May 2010

IG266 Rev A

Globe Wireless Installation Guide IG 266

Installing a Globe *i*250

Issued by Globe Wireless, Inc.®

1571 Robert J. Conlan Blvd. NE Palm Bay, FL 32905Printed in U.S.A.

Globe Wireless Installation Guide

IG 266 Revision Page

Rev	By	Description of Changes	Date
A	WD	Initial Release of Installation Guide (ECO 1068)	5/27/2010

Document Approval

Title	Name	Date	Doc. Rev.
Engineering			A
Product Management			A
Peer Review			A
QUALITY	Dan Thomasson		A

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Table of Contents

1.0 Regulatory Information

1.1 Federal Communication Commission Notice

FCC Identifier: YC6-GLOBEI250BDE

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.

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 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 & IC 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

IG266 Rev A

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 this Maritime Satellite Voice and Data Router

1.2 Eu Declaration of Conformity:

Globe wireless LLC, 1571 Robert J. Conlan Blvd. Palm Bay, FL 32905 declares under our sole responsibility that the Product, brand name as Globe wireless and model: Globe i250 Maritime Satellite Voice and Data Router, to which this declaration relates, is in conformity with the following standards and/or other normative documents:

ETSI EN 301 444 V1.1.1:2000

ETSI EN 301 489-1 V1.8.1:2008

ETSI EN 301 489-20 V1.2.1:2002

EN 61000-3-2:2006 (CLASS A)

EN 61000-3-3:1995 + A1:2001 + A2:2005

EN 60945:2002

EN 60950-1:2001 + A11:2004

We hereby declare that all essential radio test suites have been carried out and that the above named product is in conformity to all the essential requirements of Directive 1999/5/EC.

The Conformity Assessment procedure referred to Article 10 and detailed in Annex [III] or [IV] of Directive 1999/5/EC has been followed with involvement of the following notified body(ies):

TIMCO ENGINEERING, INC., P.O BOX 370, NEW BERRY, FLORIDA 32669.

Identification mark: 1177 (Notified Body number)

CE 1177 !

The technical documentation relevant to the above equipment is held at:

- Addvalue Communications Pte Ltd, 28 Tai Seng Street , #06-02, Singapore 534106
- Signed by Mr. Mark Witsaman, Chief Technical Officer

  on 17th May 2010

2.0 Warning Safety Information

WARNING! **It is imperative that you read the following information in its entirety and understand it fully prior to continuing.**

For your safety and protection, read this entire user manual before you attempt to use the **Globe *i*250** System. In particular, read this safety section carefully. Keep this safety information where you can refer to it if necessary.

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 manual violates safety standards of design, manufacture and intended use of the equipment.

Globe Wireless assumes no liability for the customer's failure to comply with these requirements.

2.1 Observe marked areas

Under extreme heat conditions do not touch areas of the terminal or antenna that are marked with this symbol, as it may result in injury.

2.1.1 Microwave radiation hazards

During transmission the antenna in this system radiates Microwave Power. This radiation may be hazardous to humans close to the antenna. During transmission, make sure that nobody gets closer than the recommended minimum safety distance.

On the **Globe *i*250** System, the minimum safety distance on the focal line to the antenna panel is 0.6 m, based on a radiation level of 10 W/m2. The radiation level is 100 W/m2 at a distance of 0.2 m from the antenna panel.

2.1.2 Distance to other equipment

Do not move the antenna closer to radars than the minimum safe distance specified in the installation manual - it may cause damage to the antenna. The equipment must be installed with the following minimum safe distances to magnetic steering compass:

- *i*250 FleetBroadband antenna: min. 1.1 m
- i250 FleetBroadband terminal: min. 0.3 m.

2.1.3 Service

User access to the interior of the terminal is prohibited. Only a technician authorized by Globe Wireless may perform service - failure to comply with this rule will void the warranty. Access to the interior of the antenna is allowed, but only for replacement of certain modules - as described in the Installation manual. General service must be performed only by an authorized technician.

2.1.4 Do not service or adjust alone

Do not attempt internal service or adjustments unless another person, capable of rendering first aid resuscitation, is present.

2.1.5 Grounding, cables and connections

To minimize shock hazard, the equipment chassis and cabinet must be connected to an electrical ground. Both terminal and antenna must be grounded to the ship. For further grounding information refer to the Installation manual.

