



# Thuraya ATLAS IP+ User Manual



User Manual  
Revision 1.0

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## REGULATORY INFORMATION



### FEDERAL COMMUNICATION COMMISSION NOTICE

**FCC Identifier:** QO4-AVIAIPPLUS

#### USE CONDITIONS:

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.

#### NOTE:

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 the 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.

#### IMPORTANT NOTE: EXPOSURE TO RADIO FREQUENCY RADIATION

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. The antenna used for this transmitter must be installed to provide a separation distance of at least 100cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

#### FCC CAUTION:

Any changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by FCC, to operate these Maritime Broadband Satellite Terminals ATLAS IP+.

## SAFETY INSTRUCTIONS

For the sake of safety and protection, read the manual before attempting to use Thuraya Atlas IP+ Terminal.

The following general safety precautions must be observed during all phases of operation, service and repair of this equipment. Failure to comply with these precautions or with specific warnings elsewhere in this user guide violates safety standards of intended use of the terminal.

Addvalue Innovation Pte Ltd assumes no liability for the customer's failure to comply with these requirements.

### Hazard Symbols

|                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Antenna Radiation Warning and Distance to other Radiation Equipment</b></p>  | <p>For safety reasons, all personnel and other radiating devices must be kept at least 100cm from the ADU.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p><b>Power Supply</b></p>                                                         | <p>Turn off the power at the mains switchboard before beginning of the installation.</p> <p>Confirm the power voltage is compatible with voltage rating of the equipment. It is highly recommended to use +24V DC power line, provided that it is available on the vessel.</p> <p>In case of unavailability of +24V DC power line provided by the vessel, an external AC/DC power supply of 115/230V AC with its output of +24V DC can be used.</p> <p><b>Note:</b> The requirements of the AC/DC power supply should take care of <b>high surge current of 25A at 24V DC for 1ms.</b></p> |

|                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Grounding, cables and connections</b></p>  | <p>The chassis of the equipment must be connected to an electrical ground. This will minimise electric shock and mutual interference. In short, the EQUIPMENT must be grounded to the vessel.</p>                                                                                                                                                                                             |
| <p><b>Service</b></p>                            | <p>Do not attempt to access to the interior of the equipment. Only qualified personnel authorized by its manufacturer may perform service. Failure to comply with this rule will result in the warranty void.</p> <p>Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power before accessing the equipment.</p> |

### Alert Symbol

|                                                                                                                |                                           |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <p><b>Alert Button</b></p>  | <p>For triggering an emergency alert.</p> |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|

### Equipment Ventilation

To ensure adequate cooling of the equipment, 5cm of unobstructed space must be maintained around all sides of the BDU unit except the bottom side. The ambient temperature range of the equipment is: -25°C to +55°C.

### Fire Precautions

The equipment must not be operated in the presence of flammable gases or fumes as well as any explosive atmosphere. Operation of any electrical equipment in such an environment constitutes a definite safety hazard.

### Obtaining Licensing For Thuraya Transceivers

Under rights given under ITU Radio Regulations, local telecommunications administrations establish and enforce national rules and regulations governing types of emissions, power levels, and other parameters that affect the purity of signal, which may be radiated in the various frequency bands of the radio spectrum.

To legally operate Thuraya equipment, it is necessary to obtain permission from the local telecommunications regulatory authorities of the country you are operating from. Using your equipment in any country without permission causes you to run the risk of confiscation of the equipment by the local authorities. The normal procedure to bring such equipment into another country is to apply for a license before travel. If a license has not been obtained before travel, the equipment may be put in to storage by local authorities until such time license is obtained.

### IMPORTANT INFORMATION TO INSTALLERS AND USERS

#### General

It is important that the user of this equipment read and observe all safety requirements and operate the terminal according to the descriptions published in this manual.

Failure to comply may result in risk of injury or equipment failure and voids the validity of the warranty provided by equipment manufacturer.

The terminal consists of 2 systems, BDU and ADU and they must be used as provided by the manufacturer or authorized dealer. Do not substitute any one of the system which is not provided by the manufacturer or authorized dealer. Should needs of servicing or replacement is required, always contact the distributor or manufacturer for instructions.

Any modifications or attempts to open up the devices by not authorized personnel will void the warranty.

Contents in this manual are subjected to change without notice and may contain errors or inaccuracies. This manual is periodically revised and updated. To obtain latest version, please enquire it from the product manufacturer or distributor.

#### Installation

Refer to Thuraya Atlas IP Plus Installation Manual.

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### 1 INTRODUCTION

Thuraya Atlas IP+ Satellite broadband terminal is designed to deliver enhanced connectivity and greater efficiency for the maritime use. It supports broadband data communications at speeds up to 444kbps and asymmetric streaming at 16kbps to 384 kbps.

Thuraya Atlas IP+ provides improved power efficiency, a smaller form factor and greater versatility than rival maritime broadband products. The terminal features a single cable connection to the stabilised antenna, direct bulkhead mounting and built-in Wi-Fi.

It also includes a range of features designed to support improved communications functionality and enhance shipboard operations. These include port forwarding, which can automatically transfer data from shipboard equipment and devices in support of M2M reporting routines, an English/Chinese web interface, a built-in firewall, continuous GPS output and the ability to limit data sessions by time or volume.

**Atlas IP+ can be used for the following applications and services:**

- Email and webmail
- Secure communications
- Intranet and internet access
- Videoconferencing and streaming
- VoIP phone services
- Wi-Fi connection for devices
- Phone and SMS services

#### Services

The terminal has the following services:

In Data Mode:

| Services           | Specification                  |
|--------------------|--------------------------------|
| Standard IP        | Up to 444 kbps                 |
| Streaming IP       | Up to 384 kbps (Asymmetric)    |
| VoIP Voice Service | Via Packet Switch Service      |
| Wi-Fi connection   | Wireless standard 802.11 b/g/n |

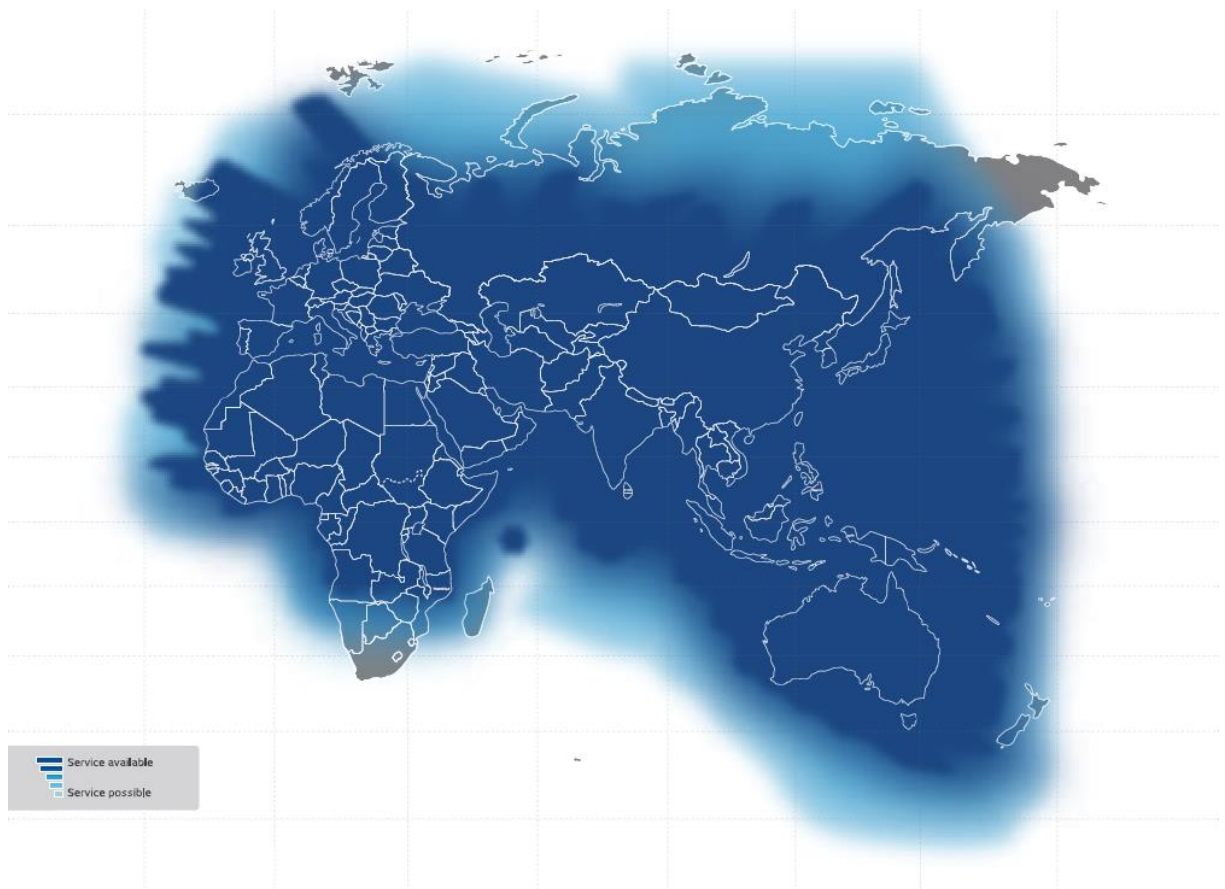
In Voice Mode:

|                      |                      |
|----------------------|----------------------|
| Circuit Switch Voice | CS Voice             |
| SMS                  | Up to 160 Characters |

The terminal has built-in Web Console, allowing you to manage your phone book, read and send SMS , view call logs and customise the terminal settings to your specific needs.

## 2 THURAYA NETWORK COVERAGE

Thuraya's robust satellite network provides coverage in the most remote locations, ensuring congestion-free satellite communications to keep you connected at all times. From innovative satellite design to the reliability of each Thuraya device and accessory, we provide a truly superior satellite communication solution beyond the boundaries of terrestrial systems and cellular networks.



The above map represents Thuraya expectations of coverage.

### 3 MAIN UNITS

The terminal includes the following main units:

- BDU
- ADU

#### 3.1 Above Deck Unit (ADU)

The ADU is a maritime-based 3-axis controlled antenna. The antenna is self-tracking based on patented beam squint technology. The simple and robust electromechanical system, with one motor per free axis, provides full coverage in azimuth and elevation. Tracking is accomplished by measuring signals being continuously broadcast from the satellite.

The radome covers the antenna equipment, which is composed of:

- Antenna Unit
- RF and GPS circuit
- Rotary joint
- Antenna pedestal

The antenna unit includes LNA (low noise amplifier), HPA (high power amplifier) and tracking receiver circuitry to ensure communication even in adverse circumstances.



All signals (and DC power) shall pass through a single coaxial antenna cable, which connects the ADU to the BDU.

### 3.2 Below Deck Unit (BDU)

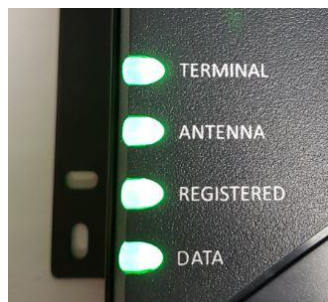
The BDU has been developed for maximum flexibility and is the controlling unit for the terminal. It features a reliable industry standard interface connectors and enables users to have optimal connectivity no matter what the conditions or your position at sea.



The BDU has a built-in Web Console, which can be accessed from a computer connected to the BDU, using an Internet browser. The Web Console provides easy configuration of the BDU, firmware upgrade and daily use. For more information, refer to the chapter of the Web Console.

The BDU is supplied by a +12V or +24V DC power supply, and it supplies power to the ADU via a single coaxial antenna cable.

#### Status LEDs



There are 4 Status LEDs to indicate the operational status of the BDU at one glance.

Each LED is assigned to the following function:

- Terminal Status
- Antenna Status

- Registered Network Status
- Data Status

### **SIM Card Slot**



The BDU has a SIM (Subscriber Identity Module) card slot located at the front panel of the BDU. The terminal requires a dedicated Thuraya SIM card to access the Thuraya network and configure the settings of the terminal.

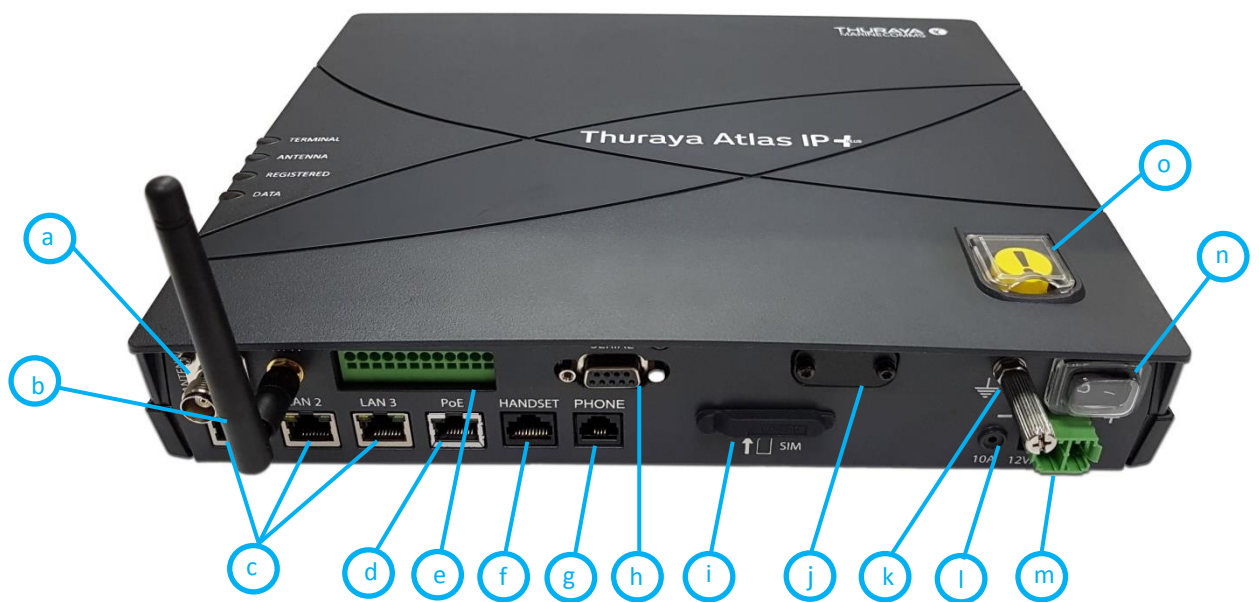
### **SIM VoIP Phone Service**



The terminal is embedded with a VoIP module and the connection to an analog phone is located at the front panel of the BDU. Please refer to your service provider for enquiry of the subscription and activation of the VoIP service before usage.

### Connectivity Ports and Button

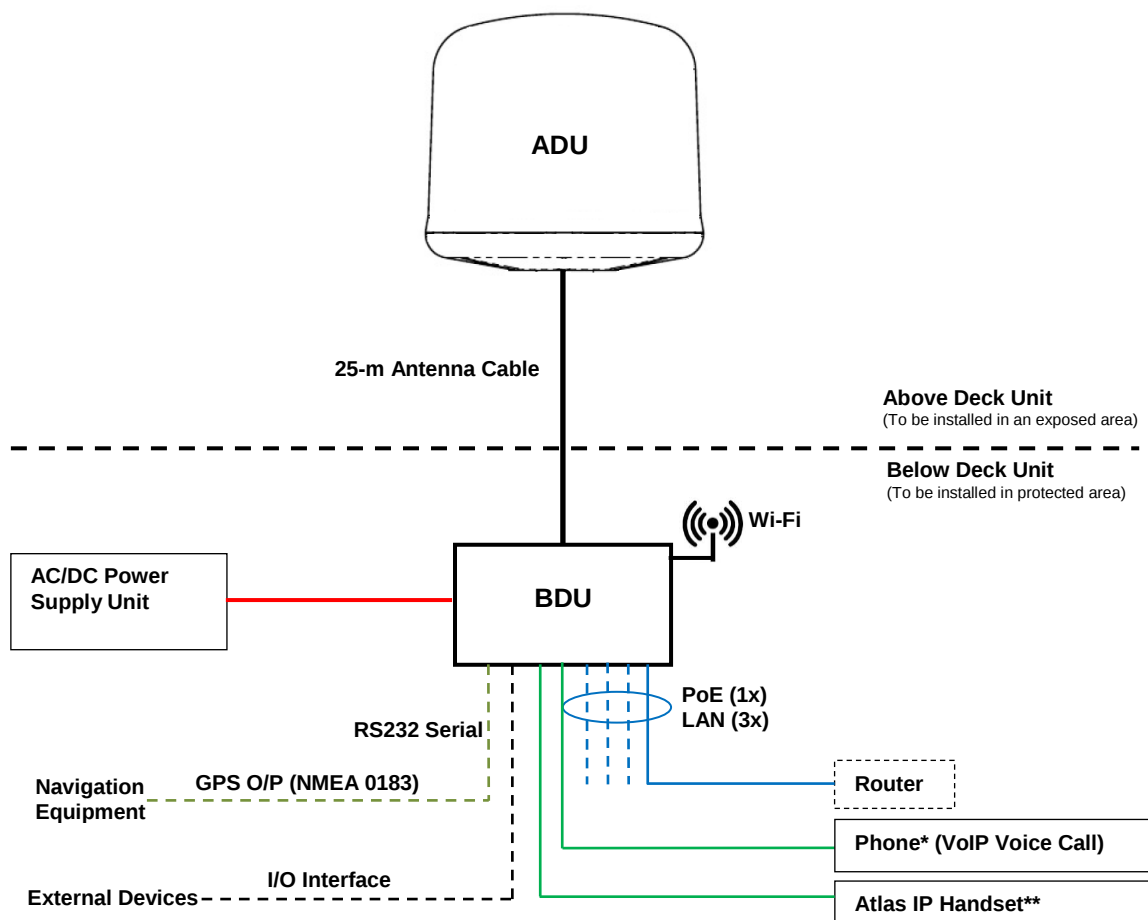
The following diagram shows the front panel of the BDU and the alert button on the top facing surface of the terminal.



- a. Antenna Connector (TNC)
- b. Wi-Fi Connector (SMA)
- c. LAN Ports (RJ45)
- d. PoE Port (RJ45)
- e. GPIO Port
- f. Handset Port – ( For Optional Atlas IP Handset )
- g. Phone Port (RJ11) – (For VoIP voice call usage.)
- h. RS-232 Serial Port
- i. SIM Card Slot
- j. USB Mini B Port (Enclosed behind the cover.)
- k. Grounding Stud
- l. Resettable Circuit Breaker
- m. Power Cable Connector
- n. Power Switch
- o. Alert Button

## 4 GETTING STARTED

### System Configuration



Solid line refers to the basic configuration.

**Note:**

- \*Phone port for VoIP voice call services, using an analogue phone.
- \*\*Atlas IP Handset is an optional accessory and not included in standard packaging of Atlas IP+ Product packaging.

### 4.1 Preparation for Operation

#### 4.1.1 Install the SIM card.

The terminal requires a SIM card to access the Thuraya network and configure the settings of the BDU. Please refer to your Airtime Service Provider for more information.

- a. Tilt up the SIM card slot rubber cover.

