

User Manual



WIRELESS SOLUTIONS PROVIDER

DuraFon 1X Digital Long Range Cordless Phone

EnGenius Customer Service
United States: 1-888-735-7888
Canada: 1-888-397-2788

Table of Contents

Safety Instructions	4
General Safety Instructions	4
Product Safety Instructions	4
Battery Safety Instructions	6
Regulatory Information	7
Equipment Checklist	8
Handset Illustration	9
Basic Handset Features	10
Additional Handset Features	11
Administrator Features	13
Base Illustration	15
Basic Base Station Features	16
Charger Illustration.....	17
Charger Features	18
Base Station Installation.....	19
Handset and Charger Installation	20
Basic Operations	21
Operation Modes	21
A. Base Operation Modes	21
B. Handset Operation Modes	21
Making a Telephone Call	22
Making an 2-Way/ Intercom Call	23
A. Handset to Handset Calls	23
B. Intercom/2-Way from Base to Handset.....	23
C. Intercom/2-Way from Handset to Base	24
Making a Broadcast	24
A. Handset to Handset Calls	24
B. Broadcasting from Base to Handset.....	25
C. Broadcasting from Handset to Base	25
Redial	25
Receiving a Telephone Call	25
Receiving an Intercom Call.....	26
Ending a Call.....	26
Adjusting Receiver (Earpiece) Voice Volume	26

Placing a Call On Hold	27
Mute	27
Do Not Disturb (Silent Ring)	27
Key Guard	28
Battery Recharge and Replacement	28
Advanced Operations	29
Handset Registration.....	29
Handset Group Subscription	30
Call Transfer	30
Call Manager	31
Change System Settings by Administrator.....	32
Phonebook Operations	33
Call barring	35
Text Messaging	36
Menu Operations	38
Technical Specifications	42

Safety Instructions

Caution: Your wireless telephone gives you freedom and flexibility to stay in touch while you move around. However, 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.
Remember: 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 device to call for help.
 - b. Emergency calls may not automatically provide emergency personnel with your name, phone number or location.
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. → *revisit this line when we test out the water proof level*
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.
7. Power Outage: In the event of a power outage, your handset charger will not recharge the handset battery, and the base station will not allow you to make an outgoing call or take an incoming call. Both the charger and the base station require electricity for operation. You should have a telephone that does not require electricity available for use during power outage, or have a temporary 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 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 it.

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 station 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 station or the charger adaptor from the power outlet and refer 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 Li-ion 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

DuraFon 1X

FCC ID: NNA-XXXXXX

IC: _____

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

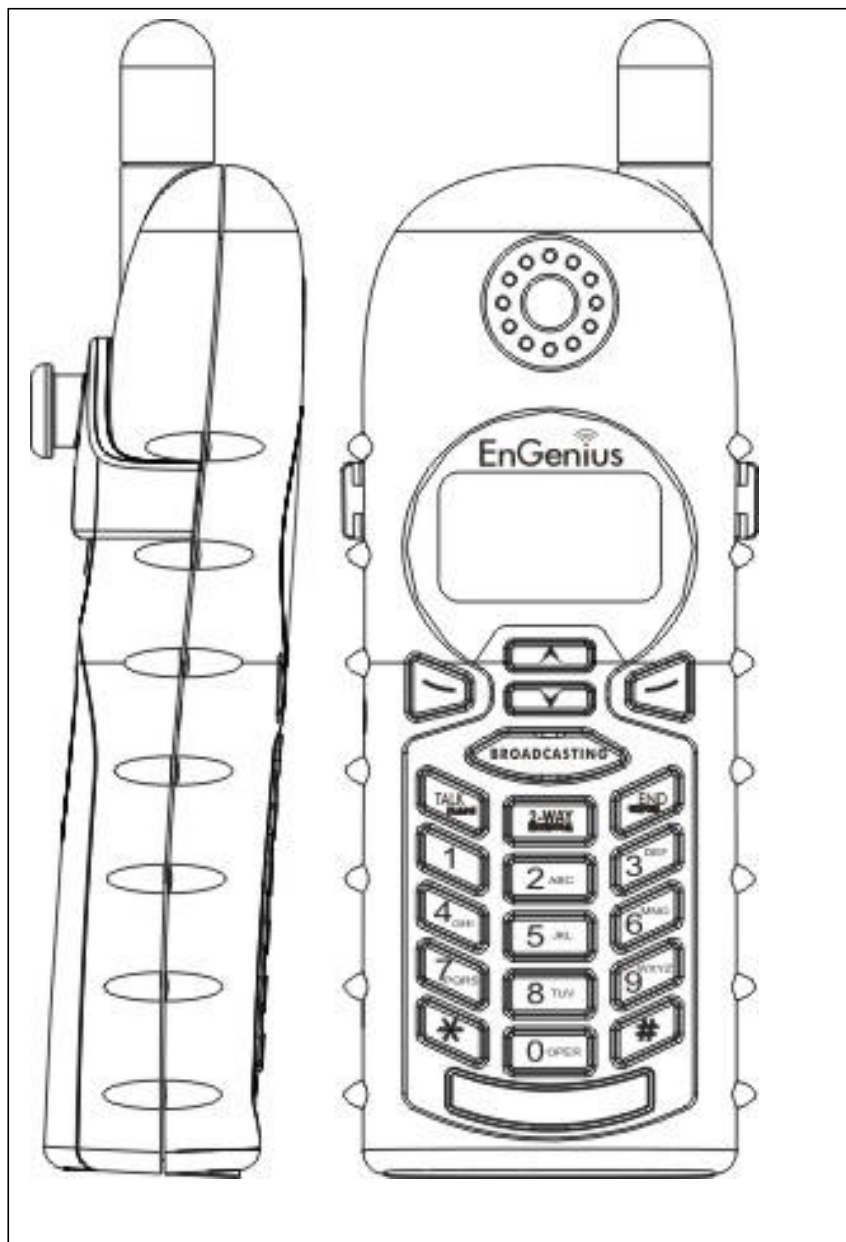
- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.

1. The term "IC:" before the radio certification number only signifies that Industry of Canada technical specifications were met.
2. This telephone system complies with rules of the FCC Part 68 and Canadian IC/DOC CS-03. On the bottom of the base station 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. or CA-11A in Canada. Your telephone company may ask you for this information.
3. 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 your local telephone company for the maximum REN in your area.
4. 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.
5. 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.
6. This telephone system may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.
7. 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 and RSS210 of the DOC 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.
8. 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. We recommend at least 20 feet between the system and other electronic devices.
 - b. Connect the base station to a power outlet on a circuit separate from that used by the device experiencing interference. Consult the dealer or an experienced electronic technician for help.

