

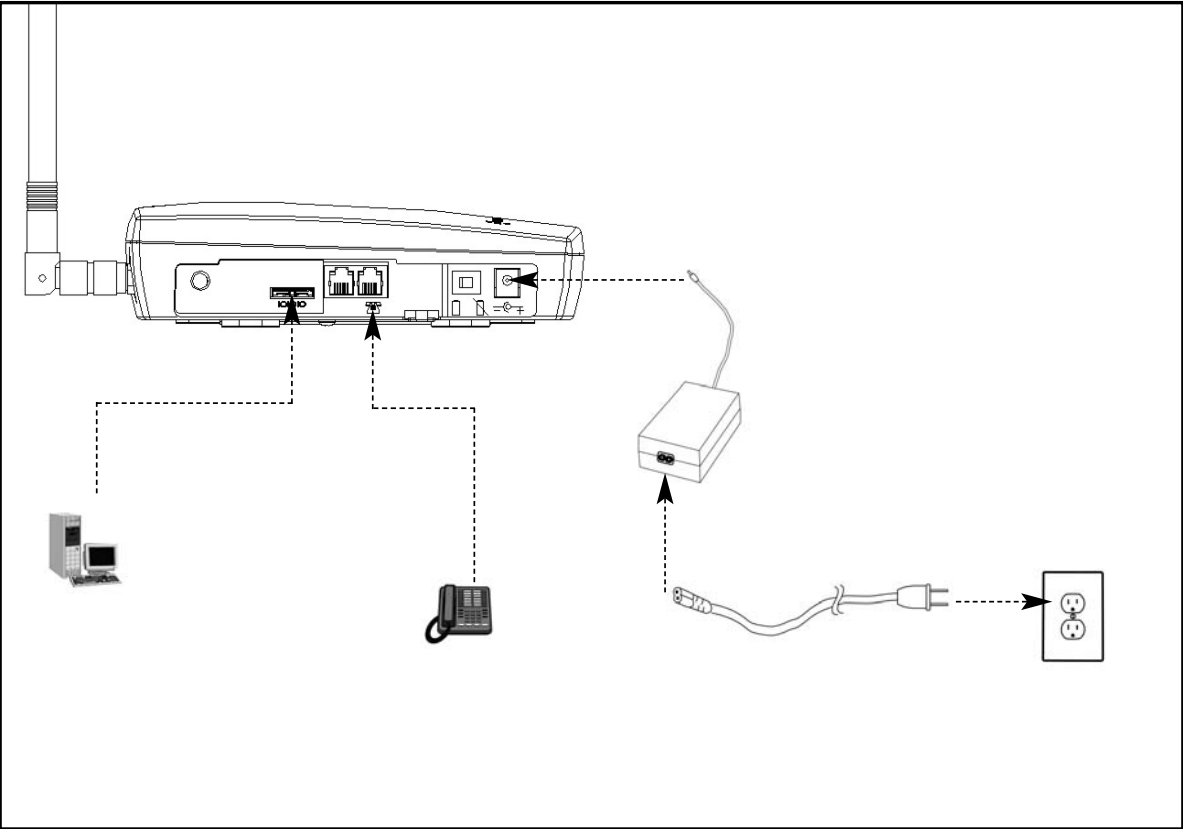
# **Phonocell<sup>®</sup> SX5T CDMA2000<sup>®</sup> 1X**

**Fixed Wireless Terminal**

**800/1900 MHz CDMA**

***USER MANUAL***

**QUICK CONNECTION GUIDE**



**SX5 Fixed Wireless Terminal**

## CONTENTS



Phonecell® SX5T CDMA FWT



Spike Antenna



Power Supply



AC Power Cord

Before installing the **Phonecell® 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 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* SECTION OF THIS MANUAL FOR IMPORTANT INFORMATION ON USE, WARRANTY AND INDEMNIFICATION**

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### Telular Corporation

**Corporate Headquarters**  
647 North Lakeview Parkway  
Vernon Hills, Illinois 60061, USA

### Technical Support

Tel: 847-247-9400 • Fax: 847-247-0021  
E-mail: support@telular.com • <http://www.telular.com>

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## SETUP

### Safe Operation Requirement

The Phonecell® SX5 must be either wall mounted or desk mounted and should not be operated when any person is within 203 mm (8 inches) of the antenna.

### Emergency Batteries

#### Install Batteries

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

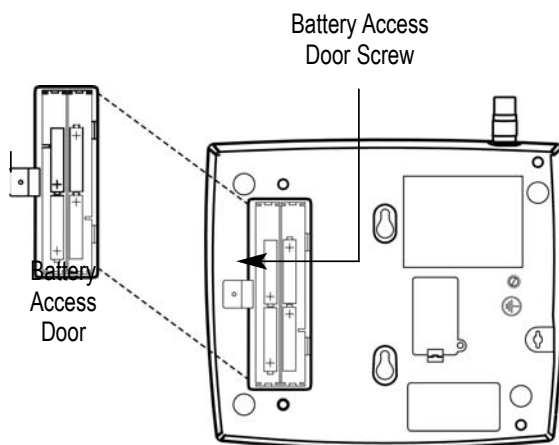
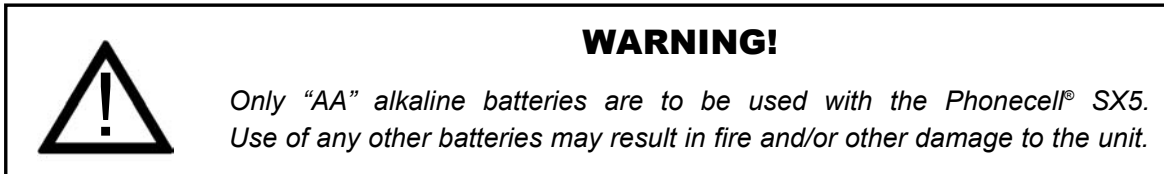


Figure 3 – SX5 battery installation.