 **Note:** Make sure the BDU is **switched off** before inserting or removing the SIM card.



- b. Position the SIM card with its gold-contacts facing down. (There is a symbol of SIM Card with its arrow on the front panel to ensure the correct orientation of the SIM Card when it is being inserted.)



- c. Push the SIM card gently until it clicks and is locked in place.



- d. Tilt down the SIM card cover to its original position.



#### 4.1.2 Connecting the Antenna Cable

- a. Connect the antenna cable connector to the connector on the BDU front panel. Rotate the connector in the clockwise direction until it is secured.



#### 4.1.3 Connecting the Wi-Fi Antenna

- a. Connect the Wi-Fi antenna to the Wi-Fi's connector on the BDU front panel. Rotate the connector in the clockwise direction until it is secured.



#### 4.1.4 Connecting the Phone for VoIP Voice Service

- a. Connect an analogue phone to the Phone port on the BDU front panel.



#### 4.1.5 Connecting to DC Power Source

- a. Insert the power cable plug to the terminal BDU's DC power socket until it clicks and is locked in place.
- b. Connect the power cable to a DC power source (+12V or +24V).



**Note:** To remove the power cable plug.

- i. Push the two sliders at both sides of the plug gently inwards to loosen the latch.
- ii. Pull the plug away from the base terminal (BDU).



4.1.6 Powering Up the Terminal

- a. Use the ON/OFF switch on the BDU's front panel.
- b. Wait for all LED indicators to turn green to indicate the terminal is completely power up. Refer the table below for meaning of the status indicators.



| LED Name   | Status         | Meaning                                                                                                                            |
|------------|----------------|------------------------------------------------------------------------------------------------------------------------------------|
| TERMINAL   | Blinking Green | BDU is operating normally                                                                                                          |
|            | Steady Red     | BDU powers up or detects failure                                                                                                   |
| ANTENNA    | Steady Green   | ADU is functioning normally                                                                                                        |
|            | Steady Red     | ADU detects failure                                                                                                                |
|            | No Light       | ADU is not connected or is calibrating                                                                                             |
| REGISTERED | Steady Amber   | Registration to network in progress                                                                                                |
|            | Steady Green   | Terminal is registered to the network.                                                                                             |
|            | Steady Red     | Network registration failure or error                                                                                              |
| DATA       | Steady Green   | BDU is <b>Data</b> Mode, user can browse internet.                                                                                 |
|            | No light (Off) | In <b>Data</b> mode, data connection is not activated.<br>In <b>Voice</b> Mode, user can make a voice call using Atlas IP Handset. |

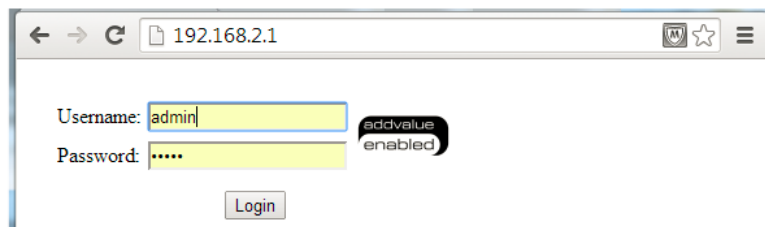
## 5 USING WEB CONSOLE

### 5.1 Register to the Network

- a. Connect your computer to the BDU using a LAN cable.
- b. When the connection has been established, open the web browser (for example: Internet Explorer, Google Chrome or Firefox.) .



- c. Type **http://192.168.2.1/** in the **Address** field and press **Enter**. When the Login screen appear, type in **admin** in the Username field and **admin** in the password field.



- d. Click "**Login**" button.

The BDU **Web Console** will appear on your screen.



Region: SINGAPORE - D

Signal:



GPS:

Latitude: 1° 20' 4.79" N (1.334665°)  
Longitude: 103° 53' 22.6" E (103.88961166°)  
Date/Time: 12/06/2017,06:05:01 UTC  
Speed: 0.1 knots  
Course: 65°

The terminal will automatically register to the network. This process will include GPS acquisition, satellite tracking and registration with the network, which will

take 2 to 3 minutes. Upon successful registration, with all four BDU's status indicators lit in green, the terminal will be ready for normal operation.

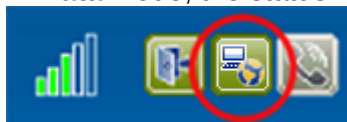
## 5.2 Navigating the Web Console

### 5.2.1 Status Indicators



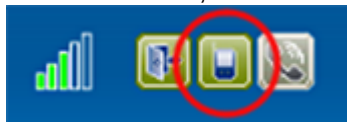
**Signal** Icon: indicates the signal strength of the satellite.

In **Data** Mode, the status indicator will appear with the **Data** Icon:



Select **Data** mode for use with VoIP voice services.

In **Voice** Mode, the status indicator will appear with the **Voice** Icon:



Select **Voice** Mode for CS call and SMS services.

These icons indicate the status of the indicated features;

- **Green** indicates the item is active.
- **Grey** indicates the item is inactive.

#### Status Icons



**Signal** Icon: indicates the signal strength of the satellite.



**Data** Icon: indicates the Packet Switch information (Internet Browsing, FTP, email, VoIP services).



**VoIP** Icon: indicates the VoIP phone call status (VoIP Service is available).



**Voice** Icon: indicates the Circuit Switch status (Voice calls, SMS).

#### System Operation Mode Icons



Log Out



Radio Silence ON (meaning the ADU's transmitter is disabled.)

5.2.2 Menu Icons



Below you can see all of the sub menu tabs, under each icon menu item.

| Home | Phone        | SMS     | Data            | Settings      |
|------|--------------|---------|-----------------|---------------|
|      | Phone Book   | Compose | Connection      | Language      |
|      | Call History | Inbox   | Data Profiles   | Terminal Info |
|      |              | Sent    | Port Forwarding | Ethernet      |
|      |              | Draft   | Firewall        | Wi-Fi         |
|      |              |         | Mac Filtering   | VoIP          |
|      |              |         | Settings        | Tracking      |
|      |              |         |                 | Misc          |
|      |              |         |                 | Admin         |
|      |              |         |                 | Modem         |
|      |              |         |                 | About         |



**Home Menu**



Click on Home icon.

The Web Console displays the terminal information of Region, satellite’s received signal strength and GPS information (Latitude, Longitude, Date/Time, Speed and Course).

In **Data Mode**, a prefix of “D” will be displayed.

Region: SINGAPORE -D

Signal:



GPS:

Latitude: 14° 47' 5.38" N (14.78483°)  
Longitude: 80° 0' 2.81" E (80.00078333°)  
Date/Time: 31/12/2019,23:57:09 UTC  
Speed: 0.1 knots  
Course: 65°

In **Voice Mode**, a prefix of “V” will be displayed.

Region: SINGAPORE -V

Signal:



GPS:

Latitude: 14° 47' 5.38" N (14.78483°)  
Longitude: 80° 0' 2.81" E (80.00078333°)  
Date/Time: 31/12/2019,23:57:09 UTC  
Speed: 0.1 knots  
Course: 65°



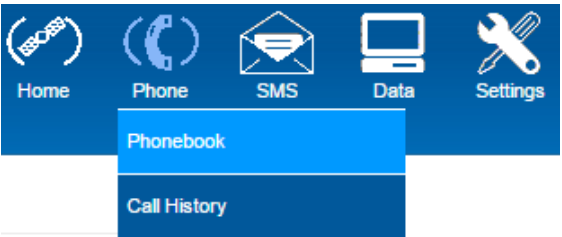
**Note:** The prefix “V” indicates the terminal is operating in Voice Mode and is not to be confused with VoIP services.



**Phone Menu**



Click Phone icon.



▪ **Phonebook (For making CS call when on Voice Mode only.)**

The Phonebook entries can be stored on the SIM card.  
It allows you to view, add, edit and delete entries on your Phonebook list and to send SMS messages directly from the Phonebook entries.

View option:

Storage Usage: (SIM - 2/250)

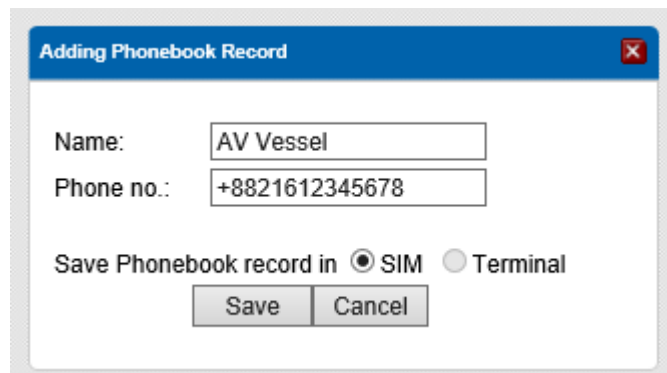
| Name                                                                                                      | Phone no.      |
|-----------------------------------------------------------------------------------------------------------|----------------|
|  Atlas IP Terminal     | +8821612345678 |
|  Thuraya Customer Care | +88216100100   |

**Add, Edit and Send SMS** buttons are only available on Voice Mode only.

### Adding to Phonebook record

Follow these steps to add a phonebook record:

- Click on Add button
- Input name and phone number.
- Select to save on SIM or Terminal.
- Click on Save.

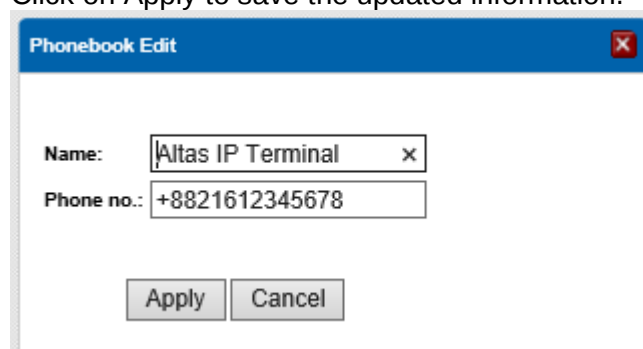


The screenshot shows a dialog box titled "Adding Phonebook Record" with a blue header bar and a red close button. It contains two text input fields: "Name:" with the value "AV Vessel" and "Phone no.:" with the value "+8821612345678". Below these fields are two radio buttons for "Save Phonebook record in": "SIM" (selected) and "Terminal". At the bottom are "Save" and "Cancel" buttons.

### Edit a Phonebook record

Follow these steps to edit a phonebook record:

- Select an entry to edit on from the Phonebook.
- Click on edit button.
- Update the information on the dialog box that displays the information of the selected entry.
- Click on Apply to save the updated information.

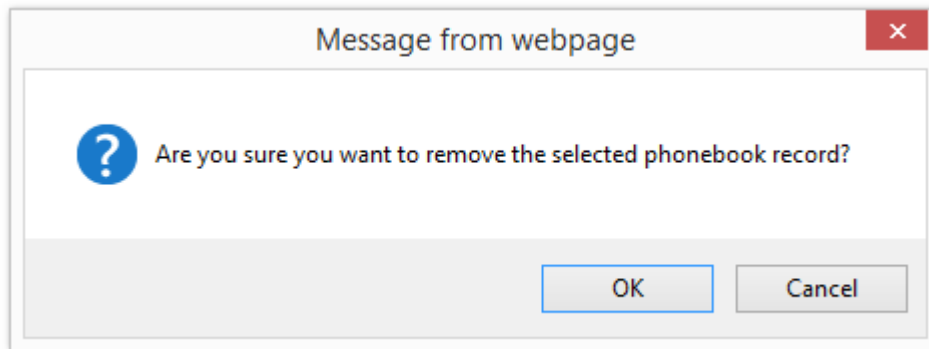


The screenshot shows a dialog box titled "Phonebook Edit" with a blue header bar and a red close button. It contains two text input fields: "Name:" with the value "Atlas IP Terminal" and a clear button (x), and "Phone no.:" with the value "+8821612345678". At the bottom are "Apply" and "Cancel" buttons.

### Delete a Phonebook record

Follow these steps to edit a phonebook record:

- a. Select an entry to delete on from the Phonebook.
- b. Click on delete button.
- c. Click on OK to confirm deletion of the entry.



### Send SMS to a Phone Book record

Follow these steps to send an SMS to a phonebook record:

- a. Select an entry to delete on from the Phonebook.
- b. Click on Send SMS button.
- c. The Phonebook console switches over to the Compose SMS console.
- d. Type in the text message.
- e. Select on option whether to save the copy of the SMS in the SIM.
- f. Click on Send.

Phone no.:   7/160

Testing


Send

Save

Clear

Append GPS

☒ Store a sent copy on SIM

▪ **Call History ( In Data Mode )**

Allows you to view VoIP call logs, delete entries from the record.

View option: Dialled Call (VoIP)  
Received Call (VoIP)  
All (VoIP)

| Phone no.                                                                                       | Date            | Time        | Duration |
|-------------------------------------------------------------------------------------------------|-----------------|-------------|----------|
|  6591550204    | Mon May 08 2017 | 11:21:15 AM | 00:03:13 |
|  6591550204    | Fri May 05 2017 | 5:53:56 PM  | 00:01:26 |
|  8821690201503 | Wed May 03 2017 | 7:42:47 PM  | 00:00:17 |
|  6591550204    | Mon May 08 2017 | 11:48:06 AM | 00:00:14 |
|  6591550204    | Mon May 08 2017 | 11:35:46 AM | 00:01:08 |
|  6591550204    | Mon May 08 2017 | 11:25:54 AM | 00:08:22 |
|  6591550204    | Mon May 08 2017 | 11:12:22 AM | 00:06:38 |
|  6591550204    | Fri May 05 2017 | 4:14:20 PM  | 00:08:41 |

Delete Refresh

▪ **Call History ( In Voice Mode )**

Allows you to view call logs, delete entries from the record and to send SMS messages directly from the selected entry.

View option: Dialled Call  
Received Call  
Missed Call  
All

| Phone no.                                                                                        | Date            | Time        | Duration |
|--------------------------------------------------------------------------------------------------|-----------------|-------------|----------|
|  006596967898 | Mon Apr 24 2017 | 7:46:32 PM  | 00:00:00 |
|  006591550204 | Wed Apr 19 2017 | 10:53:34 AM | 00:00:00 |
|  006591550204 | Wed Apr 19 2017 | 10:47:04 AM | 00:01:09 |
|  006591550204 | Wed Apr 19 2017 | 10:44:09 AM | 00:00:00 |
|  006591194149 | Wed Apr 19 2017 | 10:36:29 AM | 00:01:13 |
|  +6591550204  | Wed Apr 19 2017 | 10:48:42 AM | 00:01:10 |
|  +6591550204  | Wed Apr 19 2017 | 10:45:08 AM | 00:01:13 |
|  +6591550204  | Wed Apr 19 2017 | 10:50:15 AM |          |

Send SMS Delete Refresh

**Send SMS** button is only available on Voice Mode only.

### View option

The following table shows the view option for Data Mode and Voice Mode.

| Mode       | View Option            | Description                                                     |
|------------|------------------------|-----------------------------------------------------------------|
| Data Mode  | Dialed Call ( VoIP )   | To view the list of dialed VoIP calls only.                     |
|            | Received Call ( VoIP ) | To view the list of received VoIP calls only.                   |
|            | Missed Call ( VoIP )   | To view the list of the missed VoIP calls only.                 |
|            | All                    | To view the list of the dialed, received and missed VoIP calls. |
| Voice Mode | Dialed Call            | To view the list of dialed calls only.                          |
|            | Received Call          | To view the list of received calls only.                        |
|            | Missed Call            | To view the list of missed calls only.                          |
|            | All                    | To view the list of the dialed, received and missed calls.      |

### Sending SMS from the Call History list (Only available on Voice Mode)

Follow these steps to send SMS from the Call History list:

- Select the entry from the list.
- Click **Send SMS**.
- The Call History console switches over to the Compose SMS console.
- Type in the text message.
- Select on option whether to save the copy of the SMS in the SIM.
- Click on Send.

Phone no.:   110/160

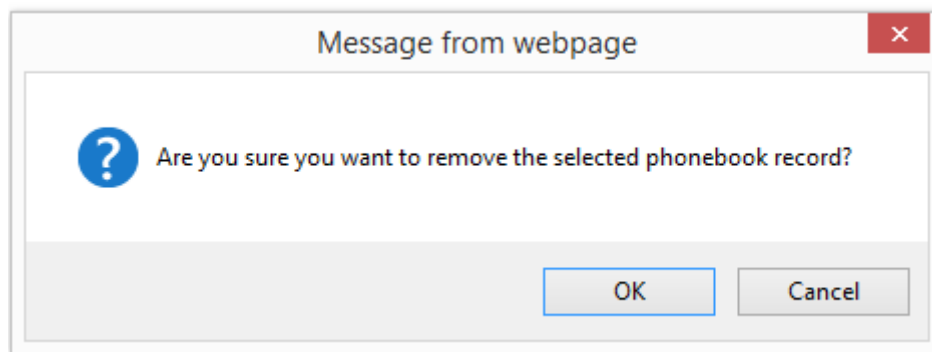
Will be reaching the port in 15 mins from now.  
Appended GPS :  
1.3363845,N,103.891046,E,27/08/2014,02:52:47 GMT

☐ Store a sent copy in SIM

### Deleting a Call History entry

Follow these steps to delete a Call History entry:

- a. Select the entry from the Call History list.
- b. Click **Delete**.
- c. Click **Ok** to confirm or click **Cancel** to abort deleting the entry.



### Refresh Call History display

The terminal will periodically update and refresh the call records after a call has ended or changes been made to the records. Click on Refresh to load the latest updated Call History list if the latest record is yet to be updated by the terminal periodic update.

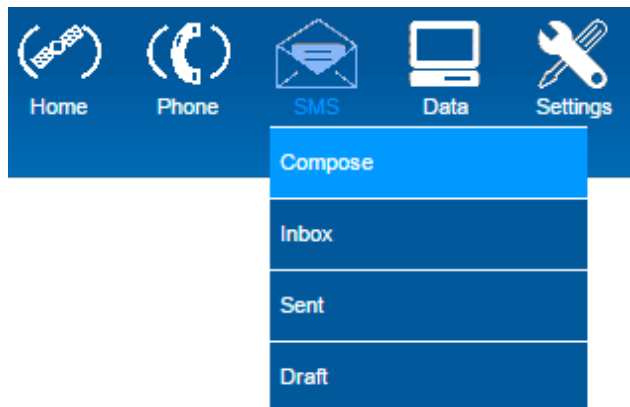


### SMS Menu



Click on SMS icon.

SMS menu provide the following options:



- **Compose ( Only available in Voice Mode)**

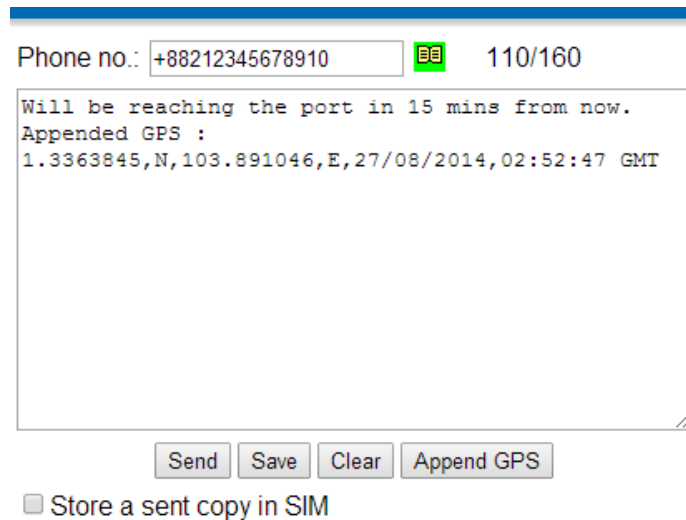
To compose and send text messages.

