

RCA 25450 4-Line Wireless Telephone System User's Guide

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Safety Instructions

Caution: *Your wireless telephone gives you freedom and flexibility to stay in touch while you move around. However, the safe and responsible use of the phone depends entirely on you. When using your phone equipment, safety instructions should be followed to avoid the risks of fire, electric shock, injury to person, and damage to property.*

General Safety Instructions

1. When using your wireless phone, ensure your safety and the safety of others:
 - a. Always watch where you are walking and standing.
 - b. Don't let a phone call distract you from working safely.

2. In an emergency:
 - a. If an emergency occurs, dial the emergency phone number. However, if you are in an area where your phone does not have a clear signal from the base, it is highly probable that the call may not go through. Locate the nearest landline telephone or other communications devices to call for help.
 - b. Emergency calls may not automatically provide emergency personnel with your name, phone number or location. Tell the operator
 - i) Your name and phone number
 - ii) The nature of the emergency
 - iii) Whether police, fire, or medical assistance is needed
 - iv) The exact location of the emergency, including address, cross streets, mileposts or landmarks.

3. Notice to Hearing Aid Users: This phone system is compatible with inductively coupled hearing aids.

4. Notice to Cardiac Pacemaker Users: Preliminary studies done by the US FDA and others have shown that, although interference to the implanted cardiac pacemaker may occur when operating very closely, wireless telephones "do not seem to pose a significant problem for pacemaker wearers." However, until more is known, FDA suggests that people with pacemakers may want to take precautions when using or carrying a wireless telephone to ensure that there is ample distance between the telephone and the pacemaker. Do not

carry the handset in a breast pocket. If you have any reason to suspect that interference is taking place, turn off your handset immediately.

Product Safety Instructions

1. Read and understand all instructions.
2. Follow all warnings and instructions including those marked on the product.
3. Changes or modifications to this product not expressly approved by the manufacturer will void the warranty and the FCC authorization to operate the equipment. Use only manufacturer provided accessories.
4. Do not use the telephone near water. Never spill liquid of any kind on this product.
5. Unplug the product from the wall telephone jack and power outlet before cleaning. Do not use liquid or aerosol cleaners. Use damp cloth for cleaning.
6. Do not place this product on an unstable cart, stand or table. The product may fall and cause personal injury or damage to the product or other property. Place the Base Unit and the charger on hard, flat surfaces.
7. Power Outage:
In the event of a power outage, your handset charger will not recharge the handset battery. The Base Unit's backup battery can provide connection although its capacity is limited. Therefore, *you should have a telephone that does not require electricity available for use during power outage, or have a high-capacity backup power supply.*
8. Slots or openings in the product's housing are provided for ventilation. These openings must not be blocked or covered. Placing the product on a bed, carpeting, or other similar surface may block these openings and should be avoided. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
9. Never push objects of any kind into this product through housing slots/openings as they may damage the product, touch dangerous voltage points or short out parts that could result in fire, electric shock, or injury.
10. 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.
11. Do not overload wall power outlets and extension cords as this may result in fire or electric shock.
12. To avoid electric shock or burn, do not disassemble this product. Send this product to an authorized service center when service or repair work is required. Call Customer Service for locations near you. Opening or removing covers will void the product warranty and may expose you to dangerous voltages, electrical currents or other risks. Incorrect reassembling of the product may cause electric shock when the product is subsequently used.
13. Avoid using the product during a storm. There may be a risk of electric shock from lightning.
14. Do not place the product where persons can step, trip, or fall on the product.
15. Do not place conductive objects over or near the antenna.
16. Do not use the product to report a gas leak while in the vicinity of the leak.
17. Do not install the Base Unit or the handset charger near microwave ovens, radios, TV sets, speakers, or other electrical equipment. These appliances may cause interference to the product or experience interference from the product.
18. Unplug the Base Unit or the charger adaptor from the wall power outlet and refer servicing to an authorized service center under the following conditions:
 - a. If liquid had been spilled into the product.
 - b. When the power supply cord or plug is damaged or frayed.
 - c. If the product has been exposed to rain or water.

- d. If the product does not operate normally by following the operating instructions.
- e. If the product has been dropped or housing has been damaged.
- f. If the product shows a distinct change in performance.

Battery Safety Instructions

1. Use only manufacturer approved rechargeable batteries and charger. Do not use other types of rechargeable batteries or non-rechargeable batteries. The batteries could short-circuit, and the battery enclosure may be damaged causing a hazardous condition.
2. Follow the charging instruction in this manual and instruction labels and markings in the handset and charger compartments.
3. Battery must be recycled or disposed of properly. Do not dispose the battery in a fire. The cells may explode.
4. Do not dispose of the battery in municipal waste. Check with local codes for disposal instructions.
5. Exercise care in handling the batteries in order not to short-circuit the battery with conductive materials such as rings, bracelets, keys, pocketknife, and coins. The battery or conductive material may overheat and cause burn or fire.
6. Do not expose batteries to rain or water.
7. Do not open or mutilate the battery. Released electrolyte is corrosive and may cause injury to eyes or skin. The electrolyte may be toxic if swallowed.
8. During charging, the battery heats up. This is normal and is not dangerous.

Regulatory Information

Model: 25450XXX-A
 FCC ID: G9H2-5450A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

Privacy of communications may not be ensured when using this phone.

1. This telephone system complies with rules of the FCC Part 68. On the bottom of the Base Unit is a label that contains, among other information, the FCC Registration Number, Ringer Equivalence Number (REN) and the Universal Service Order Code, which is RJ-11C in the U.S. Your telephone company may ask you for this information.
2. The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all devices ring when your telephone number is called. In most, but not all, areas the sum of the REN' s of all devices connected to one line should not exceed 5.0. To be certain of the number of devices you may connect to your phone line, you should contact you local telephone company for the maximum REN in your area.
3. If your telephone equipment causes problems to the telephone network, the telephone company may ask you to disconnect your phone system from the line until the problem has been corrected. Consult with your local phone company for your rights if this happens.
4. Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your telephone system. Consult with your local phone company for your rights if this happens.
5. This telephone system may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

6. This telephone system has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a general public installation. Operations of these devices may still encounter interference from/to nearby TV' s, VCR' s, radios, computers, or other electronic devices. To minimize or prevent such interference, the telephone system should not be placed or operated near other electronic devices. If interference occurs, moving the Base Unit and the handset farther away from them will often reduce or eliminate the interference.
7. However, there is no guarantee that interference will not occur in a particular installation. If this telephone system does cause interference to other electronic devices, which can be determined by turning the system off and on, the user is encouraged to try to correct the interference by one or several of the following measures:
 - a. Increase the space separation between the handset or Base Unit and the device that is experiencing interference. We recommend 20 feet or more between the system and other electronic devices.
 - b. Connect the Base Unit to a power outlet on a circuit separate from that used by the device experiencing interference.
 - c. Consult the dealer or an experienced electronic technician for help.

Welcome

You have purchased an exceptional communications tool from a leading telephone system manufacturer.

The RCA 25450 4-line Telephone System is ideal for users in various residential and business settings. With sophisticated digital signal processing and high quality hardware designs, the RCA 25450 provides long-range telephone connections and 2-way handset-to-handset communications in a wide variety of environment from around-the-house, multi-level office buildings, factories, hotels/resorts, warehouses, retail stores, convention facilities, farms, business complexes, construction sites, schools, car dealerships, grocery stores, and many others.

The unique 2-way radio feature allows handsets to communicate with each other as digital, full-duplex 2-way radios. Members of work group(s) can be in contact with their co-workers while leaving phone lines available for incoming and outgoing calls. Handsets that are within range of each other can use the 2-way feature even while out of range of the Base Unit. RCA 25450 can support up to 16 handsets and 4 groups.

Your new system is plug-and-play and is ready for making and receiving calls. However, there are many advanced features that you can explore through user-friendly interface. The following sections will first describe the controls and displays on the Base Unit and the Handset along with their meanings and basic usage. A summary of more advanced features then follows with references to page numbers where detail operations can be found.

Handset Controls and Display

1. VM Indicator: flashes when there are unread new voice mail message
2. Receiver: voice output in non-speakerphone operation
3. 4-line LCD (Liquid Crystal Display):
 - a. The LCD display has LED (Light Emitting Diode) for backlighting, LED dims after 10 seconds of inactivity.
 - b. The first line of LCD can be used to display either up to 16 characters of status or message, or it can be used to display status icons, from left to right:
 - i) **RSSI** (Receive Signal Strength Indicator)
 - During a call, the number of bars is proportional to the radio signal strength received
 - ii) **Handset ID**
 - Displays a 2-digit Handset ID
 - iii) **Line Indicators**
 - Indicates the line number(s) being accessed or held by the handset
 - iv) **Battery Strength Indicator**
 - Number of bars is proportional to the amount of battery time remaining
 - Indicates charging when in charger cradle
 - c. The second and third lines of the LCD, up to 16 characters each, display status, message, menu selections, or user-editable alphanumeric characters
 - d. The last line displays the left and right soft key functions when needed
4. Left/Right Soft Keys: make soft key functions selection
5. Exit: exit menu operation
6. Speaker: turn on/off speakerphone
7. TALK: to place a telephone call or to answer a telephone or intercom call
8. Up(?)/Down(?) Scrolling Keys”
 - a. Scroll through records and menu selections
 - b. Adjust ringer volume during standby
 - c. Adjust receiver/speakerphone/headset voice volume during talk
9. Left(?)/Right(?) Scrolling Keys:
 - a. Move cursor during number and name editing
 - b. Access CID and Directory during standby
10. END:
 - a. Ends a call
 - b. Press for 3 seconds to turn on/off the power
11. Keypad
12. Intercom: to places an intercom call to another handset or a group
13. Voice Mail: access Voice Mail functions
14. Flash:
 - a. Sends a Flash signal to phone line to retrieve a dial tone after the call ends
 - b. To perform the call waiting feature provided by local phone companies during a call
15. Microphone: voice input
16. Headset Jack: 2.5 mm standard headset jack
17. Speakerphone:
 - a. Voice output during speakerphone operation
 - b. Rings to an incoming call
 - c. Distinctive alert sounds indicating various events:
 - i) Single short beep: successful key entry
 - ii) Double short beep: power on/off
 - iii) Triple short beep: : failed operation or invalid key entry
 - iv) Single long beep: successful operation
 - v) Periodic 1-long-2-short beep (every 5 minutes): low battery warning
 - vi) Periodic long series of beeps (repeat every 30 seconds): indicates a call is on-hold
18. Belt Clip
19. Battery: 3.6V Li-Ion Handset battery

Base Unit Illustration



Base Unit Controls and Display

1. Base Unit corded handset (Handheld)
2. Speakerphone Speaker (under the Handheld):
 - a. Voice output during speakerphone operation
 - b. Rings to an incoming call
 - c. Distinctive alert sounds indicating various events:
 - i) Single short beep: successful key entry
 - ii) Double short beep: power on/off
 - iii) Triple short beep: : failed operation or invalid key entry
 - iv) Single long beep: successful operation
 - v) Periodic 1-long-2-short beep (every 5 minutes): low battery warning
 - vi) Periodic long series of beeps (repeat every 30 seconds): indicates a call is on-hold
3. Auto Attendant (AA):
 - a. When enabled (default for all 4 lines), AA will route an incoming call to a single extension or page a group of extensions
 - b. AA can be enabled/disabled separately for each line, the AA button is lit if AA is turned on for any line
 - c. Press AA button to access AA functions
4. DND (Do Not Disturb): silent ring on all incoming calls, LED flashes if DND is turned on
5. Exit: exit menu operation
6. 4-line LCD (Liquid Crystal Display):
 - a. The LCD display has LED (Light Emitting Diode) for backlighting
 - b. The first line of LCD can be used to display either up to 16 characters of status or message, or it can be used to display Auto Attendant and Voice Mail indicators, as well as a battery icon:
 - i) A shown line number under the Auto Attendant field indicates Auto Attendant is ON for that line
 - ii) A shown line number under the Voice Mail field indicates Voice Mail is ON for that line
 - iii) During power outage, the backup battery will become active, and a battery icon will be displayed in the

- middle with the number of bars proportional to the amount of the battery time remaining
 - iv) A flashing battery icon with a cross indicates a malfunction of the backup batter, immediate replacement of the battery is recommended
 - c. The second and third lines of the LCD, up to 16 characters each, display status, message, menu selections, or user-editable alphanumeric characters.
 - d. The last line displays the left and right soft keys
- 7. Left/Right Soft Keys: make soft key functions selection
- 8. Voice Mail (VM):
 - a. When enabled (default for all 4 lines), VM will record voice messages if an incoming call is not answered by the destination extension (HS or the BU)
 - b. There are 17 voice mailboxes total, one mailbox for each of the 16 handset lds (ID=01-16), 1 general mailbox for the base unit (ID=00)
 - c. VM can be enabled/disabled separately for each line, the Voice Mail button is lit if the Voice Mail is turned on for any line
 - d. Voice Mail button flashes when there are unread new voice mail messages in the general mailbox. The LED will continue to flash until all new messages in the general mailbox have been played
 - e. Press Voice Mail button to access the voice mail functions
 - f. All mailboxes are password protected, default password = 0000
 - g. Voice messages are saved on flash memory which are maintained even during power outage and backup battery failure
- 9. Store: to store speed dial numbers
- 10. Intercom: to place an intercom call to a handset or a group
- 11. Speed Dial buttons: the 16 buttons on the right panel have dual functions. They can be used as one-touch paging to page a handset, or they can be used as speed dial to dial an external phone number
- 12. Dial: press to access a telephone line, a line will be selected by the Base Unit and dial tone will appear