5. To test the batteries, turn the AC/Battery switch to battery operation. After the test, turn the switch back to AC unless you want to continue to operate from battery power. - *see Figure 4*.

**NOTE:** The SX5 does not support rechargeable batteries.

#### Battery Operation

The unit will not automatically switch from AC to battery upon loss of AC power. The AC/Battery switch must be changed manually - *see Figure 4*. Battery power will provide up to one hour of standby and 30 minutes of talk time, depending on the SX5 model.

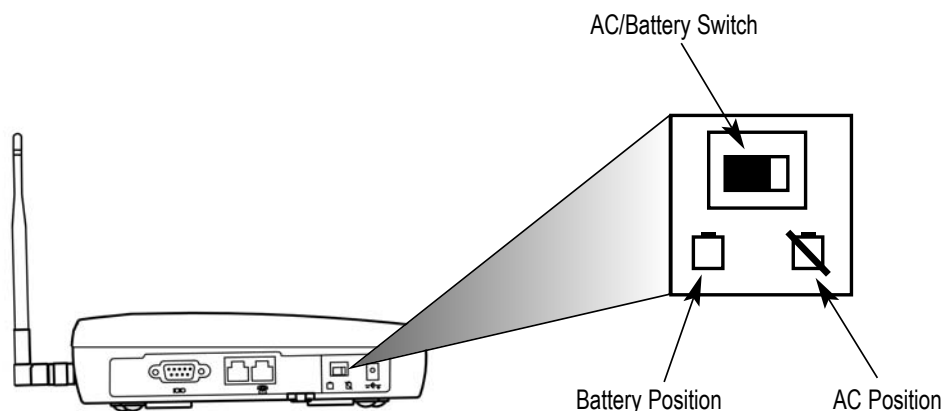


Figure 4 – SX5 AC/Battery switch.

## SX5 Location and Installation

The SX5 comes with a standard spike antenna (TNC) - **see Figure 5**. For optimal signal strength, choose a location that is above ground and as close to windows (or exterior walls) as possible - **see Figure 6**. Cellular signal strength is displayed by the Received Signal Strength Indicator (RSSI) LED on the unit - See the *How to Use the LED Status Indicators* section of this manual.

1. Connect the antenna to the terminal - **see Figure 5**.
2. Finger-tighten the antenna. Do not over-tighten the antenna.

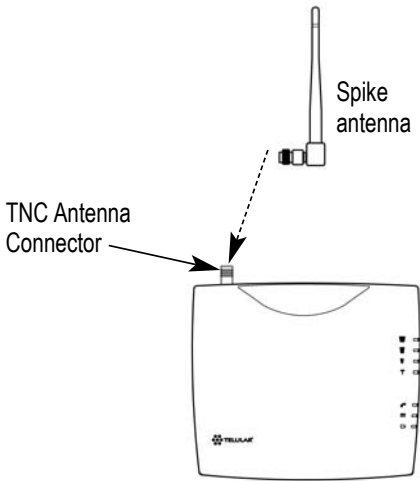


Figure 5 – SX5 antenna connection.

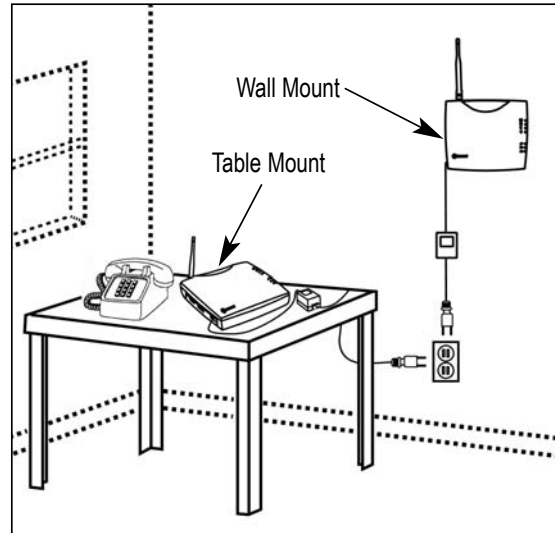


Figure 6 – Typical SX5 installation.