Simply enter a mobile number, type your message and click **Send**.

### Composing a New Message

Follow these steps to compose a new SMS:

- Enter the receiver's phone number in the **Phone no.** field or click the phonebook icon  if the receiver's number is listed in the Phonebook.
- Type the message in the text editor box.



Phone no.: +88212345678910 110/160

Will be reaching the port in 15 mins from now.  
Appended GPS :  
1.3363845,N,103.891046,E,27/08/2014,02:52:47 GMT

☐ Store a sent copy in SIM



**Note:** Message is limited to 160 characters (using 7 bit encoded default alphabets) including spaces between words. But it is limited to 70 characters per message using Unicode (UCS2) text message (such as message typed in Chinese, etc.).

*If the user does not need to store a copy of the sent SMS into SIM card, do uncheck "Store a copy in the SIM" checkbox.*

- c. Click **Send** button to send the SMS.
- d. To save an unsent SMS, click **Save** button and the unsent SMS will be saved in **Draft**.
- e. To clear the typed message on the text editor, click **Clear** button.

### ▪ Inbox

Shows the details (Sender information, Message, Date and Time stamp) of all SMS received.

**Inbox**  
Storage Usage: (SIM - 5/100)

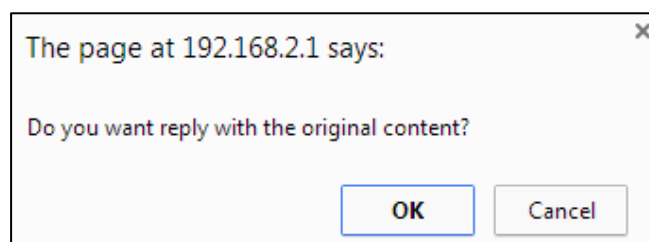
| <input type="checkbox"/> | From              | Message                                                         | Date                       |
|--------------------------|-------------------|-----------------------------------------------------------------|----------------------------|
| <input type="checkbox"/> | Atlas IP Terminal | Vessel's GPS, 1.33642316,N, 103.89098716,E, 13/08/2014,08:24:10 | Thu Dec 18 2014 4:23:48 PM |
| <input type="checkbox"/> | +88216229934 72   | Calling for Captain to confirm the correct route.               | Thu Dec 18 2014 4:21:27 PM |

**Reply** and **Forward** button are not available in **Data mode**.

#### Replying to a SMS (Only available in Voice Mode.)

Follow these steps to reply a SMS:

- Click on a SMS to select it.  
The selected SMS will be highlighted in blue.
- Click **Reply**.
- Click **OK** to reply with the original contents or **Cancel** to reply without the original content already added into the Compose console.



The Inbox console switches over to **Compose** console.

- Enter your reply in the text editor.
- Click **Send** to send your reply SMS.

### Forwarding an SMS (Only available in Voice Mode.)

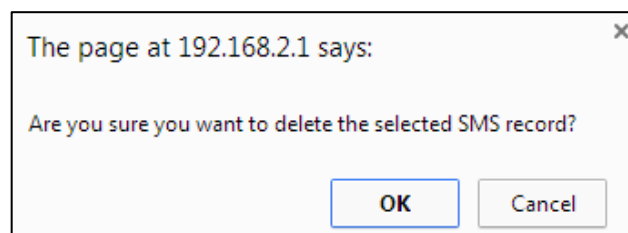
Follow these steps to forward an SMS:

- Click on a SMS to select it.  
The selected SMS will be highlighted in light blue.
- Click **Forward**.  
The Inbox console switches over to the Compose console.
- Enter the receiver's number in the **Phone No.** field.
- Click **Send** to forward the SMS. The SMS will be sent to the recipient.

### Deleting a single SMS from the Inbox list

Follow these steps to delete a single SMS from the Inbox list:

- Click on a SMS to select it.
- Click **Delete**.
- Click **OK** to confirm or click **Cancel** to abort deleting the SMS.



### Deleting multiple SMS from the Inbox list

Follow these steps to delete multiple SMS from the Inbox list:

- Select the message by checking the checkboxes beside each SMS.
- Click **Delete**.
- Click **OK** to confirm the delete, or **Cancel** to abort the delete.
- Click **Refresh** to refresh the Inbox list.

### Refresh Inbox display

The terminal will periodically update and refresh the SMS records after changes were made to the records. Click on Refresh to load the latest updated SMS list if the latest record is yet to be updated by the terminal periodic update.

### ▪ Sent

Shows the details (Receiver information and Message) of SMS sent.

#### Sent

Storage Usage: (SIM - 5/100)

| <input type="checkbox"/> | To                | Message                                                         |
|--------------------------|-------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> | Altas IP Terminal | Vessel's GPS, 1.33642316,N, 103.89098716,E, 13/08/2014,08:24:10 |
| <input type="checkbox"/> | +8821622993472    | Calling for Captain to confirm the correct route.               |
| <input type="checkbox"/> | 8821622990765     | Updating the vessel's location and append the GPS position.     |

Resend Forward Delete Refresh

**Resend** and **Forward** button are not available in **Data mode**.

#### **Resending a sent SMS (Only available in Voice Mode.)**

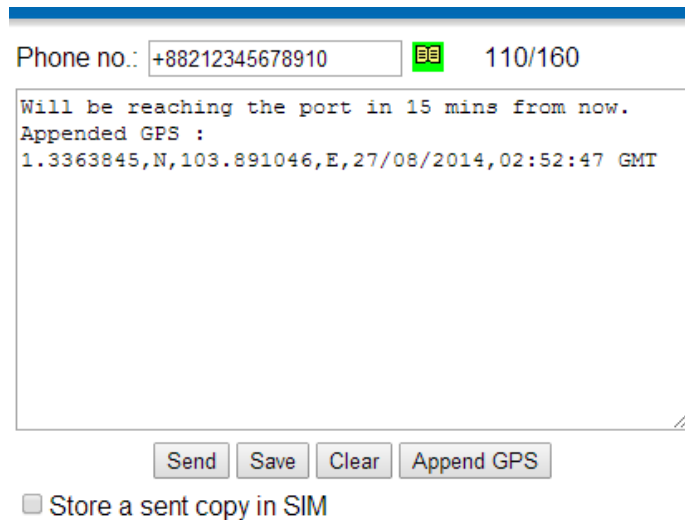
Follow these steps to resend a sent SMS (sending the same SMS to the same receiver):

- Click on a SMS to select it.
- Click **Resend**.
- The SMS will be sent to the recipient.

#### **Forwarding a sent SMS (Only available in Voice Mode.)**

Follow these steps to forward a sent SMS to another recipient:

- Click on a SMS to select it.
- Click **Forward**.
- The Sent console switches over to the Compose console.
- Enter the receiver's number in the **Phone No.** field.
- Click **Send**. The SMS will be sent to the recipient.



Phone no.:   110/160

Will be reaching the port in 15 mins from now.  
Appended GPS :  
1.3363845,N,103.891046,E,27/08/2014,02:52:47 GMT

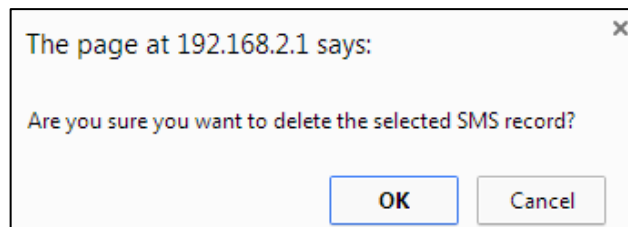
☐ Store a sent copy in SIM

### Deleting a SMS from the Sent list

Follow these steps to delete a single SMS from the Sent list:

Click on a SMS to select it.

- Click **Delete**.
- Click OK to confirm or click Cancel to abort deleting the SMS.



### Deleting multiple SMS from the Sent list

Follow these steps to delete multiple SMS from the from the Sent list:

- Select one or more messages by checking the checkboxes beside each SMS.
- Click Delete.
- Click OK to confirm the delete, or Cancel to abort the delete.

- **Draft**

Stores SMS saved from the Compose console.

**Sending a draft SMS (Only available in Voice Mode.)**

**Draft**

Storage Usage: (SIM - 6/100)

| <input type="checkbox"/> | To                | Message                                                         |
|--------------------------|-------------------|-----------------------------------------------------------------|
| <input type="checkbox"/> | +8821622993472    | Calling for Captain to confirm the correct route.               |
| <input type="checkbox"/> | Atlas IP Terminal | Vessel's GPS, 1.33642316,N, 103.89098716,E, 13/08/2014,08:24:10 |

**Send** and **Forward** button are not available in **Data mode**.

Follow these steps to send a draft SMS:

- Click on a SMS to select it.
- Click **Send**. The SMS will be sent to the recipient.

**Draft**

Storage Usage: (SIM - 7/100)

| <input checked="" type="checkbox"/> | To                | Message                                                         |
|-------------------------------------|-------------------|-----------------------------------------------------------------|
| <input checked="" type="checkbox"/> | Atlas IP Terminal | Vessel's GPS, 1.33642316,N, 103.89098716,E, 13/08/2014,08:24:10 |



### Forwarding a draft SMS to another recipient (Only available in Voice Mode.)

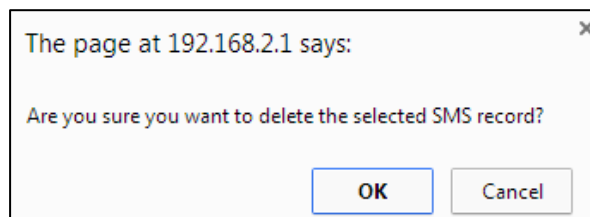
Follow these steps to forward a draft SMS to another recipient:

- a. Click on a SMS to select it.
- b. Click **Forward**.  
The Draft console switches over to the Compose console.
- c. Enter the receiver's number in the **Phone No.** Field.
- d. Click **Send** to forward the SMS. The SMS will be forwarded to the recipient.

### Deleting a SMS from the Draft list

Follow these steps to delete a SMS from the Draft list:

- a. Click on a SMS to select it.
- b. Click **Delete**.
- c. Click **OK** to confirm or click **Cancel** to abort deleting the SMS.



### Deleting multiple SMS from the Draft list

Follow these steps to delete multiple SMS from the Draft list:

- a. Select the message by checking the checkboxes beside each SMS.
- b. Click **Delete**.
- c. Click **OK** to confirm the delete, or **Cancel** to abort the delete.
- d. Click **Refresh** to refresh the Draft list.

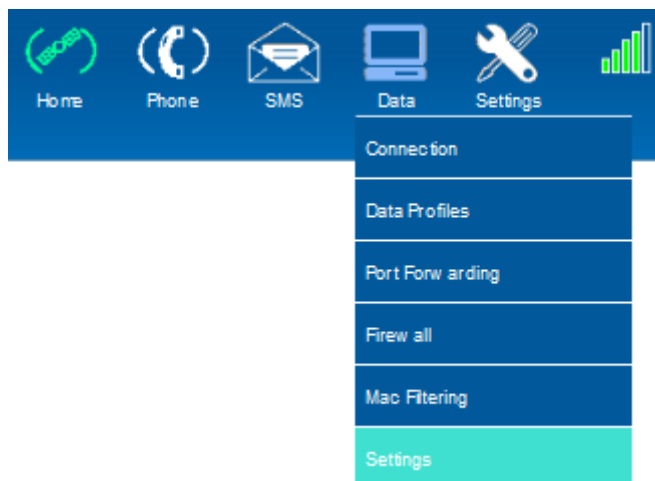


### Data Menu



Click on Data icon.

Data menu provides the following options:



- **Connection**

To activate or deactivate PDP context ( internet connection).

Click “**Activate Default Profile**” to activate the PDP context



standard-vbr - 85.115.85.48 [Disconnect](#) (Standard)

APN and the assigned public IP Address details will be displayed and the user can proceed to access the Internet and use the related features.

To disconnect the data connection, click “**Disconnect**” and The PDP context will be deactivated.

### ▪ Data Profiles

Data Profiles define the connection type of using Standard or Streaming IP connection.

You can select from a list of profiles to be the default primary profile and connection type. From Profile 8 to Profile 25, the user create other customized primary profile.

| Standard                                                                                                                               |                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Profile:</b> <input type="text" value="#Standard"/>                                                                                 |                                                                                     |
| <input checked="" type="checkbox"/> Set as default                                                                                     |                                                                                     |
| <b>Profile Name:</b> <input type="text" value="Standard"/>                                                                             |                                                                                     |
| <b>Connection Type:</b>                                                                                                                |                                                                                     |
| <input checked="" type="radio"/> Standard                                                                                              |                                                                                     |
| <input type="radio"/> Streaming                                                                                                        |                                                                                     |
| <input checked="" type="checkbox"/> Always On (Auto PDP Context Activation)                                                            |                                                                                     |
| <b>Access Point Name (APN):</b>                                                                                                        |                                                                                     |
| APN                                                                                                                                    | <input type="text" value="standard-vbr"/>                                           |
| Username:                                                                                                                              | <input type="text"/>                                                                |
| Password:                                                                                                                              | <input type="text"/>                                                                |
| <b>IP Configuration</b>                                                                                                                |                                                                                     |
| <input checked="" type="radio"/> Dynamic IP Address                                                                                    |                                                                                     |
| <input type="radio"/> Static                                                                                                           |                                                                                     |
| IP Address                                                                                                                             | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> |
| <input type="button" value="Update Settings"/> <input type="button" value="Cancel"/> <input type="button" value="Deactivate Profile"/> |                                                                                     |



**Note:** The Standard profile is set as the default primary profile and the default connection type is standard (this is charged by the **VOLUME** [in kilobytes] of data used).

#### Profile Name

Change the profile name as desired.

#### Connection Type

Change the type of connection (“**Standard**” or “**Streaming**”)

By default the connection type will be standard.

#### Access Point Name (APN)

By default, the APN from the SIM will be selected.

Follow these steps to change the Access Point Name (APN):

- Select User Defined.
- Enter the new APN in the field space provided (e.g. **standard-vbr**).

- c. Enter the username and password if required.

### IP Configuration

By default, the **Dynamic IP Address** is selected. If using Static IP Address, then select **Static IP Address** and enter the IP Address in the space provided.

### ▪ Port Forwarding

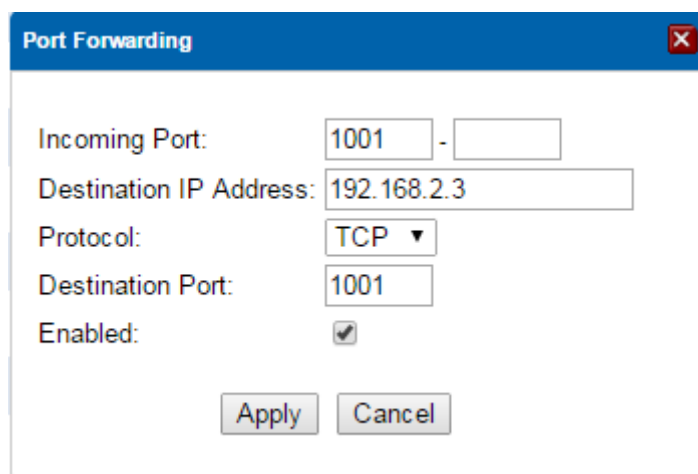
Port Forwarding is a feature for Router (multiple-user) mode used for directing incoming data traffic to a specific port on a local PC (IP Address)

This feature sets the terminal to direct incoming traffic on certain TCP/UDP port to a specific port on a local PC (IP Address).

| Incoming Port | Protocol | Destination IP Address | Destination Port | Enabled                             |                                             |
|---------------|----------|------------------------|------------------|-------------------------------------|---------------------------------------------|
| 1001          | TCP      | 192.168.2.3            | 1001             | <input checked="" type="checkbox"/> | <a href="#">Edit</a> <a href="#">Delete</a> |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |
| 0             | -        | 0.0.0.0                | 0                | <input type="checkbox"/>            | <a href="#">Add</a>                         |

Follow these steps to add a new forwarding rule:

- a. Click **Add** button.



Port Forwarding

Incoming Port: 1001 -

Destination IP Address: 192.168.2.3

Protocol: TCP ▼

Destination Port: 1001

Enabled: ☒

Apply Cancel

- Enter **Incoming Port** number in the space provided.  
(For example, the user is expecting HTTP traffic, the port is 1001).
- Enter the Destination IP Address.  
(For example, the IP Address of the PC that is connected to the terminal).
- Select **Protocol: TCP / UDP**. (E.g. for HTTP, it will be TCP).
- Enter **Destination Port** number in the space provided (For example: listening port of the particular service (for example TCP port 80 for web server) on the PC that is connected to the terminal).
- Click **Apply** to allow the settings to take effect.

### ▪ Firewall

Firewall feature is used for monitoring and control of the incoming and outgoing network traffic based on predetermined security rules.

#### Enable Firewall Settings

- Navigate to **Data>Firewall>Setup** to enable Firewall protection. (By default, the **Firewall** is disabled.)
- Select **Enable**.
- Click **Update**.



Firewall Protection Setup

Firewall Protection ☒ Enabled ☐ Disabled

Update

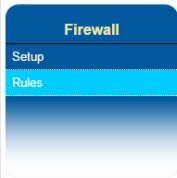
Rules

To define rules to allow or reject with selected traffic type packets.  
(Allows maximum setting of up to 220 rules.)



