



Setting up HNS 9201 with BGAN LaunchPad

Version 04
24 February 2010

inmarsat.com/bgan

Whilst the information has been prepared by Inmarsat in good faith and all reasonable efforts have been made to ensure its accuracy, Inmarsat makes no warranty or representation as to the accuracy, completeness or fitness for purpose or use of the information. Inmarsat shall not be liable for any loss or damage of any kind, including indirect or consequential loss, arising from use of the information and all warranties and conditions, whether express or implied by statute, common law or otherwise, are hereby excluded to the extent permitted by English law. INMARSAT is a trademark of the International Mobile Satellite Organisation, Inmarsat LOGO is a trademark of Inmarsat (IP) Company Limited. Both trademarks are licensed to Inmarsat Global Limited. © Inmarsat Global Limited 2007. All rights reserved.

Contents

1	Introduction	1
1.1	About this guide	1
1.2	Other sources of information	1
1.3	Upgrading software	1
	Getting Started	2
2	Introducing the terminal	2
2.1	Physical characteristics	2
2.2	Interfaces	2
2.3	Services	2
3	Setting up the terminal	3
3.1	Installing the SIM card and battery	4
3.2	Powering on and charging the battery	6
3.3	Installing BGAN LaunchPad	6
3.4	Obtaining a GPS fix	6
3.5	Connecting the terminal to your computer	7
3.6	Defining DNS Settings	10
3.7	Registering with the network	11
	Voice and Data Connections	15
4	Making voice, data and text connections	15
4.1	Making an ISDN voice or data connection	15
4.2	Making an IP Data Connection	18
4.3	Sending or receiving a text message	25
	Configuring a Wireless LAN	27
5	Making a WLAN connection	27
	Managing the terminal	28
6	Enabling or disabling antenna audio	28
7	Enabling or disabling indicator lights	29
8	Enabling auto start and automatic registration	30
9	Restarting the terminal	30

Telephony settings

31

10 Viewing telephone numbers

31

1 Introduction

1.1 About this guide

This document introduces the HNS 9201 terminal and explains how to set up the terminal for use on the BGAN network, register with the network and set up data, voice and text connections.

It is intended for first time end-users, Distribution Partners, Service Providers and anyone who wants to use a BGAN terminal to connect to the BGAN network and use network services. A previous knowledge of satellite communications is useful, but not essential.

The sections include:

- Introducing the terminal – a brief overview of the physical features and interfaces of the terminal and the available services.
- Setting up the terminal – includes installing the battery and SIM card, connecting to a computer and registering with the network
- Making data, voice and text connections – an explanation of how to make a voice call, how to make IP data connections or an ISDN data connection and how to send and receive a text message.
- Configuring a wireless LAN.
- Managing the terminal and telephony settings.

1.2 Other sources of information

Refer to the following documentation for further details:

- This is one of a series of PDF documents in BGAN Product support. Product support is designed to help you make the most of your BGAN terminal. Other documents in the series are available for download from www.inmarsat.com/support. Click on **BGAN**, then click on **User guides**.

This Web site also gives further information on the BGAN service, including Industry solutions.

- For help in using BGAN LaunchPad, refer to “BGAN LaunchPad User Guide”, available for download from www.inmarsat.com/support, click on **BGAN**, then click on **LaunchPad guides**.
- For further information on the HNS 9201 terminal, refer to the “BGAN Satellite Terminal User Guide”, available for download from www.hns.com.

1.3 Upgrading software

- To download the latest USB drivers and BGAN LaunchPad software, go to www.inmarsat.com/support, click on **BGAN**, then select from the options listed under **Product Updates**.
- To download the latest terminal firmware, select **Update > Versions and Availability** from BGAN LaunchPad.

Getting Started

2 Introducing the terminal

This section introduces the physical characteristics, interfaces and services available on the HNS 9201 (also referred to as the “terminal” throughout this document).

