

Spectrum Plus™ Series Telephone User's Guide

SINGLE LINE FEATURE TELEPHONE
MODEL SP300

CAUTION!

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninstalled telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Introduction

Congratulations on the purchase of your TeleMatrix Spectrum PLUS™ model SP300 telephone. The Spectrum PLUS™ SP300 includes advanced features that are suitable in today's business environment. TeleMatrix designed the Spectrum PLUS™ SP300 to be simple to install and easy to use.

Your Spectrum PLUS™ SP300 telephone is a precision electronic device that requires minimum maintenance. Please be sure to read this user's guide to become familiar with the wiring and functionality of this product.

Compliance and Safety

As specified by FCC regulation, we are required to inform you of specific governmental and compliance regulatory requirements, safety notices, safety instructions and other informative information. TeleMatrix, Inc. provides this information in a separate manual. We pack the separate Compliance and Safety Manual within each outer box or product box when shipped.

Prior to reading this operation manual and prior to setting up your telephone, please refer to the Compliance and Safety Manual.

Contents

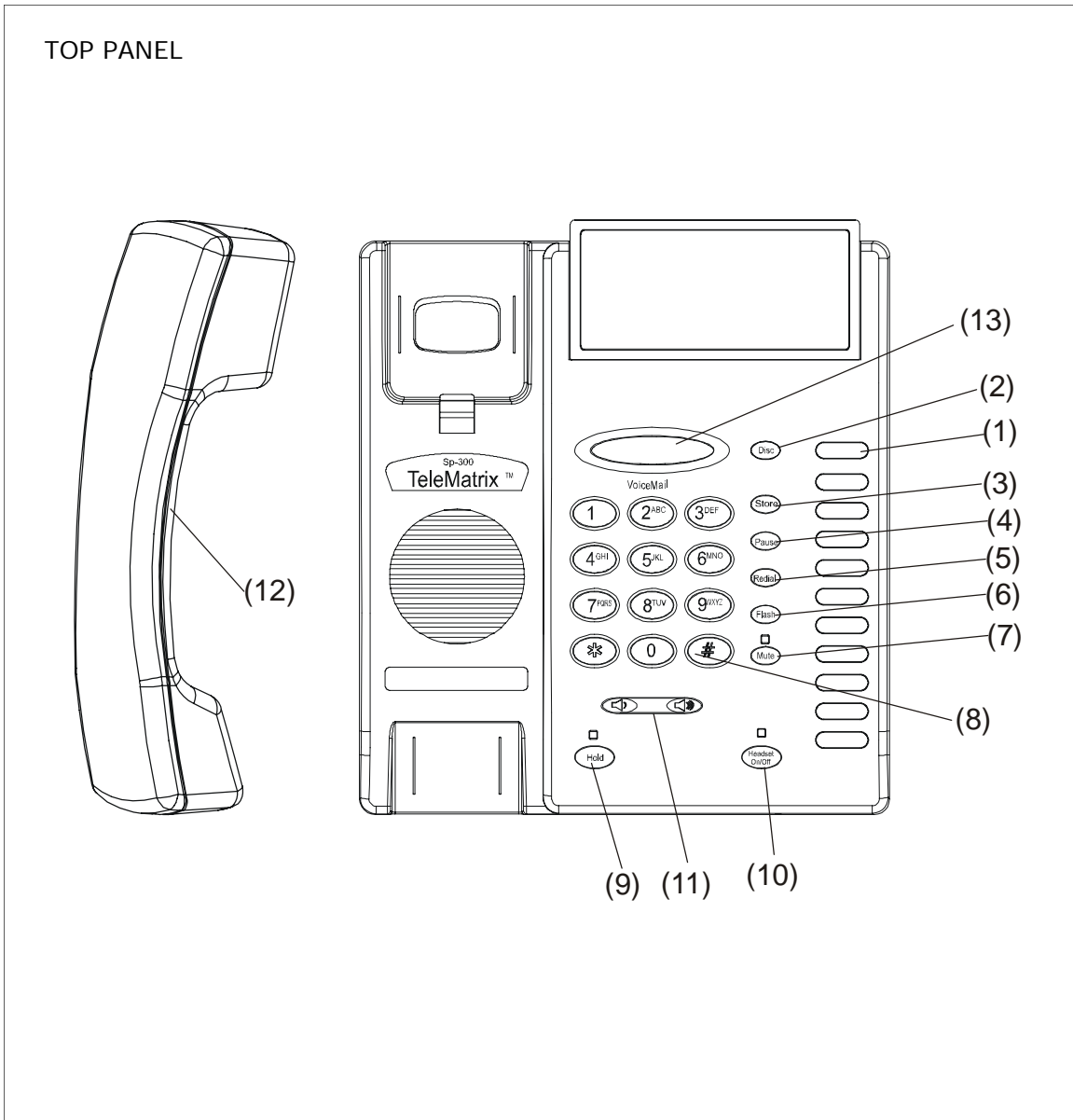
| | |
|---|----|
| Features | 5 |
| Controls | 6 |
| Part List | 10 |
| Installation | 11 |
| Wall Mounting | 14 |
| Switch Settings | 16 |
| Programming | 17 |
| Headset Installation and Operation..... | 23 |
| Operation | 25 |
| Care and Maintenance | 30 |
| Service | 33 |
| Warranty | 34 |

Features

- One Line Operation
- SteelTrap™ Memory Technology (No Batteries Required)
- FreeSpeech™ Talk Feature: Allows Free Toggle between Handset, Headset and Speakerphone
- Visual Message Waiting Indication* – Auto Detection for SDT, FSK or NEON; LED uses switch
- TouchLite™ One Touch Message Retrieval Key
- Headset Port with ON/OFF Switch (built-in Amplifier)
- Microphone Mute with LED Indicator
- Eleven (11) Speed Dial Locations
- Electronic Hold with LED Indicator (with Line Hold or System Hold Switch)
- Audible Ring Tone Selection (4 options)
- Headset, and Ringer Volume Control (8 selections)
- Convenient Data Port
- ADA Compliant Handset with 8-step Volume Control
- Disconnect Key to Activate New Call
- Last Number Redial
- Programmable Flash Key
- Programmable Pause Key
- Desk or Wall Mountable
- Fully Modular, Easy To Install

Class Visual Message Waiting are features that require subscription to your local telephone company provided service. This telephone features will not work unless you are a subscriber.