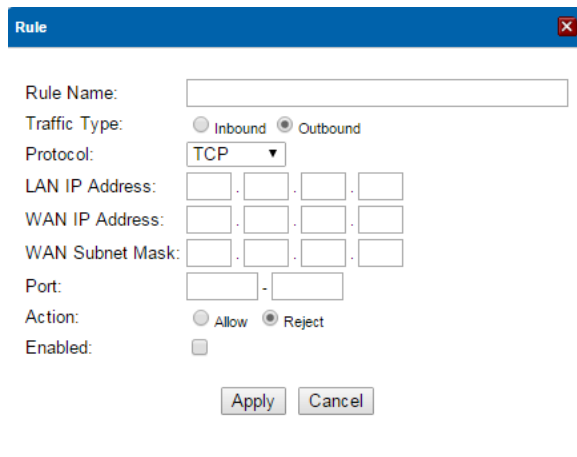
Rules

| Rule Name    | Traffic Type | Protocol | LAN IP Address | WAN IP Address | Port | Action | Enabled |                                             |
|--------------|--------------|----------|----------------|----------------|------|--------|---------|---------------------------------------------|
| Default Rule | Inbound      | TCP      | ANY            | ANY            | ANY  | Allow  | Enabled | <a href="#">Edit</a> <a href="#">Delete</a> |
|              |              |          |                |                |      |        |         | <a href="#">Add</a>                         |
|              |              |          |                |                |      |        |         | <a href="#">Add</a>                         |
|              |              |          |                |                |      |        |         | <a href="#">Add</a>                         |
|              |              |          |                |                |      |        |         | <a href="#">Add</a>                         |
|              |              |          |                |                |      |        |         | <a href="#">Add</a>                         |



Rules

| Rule Name | Traffic Type | Protocol | LAN IP Address | WAN IP Address | Port | Action | Enabled  |                                             |
|-----------|--------------|----------|----------------|----------------|------|--------|----------|---------------------------------------------|
| Rule1     | Outbound     | TCP      | ANY            | ANY            | ANY  | Reject | Disabled | <a href="#">Edit</a> <a href="#">Delete</a> |
| Rule2     | Outbound     | TCP      | ANY            | ANY            | 990  | Allow  | Disabled | <a href="#">Edit</a> <a href="#">Delete</a> |
| Rule3     | Outbound     | TCP      | ANY            | ANY            | 443  | Allow  | Disabled | <a href="#">Edit</a> <a href="#">Delete</a> |
| Rule4     | Outbound     | TCP      | ANY            | ANY            | 80   | Allow  | Disabled | <a href="#">Edit</a> <a href="#">Delete</a> |
| Rule5     | Outbound     | TCP      | ANY            | ANY            | 5679 | Allow  | Disabled | <a href="#">Edit</a> <a href="#">Delete</a> |
| Rule6     | Outbound     | UDP      | ANY            | ANY            | 5679 | Allow  | Disabled | <a href="#">Edit</a> <a href="#">Delete</a> |
|           |              |          |                |                |      |        |          | <a href="#">Add</a>                         |
|           |              |          |                |                |      |        |          | <a href="#">Add</a>                         |



**Rule**

Rule Name:

Traffic Type: ☐ Inbound ☒ Outbound

Protocol:

LAN IP Address:  .  .  .

WAN IP Address:  .  .  .

WAN Subnet Mask:  .  .  .

Port:  -

Action: ☐ Allow ☒ Reject

Enabled: ☐

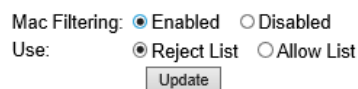
### ▪ Mac Filtering

Mac Filtering allows the user to define a list of devices to be allowed for connection to the device for both devices connected through LAN port and Wi-Fi connection.

Select **Enabled** to activate the feature.

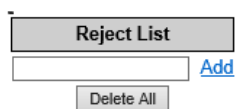
#### Reject List

All devices will be allowed to access the terminal except for those (MAC addresses) listed in the Reject List.



Mac Filtering: ☒ Enabled ☐ Disabled

Use: ☒ Reject List ☐ Allow List



**Reject List**

[Add](#)

\*Your Mac Address: 74:2B:62:6D:84:F5

#### Allow List

All devices will be denied access to the terminal except for those (MAC addresses) listed in the Allow List. When selecting this list, at least one entry should be there to access the terminal.

Mac Filtering: ☒ Enabled ☐ Disabled  
Use: ☐ Reject List ☒ Allow List

**Allow List**

[Add](#)

\*Your Mac Address: 74:2B:62:6D:84:F5

### ▪ Setting

Selection of the Ethernet mode to be used for incoming traffic connection for either Single user or Multi user mode.

**Settings**

Settings

**Ethernet mode:**  
☐ Router Mode (Single User)  
IP Address:  .  .  .   
☒ Router Mode (Multi-User)

Under **Ethernet mode**,

- a. **Router Mode (Single User)**
  - Enable this mode to forward all incoming traffic to a single laptop or desktop based on IP address specified by user.
- b. **Router Mode (Multi-User)**
  - Enable this mode for users to use the Port Forwarding to redirect incoming traffic to the intended IP addresses of different devices for the users to support different applications.

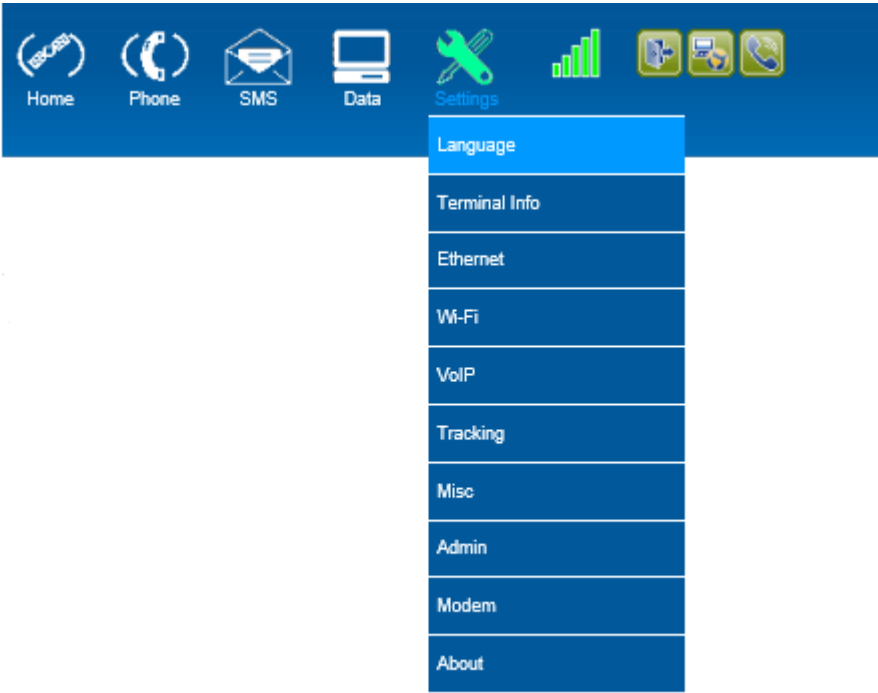


**Settings Menu**



Click on Settings icon.

Setting menu provides the following options:



▪ **Language**

Select the desired language for the Web Console to be displayed. (English, Chinese-Simplified, Chinese-Traditional, Spanish and Vietnamese).



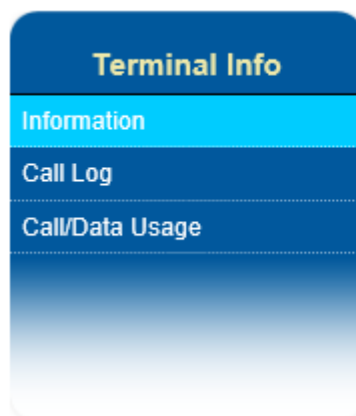
- **Terminal Info**

This tab shows general information about the terminal, Call Log and Call/Data Usage.

### Information

Displays information;

- Software Version
- Hardware Version
- Modem Version
- MCU Version
- Model ID
- BDU Serial Number
- IMEI Number
- IMSI Numbers
- Subscriber Number
- ADU Information ( Serial Number, Model ID, Hardware and Software Version)



|                           |                  |
|---------------------------|------------------|
| <b>Software version:</b>  | AtlasIP+ 2.0.1   |
| <b>Hardware version:</b>  | 1                |
| <b>Modem version:</b>     | 1.3.22C_NF       |
| <b>MCU version:</b>       | 1.0.2            |
| <b>Model ID:</b>          | AtlasIP+         |
| <b>BDU Serial Number:</b> | TBAIP1M150500005 |
| <b>IMEI number:</b>       | 355329170039030  |
| <b>IMSI number:</b>       | 901059898012152  |

## Call Log

Displays the call history including the voice call and data sessions.

Select **VOIP** under Call Log Type to display the VOIP call session history.

| <div>Terminal Info</div> <div>Information</div> <div>Call Log</div> <div>Call/Data Usage</div> | Call Log Type: VOIP ▾ |                             |              |
|------------------------------------------------------------------------------------------------|-----------------------|-----------------------------|--------------|
|                                                                                                | Phone no.             | Date/Time                   | Duration     |
|                                                                                                | 6591132319            | Tue Jan 09 2018, 5:46:40 PM | 000:00:00:52 |
|                                                                                                | 6591132319            | Tue Jan 09 2018, 5:46:07 PM | 000:00:00:00 |
|                                                                                                | 6591132319            | Tue Jan 09 2018, 5:45:46 PM | 000:00:00:00 |
|                                                                                                | 88216100100           | Tue Jan 09 2018, 5:30:38 PM | 000:00:00:11 |

Select **PS** under Call Log Type to display the data sessions history.

| <div>Terminal Info</div> <div>Information</div> <div>Call Log</div> <div>Call/Data Usage</div> | Call Log Type: PS ▾ |                              |              |                          |                                |               |               |
|------------------------------------------------------------------------------------------------|---------------------|------------------------------|--------------|--------------------------|--------------------------------|---------------|---------------|
|                                                                                                | Connection Type     | Date/Time                    | Duration     | Volume (Upload/Download) | Uplink/Downlink Bitrate (kbps) | IP Address    | APN           |
|                                                                                                | Streaming           | Mon Dec 15 2014, 1:47:28 PM  | 000:02:11:00 | 55.01 MB / 54.99 MB      | 128 / 128                      | 85.115.73.215 | streaming-cbr |
|                                                                                                | Streaming           | Mon Dec 15 2014, 11:29:10 AM | 000:02:17:23 | 54.96 MB / 54.85 MB      | 256 / 256                      | 85.115.73.215 | streaming-cbr |
|                                                                                                | Background          | Mon Dec 15 2014, 9:09:57 AM  | 000:02:18:27 | 54.25 MB / 38.86 MB      | Dynamic / Dynamic              | 85.115.73.215 | standard-vbr  |
|                                                                                                | Streaming           | Mon Dec 15 2014, 7:54:29 AM  | 000:01:11:57 | 54.84 MB / 54.8 MB       | 384 / 384                      | 85.115.73.215 | streaming-cbr |
|                                                                                                | Streaming           | Mon Dec 15 2014, 6:57:35 AM  | 000:00:54:56 | 55.17 MB / 54.93 MB      | 384 / 384                      | 85.115.73.215 | streaming-cbr |
|                                                                                                | Streaming           | Sun Dec 14 2014, 3:34:16 PM  | 000:01:51:43 | 110.09 MB / 112.09 MB    | 384 / 384                      | 85.115.73.215 | streaming-cbr |
|                                                                                                | Background          | Sun Dec 14 2014, 3:05:21 PM  | 000:00:01:40 | 3.46 KB / 5.37 KB        | Dynamic / Dynamic              | 85.115.73.215 | standard-vbr  |
|                                                                                                | Background          | Sun Dec 14 2014, 3:05:20 PM  | 000:00:00:00 | 0 byte / 0 byte          | Dynamic / Dynamic              | 85.115.73.215 | standard-vbr  |
|                                                                                                | Background          | Fri Dec 12 2014, 5:32:13 PM  | 001:19:22:39 | 5.13 MB / 110.96 MB      | Dynamic / Dynamic              | 85.115.73.215 | standard-vbr  |
|                                                                                                | Streaming           | Fri Dec 12 2014, 12:50:13 PM | 000:03:26:53 | 164.36 MB / 153.88 MB    | 384 / 384                      | 85.115.73.215 | streaming-cbr |

Select **CS** under Call Log Type to display the voice call history.

| <div>Terminal Info</div> <div>Information</div> <div>Call Log</div> <div>Call/Data Usage</div> | Call Log Type: CS ▾ |                              |              |
|------------------------------------------------------------------------------------------------|---------------------|------------------------------|--------------|
|                                                                                                | Phone no.           | Date/Time                    | Duration     |
|                                                                                                | 006590234980        | Mon Dec 29 2014, 11:13:13 AM | 000:00:00:00 |
|                                                                                                | 006590234980        | Mon Dec 29 2014, 11:12:38 AM | 000:00:00:00 |
|                                                                                                | 006590234980        | Mon Dec 29 2014, 11:12:00 AM | 000:00:00:27 |
|                                                                                                | 006565427788        | Mon Dec 29 2014, 11:10:45 AM | 000:00:00:34 |
|                                                                                                | 006565427788        | Mon Dec 29 2014, 10:24:25 AM | 000:00:00:41 |
|                                                                                                | 006598636392        | Thu Dec 18 2014, 9:57:00 AM  | 000:00:00:00 |
|                                                                                                | +8821622990081      | Tue Dec 16 2014, 9:18:28 AM  | 000:00:31:30 |

## Call / Data Usage

Displays the total **Call Usage**, **Data Usage** and **VoIP Usage**.

Click **Clear** to reset counter for both call and data usage.



**Note:** All Call and Data usage records are only for reference purposes only. Kindly contact the network operator for detailed billing enquiries.

| Terminal Info   |  |
|-----------------|--|
| Information     |  |
| Call Log        |  |
| Call/Data Usage |  |

|                    |                                   |                                      |
|--------------------|-----------------------------------|--------------------------------------|
| <b>Call Usage:</b> | Current Call (Incoming): 00:00:00 |                                      |
|                    | Current Call (Outgoing): 00:00:00 |                                      |
|                    | Total Call (Incoming): 00:00:00   |                                      |
|                    | Total Call (Outgoing): 00:00:00   |                                      |
|                    | Total Call Usage: 00:00:00        | <input type="button" value="Clear"/> |
| <b>Data Usage:</b> | Current Data (Upload):            |                                      |
|                    | Current Data (Download): 19.38 MB |                                      |
|                    | Current Data (Time): 31:44:40     |                                      |
|                    | Total Data (Upload): 33.26 MB     |                                      |
|                    | Total Data (Download): 87.51 MB   |                                      |
|                    | Total Data Usage: 120.78 MB       | <input type="button" value="Clear"/> |
| <b>VoIP Usage:</b> | Total Call (Incoming): 00:00:00   |                                      |
|                    | Total Call (Outgoing): 00:03:09   |                                      |
|                    | Total Call Usage: 00:03:09        | <input type="button" value="Clear"/> |

## ▪ Ethernet

To change the Terminal IP address and Subnet Mask.

By default, terminal IP address is 192.168.2.1.



**Note:** When the IP address of the terminal is different from the default, the terminal shall not allow any changes on the WIFI setting. To enable making a change on the WIFI setting, change the terminal IP address back to the default value.

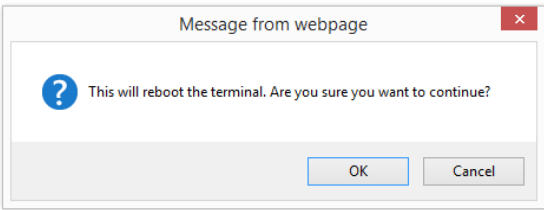
Enter the required new IP address and Subnet mask then click **Update**.

| Ethernet |  |
|----------|--|
| Ethernet |  |
| DHCP     |  |

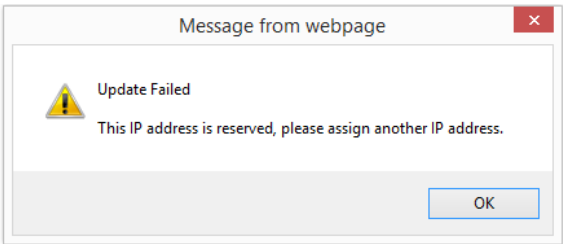
  

|                                       |                                  |                                  |                                  |                                |
|---------------------------------------|----------------------------------|----------------------------------|----------------------------------|--------------------------------|
| Terminal IP Address:                  | <input type="text" value="192"/> | <input type="text" value="168"/> | <input type="text" value="2"/>   | <input type="text" value="1"/> |
| Terminal Subnet Mask:                 | <input type="text" value="255"/> | <input type="text" value="255"/> | <input type="text" value="255"/> | <input type="text" value="0"/> |
| <input type="button" value="Update"/> |                                  |                                  |                                  |                                |

Select **OK**. The terminal will proceed to reboot for the changes to take effect.



When a reserved IP address is selected, the terminal shall prompt an error message and the change shall not take effect.



- **DHCP**  
To change the DHCP IP Pool Start address and Subnet Mask.

Ethernet

Ethernet

DHCP

DHCP IP Pool Start:

192

.

168

.

2

.

6

DHCP IP Pool End:

192

.

168

.

2

.

240

IP Lease Time:

120

minutes

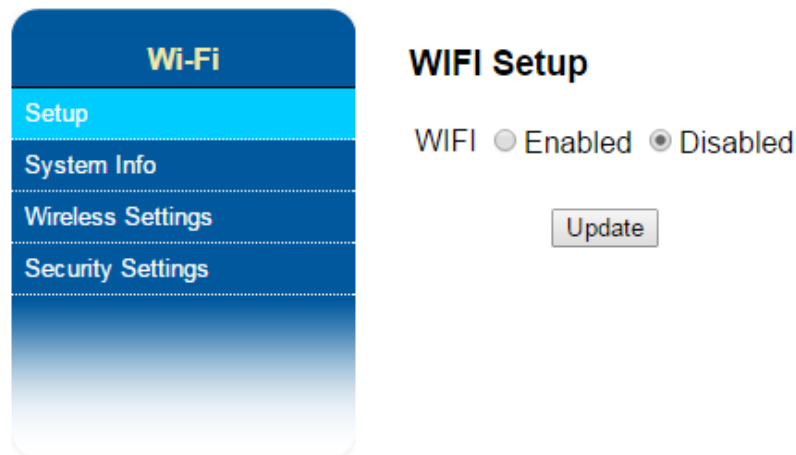
Update

- **Wi-Fi**  
By default, the **Wi-Fi** is disabled.

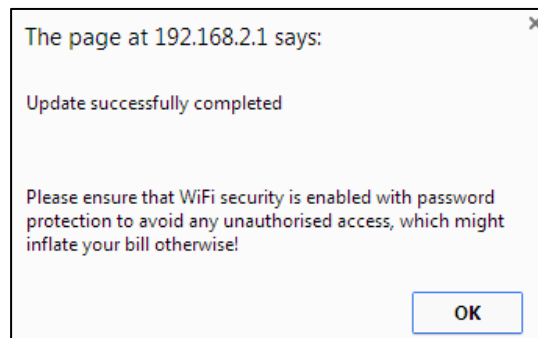


**Note:** When the IP address of the terminal is different from the default, the terminal shall not allow any changes on the WIFI setting. To enable making a change on the WIFI setting, change the terminal IP address back to the default value.

### Setup



- Select **Enabled** to turn on the Wi-Fi module. (Go to Wireless Setting to enable Wi-Fi to be accessible by other devices.)
- Click Update.
- Once the Wi-Fi service is enabled, a pop-up message box indicates the Wi-Fi service is activated.



System info

Display the information of Ethernet MAC Address, WLAN MAC Address and Software Version.

Wi-Fi

Setup

System Info

Wireless Settings

Security Settings

Ethernet MAC Address: AA:BB:CC:DD:EE:FF  
WLAN MAC Address: FF:EE:DD:CC:BB:AA  
Software version: Telnet-Version 8

Wireless Settings

- a. Choose ideal **Network Mode** and **Channel**.
- b. If required, **Network Name (SSID)** can be renamed by the user.
- c. Choose ideal **Channel**
- d. Click **Update**.



**Note:** Network Name (SSID) is a useful security feature which prevents unauthorised device from connection to the terminal through the Wi-Fi connection.

Wi-Fi

Setup

System Info

Wireless Settings

Security Settings

Network Mode: 802.11b

Network Name (SSID): AtlasIP-020

☒ Allow SSID Broadcast

Channel: Auto

Update

### Security Settings

To disable security mode, select **Disabled**.