Do not extend the cables beyond the lengths specified for the equipment.

The cable between the terminal and antenna can be extended if it complies with the specified data concerning cable losses etc.

All cables for the **Globe *i*250** system are shielded and should not be affected by magnetic fields. However, try to avoid running cables parallel to AC wiring as it might cause malfunction of the equipment.

2.1.6 Power supply

The voltage range is 85-264 VAC. Two sets of fuses are provided with the i250. If using 110V nominal voltage use the 6.3 A fuse. If the nominal voltage is 220V use the 3.6 A fuse. Globe Wireless recommends the use of a UPS system for improved reliability.

2.1.7 Equipment ventilation

- To ensure adequate cooling of the terminal, make sure that the side ventilation areas are free of obstruction
- The ambient temperature range of the terminal is: -25° to +55°C
- Do not operate in an explosive atmosphere
- Do not operate the equipment in the presence of flammable gases or fumes
- Operation of any electrical equipment in such an environment constitutes a definite safety hazard

2.1.8 Keep away from live circuits

Operating personnel must not remove equipment covers. Component replacement and internal adjustment must be made by qualified maintenance personnel. Do not replace components with the power cable connected. Under certain conditions, dangerous voltages may exist even with the power cable removed. To avoid injuries, always disconnect power and discharge circuits before touching them.

2.1.9 Obtaining Licensing For Inmarsat Terminals

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 Inmarsat 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.

WARNING! **Failure to comply with the rules above will void the warranty!**

Release date: May 2010

Information in this document is subject to change without notice and does not represent a commitment on the part of Globe Wireless.

For further assistance, contact the **Globe Wireless Customer Service Center** at:

Within the United States or Canada: 1-(877)-535-0653

Overseas: 1-(321)-308-0112

customerservice@globewireless.com

www.globewireless.com

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3.0 General Information

3.1 Overview

The purpose of this document is to provide the procedures for installing a **Globe *i*250** system.

3.2 Installation Guide Organization

This installation guide is divided into several sections providing specific information needed to install and verify operation of the **Globe *i*250** System:

Section 1:	**Regulatory Information –** Contains all regulatory usage information, FCC Identifier, and important notifications, warnings and cautions.
Section 2:	**Warning Safety Information –** Safety warning which must be read prior to proceeding with handling or installation of the **Globe *i*250**.
Section 3:	**General Information** - Contains a general overview and description of special notations used throughout this guide. Discusses necessary components and additional equipment, as well as, available services and reference documentation.
Section 4:	**Hardware and Software Requirements** - Contains information on HW/SW requirements necessary for installation, and provides a configuration drawing. Discusses how the installer is to prepare for the installation, and walks the installer through the SIM card installation.
Section 5:	**Setup Instructions** - Setting up the connections for Internet Browsing, SMS messaging, Fax, etc. Shows the installer how to ascertain the system is set up properly.

3.3 Special Notations

This installation guide uses the following levels of special notation to alert the installer to important information concerning safety, proper equipment handling, or useful tips for easier operation. These notations are shown below in descending order of importance:

DANGER!	Indicates that personal injury can result if there is a failure to comply with the given instructions. A **DANGER!** statement will describe the potential hazard, its possible consequences, and the steps to avoid personal injury.

WARNING!	Indicates that serious damage to the equipment can result if there is a failure to comply with the given instructions. A **WARNING!** statement will describe the potential hazard, its possible consequences, and the steps to avoid serious equipment damage.

CAUTION!	Indicates that equipment damage and/or process failure can result if there is a failure to comply with the given instructions. A **CAUTION!** statement will describe the potential hazard, its possible consequences, and the steps to avoid equipment damage and/or process failure.

NOTE:	Provides supplementary information to emphasize a point or procedure, or gives a tip for easier operation.

3.4 Customer Comments and Quality

Globe Wireless is *ISO Certified*, and committed to quality and total customer satisfaction. Comments are important to us and help us to provide quality products and services. We invite emails from satisfied customers as well as comments and recommendations for improvement.

Email comments and suggestions to: quality@globewireless.com

3.5 General Safety Reminders

To prevent possible personal injury or equipment damage, always observe the following rules:

- Installation personnel should be familiar with the safety requirements before attempting installation of the equipment covered in this installation guide. Failure to follow the requirements could result in death or injury to personnel and/or damage to the equipment.
- Always examine the general area for potential hazards before beginning installation.
- Observe all **DANGER** notations. Dangerously high voltages are present within the equipment when in operation. Lethal line voltages may be present unless the power has been disconnected.
- Observe grounding precautions. Verify the unit being installed and all measurement equipment is properly grounded.

