

3rd, and 4th base unit.

3. Registration:

- a. Press MENU-6 from HS 11 to enter the registration mode
- b. Press and hold the Registration (REG) button on that additional base unit, which you want to add into the system) for 2 seconds until 4 LEDs light up.
- c. Press handset key “3”, then enter the base ID i.e. 20 for 2nd base, 30 for 3rd base, or 40 for 4th base. this completes the registration process.

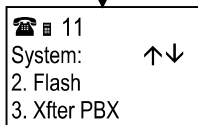
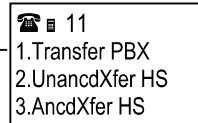


Call Transfer

1. While a telephone call is in progress, you can place call on hold and transfer the call.
2. Press **HOLD** soft key to put call on hold.
3. Press **OPTION** soft key to enter feature list for selection.

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:

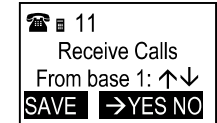
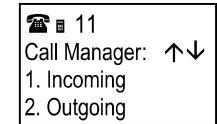
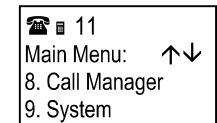
- (1) Speak to the destination handset.
- (2) Press **XFER** soft key or the END to end announcement. The call is transferred to the destination handset.

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

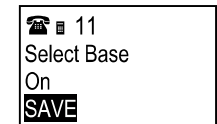
Call Manager

“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. Besides, this feature allows you to select a specific base station to make an outgoing call.

1. Decide whether to receive the incoming, transferred, and 2-Way/Intercom calls from a specific base station:
 - a. Press menu 8 to enter the Call Manager function. The screen will display:
 - b. Press 1 to enter “incoming” setting.
 - c. Use ▲ and ▼ Scrolling keys to select a base from base 1 to base 4.
 - d. Then press the **→YES NO** key to switch between Yes and No, then press **SAVE** key to confirm the setting.
 - e. Repeat the process until all base stations from which calls are to be accepted have been selected for the handset.



2. Decide whether to select a specific base station to make outgoing call:
 - a. Press menu 8 to enter the Call Manager function.
 - b. Press 2 to enter “Outgoing” setting.
 - c. Use ▲ and ▼ to select either On or Off.
 - d. Scroll to On and press **SAVE** if you want to select a specific base station before you make an outgoing call. The default setting is Off.

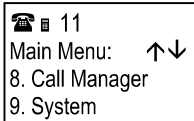


Change System Settings by Administrator

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

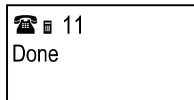
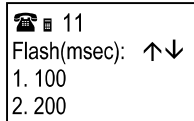
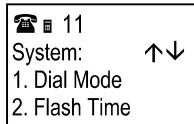
1. Dial Mode

- 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 Time

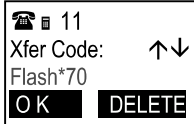
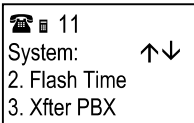
- a. Press Menu-9 and enter the two-digit base ID to enter the System mode.
- b. Press 2 to enter Flash selection
- c. You can adjust the flash time from 100ms to 900 ms (9 levels to choose from.) For example, press "2" if the desired flash time is 200ms. You will see "DONE" once you finish the setting.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

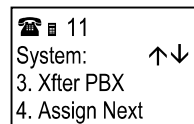
- a. This function is useful if the base station attached to the PBX system through either the analog port or the Digital Adaptor. Press Menu-9 and enter the two-digit base ID to enter the System mode.
- b. Press 3 to enter Xfter PBX setting mode
- c. Use ▲ or ▼ scrolling key to switch between ON and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

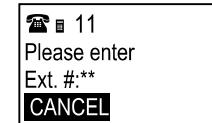
4. Set next Handset ID to be assigned

- a. This function is useful if you want to assign a



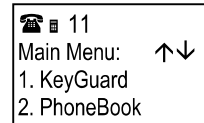
designed handset ID to a specific handset. Press Menu-9 and enter the two-digit base ID to enter the administration mode.

- b. Press 4 and then enter two digits ID number to be assigned. You will see "Saving Configuration" and a Done confirmation.

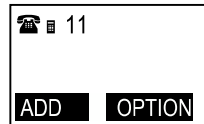


Phonebook Operations

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 phonebook, press menu follow by "2" or ▲ or ▼ scrolling key when handset in standby mode.

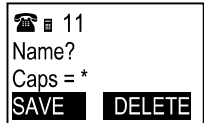


3. To add a new entry:

- a. Press **ADD** soft key.
- b. Enter a phone number when LCD prompts "Number?" Use **DELETE** soft key to delete the last digit entered. Press **SAVE** when completed.
- c. You will then be prompted to enter a name for the phone number just entered.