## 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 SX5 onto the screws - **see Figures 7 and 8**.

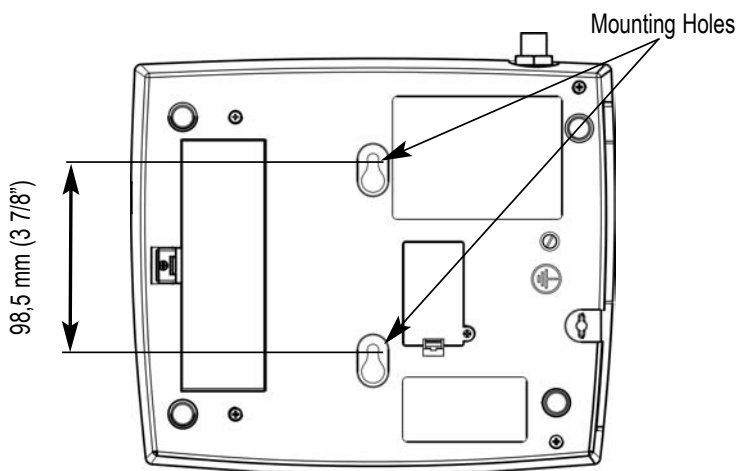


Figure 7 – SX5 mounting holes.

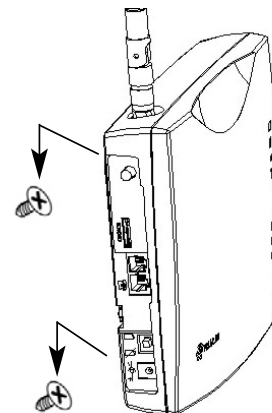


Figure 8 – Mount the SX5 onto the screws.

## Connect the SX5 to AC Power

1. A protective earth (safety ground) terminal (screw) marked with a protective earth symbol is provided on the back of the SX5 - **see Figure 9a**. Connect this terminal to a good earth ground (i.e., a cold water pipe) by means of an 18 gauge or heavier insulated wire. The wire insulation should be green with a yellow stripe to indicate that this is a protective earth (safety ground) connection.

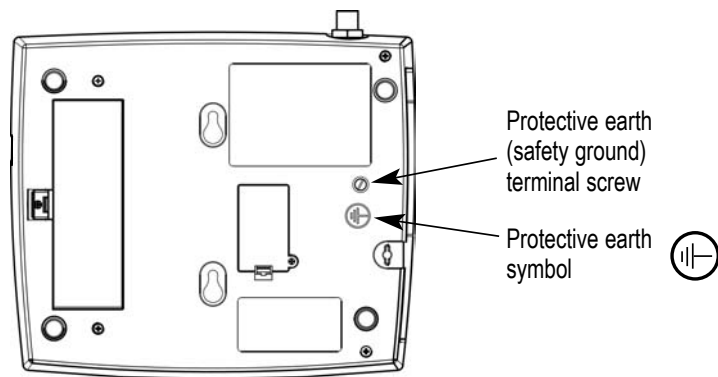


Figure 9a – Earth ground terminal screw.

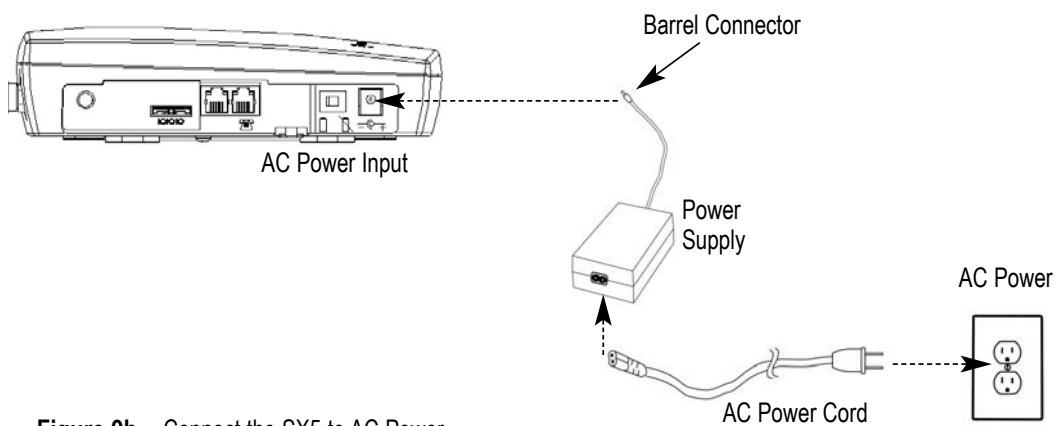


Figure 9b – Connect the SX5 to AC Power.

2. Connect the barrel connector of the power supply to the AC power input receptacle of the SX5 - **see Figure 9b**.
3. Plug the AC power cord into the power supply.
4. Plug the AC power cord into the AC Power outlet.

**HINT:** If there are no batteries in the SX5, it will only power on if the AC/Battery switch is in the AC position - **see Figure 4**.

5. Check the cellular signal strength and move the unit until you achieve the best signal possible - see the *LED Status Indicators* section of this manual.

## Attach a Telephone to the SX5

1. Plug one end of a standard phone cord into a phone- **see Figure 10**.
2. Connect the other end of the phone cord to the telephone port on the side of the SX5 (marked with a phone icon) - **see Figure 10**.