Controls

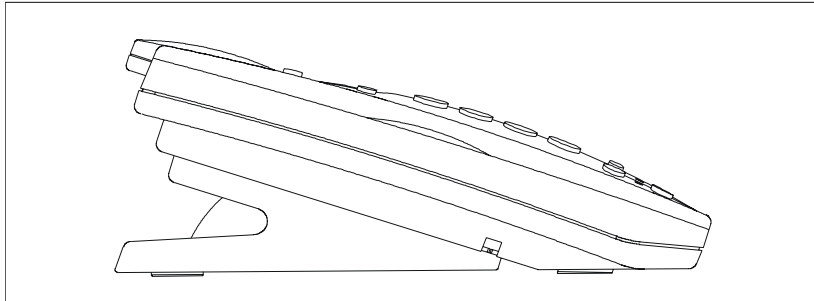


Definition of Controls

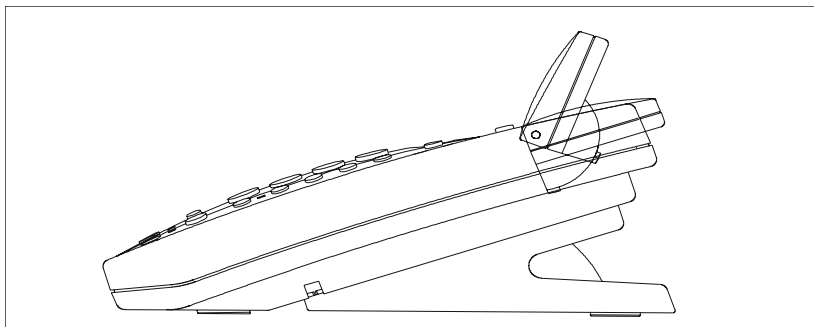
1. Speed Dial Feature Keys..... Eleven (11) one-touch keys used for speed dialing.
2. Disconnect Key Used to disconnect the line or place a new call.
3. Store Key..... Used to program user features.
4. Pause Key Used to place a timing delay when dialing.
5. Redial Key Redials the last number dialed.
6. Flash Key Provides a timed line break.
7. Mute Key Disables the handset and speaker phone microphones.
8. Numeric Dial Pad Used for dialing.
9. Hold Key Lighted key used for placing callers on hold.
10. Headset ON/OFF Key Lighted key used to turn the headset ON or OFF.
11. Volume Bar Adjusts the loudness of the handset receiver and/or the headset.
12. Handset Hearing-aid compatible handset.
13. TouchLite™ Key..... Message Waiting Lamp (LED indicator) that blinks to indicate a new message in the user's voice mail box (user must be subscribed to a messaging system).

Definition of Controls

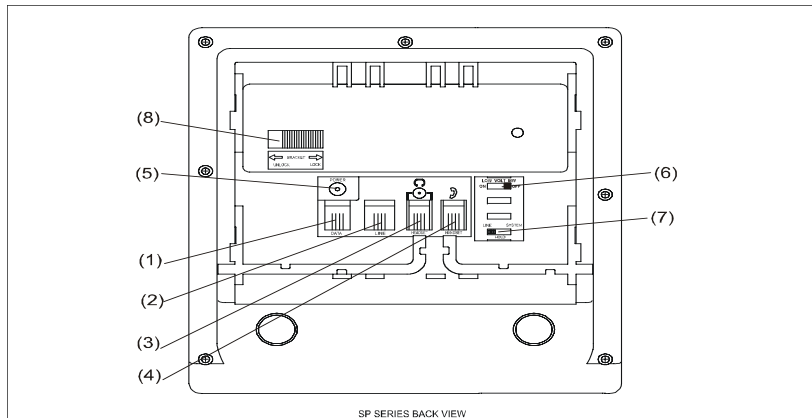
LEFT SIDE



RIGHT SIDE



REAR



Definition of Controls

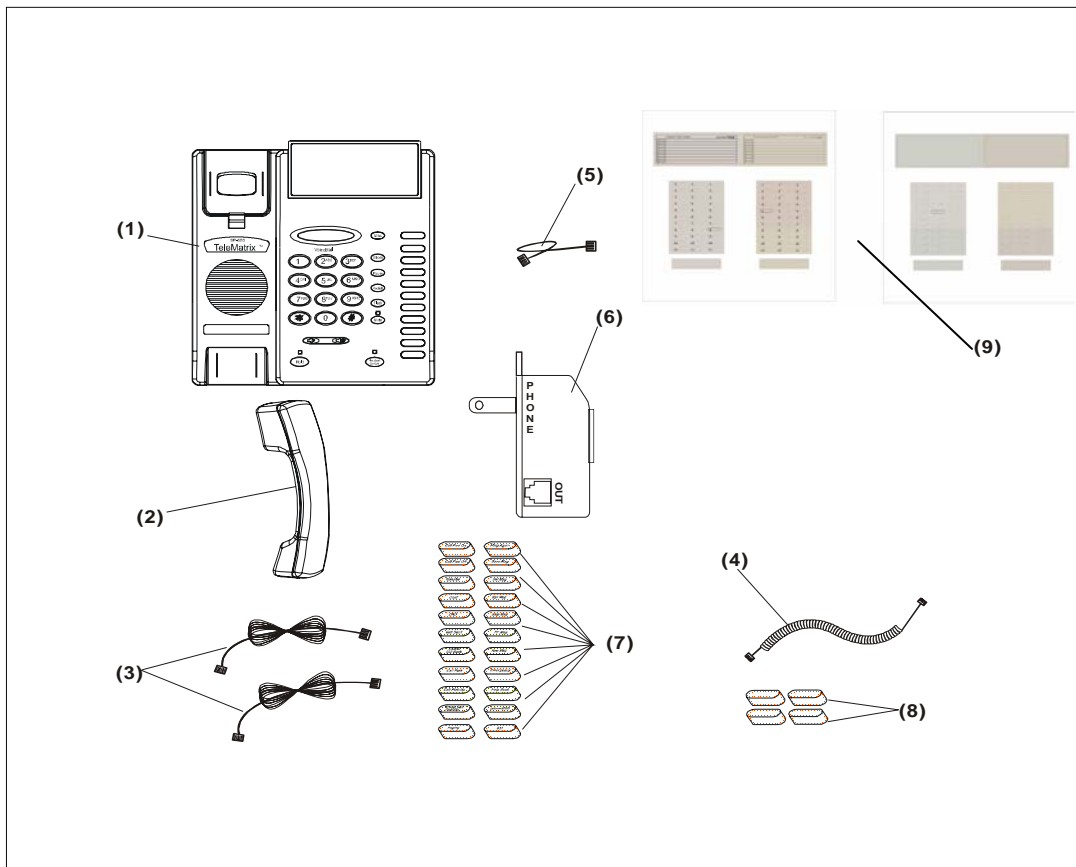
- | | | |
|---|--------------------------------|---|
| 1 | Data Port | Convenient port to connect a computer, modem, fax or answering device. |
| 2 | Line Jack | Modular receptacle for connecting the line cord. |
| 3 | Headset Jack | Convenient RJ port or 2.5mm coaxial port used to connect an optional headset. |
| 4 | Handset Jack | Connection for handset coil cord. |
| 5 | Power Adapter Receptacle | For optional coaxial power adapter. |
| 6 | Low Voltage MW Switch | Selects low voltage message waiting. |
| 7 | Hold Key Switch | Used to select line hold or system hold. |
| 8 | Elevation Stand Lock | Used to "lock" the elevation stand. |

