

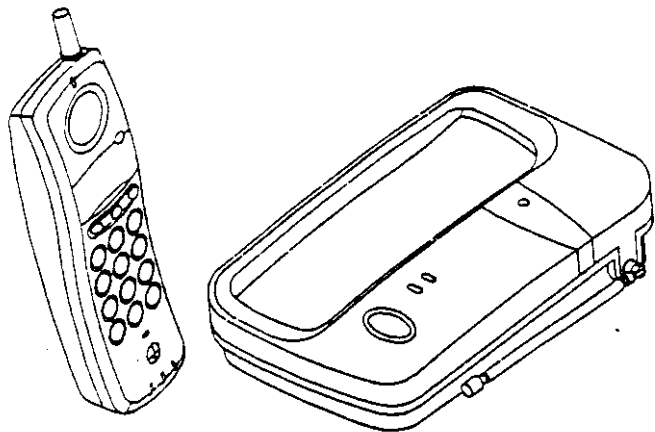
# ***EXHIBIT C***

## ***User Manual***

900 MHz  
DIGITAL SPREAD SPECTRUM  
CORDLESS PHONE

MODEL: TL-2900

INSTRUCTION MANUAL



IMPORTANT: BEFORE USING YOUR NEW PHONE, WE STRONGLY RECOMMEND YOU READ THIS MANUAL THOROUGHLY.

SPECIAL NOTES



The lightning flash and arrowhead within the triangle is a warning sign alerting you of "dangerous voltage" inside the product.

CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, NO NOT EXPOSE THIS APPLANCE TO RAIN OR MOISTURE.

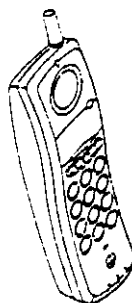
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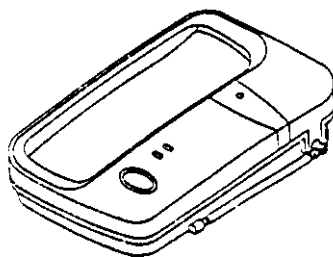
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PARTS CHECK LIST

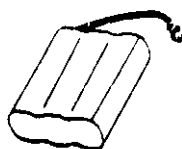
Handset



Base Unit



Battery pack



Telephone line cord



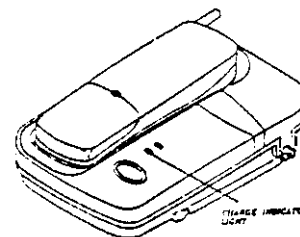
AC/DC adaptor



HANDSET BATTERIES

To charge the batteries, place the handset in the base unit. The CHARGE indicator will light to show the handset is seated properly and the batteries are charging.

It is recommended that the battery pack be charged initially for 24 hours. You can use your telephone before that with diminished capacity, but it is best to let the battery pack charge fully. To maximize the charge capacity of the NiCad battery pack, recharge the battery for several cycles. Once you have properly conditioned the rechargeable battery, the maximum battery life should be 4 hours of continuous talk time or 5 days of standby. After initial charging, a typical maintenance charge is 8 hours.



CAUTION: To reduce the risk of fire or injury, read and follow the instructions.

1. Use only TL-2900 battery.
2. Released electrolyte is corrosive and may cause damage to the eyes or skin. It may be toxic if swallowed.
3. Exercise care in handling batteries in order not to short the battery with conducting materials such as rings, bracelets, and keys. The battery or conductor may overheat and cause burns.
4. Do not dispose of the battery in a fire. The cell may explode.

IF THE BATTERIES DON'T RECHARGE

The battery pack can be recharged many times, but if you get a low-battery signal even after 24 hours of charging, the battery pack should be replaced.

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## IMPORTANT SAFETY INSTRUCTIONS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water (for example, near a bath tub, kitchen sink, or swimming pool).
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation. To protect it from overheating, these openings must be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation where proper ventilation is not provided.
7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
10. To reduce the risk of electric shock, do not disassemble this product, voltages or other risks. Incorrect reassembling can cause electric shock when the appliance is subsequently used.
11. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.
12. Unplug this product from the wall outlet:
  - A. When the power supply cord or plug is damaged or frayed.
  - B. If liquid has been spilled into the product.
  - C. If the product has been exposed to rain or water.
  - D. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work to restore the product to normal operation.
  - E. If the product has been dropped and the cabinet has been damaged.
  - F. If the product exhibits a distinct change in performance.
13. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
14. Do not use the telephone to report a gas leak in the vicinity of the leak.

