



# **PHONECELL® SX4P TDMA 800**

**DESKTOP PHONE  
VOICE MODEL**

***USER MANUAL***

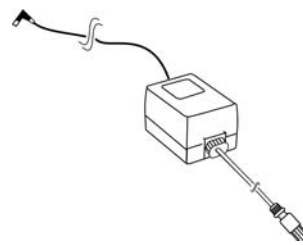
## **CONTENTS**



Phonecell® SX4P Desktop Phone



Spike Antenna



Power Supply

Before installing your **Phonecell® SX4P**, 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.**

### **Not Included**

- Six AAA Alkaline Batteries (for emergency battery backup).
- Two 1½-inch (3.75 cm) Mounting Screws (for wall-mount installation only).

## **SAFE OPERATION INSTRUCTIONS**

**IMPORTANT!** Before installing or operating this product, read the **SAFETY AND GENERAL INFORMATION** section of this manual.

- Install the unit indoors.
- Install the unit on 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 SECTIONS OF THIS GUIDE FOR IMPORTANT INFORMATION ON USE, WARRANTY AND INDEMNIFICATION**

## **IMPORTANT NOTICES**

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## **TABLE OF CONTENTS**

|                                                  |    |
|--------------------------------------------------|----|
| <b>CONTENTS</b> .....                            | 2  |
| <b>SAFE OPERATION INSTRUCTIONS</b> .....         | 2  |
| <b>IMPORTANT NOTICES</b> .....                   | 2  |
| <b>INSTALLATION</b> .....                        | 4  |
| Antenna Location and Setup.....                  | 4  |
| Emergency Battery Backup .....                   | 4  |
| Connect Your Phonecell SX4P to AC Power .....    | 5  |
| Optional Wall-Mount Instructions .....           | 5  |
| <b>LCD DISPLAY</b> .....                         | 6  |
| Received Signal Strength.....                    | 6  |
| Call Timer .....                                 | 6  |
| <b>PHONECELL SX4P POWER-UP SEQUENCE</b> .....    | 7  |
| <b>PHONECELL SX4P NORMAL MODE</b> .....          | 7  |
| <b>OPERATION</b> .....                           | 7  |
| Phonecell SX4P Controls .....                    | 7  |
| Place a Call .....                               | 8  |
| Receive a Call .....                             | 8  |
| End a Call .....                                 | 8  |
| Two Digit Dialing .....                          | 8  |
| Store a New Number in Memory.....                | 8  |
| Use Memory Dialing.....                          | 8  |
| View Missed Calls .....                          | 9  |
| View Dialed Calls .....                          | 9  |
| Hookflash .....                                  | 9  |
| <b>IMPORTANT TONES AND ALERTS</b> .....          | 9  |
| <b>PHONECELL SX4P TROUBLESHOOTING</b> .....      | 10 |
| <b>PHONECELL SX4P USER SET-UP</b> .....          | 11 |
| <b>PHONECELL SX4P USER SET-UP COMMANDS</b> ..... | 11 |
| <b>GENERAL INFORMATION AND SAFETY</b> .....      | 13 |
| <b>WARRANTY</b> .....                            | 14 |

## INSTALLATION

### Antenna Location and Setup

The Phonecell® SX4P comes with a standard spike antenna (TNC) - **see Figure 1**.

- 1) For optimal signal strength, choose an antenna location that is above ground and as close to windows (or exterior walls) as possible - **see Figure 2**. Cellular signal strength is displayed in either direct readout mode or bar graph mode. Direct readout mode displays signal strength in a range of -100 dBm (no signal) to -49 dBm (strongest signal). Bar graph mode displays signal strength as a series of solid block characters. The stronger the signal, the more characters are displayed - **see Figure 10**.
- 2) Finger-tighten the antenna; do not over tighten.

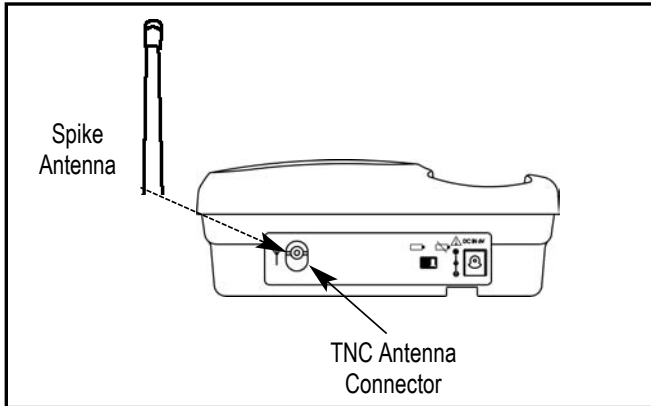


Figure 1 – SX4P antenna connection.