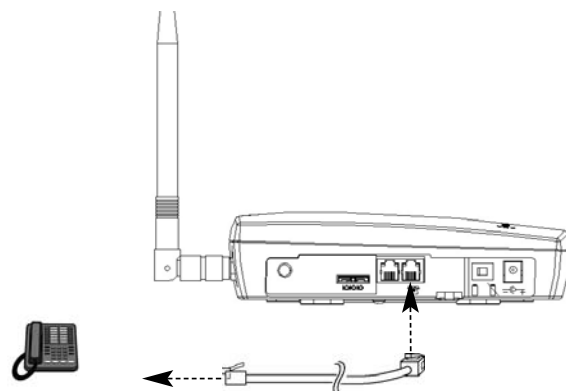


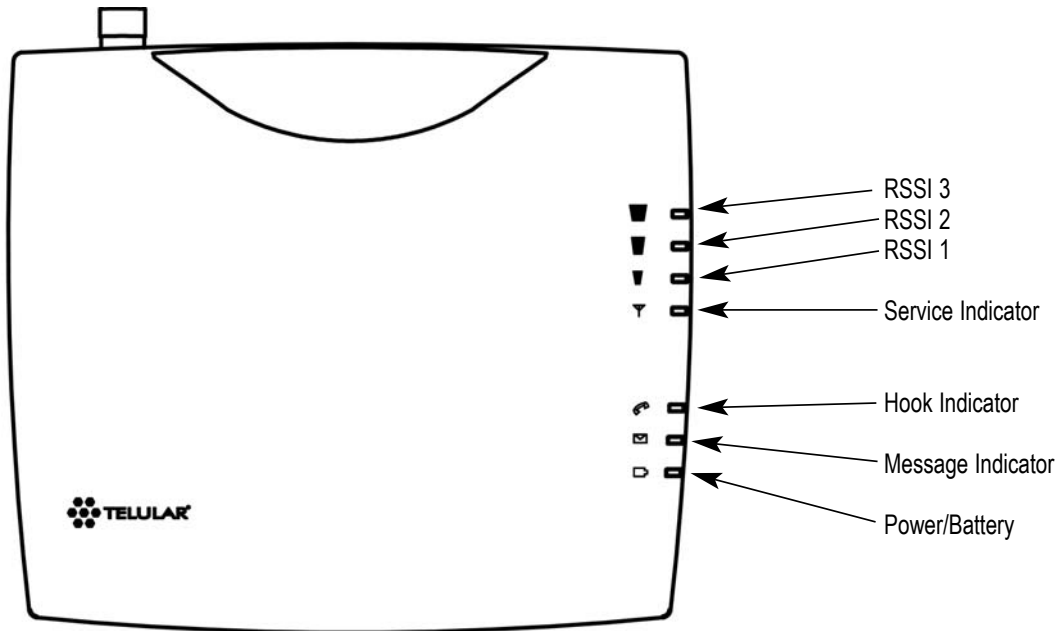
Figure 10 - Connect SX5 to Telephone.

## GETTING TO KNOW YOUR SX5

### LED Status Indicators

The LED indicators are activated when the SX5 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
Green	Flashing	Roaming
Red	Continuous	No Service*

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

### Received Signal Strength Indicator (RSSI)

RSSI LED's	Activity	Cellular Signal Strength
RSSI 1	Flashing	Lowest
	Continuous	Poor
RSSI 2	Flashing	Fair
	Continuous	Good
RSSI 3	Flashing	Very Good
	Continuous	Best



## Hook Indicator

LED Color	Activity	Description
Green	Flashing (with ringer)	Incoming call
Green	Continuous	FWT is off hook
Green	Fast Flashing	Processing data call
Green	Slow Flashing	Call on hold

## Message Indicator

LED Color	Activity	Description
Green	Slow Flashing	New voice mail or text message

## AC Power/Battery Indicator

LED 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

**Service** - Indicates that phone is ready for use (steady tone).

**No Service** - Indicates that there is no service available (fast beeping tone).

**Roam** - Indicates service in a roam area.

**Supplementary Service** - Indicates that supplementary services have been activated.

## **CALL FUNCTIONS**

### **Making Calls**

1. Pick up the telephone handset (the phone is now “off-hook”).
2. Listen for dial tone. If service is not available, a No-Service tone is produced. Hang-up the phone and try again. If the No-Service tone continues, contact your service provider to verify that cellular service is available.
3. Dial the phone number. The call will be sent automatically.

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

### **Receiving Calls**


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

### **Ending Calls**

Hang-up the phone (place the handset back onto the telephone cradle).

### **In-Call Features**

#### **Place a Call on Hold <sup>1</sup>**

To place a call on hold, press the *Flash* key on your phone. If your phone does not have a *Flash* key, press and release the *Switch-Hook*. When the call is on hold, the Hook Indicator LED  will flash and you will hear a dial tone on your phone. If you hang-up your phone when a call is on hold, the call will be disconnected.

#### **Retrieve a Call on Hold <sup>1</sup>**

Press the Flash key or press and release the switch-hook to go back to your held call.

#### **Answer Call Waiting <sup>1</sup>**

When you're on an active call, you will hear a beep tone on your phone when a new call is incoming. To answer the new call and place the first call on hold, press *Flash* or press and release the *Switch-Hook*.

#### **Answer a Call when Dialing or Off Hook with Dial Tone**

Sometimes you may receive a call as you are dialing or when your just about to dial a number. If this happens, you will hear a call waiting tone (beep tone) on your phone. Press *Flash* or press and release the *Switch-Hook* to answer the call.

#### **Adjust the Volume Level**

If the volume level on the phone is too high or too low, adjust the levels using the keypad on the telephone. The telephone must be in Tone-Dial (DTMF) mode to adjust the levels.