Equipment Checklist

1. In a Base + Handset package, please find the following components:
 - a. Base Station x 1
 - b. Base Antenna x 1
 - c. Base AC/DC Adaptor x 1
 - d. Handset x 1
 - e. Handset Antenna x 1
 - f. 1700mA Li-ion Battery Pack x 1
 - g. Charger x 1
 - h. Charger AC/DC Adaptor x 1
 - i. Telephone Cord x 1
 - j. User's Manual, Quick Guide, and Warranty Card
2. In a Handset package, please find the following components:
 - a. Handset x 1
 - b. Handset Antenna x 1
 - c. 1700mA Li-ion Battery Pack x 1
 - d. Charger x 1
 - e. Charger AC/DC Adaptor x 1
 - f. Quick Guide, and Warranty Card
3. Optional Accessory
 - a. Leather Pouch
 - b. Spare Battery
 - c. Headset

Handset Illustration



Handset Features

Basic Handset Features

1. 4-line LCD (Liquid Crystal Display)
 - a. The LCD display has LED (Light Emitting Diode) for backlighting.
 - b. The 1st line of LCD consists of icons.
 - c. Icons explanation from left to right
 - (1) **RSSI (Receive Signal Strength Indicator)**
During a call, the number of bars is proportional to the radio signal strength received.
 - (2) **Call in-progress (ON/OFF-Hook)**
Indicates if phone line mode is active
 - (3) **Intercom in-progress**
Indicates if Intercom mode is active
 - (4) **Handset ID**
Displays a handset icon and a 2-digit Handset ID
 - (5) **Two-Digit Address Index**
Shows address index when viewing contents of the call logs.
 - (6) **Line Indicator**
Indicates the number of the line being accessed by the handset.
 - (7) **Battery Strength**
 - Number of bars is proportional to the amount of battery time remaining.
 - Indicates charging when in charger cradle.
 - d. The 2nd and 3^d lines of the LCD, maximum 14 characters each, display status, message, menu selections, or user-editable alphanumeric characters.
 - e. The last line displays the left and right soft keys.
2. Ringer
 - a. Rings to an incoming call.
 - b. Distinctive alert sounds indicating various events:
 - (1) Single Beep: successful key entry
 - (2) Double beep: failed operation or invalid key entry, also indicates power on/off
 - (3) Periodic 1-Long-2-Short Beep (every 1 minute): low battery warning
 - (4) Periodic Long Series of Beeps (repeat every 30 seconds): indicates a call is on-hold
3. TALK/FLASH
 - a. Places or answers a telephone or intercom call
 - b. Sends a Flash signal to phone line to retrieve a dial tone after the call ends, or to perform the call waiting feature provided by local

phone companies during a call.

4. 2-WAY/INTERCOM
 - a. Places an intercom call to another handset ID or a group ID (**group paging**).
 - b. Intercom calls are digital, full duplex, and are conducted without the assistance from the base.
5. BROADCAST
 - a. Half duplex broadcasting to handsets for immediate announcement
 - b. Half duplex broadcasting to base stations
[please refer to page 24 for detail operation]
6. Left/Right Soft Keys
 - a. Make menu selection.
7. Up(▲) /Down(▼) Scrolling Keys
 - a. Scroll through records and menu selections.
 - b. Adjust receiver voice volume when in Talk mode.
8. END; On/Off Key
 - a. Ends a call.
 - b. Leaves current menu operation, up one level.
 - c. Press for 3 seconds to off the power

Additional Handset Features

1. Multiple handsets registration
 - a. Up to 9 handsets can be registered to a base station; up to 36 handsets can be accommodated to the system
 - b. ID 10-99: individual Handset IDs. ID 10 and 11 are the first two ID's assigned by the base and are designated "administrators" who can change base settings such as greeting message and other base administrative functions.
 - c. ID 01-09: Group IDs. Handsets can "subscribe" from the handset menu to group(s) and be paged when a landline caller or an intercom caller enters a Group ID.
2. Ringer Vibrator
 - a. Five-level ringer volume selections (high/ low/ vibrate/ vibrate-then-ring/ off)
 - b. Four ringer type selections

3. Caller ID
 - a. Displays incoming call phone number and name on the LCD (needs Caller ID service from local telephone company)
4. Call waiting with caller ID
 - a. Displays 2nd incoming call information on the same phone line when 1st call is in progress (needs Call Waiting with Caller ID service from local telephone company)
5. Name tagging with caller ID
 - a. Match the caller ID with the phone book entries; once matched, the LCD screen will display the name or nickname instead of pure caller ID info (needs Call Waiting with Caller ID service from local telephone company)
6. DND (Do Not Disturb, i.e., Silent Ring)
7. Three Call Logs
 - a. Called Log: Stores 10 phone numbers (up to 28 digits each) dialed most recently. Can perform last-number redial on all 10 numbers.
 - b. Received Call Log: 10 entries (14-digit phone number, 14-character names, and time stamp), needs Caller ID service from local telephone company.
 - c. Missed Call Log: 10 entries (14-digit phone number, 14-character names, and time stamp), needs Caller ID service from local telephone company.
 - d. Phone numbers and names can be saved into phonebook while in display.
8. Call barring
 - a. Block the users from dialing the long distance calls or international calls
 - b. Up to 5 digits of each call barring setting; up to 4 entries allowed
 - c. If you need to dial a specific number to retrieve the dial tone, you need to key in that number while setting the call barring
[Note] you need to key in the accurate user ID and password to perform this feature. The default password is 0000
9. Any Key Answer (except END, Silent Soft Key)
10. Key-guard

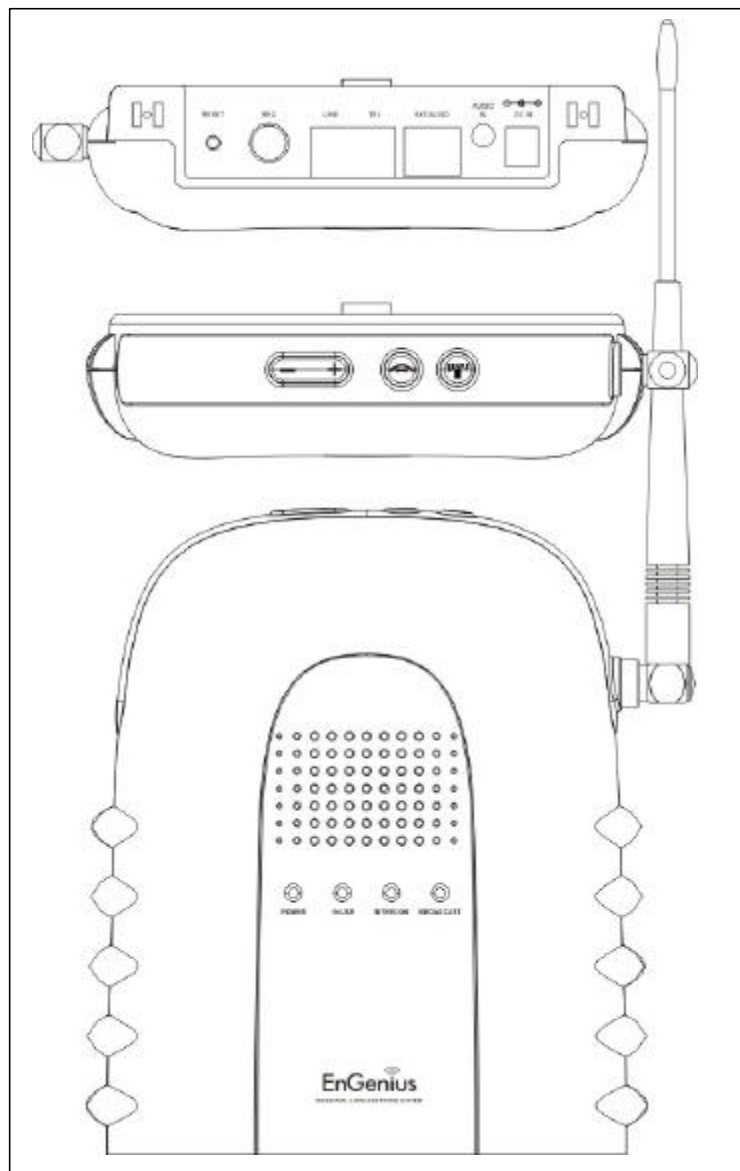
11. Dialing Prefix
 - a. Up to 14 digits, including pause(s), one access code can be pre-programmed to be added automatically in front of the dialed number when dialing from call logs, phonebook, and dial-and-send dialing.
12. Call Hold
 - a. Places call on hold
 - b. Battery Hot Swap: Change battery while call is on hold.
13. Mute
14. Phonebook
 - a. 30 entries, each stores a phone number or handset ID (up to 28-digit) and name (up to 14-character)
 - b. Alphabetically sorted display and search
 - c. Dial from display
 - d. During the stand-by mode, you can enter the phone book by pressing ▲ or ▼ scrolling key
15. Key tone
 - a. Three-level key-tone volume selections (high/low/off)
 - b. Four key-tone type selections
16. Call timers
 - a. Display call time duration for current call during and immediately after the call
17. Text Messaging:
 - a. Editing Message: from a handset, users can edit the short text message for up to 50 characters. Up to 5 messages can be edited and stored.
 - b. Sending Message: In view mode, handset can send a message to another handset or a group of handsets.
 - c. Incoming Message: A distinctive tone alerts an incoming message. The message will stay on LCD display for 8 seconds and then is saved in memory. A total of 5 incoming messages can be saved.

