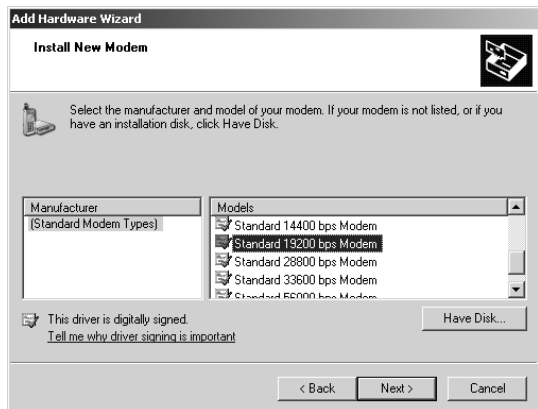
4. Click on **Add....**



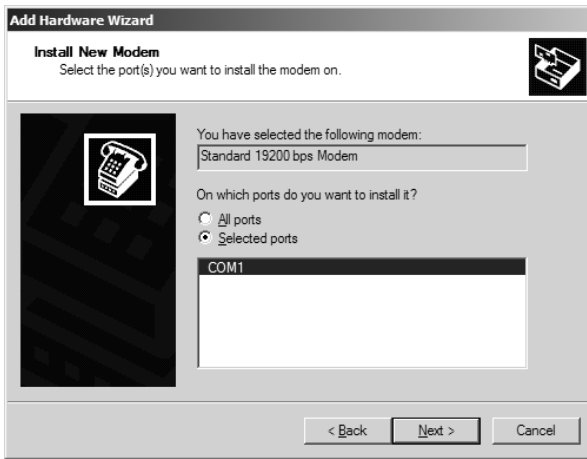
5. Click on **Don't detect my modem; I will select it from a list** and click **Next**.



6. Select **Standard 19200 bps modem** and click **Next**.



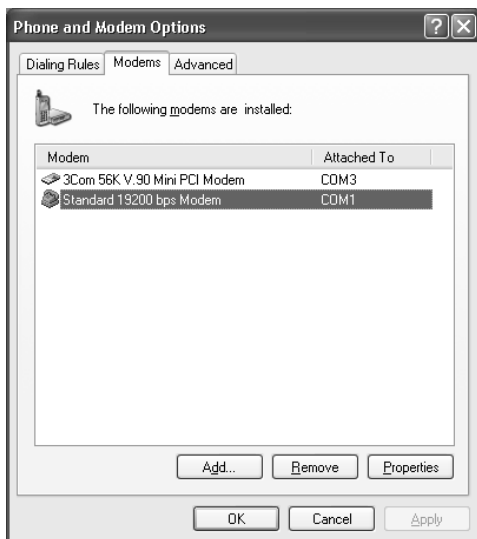
7. Select the COM port to use (if a COM port does not display, all COM ports are currently allocated).



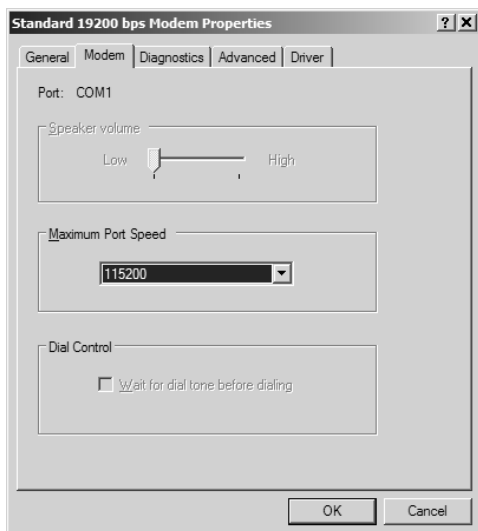
8. Click **Finish**.



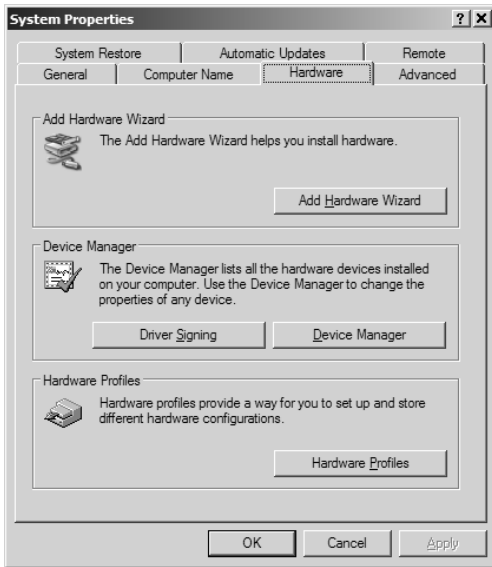
- Configure the SX5 modem interface using the **Start > Settings > Control Panel > Phone and Modem Options > Modems** tab.