- To Increase Volume press: **# \* 8 #**
- To Decrease Volume press: **# \* 3 #**

**NOTE:** The default setting allows adjustment of the volume three (3) steps from the default in either direction (Up or Down). The volume setting remains in effect for future calls until changed manually. When power to the SX5 is cycled (powered OFF/ON), the default mid-range volume setting will be restored.

<sup>1</sup> *Call Hold and Call Waiting are network dependent features. Contact your service provider for information on activating these features.*

## **SX5 USER FEATURES**

The SX5 has many user features and setup options that can be accessed using a telephone connected to the SX5. To access these features, press the key sequence for the option at any time. Some options are not available during a call. See the *In-Call Functions* heading in the *Call Functions* section for functions that are allowed during calls.

All user options are activated with a sequence of digits entered from the telephone keypad. If you hear an ordinary dial tone after a key sequence is entered, the option has been successfully changed or set. If you hear three tones before the dial tone, there has been an error.

**HINT:** Make sure to use a tone-dial (DTMF) type telephone when accessing any user feature or option that requires a key sequence. Pulse-dial and rotary-dial telephones will not allow key (DTMF) sequences.

### **Messages (Voice Mail and Text Messages)**

The SX5 is capable of receiving both text and voice mail messages. The Message LED will flash to indicate a text or voice message has been received.

#### **Voice Mail Access**

To check voice mail, dial your voice mail access number and follow the prompts. Contact your service provider for more information.

#### **Text Messaging (SMS)**

The SX5 allows you to send and receive text messages using a Personal Computer (PC). To do this, you need a PC connected to the SX5 data port.

#### **Message Indication Clearing**

The Message LED will flash until you remove the message notification from the SX5. After you have heard or read your messages, you can clear the notification by pressing **# \* 112 #**.

**NOTE:** All text messages will be erased when you clear the notification.

### **Audio Settings**

#### **Line Level**

The Line Level option controls the handset volume for any telephones connected to the SX5.

Press: **# \* 69 \* <output level> #**

**0** = Low

**1** = Normal (default)

**2** = High

#### **Ringer Styles**

The SX5 can be set to use one of three different ringer styles (US, UK, or European). Any phone connected to the SX5 will ring according to the alert type selected. If the Ringer Style is set to Off, there will be no audible alert.

Press: **# \* 100 \* <line alert option> #**

**1** = US (default)

**2** = UK

**3** = European

**0** = Off

### **Dial Settings**

#### **Dial Delay**

The Dial Delay is the time that the SX5 waits after a number is dialed before automatically sending the number.

Press: **# \* 11 \* <delay> #**

The delay must be between 2 and 20 seconds. The default delay time is 3 seconds.

### **Pulse Dial Option**

Press: # \* 12 \* <pulse-dial> #

0 = disable Pulse Dialing capability (default)

1 = enable Pulse Dialing capability

### **Auto Dial**

The SX5 will recognize frequently called phone numbers and send them without waiting for the Dial Delay. Up to 50 numbers that have been successfully called at least twice will be stored when this feature is enabled. Any loss of power to the SX5 will clear this list.

Press: # \* 21 \* <auto dial> #

0 = disable Auto Dial option (default)

1 = enable Auto Dial option

### **On-Hook Idle Voltage**

This feature has been added to the SX5 and allows control of the on-hook idle voltage at the RJ-11. It is recommended that only a qualified technician for PBX or payphone environments should only change this parameter. Contact your installer for more information.

Press: # \* 134 \* <mode> #

0 = Low battery mode and forward active when on-hook (default).

1 = High battery mode and low power standby when on-hook

### **Caller ID**

The SX5 will support Caller ID device operation. The default format setting is designed to work for most Caller ID devices.

#### **Change Caller ID Format**

The following key sequence is used to select the Caller ID (CID) format:

Press: # \* 84 \* <CID format> # <Flash>

1 = MDMF (Multiple Data Message Format) (default)

2 = SDMF (Single Data Message Format)

3 = OFF

### **Set Time and Date**

Allows for a set time and date to be displayed on a connected caller ID device.

#### **Set Date**

Press: # \* 131 \* <month> \* <day> \* <year>

<month> = 1-12

<day> = 1-31

<year> = 2000-2999

#### **Set Time**

Press: # \* 130 \* <hours> \* <minutes> #

<hours> = 0 - 23

<minutes> = 0 - 59

### **Reset User Factory Defaults**

Reset all user programmable options back to the factory defaults.

Press: # \* 107 \* 1 #

## **Dialing Prefix Setup**

The SX5 allows for a prefix to be setup that will be added to the dial string of every outbound call. A maximum of 10 digits can be added to the dial string.

### **Enable/Disable Dialing Prefix**

To **enable** press: **# \* 119 \* 1 #**

To **disable** press: **# \* 119 \* 0 #**

### **Configure Dialing Prefix**

The dial prefix can be up to 10 digits of 0 - 9, #, or \*.

Press: **# \* 120 \* <prefix> #**

## **DATA FEATURES**

When connected to a personal computer (PC), the SX5 is capable of sending and receiving digital fax and data, sending and receiving email communications, and accessing the Internet. Data speeds may vary depending upon your cellular network.