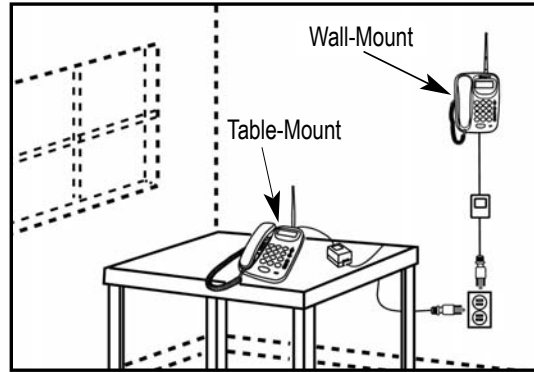


Figure 2 – For optimal call clarity, the antenna should be pointed up and the SX4P located close to an exterior wall or window.

### Emergency Battery Backup

#### To 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 tab and remove the battery access door - **see Figure 3**.
- 3) Install the batteries (not included) - **see Figure 4**.
- 4) Reinstall the battery access door using the screw.
- 5) Turn the AC/Battery switch to battery operation - **see Figure 5**.

**IMPORTANT:** When the battery operation is selected, the SX4P will operate for approximately 10 minutes of call time with fresh batteries. The SX4P does not support rechargeable AAA batteries.

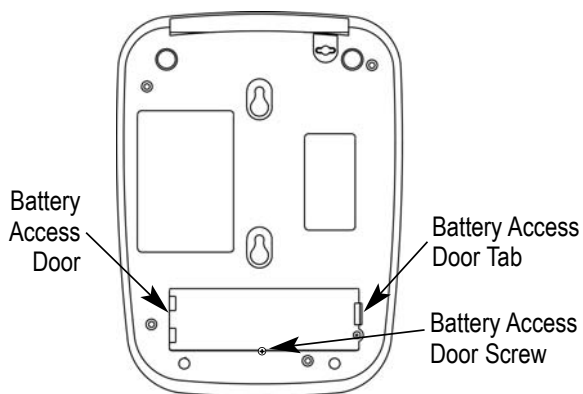


Figure 3 – SX4P battery access door located on the back of the unit.

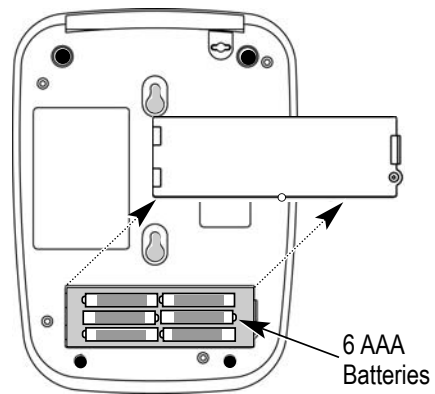
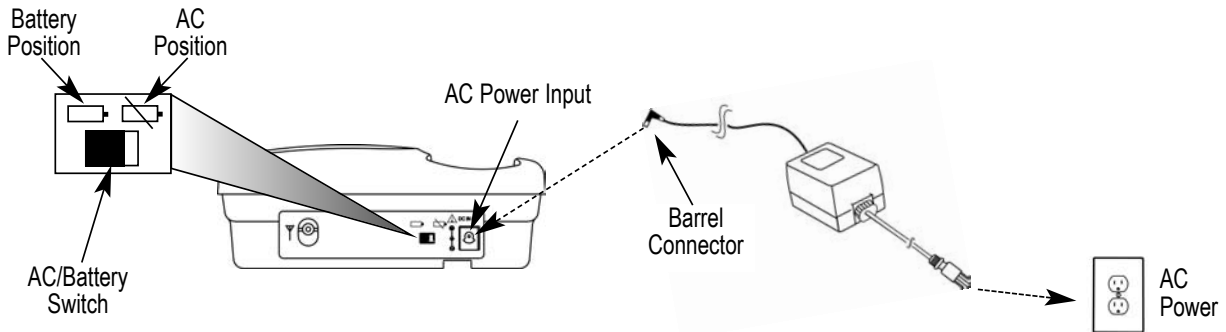


Figure 4 – SX4P battery compartment with 6 - AAA batteries (not included).