To other security mode, follow the steps to configure the security settings of the Wi-Fi module.

- a. Select the security mode and authentication key.



**Note:** *There are four sets of security passwords available for your security configuration and you can only select one set of password.*

- b. Under Security Mode of **WEP**, select the **Default Key** to enable the desired password from **Key**.

The screenshot shows the 'Wi-Fi' settings menu on the left with 'Security Settings' selected. The main area displays the following fields:

- Security Mode:** WEP (dropdown)
- Authentication Type:** Open Key (dropdown)
- Default Key:** 1 (dropdown)
- Key:** (text input field)
- Update** (button)

Below these fields, the 'WEP Key' section provides instructions:

- For 64-bit encryption** - You can enter either 5 ASCII characters or 10 hexadecimal digits (any combination of 0-9, a-f, A-F, empty string is not permitted).
- For 128-bit encryption** - You can enter either 13 ASCII characters or 26 hexadecimal digits (any combination of 0-9, a-f, A-F, empty string is not permitted).

- c. Under Security Mode of **WPA/WPA2 - Personal**, select the **Encryption Type** and key in desired password in **Passphrase**.

The screenshot shows the 'Wi-Fi' settings menu on the left with 'Security Settings' selected. The main area displays the following fields:

- Security Mode:** WPA2 - Personal (dropdown)
- Encryption Type:** Auto (dropdown)
- Passphrase:** (text input field)
- Update** (button)

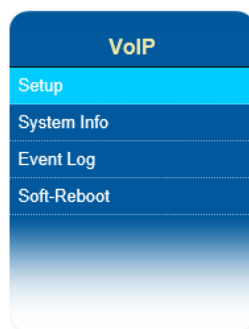
- VoIP



**Note:** Kindly ensure that VoIP service subscription and provisioning have been activated by the Service Provider prior to using the VoIP service on the terminal.

### VoIP Setup

- By default, VoIP is enabled. LED should be in Data mode. To activate the data connection, select **DATA > Connection** then click on **Activate Default Profile**.
- Select **Settings > VoIP**.
- Select **Enable** and click **Update**.



### VoIP Setup

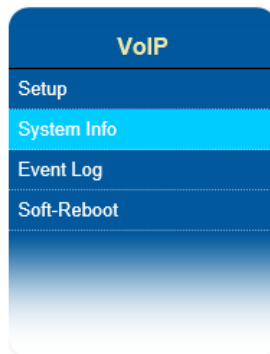
VoIP ☒ Enabled ☐ Disabled

Update

Refresh

### VoIP System Info

Display the VoIP information.



### VoIP System Info

**MSISDN :** 8821690201510

**Mac Address :** 00:0B:82:A1:18:69

**Hardware version :** V3.0B

**Software version :** Program : 1.0.8.7

Bootloader : 1.0.0.9

Core : 1.0.8.2

Base : 1.0.8.6

VoIP Event Log

Display the VoIP event information.

VoIP

Setup

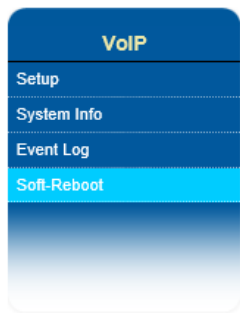
System Info

Event Log

Soft-Reboot

| Date/Time           | Events                                              |
|---------------------|-----------------------------------------------------|
| 08/12/2017 09:40:18 | Registered to network                               |
| 08/12/2017 09:40:16 | Event received - Module On                          |
| 08/12/2017 09:17:16 | Registered to network                               |
| 08/12/2017 09:14:37 | Retrieved SysInfo - Terminal PDP is active          |
| 08/12/2017 09:13:36 | Module Powered On                                   |
| 08/12/2017 09:12:12 | Retrieved SysInfo - wait for Terminal PDP to active |
| 08/12/2017 09:07:16 | Module Powered On                                   |
| 08/12/2017 09:07:03 | Retrieved SysInfo - Terminal PDP is active          |
| 08/12/2017 09:06:15 | Module Powered On                                   |
| 08/12/2017 09:04:51 | Retrieved SysInfo - wait for Terminal PDP to active |
| 08/12/2017 08:33:05 | Module Powered On                                   |
| 08/12/2017 08:32:58 | Registered to network                               |

Soft-Reboot



Click on the button to reboot the Terminal:

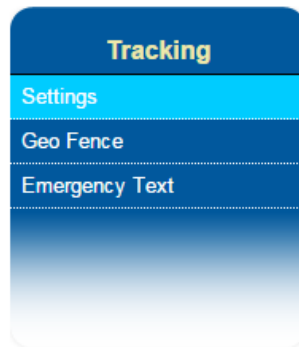
Reboot

Tracking

Settings

- a. Default setting is **Disabled**.
- b. Select **Enabled** to activate GPS reporting.
- c. Select either reporting in **IP Data** or **SMS** mode.
- d. Key in the desire **Frequency** in seconds. (The time interval to update the server.)
- e. Key in **Server Phone Number** (Voice Mode only).
- f. Key in **Server IP Address** (Data Mode only).
- g. Key in **Server Port number** (Data Mode only).
- h. **Server Connection Type** is fixed to TCP (Data Mode only).
- i. Key in **Distance Interval**.
- j. Key in **Speed Limit (Alarm)**.
- k. Key in **3 Authorized Phone Numbers** and **Emergency Phone Numbers** (SMS mode only).

- l. Key in number of Retries when the alert fails to send out due to unexpected error.
- m. Key in desired seconds in **Resend Frequency** and **Maximum Number of Tries**.



GPS Reporting: ☐ Enabled ☒ Disabled

Mode: IP Data ▼

Tracking ID: 000000

Frequency: 1800 second(s)

Server Phone Number:

Server IP Address:

Server Port: 0

Server Connection Type: TCP ▼

Distance Interval: 0 m

Speed Limit (Alarm): 0 km/h

Authorized Phone Number (1/3):

Authorized Phone Number (2/3):

Authorized Phone Number (3/3):

Emergency Phone Number (1/3):

Emergency Phone Number (2/3):

Emergency Phone Number (3/3):

**Emergency:**

Resend Frequency: 60 second(s)

Maximum Number of Tries: 9999

Update

Geo Fence

- a. There are two ways to enter latitude/longitude:
  - i. Degrees, minutes, seconds.
  - ii. Decimal degrees.
- b. Select the desire latitude/longitude format.
- c. Click **Add**.
- d. Select **Trigger Type**:
  - i. In
  - ii. Out
  - iii. In/Out
- e. Select the type of Geo Fence:
  - i. Circle (1 points, radius)
  - ii. Rectangle (2 points)
  - iii. Polygon (minimum 3 points. maximum 10 points)
- f. Key in the Latitude, Longitude and other values, depending on the type of Geo Fence. Click **Apply** to confirm.

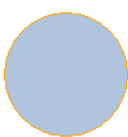
Tracking

Settings

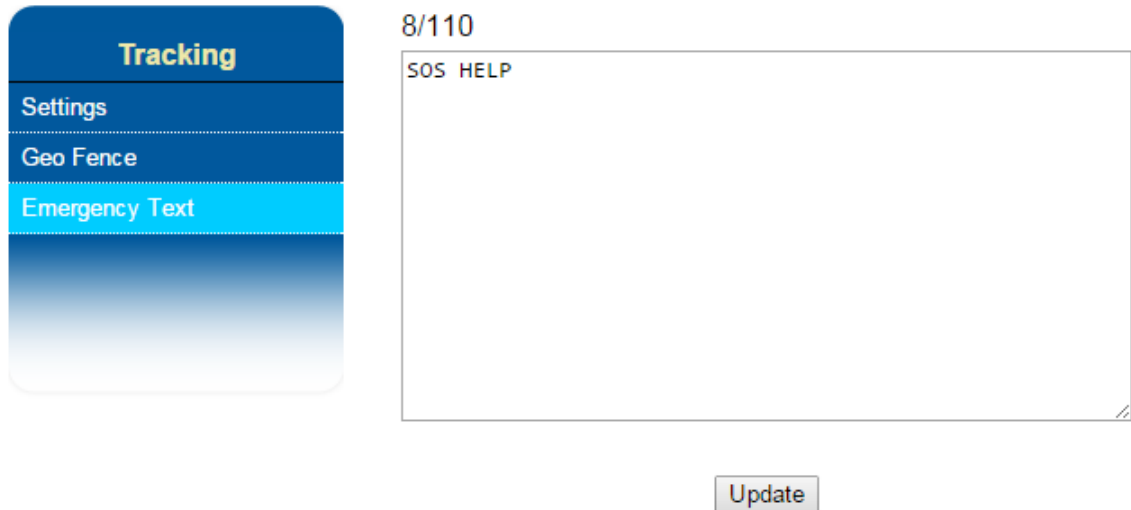
Geo Fence

Emergency Text

Latitude/Longitude view format: ☒ dddmm.mmmm ☐ ddd.dddddd

| Enabled                  | Trigger Type | Type of Geo Fence |                                                                            |                                                                                                                                                                |
|--------------------------|--------------|-------------------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | In           | Circle            | Latitude: 112<br>Longitude: 10332<br>Radius: 300 m                         | <a href="#">Edit</a>   <a href="#">Delete</a>   <a href="#">Apply</a><br> |
| <input type="checkbox"/> | In           | Rectangle         | Latitude1: 112<br>Longitude1: 10332<br>Latitude2: 123<br>Longitude2: 10354 | <a href="#">Edit</a>   <a href="#">Delete</a>   <a href="#">Apply</a><br> |
|                          |              |                   |                                                                            | <a href="#">Add</a>   <a href="#">Delete</a>   <a href="#">Apply</a><br><a href="#">Add</a>   <a href="#">Delete</a>   <a href="#">Apply</a>                   |

## Emergency Text



Tracking

Settings

Geo Fence

Emergency Text

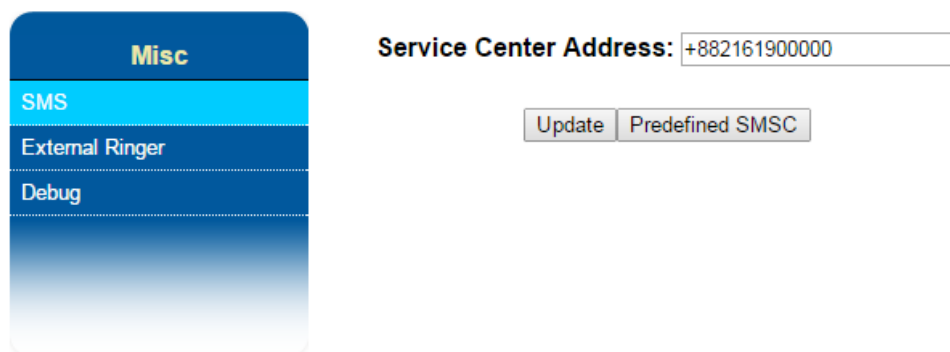
8/110

SOS HELP

Update

- Misc

## SMS



Misc

SMS

External Ringer

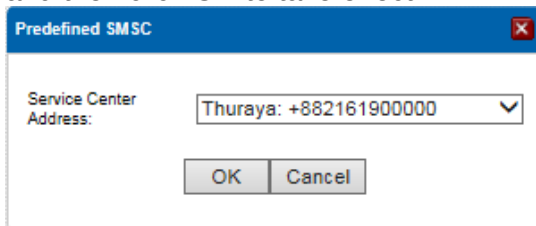
Debug

Service Center Address: +882161900000

Update Predefined SMSC

The Service Centre Address has been predefined with SMSC contact number and it can be modified with the required contact number according to the service provider.

Alternatively, click **Predefined SMSC**. Select the desired service centre address and then click **OK** to take effect.



Predefined SMSC

Service Center Address: Thuraya: +882161900000

OK Cancel

External Ringer

Misc

SMS

External Ringer

Debug

External Ringer

☐ Enabled ☒ Disabled

Apply

Click **Enabled** to activate the external ringer (or buzzer) when there is an incoming call. The external ringer's wires are connected to Pin 9 and Pin 10 of the BDU GPIO Output Port.

Debug

Misc

SMS

External Ringer

Debug

Debug

☐ Enabled ☒ Disabled

Apply

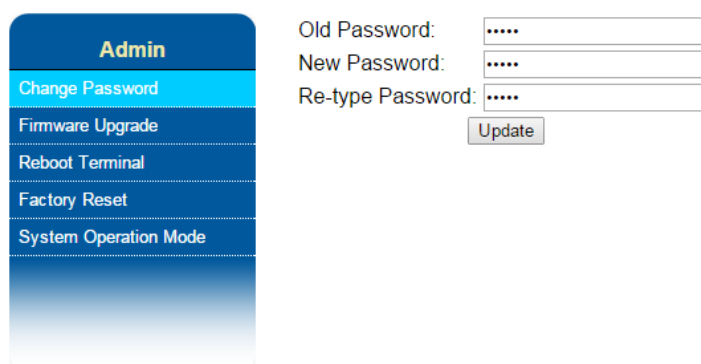
Click **Enabled** to enable the log file.

### ▪ Admin

#### Change Password

Follow these steps to change the Web Console login Password:

- Enter the old password in the **Old Password** field.
- Enter the new password in the **New Password** field.
- Re-enter the new password in the **Re-type Password** field.
- Click **Update**.
- The Web Console login password is now changed.



The image shows a screenshot of the Web Console interface. On the left is a vertical menu with the following items: 'Admin' (highlighted in blue), 'Change Password' (highlighted in light blue), 'Firmware Upgrade', 'Reboot Terminal', 'Factory Reset', and 'System Operation Mode'. To the right of the menu is the 'Change Password' form. It contains three text input fields: 'Old Password:' with masked characters '.....', 'New Password:' with masked characters '.....', and 'Re-type Password:' with masked characters '.....'. Below these fields is an 'Update' button.

#### Firmware Upgrade

Firmware upgrade is to update the BDU with the latest firmware. Please refer to your respective distributor for the latest firmware version to download.



**Warning:**

**DO NOT** abort the upgrading process or unplug the power of the BDU during the firmware upgrade process at any time. Any disruption to the power supply will corrupt the existing firmware loaded onto the BDU.

Follow these steps to upgrade the firmware for the BDU:

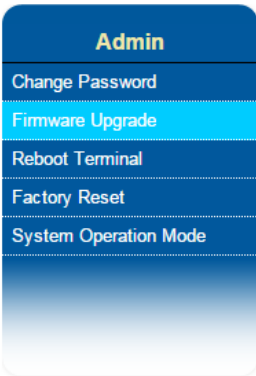
- Download or acquire the new firmware and save it in the computer's hard drive.

**Note:**

**Make sure the BDU is switched on and connected to the desktop/laptop computer using the LAN cable.**

- Select **Firmware Upgrade**.

Read the Disclaimer message carefully before proceeding with the Firmware Upgrade.



File to upload:  No file chosen

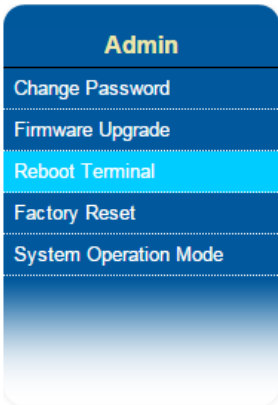
**Disclaimer**

Please be informed that firmware upgrading is done at your own risk and the equipment manufacturer will not be held responsible for any possible malfunction or damage to the system due to upgrading the firmware.

If you encounter any problems or have any questions, please contact the equipment distributor for technical support

- c. Browse to the location of the new firmware, select a correct file (\*.bin) and click "Upload".
- d. Firmware upgrade will take approximately a few minutes to complete.

**Reboot Terminal**

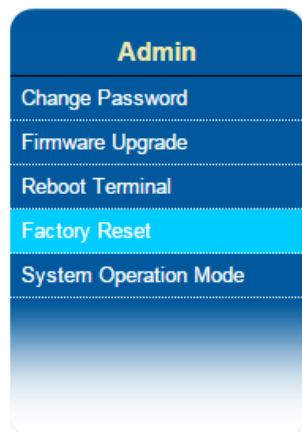


Click on the button to reboot the Terminal:

Click **Reboot** to reboot the terminal. Refresh the browser to update the Web Console page after reboot.

### Factory Reset

To perform a Factory Reset, enter the security code “**admin**” and click **Factory Reset**.



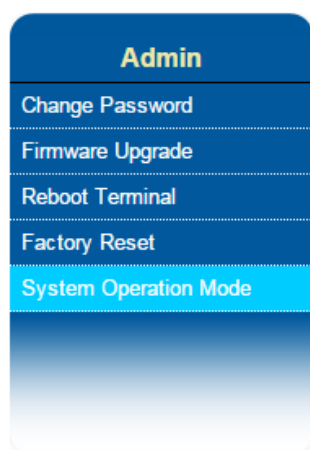
The screenshot shows a vertical menu titled "Admin" with the following options: Change Password, Firmware Upgrade, Reboot Terminal, Factory Reset (highlighted in blue), and System Operation Mode. To the right of the menu, there is a text input field labeled "Security code:" with the text "admin" entered, and a button labeled "Factory Reset" below it.



**Warning:** All the settings and user data (Call History, Call/Data Usage, etc.) of the BDU will be cleared and reset to the default settings.

### System Operation Mode

Select either **Data** for IP data connection or **Voice** for CS voice mode connection. Click **Update Settings**.



The screenshot shows the same "Admin" menu, but with "System Operation Mode" highlighted in blue. To the right, under the heading "System Operation Mode:", there are two radio button options: "Data" (unselected) and "Voice" (selected). Below these options is a button labeled "Update Settings".

(Note: this might take up to a few minutes)



**Warning:** Setting Data or Voice mode will take at least 2 minutes for the terminal to take effect. During the period of setting Data to Voice mode in effect, the user will not be able to make voice call using the optional Atlas IP handset.

▪ Modem

Error Log

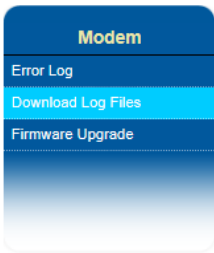
The Error Log will display the error code number with its short description as illustrated below.



Refer to Chapter 9 Error Codes for more information in the remedial actions or solutions.

Download Log Files

The Log Files can be compressed into a single archive file.



The device's log files will be compressed into a single archive file. This process takes several minutes to complete.

|                                          |           |
|------------------------------------------|-----------|
| Number of Log Files:                     | 10        |
| Total Log File Size (uncompressed):      | 72.35 MB. |
| Estimated Log Archive Size (compressed): | 5.24 MB.  |
| Actual Log Archive Size (compressed):    | 0         |
| Elapsed time:                            | 00:00:00  |

Create Log Archive

Click **Create Log Archive** and the process of the compressing the log files into a single archive file will take several minutes to complete.

Modem

Error Log

Download Log Files

Firmware Upgrade

The device's log files will be compressed into a single archive file. This process takes several minutes to complete.

|                                          |                |
|------------------------------------------|----------------|
| Number of Log Files:                     | 10             |
| Total Log File Size (uncompressed):      | 72.35 MB.      |
| Estimated Log Archive Size (compressed): | 5.24 MB.       |
| Actual Log Archive Size (compressed):    | 458,752 bytes. |
| Elapsed time:                            | 00:00:16       |

Create Log Archive

Please wait while the log archive file is built.....