Parts List

Parts Check List

The following parts are included with the Spectrum PLUS™ SP400:

1. Base Unit
2. Handset
3. Two (2) 15-foot Modular telephone line cords
4. 10-foot Modular coiled handset cord
5. 6-inch Modular wall mount line cord
6. Power Adapter
7. Twenty-two (22) Speed Dial Preprinted Keycaps
8. Four (4) Additional Clear Keycaps
9. Two (2) Index Sheets



NOTE: Spectrum PLUS™ Line Cords are 6-Pin 6-Conductor Line cords (6P6C line cord). Replacement Line Cords must be same.

Installation

120V AC Outlet Recovery Power Adapter (provided)

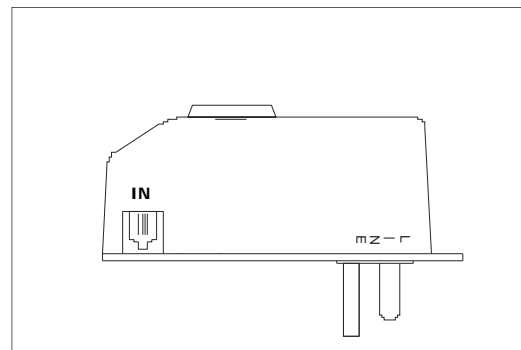
The 120 VOLT AC OUTLET RECOVERY POWER ADAPTER is an featured TeleMatrix product. It provides both the telephone lines and the power source in one cable (6P6C line cord) and is designed to recover the use of the power outlet.

Connector Configuration

The 120 Volt Outlet Recovery Power Adapter has two (2) modular jacks. One jack is labeled "LINE" and the other jack is labeled "PHONE". These jacks allow for a fully modular installation.

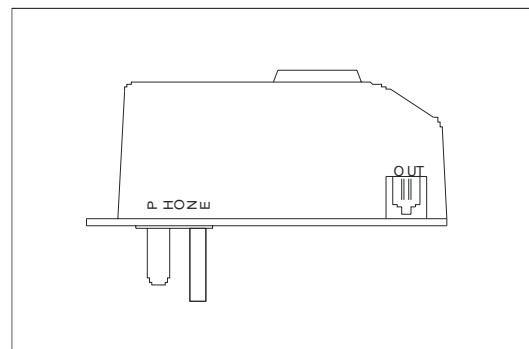
Power Adapter "LINE" Connection

The power adapter "LINE" connection is used to connect the telephone line from the wall jack to the power adapter. Using one of the 15-foot modular telephone line cords, connect one end of the cord to the RJ14 telephone jack on the wall or base board. The remaining end of the cord plugs into the "IN" side of the power adapter.



Power Adapter "PHONE" Connection

The power adapter "PHONE" connection is used to provide both the telephone lines and the power source to the telephone. Using one of the 15-foot modular telephone line cords, plug one end of the line cord into the back of the telephone. Plug the remaining end to the power adapter jack labeled "OUT".

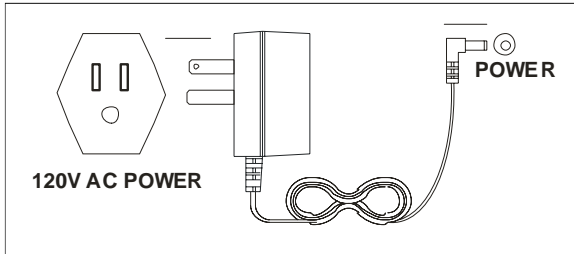


Troubleshooting Note: If there is no power to the telephone after connecting the line cords, check to see if the line cords are inserted on the opposite sides of the adapter.

Installation

Installing The Wall Power Adapter (Optional Component)

This component is best used when wall mounting the telephone. To install, simply plug the power adapter into a standard 120V AC power outlet. A mounting hole is provided to secure the power pack to the AC wall outlet. Plug the AC power pack directly into the wall outlet and then plug the coaxial connector into the receptacle marked "POWER" located on the back of the telephone.



ORDER SEPERATELY

Power Outlet Configuration

The Spectrum PLUS™ telephone requires external power from a standard 120V outlet (60Hz). It is rated 9VAC, 300mA.

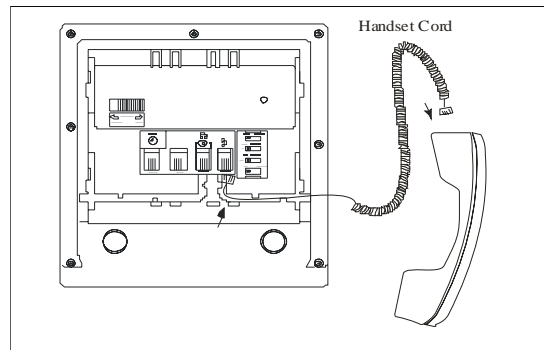
IMPORTANT!

The telephone will not function if the line cord connections are not correct. Be sure that the telephone line cord connections are not reversed ("LINE"/"PHONE"). Attach the line cords to the power adapter and the wall before connecting to the telephone. Spectrum PLUS™ Line Cords are 6-Pin 6-Conductor Line cords (6P6C line cord) . Replacement Line Cords must be same.