2.1 Physical characteristics

Item	Specification
Manufacturer	Hughes Network Systems
Physical dimensions	345mm x 275mm (13.6inx 10.8in.)
Weight (including battery)	2.8kg (6.2lbs)
External power	20 Volts DC, 110-240 Volts AC
Battery life	Transmit: 162Mb via Ethernet Receive: 864Mb via Ethernet Stand-by time: 36 hours
Ingress protection	IP 55

2.2 Interfaces

Interface	Equipment needed
Ethernet 10BASE-T	IP data device, Ethernet-enabled
USB v1.1	IP data device, USB-enabled
ISDN RJ45, 1 x B channel	RJ45 handset, G3 and G4 fax machine, ISDN data device
WLAN 802.11b	IP data device, wireless-enabled. WEP 64 bit and 128 bit supported.

2.3 Services

Services	Specification
Standard IP data	Up to 492kbps (send and receive)
Streaming IP data	32kbps, 64kbps, 128kbps, 256kbps, 384 kbps (symmetrical)
Phone/fax	4kbps or 3.1kHz
ISDN data	56kbps, 64kbps
Text	To other BGAN terminals or cellular mobile phones. From other BGAN terminals and some mobile phones, depending on service provider.

3 Setting up the terminal



This section explains how to set up the HNS 9201 terminal and connect to the BGAN network. The steps described are:

- a. Installing the SIM card and battery.
- b. Powering on and charging the battery.
- c. Installing BGAN LaunchPad on your computer.
- d. Obtaining a GPS fix.
- e. Connecting the terminal to your computer. Inmarsat recommends that when first setting up, you use either:
 - the Ethernet interface, or
 - the USB interface.
- f. Defining DNS Settings.
- g. Pointing the terminal and registering with the BGAN network.

Pre-requisites

Before you start, make sure that you have:

- The BGAN terminal.
- The AC mains power adapter, supplied with the terminal.
- The rechargeable battery, supplied with the terminal.
- A USIM card, supplied by your Service Provider.
- The Ethernet cable supplied with the terminal or the USB cable supplied with the terminal, depending on how you want to connect the terminal to your computer.
- The BGAN LaunchPad installation CD, supplied with the terminal. Make sure that your PC or Mac has the minimum system requirements for BGAN LaunchPad (refer to page 4 for details).

Minimum system requirements for BGAN LaunchPad

The following are the minimum hardware and software requirements for using BGAN LaunchPad to manage the Hughes 9201 on your computer.

Hardware requirements

You must have the following on your computer:

- **Support for one of these interfaces: USB, Ethernet, ISDN or WLAN.**
- **Intel Pentium III CPU, or equivalent.**
- **100Mb of free hard disk space.**
- **128Mb of RAM.**
- **CD-ROM drive.**
- **Operating systems: You must have one of the following operating systems on your computer:**
 - **Microsoft Windows 2000 with SP4.**
 - **Microsoft Windows XP with SP2.**
 - **Linux Red Hat 9 - KDE 3.1.10 (Kernel Version 20.4.20-8).**
 - **Mac 10.x. or Mac 9.2 or Mac 9.2.**

3.1 Installing the SIM card and battery

To prepare the terminal for connection:

- a. Position the terminal so that the battery door is facing you.
- b. Open the battery door. (If you have already installed the battery, release and then remove it.)



- c. Push the button on the left-hand side of the SIM card holder. This releases the holder from its compartment.
- d. Remove the holder from its compartment.

- e. Install the SIM card in the card holder making sure it snaps into place. Make sure that the SIM card's gold contacts are facing out from the holder.



- f. With the card in the holder, orient the holder with the card's gold contacts facing down. Place the holder back in its slot in the BGAN terminal.



- g. Put the battery into its slot in the BGAN terminal and lock it in place. Close the battery door securely.

3.2 Powering on and charging the battery

To power the terminal using the power adapter:

- a. Insert the power adapter output connector into the DC power input jack on the back of the terminal.



- b. Insert the plug end into any AC outlet between 100 and 240 VAC.

Note The battery charges automatically whenever the terminal is connected to a power source.