About 8.3%

After completing the creation of the log archive file, click **Download Log Archive** and save it as your preferred location.

Modem

Error Log

Download Log Files

Firmware Upgrade

The device's log files will be compressed into a single archive file. This process takes several minutes to complete.

|                                          |           |
|------------------------------------------|-----------|
| Number of Log Files:                     | 10        |
| Total Log File Size (uncompressed):      | 70.71 MB. |
| Estimated Log Archive Size (compressed): | 5.12 MB.  |
| Actual Log Archive Size (compressed):    | 5.38 MB.  |
| Elapsed time:                            | 00:04:07  |

Create Log Archive

Download Log Archive

Log Archive has been created. Compressed file size: 5,637,410 bytes (5.38 MB.).  
To receive the archive, click the 'Download Log Archive' button above.

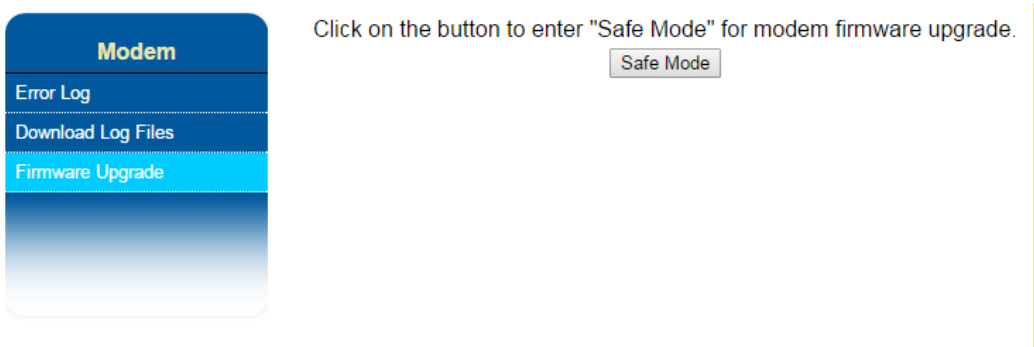
100%

The compressed log archive file is very useful for the Service Provider to recommend a solution if possible.

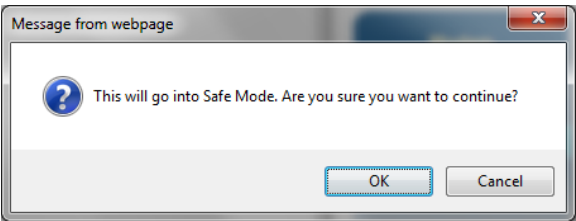
Firmware Upgrade

Follow the following instruction to switch the terminal to safe mode before performing firmware upgrade for the built-in modem.

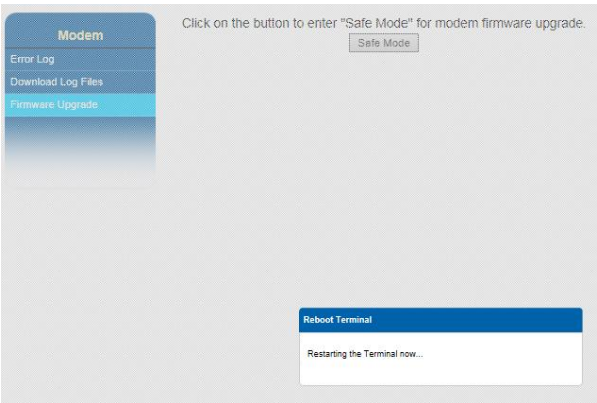
Refer to Chapter 6 for the detailed instruction on the firmware upgrade for built-in modem.



Click **Safe Mode** and then **OK** to enter Safe Mode.



The terminal will restart and enter into the Safe Mode environment.



Refer to Chapter 7 Entering Safe Mode Environment.

## 6 ENTERING SAFE MODE ENVIRONMENT

### Firmware Upgrade

The firmware upgrade is similar as **Setting Admin ► Admin ► Firmware Upgrade** and it is only applicable for the application firmware.

Browse for correct file (**\*.bin**) and then click **Upload**.

The screenshot shows a web interface titled "Safe Mode" in a blue header. On the left is a vertical menu with options: "Firmware Upgrade" (highlighted in blue), "Modem Firmware Upgrade", "Reboot Terminal", "Factory Reset", "Mac Filtering", "Firewall", and "Logout". To the right of the menu, there is a "File to upload:" label followed by a text input field and a "Browse..." button. Below this is an "Upload" button. A red "Disclaimer" section follows, containing two paragraphs of text. The first paragraph states that the user is responsible for the risk of malfunction or damage from upgrading the firmware. The second paragraph advises contacting technical support if problems arise.

Safe Mode

Firmware Upgrade  
Modem Firmware Upgrade  
Reboot Terminal  
Factory Reset  
Mac Filtering  
Firewall  
Logout

File to upload:  Browse...

Upload

**Disclaimer**

Please be informed that firmware upgrading is done at your own risk and the equipment manufacturer will not be held responsible for any possible malfunction or damage to the system due to upgrading the firmware.

If you encounter any problems or have any questions, please contact the equipment distributor for technical support

### Modem Firmware Upgrade

The modem firmware upgrade is especially for the built-in modem which requires its firmware to be upgrade. Choose **Modem Firmware Upgrade** and click **Choose File**.

Browse the file (**\*.tar**) before clicking **Update Firmware**. Follow the instructions till the Device Status shows the **Modem Upgrade Successful** and a pop-up message will be shown to reboot the terminal.

Safe Mode

Firmware Upgrade

Modem Firmware Upgrade

Reboot Terminal

Factory Reset

Mac Filtering

Firewall

Logout

Step 1: Select Firmware Update file:

Browse...

Update Firmware

Upload Status: Idle

Total size to upload: 0 bytes

File Chunks are merged into the patch file on the modem when upload completes.

Install Status: Idle.

|                        |                                     |  |  |
|------------------------|-------------------------------------|--|--|
| Compressed Patch File: | (will calculate uncompressed size.) |  |  |
| Decompressed Files:    | 0 bytes in 0 files.                 |  |  |
| Firmware Update:       | Will begin shortly.                 |  |  |
| Device Status:         | Up.                                 |  |  |

Messages From the Modem:

Reboot Terminal

Click **Reboot** for the terminal to restart.

Safe Mode

Firmware Upgrade

Modem Firmware Upgrade

Reboot Terminal

Factory Reset

Mac Filtering

Firewall

Logout

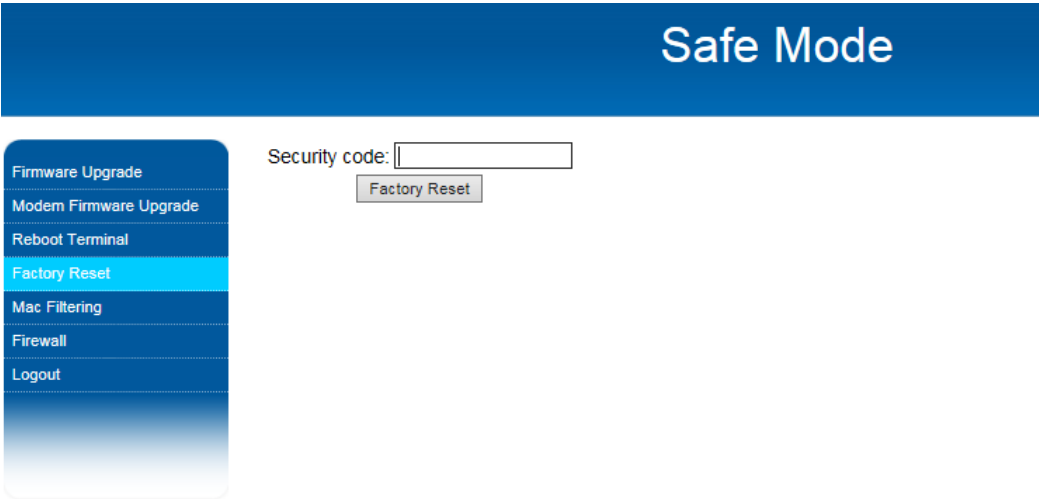
Click on the button to reboot the Terminal:

Reboot

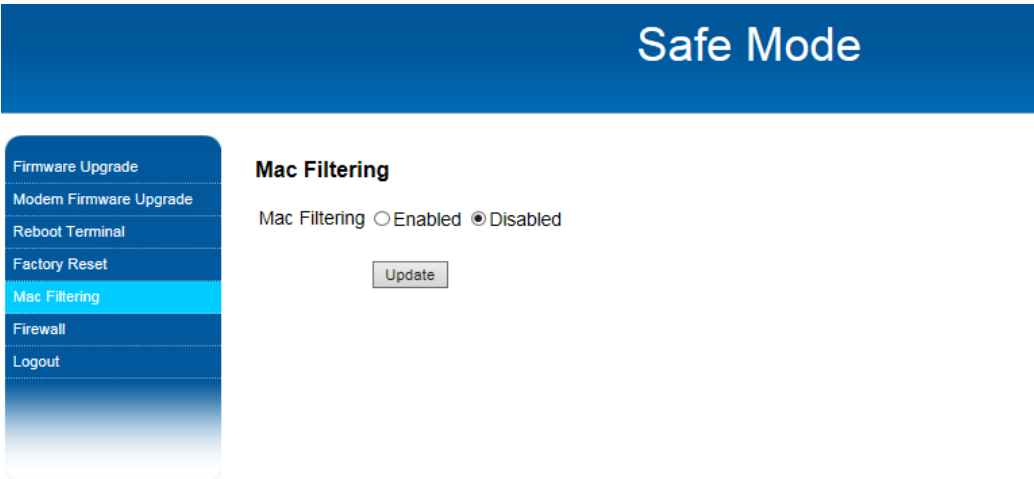
**Factory Reset**

Click **Factory Reset** with the security code “**admin**” for the terminal to carry out the factory reset.

The factory reset will clear all the settings and user data of the BDU and reset it to the default settings.

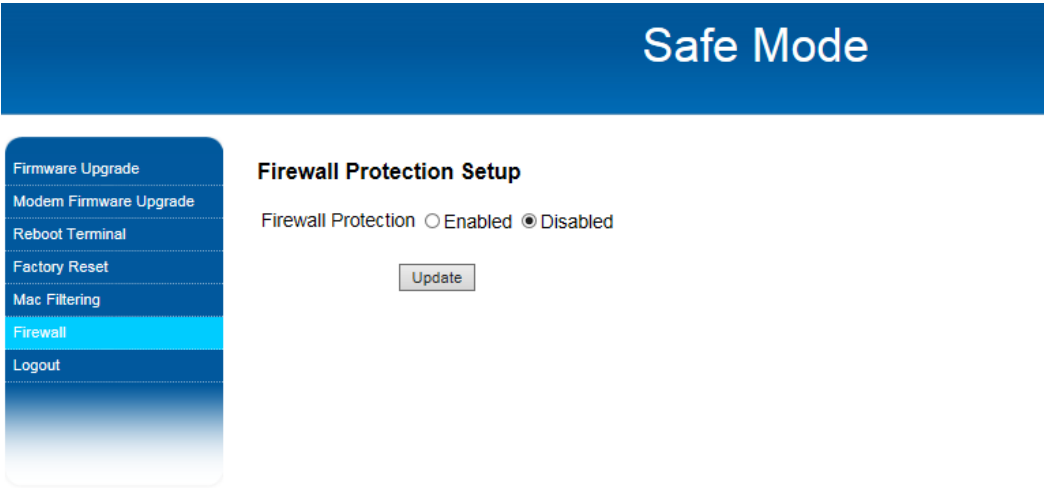


**Mac Filtering**



Click **Enabled** or **Disabled** and then **Update**.

Firewall



Click **Enabled** or **Disabled** and then **Update**.

Logout

To log out from the Web Console.

### 7 USING ALERT BUTTON

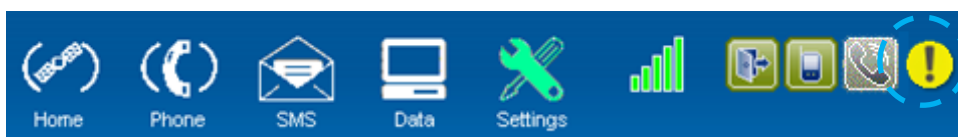
An Alert Button is easily to be found on the top, right bottom of the BDU and it is used for triggering an emergency alert.



Before using the Alert Button, the pre-configuration in both Data and Voice Modes is to be set up under the tracking page. On the Web Console, select **Settings** and then click **Tracking**. (Refer to Settings Menu and look for Tracking on the settings)

Once the pre-configuration is set up, the Alert Button function is ready to use.

Lift up the Alert Button cover, press and hold it for at least 4 seconds. The Alert Button will then be illuminated to indicate that it is active. Additionally, the alert icon will be blinking on the Web Console's indicator.



The pre-defined message appended with the GPS location will be sent out in the following modes:

- In **Voice** Mode, the message will be sent via SMS.
- In **Data** Mode, the message will be sent via IP Data\*.



**Note:**

*Alert button via Data Mode requires the subscription of Backend Tracking Service. Without the backend server and leaving the backend server IP address empty, the illuminated Alert Button will **disable after 5 seconds**.*

Note that by pressing the button again, it will not disable the alarm. Click **Turn Off Alarm** button on the webconsole to stop the alarm.

HomePhoneSMSTDataSettings

!

Turn Off Alarm

GPS Reporting:

Enabled

Disabled

Mode:

IP Data

Tracking ID:

EF0001

Frequency:

1800

second(s)

Server Phone Number:

Server IP Address:

Server Port:

0

Server Connection Type:

TCP

Distance Interval:

0

m

Speed Limit (Alarm):

0

km/h

Authorized Phone Number (1/3):

Authorized Phone Number (2/3):

Home

!

Turn Off Alarm

GPS Reporting:

Enabled

Disabled

Mode:

IP Data

Tracking ID:

EF0001

Frequency:

1800

second(s)

Server Phone Number:

Server IP Address:

Server Port:

0

The page at 192.168.2.1 says:

Update successfully

OK

### 8 TERMINAL ACCESSORIES

#### Atlas IP Handset

The Atlas IP Handset is connected to the BDU via its handset port and is powered directly from the BDU. The handset is equipped with a large 2', 65K CSTN, 220 Liquid Crystal Display (LCD), allows you to make/ receive voice calls and also serves as a remote access to the terminal for an user to access various configurations supported by the BDU.

Handset offers the following features:

- ✓ Making standard CS voice calls
- ✓ Messaging (SMS)
- ✓ View user contacts
- ✓ Speed dial
- ✓ View Call logs
- ✓ Displaying various BDU status and information
- ✓ Local handset configurations
- ✓ Switch over between Voice and Data modes

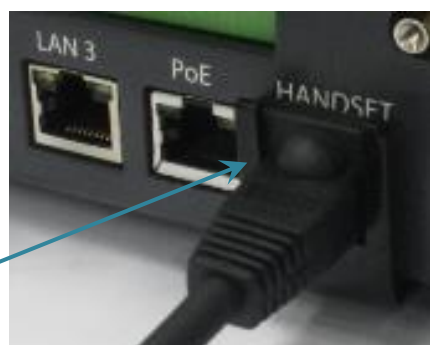


#### Connecting Atlas IP Handset

The Atlas IP Handset is powered from the BDU through the Handset Port.

- a. Plug in the Handset connector into the Handset port on the BDU front panel.
- b. Secure the Cable holder to the bottom of the BDU using a M3X 8mm screw.

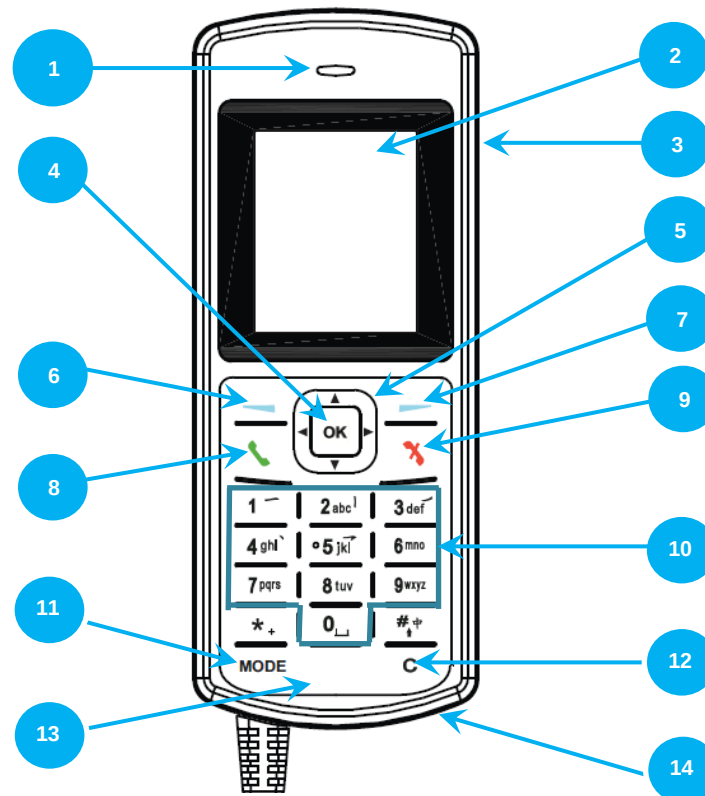
Cable Holder



#### Powering Up the Handset

The Handset is automatically powered up once it is connected to the dedicated **HANDSET** port on the BDU's front panel.

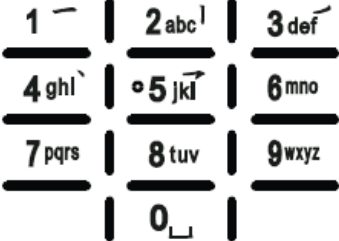
## 8.1 Overview of Atlas IP Handset



1. Earpiece
2. Display
3. Hands-free Headset Jack
4. OK Key
5. 4-Way Navigation Ring
6. Select Left Key
7. Select Right Key
8. Call/Answer Key
9. Call/Menu End Key
10. Keypad (Alpha-Numeric)
11. Mode Key
12. Clear Key
13. Microphone
14. Service Port
15. Ringer\*

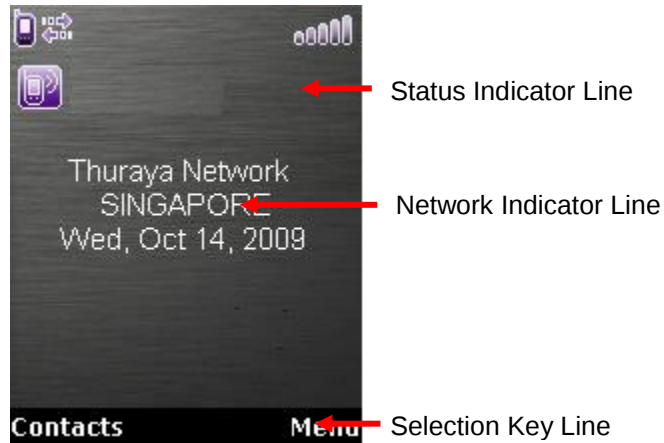
**\*Note:** The ringer is located at the back of the Handset.