- (1) Press **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.



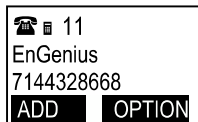
- (2) To enter the name, press the corresponding keypad number one or more times according to the order of the character on the key.

- (3) Use **DELETE** soft key to delete the last character entered. When completed, press **SAVE** soft key to confirm your selection.

Notes:

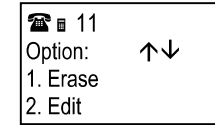
1. When enter a phone number, the cursor automatically advances to the next digit field. Use ▲ or ▼ scrolling key to move the cursor backward or forward to insert or delete.
2. When entering a name, the cursor automatically advances to the next character field if you press a different key for the next character. If you need to enter consecutive characters from the same key, you can wait for the cursor to advance or use ▲ or ▼ scrolling key to move the cursor backward or forward manually. Also use ▲ or ▼ 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.

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 ▼ arrow, the first entry displayed is the top of the list.
 - c. If the phonebook is entered using the ▲ 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** 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.

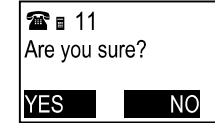


search method to locate the record to be erased or edited.

- b. Press **OPTION** 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** 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.

Notes:

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 |

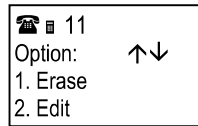
Call barring

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.

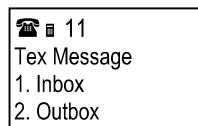
3. To edit the Call barring code

- 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 Manhattant, NY area, you can enter 1212 as the call barring code.
 - (2) If you base station is adjunct 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.
- c. 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** 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.”

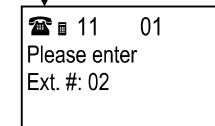
- (3) When finished, press **SAVE** soft key to save change. You will see the Text Message ID as 01 on the upper right corner of the LCD screen.

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.

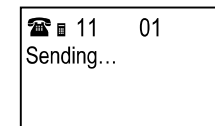


Send this message to Group 02



6. To erase or edit the current messages:

- a. Press Menu-7-2 to enter outbox text message.
- b. Press **OPTION** 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** soft key to return the message to Inbox.
- d. Press **DELETE** soft key and confirm to delete the current message. Subsequent messages will be moved up in the Inbox.

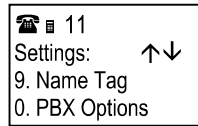
Programmable PBX Options

- 1. When DuraFon 1X base unit installed behind the PBX system, it is feasible to pre-program some PBX features along with their feature codes into the system.

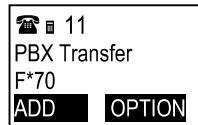
2. Up to 9 most frequently used PBX feature codes can be pre-programmed.

3. Name and enter PBX feature codes:

- Press Menu (Right) soft key while the handset is in standby.
- Press "5" following by "0" to enter "PBX Options" menu.
- Press **ADD** soft key to edit a PBX feature to be memorized.
- Key in the name of the PBX features just like editing a phonebook entry i.e. PBX Transfer.
- Press **SAVE** to confirm your entries.
- Key in the feature code of the correspondence PBX feature i.e. Flash*70. Press **SAVE** to confirm your entries.
- The first PBX feature and the correspondence feature code you enter will appear on the LCD screen.

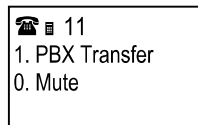
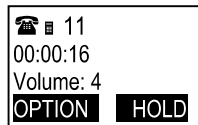


- Press Option soft key to Erase or Edit the PBX feature you program into the system
- Repeat the same operation to edit the second and even the third PBX feature that you will use frequently.



4. Using pre-programed PBX feature during the call.

- Press **OPTION** soft key while the handset is in talk mode.
- Press the correspondence number of the function you want to perform i.e. press 1 to perform "PBX Transfer" function
- Press END when you finish the desired function and back to standby mode.