## Connect the Phonecell SX4P to AC Power

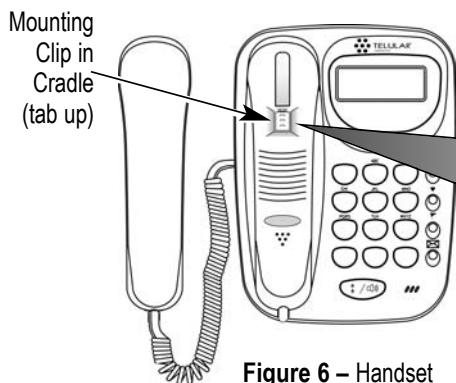
- 1) Turn the AC/Battery Switch to the AC position - **see Figure 5.**
- 2) Connect the barrel connector of the power supply to the rear panel receptacle of the SX4P - **see Figure 5.**
- 3) Plug the power supply into the AC socket. The unit will power up automatically.
- 4) Check the cellular signal strength and move the unit until you achieve the best signal possible - see the *Received Signal Strength* section of this manual.



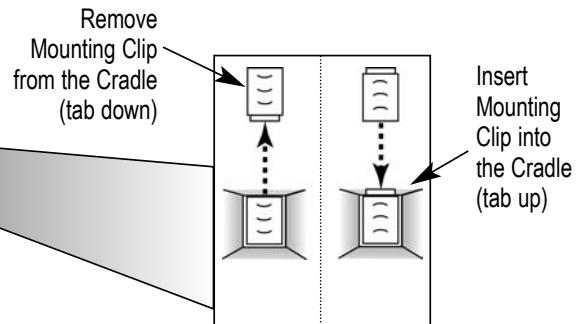
**Figure 5** – Location of the SX4P's AC power input and AC/Battery switch.

## Optional Wall-Mount Instructions

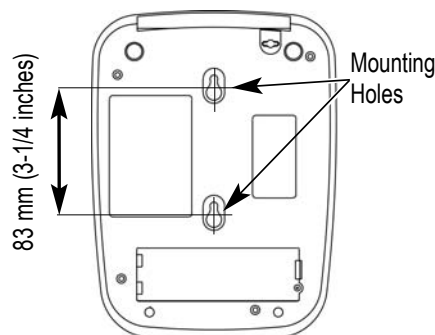
- 1) Remove the mounting clip from the cradle and re-insert it with the tab pointing up - **see Figures 6 and 7.**
- 2) Mark two hole locations 83 mm (3-1/4 inches) vertically apart and drill two holes into the wall.
- 3) Install the screws (not supplied) into the wall, leaving a gap (approximately 3 mm (1/8 inches)) between the screw head and the wall.
- 4) Align the mounting holes with the screws and mount the SX4P onto the screws - **see Figures 8 and 9.**



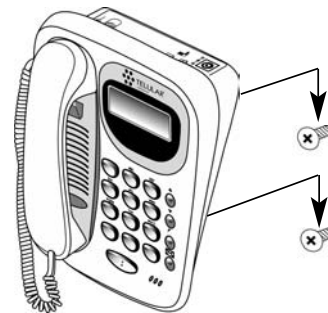
**Figure 6** – Handset mounting clip assembly.



**Figure 7** – Handset mounting clip assembly for wall-mount applications.



**Figure 8** – SX4P mounting hooks.



**Figure 9** – Mount the SX4P onto the screws.

## LCD DISPLAY

The LCD displays call, programming and signal strength information - **see Figure 10**.