- 13. Line Buttons and Status Indicators:
 - a. Press a line button to access a specific telephone line
 - b. Dual-colored LEDs indicate whether the line is idle (LED off), ringing (flashing red), on hold (flashing red if held by Handset, flashing green if held by Base Unit), or being used by a Handset (red) or the Base Unit (green)
- 14. Up(?)/Down(?) Scrolling Keys
 - a. Scroll through records and menu selections
 - b. Adjust ringer volume during standby
 - c. Adjust receiver/speakerphone/headset voice volume during talk
- 15. Left(?)/Right(?) Scrolling Keys
 - a. Move cursor during number and name editing
 - b. Access CID and Directory functions during standby
- 16. Page: page all handsets
- 17. Flash:
 - a. Sends a Flash signal to phone line to retrieve a dial tone after the call ends
 - b. To perform the call waiting feature provided by local phone companies during a call
- 18. Redial: show last dialed number, can use up/down key to scroll through additional 9 last dialed numbers
- 19. Hold:
 - a. Can place up to 4 lines on hold, only the extension putting a line on hold can un-hold that line
 - b. There is a 30-minute time out on a held call
- 20. Headset:
 - a. Press to activate headset operation
 - b. Supports standard 2.5 mm headset plug
 - c. Headset operation remains for the duration of the call until the Speaker button is pressed or the BU Handheld is picked up
 - d. Press Headset button again to hang up
- 21. Speaker:

- a. Press to activate speakerphone operation
 - b. Speakerphone operation remains for the duration of the call until the Headset button is pressed or the BU Handheld is picked up
 - c. Press Speaker button again to hang up
22. Mute:
- a. Mute BU Handheld or speakerphone microphone
 - b. Press Mute again to exit mute state
23. Supports up to 4 analog line interface (RJ-14 x 2, RJ-11 x 2)
24. DC In: to plug in the AC/DC Power Adaptor
25. Backup Battery:
- a. Rechargeable NiMH battery
 - b. Active during AC power outage
 - c. When fully charged, can provide about 20 minutes of normal operation
26. Reset button (on the bottom of the BU):
- a. Reset button is indented to prevent accidental reset
 - b. Restores Base Unit to factory settings
 - c. All VM, AA, CID, DIR records will be erased, handsets need to be re-registered after a Base Unit reset

Installations

1. **Installing the Base Unit Handset (Handheld)**
 - a. Connect one end of the Handheld cord to the Handheld and the other to the Handheld jack located on the left side of the Base Unit.
 - b. Use only supplied RCA 25450 Handheld.
2. **Installing the Backup Battery in the Base Unit**
 - a. A rechargeable NiMH backup battery is supplied which can provide emergency power during an AC power outage
 - b. Open the battery cover located on the back of the Base Unit.
 - c. Insert the battery connector into the backup battery jack
 - d. The backup battery can provide about 20 minutes of normal operation
 - e. The backup battery is charged while the base unit is on AC power
 - f. Charge the backup battery for 10 hours before first use
 - g. During an AC power outage, the backup battery will become active and a battery icon is shown on the top of the Base Unit LCD display. When the battery is low, the icon will flash.
 - h. Use only supplied RCA 25450 Base Unit backup battery
3. **Installing the Base Unit**
 - a. Raise the Base Unit antenna to upright position
 - b. Make sure the Base Unit antenna is free of obstacles in its close proximity
 - c. For best reception, place the Base Unit on a well ventilated flat surface located on a high ground
 - d. For best performance, maintain at least a distance of 1 meter (about 3 feet) between the Base Unit and other electronic devices (e.g., TV, computer, stereo, fax machine, answer machine, etc.)
4. **Connecting the Telephone Cords**
 - a. If your telephone lines are of 2-wire, 1-line type known as RJ-11, plug one end of the phone cord into one of the 4 phone jacks marked L1 – L4 and plug the other end into the telephone outlet. The RCA 25450 has a built-in "Line Detection" feature; it is okay to plug in the phone jacks in random order.

- b. If your telephone lines are of 4-wire, 2-line type known as RJ-14, you should plug a RJ-14 connector into Base Unit telephone line jacks mark L1 or L3.
- c. The telephone cords supplied work for either type of interface.

5. Installing the Base Unit AC Adaptor

- a. Plug the transformer end of the Base Unit AC/DC adaptor (7.5V) into a standard AC electrical power outlet, plug the other end into the “DC In” jack on the back of the Base Unit
- b. To ensure uninterrupted services, the Base Unit’s AC/DC Adaptor is best plugged into a UPS (Uninterruptible Power Supply).
- c. The base adaptor’s DC plug is larger in dimension than the wireless handset charger’s DC plug. The charger adaptor’s DC plug will not fit into the base’s DC-In jack.

6. Installing the Handset Battery

- a. Insert the handset battery into the handset battery compartment
- b. Charge the handset battery pack for 4 hours until the handset battery strength indicator on the handset LCD display is full before the first usage.

7. Installing the Handset Charger AC Adaptor

- a. Plug the transformer end of the Charger AC/DC Adaptor (5.5V) into a standard AC electric power outlet, plug the other end into the “DC In” jack on the back of the Charger.
- b. The Handset Charger adaptor’s DC plug is smaller in dimension than the Base Unit adaptor’s DC plug. The charger adaptor’s DC plug will not fit into the base’s DC-In jack
- c. During an AC power outage, the charger will not be charging the handset battery. To ensure uninterrupted services, the charger’s AC/DC Adaptor is best plugged into a UPS (Uninterruptible Power Supply).

Important Notes:

- a. Recommended phone line features from the local phone company:
 - i) Caller ID (Type I): allowing the display of incoming caller information

- ii) Hunt Group: Multiple phone lines “hunt group” is a useful feature and works well with this phone system. This feature “ties” multiple phone lines to a single phone number. When an outside caller calls this common phone number, the phone company automatically finds a free line. In a hunt group, the Call Waiting and the Caller ID with Call Waiting (or called Type II Caller ID) features are unnecessary because a 2nd call will come in on a separate line, rather than on the same line. For a 2nd call coming in on a separate line, the phone system’s built-in Second Incoming Call feature will alert the user and allow the user to toggle between multiple lines
- b. The handset packaged along with a Base Unit is pre-registered at the factory. If you have a new handset, you will need to register the handset with the Base Unit in order to be recognized as a member handset by the base and by other handsets. See Handset Registration.
- c. If the RCA 25450 is connected behind a PBX which does not support the Caller ID feature, your RCA system won’t be able to receive caller information and thus cannot display and record the information.

Summary of Features

The RCA 25450 Telephone System is pretty much plug-and-play after you have read and understood the installation guides and the basic controls and displays on the Handset and the Base Unit. No Base Unit or handset programming is needed for basic operations.

However, this feature-rich telephone system provides many advanced features that are also easy to use and can greatly enhance your productivity. A summary of features and their benefits is listed below. You are encouraged to read through this section and explore the features later at your leisure.

1. System Features:

- a. 900 MHz band frequency hopped TDMA (Time Division Multiple Access):
 - Provide secure and high quality communications
 - Avoid interference with 2.4GHz and 5 GHz WLAN (Wireless Local Area Network, 802.11x) and microwave equipment
 - Low handset average transmit power (less than 50 mW) reducing human exposure to radio wave
- b. High receiver sensitivity:
 - Better coverage than other 900 MHz, 2.4 GHz and 5 GHz commercial telephone systems
 - Less communications dead spots
- c. 4-line switching capability on the Base Unit
- d. System ID: randomly selected from 65,536 possible codes, avoiding unauthorized use
- e. Supports up to 16 remote handsets (HS) and 4 groups:
 - No telephone connection required to the remote handset locations
 - Handset can subscribe up to 4 groups
- f. Handset intercom independent of the Base Unit:
 - Handsets can intercom without the presence of the base
 - Intercom calls are digital and full duplex
 - Handset intercoms do not take up Base Unit's radio or line resources

2. Base Unit (BU) Features:

- a. Auto-Attendant (AA):

- AA for all 4 lines can be active at the same time in case of 4 simultaneous incoming calls
 - Per line AA enable/disable with LCD indicator: When disabled for a line, all incoming calls can be pre-programmed to ring all handsets or a particular handset or a group of handsets. If set to ring one handset or a group of handsets, only that handset or group of handsets can make outgoing calls through that line as well.
 - Up to 5 custom AA greeting messages: maximum 64 seconds each, can be custom-recorded
 - Each line can choose its own greeting message
 - AA can only be enabled/disabled from the BU
- b. Backup Battery: provide 20 minutes of emergency power
 - c. Call Log:
 - Records last 50 incoming calls, up to 25 digits each for telephone numbers and 16 characters each for names (needs Caller ID service from telephone service provider)
 - One-button access to Call Log during standby by pressing the Right arrow key and then use Up/Down arrow keys for scrolling
 - d. Call Timer: display call duration on LCD display
 - e. Call Transfer:
 - Direct Transfer: call transfer to another handset without announcement
 - Announced Transfer: call transfer to another handset with announcement
 - f. Caller ID (CID):
 - Supports FSK format Type I Caller ID
 - Supports FSK format Type II Caller ID (Call Waiting with Caller ID, which allows the display of 2nd incoming call information on the same phone line when 1st call is in progress)
 - Both Type I and Type II Caller ID are service provider (your local phone company) features, subscription to these features are required
 - g. Corded Handheld, Speakerphone and Headset
 - h. Dialing Prefix: up to 14 digits, including pause(s), an access code or credit card number can be pre-programmed to be automatically added when dialing from

Call Log and Directory or when dialing by entering number first

- i. Directory:
 - 100 alphabetically sorted and searchable names
 - Each entry can store up to 25-digit phone number and 16-character name
 - Can dial from display
 - During stand-by, you can enter the directory by pressing the Left arrow key and then use Up/Down keys for scrolling
- j. DND (Do Not Disturb): silent ring on all incoming calls
- k. Flash Time: 100 ms – 1000 ms selectable, applicable to all 4 lines, default value = 600 ms
- l. Group Paging:
 - Page all handsets
 - Enter group ID to page several handsets
- m. Hold:
 - Can place up to 4 lines on hold, only the extension putting a line on hold can un-hold that line
 - There is a 30-minute time out on a held call
 - A 30-second On-Hold-Message can be custom recorded and played back periodically
- n. LCD:
 - 4-line with Time and Date displays
 - 5-level LCD contrast adjustment
- o. Line Detection: automatically check for unplugged or bad line connections for outgoing calls
- p. Line Selection: can select from a specific line for an outgoing call
- q. Mute
- r. Number Formatting: when viewing CID records, phone numbers can be edited for outgoing call
- s. Redial: can perform last-number-redial on 10 previously called numbers
- t. Ring Voltage: detect ring voltage as low as 20 Vrms, can be connected behind most PBX systems
- u. Second Incoming Call: alert the arrival of another call on another line
- v. Sound Type Selections:
 - 4 ringer types
 - 4 key tone types
- w. Sound Volume Adjustments:

- 6-level voice volume
- 5-level ringer volume (high/low/vibrate/vibrate-then-ring/off)
- 3-level key tone volume control (high/low/off)
- x. Speed Dial: 16 one-touch speed dial buttons
- y. Three-way Conferencing: supports 2-HS+1-line, 2-line+1-HS, 1-HS+BU+1-line, BU+2-line three-way conferencing
- z. Tone (DTMF) and Pulse Dialing, default is Tone
- aa. 2.5 mm standard headset jack, auto-answer can be enabled when operating with a headset
- bb. User IDs: 21 total (17 extensions and 4 groups)
 - ID 00: Base Unit
 - ID 01-16: Handsets
 - ID 91-94: group ID, handset can “subscribe” from handset menu to groups and be paged when a group ID is entered by a line caller or an intercom caller
- cc. Voice Mail:
 - Total 17 mailboxes (one each for the 16 handsets plus the Base Unit) and 100 minutes of recording time
 - All mailboxes are password protected
 - 2-channel Voice Mail allows two person accessing mailboxes simultaneously
 - Administrator can clear all mailboxes without changing mailbox passwords
 - Administrator can enter or clear a particular mailbox after changing its password
 - Per line VM enable/disable with LCD indicator. When disabled for a line, all incoming calls on that line will not be routed to any mailbox
 - If AA is turned on, the VM is automatically enabled as well.
 - If the AA is off and VM is off, the designated handset(s) will continue ringing
 - If the AA is off and VM is on, the unanswered call will be answered by the designated handset’s mailbox or the general mailbox (if designated to all handsets or a group of handsets)
 - The VM button on the base will be lit if any VM is on for any line, and flash if when there are new messages in the general mailbox
 - Voice messages are saved on flash memory which are kept even during power outage and backup battery failure

- Recording time limit for each message is 64 seconds, no time limit per line or per extension
- VM can only be enabled/disabled from the BU
- Remote landline access to voice mailboxes

3. Handset (HS) Features:

- a. Any key answer (except END and two Soft Keys)
- b. Battery:
 - 3.6 V Li-Ion
 - Battery strength display and low battery alert tone
- c. Call Forwarding:
 - Forward all incoming calls to another handset or an outside line after 3 rings to the extension
 - Once enabled from the handset, all phone calls will be routed to the designated number until disabled. A warning message will appear on the LCD
 - Intercom calls are not forwarded.
 - Before setting this feature, please check your PBX system if it can send a line reverse signal to hang up the line
- d. Call Log:
 - Records last 50 incoming calls, up to 25 digits each for telephone numbers and 16 characters each for names (needs Caller ID service from telephone service provider)
 - One-button access to Call Log during standby by pressing the Right arrow key and then use Up/Down arrow keys for scrolling
- e. Call Transfer:
 - Direct Transfer: call transfer to another handset without announcement
 - Announced Transfer: call transfer to another handset with announcement
- f. Charger:
 - Separate charger, no need for wiring
 - 4 hours charge from empty
- g. Dialing Prefix: up to 14 digits, including pause(s), an access code or credit card number can be pre-programmed to be automatically added when dialing from Call Log and Directory or when dialing by entering number first
- h. Directory:

- 100 alphabetically sorted and searchable names
 - Each entry can store up to 25-digit phone number and 16-character name
 - Can dial from display
 - During stand-by, you can enter the directory by pressing the Left arrow key and then use Up/Down keys for scrolling
- i. DND (Do Not Disturb): silent ring on all incoming calls
 - j. Group Paging: enter group ID to page several extensions
 - k. Headset and Speakerphone
 - l. Hold:
 - Can place up to 4 lines on hold
 - Can perform battery swap during hold
 - m. Intercom:
 - Handset-to-handset or handset-to-base Intercom
 - Handset-to-handset intercom is performed independent of base
 - n. Key Guard: prevents accidental dialing
 - o. LCD:
 - 4-line with call duration display
 - 5-level LCD contrast adjustment
 - p. Line Selection: when enabled, handset can select from a list of available lines for an outgoing call
 - q. Mute
 - r. Redial: can perform last-number-redial on 10 previously called numbers
 - s. Ringer vibrator
 - t. Second Incoming Call: alert the arrival of another call on another line
 - u. Sound Type Selections:
 - 4 ringer types
 - 4 key tone types
 - v. Sound Volume Adjustments:
 - 6-level voice volume
 - 5-level ringer volume (high/low/vibrate/vibrate-then-ring/off)
 - 3-level key tone volume control (high/low/off)
 - w. Three-way Conferencing: supports 2-HS+1-line, 2-line+1-HS, 1-HS+BU+1-line, BU+2-line three-way conferencing
 - x. 2.5 mm standard headset jack, auto-answer can be enabled when operating with a headset
 - y. VM (Voice Mail) Message Alert

Basic Operations

Making a Telephone Call

1. From a Handset:
 - a. Press the TALK or Speaker, and then enter phone number
 - b. Or, you can enter phone number first then press the TALK or Speaker key. When using this method, you can use the CLEAR (Left) and DELETE (Right) soft keys to edit the number entered. "Delete" erases the last digit entered. "Clear" erases the entire line but remains in the dialing mode
 - c. To abort dialing at any time, press the END key
2. From the Base Unit:
 - a. Press the Dial, or Speaker, or Headset button, or pick up the Handheld, and then enter the phone number
 - b. Or, you can enter phone number first then press the Dial, or Speaker, or Headset button, or pick up the Handheld (off-hook). When using this method, you can use the CLEAR (Left) and DELETE (Right) soft keys to edit the number entered. "Delete" erases the last digit entered. "Clear" erases the entire line but remains in the dialing mode
 - c. To abort dialing at any time,
 - i) Press the Speaker button if dialing by pressing Dial or Speaker button
 - ii) Press the Headset button if dialing by pressing the Headset button
 - iii) Return the Handheld to cradle (on-hook) if dialing by picking up the Handheld

Notes:

- a. If all lines are busy or designated for other handsets, the LCD shows "No line available" and then returns to standby
- b. If an air link cannot be established, the LCD will show "No connection" after a 15-second time out.
- c. A call duration timer will start displaying the length of the call after the link is established
- d. Before the TALK/Dial/Speaker/Headset button is pressed or the Handheld is pickup, an incoming call takes priority and will abort the dialing.

Receiving a Telephone Call

1. On a Handset:
 - a. When an incoming call arrives, the ringer will ring or vibrate unless the ringer has been turned off
 - b. If the handset is on the charger cradle (ringer will be temporarily switched to "Ring" if it has been set to "Vibrate").
 - c. If the handset is not on the cradle, press any key (except END and the SILENT and OPTION soft keys) to answer; pressing Speaker will start speakerphone operation
 - d. To switch between Speakerphone and Receiver/Headset:
 - i) Press Speaker to switch from Receiver or Headset to Speakerphone
 - ii) Press TALK to switch from Speaker to Receiver
 - iii) Plug in Headset to switch from Receiver or Speaker to Headset
 - iv) Unplug Headset will return the voice output to the Receiver
2. On the Base Unit:
 - a. When an incoming call arrives, the ringer will ring unless the ringer has been turned off or the DND button has been pressed and remain effective
 - b. The Line Status LED will flash along with the rings on the line from which the call comes in
 - c. To answer,
 - i) Press the Line Button corresponding to the flashing Line Status LED to start conversation with speakerphone, or
 - ii) Pick up the Handheld, or
 - iii) Press Speaker to start conversation with Speakerphone, or
 - iv) Press Headset to start conversation with headset
 - d. To switch between Headset, Handheld and Speakerphone,
 - i) Press Headset to switch from Speakerphone or Handheld to Headset, make sure that headset has been plugged in
 - ii) Press Speaker to switch from Handheld or Headset to Speakerphone
 - iii) Pick up Handheld to switch from speakerphone or Headset to Handheld

Notes:

- a. The Handset LCD will show "Incoming call from Line x," where x represents the line number from which the call comes in.
- b. After the incoming call is answered or after the Caller ID information is received, the incoming line number information will be move to the Line Indicator icon on top of the Handset LCD display.
- c. If Caller ID service is available, the LCD will display the incoming Caller ID information. If the LCD shows "Private" or "Unknown", the caller' s information may have been blocked by the caller or the originating phone company
- d. Press SILENT (Left) soft key on either the Handset or the Base Unit, or the DND (Do Not Disturb) button on the Base Unit, if you choose to ignore the call. Unlike turning off the ringer (from the menu), the SILENT key operation is valid only for the current call. The DND key has the same effect as turning off the ringer. Press the DND button again to allow calls.
- e. During an incoming ring, the Handset or the Base Unit can ignore the call and still make an outbound telephone or intercom call. Handset can make an outgoing telephone or intercom call through the OPTION soft key (select "Line call" or "Intercom" in its submenu). The Base Unit has an additional method which is to press the Line Button to access an outside line.

Making an Intercom Call

1. From a Handset:
 - a. Press Intercom key followed by a two-digit handset ID (01-16) or a Group ID (91-94)
 - b. To abort intercom before the recipient answers, press the END key
2. From the Base Unit
 - a. Press one of the 16 one-touch speed dial keys, from top to bottom, for Handset 01-16, or
 - b. Press Intercom key followed by a two-digit handset ID (01-16) or a Group ID (91-94). Note that speed dial is not applicable when calling a group (ID = 91-94)
 - c. To abort intercom before the recipient answers, press the Exit key

Notes:

- a. Intercom calls between handsets can be made regardless if the Base Unit is present.
- b. If a Group ID is entered, the first extension (belonging to that group) that answers will establish a link with the caller. See Group Subscription.
- c. If a valid ID is not entered within 15 second, the calling party will return to its previous state (standby or hold)
- d. Intercom paging has a time out of 30 seconds if no one answers.
- e. In the case that the Base Unit is already processing 4 voice channels (line call, voice mail, auto attendant), the base will not be able to intercom other handsets. The Base Unit LCD will display "System busy"

Receiving an Intercom Call

1. On a Handset:
 - a. When an intercom call arrives, the ringer will ring or vibrate unless the ringer has been turned off. Press any key (except END and the SILENT and OPTION soft keys) to answer the intercom call, or press Speaker to answer through speakerphone
 - b. If the handset is on the charger cradle (ringer will be temporarily switched to "Ring" if it has been set to "Vibrate").
 - c. To switch between Speakerphone and Receiver/Headset:
 - i) Press Speaker to switch from Receiver or Headset to Speakerphone
 - ii) Press TALK to switch from Speaker to Receiver
 - iii) Plug in Headset to switch from Receiver or Speaker to Headset
 - iv) Unplug Headset will return the voice output to the Receiver
2. On the Base Unit:
 - a. When an intercom call arrives, the ringer will ring unless the ringer has been turned off from menu or the DND is in effect.
 - b. To answer,
 - i) Press the Intercom button to start conversation with speakerphone, or

- ii) Pick up the Handheld, or
- iii) Press Speaker to start conversation with speakerphone, or
- iv) Press Headset to start conversation with headset
- c. To switch between Headset, Handheld and Speakerphone,
 - i) Press Headset to switch from Speakerphone or Handheld to Headset, make sure that headset has been plugged in
 - ii) Press Speaker to switch from Handheld or Headset to Speakerphone
 - iii) Pick up Handheld to switch from speakerphone or Headset to Handheld

Notes:

- a. The LCD displays the caller's Extension ID (00-16).
- b. Press SILENT (Left) soft key on either the Handset or the Base Unit, or the DND (Do Not Disturb) button on the Base Unit, if you choose to ignore the call. Unlike turning off the ringer (from the menu), the SILENT key operation is valid only for the current call. The DND key has the same effect as turning off the ringer. Press the DND button again to allow calls.
- c. During an incoming ring, the Handset or the Base Unit can ignore the call and still make an outbound telephone or intercom call. Handset can make an outgoing telephone or intercom call through the OPTION soft key (select "Line call" or "Intercom" in its submenu). The Base Unit has an additional method which is to press the Line Button to access an outside line.

Ending a Call

To end a telephone or intercom call,

- 1. On a Handset:
 - a. Press END key or place handset into charging cradle
- 2. On the Base Unit:
 - a. Press Speaker if in Speakerphone operation
 - b. Press Headset if in Headset operation
 - c. Place Handheld back to cradle if using Handheld

Making a Page from the Base Unit

The Page button on the Base Unit key is a one-touch button to intercom all handsets.

- 1. Press the Page button, the Base LCD will show "Paging all..."
- 2. The first handset to answer establishes a one-to-one link with the Base Unit
- 3. To switch between Headset, Handheld and Speakerphone on the Base Unit,
 - a. Press Headset to switch from Speakerphone or Handheld to Headset, make sure that headset has been plugged in
 - b. Press Speaker to switch from Handheld or Headset to Speakerphone
 - c. Pick up Handheld to switch from speakerphone or Headset to Handheld

Notes:

- a. The Handsets' LCD displays "Incoming page from Ext #00"
- b. Press SILENT (Left) soft key on the Handset if the Handset chooses to ignore the page. Unlike turning off the ringer (from the menu), the SILENT key operation is valid only for the current page.
- c. During an incoming ring, the Handset can ignore the call and still make an outbound telephone or intercom call by using the OPTION soft key and select "Line call" or "Intercom" from its submenu.
- d. In the case that the Base Unit is already processing 4 voice channels (line call, voice mail, auto attendant), the base will not be able to page other handsets. The Base Unit LCD will display "System busy"

Redial

- 1. From a Handset:
 - a. Press the REDIAL (Left) Soft Key
 - b. The LCD shows the first record in the 10-entry Redial Log, starting from the most recent number called
 - c. Use Up/Down arrow keys to scroll through the 10 records

- d. To dial the displayed number, press the TALK button or Speaker button for Speakerphone operation
 - e. Press END to abort the redial
2. From the Base Unit:
 - a. Press the REDIAL (Left) Soft Key
 - b. The LCD shows the first record in the 10-entry Redial Log, starting from the most recent number called
 - c. Use Up/Down arrow keys to scroll through the 10 records
 - d. To dial the displayed number,
 - i) Press the Dial button, or
 - ii) Press the Speaker button for Speakerphone, or
 - iii) Press the Headset button for Headset, or
 - iv) Press one of the idle Line Button (Line 1-4) for Speakerphone, or
 - v) Lift the Handheld
 - e. To abort the redial,
 - i) Press the Speaker button again if redial by pressing the Speaker or Dial button, or
 - ii) Press the Headset button again if redial by pressing the Headset button, or
 - iii) Press the Speaker button again if redial by pressing one of the idle Line Button (Line 1-4), or
 - iv) Return the Handheld back to cradle (on-hook)

Notes:

- a. When scrolling through the last 10 dialed numbers, the LCD will display two soft key options: SAVE (Left) and DELETE (Right). Press SAVE will enter Directory edit mode, allowing the editing of number and name. Pressing the DELETE will delete the displayed record from the last-10 list. The deletion will have a confirmation prompt YES/NO.
- b. If the Last-10 Called list is empty, the LCD will display "Redial log empty".
- c. Intercom numbers are not stored in the last 10 numbers dialed log.
- d. There is a 15-second time out if no number is dialed after entering the redial mode. The Handset or Base Unit will return to standby.
- e. If an incoming (line or intercom) call arrives before a number is dialed, the Handset or Base Unit will abort the redial operation and enter the incoming call state.