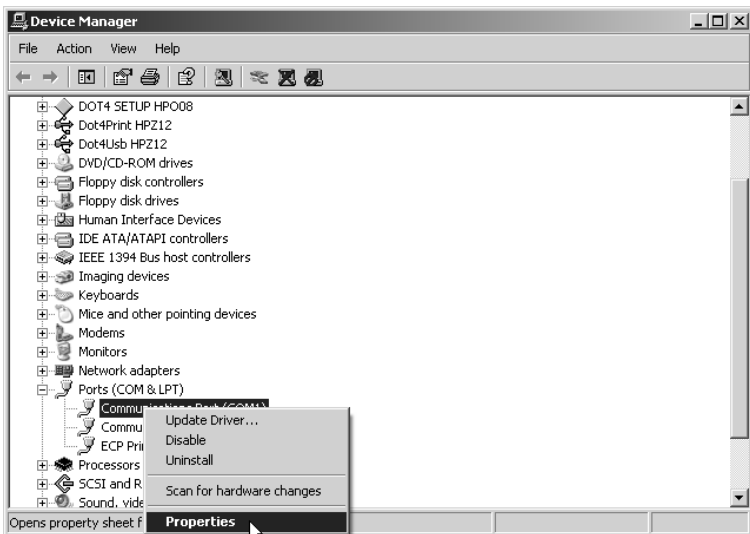
- Select the **19200 bps Modem** and click on **Properties**.
- Select the **Modem** tab.
- Change the Maximum port speed to 115200 (19200 when faxing) and click **OK**.



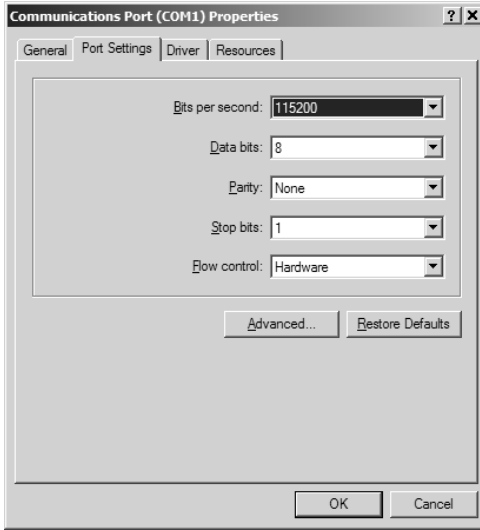
13. Configure the USB, Serial or Phone (RJ11) port using the **Control Panel > System > Hardware > Device Manager > Ports** tab.



14. Select the port used for the SX5T and right click on it. Select **Properties** from the resulting pop-up menu.



15. Click on the **Port Settings** tab.
16. Use these settings:
 - Bits per second: 115200 (19200 when faxing)
 - Data bits: 8
 - Parity: None
 - Stop bits: 1
 - Flow control: Hardware



17. You may now send or receive data and PC faxes. See **Sending/Receiving a PC Fax** (page 29), **Sending/Receiving 1X Data** (page 30), or **Sending/Receiving Circuit Switched Data** (page 18) for details.

Windows 98 Setup for Data & PC Fax

Contact your service provider to determine data/PC fax service availability, then follow these steps.

1. Connect and Select Data Ports.

Serial Connection – default setting (Allows PC Fax, 1X Data and Circuit Switched Data)

- Use a Telular serial cable (part #1L01A042 or 81025801) to connect the computer's serial port to the SX5T's data port.
- Enter Configuration Mode.
Press **# * 0 * <lock code> #**.
- Set the SX5T Data Port to Serial.
Press **# * 1 3 5 * 0 #**.