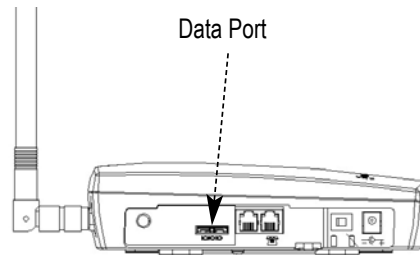
### **Connect SX5 to a Computer**

Use a data cable to connect the data port on the SX5 to the appropriate data port on your PC - see **Figure: 20**

### **Configure PC for Circuit Switched Data**

#### **Requirements**

- Active CDMA account with your network service provider including a Data/Fax facility
- Windows (version 95/98 or later)
- PC with a serial or USB Port.



**Figure 20 - Data Port on the SX5**

#### **Modem Setup**

1. Power on your PC/laptop.
2. Access the Control Panel, then select the Modems option.
3. Install a new modem device for the SX5 with the following specifications:

**Modem Type:** Standard 19200 bps Modem

**Maximum speed of serial port:** 19,200

**Data bits:** 8

**Parity:** None

**Stop bits:** 1

**Use Flow Control:** Enable this option and select Hardware [RTS/CTS]

**Extra settings:** AT & D1

### **Automatic Baud Rate Fallback Control**

The SX5 supports an automatic fallback to 19,200 bps when errors are detected in the data stream. This is useful for applications such as PC digital fax because most PC fax applications require a 19,200 bps baud rate on the serial port.

#### **Enabling Fallback**

Enable this feature when you have an application that uses a port speed of 19,200 bps. When the SX5 has a port speed that does not match the port speed on the PC, errors will be detected. When these errors are detected, the SX5 will adjust the port speed to 19,200 bps, thus matching the PC application rate of 19,200 bps. It does not matter if the SX5's port speed is higher or lower than 19,200 bps, the SX5 will still be adjust the rate to 19,200 bps.

**NOTE:** The SX5 does not support autobauding and will only adjust the port speed to 19,200 bps under the above conditions. No other rate will be automatically set.

Press: **# \* 132 \* 1 # ( <default setting> )**

#### **When to Disable Fallback**

If you mainly use the SX5 for GPRS data, then disable fallback of the port rate. This will allow some errors in the data stream without effecting a change in port speed on the SX5.

Press: **# \* 132 \* 0 #**

#### **Baud Rate AT Commands**

The SX5 will accept AT commands to setup the port speed. If you want to change the SX5 port speed for a session or keep the change permanent, or if you just want to see the profile settings, use the following AT commands from a terminal application (like HyperTerminal).

**NOTE:** Make sure DTE Fallback is OFF before making changes to the baud rate.

View current configuration	<b>AT&amp;V</b>
Change the port speed on the SX5T to <baud rate>	<b>AT+IPR=&lt;baud rate&gt;</b>
Permanently change the SX5T port speed to <baud rate>	<b>AT+IPR=&lt;baud rate&gt;&amp;W</b>

## Digital Fax Setup

The SX5T is capable of receiving and sending faxes via a personal computer using a serial or USB port. The PC application and modem setup must be able to support software flow control. To setup flow control properly, follow the instructions for setting up a standard modem connection in Appendix A of this manual with the following changes.

**HINT:** Set up separate modems for PC fax and PC circuit switched data connections. This way you will not have to make changes to the modem settings everytime you want to switch between fax and data.

1. Change the flow control of the standard modem to enable **software flow control**.
2. Change Extra Settings from AT&D1 to **AT+IFC=1,1 &d1**. This enables software flow control on the SX5.
3. To deliver faxes to your computer's USB port, set the SX5T to USB data connection by entering **# \* 67 \* 3 #**.
4. Run your PC fax application using this new modem connection for receiving and sending faxes.

**HINT:** To set the SX5T to receive fax calls through its RJ-11, press **# \* 67 \* 1 #**.

## Analog Modem Support

The SX5T supports connectivity with an analog modem.

### RJ-11 Port Setup

The RJ-11 voice jack on the SX5 (the jack marked with a phone icon) can be configured for voice (default setting) or analog modem data. If the jack is configured for analog data, the bypass string for voice calls must be entered before a voice call can be made. In voice mode, data transmissions are routed through the data port. To send data via an analog modem while in voice mode, use the analog bypass string.

### Modem Connection Options

The SX5T has the capability to either wait for a remote modem to connect before the local modem connects or not. If your application has timing issues where the local application times out before the remote modem connects, then use the following string command to enable this option.

Press: **# \* 113 \* <mode> #**

Parameter	Value
<mode>	0 = Voice (default) 1 = Analog Data
<option>	0 = Off (default) 1 = On

### Bypass String

Enter the bypass string if you want to make a single call in a different mode than the current mode. After the call, the SX5 will return to the mode that was active before the call.

Press: **# \* 19 \* <bypass code> #**

**0** = Voice

**1** = Fax

**2** = Analog Modem

**Modulation**

The analog modem interface can be configured to specific modulations or set to automatic modulation adjustment.