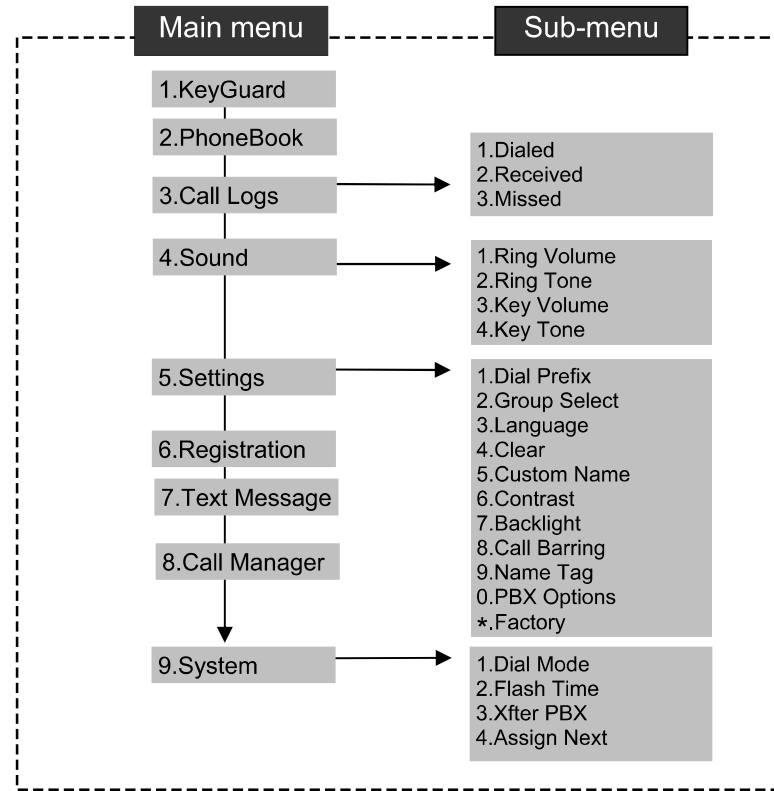


Notes:

- This feature would be useful if the DuraFon 1X base unit is adjunct to a PBX system.
- Only "Mute" function will be displayed if you have not pre-programmed any PBX features into the system.
- The DuraFon 1X's Programmable PBX Options may not function

with all PBX / Key systems due to the diversity of various proprietary systems.

Menu Operations



- Press MENU (Right) soft key while the phone is in standby.
- Press "1" to lock keypad (see Key Guard operation on page 28).
- Press "2" to view, search, delete, and edit the phonebook (see Phonebook instruction on page 35).
- Press "3" to view the last 10 numbers called, received, or missed. Records can be erased or edit/save into the phonebook.
 - Press "1" to view the last 10 phone numbers dialed, starting from the most recent one. Use \uparrow or \downarrow to scroll through the list. Press **OPTION** for options.
 - 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 = Middle.
 - 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.

- 6. 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 31.
 - 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 ENDished; press **SAVE** to save change.
 - f. Press “6” to change LCD display contrast:
 - (1) Use ▲or▼ to scroll through values 1 to 12. Pick one that is most suitable to you. Default = 6.

- (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 = 6 seconds, meaning that the backlight will turn off the backlight after 8 seconds of inactivity.
 - (2) When finished; press **SAVE** to save change.
- h. Press “8” to edit 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 37 for detail operation.
- i. Press “9” to enable Name tag
- (1) Use ▲or▼ to switch between On and Off. The default setting is Off.
 - (2) When finished; press **SAVE** to save change.
- j. Press “0” to program PBX features that you use frequently
- (1) Program and save the most frequently used PBX function into DuraFon system
 - (2) Please refer to page 39 for detail operation.
7. Press “6” to register or de-register handset and base: See the detail instructions on page 30.
8. Press “7” to view inbox text message(s) or edit outbox text message(s). See the detail instructions on page 38.
9. Press “8” to enter Call Manager setting.
- a. Press “1” to edit “incoming call” setting. See the detail instructions on page 34.
 - b. Press “2” to edit “outgoing call” setting.
 - (1) Once activate Select BS function, you need to enter the base ID which you want to choose for an outgoing call.
 - (2) The default setting is OFF.
10. Press “9” following by entering a base ID to enter System setting. See the detail instructions on page 34.

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 |
| Channel Spacing | 200 kHz | 200 kHz |
| Number of Channels | 128 | 128 |
| Modulation | MSK | MSK |
| Multiple Access | Frequency Hopping TDD | Frequency Hopping TDD |
| Frequency Hopping Rate | 100 per second | 100 per second |
| TDMA Frame Length | 10 ms | 10 ms |
| Number of Slots/Frame | 4 | 4 |
| Receiver Sensitivity | < -108 dBm (@ BER 10 ⁻²) | < -108 dBm (@ BER 10 ⁻²) |
| Antenna Connector | Reverse TNC | Non-standard |
| Antenna Gain | 2 dBi | 1.5dBi |
| TX Power Control Range | NA | 100-708 mW |
| Telephone Interface | RJ11 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 | 176.678 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 |
| Flash Time | 100-900 ms programmable | NA |
| Power Source | 120V/12V AC/DC Adapter | 3.6 V, 1700 mAh Li-ion Battery |
| Charger Current | NA | 600 mA |
| Charge Time | NA | 4 hours (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 with antenna | 188*161*42mm | 161*58*31mm |
| Weight | 424g | 175g |

Notes:

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

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