3.6 Additional Equipment Needed

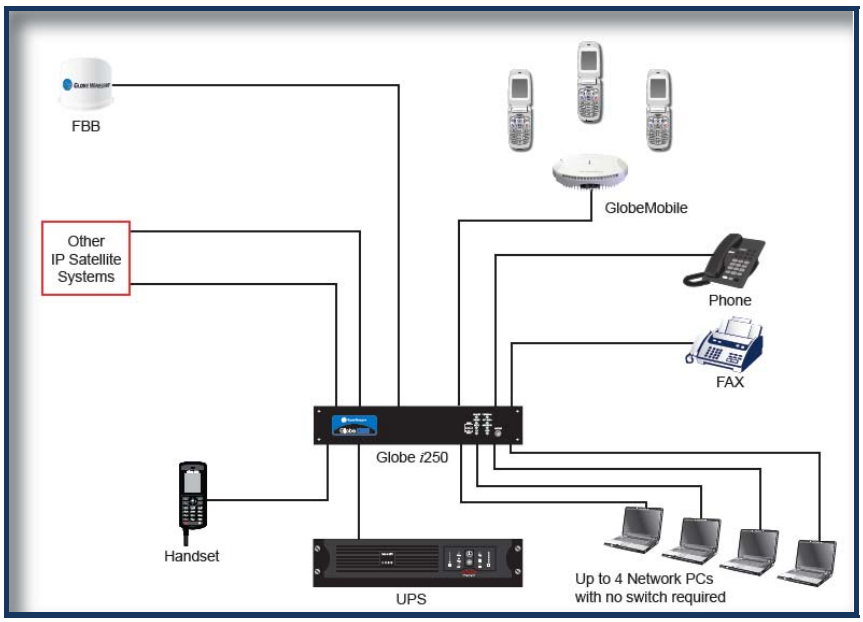
Refer to the following table for additional equipment that will be needed for installation:

Equipment Type	Globe Wireless Part Number
Broadband SIM Card	73-02337-0014
Side Mount Antenna Clamp	54-01954-0002
Pole Mount	51-03557-0004
Ground Strap	01-02156-0002

3.7 Available Services

This unit supports the following services:

- Simultaneous voice and data over FleetBroadband
- Full duplex, single or multi-user, up to 284kbps
- Support for streaming IP at: 32, 64, 128 kbps
- Standard Voice (AMBE+2, 4.0 kbps)
- Fax/High Quality Voice (64kbps, A-law PCM)



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4.0 Hardware and Software Requirements

4.1 Components

The following equipment, software and tools are required prior to installation:

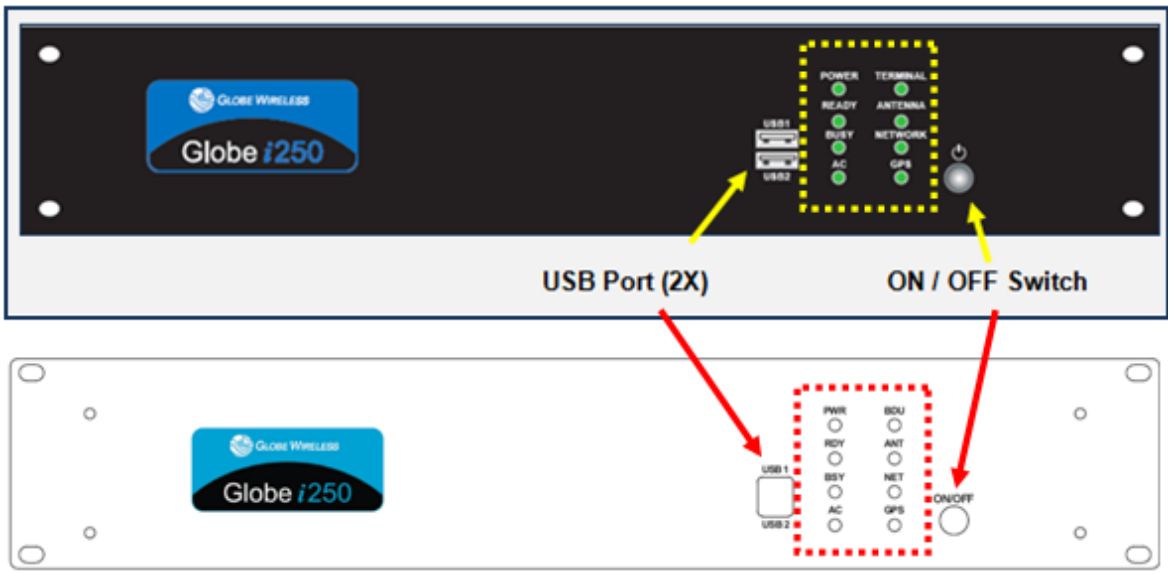
- IBM compatible 1GB or faster PC
- Globe *i*250
- FleetBroadband Class 9 ADE
- FleetBroadband SIM Card
- Miscellaneous Cables