3.3 Installing BGAN LaunchPad

To install BGAN LaunchPad on your computer:

- a. Insert the BGAN LaunchPad Installation CD into your computer's CD-ROM drive.
- b. Follow the on-screen instructions.

3.4 Obtaining a GPS fix

The BGAN network requires a valid GPS fix to successfully register your BGAN terminal.

To obtain a GPS fix:

- a. Take the HNS 9201 outside and place the terminal on a flat surface, facing upwards and with an unobstructed view of the sky. Ensure that the GPS antenna in the terminal is pointing in the direction of the satellite.
- b. Press the Power button. The GPS LED starts to flash green indicating that the terminal is acquiring a GPS fix.



Leave the terminal to acquire a GPS fix. This may take a few minutes. Once the GPS fix has been acquired the GPS LED turns solid green.

Note If the GPS indicator light is solid red, the GPS receiver is faulty. Contact your Service Provider.

Tip You can switch the terminal off after acquiring a GPS fix. The terminal stores the GPS fix information in its memory. When you turn the terminal back on, the GPS indicator light flashes green. This is normal behaviour and you can connect the terminal to your computer and register with the network as normal.

About GPS

The Global Positioning System (GPS) uses 24 orbital satellites to fix the position of the terminal anywhere on the globe.

- In normal operation, a GPS receiver, such as that built in to the Terminal, needs to be able to receive signals from at least three satellites so that it can then calculate latitude, a longitude and an altitude – this position fix is referred to as a 3-dimensional or 3-D fix. If only two GPS satellites can be seen by the GPS receiver, then the last available altitude measurement is assumed and the GPS receiver calculates a position fix based on latitude and longitude only. This simpler position fix is referred to as a 2-dimensional or 2-D fix and is quicker and easier to obtain than a 3-D fix, but may be less accurate.

Note: You can register with the BGAN network with a 2-D or a 3-D fix.

- The GPS receiver may take between a few seconds and 20 minutes to obtain a GPS fix, depending on how frequently the GPS receiver is being used. The frequency of use determines the how quickly the GPS Terminal is able to start.
 - Hot start - if the GPS receiver is being used frequently, (that is, at least every two to six hours), it is regularly updated with data from the GPS satellites and so only takes a short time to obtain a GPS fix after being switched on.
 - Warm start - if a GPS receiver has not been used for more than six hours, then it will take longer to obtain a GPS fix, perhaps up to 45 seconds.
 - Cold start - if the GPS receiver has not been used for some time or is 300 km or more from where it was last used, it can take between 10 and 20 minutes to obtain a valid position fix.
- Following successful registration and providing the Terminal is left switched on and remains stationary, the GPS is no longer needed. Periodically, the BGAN terminal contacts the BGAN network to inform the network that it is still switched on. In addition, the BGAN network periodically checks each terminal for activity and if there has been no traffic through the terminal and the terminal has not automatically contacted the BGAN network as described above, then the terminal will be de-registered from the network.

3.5 Connecting the terminal to your computer

When you first connect the terminal to your computer, Inmarsat recommends that you use either Ethernet or USB.

Note USB can operate over a distance of up to 5m with standard cables. Ethernet can operate over a distance of up to 100m with standard cables.

Connecting over Ethernet

Note For the Ethernet interface to work without any further setup, your computer must be configured to obtain an IP address and a DNS server address automatically. To check that

these settings are configured on your computer, refer to the documentation for your operating system.

Note For details on how to configure DNS Server addresses for the terminal, refer to Defining DNS Settings on page 12.

To connect the BGAN terminal to your computer using Ethernet:

- a. Insert one connector on the supplied Ethernet cable into the BGAN terminal's Ethernet port, as shown below.



- b. At the terminal connection point, slide the cable through the rubber door slot in order to secure and protect the connection.
- c. Insert the other connector into your computer's Ethernet port. A message confirming connection is displayed on your computer.

Tip Some corporate computers are configured with a static IP address. If your computer has a static IP address, you must go into your operating system's IP Properties option and change your computers settings to obtain an IP address automatically before your computer can communicate with the terminal.

