

# User Manual

## DuraFon Roam BU Digital Long Range SIP Cordless Telephone



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EnGenius Customer Service  
<http://www.engeniustech.com/>

## 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. Do not let a phone call distract you from working safely.
  - c. If power goes out, your phone will not work. Backup power is recommended.
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, the FDA suggests that people with pacemakers may want to take precautions when using or carrying a wireless telephone to ensure that there is ample distance between the telephone and the pacemaker. Do not carry the handset in a breast pocket. If you have any reason to suspect that interference is taking place, turn off your handset immediately.

### Product Safety Instructions

1. Read and understand all instructions.
2. Follow all warnings and instructions including those marked on the product.

3. Changes or modifications to this product not expressly approved by the manufacturer will void the warranty and the FCC authorization to operate the equipment. Use only manufacturer provided accessories.
4. Do not use the telephone near water. Never spill liquid of any kind on this product.
5. Unplug the product from the wall telephone jack and power outlet before cleaning. Do not use liquid or aerosol cleaners. Use damp cloth for cleaning.
6. Do not place this product on an unstable cart, stand, or table. The product may fall and cause personal injury or damage to the product or other property.
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 outages, 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 re-assembling 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 has 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 so you do not short-circuit the battery with conductive materials such as rings, bracelets, keys, pocketknives, and/or coins. The battery or conductive material may overheat and cause burns 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 Roam BU

FCC ID: A8J-SP938BS

IC: 10103A-SP938BS

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

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

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

## Base Station

### 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.

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.

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.

**IMPORTANT NOTE:**

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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

**Industry Canada Statement:**

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). 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.

**Déclaration d'Industrie Canada :**

Cet appareil contient des émetteurs/récepteurs exempts de licence qui sont conformes aux RSS exemptés de licence d'Innovation, Sciences et Développement économique Canada. L'exploitation est soumise aux deux conditions suivantes :

(1) Cet appareil ne doit pas provoquer d'interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant provoquer un fonctionnement indésirable.

**IMPORTANT NOTE:**

**Radiation Exposure Statement:**

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device has been designed to operate with a dipole antenna having a maximum gain of 2dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

**Déclaration d'exposition aux radiations:**

Cet équipement est conforme aux limites d'exposition aux rayonnements IC définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

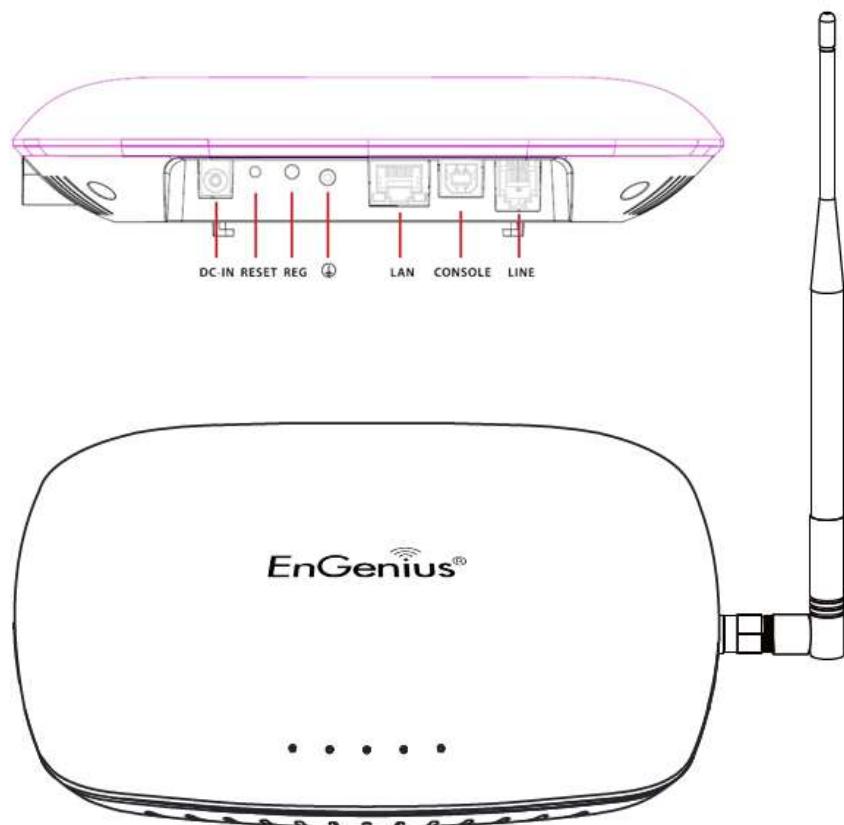
Cet appareil a été conçu pour fonctionner avec une antenne dipôle ayant un gain maximum de 2dBi. Une antenne ayant un gain plus élevé est strictement interdite par les règlements d'Industrie Canada. L'impédance d'antenne requise est de 50 ohms.