Administrator Features

Handsets 11 and 12 are designated administrators. Both have the same authority to perform base station administrative functions from their handset menu selections. No password is required and to remember.

1. Supports both DTMF and Pulse dialing
 - a. From an administrator handset (Handset 11), press MENU-9-1 to select Tone or Pulse dialing mode.
 - b. Default is Tone dialing.
2. Administrator programmable Flash key timing
 - a. From an administrator handset (Handset 10 or 11), press MENU-9-2-4 to select flash key timing
 - b. 9-level (100 ms - 900 ms) timing selections, default= 600 ms.
 - c. The default value (600 ms) works in most areas. Changing this setting may cause Flash key not working. Change only when you are certain of the new value would work.
3. Call transfer to PBX extension
 - a. When install the DuraFon 1X behind the PBX system, you can pre-program the feature code of call transfer function
 - b. Need to adjust the Flash time to match your PBX setting

Base Illustration



Base Features

Basic Base Station Features

1. Antenna
 - a. The antenna port has a **reverse thread connector**; to remove antenna or cable, turn clockwise; to install, turn counterclockwise. Improper installation may damage the connector
 - b. When using an outdoor antenna, locate the antenna (not the base station itself) as high as possible for a clear transmission path.
2. LED
 - a. Power: it indicates base station has power.
 - b. In-Use: it indicates an active telephone line.
 - c. Intercom: it indicates "Intercom" taking place.
 - d. Broadcast: it indicates "Broadcast" taking place.
3. Reset Button
 - a. Restores base station to factory settings
 - b. Reset button is indented to prevent accidental system reset.
 - c. All handsets (including administrator) and additional base(s) need to be re-registered after a base station reset.
4. Registration Key (REG)

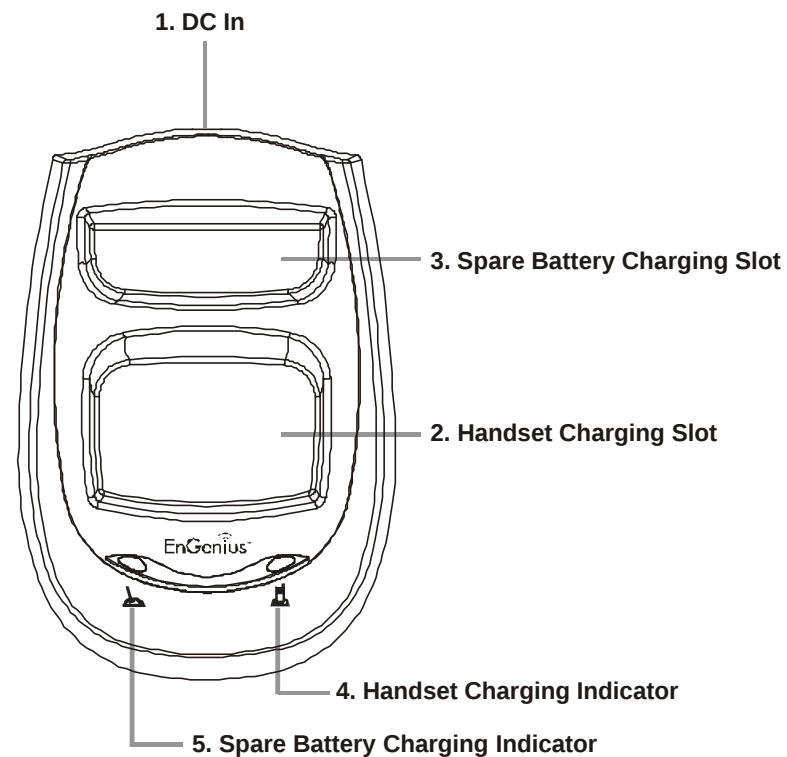
Enters registration mode along with handset, assigns handset ID (10-99).
5. Line

Standard RJ-11C/CA-11A connector to plug in the telephone line
6. Telephone:

Another RJ-11C to plug in the optional answering machine
7. Ext. Audio

The optional RJ-45 connector to plug in the speaker or call box for broadcasting purpose
8. Audio-in Jack (3.5mm)
9. DC In: to plug in the power adaptor
10. Voice Volume

Charger Illustration



Charger Features

1. DC In
Connects to Charger AC Adaptor.
2. Handset Charging Slot
 - a. Charge handset battery when handset is placed in cradle. 150 minute fast charge from empty.
 - b. Refer to the handset LCD for charging status
 - (1) Charging: battery status bar is running and the LCD screen showed: Charging
 - (2) Fully Charged: battery status bar stands still and the LCD screen would display "Fully Charged"
 - (3) Charge Fail: Should there be any error occurred during charging mode, the LCD screen would display "Charge Fail"
3. Spare Battery Charging Slot
 - a. Charge spare battery when battery is placed in slot. 90 minute fast charge from empty
 - b. LED as the spare battery charging indicator
 - (1) Slot is empty and the power is on: LED is Green light
 - (2) Charging: LED is Orange light
 - (3) Fully Charged: LED returns to Green light
4. It is impossible to overcharge the battery using this charger.

Notes:

1. Fully charge battery packs before first use.
2. Both handset and spare batteries can be charged at the same time.

Getting Started

Base Station Installation

There are three possible base station setups:

- Base station alone
- Base station plus telephone answering device
- Base station plus standard telephone

For best performance, maintain at least a distance of 1 meter (about 3 feet) between the base station and other electronic devices (e.g., TV, computer, stereo, fax machine, answer machine, cordless phone, etc.)

1. Install base station antenna.
The base station's antenna port has a **reverse-thread connector**; to install antenna or cable, turn counter-clockwise; to remove, turn clockwise. Improper installation may damage the connector.
2. Plug the transformer end of the base station AC/DC adaptor into a standard AC electrical power outlet, plug the other end into the "DC In" jack on the back of the base station.
 - a. The base adaptor's DC plug is larger in dimension than the charger's DC plug. The charger adaptor's DC plug will not fit into the base's DC In jack.
 - b. The base station's power supply (DC Adaptor) and telephone line should be plugged into a surge protector with phone line protection.
3. Plug phone cord into the "LINE" Jack
4. A standard telephone or answering machine can be plugged into the adjacent receptacle on the bottom of the base station marked TEL
5. To use the Music/Message-On-Hold feature: Connect one end of a standard audio cable into a radio or audio player, and plug the other (3.5

mm) end into the MOH jack on back of the base.