4.2 Equipment Configuration

4.2.1 Globe *i*250 Front View

The front view (*two views shown below*) of the **Globe *i*250** consists of two **USB** Ports, and **On/Off** Switch, and the following led's:

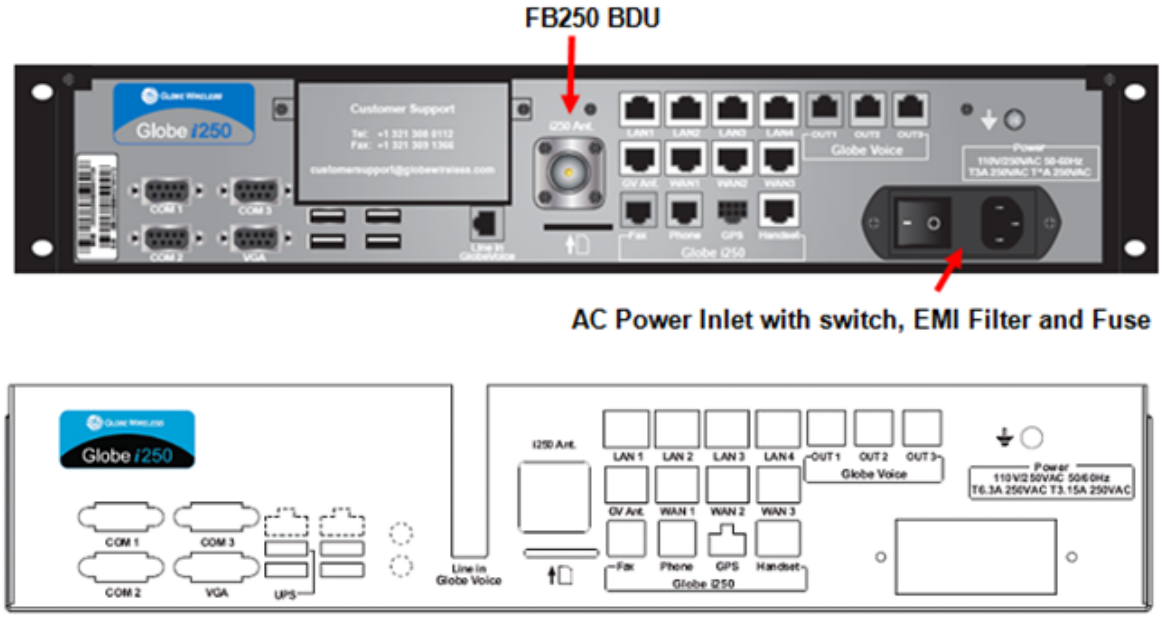
- Power
- Ready
- Busy
- AC
- Terminal
- Antenna
- Network
- GPS



4.2.2 Globe *i*250 Rear View

The rear view (*two views shown below*) of the **Globe *i*250** consists of the following:

- 1 X IEC AC power input 100-240 VAC
- 1 X Type N Antenna connection
- 2 X RJ11 POTS handset and FAX
- 3 X RJ11 Voice Out connections
- 3 X RJ45 WAN Ethernet connections
- 1 X RJ45 PoE BTS connection
- 4 X RJ45 LAN Ethernet connections
- 4 X USB ports
- 3 X 9 pin D RS-232