SAVE THESE INSTRUCTIONS

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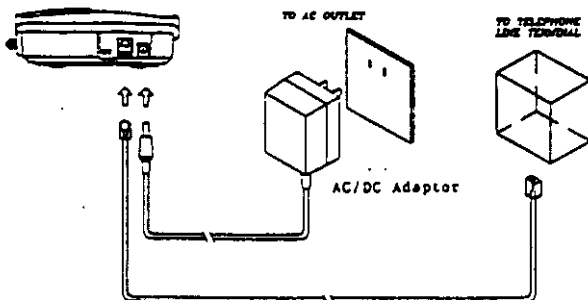
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## GETTING STARTED

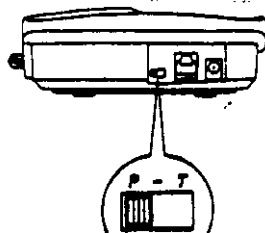
### SETTING UP YOUR PHONE

1. Choose an area near an electrical outlet and a telephone wall jack.
2. CHARGE THE HANDSET BATTERIES BEFORE USE.

The batteries recharge automatically whenever the handset is in the base unit cradle. The batteries should be charged for 24 hours before using your phone for the first time.



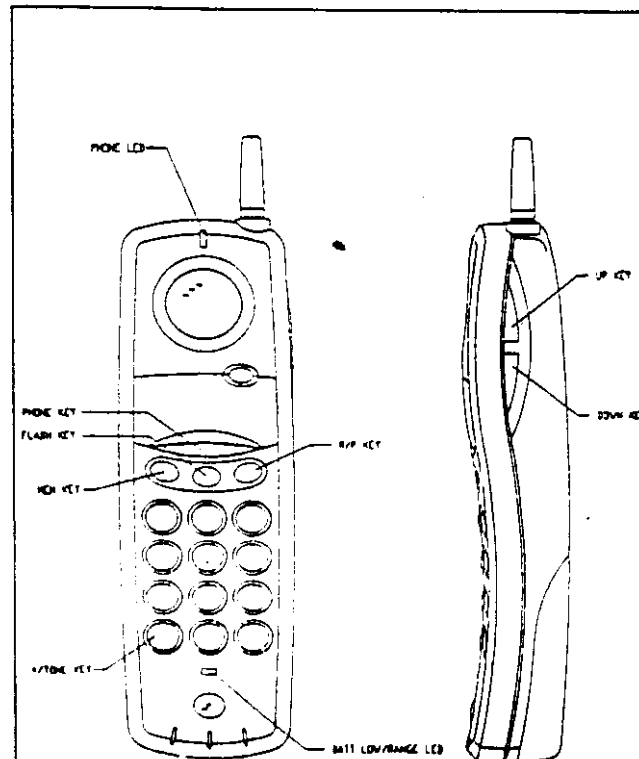
3. Plug the AC power adaptor into an electrical outlet and the DC connector to the back of the base.
4. Set the P/T switch on the base unit.  
If you have touch tone service on your phone line, set the switch to T. If you have rotary service, set the switch to P.



5. Once the battery pack is fully charged, connect the telephone line cord into the jack at the rear of the base unit. Plug the other end into a telephone wall jack. Make sure the

## HANDSET FEATURES

### Handset Diagram



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## FCC AND IC REGULATIONS

This equipment complies with Part 15 and 68 of the Federal Communications Commission (FCC) rules for the United States.

A label is located on the underside of the base unit containing either the FCC registration number and Ringer Equivalence Number (REN). You must, upon request, provide this information to your local telephone company.

### FCC PART 15

The equipment has been tested and found to comply with part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in particular installations. 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 and correct the interference by one or more of the following measures:

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

### FCC PART 68

The FCC requires that you connect your cordless telephone to the nationwide telephone network through a modular telephone jack (USOC, RJ11C or RJ11W).

Your telephone company may discontinue your service if your equipment causes harm to the telephone network. They will notify you in advance of disconnection, if possible. During notification, you will be informed of your right to file a complaint with the FCC.