Adjusting Voice Volume

1. For both the Handset and the Base Unit, the voice volume can only be adjusted during a call
2. There are 6 levels of volume selections. Default as volume 4. Use Up (Vol+) and Down (Vol-) arrow keys to adjust
3. The new setting remains effective for all future calls until changed

Adjusting Ringer Volume

1. For both the Handset and the Base Unit, the ringer volume can be adjusted in standby using the Up/Down arrow keys directly, or in menu selection.
2. Default volume settings for both Handset and Base Unit are "Medium."
3. Adjusting ringer volume using Up/Down arrow keys while in standby:
 - a. Pressing the Up (Vol+) and Down (Vol-) arrow keys, the LCD display will show available options
 - b. Use Up/Down arrow to scroll through options
 - c. For the Handset and the Base Unit, the ringer volume can be selected from 4 options: High, Medium, Low, and Off.
 - d. At each volume option, the ringer will sound once exemplifying the volume level
 - e. Press the Exit button on the Base Unit or the END button on the Handset to select the displayed option
 - f. The displayed option will be automatically selected after 5 seconds of inaction
4. Adjusting ringer volume using menu selection:
 - a. On the Handset or the Base Unit, press the MENU (Right) soft key to enter the Main Menu
 - b. Use Up/Down arrow keys to scroll through Main Menu items
 - c. When "Sound" option appears on the LCD, press SELECT (Left) soft key

- d. Use Up/Down arrow keys to scroll through “Sound” submenu items
- e. When “Ring volume” option appears on the LCD, press SELECT (Left) soft key
- f. Use Up/Down arrow keys to scroll through “Ring volume” submenu items. At each volume option, the ringer will sound (or vibrate) once exemplifying the volume level
- g. For the Base Unit, the ringer volume can be selected from 4 options: High, Medium, Low, and Off. For the Handset, there are 6 options: High, Medium, Low, Vibrate, Vibrate and High, and Off, where “Vibrate” means vibration only, and “Vibrate and High” will produce both vibration plus a ring tone with High volume.
- h. When the desired ringer volume option appears on the LCD, press SELECT (Left) soft key and returns to the Main Menu screen
- i. Press the Exit button on the Base Unit or the Handset to return to standby

Notes:

- Until a selection is saved, an incoming call or intercom paging will take priority and the ringer setting operation will be aborted.

Setting Time and Date on the Base Unit

1. On the Base Unit during standby, press the MENU (Right) soft key to enter the Main Menu.
2. Use the Up/Down arrow keys to find “Phone setting” and then press SELECT (Left) soft key to enter the phone setting submenu.
3. Use the Up/Down arrow keys to find and select “Set time”
4. Enter the current Month, Date, Hour and Minute, each a two-digit number. A number less than 10 should be entered with a “0” prefix. For example, June 21 should be entered as 06/21. The “/” is automatically generated.
5. Press SAVE (Left) soft key to save the input
6. Use Up/Down arrows to find and select AM or PM

7. Press SAVE to save the selection.

Notes:

- a. Use the BACK (Right) soft key to return to the previous menu display if entered incorrectly.
- b. Time and Date will be updated by the latest Caller ID data received from the local phone service provider.

Putting Call(s) on Hold

1. On a Handset:
 - a. When a call is in progress, it can be put on hold by pressing the OPTION (Right) soft key and then select the “Hold” option from the submenu.
 - b. LCD will display “Call(s) on hold” whenever there is at least one call being on hold, up to 4 lines can be held by a handset. At the Base Unit, the Line Status LED will flash red indicating the corresponding line is being held by a Handset.
 - c. To return to the conversation, press UNHOLD (Right) soft key on the Handset, the LCD will display “Line to unhold” followed by a list of lines being on hold. Use Up/Down arrow key to scroll to the desired line to unhold, then press SELECT (Left) soft key.
2. On the Base Unit:
 - a. When a call is in progress, it can be put on hold by pressing the Hold Button.
 - b. LCD will display “Call(s) on hold” whenever there is at least one line being on hold, up to 4 lines can be held by the Base Unit. In addition, the corresponding Line Status LED will flash green indicating the line is being held by the Base Unit.
 - c. To return to the conversation, press the Line Button for the desired line number. However, if the line is already released from the hold state (due to time out or hung up by the far end), pressing the Line Button will be assumed to be making an outgoing call.

Notes:

- a. While putting call(s) on hold, the Handset or the Base Unit can access Directory or Call Log, make an outgoing call or intercom/page, or take an incoming call or intercom.
- b. The call being placed on hold can only be UNHOLD by the Handset or the Base Unit that puts it on hold, or unless the hold state exceeds the 30-minute limit.
- c. An alert tone (double beep) every 30 seconds will remind the Handset or the Base Unit that call(s) which has placed call(s) on hold. The alert tone will start after the first call is placed on hold and will continue until all on-hold calls have been released. The alert tone will not be played while the Handset or the Base is talking on another line. However, the alert tone will resume when the Handset or Base Unit returns to idle.
- d. The Handset can be powered off (e.g., change battery) while putting call(s) on hold. After power on again, the handset LCD display will display "Call(s) on hold".
- e. Unhold call(s) by a Handset can only be done when the Handset is within the Base Unit's coverage area. Otherwise, the UNHOLD operation will fail with a "No connection" message.
- f. If a call is no longer on hold due to the 30-minute time out or hung up by the far end, the handset will be notified that the "Line x is not on hold" when attempting UNHOLD operation.

Mute

1. After a link is established, you can press MUTE (Left) soft key on the Handset or the Mute button on the Base Unit to mute the handset, speakerphone, Handheld and headset microphone
2. When mute is active, the other party will not hear your voice, but you can still hear the other party
3. To end the mute, press UNMUTE (Left) soft key on the Handset or the Mute button again on the Base Unit.
4. Mute is effective only for the current call

Do Not Disturb

1. On a Handset:
 - a. Enter the key sequence MENU – Sound – Ring volume, then select "Off". Press SELECT (Left) soft key to save your choice. This will turn off the ringer until it is turn on again from the menu.
 - b. For temporary silencing the ringer when an incoming call arrives, press SILENT (Left) soft key
2. On the Base Unit:
 - a. Press the DND button, this will turn off the ringer until it is turn on again by pressing the DND button again or turned on from the menu.
 - b. Enter the key sequence MENU – Sound – Ring volume, then select "Off". Press SELECT (Left) soft key to save your choice. This will turn off the ringer until it is turn on again by pressing the DND button again or turned on from the menu.
 - c. For temporary silencing the ringer when an incoming call arrives, press SILENT (Left) soft key

Key Guard (Handset Only)

1. To prevent accidental dialing on a Handset, press MENU (Right) soft key, then select "Key guard" option. The handset keypad is locked. No key entry is accepted including the END (power on/off) key.
2. To unlock the keypad, press UNLOCK (Left) soft key, then, within 2 seconds, press the digit "1" to unlock.
3. Key Guard is in effect until unlocked or the battery is removed.

Viewing Call Log

1. Press Right (CID) arrow key to enter the Call Log which is a list of last 50 incoming calls' Caller ID information, starting from the most recent one. Each record includes telephone number, name (if available), and time stamp (date and time of call).

2. The LCD displays will show the date and time of call on the first line, followed by the name on the second line, and the phone number on the third line. An unread record will have a "NEW" at the end of the first line of display.
3. When viewing an incoming call record, you can make a call to the viewed number, store the record on the Directory or the Speed Dial (Base Unit) or delete the record.
 - a. To make a call to the displayed number:
 - i) From a Handset, press TALK or Speaker button
 - ii) From the Base Unit, press DIAL, Speaker, Headset, an idle Line Button, or pick up the Handheld
 - iii) The displayed Caller ID telephone number in most cases will be a 10-digit number with the 3-digit area code followed by the 7-digit telephone number. The FORMAT (Left) soft key can be used to modify the telephone number to comply with the local dialing rules. Pressing the FORMAT soft key once will add a "1" in front of the displayed number. A second press of the FORMAT key will remove the area code from the Caller ID number. For example, suppose that the telephone number stored in the Call Log is 425-123-4567, pressing the FORMAT key once will change the displayed number to 1-425-123-4567, pressing the FORMAT key again will change the displayed number to 123-4567. Pressing the FORMAT key again will loop back to 425-123-4567.
 - iv) Dialing the viewed number can only be made during standby or on hold.
 - b. To save or delete the displayed Caller ID information into the Directory, or to erase the entire Call Log:
 - i) Press the OPTION (Right) soft key
 - ii) Use the Up/Down arrow key to move to the desired option from three possible actions: "Save", "Delete" and "Clear all".
 - iii) Press the SELECT (Left) soft key to select.
 - iv) If "Save" is selected, the LCD display switches to Directory editing screen where the name and phone number can be edited and saved (See Directory Operations).
 - v) The Base Unit can save the displayed telephone number in one of its 16 Speed Dial buttons by pressing the Store button; the LCD display will prompt

for a location. Select by pressing one of the 16 Speed Dial keys. If the selected location already has a number stored, the LCD display will show the name and number and asks for overwrite confirmation.

Select YES (Left) soft key to overwrite or NO (Right) soft key to return to the previous screen.

- vi) Choose "Delete" or "Clear all" to erase the displayed record or all records. A confirmation prompt (YES/NO) will be displayed.

Notes:

- a. Call Log will be empty if no Caller ID information is available for incoming calls. Subscription to this feature is required from your local telephone company.
- b. Some of the information, e.g., name and/or time stamp, may not be available even you have subscribed to the Caller ID service. This available information is dependent on the local telephone company's switch equipment.
- c. If there is no record in the Call Log, pressing the Right (CID) arrow key will return with a "No CID records" message.
- d. If no line is available for making an outgoing call while viewing the Call Log, the Handset or the Base Unit will sound an error tone and return to standby.
- e. When storing the displayed number into the Base Unit Speed Dial button while viewing the Call Log, the name cannot be edited and the number can only be edited with the FORMAT key.

Recording AA Main Greeting Message

When an incoming call arrives, if Auto Attendant is enabled (default), it is first greeted by an Auto Attendant Main OGM (Out Going Message) after 2 rings, with the default announcement of "Please enter the extension number or press zero for the operator". After the caller enters the destination extension number (00-16), the call will be routed to the respective extension. The call destined for the operator will be routed to Extension 00, i.e., the Base Unit.

To change the default Main OGM, which can only be done from the Base Unit,

1. Press the Auto Att button
2. The LCD displays the menu selection items for the Auto Attendant
3. Use the Up/Down arrow key to find "Record OGM", then select with the SELECT (Left) soft key
4. Up to 5 OGM can be pre-recorded and played on different lines (each line can have its own OGM) and/or different occasions. The LCD displays prompts for selection of recording OGM1-5.
5. Use the Up/Down arrow to select a number (1-5). After pressing the SELECT (Left) soft key, a long beep will appear indicating the start of recording.
6. Speak loudly and clearly to the Microphone. Up to 60 seconds of greeting message can be recorded.
7. When finish recording, press the FINISH (Left) soft key to return to the Record OGM menu.
8. Continue recording other OGM or press "BACK" to return to the Auto Attendant menu where you can select "Play OGM" option to play back the OGM that just recorded.
9. Press Exit button at any time to abort and return to standby.

Recording Mailbox Greeting Message

There are up to 17 Voice Mail mailboxes, one for each extension (16 handsets, ID=01-16, plus the Base Unit, ID = 00). Each extension/mailbox can have its own greeting message. The default greeting message for all mailboxes is "Please leave a message after the tone"

Each mailbox is protected with a 4-digit password; the default password for all mailboxes is 0000. Any Handset and the Base Unit can access any mailbox as long as its password is known.

To change the default mailbox greeting message,

1. From a Handset:
 - a. Press the Voice Mail button
 - b. If the Handset can link with the Base Unit, the Handset LCD will display "Enter VM box # and password"
 - c. Enter a 2-digit mailbox number followed by a 4-digit password, for example, to access Mailbox 07 with a password of 0000 enter 070000.
 - d. Unless the mailbox is currently in use, the LCD will display the mailbox number being accessed on the first line, the number of new and old messages on the second line, and the available options on the third line. Use Up/Down arrows to find and select "VM box option".
 - e. There are 4 options within the VM box option submenu: "Change password", "Play greeting", "Record greeting", and "Delete greeting".
 - f. Use Up/Down arrows to find and select "Record greeting"
 - g. Speak to the microphone after hearing a long beep. Up to 64 seconds of greeting message can be recorded.
 - h. Press FINISH (Left) soft key at the end and return to the "VM box options" menu.
 - i. Select "Play greeting" to play back the recorded greeting or press the Exit button to return to standby.
2. From the Base Unit:
 - a. Press the Voice Mail button
 - b. The LCD will display Voice Mail menu items.
 - c. Use the Up/Down arrow keys to find and then select the "Access VM" option. The LCD will display "Enter VM box # and password"
 - d. Enter a 2-digit mailbox number followed by a 4-digit password, for example, to access Mailbox 07 with a password of 0000 enter 070000.
 - e. Unless the mailbox is currently in use, the LCD will display the mailbox number being accessed on the first line, the number of new and old messages on the second line, and the available options on the third line. Use Up/Down arrows to find and select "VM box option".
 - f. There are 4 options within the VM box option submenu: "Change password", "Play greeting", "Record greeting", and "Delete greeting".
 - g. Use Up/Down arrows to find and then select "Record greeting"
 - h. Speak to the microphone after hearing a long beep. Up to 64 seconds of greeting message can be recorded

- i. Press FINISH (Left) soft key at the end and return to the “VM box options” menu
- j. Select “Play greeting” to play back the recorded greeting or press the Exit button to return to standby.

Battery Recharge and Replacement

1. Charge the battery when one or several of the following happen:
 - a. Phone beeps twice every 2 minutes.
 - b. Battery icon is low or empty
 - c. Phone does not respond when a key is pressed
 - d. LCD and backlighting become dim
 - e. Talk range shorter than usual is experienced
2. You can replace the handset battery after placing the call(s) in progress on hold
3. Battery talk time and standby time vary depending on the talk/standby pattern. Returning the handset back to the charging cradle as often as possible is recommended for best performance.