Installation

Connecting the Handset Cord

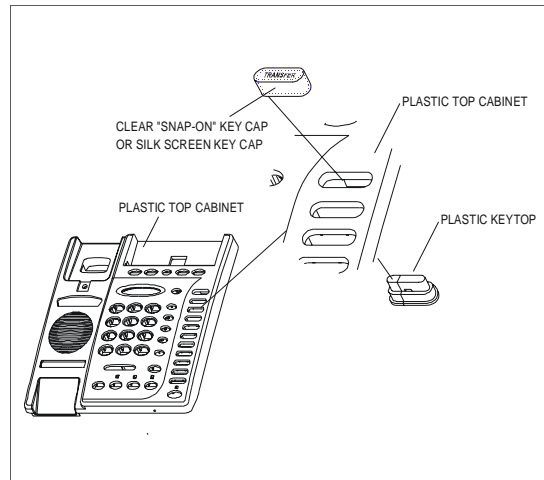
A 10-foot modular coil handset cord is provided. *(Be sure that the wall/desk elevation stand has not been attached).* To install the cord, simply plug the *short* end of the handset cord into the modular jack on the handset. The *long* end of the handset cord plugs into the jack labeled "Handset" located on the bottom of the Spectrum PLUS™ base unit. Place the line cord into the handset coil cord channel located directly below the jack.



Installing the Keycaps

Twenty-two (22) preprinted named feature keycaps are provided to identify the speed dial key.

There are eleven (11) clear keycaps already installed. To install preprinted keys, remove the clear keycap by simply pulling up. Replace with the preprinted keycaps or place hand written paper index sheets under a clear keycap. Program each speed dial key for the specific function of the key.



NOTE: For speed dial programming instructions, see the section on "Programming Procedure For Spectrum PLUS™ Speed Dial Features" in this manual.

There are four (4) additional clear keycaps and two (2) index sheets provided as spares. Use these for your own personal speed dial identities. Write the speed dial name on the blank speed dial index cards and insert into the blank keycaps. Place the keycap on the correct memory speed dial location. (see index sheets provided in box).

The twenty-two preprinted keycap names are below:

| | | | | |
|--------------|--------------------|------------|-----------|-------------|
| Call Fwd On | Call Back | Paging | Skip Msg | Information |
| Call Fwd Off | Cancel Call Back | Ring Again | FF Msg | 911 |
| Transfer | Call Park | Save Msg | Rew Msg | |
| Conf | Call Pick-up | Del Msg | Emergency | |
| DND | Group Call Pick-up | Rpt Msg | Help Desk | |

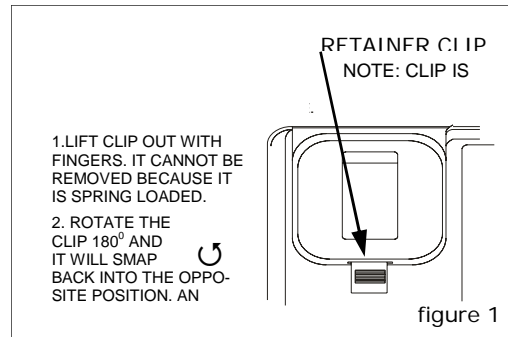
Installation

Wall Mounting the Spectrum PLUS™ Telephone

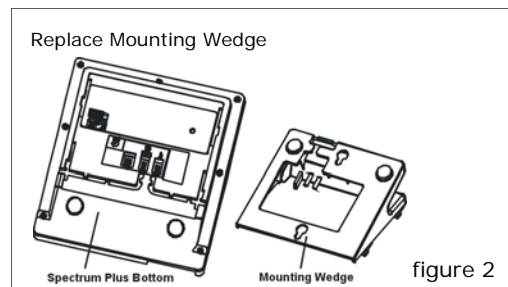
The Spectrum PLUS™ was designed to be conveniently wall mounted without requiring additional hardware.

Follow these easy steps:

1. The handset retaining clip must be in the correct position to secure the handset into the handset cradle. Engage the clip with your fingers and pull the clip forward (towards you), rotate the clip 180° and snap the clip back into place (figure 1). The retaining clip cannot be removed.

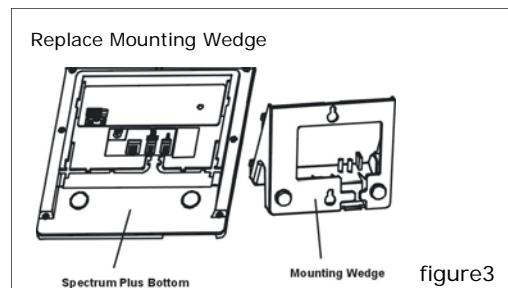


2. The Spectrum PLUS™ has provisions for a mounting wedge that must be correctly positioned. This wedge allows the telephone to be viewed at a correct angle when the phone is wall mounted. Remove the wedge from the phone base (figure 2).

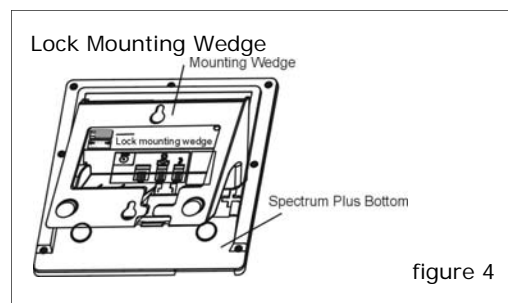


3. Secure the line cord, coil cord and any wiring in place prior to installing the wall mount wedge. The wall mount base has extra large wiring channels and strain relief poles for containing the wires in a neat and orderly way. Wrap the wires around the strain relief poles and then secure the wires through the channel.

4. To wall mount, place the narrow edge at the top edge of the phone base and slide the wedge upward into place (figure 3).



5. Lock the wall mount into position by sliding the locking button to the right (figure 4).



Note: A 6-inch line cord is provided for when the telephone is to be wall mounted. Connect one end of the line cord to the phone jack and the other end to the wall jack. Be sure to connect the power cord and line cords before placing mounting wedge on the bottom base. An optional coaxial power supply can be used in place of the supplied power supply. See your local distributor for information.