## 8.2 Keypad - Description and Functions

| Keys                                                                                | Description/Functions                                                                                                                                                                                                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>4-way navigation ring.</b><br>Press the 4-way navigation ring to scroll left, right, up, and down on the display. Enables scrolling through names, phone numbers, menus or settings.                              |
|    | <b>OK key.</b><br>Pressing this key selects/confirms the function highlighted on the display.                                                                                                                        |
|    | <b>Left selection key.</b><br>The function of this key depends on the guiding text shown on the display above the key.                                                                                               |
|  | <b>Right selection key.</b><br>The function of this key depends on the guiding text shown on the display above the key.                                                                                              |
|  | <b>Call/Answer key</b><br><b>After entering a phone number:</b> Initiates a call to the number.<br><b>From Main Display screen:</b> Opens a list of dialled calls<br><b>When Ringing:</b> Answers the incoming call. |
|  | <b>Call/Menu End key</b><br>Press this key to end active calls or exits from any menus or sub menus.                                                                                                                 |
|  | <b>Keypad</b><br>Used to enter numbers and characters.<br>Press 0 to add a space when writing text.<br>The functions available depend on whether you are typing a phone number (number mode) or text (text mode).    |

| Keys                                                                              | Description/Functions                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><b>Star * key</b></p> <p>When entering a phone number, press this key to insert a *. Press and hold this key to insert a +.</p> <p>When writing text, press this key to access a list of special symbols.</p>                                                                                                                |
|  | <p><b>Hash # key</b></p> <p>When entering a phone number, press this key to insert a #.</p> <p>To quickly change the text input method when writing text, press this key repeatedly and check the indicator at the top of the display.</p> <p>In standby mode, press and hold this key to set the Handset into silent mode.</p> |
| <b>MODE</b>                                                                       | <p><b>Mode key</b></p> <p>To select the terminal operating mode of either Voice or Data.</p>                                                                                                                                                                                                                                    |
| <b>C</b>                                                                          | <p><b>Clear Key</b></p> <p>Press key once to clear one character at a time or press and hold this key to clear the whole text entry.</p>                                                                                                                                                                                        |

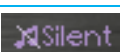
### 8.3 The Handset Display and Menu



- **Status Indicator line**  
The indicator line shows status symbol informing you about the operating conditions of the BDU.
- **Network Indicator Line**  
The indicator line shows the registration status and region information of the terminal.
- **Selection Key line**  
The Selection key line operates using the Left  or Right  selection keys with the  to access menus and controls.
- **Handset Keypad Lock**  
To lock or unlock the handset keypad, press Left  selection key followed by the \* + key.

### Handset Status Indicators

Table below explains the meaning of each status indicator displayed in the Main Display screen.

| Status Indicator                                                                    | Description                                |
|-------------------------------------------------------------------------------------|--------------------------------------------|
|    | Signal Strength Indicator                  |
|    | New Short Message (SMS) in Inbox           |
|    | Handset Disconnected from Terminal         |
|    | Handset Connected to Terminal              |
|    | Voice Mode                                 |
|    | Data Mode                                  |
|   | Handset in Silent Mode                     |
|  | Handset Keypad Lock is active              |
|  | VoIP Service Registration Status indicator |

### Handset Operations

#### Making a Voice Call

Before making a voice call, please make sure that:

- Handset is connected to the BDU. ( Status indicator should be on.)
- The BDU has successfully registered with the network and ready for circuit-switched voice connection services. ( Status indicator should be on.)

You can use the following two options for making a call:

- **Manual Dial:**
  - Using the alphanumeric keypad, dial **00 <country code> <phone number>**.
  - Press  key.

- **Using Contacts or Call Log list from the Handset:**

- Enter the **Contacts** list of the Handset; scroll to the desired number and press  key, or
- Enter the **Log** list of the Handset; scroll to the desired number and press  key.

**Note:** For voice calls and SMS, you may also use '+' by pressing and holding the \*+ key instead of "00" at the beginning of dialled number string as an alternative ('+' <country code> <phone number>).

- **To end a Call**

- Press  .

### Receiving a call

When there is an incoming call, the Handset will:

- Ring.
- The calling party's number will be displayed on the screen.  
If the number is stored in the contacts, the corresponding name of contact will be displayed.

To answer an incoming call, press the  key.

### Adjusting volume during a call

Use the 4-way navigation ring  to adjust the volume. Press up key to increase the volume and press down key to decrease the volume.

### Using the Menus

You can access the Menu System by pressing the Right  selection key in the Main Display screen.

The main menu of the Handset includes nine (9) menu options with each menu option having their respective sub-menus.

You can use the 4-way navigation  ring to navigate to the desired menu option and press  to confirm your selection. You can also end the menu or sub menus and return to the Main Display screen at any time by pressing the  key.

Table below summarizes the functionalities within each menu option:



### **Contacts**

This menu manages your user contacts.



### **Log**

This menu allows you to view call histories.



### **Telephony**

This menu configures settings related to voice telephony services.



### **Signal**

This menu displays the terminal information of satellite signal and GPS.



### **Messaging**

This menu is for SMS related services.



### **Settings**

This menu configures BDU settings of Time Zone and Language.



### **Terminal**

This menu displays general BDU information.



### **Security settings**

This menu provides a factory reset to the handset.

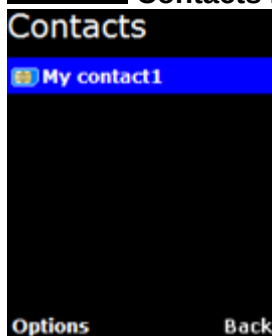


### **Phone manager**

This menu configures local handset settings.



## Contacts Menu



The **Contacts** menu allows you to store, retrieve and update names and phone numbers of your contacts in the SIM card memory. You can also access this menu by pressing Left  selection key in Main Display screen.

This menu lists all the contacts saved in SIM card memory where,



Indicates that the contacts that are saved in SIM card.

The following options are available when pressing the Left  selection key while browsing through the contacts:

- **New contact**

Add new contact to the memory. To add contact:

- a. Select **New contact**.
- b. Enter the name for the contact.
  - **Note: Press \*+ key to browse for symbols.**
- c. Enter the number for the contact.
  - i. **Note: Stored number can be in any one of the following formats:**
    - '+' <country code> <phone number>
    - 00 <country code> <phone number>
  - ii. **Press \*+ key longer to insert '+' sign.**
  - iii. **Saving of contact without number is not allowed.**
- d. Select **Save** (Left  selection key) or pressing the  key to save the contact to the selected memory.

**Note:** Refer to “Tips for writing the text” section under New message for more information on text writing.

- **Edit contact**

Edit information of this contact.

- **Call**

Make a voice call to this contact.

- **Search**  
Select this to enter a specific name to search within the contact list.
- **Delete**  
Delete selected contact.

**Note:** You can also delete the selected contact by pressing the Clear  key.

- **View number**  
Display the number of the selected contact.
- **Assign Speed Dial**  
Add the selected contact to the speed dial list.
- **Reload Contacts**  
Select this to reload contacts from the BDU/SIM card into the local memory of the Handset.
- **Memory Status**  
Select this to view the memory status of the contacts.

While browsing through the contact list, press the  key to view the phone name and number or the selected contact. The following options are available when pressing the Left

 selection key while viewing the selected contact:

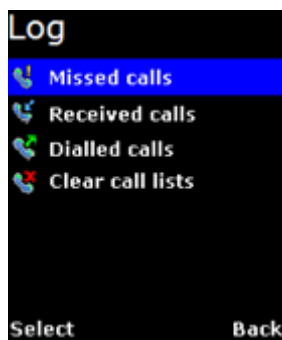
- **New contact**  
To create information for a new contact.
- **Edit contact**  
Edit information of this contact.
- **Call**  
Make a voice call to this contact.
- **Search**  
Search for information of a contact.
- **Delete**  
Delete the record of the selected contact.
- **View Number**  
View the number of the selected contact.

- **Assign Speed Dial**  
Add this contact to the speed dial list.
- **Reload contacts**  
Reload the contact information from the SIM.
- **Memory status**  
Displays the number of contacts stored in the memory.

**Note:** You can also make a voice call to the selected contact when browsing through or viewing the contacts by pressing the Call  key.



**Log Menu**



The **Log** menu allows you to view historical information about phone calls and data usage in chronological order with the following sub menus:

-  **Missed calls**
-  **Received calls**
-  **Dialed calls**

Call history of the particular category is displayed in chronological order when selected. Up to 5 latest entries of each category can be saved.

The following options are available when pressing the Left  selection key while browsing through or viewing the call log:

- **Delete**  
Delete the selected log entry from the list.

**Note:**

You can also delete the entry by pressing the Clear  key.

- **Call**  
Call the number in the selected log entry.
- **Send**  
Send an SMS to the number in the selected log entry.
- **Save**  
Save the number from the selected log entry to the contact list.

**Note:**

This option is not available when the log entry already has an entry in the contact list.

**Note:** You can also make a voice call to the number of the selected log entry when browsing through or viewing the call log by pressing the Call  key.



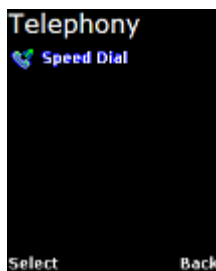
### Clear call lists

Select this to clear the call log entries. Available log options are:

- **Missed calls**
- **Received calls**
- **Dialled calls**
- **All calls**  
Delete all logs including **Missed**, **Received** and **Dialled** logs.



### Telephony Menu



The **Telephony** menu allows you to configure telephony related settings with the following sub menus:



### Speed dial

- **Setting**  
Contain options to enable/disable the speed dial feature.

- **Speed Dial List**

Select this to configure the speed dial list. The following options are available when pressing the Left  selection key while browsing through the list:

- **Assign**

Assign a contact to the selected entry. To assign a contact:

- a. Select **Speed Dial List**.
- b. Browse through the list to locate an empty entry.
- c. Select **Options** by pressing Left  selection key.
- d. Select **Assign** and press  from the option.
- e. Select the desired contact to assign to the speed dial list.
- f. Press  to confirm your selection.

- **Delete**

Remove contact from the selected entry. This option is not available for empty entry.

**Note:** You can also delete the entry by pressing the Clear  key.

- **Call**

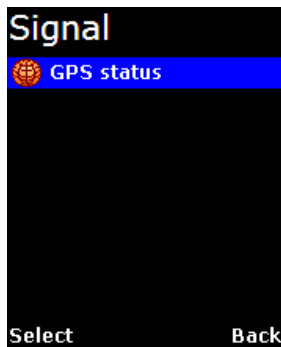
Make call using the number from the selected entry. This option is not available for empty entry.

**Note:** You can also make a voice call to the number of the selected entry by pressing the Call  key.

You can make a voice call directly from the Main Display screen by pressing the corresponding speed dial entry number + Call  key once the speed dial feature is enabled with a valid contact entry.



### Signal Menu



The **Signal** menu provides the following sub menus to get the information of the terminal's GPS.

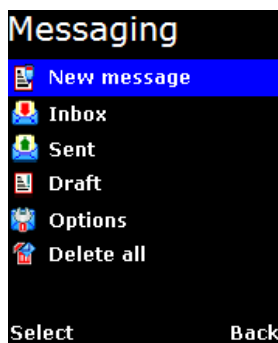


### GPS status

Show current Latitude and Longitude coordinates, Speed (knots) and Date &Time of acquisition on the BDU.



### Messaging Menu



The **Messaging** menu allows the user to write new messages, view stored messages from **Inbox**, **Drafts** and/or **Sent** folders and configure settings related to SMS with the following sub menus:



### New Message

Select this to create and send a new message. To create new message:

- a. Select **New Message** by pressing the  key. A SMS editor will be displayed on the Handset screen for writing new message.
- b. Type in your SMS message using the alphanumeric keypad.

- c. To send the message, press the  key and select **Send**.
- d. Enter the recipient's phone number, and press the  key. Alternatively you can select **Search** by pressing the Left  selection key to select the phone number from the contacts.

### **Options:**

You can press the Left  selection key to select options available when writing the message.

- **Send**  
Select this when you are ready to send your message.
- **Save**  
Select this to save the message into the **draft** folder.
- **Clear screen**  
Select this to clear all the written text.
- **Append GPS**  
Select this to append GPS into the SMS message.

### **Tips for writing the text:**

- Press the **0** key to add a space.
- To quickly change the text input mode when writing text, press  key repeatedly and check the indicator at the top of the display:
  - **<ABC>**: Capital letters
  - **<123>**: Numbers
  - **<abc>**: Small letters
  - **<Abc>**: Initial Capital letter followed by small letters
  - **<拼音>**: Pin Ying input method for simplified Chinese text input
- To add a number in alphabet mode, press and hold the desired number key.

### **Inserting symbols to your message:**

- To get a list of special symbols, press the   .key.

- Using the 4-way navigation ring , navigate to the desired symbol.
- Press  to confirm selection.

### ***Clearing text:***

- To clear text, press  once to clear one character at a time.
- To clear the whole text entry, press and hold  to clear the whole text entry.



### **Inbox**

Contain new/opened text messages that you have received. When browsing through the messages list using the 4-way navigation  ring,



Indicates an unread (new) message and



Indicates read (opened) text messages.

The following are available options when pressing the Left  selection key while browsing through or viewing the messages in this folder:

- **Open**

Open selected message. You can also press  while browsing through the message list to open the selected message (This option is not available when viewing the message).

- **Reply**

Select this to reply to the selected message sender.

- **Delete**

Delete selected message.

**Note:** You can also delete the selected message by pressing the Clear  key.

- **Forward**

Forward this message to another recipient.

- **Call**

Make a voice call to the selected message sender.

- **Save**

Save the selected message into the Draft folder.

- **Details**

Display the details of the selected message.

**Note:** You can also make a voice call to the selected message contact when browsing through the messages list by pressing the Call  key.



### Sent

Contain text messages that you have sent. The following are available options when pressing the Left  selection key while browsing through or viewing the messages in this folder:

- **Open**

Open selected message. You can also press  while browsing through the message list to open the selected message (This option is not available when viewing the message).

- **Delete**

Delete selected message.

**Note:**

You can also delete the selected message by pressing the Clear  key.

- **Send**

Send the selected message to another recipient.

- **Save**

Save the selected message into the Draft folder.

**Note:** You can also make a voice call to the selected message contact when browsing through the message list by pressing the Call  key.



### Draft

Contain text messages that you have saved. The following are available options when pressing the Left  selection key while browsing through or viewing the messages in this folder:

- **Open**

Open selected message. You can also press  while browsing through the message list to open the selected message (This option is not available when viewing the message).

- **Delete**  
Delete selected message.

**Note:**

You can also delete the selected message by pressing the Clear  key.

- **Send**  
Send this message to another recipient.
- **Save**  
Save the selected message into the Draft folder
- **Add to contact**  
Select this to add the phone number of the selected message into the contact list.

**Note:** You can also make a voice call to the selected message contact when browsing through the message list by pressing the Call  key.



### Options

The following settings are available in this sub menu:

- **Message Centre**  
Select this to set the number of the SMS service centre.
- **Save sent message**  
Select this to enable or disable the saving of sent messages. When this option is enabled, all successfully sent messages are saved in the **Sent** folder.
- **Reload Messages**  
Select this to reload messages from the BDU into the local memory of the Handset.
- **Memory status**  
Select this to view the memory status of the messages.



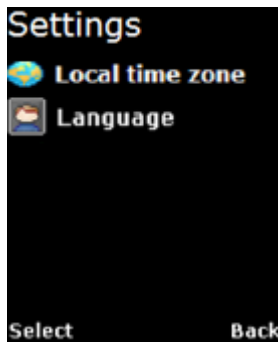
### Delete all

Select this to clear the messages in a particular folder. Available folder options are:

- **All messages**  
Delete messages in all folders including **Inbox**, **Sent** and **Draft**.
- **Inbox**
- **Sent**
- **Draft**



### Settings Menu



The **Settings** menu provides the following sub menus to configure the time zone and language.



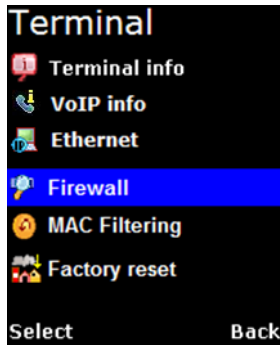
### Local Time Zone

Change the local time zone of the handset.



### Language

Change the menu display language.



The **Terminal** menu provides the information of the BDU, the activation and deactivation of the Firewall and MAC filtering, and Factory Reset to be carried out on the terminal.



### Terminal Info

Display a list of information of the BDU.

- **Model**  
Model name of the BDU
- **Serial number**  
Serial number of the BDU.
- **Software version**  
Software version of the BDU
- **Thuraya Module**  
Firmware version of Thuraya Module
- **IMEI number**  
IMEI number of the BDU
- **IMSI number**  
IMSI number of the SIM card
- **Own Number**  
Telephone Number of the SIM card



### VoIP Info

- **State**  
State of VoIP service.
- **MSIDN**  
MSIDN of VoIP service.
- **MAC address**  
MAC address of VoIP module.
- **Hardware Version**  
Hardware version of VoIP Module.
- **Program Version**  
Program version of VoIP Module.
- **Bootloader Version**  
Bootloader version of VoIP Module.
- **Core Version**  
Core version of VoIP Module.
- **Base Version**  
Core version of VoIP Module.



### Ethernet

Display the terminal IP Address and the Subnet mask fo the terminal.



### Firewall

To select **Disabled** or **Enabled** the Firewall.



### MAC Filtering

To select **Disabled** or **Enabled** the Mac Filtering.

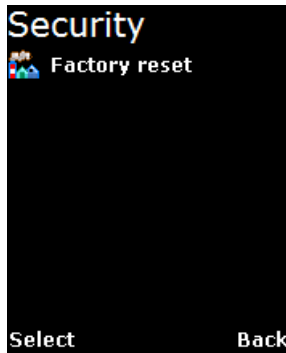


### Factory reset

To perform a Factory Reset on the terminal, enter the password “**admin**” and click **OK**.  
(Use the # key to switch between numeric and alphabet entry on the keypad.)



### Security settings Menu



The **Security** menu provides an option to carry out a factory reset to the Handset.

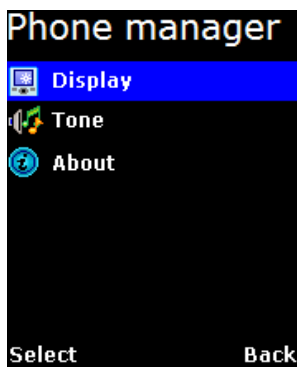


### Factory reset

To perform factory reset on the Handset.



### Phone manager Menu



The **Phone manager** menu provides the following sub menus to configure settings that are local to the Handset:



### Display

Configure settings that are related to Handset display.

- **Wallpaper**  
To select the available wallpaper for the handset background.

- **Backlight**

To set the duration of the display backlight to remain on. Settings range from Always On (Backlight permanently turned on), 15 seconds to 1 minute.

**Note:** The backlight will be slightly dimmer and finally off when there is no keypad activity after sometime. However, this feature is not available when the setting is set to Always On.



### Tone

Configure tone setting for the standard and ring tones.

- **Standard tone**

- **Key tone**

Contain options to enable/disable the key tone.

- **Message tone**

Contain options to enable/disable the message tone.