IP addressing on the Hughes 9201

- **In normal operation, the terminal uses its built-in DHCP server to allocate IP addresses automatically. If you want to manually set up IP addressing, you can use the terminal's default range of IP addresses, as shown below:**

Terminal IP address	192.168.128.100
Default range of IP addresses	192.168.128.101 to 192.168.128.254
Subnet mask	255.255.255.0

DNS

If you use BGAN.INMARSAT.COM as your APN, the default DNS addresses are 172.30.66.7 and 172.30.34.7

If you use another APN, your Distribution Partner supplies you with a DNS address for your APN.

- **To test connectivity between your computer and the terminal, ping 192.168.0.1 from your computer. If a reply is received, your computer is connected to the terminal.**
- **The terminal allocates an IP address to each user connected to the Ethernet or WLAN interface, up to a maximum of 11 users and then maps the IP address to a network address for full Network Address Translation (NAT) and Port Address Translation (PAT). Each user can therefore open a separate data connection from the terminal and does not have to share network connections. The relevant settings for the Hughes 9201 are allocated along with the IP address.**

Refer to the Solutions Guide document “BGAN and IP data connections” for further details.

Connecting over USB

Note The Hughes 9201 USB connection is displayed as a network (LAN) connection on your computer. The IP address range is the same as described in “Connecting over Ethernet”.

To connect the BGAN terminal to your computer using the USB port:

- a. Insert one connector on the supplied USB cable into the terminal’s USB port:



- b. At the terminal connection point, slide the cable through the rubber door slot in order to secure and protect the connection.
- c. Insert the other connector into your computer’s USB serial port. A message confirming connection is displayed.

Note When you install BGAN LaunchPad, the USB driver for the terminal is also installed. When you plug in the USB cable for the first time, your computer’s operating system uses this driver to connect to the terminal.

Note USB drivers are provided with your BGAN terminal. You can also download the latest USB drivers from the Inmarsat Web site. Go to www.inmarsat.com/support, click on **BGAN** and then click on **Software drivers**.

Interfacing with the BGAN terminal

BGAN LaunchPad is Inmarsat's easy-to-use software interface, that provides step-by-step instructions on connecting to the BGAN network and setting up satellite connections. You can use BGAN LaunchPad to manage data connections, send and receive text messages, monitor telephone usage and upgrade software. The interface can be installed on any computer connected to the terminal and accessed by double-clicking on a desktop icon. With BGAN LaunchPad, you have access to all the latest customisation options and features of the BGAN service. You can also update firmware automatically using BGAN LaunchPad.

Note If you use only the USB connection, you must install the USB drivers before you can use BGAN LaunchPad.

3.6 Defining DNS Settings

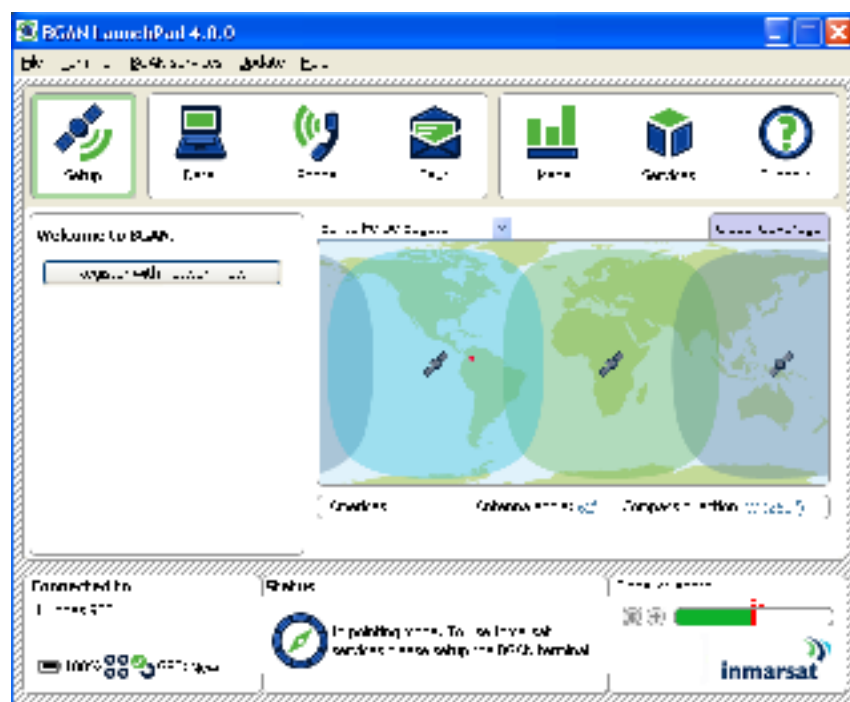
Before you can register with the network, you must configure the DNS settings for the terminal. To do this, you need the DNS server addresses for your APN, supplied by your Distribution Partner.

