

Chapter 1 - Introduction

The FB250 User Equipment (UE) is a maritime broadband system, providing simultaneous high-speed data and voice communication via satellite through the Inmarsat FleetBroadband system



Applications include:

- Internet browsing
- E-mail
- Phone and fax services
- Large file transfers
- Video conferencing and Streaming

Features and interfaces

The FB250 FleetBroadband UE offers the following features and interfaces:

- Simultaneous voice and data communication over FleetBroadband
- Full duplex, single or multi-user, up to 284 kbps
- Support for streaming IP at: 32, 64, 128 kbps
- Standard Voice (AMBE+2, 4.0 kbps)
- Fax/High Quality Voice (64kbps, A-law PCM)
- 4 LAN ports [with 2 ports supporting Power over Ethernet (PoE)] for computers, routers, access points, IP handsets etc.
- 2 Standard RJ11 Phone/Fax ports for standard phones, fax machines or analog modems
- Expansion slot (supporting 1 voice port and 1 LAN port)
- Built-in Web Console allowing you to manage your phone book, messages and calls, and customize the terminal to your specific needs
- **Input power: 10.5 V - 32 V DC (14 A - 5.5 A)**

Compliance Specifications :

- Compliant to R&TTE, CE Marked
- FCC Grant
- Inmarsat Fleet Broadband approved

Main Units

The FB250 UE includes the following main units:

- **FB250 FleetBroadband ADU (Above Deck Unit)**
The FB250 ADU is a medium size, maritime FleetBroadband Class 9 antenna.



- **FB250 FleetBroadband BDU (Below Deck Unit)**
The BDU is the controlling unit for the FB250 FleetBroadband system. It contains all user interfaces, LED indicators and stores configuration data.



- **Tools for setup and daily use**

The Primary Handset is used for making voice calls, SMS, displaying status and for changing parameters. For information on how to use the Primary Handset menus, see [Chapter X, Using the Primary Handset](#).

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The built-in Web Console is used for easy configuration and daily use. The Web Console is accessed from a computer connected to the terminal, using an Internet browser. No installation of software is needed. For more information, see *Chapter 4, Using the Web Console*.

- **SIM card**

The UE has a SIM (Subscriber Identity Module) card slot located at the rear connector panel behind a small cover plate. The UE requires a dedicated FleetBroadband SIM card to access the FleetBroadband network and configure the settings of the UE.

- **The Primary Handset**

The wired handset has a colour LCD and keypad for making voice calls and SMS. You can use it to configure and control the BDU.

The Primary Handset is connected to the BDU using the dedicated voice and data interface and is powered directly from the BDU.

When connected to the UE, the Primary Handset provides a dedicated menu with UE configuration options. For information on how to use the handset menus, see *Chapter 3, Using the Primary Handset*.



Chapter 4 – Using the Web Console

1. When the connection has been established, open the web browser (Internet Explorer or Netscape Navigator).
2. Type `http://192.168.1.35` in the Address field and press Enter.

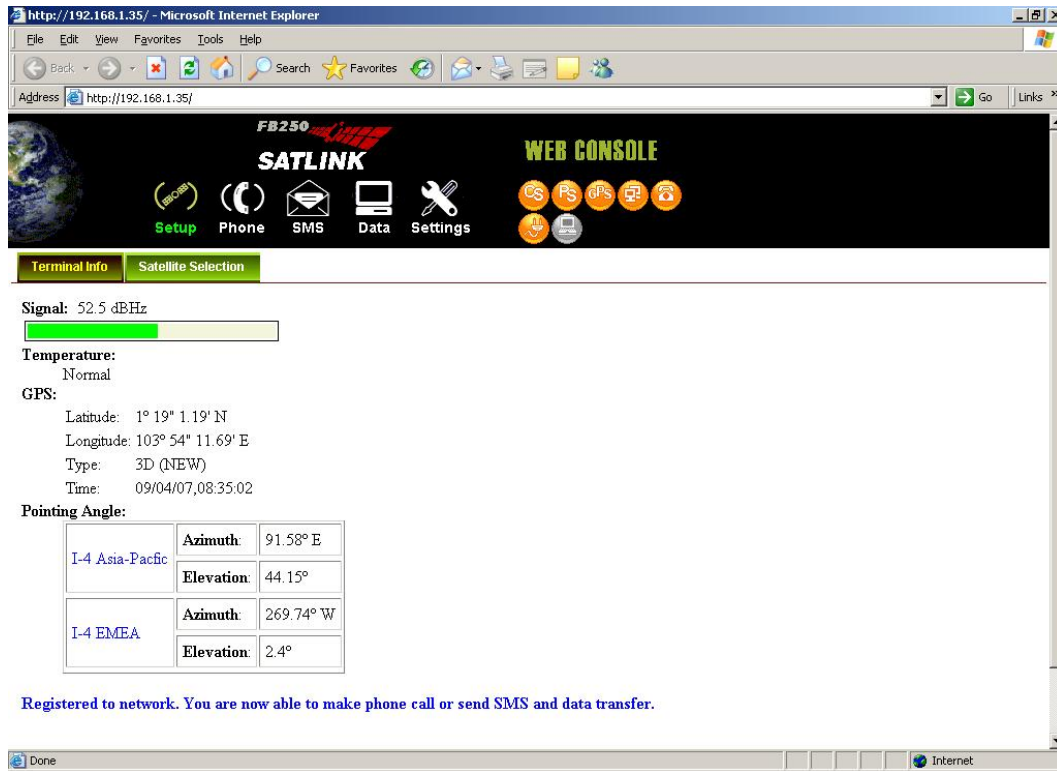


The Login screen appears.

3. Type in SABRE™1 in the Username field and satlink in the password field. Click OK.



4. The FB250 System Web Console will appear on your screen.
The terminal will automatically register to the Inmarsat BGAN network.



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Menu Overview



Setup	Phone	SMS	Data	Settings
Terminal Info	Phonebook	Compose	Connection	Language
Satellite Selection	Call History	Inbox	Primary Profiles	Terminal Info
	Emergency	Sent	Secondary Profiles	Terminal
		Draft	Port Forwarding	Ethernet
			Settings	Telephony
				PIN
				SMS
				Misc
				Support

Status Indicators




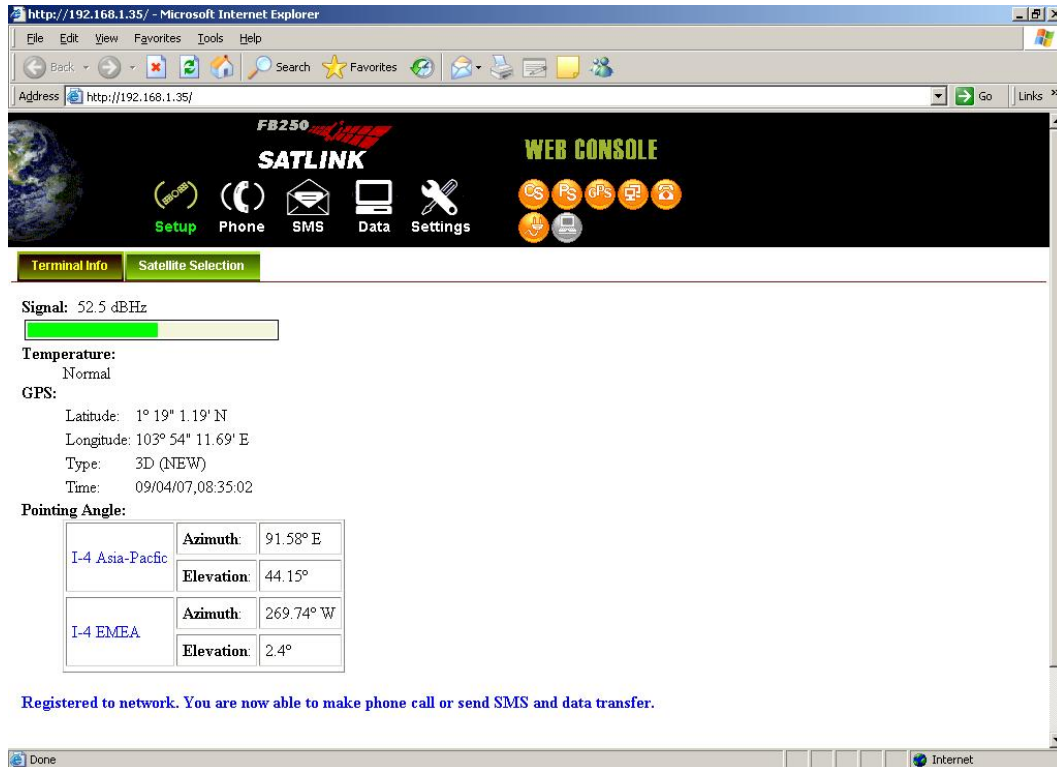
- **Orange** indicates the item is activated.
- **Grey** indicates the item is not activated.