Handset and Charger Installation

1. Plug the transformer end of the Charger AC/DC adaptor into a standard AC electric power outlet, plug the other end into the "DC In" jack on the back of the Charger.
2. Install battery pack onto the handset.
3. Install handset antenna.
4. Place handset onto the charger front slot.
5. The phone system is now ready to perform basic functions such as making and receiving phone calls and intercom calls. No base station or handset programming is needed for basic operations.

Note:

1. Handset(s) packaged along with a Base Station are pre-registered at the factory. If you have a new handset, you will need to register the handset with the base station in order to be recognized as a member handset by the base(s) and by other handsets. See Handset Registration.
2. Fully charge battery packs before the first use.

Basic Operations

Operation Modes

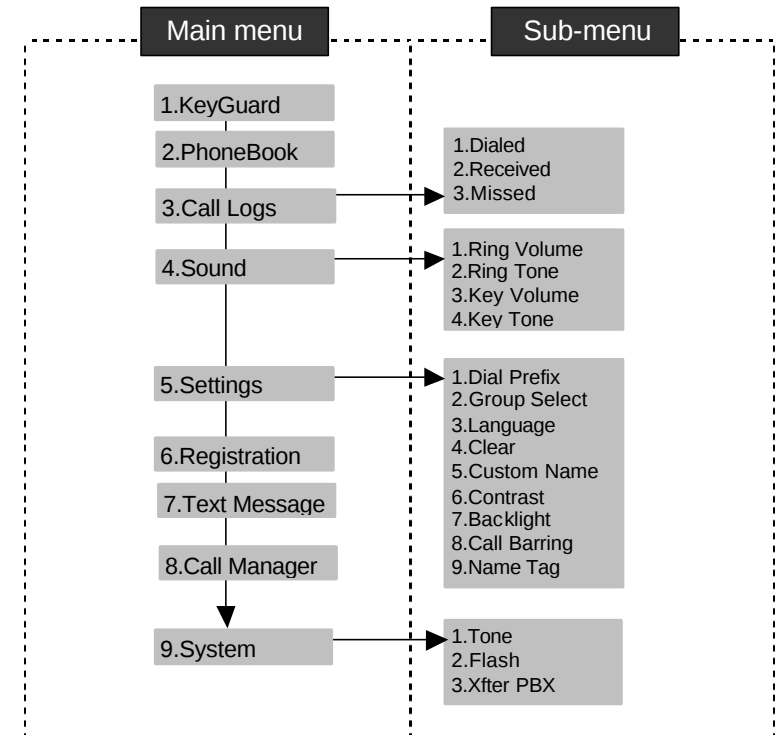
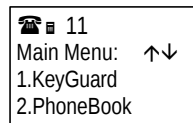
Both the base station and handset have levels of operation at which time only certain procedures of functions can be performed.

A. Base Operation Modes

1. **IDLE mode**- this is the default mode. The intercom, broadcast, and volume keys are active in IDLE mode.
2. **TALK mode**- the base operates in this mode during phone call, intercom, and broadcast operation. The "In Use", "Intercom", and "Broadcast" LED will light up respectively.
3. **REGISTRATION mode**- the base enters this mode by pressing the REG button for three seconds. There are no active base unit keys once this mode has been entered. Four LEDs will be lighted up in Registration mode.

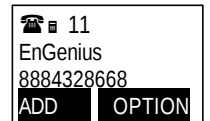
B. Handset Operation Modes

1. **IDLE mode**- this is the default mode.
 - a. If there is no on-going activity, the handset automatically goes into SLEEP/IDLE mode to save battery power.
 - b. The handset can be turned off completely by holding down the END key for 3 seconds.
 - c. The idle screen display (custom name) can be edited.
 - d. The 2-digit number represents the handset ID
2. **Menu mode**
 - a. Press the Right soft function key to activate MENU mode.
 - b. In MENU mode, the handset settings and information contained in memory can be changed.
 - c. The functions available through the MENU selection are covered in greater detail from page 38.
 - d. The MENU structure display as below:



Making a Telephone Call

1. Press TALK, wait for dial tone, and then enter phone number.
2. Alternatively, you can enter phone number first then press TALK 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.
3. **Speed dial** by access the entries in the phone book
 - a. Press ▲ or ▼ scrolling key to enter the phone book
 - b. Press TALK to dial out the number
4. To abort dialing, press END key.



Notes:

1. If the line is occupied, the LCD shows "No Line Available" and handset returns to standby mode.
2. If a link cannot be established, the LCD will show "No Base" after a 12-second time out.
3. A call duration timer will start displaying the length of the call after link is established.

Making an 2-Way/ Intercom Call

The EnGenius Industrial Cordless Phone System offers private, Intercom/ 2-way radio calls independence of base station. Intercom/ 2-way communication can be placed from or to base stations and handsets.

A. Handset to Handset Calls

1. Press Intercom key followed by a two-digit handset ID or Group ID.
2. Press END key to end the call.

 11
Please enter
Ext. #: 12

Notes:

1. Intercom calls can be made regardless if the Base Station is present.
2. If a Group ID is entered, the first handset (belonging to that group) that answers will establish a link with the caller. See Handset Group Subscription.
3. If a link cannot be established, the LCD shows "No Connection" after a 12-second time out.

B. Intercom/2-Way from Base to Handset

1. Press Intercom key on the base station to intercom all registered handsets. The first handset to answer will establish a voice link with the base.
2. The INTERCOM LED will flash until a handset responds.
3. The base unit will page for 15 seconds, then terminate the page if no handset responds.
4. Before a handset answers, the INTERCOM can be cancelled from the base by pressing INTERCOM again. However, once a handset answers, only the answering handset can end the call.

 11
Intercom from
Base 1
SILENT

C. Intercom/2-Way from Handset to Base

1. Press Intercom key followed by a two-digit base ID [Note: Base 1 ID as 10, Base 2 ID as 20, Base 3 ID as 30, and Base 4 ID as 40]
2. The base will ring once, then automatically connect the intercom call from a handset.

 11
Please enter
Ext. #: 10

Making a Broadcast**A. Handset to Handset Calls**

1. Broadcasting all handsets
 - a. Press "BROADCAST" key from one handset
 - b. Hear bi-bi-beep while the initiating handset broadcast all handsets within communication coverage
 - c. Start to speak the message to be broadcasted once you hear the "beep" sound; the speakerphone of destination handsets will be opened up
 - d. Press END key to end the broadcasting
2. Broadcasting a group of handsets
 - a. Enter the Group ID and then press "BROADCAST" key
 - b. Hear bi-bi-beep while the initiating handset broadcast all handsets within communication coverage
 - c. Start to speak the message to be broadcasted once you hear the "beep" sound; the speakerphone of destination handsets will be opened up
 - d. Press END key to end the broadcasting
3. Broadcasting an individual handset
 - a. Enter the Handset ID and then press "BROADCAST" key
 - b. Hear bi-bi-beep while the initiating handset broadcast all handsets within communication coverage
 - c. Start to speak the message to be broadcasted once you hear the "beep" sound; the speakerphone of destination handsets will be

 11
PA paging
to all...

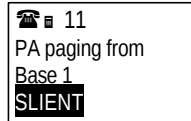
 11
PA paging
to Ext. # 02

 11
PA paging
to Ext. # 12

- opened up
- d. Press END key to end the broadcasting

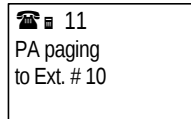
B. Broadcasting from Base to Handset

1. Broadcast to all handsets
 - a. Press Broadcast key on the base station to intercom all registered handsets.
 - b. Hear bi-bi-beep while the initiating handset broadcast all handsets within communication coverage.
 - c. The Broadcast LED will light up
 - d. Press the Broadcast key again and return to IDLE mode



C. Broadcasting from Handset to Base

1. Broadcast to the base station
 - a. Enter the Base ID and then press "BROADCAST" key
 - b. Hear bi-bi-beep while the initiating handset broadcast the base stations.
 - c. Start to speak the message to be broadcasted once you hear the "beep" sound; the speakerphone of the base will be opened up
 - d. Press the END key again and return to IDLE mode



Redial

1. Press REDIAL (Left) soft key.
2. The LCD shows the last phone number dialed. To dial this number, press DIAL (Left) soft key.
3. Use Up or Down Arrow Key to scroll through the last 10 phone numbers dialed. Select and press DIAL soft key.
[Note] Intercom numbers (Handset ID) are not stored in the last 10 numbers dialed log.