**NOTE:** This modulation is only for the connection between the modem and the SX5.

Press: # \* 114 \* <modulation> #

**Supported Modulations**

Modulation	Baud Rates (bps)	<modulation>
V.8	Auto	0 (default)
V.32bis TCM	14,400	1
V.32bis TCM	12,000	2
V.32bis TCM	9600	3
V.32	9600	4
V.32bis TCM	7200	5
V.32	4800	6
V.22bis	2400	7
V22.bis	1200	8
V.22	1200	9
V.22	600	10

**Example:** To set the modulation between the modem and the SX5T to V.22bis @ 24, enter # \* 114 \* 7 #



### Air Interface Data Rates and Error Correction

The SX5T supports both transparent (no error correction) and non-transparent (error correction) data connectivity along with different air interface data rates. Check with your carrier to determine which is right for your application. If you are not sure what your carrier supports, use the default setting of non-transparent

Press: **# \* 115 \* <error correction> \* <air interface modulation> #**

#### Error Correction

**0** = transparent (no error correction) (default)

**1** = non-transparent (error correction)

#### Supported Air Interface Data Rates

Modulation	Over the Air Data Rate (bps)	<air interface modulation>
Automatically Selected	Auto	0 (default)
V.21	300	1
V.22	1200	2
V.23	1200 (uplink) 75 (downlink)	3
V.22bis	2400	4
V.26ter	2400	5
V.32	4800	6
V.32	9600	7
V.34	9600	12
V.34	14,400	14
V.110	300	65
V.110	1200	66
V.110	2400	68
V.110	4800	70
V.110	9600	71
V.110	14,400	75

**Example:** To set the air interface rate to V.32 @ 9600 bps with no error correction, enter **# \* 115 \* 0 \* 7 #**

## **SX5T CDMA FWT WITH FAX**

The SX5T CDMA FWT with Fax allows connection to a fax machine and additional telephones. Simply connect your phone(s) or fax machine(s) to either or both of the RJ-11 jacks on the side of the SX5T.

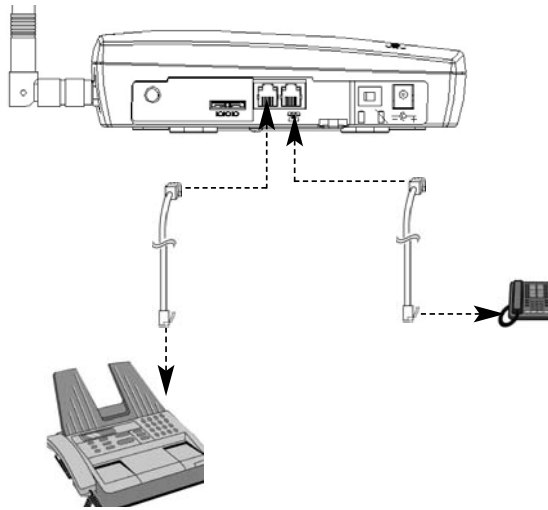


Figure 12 - Connecting a Phone and a Fax.

### **Fax Timing Adjustments**

Phase D adjustments can be made to analog faxing. If you experience faxing issues try adjusting this setting.

Press: # \* 133 \* <control> \* <time out> #

Parameter	Values
<control>	0 = Disable 1 = Enable
<time out>	1 - 255 in 15ms steps

### **Analog Fax Bypass**

This feature allows the phone jack to process the next outgoing call as an analog fax call. After this call, the phone jack automatically returns to the default voice protocol. The user enters this key sequence prior to dialing the telephone number. The terminal interprets the string and properly sets up the call. Refer to the following examples.

**NOTE:** The analog fax bypass string can only be used in single jack operation.

#### **Use the Fax Bypass**

1. Lift up the handset (take off-hook).
2. Press: # \* 19 \* 1 #, then dial the fax number to be called.
3. Press START on the fax machine.

**HINT:** If the fax machine does not have a handset, enter # \* 19 \* 1 #, followed by the remote fax number to be called. Press START.

**HINT:** If the fax machine has the capability to store telephone numbers for speed dialing, the # \* 19 \* 1 # command string may be programmed into the machine as a prefix to the telephone number. With some machines, it may also be possible to store the command string as a speed dial number and dial the remote fax machine telephone number manually.

## **SX5 TROUBLESHOOTING**

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

- Make sure the SX5 powered on properly.
- Make sure any equipment that is externally connected to the SX5 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 SX5 making a loud repetitive tone (ROH)? Then either speakerphone or the handset is off hook. Hang up and try again.

### **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 SX5? If so, one of those may be off hook (the display will show this information).

### **Unable to Send or Receive Analog Fax Calls**

- Is your fax machine connected properly? You may have the fax machine connected to the wrong RJ-11 jack of the SX5. Make sure it is connected to the jack with no symbol (no phone icon). If you want to use the SX5 in single jack mode, please refer to the fax section of this manual for proper setup.
- 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 is low it may affect faxing. Try repositioning the unit or obtaining a direction high gain external antenna.

### **Unable to Send or Receive Circuit Switched Data (CSD) Calls**

- Is your computer connected to the data port of the SX5T? If not, connect the computer with an appropriate data cable.
- Do you have CSD service on your wireless account? Contact your service provider for more information.
- Is your computer configured properly to access data service with the SX5T? Please refer to the data sections of this manual to check your setup.

### **Moisture or Ventilation Problems**

- Is moisture forming on or around the SX5? Remove any moisture with a clean dry towel and move the unit to a well ventilated area.

### **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 SX5.
- 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 breakers & contact your power company. Power may be off at your location.