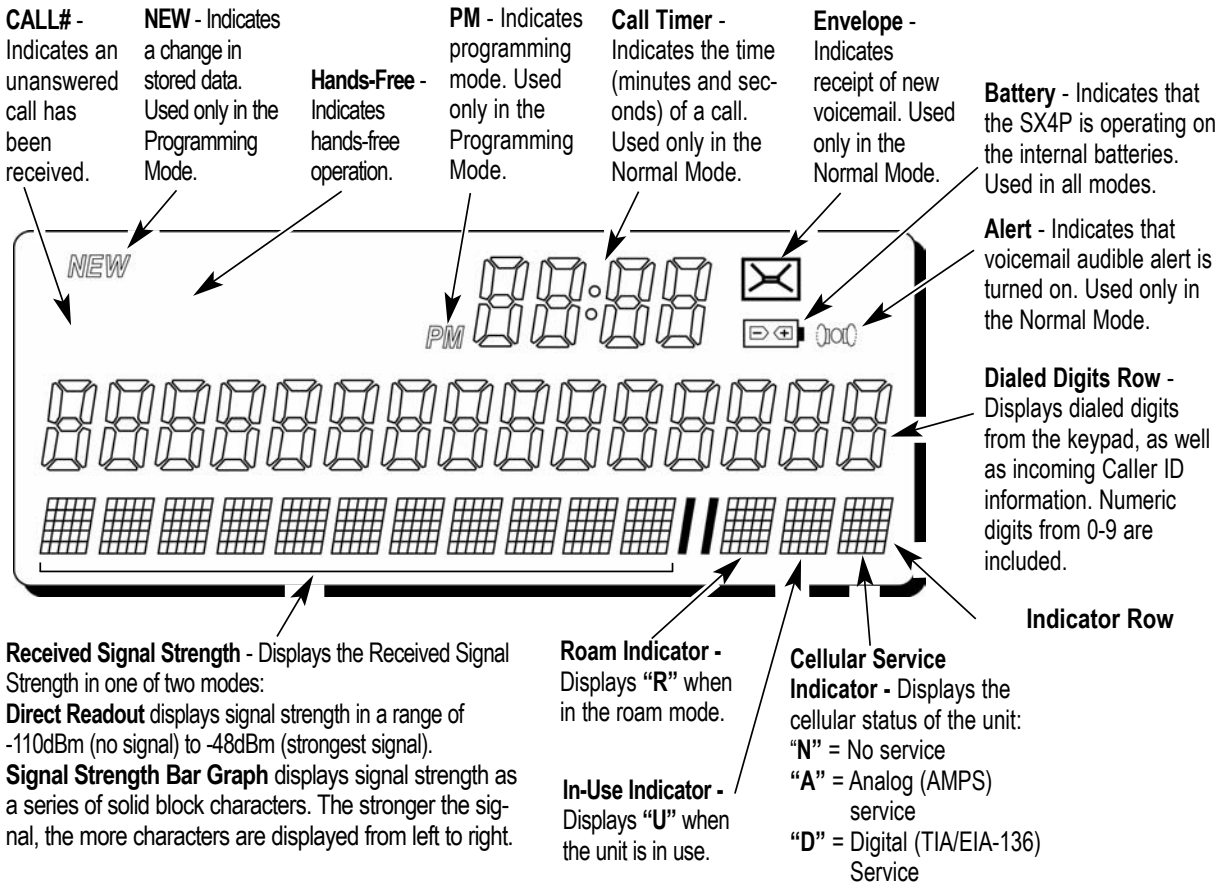


Figure 10 – Phonocell SX4P LCD Display.

### Received Signal Strength

The Received Signal Strength is displayed by the first 11 characters (from left to right) in the Indicator Row - **see Figure 10**. Received signal strength can be displayed by either a direct readout of the signal strength in dBm or a signal strength bar graph. This setting is programmable. See the *Phonocell SX4P Programming* section of this manual.

- **Direct Readout** displays the signal strength as "-XXXdBm", where **XXX** refers to the signal strength. The SX4P monitors signal strength in the range of -110dBm to -48dBm, where -110dBm indicates no signal and -48dBm indicates the strongest signal. The factory setting is the Direct Readout Mode.
- **Signal Strength Bar Graph** displays the signal strength as a series of solid block characters. The stronger the signal, the more characters are displayed from left to right. To set Bar Graph mode, see the *Phonocell SX4P User-Programming Commands* section of this manual.

**NOTE:** The 12th character (from left to right) is used as a separator only and does not provide information - **see Figure 10**. A "||" character is displayed and is always displayed.

### Call-Timer

The Call Timer icon appears when the SX4P begins a connected phone call. The call timer begins as all zeros and increments every subsequent second. The timer will roll over back to 0:00 after 99:59. When the handset is placed on-hook (ends call), the call timer stops and displays the accumulated call time for thirty seconds. The Call Timer icon is then turned off.

If the handset goes off-hook and a digit is pressed within the thirty second period, the call time display will immediately turn blank.

## PHONECELL SX4P POWER-UP SEQUENCE

When the SX4P is powered on, the unit automatically proceeds through a power-up sequence in which the SX4P displays all LCD fields, the Mobile Identification Number, the software version and radio version.

**NOTE:** When the AC/Battery switch is changed, the Power-Up Sequence will begin.

## PHONECELL SX4P NORMAL MODE

The SX4P operates in the Normal Mode. The functions of the Phonecell SX4P are displayed on the LCD - *see Figure 10*.

### Dialed Digits (Middle Row)

#### Outgoing Calls

When you make an outgoing call (the handset is off-hook), the numeric digits entered are displayed on the LCD Display - *see Figure 10*.

- The star/asterisk (\*) key displays "-."
- The pound/hash (#) key displays "≡."

**NOTE:** When the handset is on-hook and keys are pressed, numeric digits are displayed only when the SX4P is in the programming mode. Dialed digits move from *right-to-left* as they are entered. The dialed digit row is completely cleared when the handset goes on-hook in the *Normal Mode*.

#### Incoming Calls

When the SX4P receives an incoming call, the Dialed Digits row displays the incoming call number (Caller ID) when the on-hook call alert sounds. The incoming call number display is turned off when the call is answered (handset is off-hook). Caller ID will also be shown for off-hook call alerts.