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Viewing Terminal Information



1. Click  .
2. Click Terminal Info to view the FB250 System terminal information.
The terminal information is displayed according to the Antenna Pointing mode




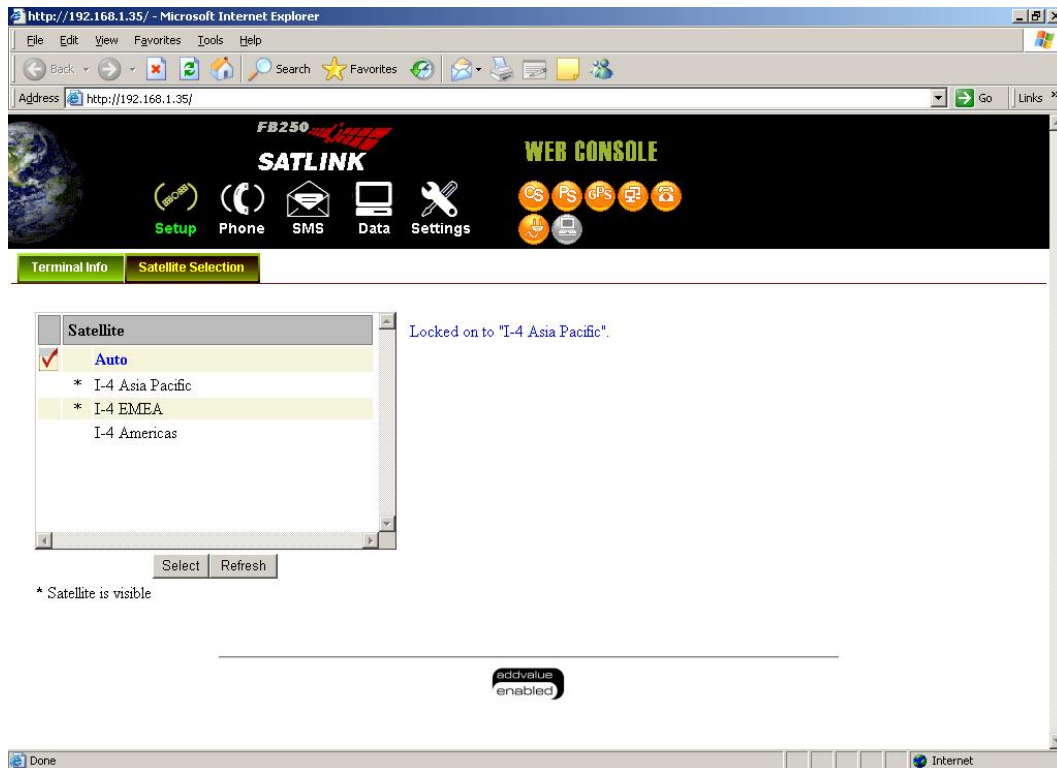
Signal	Indicates the signal strength during antenna pointing. (Adjust the antenna to ensure that the signal strength is at least 45dBHz.)
Temperature	Indicates the Terminal's current operating temperature.
GPS	Indicates the latitude, longitude, type and time of the GPS acquisition.
Pointing Angle	Indicates the azimuth and elevation angle, which the Terminal should be positioned.

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Satellite Selection



1. Click  .
2. Click Satellite Selection to view the visible satellites.
The visible satellites will be displayed for your selection.
It also displays the satellite information that your antenna is locked on to.



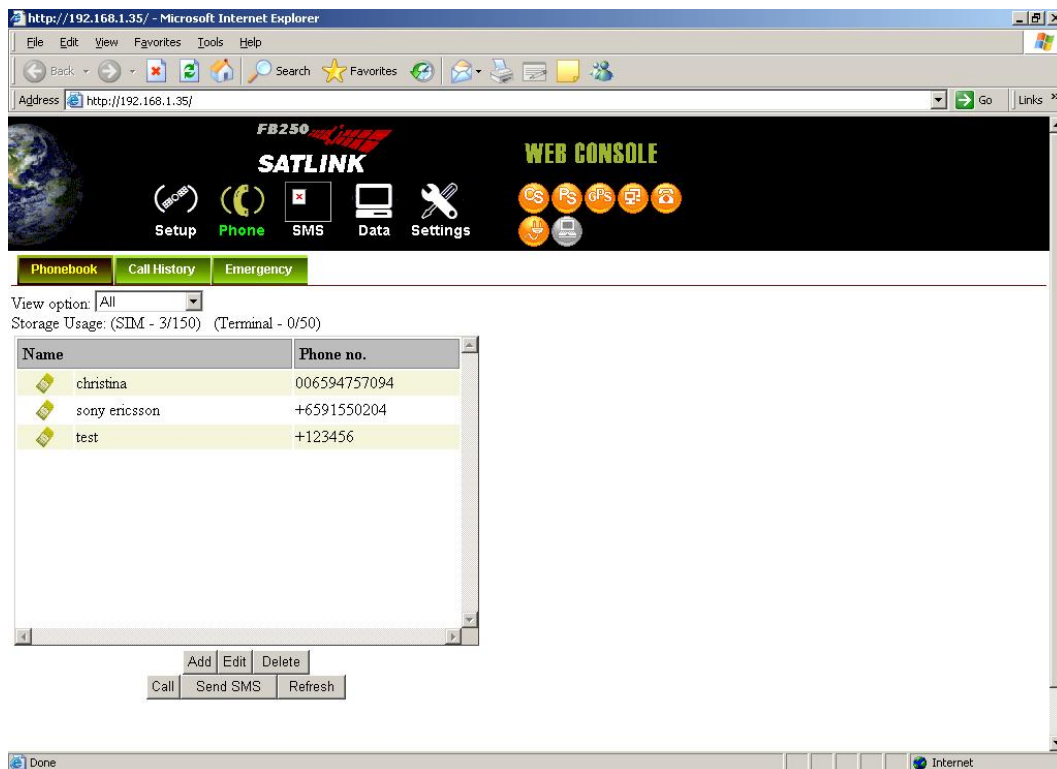
3. Click on your choice of visible satellite.
 4. Click Select to point the antenna to the selected satellite.
- Click Refresh to refresh the Satellite list.



Phone Menu

Phone menu provide the following options:

- **Phonebook**
Allow you to view, add, edit and delete entries on your Phonebook list. You can make calls or send SMS directly from your Phonebook entries. The Phonebook entries can be stored on the SIM card or the FB250 Systemterminal.
- **Call History**
To check on the history log of calls made and received.
- **Emergency**
Making emergency calls from the listed emergency call numbers.



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Phonebook

The screenshot shows the Phonebook interface with three tabs: Phonebook, Call History, and Emergency. The Phonebook tab is active. Below the tabs, there is a 'View option:' dropdown menu set to 'All'. Below that, the storage usage is displayed as 'Storage Usage: (SIM - 3/150) (Terminal - 0/50)'. A table lists the contacts:

Name	Phone no.
christina	006594757094
sony ericsson	+6591550204
test	+123456

At the bottom of the interface, there are buttons for 'Add', 'Edit', 'Delete', 'Call', 'Send SMS', and 'Refresh'.

- **View option**
The View option allows you to view the Phonebook entries from the different storage locations. From the drop-down menu, select:

All	To view the entries stored in the SIM card and FB250 Systemterminal.
SIM only	To view the entries stored in the SIM card.
Terminal only	To view the entries stored in the FB250 Systemterminal.

- **Storage Usage**
Shows the number for Phonebook entries used in the SIM card and Terminal locations.

*For example: (SIM – 5/150) indicates:
Storage location – SIM card
Total number of entries used = 5
Total number of entries available = 150*

Follow these steps to add a new Phonebook entry:

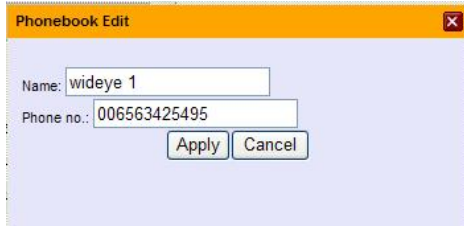
1. Click Add.
2. Enter the Name and Phone number.
3. Select the storage location and click Save.

The screenshot shows the 'Adding Phonebook Record' dialog box. It has a title bar with a close button. Inside, there are two text input fields: 'Name:' and 'Phone no:'. Below these fields, there are two radio buttons: 'SIM' (which is selected) and 'BGAN Terminal'. At the bottom, there are two buttons: 'Save' and 'Cancel'.

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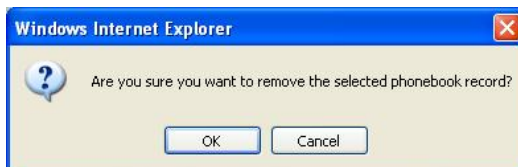
Follow these steps to edit a Phonebook entry:

1. Select the entry from the Phonebook list.
2. Click Edit.
3. Proceed to change the Name and/or Phone number.
4. Click Apply.



Follow these steps to delete a Phonebook entry:

1. Select the entry from the Phonebook list.
2. Click Delete.
3. Click Ok to confirm to delete the entry. Click Cancel to abort delete.



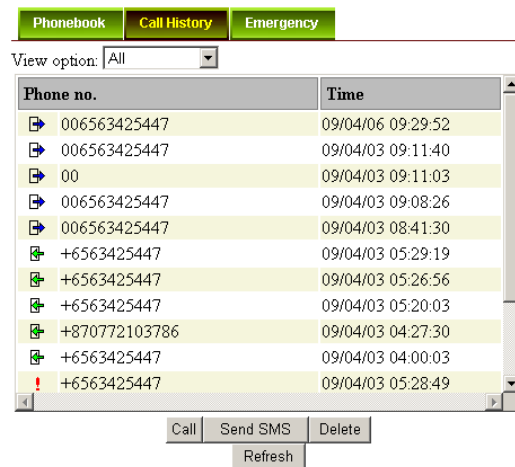
Follow these steps to make a call from the Phonebook:

1. Select the entry from the Phonebook list.
2. Click Call.
The Phonebook console switches over to the Dialler console.
3. Press the Offhook button on the PSTN corded (analog) phone.
4. From the Dialler console, click Dial.