Modem/Phone Connection (Allows PC Fax and Circuit Switched Data)

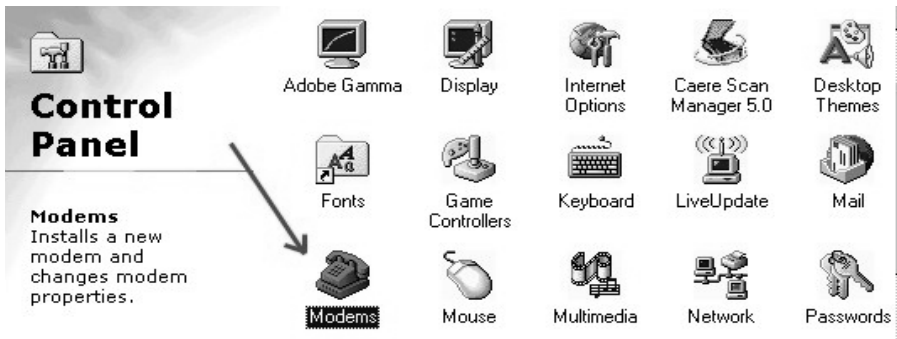
- Use a standard telephone cord to connect the computer's modem out port to either of the SX5T's phone (RJ11) jacks.
- Enter Configuration Mode.
Press **# * 0 * <lock code> #**.
- Set the SX5T Data Port to RJ11.
Press **# * 1 1 3 * 1 * 0 #**.

Note: The SX5T supports data transfer over serial and modem/phone (RJ11) connections for Windows 98 PCs. Data over USB is not supported for Windows 98.

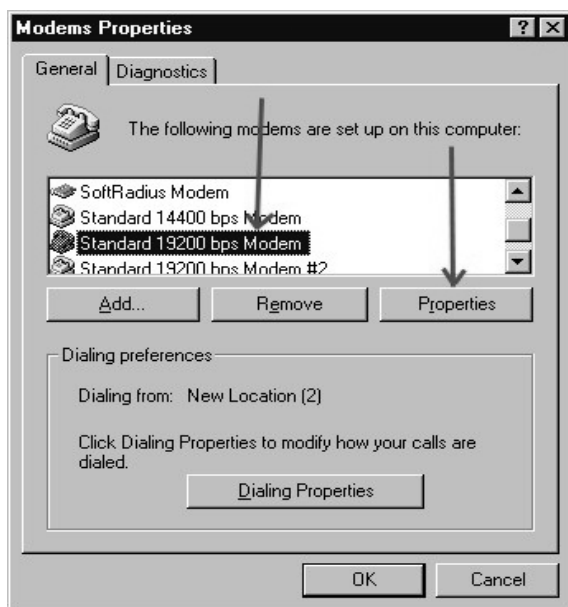
2. Set Baud Speed.

- Enter Configuration Mode.
Press **# * 0 * <lock code> #**.
- For fax, set speed to 19200. Press **# * 1 3 6 * 2 #**.
- For data, set speed to 115200. Press **# * 1 3 6 * 5 #**.

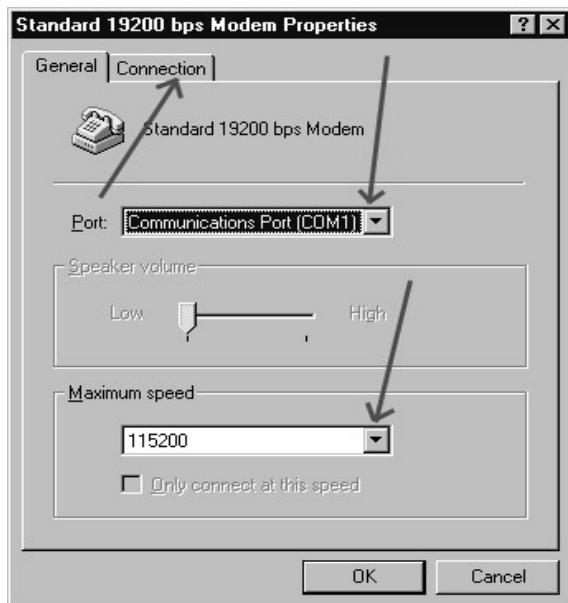
3. Install the SX5T as a new modem by opening the **Start > Settings > Control Panel** then clicking on the **Modems** phone icon.