Receiving a Telephone Call

1. When an incoming call arrives, the ringer will ring or vibrate unless the ringer has been turned off.

2. If the handset is on the charger cradle (ringer will be temporarily switched to "Ring" if it has been set to "Vibrate"), lift the handset and start conversation.
3. If the handset is not on the cradle, press any key (except END, and the Silent soft key) to answer.

Notes:

1. You can press SILENT (Left) soft key if you choose to ignore the call. Unlike turning off the ringer (from the handset menu), the SILENT key operation is valid only for the current call.
2. If Caller ID service is available, the LCD will display the incoming call information. If the LCD shows "Private" or "Unknown", the caller's information may have been blocked by the caller or the originating phone company.

Receiving an Intercom Call

1. When an intercom call arrives, the ringer will ring or vibrate unless the ringer has been turned off. Press TALK to answer the intercom call.
2. If the handset is on the charger cradle (ringer will be temporarily switched to "Ring" if it has been set to "Vibrate"), lift the handset and start conversation.
3. If the handset is not on the cradle, press any key (except PWR, END, and the SILENT soft key) to answer.

Notes:

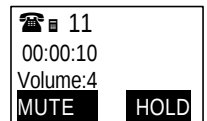
1. The LCD displays the caller's Handset ID.
2. You can press the SILENT (Left) soft key if you choose to ignore the call. Unlike turning off the ringer the SILENT key operation is valid only for the current call.

Ending a Call

To end a telephone or intercom call, press END key or place handset into charger cradle.

Adjusting Receiver (Earpiece) Voice Volume

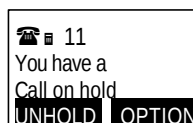
1. Voice volume can only be adjusted during a call.
2. There are 6 levels of volume selections. Default =



4. Use ▲ and ▼ arrow key to adjust
3. The new setting remains effective for all future calls until changed.

Placing a Call On Hold

1. When a call is in progress, it can be put on hold by pressing the Hold (Right) soft key.
2. To return to the conversation, press “Unhold”



Notes:

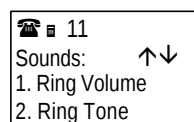
1. The call being placed on hold can only be “un-hold” by the handset that puts it on hold.
2. Handset LCD displays a call is being on hold. An alert tone (double beep) every 30 seconds will remind the handset that a call is being on hold.
3. If the operation (e.g., call transfer) after putting a call on-hold fails, the held call may be dropped.
4. You can power off the handset (e.g., change battery) while call is on hold. After power on again, you can continue the call by pressing UNHOLD (Left) soft key or select “3” from the Option menu to terminate the hold state.

Mute

1. After a link is established, you can press Mute (Left) soft key to mute the handset microphone.
2. When mute is active, the other end will not hear your voice, but still can speak to you.
3. To leave the mute state, press “Unmute” (Left) soft key. Mute is effective only for the current call.

Do Not Disturb (Silent Ring)

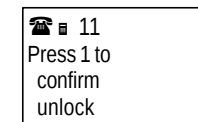
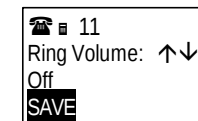
1. Enter the key sequence MENU – Sounds – Ring Volume, then select “Off”. Press SAVE to confirm your choice. This will turn off the ringer until it is turn on again from the menu.



2. For temporary silencing the ringer when an incoming call arrives, press Silent (Left) soft key.

Key Guard

1. To prevent accidental dialing, you can press Menu (Right) soft key, then press “1” to select KeyGuard option. The handset keypad is locked. No key entry is accepted except the 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 powered off.



Battery Recharge and Replacement

1. Charge the battery when one or several of the following happen:
 - a. Phone beeps twice every two seconds.
 - b. Battery icon is empty.
 - c. Phone does not respond when a key is pressed.
 - d. LCD and backlighting become dim.
 - e. Talk range shortfall is experienced.
2. You can replace the handset battery after placing the call-in-progress on hold.
3. Battery talk time and standby time vary depending on the talk/standby pattern and the operating distance. Putting the handset back to charger cradle as often as possible is recommended for best performance. **Use only manufacturer provided battery and charger!**

Advanced Operations

Handset Registration

1. If your handset(s) is purchased as part of a system, it has been pre-registered with the base station at the factory.
2. If Handset ID as “00,” that means it is a new handset or the ID has been erased. You need to register the handset with the base station.
3. Registration:
 - a. Press MENU-6 to enter the registration mode
 - b. Press and hold the base’s Registration (REG) button for 2 seconds until 4 LEDs light up.
 - c. Press handset key “1”, this completes the registration process. The base station will assign a handset ID between 12 and 19. The assigned ID will be displayed on the handset LCD, indicating successful registration.
 - d. Repeat above steps for all additional handsets.
 - e. The first two handsets registered will be given ID 11 and 12, which gives them administrator privileges.
4. De-registration:
 - a. You can de-register a handset from a base. De-registration will reset the Handset ID to 00, erase the system security code, and free up the old ID for future registration.
 - b. After deregistration, the handset will not be able to use the base to make or receive phone calls, nor can it intercom other handsets.
 - c. Press handset Menu (Right) soft key.
 - d. Press the handset number key “6”, this will enter the handset registration menu.
 - e. Press and hold the base’s REG button for 2 seconds until 4 LEDs come on.
 - f. Press the handset number key “2”, this completes the de-registration process. Upon successful de-registration, the handset will show ID “00”.

Notes:

1. The base has a 30 second registration timeout starting from pressing the REG button. The handset has a 12 second registration timeout starting from the registration or de-

registration option has been selected. The base and handset will automatically exit registration mode after timeout.

2. Repeat registration or de-registration process if unsuccessful.

Handset Group Subscription

1. Up to nine handset groups (01-09) can be defined and handsets can decide which group(s) they want to be in.
2. For example, Group 1 represents the Customer Service Group, Group 2 represents the Sales Group, and Group 3 is the Marketing Group. Suppose that Handset 11 wants to receive incoming rings for all Sales and Marketing related calls. Then handset 10 will need to “subscribe” to Group 2 and Group 3.
3. Group Selections:
 - a. Press handset Menu-5 to enter the handset setting menu
 - b. Press number “2”, handset enters group select menu.
 - c. Press ADD soft key and enter two-digit group number (01-09) to add membership in a group.
 - d. Repeat for all desired groups.
 - e. Delete group selections by pressing **DELETE** key and enter group number.