Occasionally your telephone company may make changes in its facilities, equipment, operation, or procedures that could affect the operation of your equipment. If so, you will be given advance notice of the change to give you an opportunity to maintain uninterrupted service.

The base unit contains no user serviceable parts. The handset contains a user replaceable battery pack.

If it is determined that your telephone equipment is malfunctioning, the FCC requires that it not be used and that it be unplugged from the modular jack until the problem has been corrected. Repairs to this telephone equipment can only be made by the manufacturer or its authorized agents or by others who may be authorized by the FCC.

This equipment may not be used on coin service provided by the phone company or Party lines. The REN is useful in determining the number of devices you may connect to your telephone line and still enable the devices to ring when you receive a call. The general rule is that the REN value should not exceed 5.0A total; however, contact your local telephone company for the specific number in your area.

## INTRODUCTION

Congratulations! You have purchased one of the best performing cordless telephones on the market!

The TL-2900 digital cordless telephone is a highly integrated system that uses Direct Sequence Spread Spectrum Technology. One of more than 16 million possible digital security codes is randomly selected every time the handset is placed in the base unit. The handset and base will recognize each other based on this security code, which minimizes the chance of another cordless phone using your telephone line. Additionally, a digital scrambling code is used during a conversation to prevent voice code leakage in the air. This scrambling code is generated from 65,000 possible combinations.

### OTHER SPECIAL FEATURES ARE:

- 20 NUMBER SPEED DIAL MEMORY
- 20 CHANNELS OF OPERATION
- AUTOMATIC CHANNEL SEARCH AND SELECT
- REDIAL FEATURE
- 4 PROGRAMMABLE RINGER TYPES
- LOW BATTERY/OUT OF RANGE INDICATOR
- HEARING-AID COMPATIBLE RECEIVER
- EASY ANSWER - WHEN THE PHONE RINGS SIMPLY PRESS ANY KEY ON THE HANDSET TO ANSWER
- REMOVABLE BATTERY PACK
- TOUCH TONE AND PULSE DIALING
- TEMPORARY TONE MODE
- EARPIECE VOLUME CONTROL
- RINGER VOLUME PRESET

This manual is designed to familiarize you with the TL-2900. We strongly recommend you read the manual before using your phone.

## HANDSET FEATURES

### PHONE LED

- The PHONE LED lights when the phone line is being used by the handset.
- It flashes during the programming mode.

### BATT LOW LED

- The BATT LOW LED will flash quickly when the handset battery is getting low and needs to be recharged.
- It flashes slowly when the handset is out of the talking range or the base station is not powered up.
- The BATT LOW LED glows steadily when MUTE is activated.

### PHONE KEY

- Press the PHONE key to make a call or end a call.

### FLASH KEY

- Press FLASH to switch between calls when Call Waiting signal is heard.
- When in OFF mode, pressing FLASH and a number key (1,2,3,4) selects the ringer type.

### REDIAL KEY

- When you hear the dial tone, pressing the REDIAL key will dial the last number that was called on your phone.
- It can also be used for a brief PAUSE when programming speed numbers.

### UP KEY

- Used to increase the earpiece volume during PHONE mode.
- Used to increase the ringer volume during STANDBY mode.

### DOWN KEY

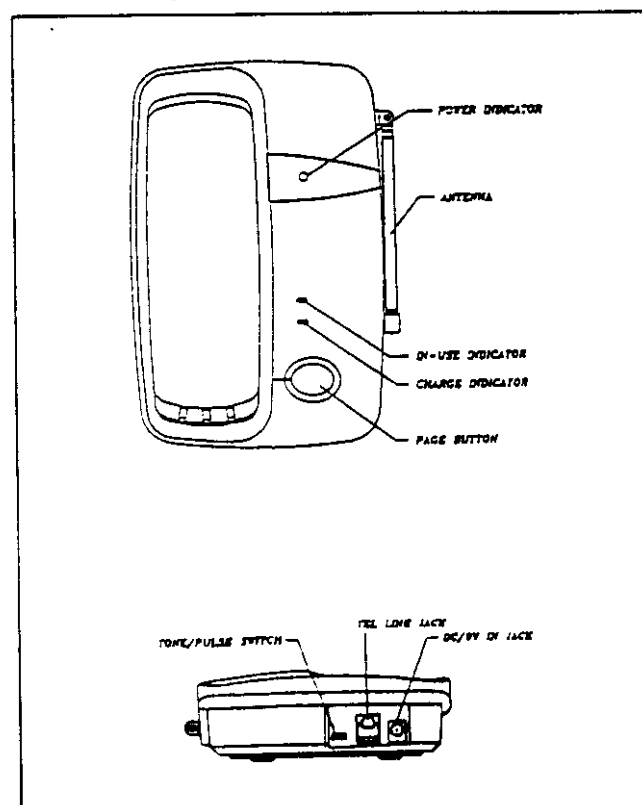
- Used to decrease the earpiece volume during PHONE mode.
- Used to decrease the ringer volume during STANDBY mode.