4. Select **Standard 19200 bps Modem** and click on **Properties**.

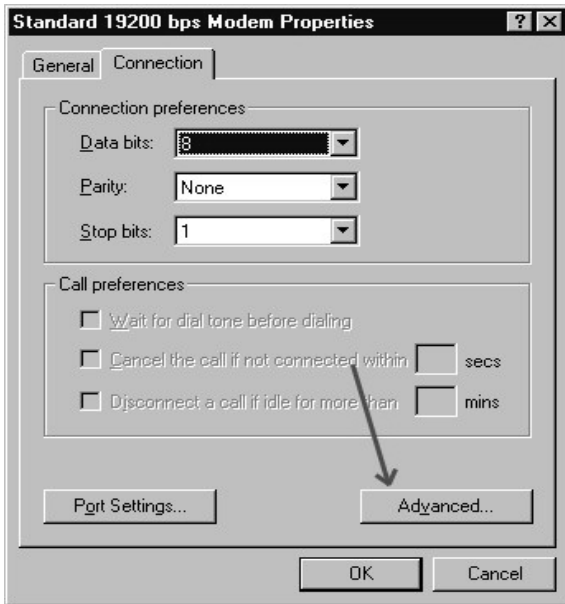


5. Select the appropriate COM port and Maximum speed of **115,200 bps** for data and **19,200 bps** for PC Fax.

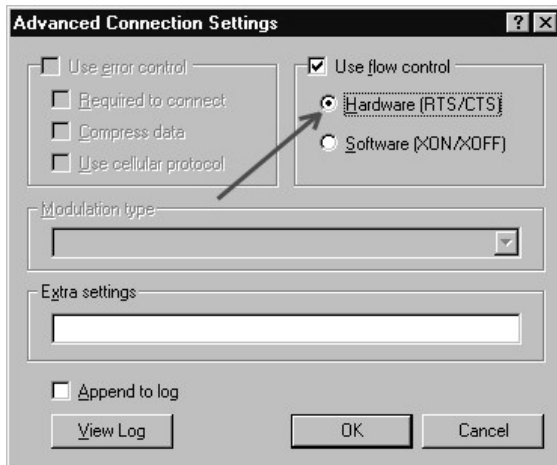


6. Select the **Connection** tab.

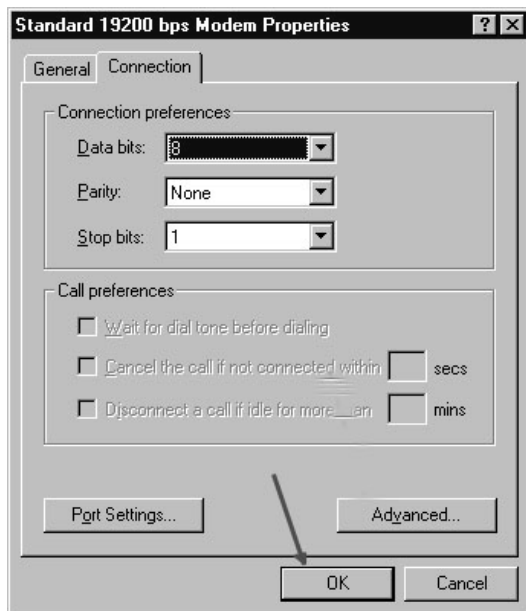
7. Set **Connection Preferences** to Data bits = 8, Parity = None and Stop bits = 1, then click **Advanced**.



8. Check the box for **Use Control Flow**, then click on **Hardware (RTS/CTS)**, and then select **OK**.



9. Click on **OK**.



10. Click on **Close**.



11. You may now send or receive data and PC faxes. See **Sending/Receiving a PC Fax** (page 29), **Sending/Receiving 1X Data** (page 30), or **Sending/Receiving Circuit Switched Data** (page 18) for details.

Sending/Receiving a PC Fax

A PC with a serial, USB, or phone (RJ11) connection to the SX5T can send and receive faxes using the SX5T. Your account with your service provider must support circuit switched data transfer for the SX5T's PC fax function to work.

Set Your Computer's Port and Modem Speeds for PC Fax

To send or receive faxes, you need to set the port and modem speeds your computer uses for the SX5T to 19200 bps. See **Windows XP/2000 Setup** (page 19) or **Windows 98 Setup** (page 25) for details.

Choose Fax Mode

1. To receive one fax, enter **Fax Next Call** mode. Press **# * 1 #**.
Your SX5T will treat the next incoming call as a fax, then return to normal operation. If you are using an RJ11 port to receive the fax, you may skip the remaining steps.
2. To receive faxes indefinitely, enter **Fax Always** mode. Press **# * 5 #**.
(Your SX5T will treat all incoming calls as faxes. To resume receiving voice calls, you must switch back to **Voice** mode: Press **# * 7 #**. If you wish to make a single voice call while remaining in Fax Always mode, press **# * 4 #**.)
If you are using an RJ11 port to receive the fax, you may skip the remaining steps.
3. To send a PC fax, set the Fax Port and Baud Rate, then use your computer's fax software to dial the receiving fax machine's number. Whenever your software asks you what modem to use, select the **Standard 19200 Modem**.