Follow these steps to send an SMS from the Phonebook:

1. Select the entry from the Phonebook list.
 2. Click Send SMS.
The Phonebook console switches over to the Compose SMS console.
 3. Type in the text message and click Send.
- Click Refresh to refresh the Phonebook list.

Call History



- **View option**
The View option allows you to view the Phonebook entries from the different storage locations. From the drop-down menu, select:

All	To view the list of the dialled, received and missed calls.
Dialled Call	To view the list of dialled calls only.
Received Call	To view the list of received calls.
Missed Call	To view the list of missed calls.

Follow these steps to make a call from the Call History list:

1. Select the entry from the list.
2. Click Call.
The Call History console switches over to the Dialler console.
3. Press the Offhook button on the PSTN corded (analog) phone
4. From the Dialler console, click Dial.

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

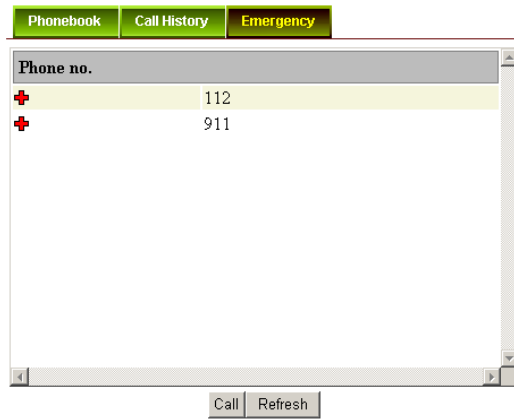
1. Select the entry from the list.
2. Click Send SMS.
The Call History console switches over to the Compose SMS console.
3. Type in the text message and click Send.

Follow these steps to delete a Call History entry:

1. Select the entry from the Call History list.
 2. Click Delete.
 3. Click Ok to confirm or click Cancel to abort deleting the entry.
- Click Refresh to refresh the Call History list.

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Emergency



Follow these steps to make an Emergency call:

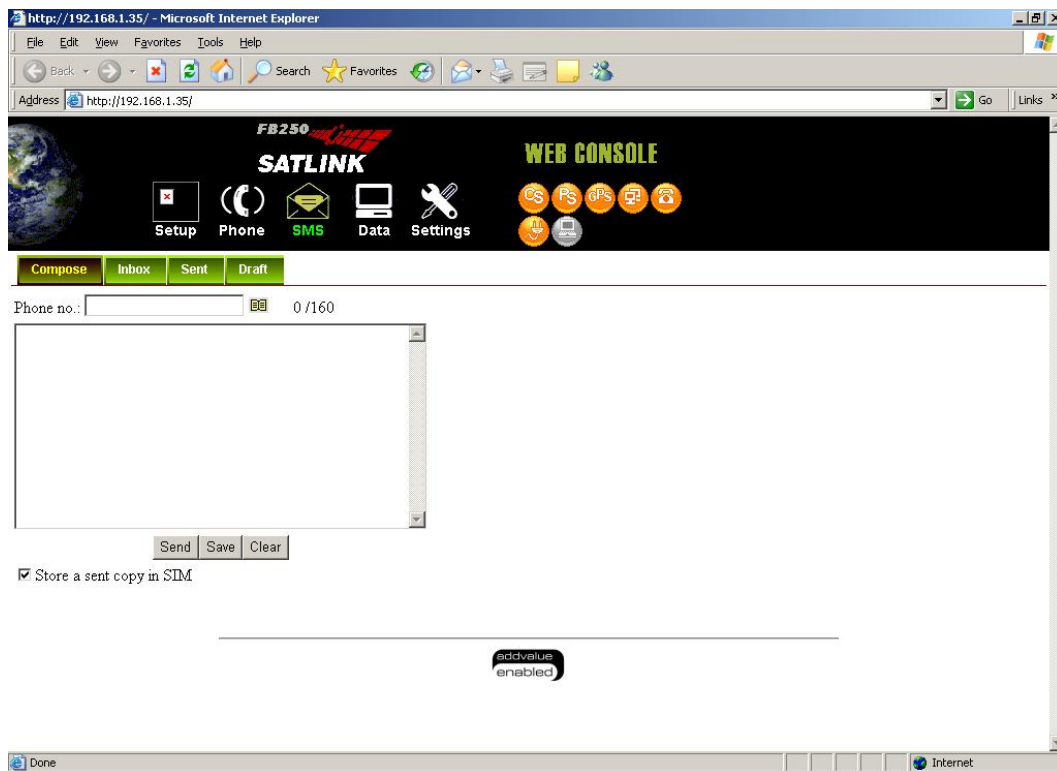
1. Select the number from the list.
 2. Click Call.
The Emergency console switches over to the Dialler console.
 3. Press the Offhook button on the PSTN corded (analog) phone.
 4. From the Dialler console, click Dial.
- Click Refresh to refresh the Emergency list.



SMS Menu

SMS menu provide the following options:

- **Compose**
To compose and send text messages. Simply enter a mobile number, type your message and click Send.
- **Inbox**
Shows the details (Sender information, Message, Date and Time stamp) of all SMS received.
- **Sent**
Shows the details (Receiver information, Message, Date and Time stamp) of all SMS sent.
- **Draft**
Stores unsent messages for retrieval later.



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Compose

Compose Inbox Sent Draft

Phone no.: 0 /160

☐ Store a sent copy in SIM

Follow these steps to compose a new SMS:

1. 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
2. Type the message in the text editor box.

Note:

Message is limited to 608 characters including spacing between words.

3. Uncheck Store a copy in SIM checkbox if you do not wish to store a sent SMS into SIM card.
4. Click Send to send the SMS.

- To save an unsent SMS, click Save and the unsent SMS will be saved in Draft.
- To clear the typed message on the text editor, click Clear.

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Inbox

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

Compose **Inbox** Sent Draft

Storage Usage: (SIM - 69/100)

<input type="checkbox"/>	From	Message	Date
<input type="checkbox"/>	sony ericsson	A	11/09/08 07:35:05 +0000
<input type="checkbox"/>	sony ericsson	Testing mtSMSon Asic UT	11/09/08 04:30:53 +0000
<input type="checkbox"/>	sony ericsson	Testing sms	19/08/08 08:44:13 +0000
<input type="checkbox"/>	+870772001899	You have a new voice message regarding "Voice Message from 870772280122". Message received at 06:58, 31/07/2008	31/07/08 06:58:09 +0000
<input type="checkbox"/>	sony ericsson	Testing from mobile phone	14/07/08 08:51:13 +0000
<input type="checkbox"/>	+870772001899	You have a new voice message regarding "Voice Message from 6591550204". Message received at 06:48, 14/07/2008	14/07/08 06:48:18 +0000
<input type="checkbox"/>	+870772133574 rrr		03/04/09 04:28:59

Reply Forward Call Delete
Refresh

Follow these steps to reply a SMS:

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.

Compose **Inbox** Sent Draft

Storage Usage: (SIM - 69/100)

<input type="checkbox"/>	From	Message	Date
<input type="checkbox"/>	sony ericsson	A	11/09/08 07:35:05 +0000
<input type="checkbox"/>	sony ericsson	Testing mtSMSon Asic UT	11/09/08 04:30:53 +0000
<input type="checkbox"/>	sony ericsson	Testing sms	19/08/08 08:44:13 +0000
<input type="checkbox"/>	+870772001899	You have a new voice message regarding "Voice Message from 870772280122". Message received at 06:58, 31/07/2008	31/07/08 06:58:09 +0000
<input type="checkbox"/>	sony ericsson	Testing from mobile phone	14/07/08 08:51:13 +0000
<input type="checkbox"/>	+870772001899	You have a new voice message regarding "Voice Message from 6591550204". Message received at 06:48, 14/07/2008	14/07/08 06:48:18 +0000
<input type="checkbox"/>	+870772133574 rrr		03/04/09 04:28:59

Reply Forward Call Delete
Refresh

2. Click Reply.
3. Click OK to reply with the original contents or Cancel to reply without the original content.
The Inbox console switches over to the Compose console.



4. Enter your reply in the text editor.
5. Click Send to send your reply SMS.

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Follow these steps to forward an SMS:

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

Follow these steps to make a call to the SMS sender:

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Call.
The Inbox console switches over to the Dialler console.

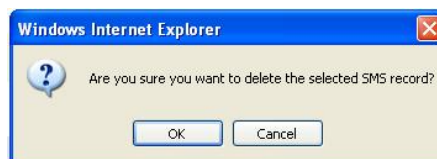
Note:

Ensure the PSTN corded (analog) phone is connected to the FB250 SystemRJ11 port.

3. Press the Offhook button on the PSTN corded (analog) phone, and click Dial.

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

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Delete.
3. Click OK to confirm or click Cancel to abort deleting the SMS.