☎ 11
Main Menu: ↑↓
5. Settings
6. Registration

☎ 11
Registration: ↑↓
1. Register
2. Deregister

☎ 11
Settings: ↑↓
1. Dial Prefix
2. Group Selection

☎ 11
Groups
ADD **DELETE**

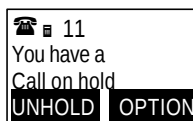
Notes:

1. The handset can change group affiliations at any time.
2. The base (administrator) is not responsible for group assignments. Consequently, it cannot de-subscribe a handset from a group.
3. When an outside line or an intercom caller enters a group ID, all handsets subscribed to this group will ring. The first handset to answer will establish a link with the caller. Afterward, it is a one-to-one call, not a one-to-many call.
4. When AA is turned off, only handsets subscribed to a particular group can access a specific line that is dedicated to this group for outgoing calls.

Call Transfer

1. While a telephone call is in progress, you can place call on hold and transfer the call.

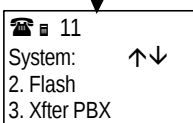
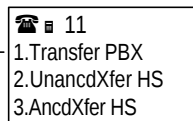
2. Press HOLD (Right) soft key to put call on hold.
3. Press OPTION (Right) soft key to enter selection menu.



4. Three types of transfer method:

a. Transfer PBX

- (1) When DuraFon 1X is adjunct to the PBX system, you can transfer the call to an assigned PBX extension.
- (2) Normally, each proprietary PBX system acquire a specific feature code to execute "call transfer" function
- (3) You can pre-program that feature code by entering the "System" mode (Menu-9); you need to enter the base ID to link to the base station
- (4) Press 3 and then enter the specific "call transfer" feature code



b. Un-announced Call Transfer:

Press "END" before the destination handset answers, the call is automatically transferred to the destination handset.

c. Announced Call Transfer:

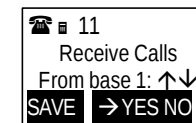
- (1) Speak to the destination handset.
- (2) Press XFER (Right) soft key or the END to end announcement. The call is transferred to the destination handset.

Notes: If the destination handset does not answer after handset paging timeout, the call is routed back to the originating handset.

Call Manager

"Call Manager" feature allows the handset to be set to receive all incoming, transferred, and 2-Way/Intercom calls OR just transferred and 2-Way/Intercom calls. The option is selectable by base 1 to base 4.

1. Press menu 8 to enter the Call Manager function. The screen will display:



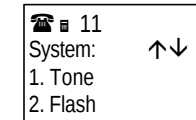
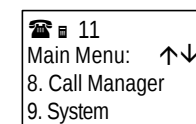
2. Use ▲ and ▼ Scrolling keys to select a base from base 1 to base 4.
3. Then press the →YES NO key to switch between Yes and No, then press SAVE key to confirm the setting.
4. Repeat the process until all base stations from which calls are to be accepted have been selected for the handset.

Change System Settings by Administrator

There are three types of system setting that can be adjusted by Administrator.

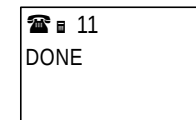
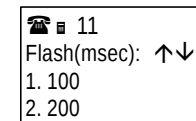
1. Tone

- a. Press Menu-9 and enter the two-digit base ID to enter the System mode.
- b. Press 1 to enter Tone selection
- c. You can adjust the dial mode between Tone and Pulse. The default setting is Tone.
- d. The default setting is Tone.



2. Flash

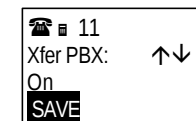
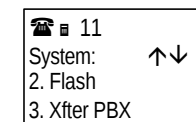
- a. Press Menu-9 and enter the two-digit base ID to enter the System mode.
- b. Press 2 to enter Flash selection
- c. You can adjust the flash time from 100ms to 900 ms (9 levels to choose from.) For example, press "2" if the desired flash time is 200ms. You will see "2" once you finish the setting.
- d. The default setting is 600ms.



Notes: If the base station is adjunct to a PBX system, it is recommended to adjust the flash time of DuraFon 1X to match the PBX spec.

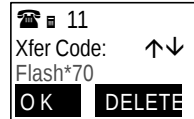
3. Xfer PBX

- a. This function is useful if the base station attached to the PBX system through either the analog port or the Digital Adaptor. Press Menu-9 and enter the two-digit base ID to enter the System mode.
- b. Press 3 to enter Xfer PBX setting mode
- c. Use ▲ or ▼ scrolling key to switch between ON



and OFF. The default setting is OFF.

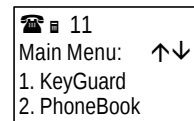
- d. Select ON and press **SAVE** key
- e. You can key in the specific “call transfer” feature code and press OK to confirm the setting. For example, if your PBX is N brand, you need to key in “Flash”+”*”+”70” as the call transfer code.
- f. You will see a “DONE” confirmation.



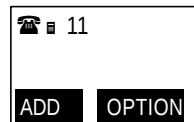
Notes: Since the base station is adjunct to a PBX system, you need to adjust the flash time of DuraFon 1X to match the PBX spec and then program the “call transfer” code.

Phonebook Operations

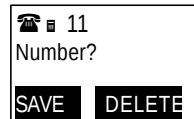
1. You can store up to 30 entries in the phonebook. Each entry can contain a phone number or handset ID (up to 28 digits) and a name (up to 14 characters).



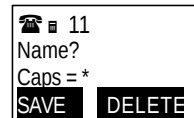
2. To access the phonebook, press menu follow by “2” or $\uparrow$ or $\downarrow$ scrolling key while the handset is in standby mode.



3. To add a new entry:
 - a. Press ADD (Left) soft key.
 - b. Enter a phone number when LCD prompts “Number?” Use DELETE (Right) soft key to delete the last digit entered. When completed, press SAVE (Left) soft key to save.
 - c. You will then be prompted to enter a name for the phone number just entered.



- (1) Press the SAVE key to enter a phone number without a name. All records without naming will be placed on top of the list, in the order they are entered.
 - (2) To enter the name, press the corresponding keypad number one or more times according to the order of the character on the key. See table below for a list of available characters and their orders. For example, press “2” once for the character “A”, twice for “B”, etc.
 - (3) Use DELETE (Right) soft key to delete the last character entered. When completed, press SAVE (Left) soft key to save.



Notes:

1. When enter a phone number, the cursor automatically advances to the next digit field. Use $\uparrow$ or $\downarrow$ scrolling key to move the cursor backward or forward to insert or delete (the digit above the cursor, or left of the cursor if cursor is on the right of the last digit).
2. When entering a name, the cursor automatically advances to the next character field 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 $\uparrow$ or $\downarrow$ scrolling key to move the cursor backward or forward manually. Also use $\uparrow$ or $\downarrow$ to move the cursor to insert (to the left of the cursor) or delete (the character above the cursor, or left of the cursor if cursor is on the right of the last character).
3. By default, all letters are entered in the upper case. Use the * key to toggle between upper and lower cases.
4. A “Pause” entry represents a 2.8 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 5.6 seconds pause in the dialing.