Choose the SX5T's Fax Port

1. Enter Configuration Mode – Press **# * 0 * <lock code> #**.
2. Select **Data Port** – Press **# * 6 7 * 0 #**.
–OR–
Select **RJ11 Port** – Press **# * 6 7 * 1 #**.
3. If you selected Data Port, select which Data port to use.
Select **Serial** by pressing **# * 1 3 5 * 0 #**.
–OR–
Select **USB** by pressing **# * 1 3 5 * 1 #**
(Windows XP/2000 only).

Set the SX5T's Baud Rate for PC Fax

1. Enter Configuration Mode – Press **# * 0 * <lock code> #**.
2. Select **Baud Speed 19200** – Press **# * 1 3 6 * 2 #**.

Note: If you take the phone off-hook while sending or receiving a PC fax via serial or USB cable, you will hear a busy tone; the fax data transmission or reception will not be disrupted.

If you take the phone off-hook while sending or receiving a PC fax using an RJ11 phone jack connection, the fax data transmission/reception may be disrupted.

Sending/Receiving 1X Data

A PC with a serial or USB connection to the SX5T can send and receive 1X data using the SX5T; a PC with a phone (RJ11) connection cannot. Check with your service provider to see if your account supports 1X data transfer.

Set Your Computer's Port and Modem Speeds for 1X Data

To send or receive circuit switched data, you need to set the port and modem speeds your computer uses for the SX5T to 115200 bps. See **Windows XP/2000 Setup** (page 19) or **Windows 98 Setup** (page 25) for details. This is the communication speed between the computer and SX5T; actual data transfer rates will be slower.

Choose the SX5T's Data Port

1. Enter Configuration Mode – Press **# * 0 * <lock code> #**.
2. Select Data Port.
Select **Serial** by pressing **# * 1 3 5 * 0 #**.
– OR –
Select **USB** by pressing **# * 1 3 5 * 1 #**
(Windows XP/2000 only).

Set the SX5T's Baud Rate for 1X Data

1. Enter Configuration Mode – Press **# * 0 * <lock code> #**.
2. Select **Baud Speed 115200** – Press **# * 1 3 6 * 5 #**.

To Send or Receive 1X Data

Follow your service provider's directions for sending and receiving 1X data. Whenever your software asks you what modem to use, select the **Standard 19200 Modem**.

For **Windows XP** and **Windows 2000**, you can start by opening **Control Panel > Network and Dial Up Connections**, then double-clicking on **Make New Connection** to start the Network Connection Wizard.

For **Windows 98**, you can start by running **Dial-Up Networking** and double-clicking on **Make New Connection**.

Note:	If you take the phone off-hook during a 1X data session, you will hear a busy tone; data transfer will not be disrupted.
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Tip:	You can receive incoming voice calls on the SX5T during a dormant data session (a session becomes dormant after a period of inactivity determined by the network). When you are in an active data session (you are sending and receiving data), all incoming calls go to your voicemail.
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Advanced Programming Settings

Note: The SX5T advanced programming settings are intended primarily for advanced users and system administrators. It is strongly recommended that these settings be altered by qualified technicians only.

Entering Configuration Mode (Advanced Settings)

The following advanced programming settings require you to place the SX5T in configuration mode. (For more information, see "Entering Configuration Mode" on page 12.)

To enter Configuration Mode:

- Press **# * 0 * <lock code> #**.

Note: You may change multiple settings during a single Configuration Mode session. If you enter an incorrect sequence during a Configuration Mode session, only the setting you were entering will need to be re-entered; all previous changes will be retained.

On-Hook Idle Voltage Level

There are two pre-set levels available for the phone line voltage in idle state (when the phone is on-hook and there is no incoming call): **Level 1 – High battery mode and low power standby** (-48 VDC) is the standard telephone line voltage for most applications; **Level 0 – Low battery mode and forward active** (-17 VDC) is primarily used within certain payphone and PBX configurations.

To set the standard (default) on-hook idle voltage level (High battery):

- From Configuration Mode, press **# * 1 3 4 * 1 #**.

To set the on-hook idle voltage level 0 (Low battery):

- From Configuration Mode, press **# * 1 3 4 * 0 #**.

Line Reversal

The reversal of line polarity (line reversal) is a method by which the SX5T can signal the beginning and end of airtime usage (as opposed to connection time usage) for billing purposes. When line reversal is enabled, the SX5T reverses the line polarity as soon as a link has been established to the service provider's network (before the caller hears the other line ringing). If your service provider does not offer billing initiation signals, or if you wish to track your system's airtime instead of connection time, you may enable line reversal for outgoing and/or incoming calls.