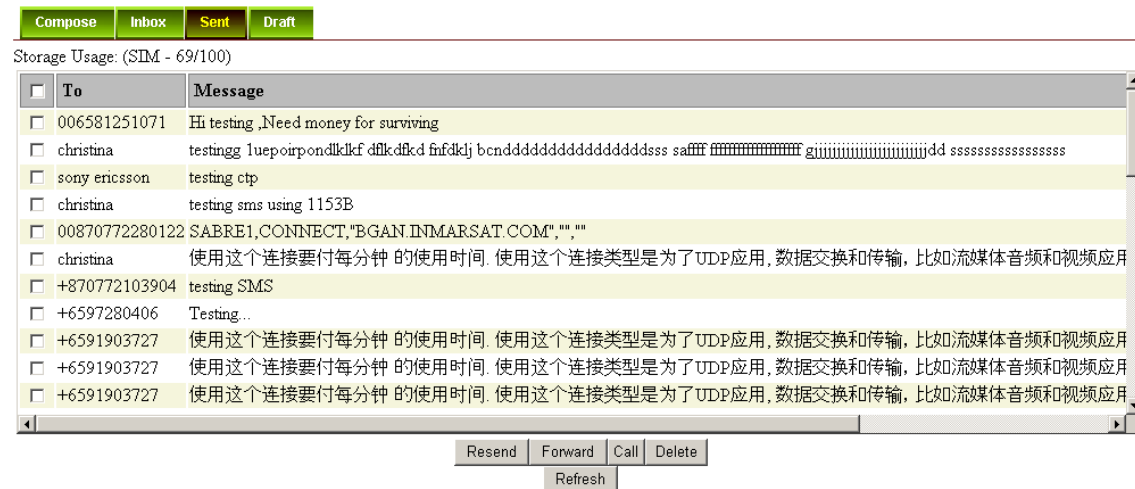
Follow these steps to delete multiple SMS from the Inbox list:

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

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Sent

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



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

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Resend.
The SMS will be sent to the receiver immediately.

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

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Forward.
The Sent console switches over to the Compose console.
3. Enter the receiver's number in the Phone No. field.
3. Click Send.
The SMS will be sent to the receiver immediately.

Follow these steps to make a call to the SMS sender:

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Call.
The Sent console switches over to the Dialler console.

Note:

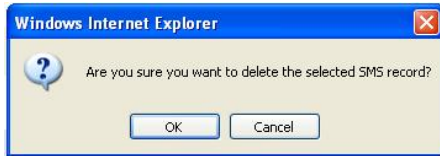
Ensure the PSTN corded (analog) phone is connected to the FB250 SystemRJ11 port.

3. Press the Offhook button on the PSTN corded (analog) phone, and click Dial.

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

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Delete.
3. Click OK to confirm or click Cancel to abort deleting the SMS.



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

1. Select the message by checking the checkboxes beside each SMS.
 2. Click OK to confirm the delete, or Cancel to abort the delete.
- Click Refresh to refresh the Sent list.

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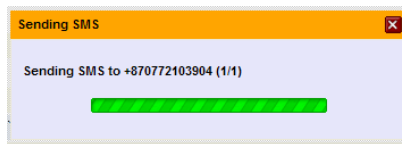
Draft

Stores SMS saved from the Compose console.



Follow these steps to send a draft SMS:

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Send.
The SMS will be sent to the receiver immediately.



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

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Forward.
The Draft console switches over to the Compose console.
3. Enter the receiver's number in the Phone No. field.
4. Click Send to forward the SMS.

Follow these steps to make a call to the SMS receiver:

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Call.
The Draft console switches over to the Dialler console.

Note:

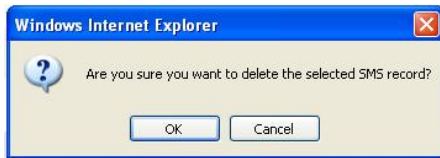
Ensure the PSTN corded (analog) phone is connected to the FB250 SystemRJ11 port.

3. Press the Offhook button on the PSTN corded (analog) phone, and click Dial.

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

1. Click on a SMS to select it.
The selected SMS will be highlighted in light blue.
2. Click Delete.
3. Click OK to confirm or click Cancel to abort deleting the SMS.



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

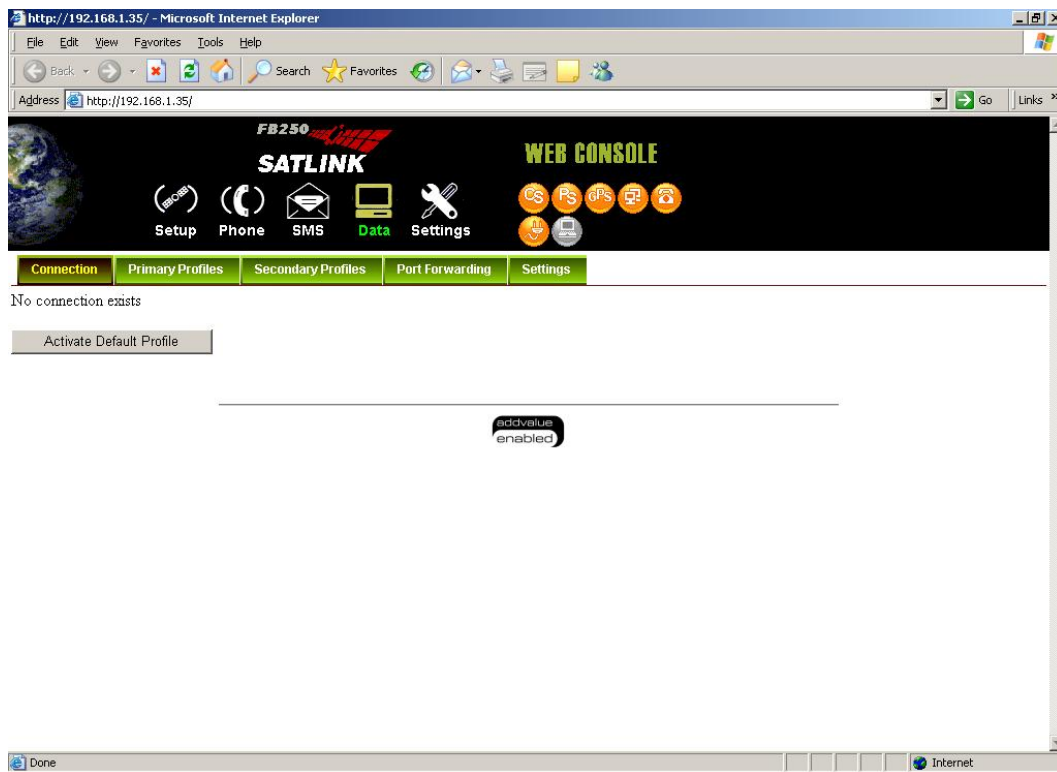
1. Select the message by checking the checkboxes beside each SMS.
 2. Click OK to confirm the delete, or Cancel to abort the delete.
- Click Refresh to refresh the Draft list.



Data Menu

Data menu provide the following options:

- Connection
- Primary Profiles
- Secondary Profiles
- Port Forwarding
- Settings



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Connection

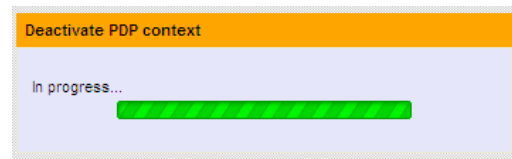
To activate the default profile, click Activate Default Profile.
The PDP context will be activated.



When connected, APN and IP Address details will be displayed.
You can proceed to use the Internet features.



To disconnect the data connection, click Disconnect.
The PDP context will be deactivated.



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Primary Profiles

Primary profiles define the connection type. You can select from a list of profiles to be the default primary profile and connection type. From Profile 4 to Profile 10, you can create your own customized primary profile.

Connection	Primary Profiles	Secondary Profiles	Port Forwarding	Settings
<div><div><div>*Standard Streaming32 Streaming64 Streaming128 Profile 5 Profile 6 Profile 7 Profile 8 Profile 9 Profile 10</div><div>Refresh</div></div><div><input checked="" type="checkbox"/> Set as default Profile Name: <input type="text" value="Standard"/> Connection Type: <input checked="" type="radio"/> Standard <input type="radio"/> Streaming <hr/>Access Point Name (APN): <input checked="" type="radio"/> SIM <input type="text" value="bgan.inmarsat.com"/> <input type="radio"/> User Defined <input type="text"/> Username: <input type="text"/> Password: <input type="text"/> IP Configuration <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 checked="" type="checkbox"/> Use Header Compression</div></div> <div>Standard Using this connection type you will be charged for the</div>				

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

Select the connection type to be used during the connection:

- Standard – Charged by the volume (in kilobytes) of data used.
- Streaming – Charged by the time (per minute) used during the connection.

Access Point Name (APN)

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

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

1. Select User Defined.
2. Enter the new APN in the field space provided.
3. Enter the username and password if required.

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IP Configuration

By default, the Dynamic IP Address is selected.

Follow these steps to use Static IP Address:

1. Select Static IP Address and enter the IP Address in the space provided.
2. Check the Header Compression checkbox if it is required to use Header Compression.