## Equipment Checklist

In a Base Station package, please find the following components:

- a. Base Station x 1 (antenna installed)
- b. Wall/Ceiling mounting bracket x 2
- c. RJ45 cable x 1
- d. AC/DC Adapter x 1
- e. Quick Guide

## Base Illustration



## Base Features

### Basic Base Station Features

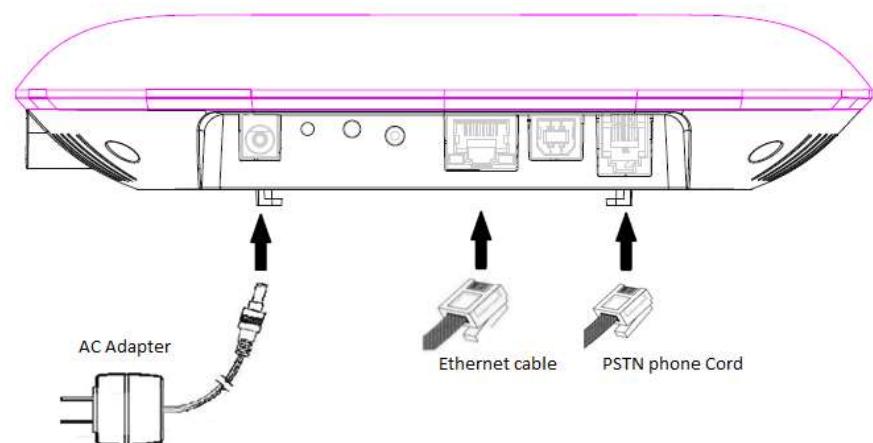
1. LINE Jack  
Standard RJ-11 connector to plug in the telephone line.
2. Console Jack  
Jack for console (Type-B USB connector).
3. Ethernet Jack  
Standard RJ-45 connector to plug in the Ethernet (LAN) line.
4. GND  
Connecting the ground cable.
5. REG button for searching handset
  - a. To search for a misplaced handset; press "REG" button, all registered handsets will beep for 30-seconds. Press "REG" again or any key on the handset to stop.
6. RESET Button
  - a. Restores base station to factory settings.
  - b. Reset button is intended to prevent accidental system reset.
  - c. All handsets (including administrator) and additional base(s) need to be re-registered after a base station reset. The web configuration is also to reset to factory settings.
7. DC In: to plug in the 12V DC power adapter.

## Getting Started

### Base Station Installation

1. Plug the transformer end of the base station AC/DC adapter into a standard AC electrical power outlet, plug the other end into the "DC In" jack on the back of the base station.

Note : The base station can be powered by 802.3af PoE (Power over Ethernet). You can connect to PoE switch to power up, instead of the AC/DC adapter.
2. Plug the phone cord into the "RJ11" FXO jack.
3. Plug the Ethernet cord into the "RJ45" LAN jack.