## **CONFORMANCE STATEMENTS**



The SX5 800/1900 MHz models are in conformance with all applicable FCC requirements.

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

This Phonecell® SX5 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 Phonecell® SX5 functions as both a radio transmitter and receiver. When it is ON, the SX5 receives and sends out radio frequency (RF) energy. The SX5 CDMA unit operates in the frequency ranges of 824 MHz to 894 MHz and / or 1850 MHz to 1910 MHz. When you use the SX5, 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 Phonecell® SX5 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 Phonecell® SX5 must be either wall mounted or desk mounted and should not be operated when any person is within 203 mm (8 inches) of the antenna.



### **WARNING!**

*The Phonecell® SX5 is intended either to be wall mounted or mounted on a flat surface to allow proper ventilation. Do not block the space beneath the Phonecell® SX5 as this could cause the unit to overheat and fail.*

### **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 Phonecell® SX5 with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Have the antenna replaced by a qualified technician immediately. Use only a manufacturer-approved antenna. Unauthorized antennas, modifications, or attachments could damage the Phonecell® SX5.

## **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® SX5 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® SX5 before boarding any aircraft.

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

To prevent possible interference with aircraft systems, U.S. Federal Aviation Administration (FAA) regulations require you to have permission from a crew member to use your 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® SX5 .

## **Blasting Areas**

Construction crews often use remote control RF devices to set off explosives. Therefore, to avoid interfering with blasting operations, turn the Phonecell® SX5 OFF when in a "blasting area" or in areas posted: "Turn off two-way radio."

## **Potentially Explosive Atmospheres**

Turn the Phonecell® SX5 OFF when in any area with a potentially explosive atmosphere. It is rare, but the Phonecell® SX5 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® SX5 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.

## **WARRANTY**

### **I. WHAT THIS WARRANTY COVERS AND FOR HOW LONG:**

TELULAR CORPORATION ("Telular") warrants to a distributor Buyer, or to a customer only if the customer is a Buyer directly from Telular, that the Products (including accessories) shall comply with the applicable Specifications and shall be free from defects in material and workmanship under normal use and service for a period of fifteen (15) months from date of shipment from Telular. Telular, at its option, shall at no charge either repair, replace or refund the purchase price of the Product during the warranty period, provided it is returned by Buyer in accordance with the terms of this warranty to the Telular designated repair center. Repair or replacement, at Telular's option, may include the replacement of parts, boards or Products with functionally equivalent reconditioned items. Repaired and replacement items are warranted for the balance of the original warranty period. All replaced items shall become the property of Telular. **SUCH ACTION ON THE PART OF TELULAR SHALL BE THE FULL EXTENT OF TELULAR'S LIABILITY HEREUNDER, AND BUYERS EXCLUSIVE REMEDY.** Buyer shall be responsible for all costs and expenses incurred by Buyer including without limitation any handling, labor or transportation charges. **OTHER THAN AFORESAID, THIS EXPRESS WARRANTY IS EXTENDED BY TELULAR TO BUYER ONLY AND NOT TO BUYER'S CUSTOMERS OR USERS OF BUYER'S PRODUCTS.**

### **II. HOW TO OBTAIN WARRANTY SERVICE**

Product covered under this warranty shall only be accepted from and returned to Buyer's designated repair center. Buyer's dealers, distributors, agents, and end users cannot submit items to Telular under this warranty. To receive warranty service an RMA number must first be obtained from Telular Technical Support. The defective or non-compliant Product should be sent by Buyer freight pre-paid to: Telular Corporation, 647 North Lakeview Parkway, Vernon Hills, IL 60061, USA or other designated location. The product must be packaged in the original carton and packing material or an equivalent package and must have the assigned RMA number clearly marked on the carton. Returned Product received without an RMA number will be returned to the sender.

### **III. WARRANTY CONDITIONS:**

This is the complete warranty for the Products manufactured by Telular and sold to Buyer. Telular assumes no obligation or liability for additions or modifications to this warranty unless made in writing and signed by an officer of Telular. Unless made in separate written agreement between Telular and Buyer, Telular does not warrant the installation, field maintenance or service of the Products or parts.

**TELULAR CANNOT BE RESPONSIBLE IN ANY WAY FOR ANY ANCILLARY EQUIPMENT NOT FURNISHED BY TELULAR WHICH IS ATTACHED TO OR USED IN CONNECTION WITH THE PRODUCTS OR FOR OPERATION OF THE PRODUCTS WITH ANY ANCILLARY EQUIPMENT AND ALL SUCH EQUIPMENT IS EXPRESSLY EXCLUDED FROM THIS WARRANTY. FURTHERMORE, TELULAR CANNOT BE RESPONSIBLE FOR ANY DAMAGE TO THE PRODUCTS RESULTING FROM THE USE OF ANCILLARY EQUIPMENT NOT FURNISHED BY TELULAR FOR USE WITH THE PRODUCTS.**

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**IV. WHAT THIS WARRANTY DOES NOT COVER:**

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**V. GENERAL PROVISIONS:**

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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		

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647 North Lakeview Parkway  
Vernon Hills, Illinois 60061, USA  
Tel: 847-247-9400 • Fax: 847-247-0021  
E-mail: [support@telular.com](mailto:support@telular.com)  
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