Settings For Streaming Connection

The screenshot shows the configuration interface for a Streaming connection. On the left, a list of profiles is shown with 'Streaming32' selected. Below the list is a 'Refresh' button. The main configuration area is divided into several sections:

- Set as default:** A checkbox that is currently unchecked.
- Profile Name:** A text field containing 'Streaming32'.
- Connection Type:** Two radio buttons: 'Standard' (unchecked) and 'Streaming' (checked).
- Access Point Name (APN):** A section with a radio button for 'SIM' (checked) and a text field containing 'BGAN.INMARSAT.COM'. Below this are fields for 'User Defined', 'Username', and 'Password', all of which are currently empty.
- IP Configuration:** Two radio buttons: 'Dynamic IP Address' (checked) and 'Static IP Address' (unchecked). Below these is a checkbox for 'Use Header Compression' which is checked.
- Streaming Parameters:** A section with two dropdown menus: 'Desired Rate' (set to '32k') and 'Minimum Rate' (set to '32k'). Below these is a checkbox for 'Use error correction' which is unchecked.

On the right side of the interface, there is a 'Streaming' section with a warning message: 'Using this connection type you will be charged **PER MINUTE** of time used. Use this connection type for UDP applications, data exchange and transfer such as Streaming Audio and Video application ONLY. **DO NOT LEAVE STREAMING IP CONNECTED WHEN NOT BEING USED!**'

Follow these steps to set Streaming Parameters:

1. Select the Desired Rate: 32k or 64k
 2. Select the Minimum Rate: 32k or 64k
 3. Check the Error Correction checkbox if it is required to use Error Correction.
- Click Update Settings when all updates on the profile settings are done.
 - Click Activate Profile to activate the selected profile.

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Secondary Profiles

Secondary Profiles setting is used mainly for Streaming connection. You can select from a list of secondary profiles to be used during streaming connection. From Profile 7 to Profile 10, you can create your own customized secondary profile.

Connection Primary Profiles **Secondary Profiles** Port Forwarding Settings

FTP
Quick Link
Quick Time Med
Real Media
Streambox
Win Media
Profile 7
Profile 8
Profile 9
Profile 10

Refresh

Profile Name:

Streaming Parameters:

Desired Rate:

Minimum Rate:

☐ Use error correction

Destination Port Ranges:

From	To	Protocol	
20	21	TCP	Delete

Add Delete All

[Add from Templates](#)

Update Settings Cancel Activate Profile

Profile Name

You may change the profile name from the text box.

Streaming Parameters

Follow these steps to set the Streaming Parameters:

1. Select the Desired Rate: 32k or 64k.
2. Select the Minimum Rate: 32k or 64k.
3. Check the Error Correction checkbox if it is required to use Error Correction.

Destination Port Ranges

Default destination port ranges and protocol type for each profile are listed.

To add a new destination port range:

1. Enter the port range in the space provided and choose TCP or UDP as the protocol type; or click Add from Templates to select the port ranges from other profiles.

Note:

To determine the port number for the type of service you wish to use, you may search them from the Internet. An example of port numbers: for Real Audio and Video streaming, you may use Port 554, 7070 and 7071 for protocol type TCP or Port 6770 to 7070 for protocol type UDP.

- Click Update Settings when all updates on the profile settings are done.
- Click Activate Profile to activate the selected profile.

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Port Forwarding

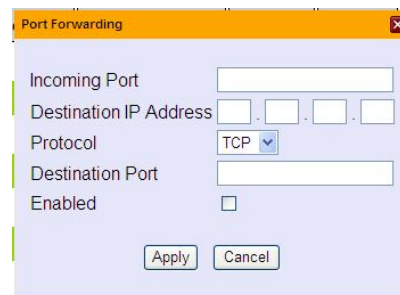
Port Forwarding is a feature for Router (multiple-user) mode. This feature sets the FB250 Systemterminal to direct incoming traffic on certain TCP/UDP port to a specific port on a local PC (IP Address).

Connection	Primary Profiles	Secondary Profiles	Port Forwarding	Settings	
Incoming Port	Protocol	Destination IP Address	Destination Port	Enabled	
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add
0	-	0.0.0.0	0	<input type="checkbox"/>	Add

Refresh

Follow these steps to add a new forwarding rule:

1. Click Add.




2. Enter the Incoming Port number in the space provided.
(For example, the user expecting HTTP, the port is 80).
3. Enter the Destination IP Address.
(For example, the IP Address of the PC that is connected to the FB250 SystemTerminal).
4. Select the Protocol type:
 - TCP (for HTTP, it will be TCP)
 - UDP
5. Enter the 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 FB250 System Terminal).
6. Click Apply to allow the settings to take effect.

SATLINK FB250 System User's Guide

Settings

You can select the Ethernet mode to be used data connection.

Connection	Primary Profiles	Secondary Profiles	Port Forwarding	Settings
Ethernet mode: <input type="radio"/> Router Mode (Single User) <input checked="" type="radio"/> Router Mode (Multi-User) <div><input type="button" value="Update"/> <input type="button" value="Refresh"/></div>				



Follow these steps to select the Ethernet mode:

1. Select the mode to be used during the data connection.
2. Check the Auto PDP Context Activation checkbox if it is required to use Auto PDP Context Activation.
3. Click Update to allow the selection to take effect.
4. Click Refresh to query the current mode.

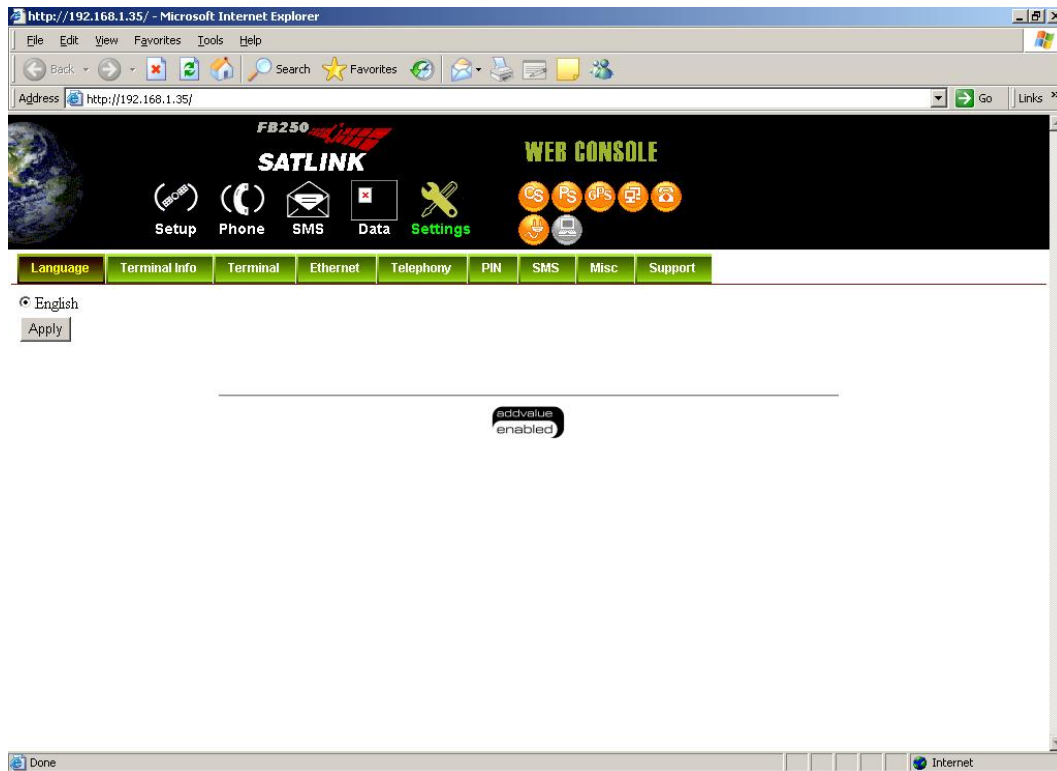
SATLINK FB250 System User's Guide



Settings Menu

Click the following tabs to view and edit the configuration settings for the FB250 Systemterminal.:

- Language
- Terminal Info
- Terminal
- Ethernet
- Telephony
- PIN
- SMS
- Audio
- ATCmd
- Support
- About



SATLINK FB250 System User's Guide

Terminal Info

Displays information about the Manufacture ID, Software version, Model ID, IMEI number, IMSI number (only when a SIM card is inserted) and Subscriber number.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Information

Logs

Call Log

Manufacture ID:	Addvalue
Software version:	R000.2.6
Model ID:	SATLINK FB250
IMEI number:	006500016800073
IMSI number:	901112112102194
Subscriber number:	Not available
ADU Serial Number	536870914

Terminal

Select Auto or Manual to power up the FB250 System terminal when power is supplied via the AC/DC power adaptor.

- Auto Power On: FB250 Systemterminal will automatically power up when power is supplied via the AC/DC power adaptor.
- Manual Power On: You will need to press the On/Off button on the FB250 Systemterminal when power is supplied via the AC/DC power adaptor. *(Is there a On/Off button on the FB250 Systemterminal???)*

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Network	ATCmd	Misc	Support	About
----------	---------------	----------	----------	-----------	-----	-----	---------	-------	------	---------	-------

PowerOn: ☒ Auto ☐ Manual

Update Settings

Ethernet

Click Ethernet to view and edit the Ethernet settings.
Click Update to allow the settings to take effect.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Ethernet

DHCP

Mac Filtering

Ethernet Interface: ☒ Enabled ☐ Disabled

Ethernet mode: ☐ Bridge Mode ☒ Router Mode

Terminal IP Address: . . .