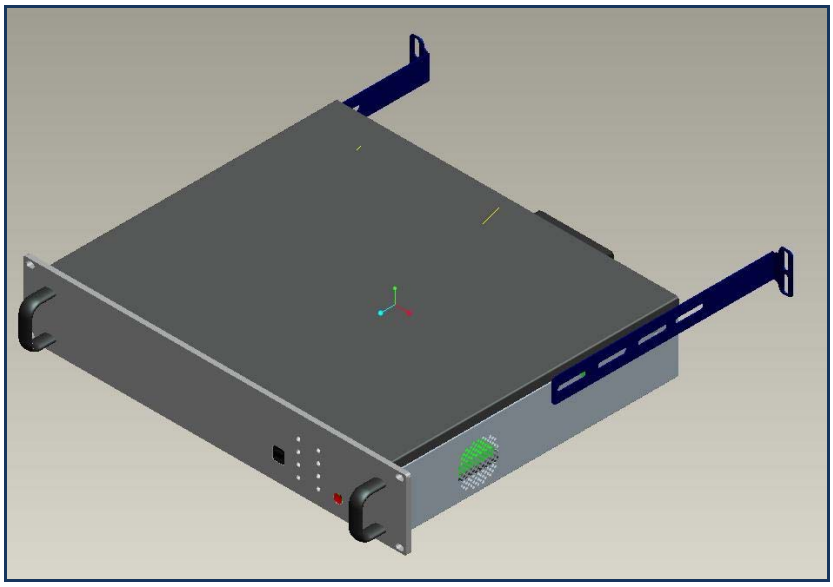
4.3 Preparation

The **Globe *i*250** is to be installed onboard ship in a control room into a Rack Cabinet or by mounting on the wall, shelf, or table as described below.

4.3.1 Installing the Globe *i*250 into 19" High Profile Rack Cabinet

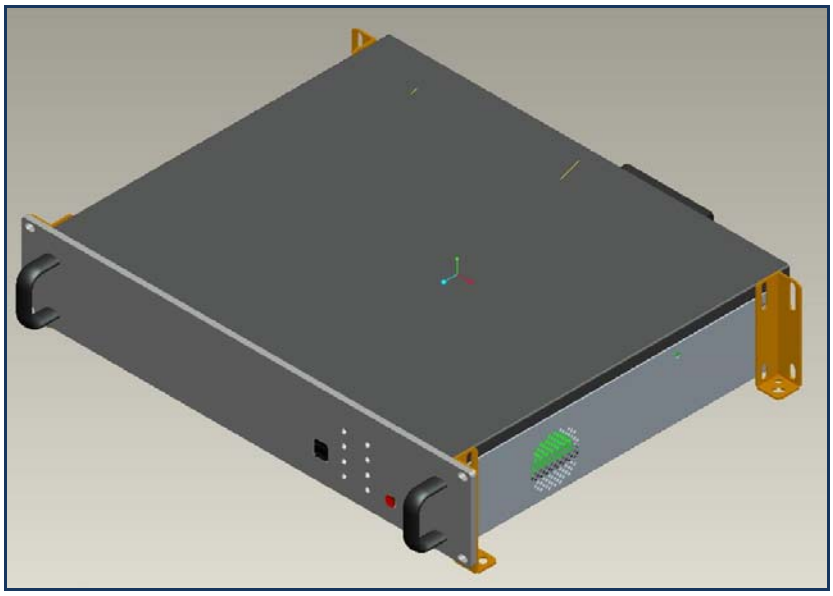
The **Globe *i*250** is designed to be inserted into a 19" Rack Cabinet. The 2U front panel has four holes, used to secure the enclosure case into the cabinet by means of four M5x20mm screws. Additionally, two handles are included on the front panel so that the case can be carried with ease.

Two long mounting brackets are mounted on each side of the enclosure case so that the end of each bracket can be secured to the rear rails of the cabinet. Additional slots along the mounting bracket are for the different depth cabinets.