To enable line reversal for Outgoing calls:

- From Configuration Mode, press **# * 2 2 * 1 #**.

To disable line reversal for Outgoing calls (default setting):

- From Configuration Mode, press **# * 2 2 * 0 #**.

To enable line reversal for Incoming calls:

- From Configuration Mode, press **# * 2 3 * 1 #**.

To disable line reversal for Incoming calls (default setting):

- From Configuration Mode, press **# * 2 3 * 0 #**.

Note: If your service provider requires the use of line reversal, the SX5T will reverse the line polarity even if you have disabled line reversal through configuration mode.

Ring Frequency

If required by your system or equipment settings, you may adjust the frequency of the ring signal.

To adjust the ring frequency values:

- From Configuration Mode, press **# * 3 2 * <0, 1, or 2> #**, where **<0, 1, or 2>** are as follows:

0 = 20 Hz – U.S. standard (default value)

1 = 25 Hz

2 = 50 Hz

Audio Input Impedance

To ensure optimal audio quality, it may be necessary to adjust the audio impedance of the SX5T's telephone jack to match the level of the telephone equipment.

To adjust the audio input impedance:

- From Configuration Mode, press **# * 6 8 * <0 or 1> #**, where **<0 or 1>** are as follows:

0 = 600 ohms (default value)

1 = 900 ohms

Disconnect Pulse

You may adjust or deactivate the default 700 millisecond disconnect pulse generated after a remote disconnect.

To set or adjust the disconnect pulse value (default = 700ms):

- From Configuration Mode, press **# * 7 9 * <1 – 65535> #**, where **<1 – 65535>** is the duration of the disconnect pulse, in milliseconds (default value is 700 ms).

To disable the disconnect pulse:

- From Configuration Mode, press **# * 7 9 * 0 #**.

Dial Tone Frequency (SX5T-500C only)

If necessary to ensure compatibility with your equipment and/or service, you may change the unit's dial tone frequency from the U.S. standard two-tone setting to select single- and dual-tone settings common in other regions.

To select a dial tone frequency:

- From Configuration Mode, press **# * 8 0 * <0, 1, 2, or 3> #**, where **<0, 1, 2, or 3>** are as follows:

0 = Dual-tone U.S. standard: 350 Hz + 440 Hz (default setting)

1 = Single-tone European standard: 425 Hz

2 = Single-tone option: 450 Hz

3 = Dual-tone option: 375.5 Hz + 412.5 Hz

Caller ID Display Setting (SX5T-500C)

The SX5T supports two types of caller ID devices: those that require the information to be transmitted to the caller ID device (phone) between the first and second rings (common in North America), and those that require the information to be transmitted prior to the first ring (common in certain European countries). You can set your SX5T to transmit caller ID information as required by your caller ID equipment.

Note: Caller ID Display is supported on all SX5T models; however, this advanced programming setting is available on the SX5T-500C models only.

To configure your Caller ID display:

- From Configuration Mode, press **# * 8 4 * <0 or 1> #**, where **<0 or 1>** are as follows:

0 = Caller ID information transmitted between first and second ring (default)

1 = Caller ID information transmitted prior to the first ring

Line Alert Cadence

The line alert cadence (also known as ring cadence), is the timing of the ring and silence periods during an incoming call (what you hear when the phone rings). If necessary for your system configuration, you may adjust the line alert cadence for your SX5T.

To adjust the line alert cadence:

- From Configuration Mode, press **# * 1 0 0 * <0, 1, 2, or 3> #**, where **<0, 1, 2, or 3>** are as follows:

0 = off

1 = North American standard (default setting)

2 = United Kingdom standard

3 = European standard

Disconnect Tone

You may adjust or disable your device's handling of disconnect tones to suit your system configuration. If you place a call and the remote party disconnects while you're still on the line, you may configure the SX5T to sound no tone (you need to hang up to disconnect the line and place another call) or to sound various standard busy tones (to alert your system that there has been a remote disconnect and the line is ready to be cleared).

Note: The disconnect tone setting is only in effect if Dial Tone After Remote Disconnect (DTARD) is off (see page 14 for details).