Terminal Subnet Mask: . . .

Update

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Click DHCP to view and edit the DHCP settings.
Click Update to allow the settings to take effect.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Ethernet	DHCP:	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
DHCP	Primary DNS:	<input type="text" value="172"/> . <input type="text" value="30"/> . <input type="text" value="66"/> . <input type="text" value="7"/>
Mac Filtering	Secondary DNS:	<input type="text" value="172"/> . <input type="text" value="30"/> . <input type="text" value="34"/> . <input type="text" value="7"/>
	DHCP IP Pool Start:	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="1"/> . <input type="text" value="30"/>
	DHCP IP Pool End:	<input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="1"/> . <input type="text" value="50"/>
	IP Lease Time:	<input type="text" value="60"/> second(s)
	<input type="button" value="Update"/>	

Click Mac Filtering to view and edit the DHCP settings.
Click Update to allow the settings to take effect.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Ethernet	Mac Filtering:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
DHCP	Use:	<input checked="" type="radio"/> Reject List <input type="radio"/> Allow List
Mac Filtering	<input type="button" value="Update"/>	

Reject List	Allow List
<input type="text"/>	<input type="text"/>
<input type="button" value="Add"/>	<input type="button" value="Add"/>
<input type="button" value="Delete All"/>	<input type="button" value="Delete All"/>

*Your Mac Address: 00:0A:E4:C4:9A:1C

Telephony

Select Enabled to use the Telephone Interface.
Select Disabled if you do not need to use the Telephone Interface.

Select European Caller Line ID Phone connected or US Caller Line ID Phone connected from the Telephone Interface Configuration drop-down menu.

Click Update to allow the settings to take effect.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Interface	Telephone Interface:	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Port Configuration	Telephone Interface Configurations:	<div><div>US Caller Line ID Phone connected</div><div>European Caller Line ID Phone connected</div><div>US Caller Line ID Phone connected</div></div>

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PIN

- Terminal PIN

Click Terminal PIN to configure the Terminal PIN settings.

Select Disabled if you do not need to set the Terminal PIN.

Select Enabled to set the terminal PIN.

Enter the PIN number in the Enter PIN field and click Update PIN.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
<div><div>Terminal PIN</div><div>SIM PIN</div><div>SIM PIN2</div><div>SIM Lock</div><div>Service Provider PIN</div><div>Corporate PIN</div></div> <div>Terminal PIN <input type="radio"/> Enabled <input checked="" type="radio"/> Disabled Enter PIN: <input type="text"/> <input type="button" value="Update PIN"/></div> <div><div>addvalue</div><div>enabled</div></div>								

- SIM PIN

Click SIM PIN to configure the SIM PIN settings.

Select Disabled if you do not need to set the SIM PIN.

Select Enabled to set the SIM PIN.

Enter the PIN number in the space provided and click Update PIN.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
<div><div>Terminal PIN</div><div>SIM PIN</div><div>SIM PIN2</div><div>SIM Lock</div><div>Service Provider PIN</div><div>Corporate PIN</div></div> <div>SIM PIN <input type="radio"/> Enabled <input checked="" type="radio"/> Disabled Enter PIN: <input type="text"/> <input type="button" value="Update PIN"/></div> <div><div>addvalue</div><div>enabled</div></div>								

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- SIM PIN2

Click SIM PIN2 to configure the SIM PIN2 settings.

Select Disabled if you do not need to set the SIM PIN2.

Select Enabled to set the SIM PIN2.


Enter the PIN number in the space provided and click Update PIN.

To change the PIN Password:

1. Enter the old PIN number in the Enter Old PIN field.
2. Enter the new PIN number in the Enter New PIN field.
3. Re-enter the new PIN number in the Re-enter New PIN field.
4. Click Change PIN Password.
The Terminal PIN is now changed.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Terminal PIN	SIM PIN2
SIM PIN	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
SIM PIN2	Enter PIN: <input type="text"/>
SIM Lock	<input type="button" value="Update PIN"/>
Service Provider PIN	Change PIN Password:
Corporate PIN	Enter Old PIN: <input type="text"/>
	Enter New PIN: <input type="text"/>
	Re-enter New PIN: <input type="text"/>
	<input type="button" value="Change PIN Password"/>



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- SIM Lock


Click SIM Lock to configure the SIM Lock settings.

Select Disabled if you do not need to set the SIM Lock.

Select Enabled to set the SIM Lock.

Enter the PIN number in the space provided and click Update PIN.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
Terminal PIN	SIM Lock							
SIM PIN	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled							
SIM PIN2	Enter PIN: <input type="text"/>							
SIM Lock	<input type="button" value="Update PIN"/>							
Service Provider PIN								
Corporate PIN								



- Service Provider PIN


Click Service Provider PIN to configure the Service Provider PIN settings.

Select Disabled if you do not need to set the Service Provider PIN.

Select Enabled to set the Service Provider PIN.

Enter the PIN number in the space provided and click Update PIN.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
Terminal PIN	Service Provider PIN							
SIM PIN	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled							
SIM PIN2	Enter PIN: <input type="text"/>							
SIM Lock	<input type="button" value="Update PIN"/>							
Service Provider PIN								
Corporate PIN								



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- Corporate PIN


Click Corporate PIN to configure the Corporate PIN settings.

Select Disabled if you do not need to set the Corporate PIN.

Select Enabled to set the Corporate PIN.

Enter the PIN number in the space provided and click Update PIN.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
Terminal PIN	Corporate PIN							
SIM PIN	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled							
SIM PIN2	Enter PIN: <input type="text"/>							
SIM Lock	<input type="button" value="Update PIN"/>							
Service Provider PIN								
Corporate PIN								



SMS

To change the SMS service Centre Address number, enter the new number in the space provided and click Update.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
Service Center Address: <input type="text" value="+870772001799"/>								
<input type="button" value="Update"/>								



SATLINK FB250 System User's Guide

Misc

Click Reboot to reboot the FB250 Systemterminal.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Reboot Terminal

Factory Reset

Click on the button to reboot the BGAN Terminal:

Reboot

addvalue
enabled

To perform a Factory Reset, enter the Security code 0000 and click Factory Reset. The settings of the FB250 Systemterminal will be reset to the default settings.

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Reboot Terminal

Factory Reset

Security code:

Factory Reset

addvalue
enabled

Support

Display information of the support telephone number, support email address, Support URL and Services URL. (*The information shown are for sample purpose only.*)

Language	Terminal Info	Terminal	Ethernet	Telephony	PIN	SMS	Misc	Support
----------	---------------	----------	----------	-----------	-----	-----	------	---------

Inmarsat Distribution Partner Name:	Beta Test Data
Phone Number For Support:	+442077281653
Support E-Mail Address:	bgantest1@inmarsat.com
Support URL:	http://support.inmarsat.com/mmi1.aspx
Services URL:	http://support.inmarsat.com/mmi2.aspx

addvalue
enabled

Chapter 5 - The Inmarsat BGAN System

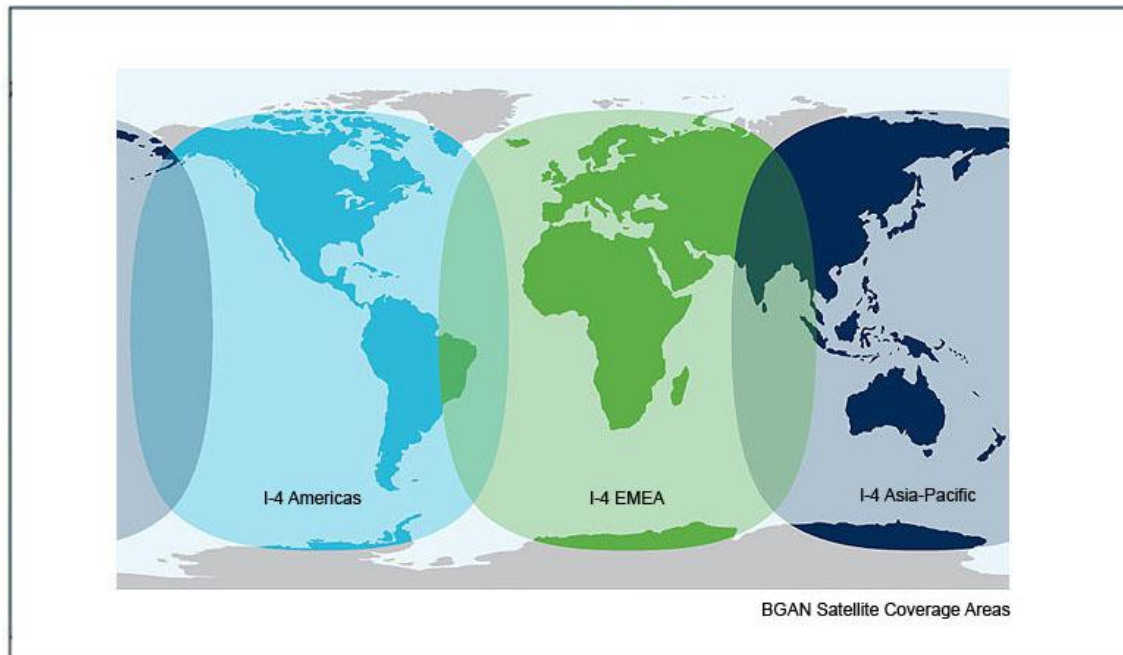
What is BGAN?