4.3.2 Installing the Globe *i*250 onto Wall, Shelf or Table

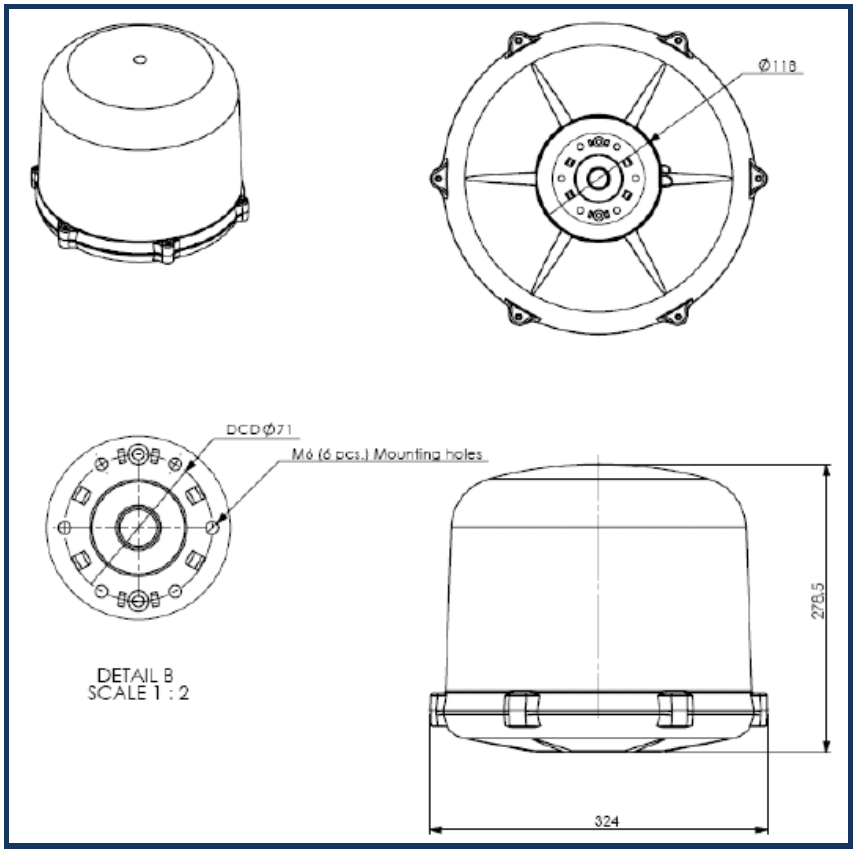
Four small mounting adaptors are attached at each corner of the enclosure case so they can be mounted onto a wall, shelf or table with four M5x12mm self-tapping screws.



4.3.3 Installing the ADE

The antenna system is a FleetBroadband Class 9 system, based on 3 axes. Communication between BDE and ADE is through a simple coaxial cable. There is an N-type coaxial connector at the center of the ADE base. The antenna cable should be inserted here first before proceeding to the installation of the ADE. The ADE contains a GPS antenna, RF unit, and circuit cards for communication and antenna stabilization.

IG266 Rev A



The location of the **ADE** must be kept away from the beam width of any search/tracking radars.

Radar Power	Operation	Damage
0-10kW	Distance=5m	Distance=2m
10-30kW	Distance=9m	Distance=4m
30-50kW	Distance=12m	Distance=5m

The **ADE** line of sight shall not be obstructed by any large obstacles such as funnels or antennas.

Size (Diameter)	Distance (Minimum)
16cm	3m
26cm	5m
52cm	10m
104cm	20m

- The **ADE** must be installed as far away as possible from the ship's radio antennas
- For safety, all personnel should be kept at least 1 meter away from the **ADE**

4.3.4 Installing the SIM Card

Prior to installing the SIM card, the following must be accomplished:

- Connect the **ADE** to the **BDE** using the supplied coaxial cable
- Connect the IP handset to the Primary handset Port
- Connect the interface computer to LAN1 and ensure the computer IP configuration is set to **Configure Local Area Network** (LAN) settings on the test PC to IP Address **192.168.1.34** with a subnet mask of **255.255.255.0** and the default gateway will be set to **192.168.1.35**

CAUTION! ***Never*** *insert or remove the* ***SIM*** *Card when the unit is powered on.*

Perform the following steps to install the **SIM** card:

Step 1 Ensure the terminal is powered down.

Step 2 Remove the screw securing the **SIM** card protection cover.

Step 3 Remove the **SIM** card protection cover.

Step 4 Insert the **SIM** card into the cardholder.

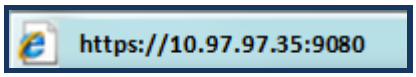
Step 5 Install the **SIM** card protection cover.