Desk Mounting

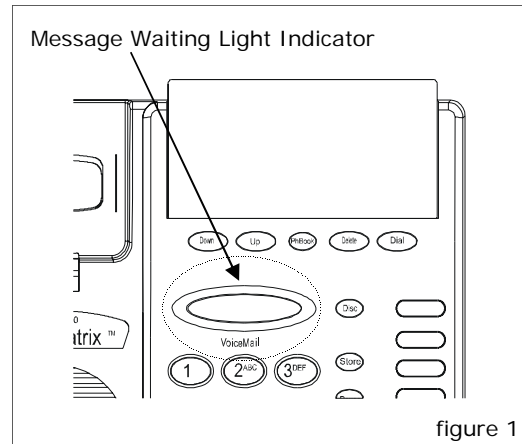
To install the wedge for desk mounting, be sure the lock mechanism is positioned to the left clear of the locking arm. Place the wedge in the slots, wide end toward top of phone base unit, and slide the wedge upward into position. Lock the wedge into place.

Installation

Message Waiting Light Indicator

The Spectrum PLUS™ telephone has a Message Waiting (MW) Light Indicator (figure 1). The indicator will blink to indicate that a new message is in the user's voice mailbox. The Spectrum PLUS™ supports the following telephone or PBX supplied message waiting signals:

1. Telephone Company VMWI Service* (FSK signal compatible, subscription to local telephone company is required).
2. Or, Audible Stutter Dial Tone (SDT) signals provided by local telephone company.
3. Or, 90-Volt NEON message waiting light indicator signal provided by a PBX.
4. Low Voltage LED message waiting light indicator light signal is provided by a PBX.



The PBX system or telephone service provider has to activate the voice mail feature for the light to illuminate and work properly. Be sure that your telephone service provider or PBX system has the compatible messaging service available in your area or facility.

NOTE: The Spectrum PLUS™ telephone automatically reads the Message Waiting (MW) signals supplied by your service provider. The LED signal supplied by a PBX must have the LED Voltage switch which is located on the back of the telephone in the correct position to operate the LED. See the next page for instructions.

Feature Note: Message ON/OFF Notification.

Use this feature when alerting another that a saved message is in voice mail for that person or use this feature when you simply want to turn the light off.

Be Aware: If there is a new incoming message and the telephone company continues to send a new signal this light will re-activate. This will occur only when there is a new voice mail that has not been heard.

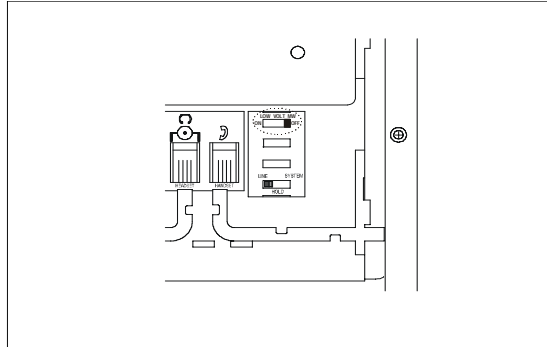
How To Use: When on-hook, Press the "*" key for 3 to 5 seconds and the Message LED will automatically turn on. At any time press "*" key for 3 to 5 seconds, Message LED will turn off.

***Definition:** VMWI is Visual Message Waiting Indication. This option requires a subscription to your local telephone service provider for TouchLite™ to activate.

Switch Settings

Low Voltage LED Switch

A low voltage LED switch is located on the bottom of the phone. The switch options are ON or OFF. The factory default is OFF.

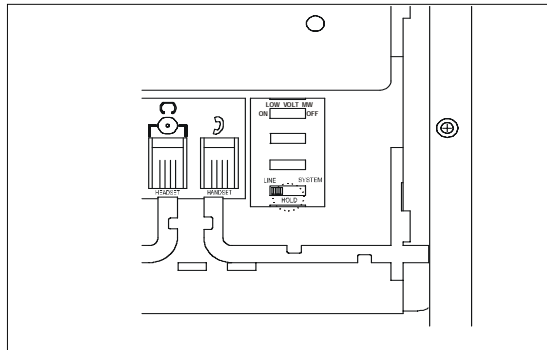


System Hold Feature Option Switch

A feature switch for different hold functions is located on the bottom of the phone. The switch options are standard "LINE Hold" or programmable "System Hold"*.

The standard "Line Hold" allows for normal hold function operation. The programmable "System Hold"* feature is used for optional PBX system operations.

The switch default is set at the factory as standard "LINE Hold".



* To program System Hold, follow the speed dial instructions in this manual. To store the dialing pattern, press the HOLD key instead of the speed dial memory key.

Programming

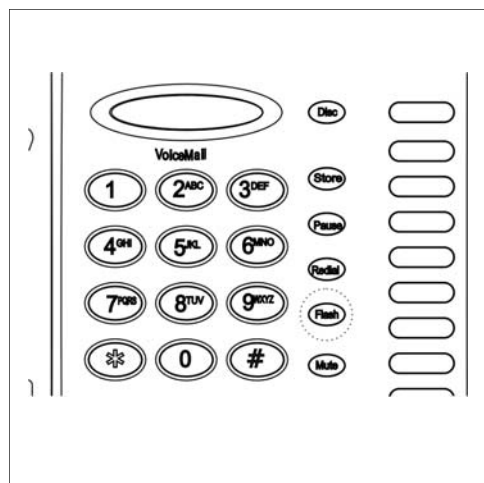
Programming Flash Timing into Memory

Flash Timing can be programmed into the Spectrum PLUS™ speed dial memory. This function allows for a timed line break in the sequence of the dialing patterns when using the speed dial keys. This function may be required for accessing line features provided by your telephone system or local telephone company. The flash timing options are 100 through 1000 milliseconds, programmable in 100mS increments.

To Find the Correct Flash Timing

The factory default Flash Timing is programmed at 600mS and is the most commonly used timing option. However, the timing can be reprogrammed between 100mS to 1000mS, when needed.

1. Check with your local service provider or PBX provider to select the appropriate timing.
2. If different timing is required, follow the Flash Time Programming instructions on the next page.



Using A Flash When Dialing

To use a Flash when dialing, simply press the **"FLASH"** key at the appropriate point in the number sequence being dialed from the key pad.



NOTE: Each "Flash" counts as 1-digit when stored into a speed dial memory location.