Advanced Operations

Auto Attendant (AA)

Auto Attendant can be enabled or disabled independently for each of the 4 lines. All four AA can be active at the same time in case of 4 simultaneous incoming calls.

1. If Auto Attendant is enabled for a line:
 - a. An automated attendant would greet a telephone line incoming call after 2 rings by playing a greeting message, called Main OGM (Out Going Message). The default Main OGM for all 4 lines is a factory-recorded announcement: “Please enter the extension number or press zero for the operator.”
 - b. The Main OGM is user programmable from the Base Unit (see Recording Auto Attendant Main Greeting Message). Up to 5 different OGM can be custom recorded. When AA is enabled for a line, user can choose which OGM to be played as Main OGM for that line. Each line can choose independently from the 5 custom Main OGM plus the default Main OGM.
 - c. If the first entry by the caller is invalid (no registered handset with that ID), AA will ask for another extension ID with the announcement: “The extension you entered is invalid, please try another extension or press 0 for the operator.”
 - d. If the destination extension does not answer (busy, power off, or out of range) after a 30-second extension paging time out, the AA prompts the caller for another extension number or leave a message by announcing: “The extension you’ ve entered is busy or not available. Please enter another extension number, or to leave a message, press the # key.”
 - e. If “0” is pressed or if there is no entry after a 5-second time out, AA will announce: “Please hold, your call is being transferred to the operator.” and ring the Base Unit.
2. If Auto Attendant is disabled for a line, all traffic coming in from that line will be handled differently depending on who can use the line and whether the Voice Mail is enabled for the line or not.

- a. If the Auto Attendant is disabled for a line (see AA Setting below), user has to instruct the system how to route calls. There are 3 possibilities:
 - i) All incoming calls go to a specific extension, and only that extension can use this line for outgoing calls. In other words, this line is now “dedicated” to a specific extension.
 - ii) All incoming calls go to a specific group of extensions, and only that group can use this line for outgoing calls. In other words, this line is now “dedicated” to a specific group.
 - iii) The line is shared by all extensions (default). An incoming call will ring all extensions and all extensions can use this line to make outgoing calls.
- b. Where does an incoming call go:
 - i) If Voice Mail is enabled for that line:
 - And the line is dedicated to an extension, then the system will ring that extension for a pre-programmed number of rings and, if unanswered, route the call to that extension’s mailbox
 - And the line is dedicated to a group, then the system will ring that group for a pre-programmed number of rings and, if unanswered, route the call to the General Mailbox
 - And the line is shared by all extensions, then the system will ring all extensions for a pre-programmed number of rings and, if unanswered, route the call to the General Mailbox
 - ii) If Voice Mail is disabled for that line:
 - And the line is dedicated to an extension, then the system will ring that extension indefinitely until the extension answers or the caller hangs up
 - And the line is dedicated to a group, then the system will ring that group indefinitely until one extension answers or the caller hangs up
 - And the line is shared by all extensions, then the system will ring all extensions indefinitely until one extension answers or the caller hangs up

Notes:

- a. Intercom calls are not routed by Auto-Attendant
- b. Only Main OGM is user programmable, other secondary routing messages are not user programmable

- c. If Auto Attendant is enabled for a line, Voice Mail becomes an integral part of the call routing, and thus Voice Mail will be automatically turned on as well.
- d. The timeout is 5 seconds for entering extension number

AA Settings:

1. The following Auto Attendant settings can be programmed from the Base Unit:
 - a. Record custom Main OGMs
 - b. Playback default and custom Main OGMs
 - c. Configure Auto Attendant
 - i) Enable/disable AA for each line
 - ii) Select Main OGM for each line
2. Press the Auto Att button on the Base Unit.
3. The LCD displays three menu selection items for the Auto Attendant” “Record OGM”, “Play OGM”, and “Configure AA.”
4. Use the Up/Down arrow key to find the desired option, then select with the SELECT (Left) soft key; or press BACK (Right) soft key to abort the operation.
 - a. Record OGM: see **Recording Auto Attendant Main Greeting Message**
 - b. Play OGM:
 - i) Use the Up/Down arrows to select an OGM number (1-5) or the Default. After pressing the PLAY (Left) soft key, the selected OGM will be played back.
 - ii) Use the STOP (Left) soft key to stop the play back anytime and return to the “Play OGM” menu or press the Exit button to return to standby.
 - c. Configure AA:
 - i) Use the U/Down arrow keys to locate the line (Line 1 – Line 4) for configuration.
 - ii) Press the SELECT (Left) soft key to select.
 - iii) The LCD displayed the current enable/disable (On/Off) status for the selected line, and the current Main OGM if the status is “On.”
 - iv) Use the Up/Down arrows to choose “On” or “Off.”
 - v) Press CHANGE (Left) soft key to change; or BACK (Right) soft key to abort the operation.

- vi) If “Off” is selected, the display returns to the “Configure AA” menu; if “On” is selected, the LCD prompts for the selection of a Main OGM.
- vii) Use the Up/Down arrow keys to locate the desired Main OGM.
- viii) Press SELECT (Left) soft key to select. The selected Main OGM will be automatically played back for confirmation.
- ix) Stop the play back anytime by pressing the STOP (Left) soft key or wait until finish playing.
- x) LCD asks for confirmation whether to save the selection.

Notes:

- a. Allowing each line’ s AA to be turned on or off separately is useful if different lines are used for different purposes.
- b. Dedicating line to an extension, a group of extension or all extensions are programmed from the Main Menu. The settings are in effect only when Auto Attendant is set to “Off” in the “Configure AA setting.”
- c. The minimum number of rings before the AA picks up a call cannot be lower than two to ensure that Caller ID information is received.

Call Forwarding

- 1. A Handset can direct the Base Unit to forward all future phone calls to be routed to another phone number.
- 2. Press the Handset MENU (Right) soft key to enter the Main Menu.
- 3. Use the Up/Down arrow to locate the “Phone setting” option. Press SELECT (Left) to enter the “Phone setting” submenu.
- 4. Use the Up/Down arrow keys to locate the “Call forward” option; then select with the SELECT (Left) soft key.
- 5. The Handset will link with the Base Unit and the LCD will display the Call Forwarding submenu with two options: “Enable” and “Disable (default).”

- 6. If “Disable” is selected, the LCD will return to the “Phone setting” menu; if “Enable” is selected, the LCD will prompt the user to enter a phone number.
- 7. Enter the phone number, up to 14 digits, complying with the local dialing rules. For example, if external line access code, long distance access code, or area code is needed, the necessary digits need to be included in the phone number.
- 8. To turn off call forwarding, repeat the above procedures and select “Disable” from the Call Forwarding submenu.

Notes:

- a. Because Call Forwarding status and phone number are both needed on the Handset and the Base Unit, the Handset needs to be able to link with the Base Unit to change the setting.
- b. Intercom calls are not forwarded.
- c. A warning message will appear on the handset LCD to inform the handset that all calls are forwarded.
- d. Setting a new call forwarding phone number will automatically replace the previous number.
- e. There is no call forwarding announcement to the caller, the caller is not aware of the call is being forwarded.
- f. The Base Unit is the designated operator. Therefore, the Base Unit cannot forward calls.

Call Transfer

While a telephone call is in progress, the call can be transferred to another extension.

- 1. From a Handset:
 - a. Press OPTION (Right) soft key. The LCD displays “Hold” and “Xfer” options. There will be also a third “Conf” option if there are already call(s) on hold.
 - b. Use the Up/Down arrow keys to locate the “Xfer” option and then press SELECT (Left) soft key.
 - c. The LCD will ask for a 2-digit destination extension number.
 - d. If a valid extension ID is received by the Base Unit, the Base will ring the designated extension.

- e. Depending on whether or not the transferring Handset waits for the destination extension to answer, the transfer can be done with or without announcement:
 - i) Un-announced Call Transfer:
 - Press the END button before the destination extension answers, the call is automatically transferred to the destination extension.
 - If the destination extension does not answer, the call will be automatically transferred back to the originating Handset.
 - ii) Announced Call Transfer:
 - Speak to the destination handset.
 - Press the END button to end announcement. The call is transferred to the destination handset.
 - Or, press the CANCEL (Right) soft key to cancel the transfer and resume conversation with the line caller.
2. From a Base Unit:
- a. Press the XFER (Left) soft key.
 - b. The LCD will ask for a 2-digit destination Handset ID.
 - c. If a valid Handset ID is entered, or a One-touch Speed Dial button is pressed, or the Page button is pressed, the Base Unit will ring the desired Handset or all handsets, respectively.
 - d. Depending on whether or not the Base Unit waits for the destination handset (or one of the handsets if page all) to answer, the transfer can be done with or without announcement:
 - i) Un-announced Call Transfer:
 - End the page before the destination handset (or one of the handsets if page all) answers, the call is automatically transferred to the destination handset(s)
 - If the destination handset(s) does not answer after the 30-second paging time out, the call will be automatically transferred back to the Base Unit.
 - ii) Announced Call Transfer:
 - Speak to the destination handset.
 - End the conversation with the handset. The call is transferred to the destination handset.
 - Or, press the CANCEL (Right) soft key to cancel the transfer and resume conversation with the line caller.

- e. The method to end the page to or conversation with the destination handset depends on what device is used in the call. Place the Handheld back to cradle if the Handheld is used, press the Speaker button if using speakerphone, and press Headset button if using headset.

Directory Operations

1. On every handset and on the Base Unit, a personalized telephone directory can be stored with up to 100 entries, each having an up to 25-digit phone number and an up to 16-character name.
2. The LCD displays the first entry in the Directory, with Name on the 2nd line and Number on the third line of the LCD display. Entries are displayed alphabetically according to the first character of the Name field in ascending (from A to Z) order. Names having the same first alphabet are stored in random order.
3. Use the Up/Down arrow keys to scroll through the directory, or enter a letter from the keypad to jump to the first record in that alphabet group, then use the Up/Down arrow keys to reach the exact record. If there is no match, the display will not change.
4. To enter a letter using the keypad, press the corresponding keypad number one or more times according to the order of the character on the key. For example, if you are looking for "RCA", then press the number "7" three times to enter the letter "R". The following table lists the characters that can be entered and their orders.

Character Table

Key	Characters and Orders
1	' + , . * () & 1
2	A B C 2
3	D E F 3
4	G H I 4
5	J K L 5
7	P Q R S 7

8	T U V 8
9	W X Y Z 9
0	0
*	Toggle case when in character editing * P (Pause) when in number editing
#	Space – when in character editing # when in number editing

5. Use the ADD (Left) soft key to add an entry or OPTION (Right) soft key to delete, edit, view, or clear the entire Directory. If the Directory is empty, only the ADD (Left) soft key will show.
6. To add an entry:
 - a. Press the ADD (Left) soft key.
 - b. The LCD will prompt for entering the name. A name up to 16 characters can be entered.
 - c. Press SAVE (Left) soft key after completing the name field.
 - d. The LCD will prompt for entering the number.
 - e. Press SAVE (Left) soft key after completing the number field.
 - f. To erase a letter on the LCD display, use the Left/Right arrow key to move the cursor to the immediate right of the letter then press the DELETE (Right) soft key.
7. To delete an entry:
 - a. Press OPTION (Right) soft key while viewing the desired record to be deleted.
 - b. Use the Up/Down arrow key to locate the “Delete” option, and then press the SELECT (Left) soft key.
 - c. A confirmation YES/NO screen will come up.
8. To erase the entire Directory:
 - a. Press OPTION (Right) soft key while viewing Directory.
 - b. Use the Up/Down arrow key to locate the “Clear all” option, and then press the SELECT (Left) soft key.
 - c. A confirmation YES/NO screen will come up.
9. To view the complete phone number:
 - a. The phone number can be up to 25 digits, longer than the screen width. To view the complete phone number, Press OPTION (Right) soft key while viewing the record.
 - b. Use the Up/Down arrow keys to locate the “View number” option, and then press the SELECT (Left) soft key.

10. To edit an entry:
 - a. Press the OPTION (Right) soft key while viewing the desired record to be edited.
 - b. Use the Up/Down arrow keys to locate the “Edit” option, then press the SELECT (Left) soft key.
 - c. Move cursor with the Left/Right arrow keys to make changes.
 11. While viewing a record in standby or on hold, an outgoing call can be made to that number by pressing the TALK button on the Handset or by pressing the Speaker/Line/Dial/Headset button or lifting the Handheld.
- Note:
- a. If the Directory is full, the LDC displays “Directory full” and no new entry can be added without deleting unused ones.
 - b. Press Exit button at any time to abort action and return to standby. An unsaved entry will be lost. However, you can save name first and add phone number later.
 - c. A phone number can be entered without a name. All records without names will be placed on top of the list, in random order.
 - d. When entering a name, the cursor automatically advances to the next character if you press a different key for the next character. If you need to enter consecutive characters from the same key, you can wait for the cursor to advance or use Left/Right arrow keys to move the cursor backward or forward manually.
 - e. By default, all letters are entered in the upper case. Use the * key to toggle between upper and lower cases.
 - f. A “Pause” entry represents a 3 second delay in dialing the following digits, which is useful when calling a sequence of segmented numbers (e.g., access code, credit card number, auto-attendant entries, etc.) Pause is entered by pressing the * key twice (LCD displays P). Entering pause twice (PP) will result in a 6-second pause when dialing

Group Subscription

1. Up to 4 groups (ID = 91-94) can be defined. Every extension can decide individually which group(s) they want to be in.