**NOTE:** The incoming call number (Caller ID) feature requires that Caller ID is provided by the cellular network. If the service is not provided, or the caller ID is blocked or unknown, the display remains blank on incoming calls.

## OPERATION

### Phonecell SX4P Controls

#### Front Panel

All controls for the SX4P are located on the front panel - *see Figure 11*. Pressing any of the front panel controls will cause the unit to beep for approximately 100 milliseconds when the key is depressed.

#### Keypad

The keypad includes all digits 0 through 9 and special characters hash/pound (#) and star/asterisk (\*). All data entry and programming activities are performed using the keypad.

#### Flash Key

The flash key produces a hookflash. When you initiate the Hookflash function, it automatically lets you:

- Speed up the connection after you dial a phone number.
- Answer an incoming call that occurs when you're dialing a phone number.

#### Redial/Speakerphone Key

The Redial/Speakerphone Key provides redial capability and Speakerphone operation.

- 1) Pick up the handset or press the Redial/Speakerphone key. The SX4P is now "off-hook"
- 2) A long press of the Redial/Speakerphone key will redial the last number dialed.

#### Switching Between the Speakerphone and Handset

The SX4P allows use of either the Speakerphone or Handset while in an active call.

- 1) While the call is active, to disable the speaker and activate the handset, just pick up the handset from the cradle. The speakerphone is now inactive. To activate the speakerphone while using the handset just press the Redial/Speakerphone key. The speakerphone function is now

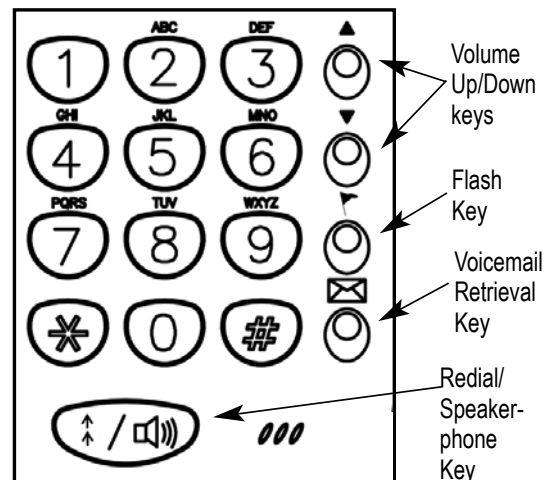


Figure 11 – SX4P front panel.

enabled and you may now put the handset back into the cradle.

### **Volume Up/Down Keys**

When off-hook, the Up/Down keys control the volume of the earpiece in the handset. The available range is  $\pm 12$  dBm of the nominal earpiece output level. Each adjustment increment is 6 dBm. The volume setting persists until changed by the user, or the volume setting is returned to nominal by resetting the Phonecell SX4P (power Off/On).

### **Voicemail Retrieval Key**

The Voicemail Retrieval key allows the user to retrieve voicemail messages.

**NOTE:** Voicemail is subject to network availability. If available, a voicemail DTMF digit string must be programmed. Contact your service provider to determine if voicemail service is available and to program the voicemail DTMF digit string.

## **Place a Call**

- 1) Pick up the SX4P handset or press the Redial/Speakerphone key. The SX4P is now "off-hook."
- 2) Listen for dial tone.
- 3) Dial the phone number or long press the Redial/Speakerphone key. The dialed number will be displayed

**NOTE:** If service is not available, a No-Service tone is produced and the letter "N" is displayed on the LCD in the Indicator (bottom) row. Hang up the Phonecell SX4P and try again. If the No-Service tone continues and the "N" continues to be displayed, contact your service provider to make sure cellular service is activated.

## **Receiving Calls**

When there is an incoming call, the SX4P will alert and Caller ID information (if available) will be displayed.

- 1) Pick up the SX4P handset or press the Redial/Speakerphone key.
- 2) Begin talking.

## **End a Call**

Hang up the phone by either placing the handset back onto the SX4P cradle or by pressing the Redial/Speakerphone key, if using the speakerphone option.

**NOTE:** If the call is ended by the other party, the SX4P will clear the line and re-establish a dial tone within 13 seconds. The SX4P may then be used for another call or may be hung up.

## **Two Digit Dialing**

In many countries, two-digit dialing is required to access emergency services, information services, and voicemail. The SX4P accepts two-digit dialing.

## **Store a New Number in Memory**

The SX4P must be on-hook. If the SX4P is off-hook or no key entry is made within two minutes while in this mode, the operation will be canceled. Up to 12 numbers may be stored.