To define the DNS settings:

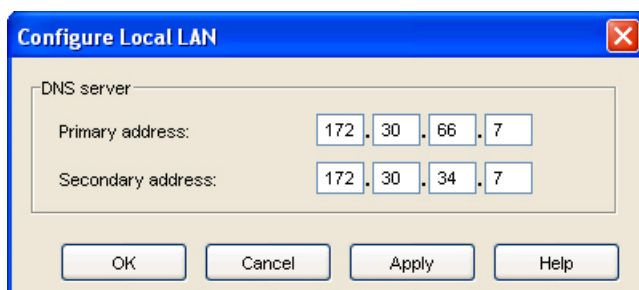
- a. Open BGAN LaunchPad by clicking on the **BGAN LaunchPad** icon on your desktop:



The following screen is displayed:



- b. Select **Terminal > IP Configuration**. The **Configure Local LAN** dialog box is displayed:



The addresses shown are the default DNS Server addresses for the APN **BGAN.INMARSAT.COM**.

- c. Type in the Primary address and Secondary address (if any) supplied by your Distribution Partner and click on **Apply**.
- d. Click on **OK** to exit the dialog box.
- e. You must turn off the terminal and turn it back on using the Power button on the terminal for the changes to take effect.

Configuring DNS Settings on your computer

There are two ways to configure IP address information for your computers and the method you use affects how DNS Server addresses are allocated to your computer:

- **Static IP addressing** – if your computer is configured with a static IP address, then you must also use static DNS Server addresses in that computer. The computer cannot use the pre-configured DNS Server settings in the terminal.
- **Dynamic IP addressing** – if your computer is configured to obtain an IP address dynamically, then the DNS Servers in that computer can be entered statically or dynamically.
 - If your computer is configured with static DNS Server addresses, then the computer does not use the pre-configured DNS Server settings in the terminal. No further configuration is necessary.
 - If your computer is configured to obtain DNS Server addresses dynamically, then the terminal allocates the DNS Server addresses for the default APN to each connected computer. If your SIM is provisioned to support more than one APN and you want to connect to an APN other than the default APN, you must overwrite the dynamically assigned DNS Server addresses with the static DNS Server addresses for that APN. To do this, use the Configure Local LAN dialog box in BGAN LaunchPad (described above).