### \*/TONE KEY

- In PULSE dialing mode, it is used to switch to Temporary Tone dialing mode.

## BASE UNIT FEATURES

### Base Unit Diagram



## BASE UNIT FEATURES

### CHARGE LED

- The CHARGE LED illuminates steadily when the handset is in the base cradle to indicate that the handset battery is being charged.

### IN USE LED

- Immediately after placing the handset in the base cradle, the IN USE LED flashes one time to indicate that initialization (assigning a new security code and channel) is completed.
- The IN USE LED flashes slowly when the handset is being used or an incoming call is ringing.

### POWER LED

- Lights when the base unit is powered on.

### P/T (TONE/PULSE) SWITCH

- Sets the phone to T. (TONE) or P. (PULSE) dialing.

### PAGE BUTTON

- Press to page the handset user. Also use to find the handset.

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## MAINTENANCE

### TAKING CARE OF YOUR TELEPHONE

Your TL-2900 cordless telephone contains sophisticated electronic parts so it must be treated with care.

### AVOID ROUGH TREATMENT

Place the handset down gently. Save the original packing material to protect your telephone if you ever need to ship it.

### AVOID WATER

Your telephone can be damaged if it gets wet. Do not use the handset outdoors in the rain, or handle it with wet hands. Do not install your base unit near a sink, bathtub or shower.

### ELECTRICAL STORMS

Electrical storms can sometimes cause power surges harmful to electronic equipment.

For your own safety, use caution when using electric appliances during storms.

### CLEANING YOUR TELEPHONE

Your telephone has a durable plastic casing that should retain its luster for many years. Check it only with a soft cloth slightly dampened with water or a mild soap. Do not use excess water or cleaning solvents of any kind.

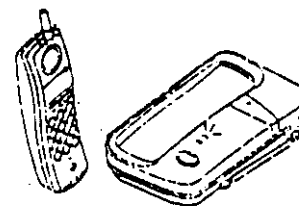
## OPERATING INSTRUCTIONS

### MAKING CALLS

Pick up the handset and press PHONE. When you hear a dial tone, dial the number. The PHONE LED on the handset and IN USE LED on the base unit will light.

If you make a mistake when dialing, press PHONE again to hang up, then press PHONE to get the dial tone again.

You must always press PHONE before you can dial on the handset.



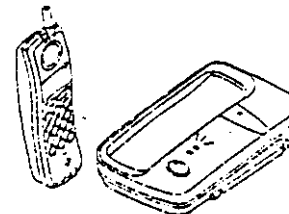
TO MAKE CALLS:  
Press ON/OFF, dial the number

### ANSWERING CALLS

When an incoming call is ringing, the IN USE LED on the base unit and PHONE LED on the handset will flash.

To answer a call when the handset is in the base, just pick up the handset.

To answer a call when the handset is away from the base unit, just press any key on the handset. This is very useful in a dark environment; you do not have to fumble around looking for the PHONE key to answer the call.



TO ANSWER CALLS:  
Pick up the handset, or press any key

### DISCONNECTING

To end a call, either place the handset back in the base, or press PHONE on the handset.

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## IN CASE OF DIFFICULTIES

If you have difficulty operating your phone, the suggestions below should solve the problem.