5. Character Table:

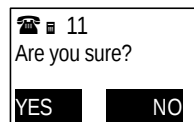
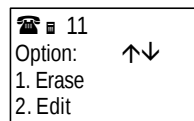
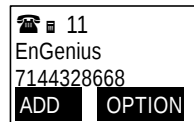
Key	Characters and Orders
1	' + , . * () & 1
2	A B C 2
3	D E F 3
4	G H I 4
5	J K L 5
6	M N O 6
7	P Q R S 7
8	T U V 8
9	W X Y Z 9
0	0
*	Toggle case when in character editing * P (Pause) when in number editing
#	Space – when in character editing # when in number editing

4. The entries are alphabetically sorted and stored as a list in an ascending order (A to Z) from the top of the list.
 - a. If the phonebook is entered from the menu, the first entry displayed is the top of the list.
 - b. If the phonebook is entered using the $\downarrow$ arrow, the first entry displayed is the top of the list.
 - c. If the phonebook is entered using the $\uparrow$ arrow, the first entry

displayed is the bottom of the list.

5. The first line of LCD display shows name and the 2nd line shows the phone number. If the phone number is longer than 14 digits, press OPTION (Right) soft key and select Option 3 to view the complete number.
6. To search for a record:
 - a. Use ▲or▼ scrolling key to enter the Phone Book mode.
 - b. Press a key that corresponds to the first character of the name you are looking for.
 - c. For example, you are looking for “EnGenius”, and then press the number “3” once.
 - d. Use ▲or▼ scrolling key to locate the exact record you are looking for.

7. To erase phonebook:
 - a. Use ▲or▼ scrolling key or the alphabetical search method to locate the record to be erased or edited.
 - b. Press OPTION (Right) soft key to enter editing menu.
 - c. Press “1” to erase the desinated phone entry.
 - d. LCD shown “Are you sure?” Press YES to double confirm your change.

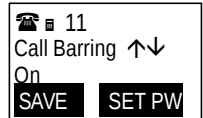


8. To edit phonebook:
 - a. Use ▲or▼ scrolling key or the alphabetical search method to locate the record to be erased or edited.
 - b. Press OPTION (Right) soft key to enter editing menu.
 - c. Press “2” to edit the desinated phone entry.
9. Dial from display:
 - a. Press TALK or Intercom to dial the phone number or Handset ID displayed.

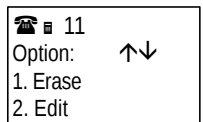
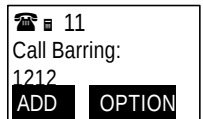
Call barring

1. Block the users from dialing the long distance calls or international calls. You need the password to enter the setting. The default PW is “0000”.

2. Use ▲or▼ scrolling key to switch between On and Off of this setting. The default is “Off”. Press **SAVE** to confirm your selection.



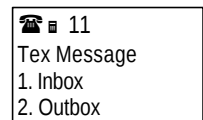
3. To edit the Call barring code
 - a. Once turn on the call barring feature, you can key in the “call barring” code.
 - (1) Up to 5 digit can be edit to be call barring code. For example, if you want to block all call dialing to Manhanattan, NY area, you can enter 1212 as the call barring code.
 - (2) If you base station is adjuct to a PBX system, please also include that specific number to retrieve the PSTN tone.
 - b. Press **OPTION** to erase or edit the call barring codes.
 - b. Up to 5 set of call barring codes can be programmed.



Text Messaging

1. Short text messages, up to 50 characters each, can be sent from a handset to another handset or a group of handsets.
2. Up to 5 outgoing messages can be edited, stored and sent. They are stored in the “Outbox” in the order they are entered, with Message 01 being the most recent entry. The message counter on the upper right corner of the LCD display shows the message ID.
3. Up to 5 received messages can be stored for later reference. They are stored in the “Inbox” in the order they are received, with Message 01 being the most recently received. The message counter on the upper right corner of the LCD display shows the message ID.

4. Viewing and editing outgoing text messages:
 - a. Press Menu (Right) soft key while the handset is in standby.
 - b. Press “7” following by “2” to enter Outbox menu.
 - c. Press ADD (Left) soft key to enter a new text message.



- (1) Enter characters using the Character Table and method discussed in the Phonebook section.
 - (2) Use ▲or▼ scrolling key to move the cursor



backward or forward to insert character or delete the character. For example, you are editing the message 1 as "Meeting now."

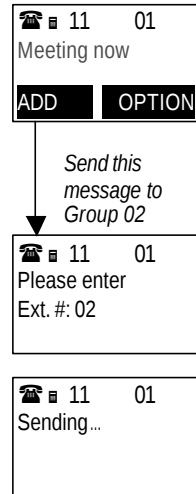
- (3) When finished, press SAVE (Left) soft key to save change. You will see the Text Message ID as 01 on the upper right corner of the LCD screen.

5. Sending a text message:

- a. While viewing the message, press Intercom key followed by a Handset ID or a Group ID (01-09).
- b. The current message is sent.
- c. There will be no acknowledgement returned.

6. To erase or edit the current messages:

- a. Press Menu-7-2 to enter outbox text message.
- b. Press OPTION (Right) soft key to erase or edit the current message:
 - (1) Press "1" and confirm to erase message. Subsequent messages will be moved up in the Outbox.
 - (2) Press "2" to edit message. Follow the instructions above for entering a new message.



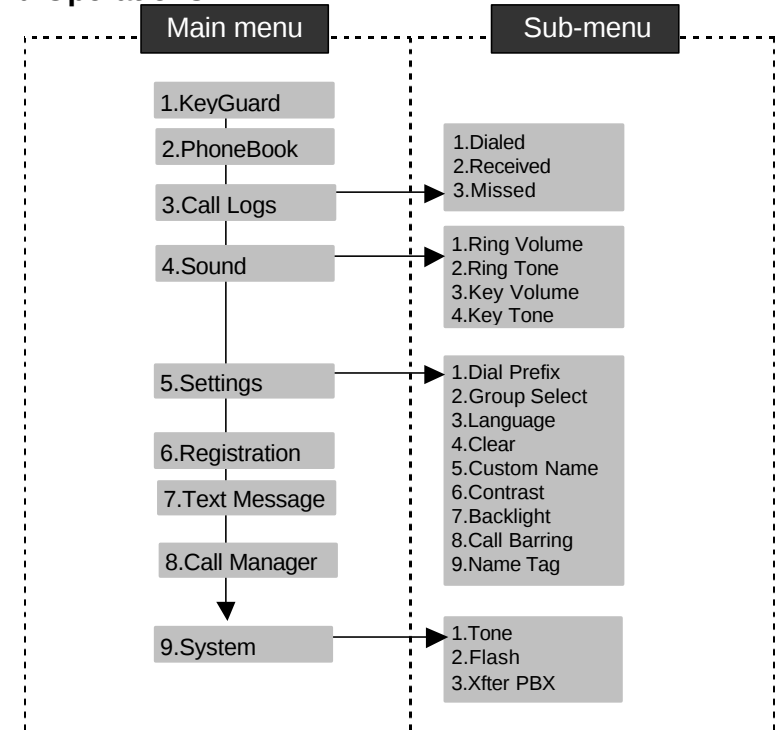
7. Receiving a text message:

- a. When a message arrives, a double beep alerts the arrival of a text message.
- b. The text message remains on the LCD display for 8 seconds and then is automatically stored in the Inbox.

8. Viewing received text messages:

- a. Press Menu-7-1 to enter Inbox menu
- b. The LCD displays Message 01, the most recent received message. Use ▲ or ▼ to view previous messages. The LCD displays Empty if there is no inbound text message.
- c. Press SAVE (Left) soft key to return the message to Inbox.
- d. Press DELETE (Right) soft key and confirm to delete the current message. Subsequent messages will be moved up in the Inbox.