- 1) Press the Flash key. STORE will be displayed in the Indicator (bottom) row.
- 2) Enter the telephone number (maximum 20 digits) and press the Flash key. ENTER MEMORY will be displayed in the Indicator (bottom) row.
- 3) Enter the memory key location to store this number by pressing a key 0 through 9, pound/hash (#), or star/asterisk (\*).
- 4) STORED IN <location> will be displayed in the Indicator (bottom) row for two seconds. The number is now stored in memory.

## **Use Memory Dialing**

Memory dialing may be used when the SX4P is either on-hook or off-hook.

- 1) While off-hook, press any valid memory key location (0 through 9, star/asterisk (\*) or pound/hash (#)) for 2 seconds. The number will be displayed and the phone will dial the displayed number.
- 2) While on-hook, press any valid memory key location (0 through 9, star/asterisk (\*) or pound/hash (#)) for 2 seconds. The number will be displayed and the phone will automatically dial the displayed number. Lift the handset after the call is connected.

## **View Missed Calls**

The SX4P must be on-hook to view missed calls. If the SX4P is off-hook or no key entry is made within two minutes, the operation will terminate. The SX4P will store a maximum of 10 missed calls.

- 1) Press the UP key. MISSED CALLS will be displayed in the Indicator (bottom) row.
- 2) Press the Up/Down keys to scroll through all missed calls. Missed call telephone numbers will



be displayed.

- 3) To dial a missed call, press the Redial/Hands-Free key when the missed call number is displayed. Lift the handset when the call is connected.
- 4) To exit, go off-hook or do nothing for 2 minutes.

### **View Dialed Calls**

The SX4P will store a maximum of 10 dialed calls.

- 1) The SX4P must be on-hook to view dialed calls. If the SX4P is off-hook or no key entry is made within two minutes, the operation will terminate.
- 2) Press the Down key. DIALED CALLS will be displayed in the Indicator (bottom) row.
- 3) Press the Up/Down keys to scroll through all dialed calls. Dialed telephone numbers will be displayed in the Indicator (bottom) row.
- 5) To dial a call, press the Redial/Hands-Free key when that dialed call number is displayed. Lift the handset when the call is connected.
- 6) To exit, go off-hook or do nothing for two minutes.

### **Hookflash**

When you initiate the Hookflash function, it automatically lets you:

- Speed up the connection after you dial a phone number.
- Answer an incoming call that occurs when you're dialing a phone number.
- Use special (supplementary) cellular services which may be available in your cellular service area.

#### **Use the Hookflash Function**

There are two ways to initiate the Hookflash function:

- Press the Flash key on your SX4P OR
- Press the hang up or switch-hook mechanism on your SX4P once quickly (approximately 1/2-second).

## **IMPORTANT TONES AND ALERTS**

### **No-Service Tone**

When cellular service is not available, the receiver emits a No-Service (fast-beeping) tone instead of the normal (steady) dial tone.

### **ROH (Receiver Off-Hook) Tone**

If the SX4P handset remains off-hook (off its cradle) with no dialing activity for 30 seconds, the receiver emits an ROH tone for 45 seconds.

### **Incoming Call Alert**

If you're dialing a number and an incoming call occurs, the receiver will emit an audible ring. To answer the incoming call:

- Press the Flash button once. This will connect the incoming call OR
- Hang-up immediately. This will cause the phone to start ringing.

### **Roam Dial Tone**

When cellular service is available, but the SX4P is in a Roam area, the receiver may emit a different dial tone to indicate the roaming condition. However, unless the SX4P is re-programmed in the field, the factory default tone is set the same as normal service dial tone.

### **Variable Dial Time (Auto Send Delay) Option**

When you place a call, your SX4P automatically sends the phone number over the cellular network after you dial the last digit. However, to make sure you have enough time to dial the last digit, a 3-second Auto SEND Delay is programmed into the unit at the factory. To change the Auto SEND Delay setting, see the *User Programming Commands* section of this manual.

### **Zero Dial Delay for Frequently Called Numbers**

A new patented feature enables the Phonecell SX4P to recognize your frequently called phone numbers and send them immediately – without the 3-second Auto Send Delay. The SX4P stores a list of up to 50 different numbers in its memory. This list contains the last 50 numbers that have been called at least twice successfully.

**NOTE:** Cycling (turning OFF/ON) the power will erase the current list. A new list will be started when power is re-applied. To enable or disable this feature, see the *User Set-Up Commands* section of this manual.

## PHONECELL SX4P TROUBLESHOOTING



### **WARNING!**

*Only Authorized Service Personnel should remove the cover of your Phonecell SX4P. For further assistance, contact your Authorized Telular Representative. Please have the model and serial number ready (model and serial numbers are located on the label on the bottom of the unit).*

### **Cellular Telephone Service is Not Working**

If the cellular telephone service is not working, contact your cellular provider.