Programming

Programming Flash Timing

Flash timing can be programmed for different timing options listed below.

1. Position the handset in the Off-Hook position (lift the handset).
2. Press the "STORE" key once.
3. Press "*" key for 3-seconds until an alert sound is heard.
4. Press the following keys on the keypad in the order shown:

For 100mS press "1", then "#".
For 200mS press "2", then "#".
For 300mS press "3", then "#".
For 400mS press "4", then "#".
For 500mS press "5", then "#".
For 600mS press "6", then "#".
For 700mS press "7", then "#".
For 800mS press "8", then "#".
For 900mS press "9", then "#".
For 1000mS press "0", then "#".

4. Place the handset cradle to the On-Hook position.

Programming Example for 100mS

Go Off hook with handset, press "store" once, then "*" for 3-seconds to enter set up mode, then "1", then "#". Place the handset into cradle to the on-hook Position.



NOTE: The Flash Timing factory default is 600mS

Programming

Programming Pause Timing

A Pause time between 1.0-seconds to 5.0-seconds can be programmed into memory. This function allows for a delayed timing for those systems requiring a different time delay and allows the user to delay the dialing pattern of a number. This function may be required for accessing line features provided by telephone provider or local telephone company. A speed dial number may need to pause during its dialing sequence to ensure proper connections.

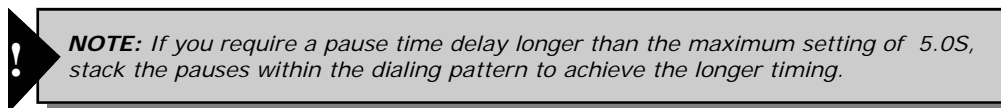
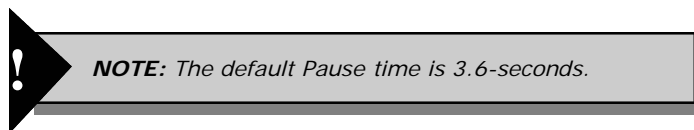
PROGRAMMING THE PAUSE TIME OPTION

Pause timing can be programmed for different timing options listed below.

1. Lift the Handset from it's cradle so it is in a off-hook position.
2. Press the "**STORE**" key once.
3. Press the "#" key for 3-seconds until an alert sound is heard.
4. Program the pause time into memory by using the keypad. Press the following keys on the keypad in the order shown for the desired pause time.

| | |
|-----------------|-------------------------|
| For 1.0-second | press "1" "0" then "#". |
| For 2.0-seconds | press "2" "0" then "#". |
| For 3.6-seconds | press "3" "6" then "#". |
| For 4.0-seconds | press "4" "0" then "#". |
| For 5.0-seconds | press "5" "0" then "#". |

4. To exit the program mode, place the handset back in the cradle in an on-hook position.



Programming

Programming a Pause into Speed Dial Memory

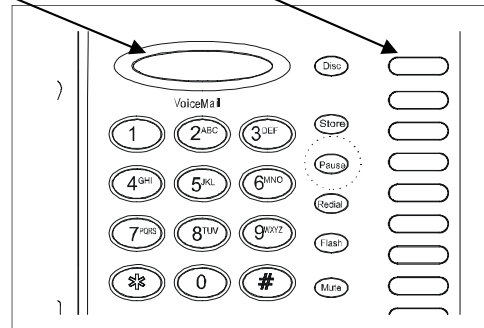
Pause time can be programmed into the speed dial memory. This function will delay the dialing pattern of a number when stored in the phone's speed dial memory. Multiple pauses can be programmed into the dialing pattern for added delay time. To store a Pause into Speed Dial memory, simply press the Pause key in the numbering sequence when programming Speed Dialing Keys. See programming Speed Dial Memory on the next page.

Programming Pause into Voice Mail

To store a Pause time into Voice Mail memory, simply press the Pause key in the numbering sequence when programming the Voice Mail Speed Dial Key. See programming Voice Mail on the next page.

Note: Programming can only be performed when the phone is off-hook

NOTE: The default Pause timing is 3.6-seconds. A multiple of Pauses can be programmed into speed dial memory to increase the delay.



Using a Pause when Dialing a Phone Number

To use a Pause when dialing, press the **“PAUSE”** key at the appropriate point in the number sequence being dialed from the key pad.

NOTE: Each “Pause” counts as 1-digit when stored into a speed dial memory location..

Programming

Programming Voice Mail

The Spectrum PLUS™ Telephone has a one-touch speed dial Voice Mail key that is convenient for dialing into your Voice Mail service.

- Speed dial programming must be done with the telephone plugged into the telephone line and power adapter.
- Programming can be performed with the telephone off-hook only.
- A maximum of 32-digits can be entered into ENTER NUMBER.

Programming Procedure

1. Voice Mail speed dial programming must be done with the telephone plugged into the telephone line.
2. The handset must be "off-hook".
3. Press the "Store" key.
4. Dial the telephone number that is to be saved using the numeric dial pad.
5. Press the Voice Mail speed dial key to store the number.
6. To exit, press "DISC" to exit or hang up the handset.

Programming

Programming Procedure Speed Dial Features

The Spectrum PLUS™ Telephone has eleven (11) one-touch speed dial locations that are convenient for dialing frequently used telephone numbers.

- Speed dial programming must be done with the telephone plugged into the telephone line and power adapter.
- Programming can be performed with the telephone off-hook only.
- A maximum of 32-digits can be entered into ENTER NUMBER.

Programming Procedure

1. Speed dial or Voice Mail programming must be done with the telephone plugged into the telephone line.
2. The handset must be “off-hook”.
3. Press the “Store” key.
4. Dial the telephone number that is to be saved using the numeric dial pad.
5. Press the desired speed dial location keys (1-11) or the Voice Mail key where the number is to be saved.
6. To program additional numbers, repeat steps 3 thru 4.
7. Place the convenient pre-printed speed dial keycaps on the selected speed dial memory key or complete the paper index card and place it into the clear protective keycap. Install the keycap on the appropriate speed dial memory key.

NOTE: Blank index card sheets are provided for your convenience. Complete and place the index card into the speed dial memory key.

Headset

Headset Feature

The Spectrum PLUS™ is equipped with a separate port for plugging in an optional headset. The port is located on the bottom of the base unit. The TeleMatrix **FreeSpeech™ Talk Feature** is a unique TeleMatrix feature that allows the user the freedom to “toggle” between the headset, handset and speakerphone modes during a conversation.