Problem	Remedy
THE PHONE DOESN'T WORK AT ALL	<ul style="list-style-type: none"><li>• Make sure the power cord is plugged in.</li><li>• Make sure the telephone line cord is plugged firmly into base unit and the telephone wall jack.</li><li>• Make sure the batteries are properly charged. If the BATT LOW LED is on, the battery needs charging. If the PHONE LED does not light when you press PHONE, you must charge the batteries.</li><li>• If you recently installed a new battery pack, make sure it is installed correctly.</li></ul>
NO DIAL TONE	<ul style="list-style-type: none"><li>• First check all the suggestions above.</li><li>• If you still don't hear a dial tone, disconnect the base unit from the telephone jack and connect a different phone. If there is no dial tone on that phone either, the problem is in your wiring or local service. Call your local telephone company.</li></ul>
YOU GET NOISE, STATIC, OR A WEAK SIGNAL EVEN WHEN YOU'RE NEAR THE BASE UNIT	<ul style="list-style-type: none"><li>• Place the handset in the base momentarily to reset the security code. Then press PHONE to get a line.</li><li>• Household appliances plugged into the same circuit as the base unit can sometimes cause interference. Try moving the appliance or the base unit to another outlet.</li></ul>

## OPERATING INSTRUCTIONS

### TEMPORARY TONE

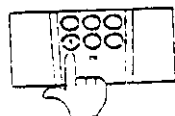
If you have a rotary (dial-pulse) telephone service. (P/T switch is set to P), this feature allows you to enter special codes and tones to operate answering machines, use electronic banking services, calling cards, or other special services.

First, dial the call normally.



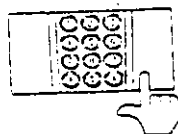
1. Dial the call normally

Then activate the Temporary Tone feature by pressing TONE (the \* key).



2. Press \*/TONE key

You can then press the numbers or symbols you need, and your phone will send the proper signals.



3. Phone is now in TONE mode.

To end the call, press PHONE or place the handset back in the base unit. The phone will automatically go back to rotary (dial-pulse) service.

If you have touch-tone service. (P/T switch set to T), just dial normally. This feature is only for rotary service telephone lines.

### PROGRAMMING THE RINGER TYPE

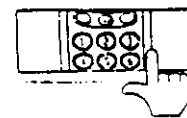
The handset ringer is capable of four different types of ringing tones.

To program, the handset must be STANDBY mode.

## OPERATING INSTRUCTIONS

To select a different ringer type to the following:

1. Press FLASH
2. Press a key 1-4 to select a ringer type



1. Press FLASH  
2. Press a key 1-4

A confirmation ring will be heard for the new ringer type.

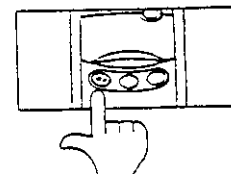
### MEMORY DIALING (SPEED DIALING)

The TL-2900 can store up to 21 different phone numbers that you can dial simply by pressing MEM and the corresponding location code (01-20).

### TO PROGRAMMING SPEED DIAL NUMBERS

The Handset must be PHONE OFF.

1. Press MEM. The PHONE LED will blink to indicate that you are in the programming mode.
2. Using the dial pad, enter the number you want to store. The number can be up to 16 digits long.
3. Press MEM once more.
4. Press the number of the memory location you wish to store the number in (01-20).



### TO PROGRAM SPEED DIAL NUMBERS

Press MEM  
Enter the number you want to store  
Press MEM again  
Enter the memory location you wish to store

The phone now exits programming mode and emits two beeps.

## IN CASE OF DIFFICULTIES

Problem	Remedy
YOU GET NOISE, STATIC, OR A WEAK SIGNAL WHEN YOU'RE AWAY FROM THE BASE UNIT	<ul style="list-style-type: none"> <li>You may be out of range. Either move closer to the base, or relocate the base unit.</li> <li>The layout of your home may be limiting the range. Try moving the base unit to the second or third floor, or to some other location.</li> </ul>
THE HANDSET DOES NOT RING WHEN YOU RECEIVE A CALL	<ul style="list-style-type: none"> <li>Make sure the telephone line cord is plugged firmly into the base unit and the telephone jack. Make sure the power cord is plugged in.</li> <li>You may be too far from the base unit.</li> <li>You may have too many extension phones on your telephone line to allow them all to ring. Try unplugging some of the other phones.</li> </ul>
YOUR CALLER FADES IN AND OUT	<ul style="list-style-type: none"> <li>You may be nearly out of range. Move closer, or relocate the base.</li> </ul>
YOU HEAR OTHER CALLS WHILE USING YOUR PHONE	<ul style="list-style-type: none"> <li>Replace the handset in the base cradle, wait a few moments and try again.</li> <li>Disconnect your base unit from the telephone jack, and plug in a regular telephone. If you still hear other calls, the problem is probably in your wiring or local service. Call your local telephone company.</li> </ul>
YOU HEAR NOISE IN THE HANDSET, AND NONE OF THE KEY OR BUTTONS WORK	<ul style="list-style-type: none"> <li>Make sure the power cord is plugged in.</li> <li>Your base unit and handset may not be operating on the same channel or security code. Place the handset in the cradle for a few moments to reload the security code and</li> </ul>