The Broadband Global Area Network (BGAN) is a mobile satellite service that offers high-speed data up to 492 kbps and voice telephony. BGAN enables users to access e-mail, corporate networks and the Internet, transfer files and make telephone calls.

The Inmarsat FleetBroadband service FleetBroadband is a maritime communications service offered in the BGAN system. Based on 3G standards, FleetBroadband provides cost-effective broadband data and voice simultaneously.

Coverage

The Inmarsat BGAN services are based on geostationary satellites situated above the equator. Each satellite covers a certain area (footprint). The coverage map below shows the footprints of the BGAN system.



Note:

The map depicts Inmarsat's expectations of coverage, but does not represent a guarantee of service. The availability of service at the edge of coverage areas fluctuates depending on various conditions.

Certain FleetBroadband services are not available in areas with low elevation. For more information, see *Limitations on page XX*.

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Overview of the FleetBroadband system

A complete BGAN FleetBroadband system may include the FB250 FleetBroadband terminal with connected peripherals, a FB250 FleetBroadband antenna, the BGAN satellite, and the Satellite Access Station (SAS). The satellites are the connection between your terminal and the SAS, which is the gateway to the worldwide networks (Internet, telephone network, cellular network, etc.).

The BGAN services

Supported services

The services currently supported by BGAN comprise:

- A Packet Switched connection to the Internet
- A Circuit Switched (Dialed) connection for voice, fax or data
- Short Messaging Service (SMS)

Packet data service

The BGAN network supports different classes of data connection to the Internet.

- Using a Standard data connection several users can share the data connection simultaneously. This type of connection is ideal for e-mail, file transfer, and Internet and intranet access. The user pays for the amount of data sent and received.
- Using a Streaming data connection you get an exclusive high-priority connection ensuring seamless transfer of data. This type of connection is ideal for time critical applications like live video over IP. The user pays for the duration of the connection (per minute charge).

Note:

The BGAN system supports maximum 11 concurrent PS connections at a time per FB250 FleetBroadband system.

Circuit switched (dialed) service

Two types of circuit switched connection are available:

- **Standard Voice**
A low-tariff connection for voice only. The voice signal is compressed to 4.0 kbps, which reduces the bandwidth use and consequently the tariff.
- **3.1 kHz Audio**
A high quality connection which can be used for Premium Voice, G3 fax or analog modems. The signal is uncompressed 3.1 kHz audio, which allows for optimum voice quality.

Note:

The BGAN system only supports one CS call at a time per FB250 FleetBroadband system.

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SMS service

The BGAN system provides a Short Messaging Service (SMS) for sending and receiving SMS messages.

Supplementary services

The BGAN system also provides the following supplementary services:

- Call hold
- Call waiting
- Call forwarding
- Voice mail
- Call barring

Limitations

SIM lock

The supplier may SIM lock the terminal to a specific provider. For more information, contact your supplier.

Limitations in available services

The services available depend on your airtime subscription. Your SIM card may not allow for all the services described in this manual.

Further, for FleetBroadband Class 9, the following limitations apply:

For FleetBroadband Class 8, Streaming 256 kbps can only be guaranteed in elevations $> 15^{\circ}$.

Service	Elevation < 15	$15 < \text{Elevation} < 20$	Elevation ≥ 20
3.1 kHz Audio for voice and fax	Not supported	Not supported	Supported
ISDN	Not supported	Not supported	Not supported
Standard IP	Up to 284 kbps	Up to 284 kbps	Up to 284 kbps
Streaming	32, 64 kbps	32, 64, 128 kbps	32, 64, 128 kbps

Note:

The FB250 FleetBroadband system is a FleetBroadband Class 9 system.

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Matrix of services and interfaces

The following table shows which services can be accessed from which interfaces on the terminal, and which types of equipment can be used.

Service		Interface on the terminal	
Circuit Switched	3.1 kHz Audio*	Phone/Fax	LAN (PoE)
		Analog telephone	Primary Handset
		G3 Fax machine	
		Computer with analog modem	
	Standard Voice	Analog telephone	Primary Handset
Packet Switched	Data multi-user		Computer
	Data single-user		Computer
SMS			Computer with Web Console

*Notes:

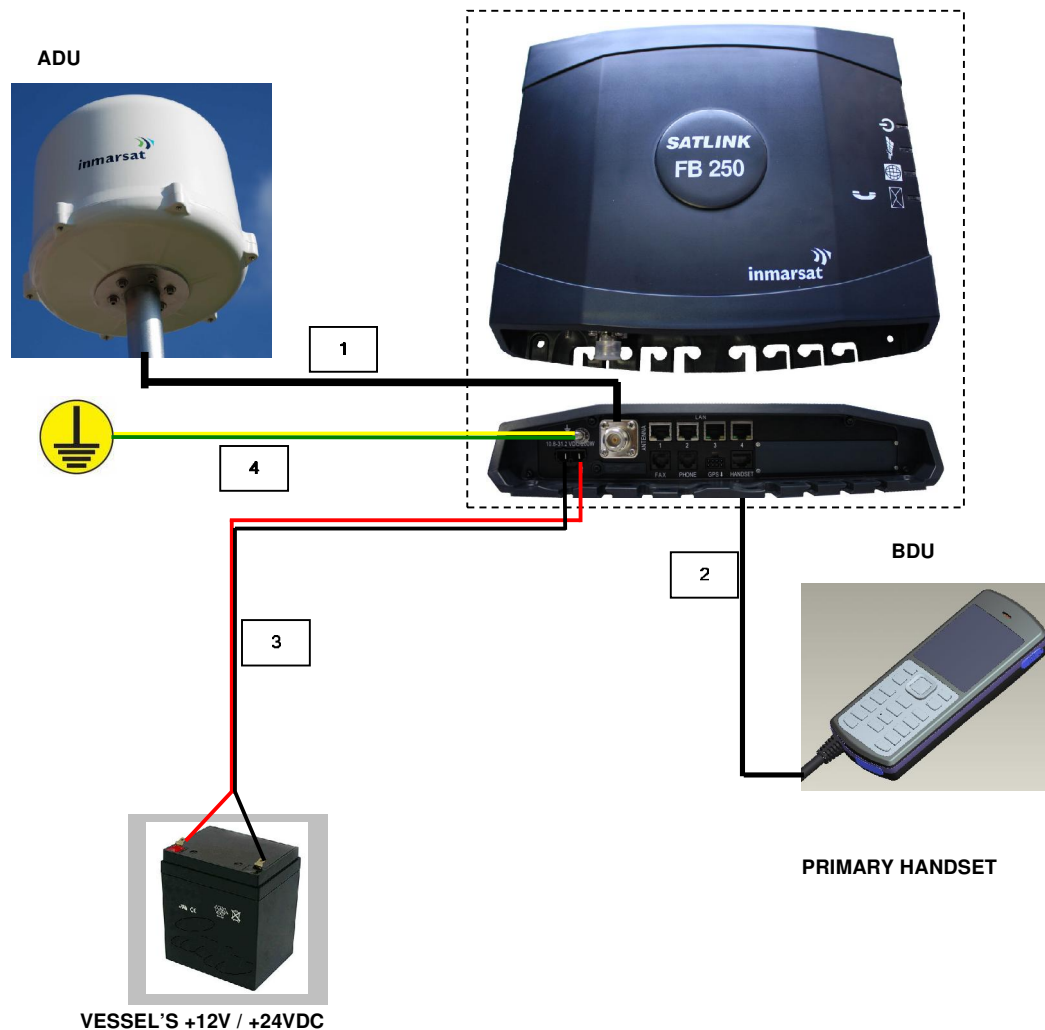
For FB250 FleetBroadband: UDI data is not available.

In low elevations (< 20°), 3.1 kHz Audio is not available.

Chapter 7 – Installation of BDU

Installation of BDU

An overview of BDU's connections with primary handset cable, power cable and antenna cable is illustrated as below.



- (1) Antenna Cable
- (2) Primary Handset Cable
- (3) Power Cable
- (4) Earth Grounding Cable *

** Note: The Earth grounding cable shall be connected to a vessel's hull as the earth / grounding point.*

Important notes to be followed before installing BDU

The following notes shall be noted:

1. The BDU shall be placed in any room, mostly a bridge of a vessel, where its ambient temperature ranges from -25°C to +55°C. In addition, to ensure adequate ventilation, the BDU shall have 5cm of unobstructed space to be maintained at around its all sides.
2. The desktop or the wall surface shall support the BDU's dimension and weight of 314.7 x 295 x 59.4mm and 2.6kg respectively.
3. The BDU shall be placed away from a high-vibrated engine as far as possible.
4. The BDU shall not be operated in any explosive environment as well as in the presence of flammable gases or fumes.