### **Unable to Receive Incoming Calls**

Verify that the SX4P is "on-hook" (hung up).

### **Moisture or Ventilation Problems**

Visually inspect your SX4P's enclosure. Moisture can damage the equipment. Ventilation is also very important. If there are moisture or ventilation problems, move the SX4P to correct as necessary, see the Temperature Environment section of this manual.

### **No Power**

To properly operate, the SX4P must either be connected to AC power or have the required batteries loaded in the battery compartment. Upon loss of power to the SX4P, verify proper connection to AC power. If AC power is unavailable, verify that the batteries are in good condition and that the battery switch is in the battery power active position.

### **Battery Backup**

The SX4P can accommodate 6 standard AAA alkaline batteries for operation when AC power is not available. A switch is used to select either AC or internal battery operation. When the internal battery operation is selected, the SX4P will operate for approximately 10 minutes of talk time with fresh batteries. Replace the batteries if necessary.

**Note:** The SX4P does not support rechargeable batteries

## **PHONECELL SX4P USER SET-UP**

The SX4P has several programmable options for unique customer or network applications. These options are stored in the SX4P's non-volatile memory and are retained during power cycling.

### **Set-Up Mode**

The SX4P's non-volatile memory can be accessed in the User Set-Up Mode. The handset must be "on-hook" before entering the set-up mode. Normal Mode operation is suspended during set-up and is available when the set-up mode is exited. ***To enter the user set-up mode, press and hold the Star (\*) key, then press the "Flash" key.*** The PM icon will display on the LCD.

### **Overview:**

- 1) Stored data appears on the Dialed Digits (middle) row of the LCD.
- 2) A descriptive label appears on the Indicator (bottom) row of the LCD.
- 3) The Up/Down keys are used to scroll through the menu items.
- 4) Pressing any numeric key when a label is displayed causes:
  - The Dialed Digits row to turn off
  - The NEW icon to illuminate
  - The pressed key to appear at the rightmost Dialed Digits row position.
- 5) Pressing the Redial/Hands-Free key after a numeric entry will attempt to store the data.
- 6) A correct entry will cause the NEW icon to disappear and the new stored data to be displayed on the Dialed Digits row.
- 7) An incorrect entry causes the Dialed Digits row to flash. When a numeric key is then pressed, it causes:
  - The Dialed Digits row to turn off.
  - The NEW icon to remain displayed.
  - The pressed key to appear at the rightmost Dialed Digits row position.
- 8) When entering data, the NEW icon is displayed. Pressing the Flash key at any time will cancel the operation and redisplay the stored data on the Dialed Digits row. The NEW icon will then turn off.

### **Exit User Set-Up Mode**

The User Set-Up Mode can be exited by any one of the following:

- Going "off-hook" (picking up handset)
- Failure to enter any digit within two minutes.

The PM icon is then turned off, returning the SX4P to the Normal Mode.

## **PHONECELL SX4P USER SET-UP COMMANDS**

The following commands are displayed when in the User Set-Up Mode. An <entered value> is comprised of the digits 0 through 9.

### **Call Alert Volume**

The following key sequence is used to enter the volume of the call alert:

**Label:           CALL ALERT VOL**

**Data:            <volume>**

The volume value is set to **0** for off; **1** for low; and **2** for high. If the volume value is greater than 2, it is considered invalid. The factory default is **2**.

### **Message Alert Volume**

The following key sequence is used to enter the volume of the message alert:

**Label:           MSG ALERT VOL**

**Data:            <volume>**

The volume value is set to **0** to for off; **1** for low; and **2** for high. If the volume value is greater than 2, it is considered invalid. The factory default is **1**.

### Call Alert Tone

The following key sequence is used to set the call alert tone:

**Label:**           **CALL ALERT TONE**

**Data:**            <tone number>

The tone value is set to 1 for medium tone, 2 for low tone, and 3 for high tone. If the tone number is not in the range of 1 to 3, it is considered invalid. The factory default is **1**.

### Auto Send Delay

The following key sequence is used to enter the auto send delay:

**Label:**           **AUTO SEND DELAY**

**Data:**            <delay>

If the delay is not in the range of 2 to 20 seconds, it is considered invalid. The factory default is **3**.

### RSSI Display Type Option

The following key sequence is used to select the RSSI display option:

**Label:**           **RSSI DISPLAY**

**Data:**            <type>

The type value is set to **0** for direct readout in dBm or **1** for bar graph. If the RSSI display type value is greater than 1, it is considered invalid. The factory default is **1**.