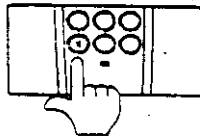
## IN CASE OF DIFFICULTIES

Problem	Remedy
COMMON CURE FOR ELECTRONIC EQUIPMENT	<p>If it still does not seem to respond, perform the following steps (in the order listed):</p> <ol style="list-style-type: none"> <li>1. Disconnect the power to the base.</li> <li>2. Disconnect the handset battery.</li> <li>3. Wait a few minutes</li> <li>4. Connect power to the base.</li> <li>5. Connect the handset battery.</li> <li>6. Put the handset in the base to re-initialize.</li> </ol>

## OPERATING INSTRUCTIONS

### SPEED NUMBER DIALING

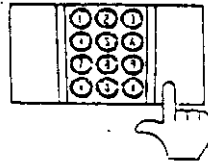
1. Press PHONE to get a dial tone.



1. Press PHONE

2. Press MEM and the memory location number code (01-20).

For example, to dial the number you assigned to location 18, you would press PHONE, MEM, 1, 8.



2. Press MEM  
3. Enter memory location

### TO CHANGE OR REPLACE A SPEED DIAL NUMBER

To change or replace a stored number in speed dial, simply enter the new number and store it in the memory location you wish to change.

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## OPERATING INSTRUCTIONS

### STORING PAUSES IN MEMORY

To insert a pause in a phone number, press RDL/P at the appropriate point when storing the number. This inserts a 2 second pause. For longer pauses, press RDL/P two or more times. Each press makes the pause 2 seconds longer and is treated as a stored digit.

If your phone is connected to a PBX you can store the PBX access number and a pause before the phone number.

For example, to store 9-PAUSE-5551234 in memory location 18, do the following:

1. Press MEM
2. Press 9
3. Press R/P
4. Press 5551234
5. Press MEM
6. Press 1,8

### USING REDIAL

The TL-2900 cordless phone automatically stores the last number you dialed in a special redial memory.

To dial the number again, press PHONE, to get dial tone. Then press R/P the phone will automatically dial the number.

### VOLUME CONTROL

During a call, press the (▲) UP or (▼) DOWN keys to increase or decrease the earpiece volume. Three rapid beeps will be heard when you reach the highest or lowest volume level.

### TO PRESET THE RINGER VOLUME

The TL-2900 has two ringer volume levels. To preset the ringer volume, the phone must be OFF. Press the (▲) UP or (▼) DOWN keys, a confirmation ring will be heard for the new ringer volume level.



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## TECHNICAL SPECIFICATIONS

### FREQUENCY CONTROL

Crystal Controlled PLL Synthesizer

### TRANSMIT FREQUENCY

902 MHz to 928 MHz

(All twenty channels within this range)

### RECEIVE FREQUENCY

902 MHz to 928 MHz

(All twenty channels within this range)

### NOMINAL EFFECTIVE RANGE

Maximum power allowed by FCC and IC. Actual operating range may vary according to environmental conditions at the time of use.

### SIZE

Handset: 8cm (L) x 5.8cm (W) x 4.5cm (T) maximum (antenna excluded)

Base: 20.8cm (L) x 13.4cm (W) x 4.8cm (T) maximum (antenna excluded)

### ANTENNA LENGTH

Handset: 2.9cm

Base: 12cm

### WEIGHT

Handset: 165 grams

Base: 385 grams

Batteries: 65 grams

### POWER REQUIREMENTS

Handset: Self-contained nickel cadmium rechargeable battery supply, 3.6V nominal, 600mAh capacity.

Power Adapter: DC 9V @ 500mA