2. For example, Group 91 represents the Customer Service Group, Group 92 represents the Sales Group, and Group 93 is the Marketing Group. Suppose that Handset 11 wants to receive incoming rings for all Sales and Marketing related calls. Then Handset 11 will need to “subscribe” to Group 92 and Group 93.
3. When a telephone line or intercom caller page a group ID, all extensions subscribing to that group will ring. The first one to answer will establish a one-to-one link with the caller.
4. By default, the Base Unit is a member of all groups.
5. Group Selection:
 - a. Press the MENU (Right) soft key on the Handset.
 - b. The LCD displays the Main Menu. Use the Up/Down arrow keys to locate the “Phone setting” option, and then press the SELECT (Left) soft key to enter the “Phone setting” submenu.
 - c. Use the Up/Down arrow keys to locate the “Group setting” option, and then press the SELECT (Left) soft key to enter the “Group setting” submenu.
 - d. The LCD displays a list of group(s) to which the Handset subscribes. The default list is empty.
 - e. Press the OPTION (Left) soft key to enter the submenu with “Subscribe” and “Unsubscribe” options.
 - f. Use the Up/Down arrow keys to select “Subscribe” (add) or “Unsubscribe” (delete), and then press the SELECT (Left) soft key.
 - g. The LCD will prompt to enter a 2-digit Group ID (91-94). Upon entering a valid Group ID, the LCD displays the updated subscription list.
 - h. Press BACK (Right) soft key to return to the “Phone setting” menu, or press the Exit button to return to standby, or press the SELECT (Left) soft key to make more changes.

Notes:

- a. A handset can change group affiliations at any time.
- b. A handset’s group affiliation is not controlled nor is known to all other handset or the Base Unit.
- c. The Base Unit is not responsible for group assignments. Consequently, it cannot de-subscribe a handset from a group.

Line Dedication

1. Line Dedication setting is effective only when Auto Attendant is disabled.
2. When the Auto Attendant is disabled for a line (see AA Setting), user has to instruct the system how to route calls. There are 3 possibilities:
 - a. All incoming calls go to a specific extension, i.e., an individual Extension ID, and only that extension can use this line for outgoing calls. In other words, this line is now “dedicated” to a specific extension.
 - b. All incoming calls go to a specific group of extensions, i.e., a Group ID, and only that group can use this line for outgoing calls. In other words, this line is now “dedicated” to a specific group.
 - c. The line is shared by all extensions (default). An incoming call will ring all extensions and all extensions can use this line to make outgoing calls.
3. To dedicate a line to a specific Handset ID or Group ID:
 - a. Press the MENU (Right) soft key on the Base Unit while in standby.
 - b. Use the Up/Down arrow keys to locate the “Line dedicate” option, and then press the SELECT (Left) soft key to enter the “Line dedicate” submenu.
 - c. The LCD prompts for selecting a line to program. Use the Up/Down arrow keys to locate the line number and then press the SELECT (Left) soft key.
 - d. The system will first check whether the Auto Attend has been turned off for that line. If the AA is on, the LCD will return with a message reads “Line can only be dedicated to an extension when AA if off”.
 - e. If the AA is off, the LCD shows the current line dedication enabled/disabled status and the Extension ID if enabled.
 - f. To change the setting, press the CHANGE (Left) soft key or the BACK (Right) soft key to return to the previous screen.
 - g. If enabling the line dedication, the LCD will ask for a 2-digit Extension ID (00-16, 91-94).
 - h. Press SAVE (Left) and return to the Line dedicate menu. Repeat the above steps for other line(s) if necessary.

Notes:

- a. If the AA is turn on after a line dedication has been enabled, the Line Dedication will be automatically disabled.
- b. The setting in Line Dedication is saved even after it is disabled. When re-enabled, the previous setting goes into effect.

Line Selection

By default, the selection of an available line for an outgoing call is done automatically by the system, i.e., the Line Selection feature is "Off" by default. RCA 25450 allows the Base and Handset to manually instruct the system which specific line an outgoing call should use.

1. From the Base Unit:
 - a. Press one of the Line buttons and then enter the phone number; or, enter phone number first then press one of the Line buttons.
 - b. Note that the Line status LED is off before pressing. If it is red or flashing red, indicating in use by one of the handsets, the LCD will return with "Line x is in use" message. If it is green, indicating in use by the Base Unit. If the LED is flashing green, there is call on hold on that line.
2. From the Handset:
 - a. Unlike the Base Unit, the Line Selection feature has to be turned on if so desired; and will stay on until turned off.
 - b. If set to "On", when pressing the TALK button or entering a phone number followed by pressing the TALK button, the Base Unit will inform the Handset of lines available to the Handset (some lines may be busy or dedicated).
 - c. If no line is available, the LCD will display "No line available". If there are lines available, the handset LCD display will show "Select line" followed by available lines. Select from one of the available lines by using the Up/Down arrows and the SELECT (Left) soft key.
 - d. To change the Line Selection On/Off:
 - i) Press the MENU (Right) soft key on the Handset.
 - ii) The LCD displays the Main Menu. Use the Up/Down arrow keys to locate the "Phone setting" option, and

then press the SELECT (Left) soft key to enter the "Phone setting" submenu.

- iii) Use the Up/Down arrow keys to locate the "Line selection" option, and then press the SELECT (Left) soft key to enter the "Line selection" submenu.
- iv) Use the Up/Down arrow keys to select the desired option: "Auto (Default)" or "Manual".
- v) Press the SELECT (Left) soft key to choose.

Menu Operations

By pressing the MENU (Right) soft key on the Handset or the Base Unit, the LCD displays the Main Menu. Use the Up/Down arrow keys to locate the menu item of interest and then press the SELECT (Left) soft key to select or, if a submenu is available, to enter its submenu.

Handset Menu

Main Menu	Submenu
Key guard	
Sound	Ring volume Ring tone Key volume Key tone
Phone setting	Dialing prefix Area codes Contrast Call forward Group setting Line select
Registration	Register HS Deregister HS

1. Key guard: see "Key Guard" in Basic Operations.
2. Sound:
 - a. Ring volume: See "Adjusting Ringer Volume" in Basic Operations
 - b. **Ring tone:**

- i) Use the Up/Down arrow keys to locate the “Ring tone” option and then press the SELECT (Left) soft key to view a list of available ringer tones.
 - ii) Four options are available, use the Up/Down arrow keys to scroll through the options. At each option, the ring tone will play once.
 - iii) Press the SELECT (Left) soft key when the desired ring tone appears.
 - iv) The LCD display returns to the “Sound” submenu.
- c. **Key volume:**
- i) Each pressing of key/button will be accompanied by a tone. Key volume is the level of loudness of the tone.
 - ii) Use the Up/Down arrow keys to locate the “Key volume” option and then press the SELECT (Left) soft key to view a list of available key volumes.
 - iii) Three options are available: “High”, “Low”, and “Off”. Use the Up/Down arrow keys to scroll through the options. At each option, the key tone will play once at according to the displayed level.
 - iv) Press the SELECT (Left) soft key when the desired key tone volume appears.
 - v) The LCD display returns to the “Sound” submenu.
- d. **Key tone:**
- i) Use the Up/Down arrow keys to locate the “Key tone” option and then press the SELECT (Left) soft key to view a list of available key tones.
 - ii) Four options are available. Use the Up/Down arrow keys to scroll through the options. At each option, the key tone will play once.
 - iii) Press the SELECT (Left) soft key when the desired key tone appears.
 - iv) The LCD display returns to the “Sound” submenu.
3. Phone setting:
- a. **Dialing prefix:**
- i) Use the Up/Down arrow keys to locate the “Dialing prefix” option and then press the SELECT (Left) soft key to turn on or off.
 - ii) When this feature is turned on, the LCD will prompt the user on each outgoing phone call, except using redial or dialing by pressing the TALK key first, whether to add the dialing prefix at the beginning of the dialing. The prefix is also displayed. Press the YES (Left) or NO (Right) soft key to add the prefix.

(Or, this prefix will be automatically added without confirmation. TBD)

- iii) This feature is useful for calls requiring access code, calling card, and credit card number, etc.
 - iv) The default for dialing prefix is “Off”.
 - v) To turn on the dialing prefix, use the Up/Down arrow keys to display the “On” option and then press the SELECT (Left) soft key.
 - vi) The LCD will prompt for the entering of a dialing prefix up to 14 digits.
 - vii) Press DELETE (Right) soft key to delete the digit left to the cursor. Press the SAVE (Left) soft key when complete.
 - viii) The LCD display returns to the “Phone setting” submenu.
- b. **Area codes:**
- i) Use the Up/Down arrow keys to locate the “Area codes” option and then press the SELECT (Left) soft key to enter local and regional area codes.
 - ii) Local Area Code (LAC) means your local area code. Regional Area Code (RAC) means area codes which are required when dialing but a long distance access code “1” is not required.
 - iii) Only one LAC can be entered while up to 5 RAC can be entered.
 - iv) These area codes are used to decide whether to strip the area code or to add a “1” when dialing from Call Log. Without specifying LAC and RAC, the number will be dialed “as is” when dialing from the Call Log which obtains the phone number directly off the Caller ID information provided by the local phone company.
 - v) Use the Up/Down arrow keys to select Local or Regional area code to be entered, and then press the SELECT (Left) soft key.
 - vi) The LCD will prompt for the entering of a 3-digit area code.
 - vii) Press the DELETE (Right) soft key to delete the digit left to the cursor. Press the SAVE (Left) soft key when complete.
 - viii) Repeat for entering more RAC.
 - ix) The default list of area codes is empty.
- c. **Contrast:**

- i) Use the Up/Down arrow keys to locate the “Contrast” option and then press the SELECT (Left) soft key to view a list of available LCD display contrast levels.
 - ii) 5 levels are available, with Level 3 being the default. Use the Up/Down arrow keys to scroll through the options. At each option, the LCD display will change its contrast corresponding to the displayed level.
 - iii) Pick the level that is most suitable for you and then press the SELECT (Left) soft key.
 - iv) The LCD display returns to the “Phone setting” submenu.
- d. Call forward: see “Call Forwarding” in Advanced Operations
 - e. Group setting: see “Group Subscription” in Advanced Operations
 - f. Line selection: see “Line Selection” in Advanced Operations
4. Registration: see “Registration/Deregistration” in Advanced Operations

Base Unit Menu:

Main Menu	Submenu
Sound	Ring volume Ring tone Key volume Key tone
Phone setting	Dialing prefix Area codes Contrast Set time
Registration	Register HS Deregister HS Clear HS ID Next HS ID
System setting	Dial mode Flash time Admin password Message on hold
Line dedicate	

- 1. Sound:

- a. Ring volume: See “Adjusting Ringer Volume” in Basic Operations
 - b. **Ring tone:**
 - i) Use the Up/Down arrow keys to locate the “Ring tone” option and then press the SELECT (Left) soft key to view a list of available ringer tones.
 - ii) Four options are available, use the Up/Down arrow keys to scroll through the options. At each option, the ring tone will play once. Option 1 is the default.
 - iii) Press the SELECT (Left) soft key when the desired ring tone appears.
 - iv) The LCD display returns to the “Sound” submenu.
 - c. **Key volume:**
 - i) Each pressing of key/button will be accompanied by a tone. Key volume is the level of loudness of the tone.
 - ii) Use the Up/Down arrow keys to locate the “Key volume” option and then press the SELECT (Left) soft key to view a list of available key volumes.
 - iii) Three options are available: “High”, “Low”, and “Off”. Use the Up/Down arrow keys to scroll through the options. At each option, the key tone will play once at according to the displayed level. Option “High” is the default.
 - iv) Press the SELECT (Left) soft key when the desired key tone volume appears.
 - v) The LCD display returns to the “Sound” submenu.
 - d. **Key tone:**
 - i) Use the Up/Down arrow keys to locate the “Key tone” option and then press the SELECT (Left) soft key to view a list of available key tones.
 - ii) Four options are available. Use the Up/Down arrow keys to scroll through the options. At each option, the key tone will play once. Option 1 is the default.
 - iii) Press the SELECT (Left) soft key when the desired key tone appears.
 - iv) The LCD display returns to the “Sound” submenu.
2. Phone setting:
- a. **Dialing prefix:**
 - i) Use the Up/Down arrow keys to locate the “Dialing prefix” option and then press the SELECT (Left) soft key to turn on or off.
 - ii) When this feature is turned on, the LCD will prompt the user on each outgoing phone call, except using

redial or dialing by pressing the TALK key first, whether to add the dialing prefix at the beginning of the dialing. The prefix is also displayed. Press the YES (Left) or NO (Right) soft key to add the prefix.

(Or, this prefix will be automatically added without confirmation. TBD)

- iii) This feature is useful for calls requiring access code, calling card, and credit card number, etc.
 - iv) The default for dialing prefix is "Off".
 - v) To turn on the dialing prefix, use the Up/Down arrow keys to display the "On" option and then press the SELECT (Left) soft key.
 - vi) The LCD will prompt for the entering of a dialing prefix up to 14 digits.
 - vii) Press DELETE (Right) soft key to delete the digit left to the cursor. Press the SAVE (Left) soft key when complete.
 - viii) The LCD display returns to the "Phone setting" submenu.
- b. **Area codes:**
- i) Use the Up/Down arrow keys to locate the "Area codes" option and then press the SELECT (Left) soft key to enter local and regional area codes.
 - ii) Local Area Code (LAC) means your local area code. Regional Area Code (RAC) means area codes which are required when dialing but a long distance access code "1" is not required.
 - iii) Only one LAC can be entered while up to 5 RAC can be entered.
 - iv) These area codes are used to decide whether to strip the area code or to add a "1" when dialing from Call Log. Without specifying LAC and RAC, the number will be dialed "as is" when dialing from the Call Log which obtains the phone number directly off the Caller ID information provided by the local phone company.
 - v) Use the Up/Dow arrow keys to select Local or Regional area code to be entered, and then press the SELECT (Left) soft key.
 - vi) The LCD will prompt for the entering of a 3-digit area code.
 - vii) Press the DELETE (Right) soft key to delete the digit left to the cursor. Press the SAVE (Left) soft key when complete.
 - viii) Repeat for entering more RAC.

ix) The default list of area codes is empty.