### LCD Display Contrast

The following key sequence is used to enter the LCD Display Contrast:

**Label:**           **LCD CONTRAST**

**Data:**            <contrast>

If the LCD contrast is not in the range of 0 (darkest contrast) to 19 (lightest contrast), it is considered invalid. The factory default is **5**.

### Zero Delay Dial

The following key sequence is used to enter the Zero Delay Dial option:

**Label:**           **ZERO DELAY DIAL**

**Data:**            <zero delay dial>

The zero delay dial value is set to **0** for Disable and **1** for Enable. The factory default is **1** (Enable).

### Mobile Identification Number (MIN)

The following key sequence is used to view the SX4P MIN (phone number):

**Label:**           **MIN: \_ \_ \_ \_ \_**

This is a read-only feature and is not user programmable.

## **PGENERAL INFORMATION AND SAFETY**

### **Temperature Environment**

The SX4P functions as both a radio transmitter and receiver. When it is ON, the SX4P receives and sends radio frequency (RF) energy. The SX4P operates in the frequency range of 824 MHz to 894 MHz. It employs commonly used phase/frequency modulation techniques. When you use the SX4P, the cellular system handling your call controls the power level at which your unit transmits.

#### **Operating Temperature:**

From -10°C (14°F) to +50°C (122°F); Up to 95% relative humidity (non-condensing)

#### **Storage Temperature:**

From -20°C (-4°F) to +60°C (140°F); Up to 95% relative humidity (non-condensing)

### **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 your Telular Phonecell SX4P complies with this updated Standard. 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.

### **FCC Part 15 Class B Compliance**

The SX4P model has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 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 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.

### **Safe Operation Requirements**

#### **Antenna Care and Replacement**

- The Phonecell 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.
- Attach either a lightning arrester or a ground wire on the antenna mast to an 8-foot ground rod or cold water pipe.
- Do not use the Phonecell with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Have your antenna replaced by a qualified technician immediately.
- Do not power unit until antenna is connected, as it may burn out the radio transmitter.
- Use only a manufacturer-approved antenna. Unauthorized antennas, modifications, or attachments could damage the Phonecell and will void the Grant of Type Acceptance.
- Your Phonecell SX4P must be placed or mounted on a flat surface to allow proper ventilation. Do not block the air vents or the space beneath your Phonecell SX4P as this could cause the unit to overheat and fail.

### **Interference to Medical and Personal Electronic Devices**

- Do not use the Phonecell SX4P in health care facilities when any regulations posted in the area restrict cellular phone use.

**NOTE:** Consult the manufacturer(s) of your medical and personal electronic device(s) (for example a pacemaker or hearing aid) to determine if they are adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information regarding medical devices.

**CAUTION:** When cleaning, do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.

### **WARNING: Potentially Explosive Atmospheres**

- Do not operate the Phonecell near blasting caps or in a blasting area.
- Do not install the Phonecell in any area with potentially explosive atmosphere.
- Do not transport or store flammable gas, liquid or explosives in the area of your Phonecell or accessories.

## **IMPORTANT NOTICES - CONTINUED**

### **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.**

**WHEN THE PRODUCT IS USED IN CONJUNCTION WITH ANCILLARY OR PERIPHERAL EQUIPMENT NOT MANUFACTURED BY TELULAR, TELULAR DOES NOT WARRANT THE OPERATION OF THE PRODUCT/PERIPHERAL COMBINATION, AND TELULAR SHALL HONOR NO WARRANTY CLAIM WHERE THE PRODUCT IS USED IN SUCH A COMBINATION AND IT IS DETERMINED BY TELULAR THAT THERE IS NO FAULT WITH THE PRODUCT. TELULAR DISCLAIMS LIABILITY FOR RANGE, COVERAGE, AVAILABILITY, OR OPERATION OF THE CELLULAR SYSTEM WHICH IS PROVIDED BY THE CARRIER.**

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

(a) Subsequent upgrades and enhancements to the Product. (b) Defects, non-compliance or damage resulting from use of the Product in other than its normal and customary manner or environment. (c) Defects, noncompliance or damage from misuse, lightening, accident or neglect. (d) Defects, noncompliance or damage from improper testing, operation, maintenance, installation, adjustment, or any alteration or modification of any kind. (e) Product disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection and testing to verify any warranty claim. (f) Product which has had the serial number removed or made illegible. (g) Defects, non-compliance or damage due to spills of food or liquid. (h) All plastic surfaces and all other externally exposed parts that are scratched or damaged due to customer normal use. (i) Costs and expenses, including without limitation handling, labor and transportation, incurred in returning Product for warranty service to Telular's Repair Center. (j) Repair, programming or servicing by someone other than Telular.

**V. GENERAL PROVISIONS:**

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