To adjust the disconnect tone setting:

- From Configuration Mode, press **# * 1 4 9 * <0, 1, 2, or 3> #**, where **<0, 1, 2, or 3>** are as follows:

0 = no tone – default setting (user must hang up to close the open connection and place another call)

1 = North American standard busy tone

2 = United Kingdom standard busy tone

3 = European busy tone

Metering Pulse High Gain/Low Gain

If required for your phone system application, you may adjust the metering pulse generated by your SX5T from high gain (default setting) to low gain. The gain values are as follows:

For 12Khz systems: **Low gain = -2dbm** (+/- 2dbm)
 High gain (default) = 1dbm (+/- 2dbm)

For 16Khz systems: **Low gain = -6dbm** (+/- 2dbm)
 High gain (default) = -2dbm (+/- 2dbm)

To set the metering pulse to high gain (default setting):

- From Configuration Mode, press **# * 1 5 0 * 1 #**.

To set the metering pulse to low gain:

- From Configuration Mode, press **# * 1 5 0 * 0 #**.

Local Metering Pulse Override/Polarity Reversal (SX5T-500C)

If your phone system application (PBX, Payphone, Public Calling Office) requires Polarity Reversal instead of a metering pulse in order to initiate call billing, you may set your SX5T to generate Polarity Reversal based on the CDMA system's metering pulse signals.

For 12Khz systems: **Low gain = -2dbm** (+/- 2dbm)
 High gain (default) = 1dbm (+/- 2dbm)

For 16Khz systems: **Low gain = -6dbm** (+/- 2dbm)
 High gain (default) = -2dbm (+/- 2dbm)

To enable Local Meter Pulse Override (Polarity Reversal):

- From Configuration Mode, press **# * 1 5 4 * 1 #**.

To disable Local Meter Pulse Override (default setting):

- From Configuration Mode, press **# * 1 5 4 * 0 #**.

Note: This advanced programming setting is available on the SX5T-500C models only.

SX5T Troubleshooting

Telephone Service is Not Working (Cannot make or receive calls)

- Make sure the SX5T powered on properly.
- Make sure any equipment that is externally connected to the SX5T is connected correctly.
- Test any externally connected equipment on a known system to verify its operation.
- Do you have the antenna connected? If not, connect the antenna.
- Is service established with a service provider? If so, is there any service provider issue? Your service may be disconnected or not functioning properly. Contact your service provider if you think this is the problem.

Unable to Receive Calls

- Is the handset on the cradle? If not, place the handset on the cradle and try again.
- Is the SX5T making a loud repetitive tone? This is the ROH (Receiver Off Hook) tone. Your handset may be off hook. Hang up and try again.
- Is the SX5T set for Fax Only or Data Only operation? If so, press **# * 7 #** to return to voice mode.

Unable to Make Calls

- If you do not hear standard dial tone when your phone is off hook, then your service has a problem. Contact your service provider if you think this is the problem.
- Do you have telephone extensions connected to the SX5T? If so, confirm that none of the extensions is off hook.
- Is the SX5T set for Fax Only or Data Only operation? If so, press **# * 7 #** to return to voice mode.

Unable to Send or Receive Analog Fax Calls

- Do you have fax service on your wireless account? Contact your service provider for more information.
- Do you have good signal strength? If your signal strength is low it may affect faxing. Try repositioning the unit or obtaining a directional high gain external antenna.

No Power

- Is the power supply connected to the unit? Make sure power is available and that the power supply is properly connected to the SX5T.
- If the SX5T is properly connected to the power supply, check to make sure the AC/Battery switch is in the correct position (see "Battery Operation" on page 3).
- If the power supply is connected but the unit still has no power, make sure power is being delivered to the power supply. Check your breaker and contact your power company. Power may be off at your location.

Conformance Statements

The SX5T 800/1900 MHz models are in conformance with all applicable FCC requirements.

FCC Part 15/Part 22/Part 24 Class B Compliance

This Phonocell® SX5T model has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15, Part 22 and Part 24 of the FCC rules. Changes or modifications not expressly approved by Telular Corporation will void your authority to operate the equipment per FCC part 15 paragraph 15.21. 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 antenna.
- Increase the separation between the equipment and the terminal.
- Connect the equipment into an outlet on a circuit different from that to which the terminal is connected.
- Consult your Authorized Telular Distributor or an experienced radio/TV technician for help.

Safety Information

The Phonocell® SX5T functions as both a radio transmitter and receiver. When it is ON, the SX5T receives and sends out radio frequency (RF) energy. The SX5T CDMA unit operates in the frequency ranges of 824 MHz to 894 MHz and / or 1850 MHz to 1910 MHz. When you use the SX5T, the cellular system handling your call controls the power level at which the unit transmits.