- c. **Contrast:**
- i) Use the Up/Down arrow keys to locate the "Contrast" option and then press the SELECT (Left) soft key to view a list of available LCD display contrast levels.
 - ii) 5 levels are available, with Level 3 being the default. Use the Up/Down arrow keys to scroll through the options. At each option, the LCD display will change its contrast corresponding to the displayed level.
 - iii) Pick the level that is most suitable for you and then press the SELECT (Left) soft key.
 - iv) The LCD display returns to the "Phone setting" submenu.
- d. Set time: see "Setting Time and Date on the Base Unit" in Basic Operations
3. Registration: see "Registration/Deregistration" in Advanced Operations
4. System Setting:
- a. Dial mode:
 - i) Use the Up/Down arrow keys to locate the "Dial mode" option and then press the SELECT (Left) soft key to view a list of options.
 - ii) Two options are available: "Tone" and Pulse". Tone" is the default.
 - iii) Use the Up/Down arrow keys to display the desired option and then press the SELECT (Left) soft key.
 - iv) The LCD display returns to the "System setting" submenu.
 - b. Flash time:
 - i) Use the Up/Down arrow keys to locate the "Flash time" option and then press the SELECT (Left) soft key to view a list of options.
 - ii) 10 options are available, 100, 200, 300 ... 1000 ms. "600" ms is the default.
 - iii) Use the Up/Down arrow keys to display the desired option and then press the SELECT (Left) soft key.
 - iv) The LCD display returns to the "System setting" submenu.
 - c. Admin password:
 - i) Use the Up/Down arrow keys to locate the "Admin password" option and then press the SELECT (Left) soft key.

- ii) The LCD will ask for entering of old (current) password. .
 - iii) Upon entering the correct password, the LCD will ask for entering the new password
 - iv) Enter a 4-digit password.
 - v) After a 4-digit number is entered, the LCD will ask for retyping the new password to validate the entry.
 - vi) If both entries are identical, the LCD will return to the “System setting” submenu; otherwise, it will return to the first “Enter new password” screen.
 - vii) **The default administrator password is 7221 (RCA1). The admin password is required when resetting mailbox password and clearing all mailboxes. If the admin password is changed from default and lost, the only way to recover the password is to reset the system. In that case, the admin password is reset to 7221.**
- d. Message on hold:
- i) Use the Up/Down arrow keys to locate the “Message on hold” option and then press the SELECT (Left) soft key to view options.
 - ii) Three options are available: “Record message”, “Play message” and “Delete message”. The default message is a periodic tone.
 - iii) Use the Up/Down arrow keys to display the desired option and then press the SELECT (Left) soft key.
 - iv) To record a new message, select “Record message”
 - v) Speak to the microphone after hearing a long beep. Up to 15 seconds of message can be recorded.
 - vi) Press FINISH (Left) soft key at the end and return to the “Message on hold” menu.
 - vii) Select “Play message” to play back the recorded message or press the Exit button to return to standby.

Registration/Deregistration

1. If your handset is purchased as part of a system, it has been pre-registered with the Base Unit at the factory with its ID number displayed on the first line of LCD upon power on.
2. If the Handset LCD shows “Please register,” that means it is a new handset or the ID has been erased. You need to register the handset with the Base Unit. An unregistered handset

cannot make/receive telephone or intercom calls from the Base Unit or other handsets.

3. Registration:
 - a. Press the MENU (Right) soft key on the Base Unit while in standby.
 - b. Use the Up/Down arrow keys to locate the “Registration” option, and then press the SELECT (Left) soft key to enter the “Registration” submenu.
 - c. Use the Up/Down arrow keys to locate the “Register HS” option, and then press the SELECT (Left) soft key. The LCD displays an instruction “Press REGISTER in HS menu options.”
 - d. A 30-second timer will start. If the registration process is not completed within 30 seconds, the operation will be aborted.
 - e. Press the MENU (Right) soft key on the Handset.
 - f. The LCD displays the Main Menu. Use the Up/Down arrow keys to locate the “Registration” option, and then press the SELECT (Left) soft key to enter the “Registration” submenu.
 - g. Use the Up/Down arrow keys to locate the “Register HS” option, and then press SELECT (Left) soft key to select.
 - h. The Handset will link to the Base Unit and register with the Base Unit.
 - i. Upon successful registration, the Handset LCD will display a “Registration completed” message and return to standby with the new ID number displayed on the first line of LCD.
 - j. Repeat the above steps for other unregistered handsets.
4. De-registration:
 - a. A handset can deregister itself from the system. This is useful if, for example, a different ID is desired or the handset is about to be replaced. Deregistration will allow the ID to be freed up for other handsets. Without de-registration, the Base Unit will assume the ID is still in use and will not assign it to other handsets.
 - b. De-registration will reset the Handset ID to 00, erase the system security code, and free up the old ID for future registration.
 - c. After deregistration, the handset will not be able to link with the Base Unit to make or receive phone calls, receive page from or intercom the Base Unit, nor can it intercom other handsets.

- d. Press the MENU (Right) soft key on the Base Unit while in standby.
- e. Use the Up/Down arrow keys to locate the “Registration” option, and then press the SELECT (Left) soft key to enter the “Registration” submenu.
- f. Use the Up/Down arrow keys to locate the “Deregister HS” option, and then press the SELECT (Left) soft key. The LCD displays an instruction “Press DEREGISTER in HS menu options.”
- g. A 30-second timer will start. If the deregistration process is not completed within 30 seconds, the operation will be aborted.
- h. Press the MENU (Right) soft key on the Handset.
- i. The LCD displays the Main Menu. Use the Up/Down arrow keys to locate the “Registration” option, and then press the SELECT (Left) soft key to enter the “Registration” submenu.
- j. Use the Up/Down arrow keys to locate the “Deregister HS” option, and then press SELECT (Left) soft key to select.
- k. The Handset will link to the Base Unit.
- l. Upon successful deregistration, the Handset LCD will display a “Deregistration completed” message and return to standby with ID 00 displayed on the first line of LCD.

Notes:

- a. The Handset has to be within Base Unit coverage range to perform registration or deregistration, otherwise a “No connection” error message will show.
- b. If all 16 Handset ID have been used, base will inform and display on HS LCD that “No ID available.”
- c. A Handset which already has an ID will be assigned a new ID if registered again without deregistration first. However, without deregistration, the old ID will not be available to other handsets. In this case, the Base Unit can release this ID back to the pool (see Advanced Registration below.)
- d. The Base Unit has a 30 second timeout, and the handset has a 15 second timeout starting from the registration or de-registration option has been selected. The base and handset will automatically exit registration/deregistration mode after timeout.
- e. Repeat registration or de-registration process if the operation is unsuccessful.

Advanced Registration:

There are two advanced registration functions that can be performed by the Base Unit: clear a Handset ID and assign the next ID.

Clearing a Handset ID will return the ID to the available ID pool as well as re-classifying that ID as un-assigned. When an incoming call tries to reach that ID through Auto Attendant, it will be informed of “invalid ID entry”. An outgoing call attempt by the Handset will be also denied.

Clearing a Handset ID is useful if the Handset has been lost or no longer in service. However, in the case that it is lost, to prevent unauthorized use, do not re-validate this ID by assigning the ID out again. Skip this ID by the using the steps in the “Assign next Handset ID.”

Assigning the next Handset ID is to instruct the Base Unit what the next ID assignment should be. This is useful if a particular Handset ID is preferred over sequentially assigned ID.

1. Clear a Handset ID:
 - a. Press the MENU (Right) soft key on the Base Unit while in standby.
 - b. Use the Up/Down arrow keys to locate the “Registration” option, and then press the SELECT (Left) soft key to enter the “Registration” submenu.
 - c. Use the Up/Down arrow keys to locate the “Clear HS ID” option, and then press the SELECT (Left) soft key.
 - d. The LCD will ask for a two-digit Handset ID.
 - e. If a valid ID is entered, a confirmation tone will sound and that ID is now returned to the pool. If an invalid ID is entered, the Base Unit LCD will display “Invalid HS ID” and then returns to the Registration submenu.
2. Assign next Handset ID:
 - a. Press the MENU (Right) soft key on the Base Unit while in standby.
 - b. Use the Up/Down arrow keys to locate the “Registration” option, and then press the SELECT (Left) soft key to enter the “Registration” submenu.

- c. Use the Up/Down arrow keys to locate the “Next HS ID” option, and then press the SELECT (Left) soft key.
- d. The LCD will ask for a two-digit Handset ID.
- e. If a valid ID is entered, a confirmation tone will sound and that ID is now ready for assignment. If an invalid ID is entered, the Base Unit LCD will display “Invalid HS ID” and then returns to the Registration submenu.
- f. Register the Handset desiring this ID immediately afterward.

Notes:

- a. A Handset whose ID has been cleared by the Base Unit can still make intercom to and receive intercom from other handsets.
- b. To prevent fraud completely in the event that handset(s) are lost, reset the Base unit. This will change the system security code and the entire system can start anew. However, in this case, all handsets need to register and all settings/recordings need to be re-programmed.

Reset System

1. The system can be reset back to factory default by using a pointed object to press the reset button inside the Reset hole on the back of the Base Unit.
2. The following settings/parameters will be changed after a reset:
 - a. System Security ID: a new one will be randomly selected
 - b. Handset registration table: no handset is registered
 - c. Base Unit Call Log
 - d. Base Unit CID records
 - e. Base Unit Directory
 - f. Call forwarding numbers for all extensions
 - g. All mailboxes contents
 - h. All mailbox passwords: reset back to 0000.
 - i. Admin password: reset back to 2771 (RCA1).
 - j. All custom Main OGM, Main OGM for all lines will be reset back to default Main OGM
 - k. AA and VM: turned on for all lines
 - l. Custom recorded Hold message reset to default
 - m. Time and Date will be reset to 01/01 12:00 AM

- n. Mailboxes greeting messages, voice volume, ring tone, ring volume, key tone, key volume, dialing prefix, area codes, LCD contrast, dial mode, flash time will all be reset to default.
3. After a reset, all handsets need to re-register to obtain a new system Security ID.

Second Incoming Call

1. A handset or the Base Unit, while talking on one phone line, will be informed of the arrival of a new incoming phone call on another line.
2. For example, suppose that Handset 15 is talking on Line 1. When a new call comes in on, say, Line 4, and the caller enters extension number “15” when prompted by the AA, or if the call is set to be routed to Handset 15 (or the Group ID of which Handset 15 is a member) when AA is disabled.
3. The Base Unit recognizes that Handset 15 is busy. Instead of announcing to Line 4 that Handset 15 is busy immediately or route the caller to Handset 15’s mailbox (if enabled), the base first sends an alert to Handset 15.
4. Upon receiving the alert, the handset sounds an audible long beep alert and LCD displays “Incoming call from Line 4”.
5. The Handset can:
 - a. Ignore the new call; continue talking to Line 1. The new call will be handled by the AA, VM or keep ringing depending on the AA and VM settings.
 - b. Press the OPTION (Right) soft key to place the first call on hold, and then press TALK to take the new call.
 - c. Press the END button to end the first call and then press the TALK button to take on the new call.
6. The Base Unit can:
 - a. Ignore the new call; continue talking to Line 1. The new call will be handled by the AA, VM or keep ringing depending on the AA and VM settings.

- b. Press the hold button to place the first call on hold, and then press Speaker/Headset/Line button or lift the Handheld to take the new call.
- c. End the first call by pressing Speaker/Headset button or place the Handheld back to cradle (depending on how the call was conducted), and then press the Speaker/Headset/Line button or lift the Handheld to take the new call.

Notes:

- a. This 2nd incoming call features is different from the Call Waiting feature available from the local phone company. The phone company provided Call Waiting works on the same phone line, using the FLASH key to toggle between the two conversations. The Second Incoming Call feature operates on calls from two separate phone lines.
- b. It is recommended not to subscribe to the Call Waiting feature to avoid confusion between calls arriving on the same line or different lines when juggling between calls.
- c. Intercom calls are not notified when an extension is on a line call.
- d. An extension talking on Intercom will not be notified of an incoming line call.

Speed Dial (Base Unit)

1. To store a name and phone number in a Speed Dial button:
 - a. Press the Store button.
 - b. The LCD prompts for a location.
 - c. Press one of the Speed Dial button.
 - d. If the Speed Dial button already has a name and/or number stored,
 - i) The LCD will display the name and phone number with two soft key options: EDIT (Left) and REPLACE (Right).
 - ii) Press the EDIT or REPLACE to edit/enter name first.
 - e. If the Speed Dial button has no name and number stored, enter name at the prompt.
 - f. Use the DELETE (Right) soft key to delete the character left to the cursor, move cursor with the Left/Right arrow keys.
 - g. Use the SAVE (Left) soft key to save change after completing name editing.

- h. Follow the same procedures to edit/enter a phone number.
- i. Press the SAVE (Left) soft key after completing the phone number to return to standby; or press Exit button at anytime to abort the operation and return to standby.