Menu Operations



1. Press MENU (Right) soft key while the phone is in standby.
2. Press "1" to lock keypad (see Key Guard operation on page ____).
3. Press "2" to view, search, delete, and edit the phonebook (see Phonebook instruction on page ____).
4. Press "3" to view the last 10 numbers called, received, or missed. Records can be erased or edit/save into the phonebook.
 - a. Press "1" to view the last 10 phone numbers dialed, starting from the most recent one. Use ▲ or ▼ to scroll through the list. Press **OPTION** for options.
 - (1) Erase: press "1" and confirm to erase the current record.
 - (2) Save: press "2" to edit and save or save without editing into the phonebook.
 - (3) View Number: press "3" to view the complete number if the phone number is longer than 14 digits.

- b. Press “2” to view the last 10 phone numbers received, starting from the most recent one. Use ▲ or ▼ to scroll through the list. Press **OPTION** for options.
 - (1) Erase: press “1” and confirm to erase the current record.
 - (2) Save: press “2” to edit and save or save without editing into the phonebook.
 - (3) View Number: press “3” to view the complete number if the phone number is longer than 14 digits.
 - (4) No entries: the LCD displays “No entries” if there is no “Received call logs”. Please note that you need to subscribe the Caller ID service from your local teleco to facilitate this function.
- c. Press “3” to view the last 10 phone numbers received but didn’t answer, starting from the most recent one. Use ▲ or ▼ to scroll through the list. Press **OPTION** for options.
 - (1) Erase: press “1” and confirm to erase the current record.
 - (2) Save: press “2” to edit and save or save without editing into the phonebook.
 - (3) View Number: press “3” to view the complete number if the phone number is longer than 14 digits.
 - (4) No entries: the LCD displays “No entries” if there is no “Missed call logs”. Please note that you need to subscribe the Caller ID service from your local teleco to facilitate this function.
- d. While viewing any of the three call logs, press **DIAL** to dial the phone number.

Notes:

1. Only phone numbers are stored in the three call logs. Intercom calls are not recorded.
2. Caller ID service is required from your local phone company in order to receive phone numbers, names and time stamps on incoming calls. The Received and Missed Call Logs will register no incoming calls if Caller ID service is not available.

5. Press “4” to set sound-related settings:
 - a. Press “1” to select ringer volume: use ▲ or ▼ to scroll through 5 options: Low, Vibrate, Off, High-then-Vibrate, and High. Press **SAVE** to save selection. Default = High.
 - b. Press “2” to select ringer tone: use the ▲ or ▼ to scroll through 4 options: 0, 1, 2, and 3. Press **SAVE** to save selection. Default = 0.
 - c. Press “3” to select key volume when a key is pressed: use ▲ or ▼ to scroll through 3 options: High, Low, and Off. Press **SAVE** to save selection. Default = Low.
 - d. Press “4” to select key tone: use the ▲ or ▼ to scroll through 4

options: 0, 1, 2, and 3. Press **SAVE** to save selection. Default = 0.

5. Press “5” to change handset settings:
 - a. Press “1” to set dialing prefix:
 - (1) Use ▲ or ▼ to scroll and select to turn on or off the dialing prefix feature. Default = Off.
 - (2) If “On” is selected, the handset is prompted to enter a prefix, up to 14 digits.
 - (3) Use **Delete** and ▲ or ▼ scrolling key to edit prefix.
 - (4) When this feature is turned on, the LCD will prompt the user on each outgoing phone call except during redial or dialing by pressing the TALK key first whether to use the dialing prefix. The current prefix is also displayed. Press **Yes** or **No** soft key to add the prefix to the beginning of the number.
 - (5) This feature is useful for access code, calling card, and credit card calls, etc.
 - b. Press “2” to Group Select: see Handset Group Subscription on page ____.
 - c. Press “3” to select language
 - (1) Use ▲ or ▼ to select English, French, or Spanish. The default setting is English.
 - (2) Press **SAVE** to confirm your selection.
 - d. Press “4” to clear call logs and phonebook:
 - (1) Press “1” and confirm to delete the entire phonebook.
 - (2) Press “2” and confirm to clear the three call logs (Called, Received, and Missed).
 - e. Press “5” to change the power-up LCD display to show, e.g., customer name or other greeting message:
 - (1) Use ▲ or ▼ to move the cursor backward or forward to insert (to the left of the cursor) or delete (the character above the cursor, or left of the cursor if cursor is on the right of the last character).
 - (2) Enter characters using the Character Table and method discussed in the Phonebook section.
 - (3) When finished; press **SAVE** to save change.
 - f. Press “6” to change LCD display contrast:
 - (1) Use ▲ or ▼ to scroll through values 1 to 16. Pick one that is most suitable to you. Default = 10.
 - (2) When finished; press **SAVE** to save change.
 - g. Press “7” to change the LCD backlight:
 - (1) Use ▲ or ▼ to scroll through options: On, Off, and 8 Seconds. Default = 8 seconds, meaning that the backlight will turn off the backlight after 8 seconds of inactivity.
 - (2) When finished; press **SAVE** to save change.

h. Call barring

- (1) Need to Enter Password to edit the call barring code to be executed.
The default PW is "0000."

- (2) Please refer to page 12 for detail operation.

i. Name tag

- (1) Use ▲ or ▼ to switch between On and Off. The default setting is Off.
- (1) When finished; press **SAVE** to save change.

6. Press "6" to register or de-register handset: See the detail instructions on page 29.

7. Press "7" to view inbox text message(s) or edit outbox text message(s). See the detail instructions on page 35.

8. Press "8" to enter Cal Manager setting. See the detail instructions on page 31.

9. Press "9" following by entering a base ID to enter System setting. See the detail instructions on page 32.

1.

Technical Specifications

Electrical Specifications	Base Station	Portable Handset
Frequency	902-928 MHz	902-928 MHz
RF Power	Peak: 708 mW Average: 76 mW	Peak: 708 mW Average: 76 mW
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
Receiver Sensitivity	< -108 dBm (@ BER 10 ⁻⁴)	< -108 dBm (@ BER 10 ⁻⁴)
Antenna Connector	Reverse TNC	Non-standard
Antenna Gain	2 dBi 5 dBi External (optional)	0 dBi (short antenna) 2 dBi (long antenna)
TX Power Control Range	NA	100-708 mW
Telephone Interface	RJ11 x 1	NA
Speech Coding	8 kbps G.729A	8 kbps G.729A
Channel Coding	8 kbps Convolutional + CRC	8 kbps Convolutional + CRC
Transmission Data Rate	170.667 kbps	170.667 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	100-900 ms programmable	NA
Power Source	120V/12V AC/DC Adapter	3.7V, 1700 mAh Li-ion
Charger Current	NA	400 mA
Charge Time	NA	240 minutes (from empty)
Regulation Compliance	FCC Part 15, Part 68 CAN/DOC RSS210, CS03	FCC Part 15, Part 68 CAN/DOC RSS210, CS03 Hearing Aid Compatible
Operating Temperature	-10 – 60 °C	-10 – 60 °C
Storage Temperature	-10 – 70 °C	-10 – 70 °C
Humidity	20 – 75 %	20 – 75 %
Dimension without antenna		
Weight		

Notes:

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

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE: FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The highest SAR test Value: 0.430 W / kg
CH1~CH11 for 2.4GHz by specified firmware controlled in U.S.A

For body worn operation, this phone has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 1.5 cm from the body.

Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

IC Radiation Exposure Statement:

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

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. (Equipment (or its transmit antenna) that is installed outdoors is subject to licensing). The device is certified to the requirements of RSS-210 for 2.4