Exposure to RF (Radio Frequency) Energy

In 1991, the Institute of Electrical and Electronics Engineers (IEEE), and in 1992, the American National Standards Institute (ANSI), updated the 1982 ANSI Standard for safety levels with respect to human exposure to RF energy. After reviewing the available body of research, more than 120 scientists, engineers and physicians from universities, government health agencies and industry developed this updated Standard. In March, 1993, the U.S. Federal Communications Commission (FCC) proposed the adoption of this updated Standard.

The design of the Telular Phonocell® SX5T complies with this updated Standard. Of course, if you want to limit RF exposure even further than the updated ANSI Standard, you may choose to control the duration of your calls and operate your phone in the most power-efficient manner.

Safe Operation Requirement

The Phonocell® SX5T must be either wall mounted or desk mounted and should not be operated when any person is within 20 cm (8 inches) of the antenna.

Temperature Environment

Operating Temperature: From -10°C to +50°C ; Up to 95% relative humidity (non-condensing).

Storage Temperature: From -40°C to +60°C; Up to 95% relative humidity (non-condensing).

Antenna Care and Replacement

Do not use the Phonocell® SX5T with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Replace a damaged antenna immediately. Use only a Telular-approved antenna. Unauthorized antennas, modifications, or attachments could damage the Phonocell® SX5T.

Driving

Check the laws and regulations on the use of cellular products in the areas where you drive. Some jurisdictions prohibit use of a cellular device while driving a vehicle. Even if your jurisdiction does not have such a law, we strongly suggest that, for safety reasons, the driver use extreme caution when operating the cellular device while the vehicle is in motion. Always obey the law.

Exposure to Electronic Devices

Most modern electronic equipment is shielded from RF energy. However, RF energy from cellular devices may affect inadequately shielded electronic equipment. RF energy may affect improperly installed or inadequately shielded electronic operating and entertainment systems in motor vehicles. Check with the manufacturer or its representative to determine if these systems are adequately shielded from external RF energy. You should also check with the manufacturer of any equipment that has been added to your vehicle.

Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc.) to determine if they are adequately shielded from external RF energy. Turn the Phonecell® SX5T OFF in health care facilities when any regulations posted in the areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Aircraft

Turn OFF the Phonecell® SX5T before boarding any aircraft.

- Use it on the ground only with crew permission.
- Do not use it in the air.

To prevent possible interference, U.S. Federal Aviation Administration (FAA) regulations require you to have permission from a crew member to use your cellular phone (or any other cellular product) while the plane is on the ground. To prevent interference with aircraft systems, FCC regulations prohibit using your cellular device while the plane is in the air.

Children

To prevent damage to the unit, do not allow children to play with the Phonecell® SX5T.

Blasting Areas

Construction crews often use remote control RF devices to set off explosives. Therefore, to avoid interfering with blasting operations, turn the Phonecell® SX5T OFF when in a "blasting area" or in areas posted: "Turn off two-way radio."

Potentially Explosive Atmospheres

Turn the Phonecell® SX5T OFF when in any area with a potentially explosive atmosphere. It is rare, but the Phonecell® SX5T or its accessories could generate sparks. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Areas with a potentially explosive atmosphere are often, but not always, clearly marked. They include fueling areas such as 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 area of the Phonecell® SX5T or accessories.

Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (FPA-58). For a copy of this standard, contact the National Fire Protection Association, One Batterymarch Park, Quincy, MA 02269, Attn: Publications Sales Division.

Patents

Telular Corporation products are protected and manufactured under one or more of the following U.S. patents and related international patents and patents pending relating thereto:

4,658,096	4,737,975	4,775,997	4,868,519	4,922,517	5,134,651
5,361,297	5,469,494	5,046,085	5,715,296	6,775,522	6,778,824
6,785,517.					

Trademarks

Telular Corporation owns the following registered trademarks: TELULAR and design, TELULAR, CELJACK, MAXJACK, TELCEL, HEXAGON LOGO, PHONECELL, CELSERV, TELGUARD, CPX, and AXCELL.

Licensed by QUALCOMM Incorporated under one or more of the following Patents:

4,901,307	5,490,165	5,056,109	5,504,773	5,101,501	5,778,338
5,506,865	5,109,390	5,511,073	5,228,054	5,535,239	5,710,784
5,267,261	5,544,196	5,267,262	5,568,483	5,337,338	5,659,569
5,600,754	5,414,796	5,657,420	5,416,797.		

CDMA2000® is a registered trademark of the Telecommunications Industry Association (TIA-USA).



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