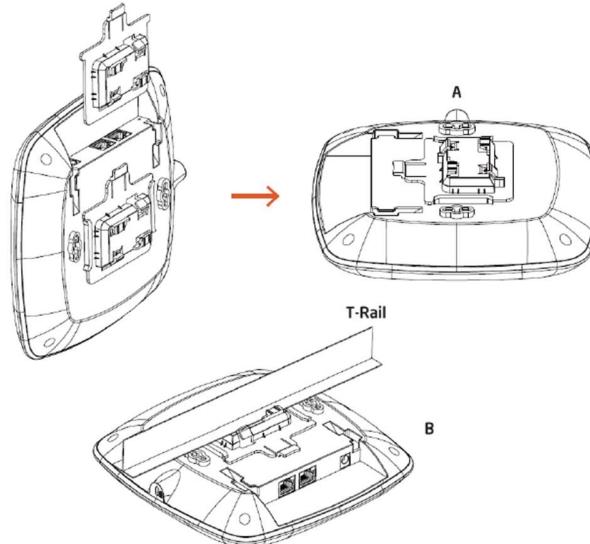


## Cell Mounting the Base Station

Using the provided bracket, the Base Station can be attached to a ceiling or wall.

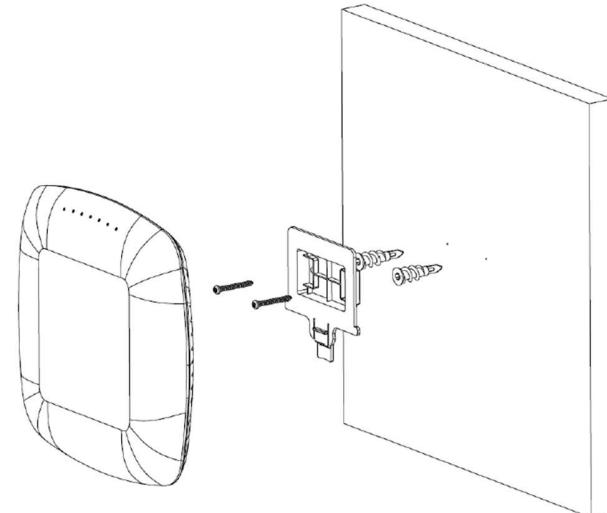
To attach the Base Station to a ceiling or wall using the mounting bracket:

- A) Slide the ceiling mount base into the slot of the Base Station.
- B) Hold the Base Station with one hand to reach the other hand over the T-Rail sides of the bracket. Then hook the stationary end of the ceiling mount bracket onto the T-Rail.



## Wall mount the Base Station

- A) Determine where the Base Station will be placed; mark the location for the two base plate mounting holes on the wall. Use the appropriate drill bit to drill a hole on each mark (1/3" or 8.1mm diameter; 1" or 26mm deep).
- B) Screw the anchors into the holes until they are flush with the wall.
- C) Screw the included screws into the anchors.
- D) Slide the wall mount base into the slot of the Base Station.



## Basic Operations

1. **STANDBY mode**- this is the default mode. The base “Power” LED will light up during this mode.
2. **TALK mode**- the base station operates in this mode during a phone call. The “1” ~ “4” LED will light up.

## Technical Specifications

Electrical Specifications	Base Station
Frequency	902-928 MHz
RF Power	Peak: 708 mW Average: 354 mW
Channel Spacing	404 kHz
Number of Channels	50
Modulation	MSK
Multiple Access	Frequency Hopping TDMA
Frequency Hopping Rate	100 per second
TDMA Frame Length	10 ms
Number of Slots/Frame	10
Number of Users/Carrier	4
Receiver Sensitivity	< -108 dBm (@ BER 10 <sup>-2</sup> )
Antenna Connector	Reverse TNC
Antenna Gain	2 dBi
Telephone Interface	RJ11 x 1
VoIP interface	RJ45 x 1
SIP protocol	RFC 3261
Speech Coding	64Kbps G.711alaw, G.711 ulaw
Channel Coding	8 kbps Convolutional + CRC
Transmission Data Rate	170.667 kbps
User Data Rate	128 kbps duplex
Duplex	Time Division Duplex (TDD)
Voice Quality	TIA/EIA-470B
No. of System ID	65,536
Ring Signal	20-50 Hz, 15-90 Vrms
Flash Time	100-900 ms programmable
Power Source	100~240V/12V AC/DC Adapter
Charger Current	NA
Charge Time	NA
Regulation Compliance	FCC Part 15, Part 68
Operating Temperature	0 – 50 °C
Storage Temperature	-40 – 70 °C
Humidity	20 – 75 %
Dimension without antenna	161W x 42D x 188H (mm)
Weight	399g

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