Mounting of BDU

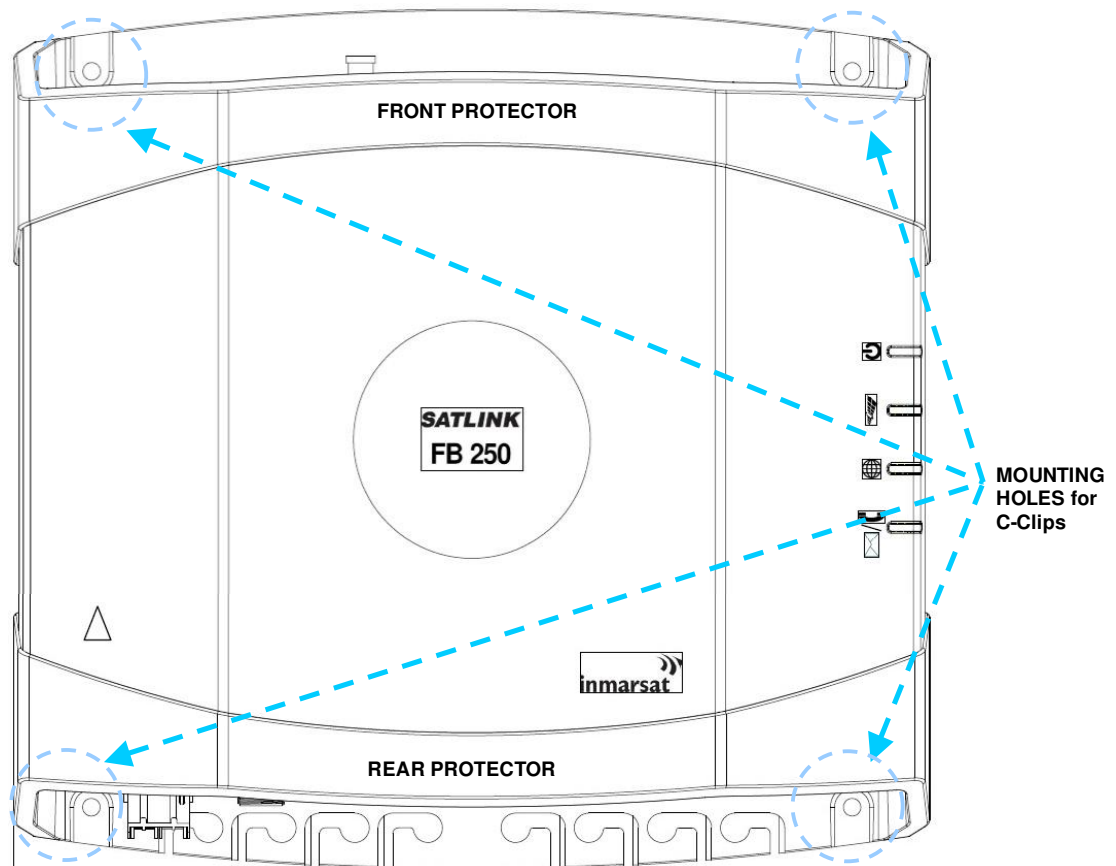
The BDU is designed for the desktop, wall surface or top ceiling installation.

BDU in Desktop Installation

1. The BDU can be placed on the table or desktop.
2. The BDU has its rubber foots which rest on the desktop in a way that they can prevent it from being shaken or moveable. In addition, it is not necessary to use any self-tapping screws to lock the mounting holes of BDU.

BDU on Wall Installation

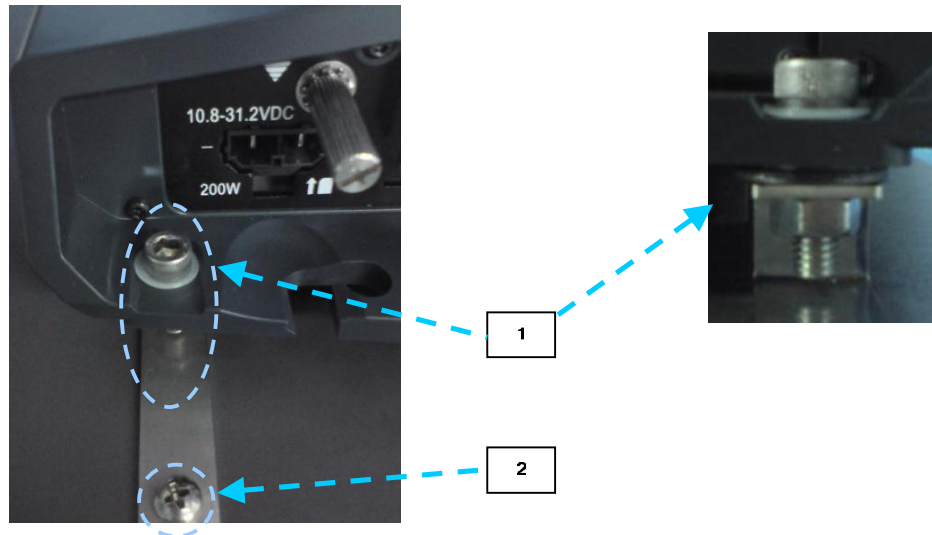
1. The BDU can be mounted on the wall surface by means of using C-clips (together with M5 x 18 Hexagon Screw, M5 washers and M5 Nuts) on the mounting holes of the front and rear protectors.



The above illustration shows the arrows where M5 x12 Pan Head Self tapping screws shall be applied to tighten the BDU on the wall surface via C's clip legs.

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2. Ensure the thickness of the wall surface at least 16mm.
3. Place the BDU on the wall surface with the desired location. Insert and tighten a M5 x 12 Pan Head Self-tapping screw on one of the BDU mounting holes.



1. M5 x 18 Hexagon Screw with 2xM5 Washers and M5 Nut on each C-clip
2. M5 x12 Pan Head Self tapping screws

BDU on Top Ceiling Installation

The top ceiling installation is similar as the wall installation.



The above illustration shows the arrows where M5 x12 Pan Head Self tapping screws shall be applied to tighten the BDU on the top ceiling via its mounting holes

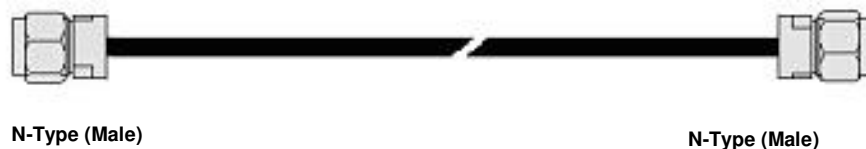
Connecting power cable to BDU



1. It is important that the first step is to connect the power cable to the vessel's source of 12VDC / 24V VDC with the color code of wiring:
 - Red Wire shall connect to (+)
 - Black Wire shall connect to (-)
2. Insert the power connector into the BDU's power connector.

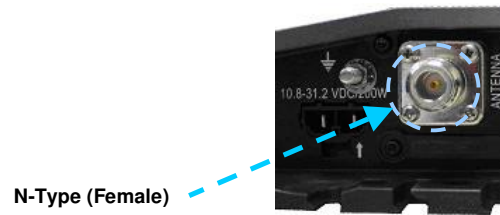
Connecting antenna cable to BDU

1. The antenna cable has N-Type connector terminated at each end. Each end of the antenna cable is catered for its connection to the ADU. Please refer to Chapter 6 for more information on the installation of ADU.



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2. Plug the other N-Type connector of the antenna cable into the BDU's antenna connector.



Regulatory Information

Federal Communication Commission Notice

FCC Identifier: XGW-SLFB250BDE

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 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

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 fleet broadband satellite communication system SATLINK FB250.

Declaration of Conformity:

SATLINK S.L Avda.de la Industria , 53-Nave 7, Poligono Industria de Alcobendas 82108-Alcobendas Madrid , Spain, declares under our sole responsibility that the Product, brand name as SATLINK and model:SATLINK FB250 Fleetbroadband satellite communication system equipment to which this declaration relates, is in conformity with the following standards and/or other normative documents:

ETSI EN 301444, IEC 60945:2002 / EN 60945: 2002, ITU-R M.1480, IEC 60950-1 AND EN 60950-1,

We hereby declare that all essential radio test suite 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)

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

- Addvalue Communications Pte Ltd, 190 Changi Road, #02-02 MDIS Building, Singapore 419974.
- Signed by Mr. Luis Diaz del Río (Chief Executive Officer, July 8, 2009) and Mr. Jens Heinsdorf (Chief Technology Officer, July 8, 2009).

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Safety Information

For your safety and protection, read this entire user manual before you attempt to use the FB250 FleetBroadband 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.

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

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.

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 FB250 FleetBroadband 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.

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:

FB250 FleetBroadband antenna: min. 1.1 m
FB250 FleetBroadband terminal: min. 0.3 m.

Service

User access to the interior of the terminal is prohibited. Only a technician authorized by Addvalue Communications Pte Ltd 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.

Do not service or adjust alone

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

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.

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All cables for the FB250 FleetBroadband 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.

Power supply

The voltage range is 10.5 - 32 V DC; 14 A - 5.5 A. It is recommended that the voltage is provided by the 24 V DC power bus on the ship. Be aware of high start-up peak current: 20 A@24 V, 5 ms.

If a 24 V DC power bus is not available, an external 115/230 VAC to 24 V DC power supply can be used.

Equipment ventilation

To ensure adequate cooling of the terminal, 5 cm of unobstructed space must be maintained around all sides of the unit (except the bottom side).

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.

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.

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.

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

SATLINK FB250 System User's Guide

Release date: 08 July 2009

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

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