2. To dial from a Speed Dial button:

- a. Press the Dial, Speaker, Headset, or one of the Line buttons, or lift the Handheld.
- b. Press the desired Speed Dial button.

Notes:

- When dialing, if pressing the Speed Dial button without pressing first the Dial, Speaker, Headset, or one of the Line buttons, or lift the Handheld will be an Intercom page to the Handset corresponding to the Speed Dial button.

Three-way Conferencing

1. While a telephone call is in progress, you can place the call on hold and bring in another phone line, or another handset, or the Base Unit, for a 3-way conference.
2. **From a Handset:**
 - a. Place the telephone line on hold.
 - b. **To bring another Handset or the Base Unit for a 3-way conference:**
 - i) Press Intercom button and enter a Handset ID or ID = 00 for the Base Unit.
 - ii) After the 2nd handset or the Base Unit answers, press the END button to end conversation with the 2nd Handset or the Base Unit and return to the hold state with the line call, or
 - iii) Press the CONF (Right) soft key.
 - The LCD will display "Select line to conference" and list all lines which have been placed on hold.
 - Use the Up/Down arrow keys to locate the line to join the conference.
 - Press the SELECT (Left) soft key to start a 3-way conferencing. Any one of the two non-initiating parties can drop out of the 3-way conferencing, leaving the remaining two parties still in conversation.

- Press the CANCEL (Right) soft key to resume conversation with the 2nd handset.
- c. **To bring another phone line for a 3-way conference:**
- i) Press the TALK or Speaker button and enter a phone number; or enter a phone number and then press the TALK or Speaker button, or press the Redial (Left) soft key, or press the DIR (Left Arrow) or CID (Right Arrow) to dial from Directory or Call Log.
 - ii) After the second phone line answers, press the OPTION (Right) soft key.
 - iii) Use the Up/Down arrow keys to locate the “Conf” option and then press the SELECT (Left) soft key.
 - The LCD will display “Select line to conference” and list all lines which have been placed on hold.
 - Use the Up/Down arrow keys to locate the line to join the conference.
 - Press the SELECT (Left) soft key to start a 3-way conferencing. Any one of the two telephone lines can drop out of the 3-way conferencing, leaving the remaining two parties still in conversation. However, if the initiating handset press the END (or Speaker, if using speakerphone) button, the 3-way conference will be terminated and all links dropped.
 - Press the CANCEL (Right) soft key to resume conversation with the 2nd phone line.

3. From the Base Unit:

- a. Place the telephone line on hold.
- b. **To bring another Handset for a 3-way conference:**
 - i) Press Intercom button and enter a Handset ID, or press one of the Speed Dial buttons, or press the Page button.
 - ii) After the handset (or one of the handsets if group paging) answers, press the Exit button to end conversation with the Handset and return to the hold state with the line call, or
 - iii) Press the CONF (Right) soft key.
 - The LCD will display “Select line to conference” and list all lines which have been placed on hold.
 - Use the Up/Down arrow keys to locate the line to join the conference.
 - Press the SELECT (Left) soft key to start a 3-way conferencing. Any one of the two non-initiating

parties can drop out of the 3-way conferencing, leaving the remaining two parties still in conversation.

- Press the CANCEL (Right) soft key to resume conversation with the handset.

- c. **To bring another phone line for a 3-way conference:**
- i) Press the Dial/Speaker/Headset/Line button and enter a phone number; or enter a phone number and then press the Dial/Speaker/Headset/Line button, or press the Redial button, or press the Left (DIR) or Right (CID) arrow key to dial from Directory or Call Log.
 - ii) After the second phone line answers, press the CONF (Right) soft key.
 - iii) The LCD will display “Select line to conference” and list all lines which have been placed on hold.
 - iv) Use the Up/Down arrow keys to locate the line to join the conference, and then
 - Press the SELECT (Left) soft key to start a 3-way conferencing. Any one of the two telephone lines can drop out of the 3-way conferencing, leaving the remaining two parties still in conversation. However, if the initiating Base Unit ends the call by pressing the Speaker (if using speakerphone) button, or the Headset (if using headset) button, or return the Handheld to cradle, the 3-way conference will be terminated and all links dropped.
 - Press the CANCEL (Right) soft key to resume conversation with the 2nd phone line.

Notes:

- a. 3-way conference between 3 extensions (Handset or Base Unit) is not supported.
- b. 3-way conference must start with placing a line call on hold. An Intercom call cannot bring in another Handset, or Base Unit, or phone line for a 3-way conference.
- c. Unlike 3-way conferencing provided by the phone company, which are conducted on one phone line. Here 3-way conference between 1 extension and 2 phone lines actually takes up two physical lines. The extension must have access to a free second line to perform such conferencing.

Voice Mail

1. Each registered Handset (Extension ID = 01-16) automatically gets a mailbox corresponding to its Handset ID. The Base Unit (Extension ID = 00) requires no registration and has a mailbox, known as the General Mailbox.
2. External callers cannot leave a message on mailboxes associated with invalid (unregistered) Handset ID. De-registration a handset (by the Handset itself or by the Base Unit) will automatically delete that mailbox as well as all messages inside.
3. **There is no limit on how many message one extension can have, up to the system limit, in its mailbox.**
4. The VM can store up to 100 minutes of messages. Each message's maximum length is 64 seconds.
5. Accessing the Voice Mail:
 - a. From a Handset:
 - i) Press the Voice Mail button.
 - ii) The Handset will link to the Base Unit. If the link fails (out-of-range, low battery, Base Unit already handling 4 air links, etc.), the LCD will display "No connection" message. If, after linking with the Base Unit, the Base Unit is busy, the LCD will display "System busy" message. Try again later.
 - b. From the Base Unit:
 - i) Press the Voice Mail button.
 - ii) The LCD displays four Voice Mail options: "Access VM", "Configure VM", "Reset Password" and "Clear VM box".
 - iii) Use the Up/Down arrow keys to locate the "Access VM" option and then press the SELECT (Left) soft key.
 - c. The LCD display as well as the voice prompt will ask for a mailbox number followed by its password.
 - d. Enter a 2-digit mailbox number followed by a 4-digit password. For example, to access Mailbox 07 with a password of 1234, enter "071234".
 - e. The default password for all mailboxes is 0000.
 - f. If the mailbox is not in use, the LCD will display number of New and Old voice messages in the mailbox, e.g, "05

New 03 Old," followed by three available action options: "Play new", "Play old", and "VM box option."

- g. Use the Up/Dow arrow keys to locate the desired option and then press the SELECT (Left) soft key to select.
- h. Playing New and Old messages:
 - i) The messages are played in the order they were recorded, starting from the oldest one. If time information is available from Caller ID data, the time of the call is displayed on the LCD.
 - ii) Playback volume can be adjusted by pressing the Up/Down arrow keys.
 - iii) During playback, you can
 - Press the STOP or PLAY (Left) soft key to pause or resume playback
 - Press the DELETE (Right) soft key to delete the current message
 - Press the Left arrow key to play the previous message
 - Press the Right arrow key to play the next message
 - Press the DELETE or the Right Arrow key to advance to the next message, the next message is not played automatically without pressing the DELETE or the Right Arrow key.
- i. VM Box option:
 - i) Change password:
 - Use the Up/Down arrow keys to locate the "Change password" option and then press the SELECT (Left) soft key.
 - The LCD will ask for entering a new password
 - Enter a 4-digit password.
 - After a 4-digit number is entered, the LCD will ask for retyping the new password to validate the entry.
 - If both entries are identical, the LCD will return to the "VM box option" submenu; otherwise, it will return to the first "Enter new password" screen.
 - ii) Play greeting:
 - Use the Up/Down arrow keys to locate the "Play greeting" option and then press the SELECT (Left) soft key.
 - Greeting message for that mailbox will start playing.

- Stop the playback anytime by pressing the STOP (Left) soft key and the LCD returns to the “VM box option” submenu.
- iii) Record greeting: see “Recording Mailbox Greeting Message” in Basic Operations.
 - iv) Delete greeting:
 - Use the Up/Down arrow keys to locate the “Delete greeting” option and then press the SELECT (Left) soft key.
 - A YES/NO confirmation prompt will appear.
 - After deleting the LCD returns to the “VM box option” submenu.
 - Default greeting cannot be deleted.
 - After deleting custom greeting, mailbox uses the default greeting message.
6. Other Base Unit Voice Mail Options:
- a. Configure VM:
 - i) Use the Up/Down arrow keys to locate the “Configure VM” option, and then press the SELECT (Left) soft key to enter the “Configure VM” submenu.
 - ii) The LCD prompts for selecting a line to program. Use the Up/Down arrow keys to locate the line number and then press the SELECT (Left) soft key.
 - iii) The system will first check whether the Auto Attend has been turned on for that line. If the AA is on, the LCD will return with a message reads “VM can only be configure when AA if off”.
 - iv) If the AA is off, the LCD shows the current VM status for that line.
 - If the VM is on for that line, the LCD shows, for example, “Line 1 VM is on # of rings is 4” with CHANGE (Left) and BACK (Right) soft keys. Choose CHANGE to change to “Off” or to change the number of rings (1-6, default = 4) before VM picks up a call.
 - If the VM is off for that line, the LCD shows, for example, “Line 1 VM is off” with CHANGE (Left) and BACK (Right) soft keys. Choose CHANGE to change to “On” and to choose the number of rings (1-6) before VM picks up a call.
 - v) Repeat the above procedures for other lines if necessary.
 - b. Reset password:

- i) Use the Up/Down arrow keys to locate the “Reset password” option, and then press the SELECT (Left) soft key.
 - ii) The LCD prompts for entering “admin password”.
 - iii) Upon entering the correct administrator password, the LCD will ask for which VM mailbox to reset password.
 - iv) Enter a two-digit mailbox number (00-16) and then press the OK (Left) soft key.
 - v) The mailbox password will be reset back to 0000.
- c. Clear VM box
 - i) Use the Up/Down arrow keys to locate the “Clear VM box” option, and then press the SELECT (Left) soft key.
 - ii) The LCD prompts for entering “admin password”.
 - iii) Upon entering the correct administrator password, the LCD will ask for confirmation with a message “Clear all VM for all extensions?” and YES (Left) and NO (Right) soft keys.
 - iv) Press YES will erase the content of all mailboxes, including Mailbox 00, the general mailbox.
 - v) To erase an individual mailbox, if its password has been changed from the default, first reset that mailbox’ s password following the procedures described above, then enter the mailbox to delete messages. Or, another alternative is to deregister that Handset ID, although doing this will require the Handset to re-register.
7. Remote VM Entry: A mailbox can be accessed from a landline by calling in the Base. While the greeting message (Main OGM) is being played, enter the “*” key to access the Voice Mail system. Access will be granted after entering a valid mailbox number and correct password. Follow the voice prompt for accessing mailboxes. System configuration can not be changed remotely.

Notes:

- a. VM becomes an integral part of the call routing when AA is turned on. Therefore, turning on the AA for a line will also turns on the VM for that line.
- b. The VM is a 2-channel system, allowing 2 simultaneous VM accesses, either remote access, local access or a combination. With 2 simultaneous VM accesses, there can be 2 incoming calls allowed at the same time.

- c. Group mailboxes are not supported because each handset can subscribe to many groups, making VM access cumbersome. Also, lack of ownership may cause group mailboxes quickly taking up memory space.
- d. Personal greeting message is limited to up to 64 second long.
- e. Phone call will be terminated after incoming VM message is recorded. No option will be provided after message is recorded.
- f. A new message will be automatically placed into the Old message category after being read.

Technical Specifications

Electrical Specifications	Base Unit	Portable Handset
Frequency	902-928 MHz	902-928 MHz
RF Power	Peak: < 200 mW Average: < 100 mW	Peak: < 200 mW Average: < 25 mW
Channel Spacing	200 kHz	200 kHz
Number of Channels	50	50
Modulation	MSK	MSK
Multiple Access	Frequency Hopping TDMA	Frequency Hopping TDMA
Frequency Hopping Rate	100 per second	100 per second
TDMA Frame Length	10 ms	10 ms
Number of Slots/Frame	8	8
Number of Users/Carrier	4	4
Receiver Sensitivity	< -106 dBm (@ BER 10 ⁻²)	< -106 dBm (@ BER 10 ⁻²)
Telephone Interface	RJ11 x 2, RJ 14 x 2	NA
Speech Coding	8 kbps G.729A	8 kbps G.729A
Channel Coding	8 kbps Convolutional + CRC	8 kbps Convolutional + CRC
Transmission Data Rate	170.678 kbps	170.678 kbps
User Data Rate	128 kbps duplex	128 kbps duplex
Duplex	Time Division Duplex (TDD)	Time Division Duplex (TDD)
Voice Quality	TIA/EIA -470B	TIA/EIA-470B
No. of System ID	65,536	65,536
Ring Signal	20-50 Hz, 12-90 Vrms	NA
Auto-Attendant Coding	8 kbps G.729	8 kbps G.729
Flash Time	100-1000 ms programmable	NA
Power Source	120V AC/DC Adapter 6V Backup battery	3.6V Li-ion Battery
Charger Current	NA	500 mA
Charge Time	NA	4 hours (from empty)
Regulation Compliance	FCC Part 15, Part 68 UL	FCC Part 15, Part 68 UL
Operating Temperature	-0 – 50 °C	-0 – 50 °C
Storage Temperature	-10 – 60 °C	-10 – 60 °C
Humidity	20 – 75 %	20 – 75 %
Dimension without antenna	TBD	TBD
Weight	TBD	TBD

Notes:

1. NA = Not Applicable.
2. The manufacturer reserves the right to change designs and specifications without notice.