When the “**HEADSET ON/OFF**” key is ON, pressing the “**SPEAKER**” key will activate the speaker and disconnect the headset line automatically. This feature avoids having to use the hookswitch/handset to process telephone calls while in headset mode.

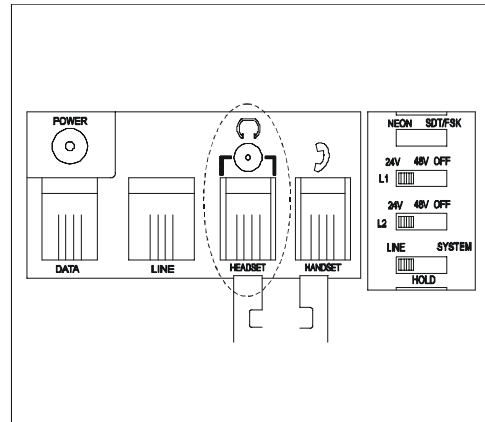
The headset can be purchased from a TeleMatrix distributor. There are many varieties of headset models available.

Installing a Headset

The headset port is located on the bottom side of the telephone base.

Plug the modular end of the headset cord into the modular port of the telephone labeled “HEADSET” (figure 1).

Press the “HEADSET ON/OFF” key to activate the headset. The LED above the key will illuminate to indicate that the headset is on (figure 2).



NOTE: An external amplifier is NOT recommended. The phone has a built in amplifier.

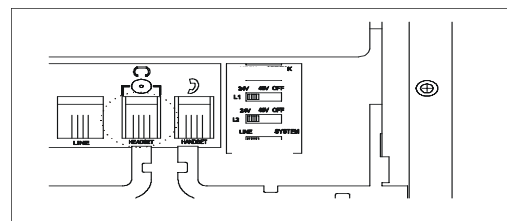


Figure 1

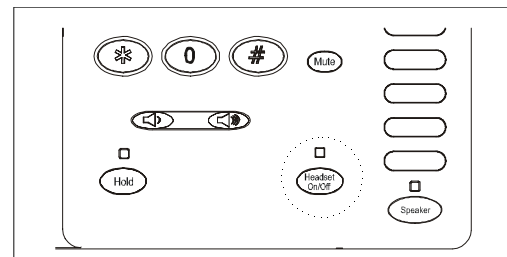


Figure 2

Headset

Using A Headset

The **"HEADSET ON/OFF"** key controls the activation of the Headset. When using the headset feature, the handset remains on-hook at all times.

Placing/Answering a Call using the Headset On/Off Feature

- To answer an incoming call, press the **"HEADSET ON/OFF"** key to activate the headset. The LED above the **"HEADSET ON/OFF"** key will be illuminated when in ON position.
- Adjust the volume, if necessary.
- Use the features of the headset that are available with the handset in use.
- You can dial using the the keypad or a speed dial key.
- To end headset activation, press the **"HEADSET ON/OFF"** key. The LED above the **"HEADSET ON/OFF"** key will turn off.



Volume Lock Feature — When the handset, speaker, or headset volume feature is selected, the volume will automatically stay at that setting in the next use.



FreeSpeech™ Talk Feature is a unique TeleMatrix feature that allows the user the freedom to "toggle" between the headset, handset and speakerphone modes during a conversation.

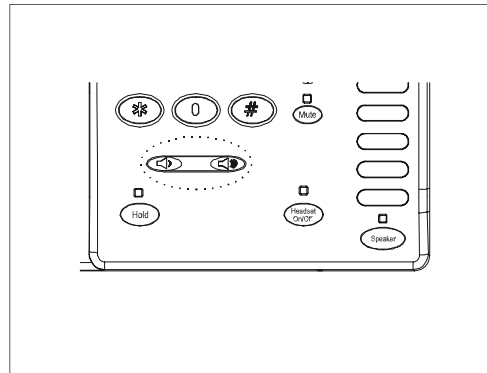
Operation


Ringling Cadence Selection


The Spectrum PLUS™ has four ring cadences to select from.

To program the ring cadence of choice, follow these instructions.

1. Place the handset in a "on-hook" state.
2. Press the "**VOLUME BAR**" in either direction to adjust the volume. This controls the volume for listening to the ring cadence while you are setting it up.
3. Press the "#" key once to select the first optional ringer cadence.
4. Press the "#" key again to select additional ringer cadences.
5. To store the desired ring cadence, simply stop pressing the "#" key after ringing stops. The last ring cadence played will store into memory automatically.



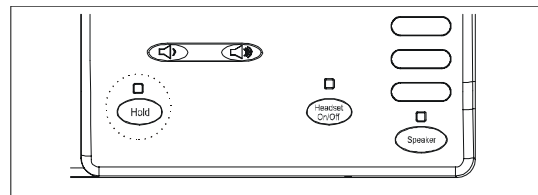
NOTE: Press volume bar “  ” for 5 seconds to shut off ringer.

Press volume bar “  ” for 5 seconds to turn on ringer.

Operation

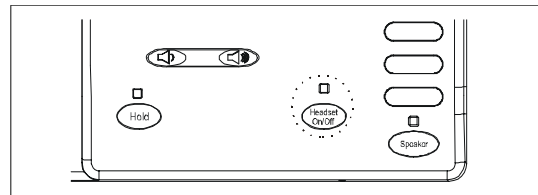
Hold Key Indicators

When the **"HOLD"** key is activated, the light above the HOLD KEY will be steadily RED.



Headset Key Indicators

When the **"HEADSET ON/OFF"** key is activated, the Headset indicator will be steadily RED.



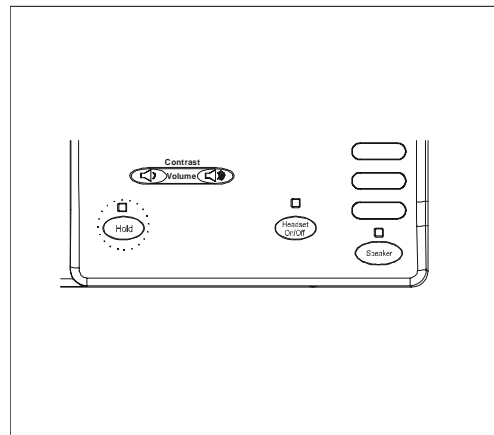
Operation

Using the Hold Feature

The **"HOLD"** key is used to place a caller on hold. To use, simply press the **"HOLD"** key. The LED above the line-in-use will illuminate to indicate that this line is on hold.