- **Volume**

Configure the volume for the standard tones (both key and message

tones). Using the 4-way navigation ring , press up/right to increase and down/left to decrease the volume.

- **Ring tone**

- **Tone**

Select desired ring tone pattern.

- **Volume**

Configure the volume of the ring tone. Using the 4-way navigation

ring , press up/right to increase and down/left to decrease the volume.



### About

Display a list of information of the Handset.

- **Model**

Model name of the Handset

- **Software version**

Software version of the Handset

- **Hardware version**

Hardware version of the Handset

- **Copyright**  
Display Copyright message

## 9 TROUBLESHOOTING

### Antenna / Satellite Signal Level

| Symptoms                               | Descriptions / Remedial Actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Low Signal Strength Bar on Web Console | <ul style="list-style-type: none"><li>• Check any interference signal from other electronics devices that are close to the ADU.</li><li>• Check to ensure that the antenna cable is properly secured.</li><li>• Depending on the antenna's location on the vessel, the vessel's route may cause the ADU's line of sight to be blocked by obstruction such as the hull or monkey bridge of the vessel, depending on the elevation of the satellite. Check any that may block the ADU's line of sight.</li></ul> |

### Data Connection

| Symptoms                                                                    | Descriptions / Remedial Actions                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unable to active Primary PDP context                                        | <ul style="list-style-type: none"><li>• Ensure you are using a valid APN.</li><li>• Ensure that the satellite signal strength is good.</li><li>• Ensure that the BDU is set as <b>Data</b> Mode.</li><li>• Ensure your SIM card supports PS services.</li><li>• Ensure your prepaid credit is not exhausted.</li></ul>                                                              |
| Unable to access internet after successfully Primary PDP context activation | <ul style="list-style-type: none"><li>• Ensure proper PC/laptop Ethernet settings.</li><li>• Ensure no firewall/proxy settings are preventing access to the BDU.</li><li>• Ensure that PC/laptop Mac address is not listed under Reject list under Mac Filtering.</li><li>• Ensure that the PC/laptop is configured to obtain IP address automatically (DHCP).</li><li>• </li></ul> |
| "Always On" feature is not working                                          | <ul style="list-style-type: none"><li>• Ensure feature is enabled via Web Console.</li><li>• A standard background connection has to be manually activated for the first time after enabling this feature.</li></ul>                                                                                                                                                                |

### PoE LAN Port (RJ45)

| Symptoms          | Descriptions / Remedial Actions                                                                                                                                    |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No LAN indication | <ul style="list-style-type: none"><li>• Ensure that the Ethernet Cable is plugged into the PoE LAN port (RJ45) or the standard LAN port (RJ45) properly.</li></ul> |

|                                                                             |                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                             | <ul style="list-style-type: none"> <li>• Check to ensure that the Ethernet Port on your PC / Laptop is working fine.</li> </ul>                                                                                                                                                                                                                                                           |
| <p>Unable to acquire IP address.</p> <p>PC shows "Limited connectivity"</p> | <ul style="list-style-type: none"> <li>• Try to release and reconnect the Ethernet Cable to LAN port.</li> <li>• Try to reboot the BDU.</li> <li>• Try to restart your PC/Laptop.</li> </ul>                                                                                                                                                                                              |
| Unable to ping the BDU                                                      | <ul style="list-style-type: none"> <li>• Ensure that the LAN indication LED is active.</li> <li>• Ensure that the IP address of the BDU is set correctly.</li> <li>• Ensure that PC/laptop Mac address is not listed under Reject list under Mac Filtering.</li> <li>• Make sure that there is no firewall or proxy settings in your PC/laptop that prevent access to the BDU.</li> </ul> |

### Handset

| Symptoms                                 | Descriptions / Remedial Actions                                                                                                                                                                                 |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No display on handset                    | <ul style="list-style-type: none"> <li>• Check the DC power is supplied into the BDU.</li> <li>• Check the handset is properly inserted to the <b>HANDSET</b> port.</li> </ul>                                  |
| Unable to make outgoing call             | <ul style="list-style-type: none"> <li>• Ensure the terminal is set as <b>Voice</b> Mode.</li> <li>• Ensure a correct number format is being dialled.</li> <li>• Hang up and retry to make the call.</li> </ul> |
| No audio during incoming / outgoing call | <ul style="list-style-type: none"> <li>• Ensure the Handset connector is inserted into the handset port properly.</li> <li>• Hang up and retry the call again.</li> </ul>                                       |

### SIM Card

| Symptoms                          | Descriptions / Remedial Actions                                                                                                                                                                                                                                                                   |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| " <b>REGISTERED</b> " LED is red. | <ul style="list-style-type: none"> <li>• Ensure that a correct Thuraya SIM card is used.</li> <li>• Ensure that a SIM card is properly inserted into SIM Card slot.</li> <li>• Switch off the BDU, retry by re-inserting the SIM card into SIM Card Slot and then powering up the BDU.</li> </ul> |

### Terminal (BDU) fails to power up

| Symptoms                     | Descriptions / Remedial Actions                                                                                                                                                                                                                                                                                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No light appear on BDU LEDs. | <ul style="list-style-type: none"> <li>• Ensure the power switch on the BDU's front panel is at "On" position.</li> <li>• To reset the circuit breaker on the BDU's front panel by depressing the lever of the circuit breaker inward fully.</li> <li>• Check to ensure that the input DC power to the BDU will have at least +24VDC, 10A or +12VDC, 20A.</li> </ul> |

### Web Console

| Symptoms                                          | Descriptions / Remedial Actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unable to access Web Console                      | <ul style="list-style-type: none"> <li>• Ensure that there is no problem with the Ethernet connectivity.</li> <li>• Ensure that IP address is entered correctly.</li> <li>• Try to refresh the browser.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Unable to login                                   | <ul style="list-style-type: none"> <li>• Ensure that correct username and password are used (Password and username are case sensitive).</li> <li>• If the default user name and password have been changed, and forgotten, follow these steps to get a temporary password from the service provider: <ul style="list-style-type: none"> <li>○ Enter "admin" in User name and leave the password field blank.</li> <li>○ Click on Login and a temporary token code will be generated.</li> <li>○ Provide the token code, IMEI number and serial number of the terminal to the service provider for verification purposes and to generate a temporary password to the user.</li> <li>○ Follow the instructions from the Service provider to perform login to the terminal.</li> </ul> <p>Note that the temporary password generated by the token code is only valid within 24hours from the last terminal power up. Access <b>Setting &gt; Admin</b> page after successful login to change the password.</p> </li> <li>• Ensure that you do not open more than the maximum Web Console sessions allowed.</li> <li>• Retry by closing and reopening the web browser.</li> </ul> |
| Web page does not seem to be updated or there are | <ul style="list-style-type: none"> <li>• Refresh the web page.</li> <li>• Update the web browser to the latest version and retry.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|                             |  |
|-----------------------------|--|
| unexpected errors occurred. |  |
|-----------------------------|--|

### RJ11 Phone Port for Standard Call

| Symptoms                                      | Descriptions / Remedial Actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unable to make outgoing call                  | <ul style="list-style-type: none"><li>• Make sure that there is dial tone before making the call.<br/><br/>For the case of busy tone,<ul style="list-style-type: none"><li>○ Ensure that the line is not engaged by any other telephone services.</li><li>○ Ensure that all other telephony devices are hung up properly.</li></ul>For the case of no dial tone,<ul style="list-style-type: none"><li>○ Ensure that the phone line is connected to the phone port of the BDU.</li></ul></li><li>• Hang up and retry the call again.</li></ul> |
| Unable to receive incoming call               | <ul style="list-style-type: none"><li>• Ensure that the line is not engaged by any other telephony devices.</li><li>• Ensure that all other telephony devices are hung up properly.</li><li>• Ensure proper BDU LED states.</li><li>• Ensure the phone ports are configured correctly.</li></ul>                                                                                                                                                                                                                                              |
| Distorted audio during outgoing/incoming call | <ul style="list-style-type: none"><li>• The audio may clip when use with some phones in high volume. Please lower the volume of the phone in such situation.</li><li>• Please temporarily disconnect any data connection since high throughput may affect the quality of the audio.</li><li>• Hang up and retry the call again.</li></ul>                                                                                                                                                                                                     |

### VoIP Call Service

| Symptoms                                      | Descriptions / Remedial Actions                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No tone when lifted the handset off hook      | <ul style="list-style-type: none"><li>• Ensure the data connection has been established. Ensure that the phone line is connected to the phone port of the BDU.</li><li>• Check with Service Provider to ensure that the VoIP service is provisioned and activated.</li></ul>                                                                       |
| Error message "Device is not registered"      | <ul style="list-style-type: none"><li>• Ensure that the device is provided with ample setup time after a power cycle for initialisation. Wait for about 10mins for device registration process to be completed before trying again.</li><li>• Check with service provider to ensure that the device is activated.</li></ul>                        |
| Distorted audio during outgoing/incoming call | <ul style="list-style-type: none"><li>• The audio may sound distorted when using phones set with high volume. Please lower the volume of the phone in such situation.</li><li>• Please temporarily disconnect any data connection since high throughput may affect the quality of the audio.</li><li>• Hang up and retry the call again.</li></ul> |

## 10 ERROR CODES

| Code Number | Description           | Remedial Actions / Solutions                                                                                                                            |
|-------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0           | No error.             | No action required. The BDU is functioning properly.                                                                                                    |
| 1           | Failed to read IMEI   | The BDU failed to read the IMEI. Please restart the BDU.<br><br>If the problem persists, contact your Service Provider.                                 |
| 2           | Illegal ME            | The terminal is not accepted by the network.                                                                                                            |
| 3           | IMEI not accepted     | The network does not allow emergency calls from this IMEI.                                                                                              |
|             |                       |                                                                                                                                                         |
| 101         | Invalid antenna model | Check the correct antenna unit with its label "Antenna is only for use with Atlas IP+ BDU".                                                             |
| 102         | HPA disabled          | The ADU transmitter is powered off. Please restart the BDU.                                                                                             |
| 103         | HPA thermal alarm     | The ADU transmitter has overheated. It may power off to prevent hardware damage. Please allow the system to cool down by powering off for a short time. |
| 104         | HPA fan fault         | The fan inside the ADU has reported a problem. Please restart the BDU.<br><br>If the problem persists, the ADU may need replacement.                    |
| 105         | HPA unknown fault     | The ADU transmitter has reported an unknown error code.<br><br>If the problem persists, the antenna may need replacement.                               |
| 106         | ATB failure           | Check the antenna cable connections are secured at both ADU and BDU antenna ports.                                                                      |

|     |                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 107 | Antenna communication problem | Check the antenna cable connections are secured at both ADU and BDU antenna ports. Restart the BDU.                                                                                                                                                                                                                                                                                                                                                                       |
| 108 | Calibration failure           | Check the antenna cable connections are secured at both ADU and BDU antenna ports. Restart the BDU.                                                                                                                                                                                                                                                                                                                                                                       |
| 201 | No SIM card in SIM Card slot  | <p>Verify that the SIM card is present inside the BDU's SIM card slot.</p> <p>SIM card may be inserted wrongly. Remove SIM card and ensure it is inserted properly according to its oriented symbol on the BDU front panel.</p> <p>SIM Card contacts may be dirty. Clean the SIM card contact with a dry cloth.</p> <p>If the problem persists, replace the SIM card with a known good SIM card otherwise please return the BDU to your Service Provider for service.</p> |
| 203 | SIM communication problem     | Power down the BDU and try again.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 204 | SIM Locked                    | The SIM card is locked. Enter the PUK to unlock the SIM card.                                                                                                                                                                                                                                                                                                                                                                                                             |
| 205 | SIM Missing file              | SIM card was incorrectly programmed with missing required field(s). Please contact your Service Provider.                                                                                                                                                                                                                                                                                                                                                                 |
| 301 | Illegal MS                    | The subscriber information is rejected or the SIM card is not producing correct authentication information. Please contact the Service Provider.                                                                                                                                                                                                                                                                                                                          |
| 302 | PLMN not allowed              | Network connection failure due to PLMN which is not allowed. Please contact your Service Provider.                                                                                                                                                                                                                                                                                                                                                                        |
| 303 | Roaming not allowed           | You are using an authorised SIM card from a carrier that does not have a roaming agreement with your Service Provider. Please                                                                                                                                                                                                                                                                                                                                             |

|     |                                |                                                                                                                                                 |
|-----|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                | contact the Service Provider.                                                                                                                   |
| 304 | IMSI unknown HLR               | The subscriber information is not recognized by the network. Please contact your Service Provider.                                              |
| 305 | IMSI unknown VLR               | The subscriber information is not on the network's roaming list. Please contact your Service Provider.                                          |
| 306 | Service not supported          | Network connection failure due to service option which is not supported. Please contact your Service Provider.                                  |
| 307 | Service not subscribed         | Verify the correct settings in the web console and contact your Service Provider to activate authorised service.                                |
| 308 | Network detached mobile        | Verifying the settings on the web console. Restart the BDU and try again.<br><br>If the problem persists, please contact your Service Provider. |
| 309 | GPRS not allowed               | Verify the correct settings in the web console and contact your Service Provider to activate authorised service.                                |
| 310 | Service not allowed            | Verify the correct settings in the web console and contact your Service Provider to activate authorised service.                                |
| 311 | Identity cannot be derived     | Network registration failure. The BDU will retry automatically. If the problem persists, please contact your Service Provider.                  |
| 312 | Location area not allowed      | Network connection failure due to the terminal which is not allowed in the location area.<br><br>Please contact your Service Provider.          |
| 313 | Temporary registration failure | Network registration failure. The BDU will retry automatically. If the problem persists, please contact your Service Provider.                  |
| 314 | General registration failure   | Network registration failure. The BDU will retry automatically. If the problem persists, please contact your Service Provider.                  |

|     |                                |                                                                                                                                                                                                                                                      |
|-----|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 315 | Registration retries exhausted | Network re-connection failure. Restart the BDU if the problem persists.                                                                                                                                                                              |
| 401 | Signal lost                    | Make sure no obstruction is blocking satellite signal and the ADU has a clear sky view in the direction of the satellite.                                                                                                                            |
| 403 | No GPS                         | Make sure no obstruction is blocking satellite signal and no object is placed over the ADU. Wait for 5 minutes for the GPS position to be updated.<br><br>If the problem persists, restart the BDU.                                                  |
| 404 | Old GPS                        | A new GPS fix is obtained during the connection process, superseding the old fix. The terminal will reacquire the connection.<br><br>If the problem continues and the new connection cannot be re-established, please contact your Service Provider. |
| 501 | LLC or SMDCP failure           | Network connection failure caused by LLC or SMDCP failure. Restart the BDU.<br><br>If the problem persists, please contact your Service Provider.                                                                                                    |
| 502 | Unknown PDP type               | Network connection failure. Restart the BDU.<br><br>If the problem persists, please contact your Service Provider.                                                                                                                                   |
| 503 | User authentication failure    | Network registration failure. The BDU will retry automatically. If the problem persists, please contact your Service Provider.                                                                                                                       |
| 504 | PDP Option is not supported.   | Network connection failure because the service option is not supported.<br><br>Please contact your Service Provider to activate authorised service.                                                                                                  |
| 505 | NSAPI already used             | Network connection failure because the                                                                                                                                                                                                               |

|     |                            |                                                                                                                                               |
|-----|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
|     |                            | service is already in use for this subscriber. Restart the BDU. If the problem persists, please contact your Service Provider.                |
| 506 | PDP deactivated by network | Network connection failure or the network may be down.<br><br>Please contact your Service Provider.                                           |
| 507 | PDP retries exhausted      | Network connection failure or the network may be down. Please contact your Service Provider.                                                  |
| 508 | Missing or unknown APN     | Network connection failure due to the missing or invalid of APN,<br><br>Please contact your Service Provider to the correct network settings. |
| 509 | QOS rejected               | Network connection failure due to rejected QOS by the network.<br><br>If the problem persists, please contact your Service Provider.          |
| 510 | PDP insufficient resources | Network connection failure due to insufficient resources.<br><br>If the problem persists, please contact your Service Provider.               |
| 511 | PDP reactivation required  | Verify the correct settings in the web console and contact your Service Provider to activate authorised service.                              |
| 513 | PDP transaction id in use  | Network connection failure due to a transaction ID<br><br>If the problem persists, please contact your Service Provider.                      |
| 514 | PDP not subscribed         | Verify the correct settings in the web console and contact your Service Provider to activate authorised service.                              |

|     |                             |                                                                                                                                                                                                            |
|-----|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 515 | PDP activation rejected     | <p>Network connection failure due to unknown cause.</p> <p>If the problem persists, please contact your Service Provider.</p>                                                                              |
| 516 | PDP temporarily unavailable | <p>Network access temporarily unavailable. Please wait for the terminal to reacquire a connection within 3 to 5 minutes.</p> <p>If the problem persists, contact your Service Provider.</p>                |
|     |                             |                                                                                                                                                                                                            |
| 601 | Invalid position            | <p>Network service is not available due to invalid GPS position. Verify the ADU has a clear sky view in the direction of the satellite.</p> <p>If the problem persists, contact your Service Provider.</p> |
| 602 | Invalid position for beam   | <p>Registration is delayed or a handover is in progress. Please wait for the terminal to re-register within 1 to 3 minutes.</p> <p>If the problem persists, contact your Service Provider.</p>             |
| 603 | Lack of resources           | <p>Network connection failure due to insufficient resources.</p> <p>If the problem persists, please contact your Service Provider.</p>                                                                     |
| 604 | Wait for streaming channel  | <p>Network connection delayed due to resource requirement. Please wait 1 minute for resource allocation.</p>                                                                                               |
| 605 | Non availability of service | <p>Network service is not available. Please contact your Service Provider.</p>                                                                                                                             |
| 606 | QOS not satisfied           | <p>Quality of service requested cannot be satisfied at this time. Please try again later, or configure a lower bit rate or best effort service.</p>                                                        |
| 607 | Access barred               | <p>The service option is not available in the current spot beam. The BDU will attempt to</p>                                                                                                               |

|  |  |                                                                                                                   |
|--|--|-------------------------------------------------------------------------------------------------------------------|
|  |  | find a more suitable signal automatically.<br><br>If this message persists, please contact your Service Provider. |
|--|--|-------------------------------------------------------------------------------------------------------------------|

## 11 GLOSSARY

|         |                                            |
|---------|--------------------------------------------|
| AC      | Alternating Current                        |
| ADU     | Above Decks Unit                           |
| APN     | Access Point Name                          |
| BDU     | Below Decks Unit                           |
| DC      | Direct Current                             |
| FTP     | File Transfer Protocol                     |
| GPS     | Global Position System                     |
| GPIO    | General Purpose Input / Output             |
| HPA     | High Power Amplifier                       |
| IP Data | Internet Protocol Data                     |
| LNA     | Low Noise Amplifier                        |
| LLC     | Logical Link Control                       |
| NAT     | Network Address Translation                |
| PAT     | Port Address Translation                   |
| PLMN    | Public Land Mobile Network                 |
| PDP     | Packet Data Protocol                       |
| QOS     | Quality of Service                         |
| SIM     | Subscriber Identity Module                 |
| SNDCP   | Sub Network Dependent Convergence Protocol |