5.0 Setup Instructions

5.1 LAN setup for communication on Shipboard Network

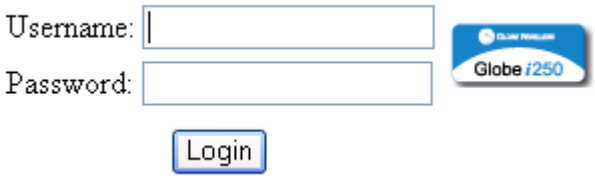
If the terminal will be connected to a shipboard network and the **IP Address** and **DHCP** settings must be changed, perform the following steps to configure the terminal:

Step 1 On a computer connected to the terminal, open your web browser and type **https://10.97.97.35:9080** in the address field.



Step 2 Press **Enter** to display the login screen.

Step 3 Type in the **Username** and **Password**. Click the **Login** button.



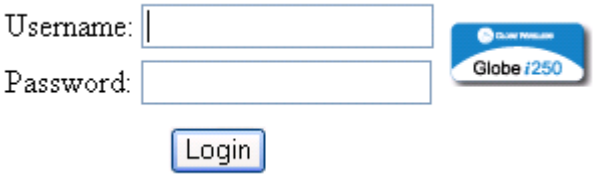
Step 4 Click on the **Settings** button at the top of the web interface page.

5.2 Satellite Search

Once all the connections have been made and the **SIM** card has been installed, power on the terminal. The system will automatically detect the satellite position based on GPS data from the antenna's built-in GPS.

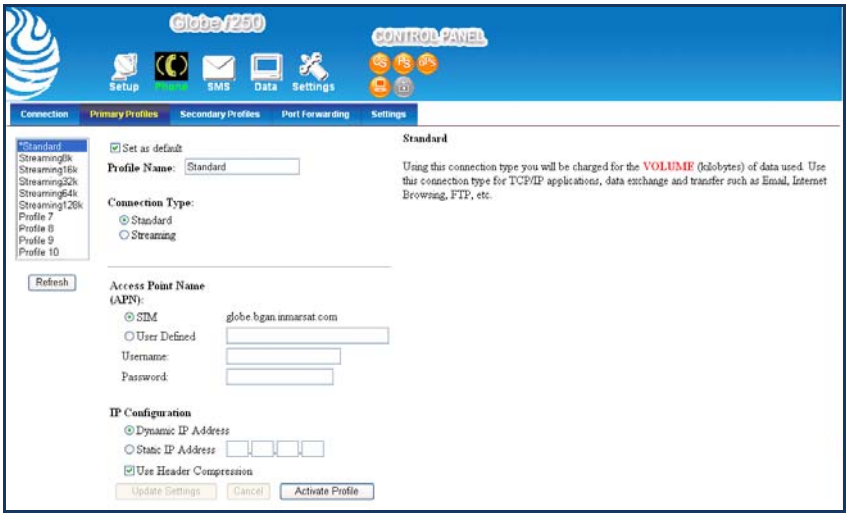
The LCD screen on the handset will display **READY** once the terminal is ready to communicate. In some instances an **APN** must be entered in order for a satellite terminal to successfully make a data connection. Use the following instructions to enter the **APN** information in this terminal:

Step 1 Open a web browser and enter the Terminal IP Address in the address bar to access the web interface. Enter **Username** and **Password**.



Step 2 Click on the **Data** button and then the **Primary Connections** tab.

Step 3 Enter the specific **APN** configuration as well as the **Login** and **Password** information if applicable.



Step 4 Click the **Update Settings** button located at the bottom of the page for the settings to be implemented.

5.3 Initiating a Data Connection

To utilize the data packet features, a data connection must be initiated through the Web Interface or the IP handset.

Step 1 Open the Web Interface at address **http://192.168.1.35** and enter the **login** and **password**. Once logged into the web interface, click the **Data** button located at the top of the web interface page and then click the **Primary** tab. Enter appropriate information as needed and at the bottom of the page click the **Activate Profile** button.

Step 2 After updating the profile click on the **Settings** tab and select the **Auto Connect** option to ensure the terminal will reconnect to the BGAN network in the event of service interruption.

5.4 Making Voice Calls

5.4.1 Voice Connections using the Handset

It is not necessary for a data connection to be present in order to make voice calls. When making voice calls from the handset, perform the following:

Step 1 Verify there is good signal strength and the handset displays **READY**.

Step 2 Remove the handset from the hook and dial the desired phone number followed by the # sign in the following format:

00+Country Code+Area Code+Subscriber's Number+#

Example: 0013213080112#