When the **"HOLD"** key is active, the handset can be lifted off-hook or returned to its on-hook position and the line will not be disconnected. To return to the caller, simply lift the handset.

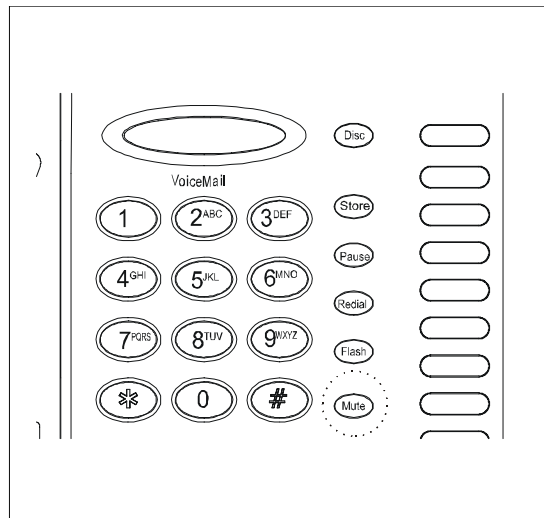
Hold will also release when the call is picked up from an additional extension phone.



Operation

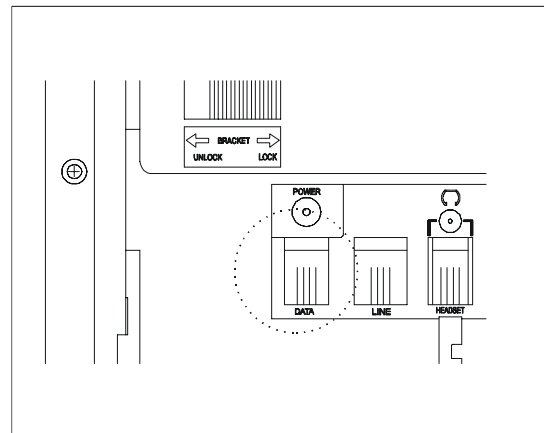
Using the Mute Feature

A **"MUTE"** key is provided to allow privacy during a background conversation. When the **"MUTE"** key is activated, the microphones in the handset, speakerphone and/or headset are disabled. When the **"MUTE"** key is activated, the caller will not hear voice. The LED above the **"MUTE"** key will illuminate steadily RED to show that the feature is activate. To deactivate, press the **"MUTE"** key again.



Using the Data Port

The Spectrum PLUS™ is equipped with a convenient data port on the bottom of the base unit. This modular receptacle is used to plug in any standard telephone device such as a computer modem, answering machine, or fax machine.



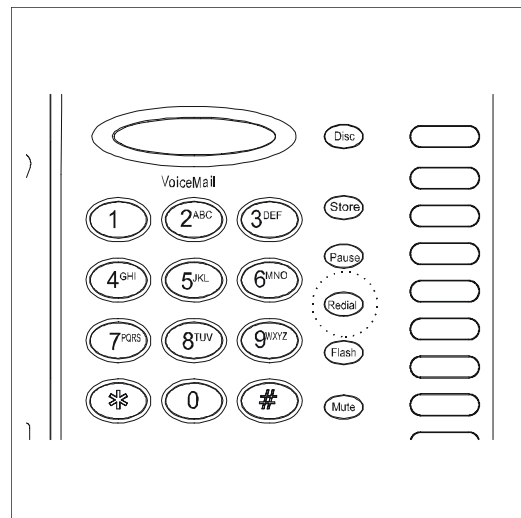
Operation

Using the Redial Feature

The **“REDIAL”** key is used to automatically redial the last number that was dialed from the keypad.

To use:

- Lift the handset (or activate the speaker).
- Press the **“REDIAL”** key.
- The last number dialed will be redialed.



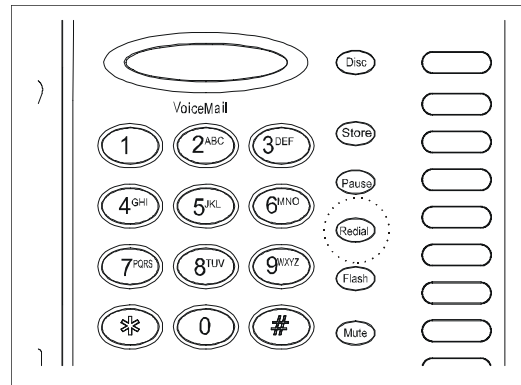
Operation

Using The Disconnect Feature Key

The **"DISC"** (DISCONNECT) key is a 2-second electronic timed line break. The key can be used to automatically hang-up the call that you are currently on and regain a new dial tone to establish a new call.

To use:

- Simply press the **"DISC"** key when the conversation is complete.
- The **"DISC"** key can be used with headset or handset activation.



Operation

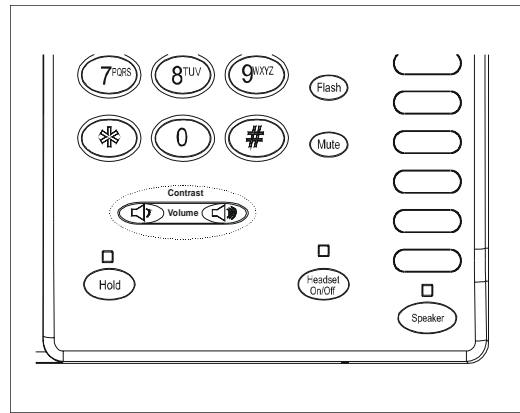
Handset Volume Control

The Spectrum PLUS™ is equipped with an ADA/FCC compliant handset volume control located on the front of the phone.

When the right end of the **“VOLUME”** key is pressed, the volume of the handset receiver is increased.

When the left end of the **“VOLUME”** key is pressed, the volume of the handset receiver is decreased.

The **“VOLUME”** key is an eight-step volume control with the “1” setting being OFF.



Volume Lock Feature — When the handset, speaker, or headset volume feature is selected, the volume will automatically stay at that setting in the next use.