3.7 Registering with the network

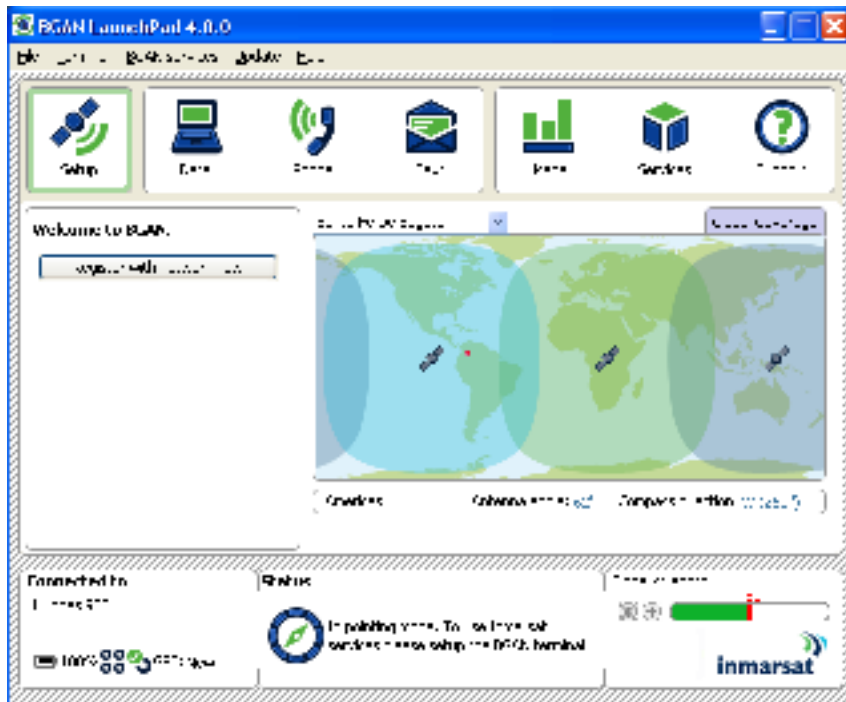
Establishing a connection and registering successfully with the network requires careful orientation of the terminal towards the satellite, a process called pointing. Accurate and precise pointing is important, because a badly-pointed antenna can reduce the data rate achievable over the network, or even restrict access to services. When pointing is complete, you can register the terminal with the BGAN network.

Use BGAN LaunchPad to step through the process of pointing the terminal and registering with the network. In addition, you can use the terminal's signal strength indicator lights and, optionally, the terminal's audio buzzer to point the terminal. To do this:

- a. Open BGAN LaunchPad by clicking on the **BGAN LaunchPad** icon on your desktop.



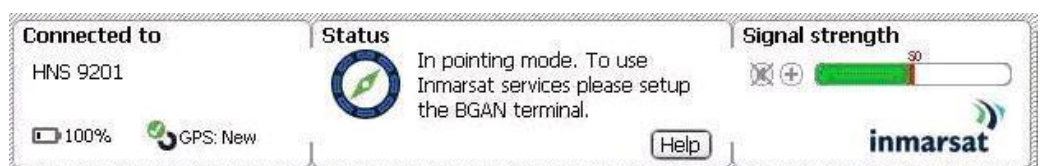
The following screen is displayed:



The status bar displays the message **In Pointing Mode**.

Note The coverage map and "Welcome to BGAN" area are provided to assist you in pointing, but the location shown may not correspond to your GPS fix. This does not affect network registration.

- b. BGAN LaunchPad suggests the recommended pointing angle and direction to correctly position the terminal.
 - Using the terminal's built-in compass, rotate the terminal left or right until it points in the correct horizontal direction, known as the azimuth. Make sure the compass is horizontal to get an accurate reading.
 - Using the terminal's graduated scale, tilt the terminal slowly up or down until it points in the correct vertical direction, known as the elevation.
- c. Monitor the signal strength on the status bar:



Use this information to further adjust the antenna position to obtain optimal signal strength.

In addition, you can use the terminal's indicator lights and audio buzzer to assist in pointing the terminal:

- Note the Pointing indicator lights as you adjust the compass and graduated scale. The light on the right of the scale lights first. The others then light from right to left as the signal improves. If all lights are on, the signal is at its strongest.



- To assist in pointing, you can also use the audio button to turn the buzzer on. The higher the pitch and the shorter the interval between the tones, the stronger the signal.



Note If the signal strength is not sufficient, registration may not be possible and the terminal may not be able to open a data connection.

- d. When you have positioned the terminal to obtain the optimal signal strength, you are ready to register with the network. Click on **Register with Network now**.

By default, BGAN LaunchPad opens a standard IP data connection after successful registration. The status zone reads **Standard Data Connection Open. Ready for Phone, Text and Data**.

Using BGAN LaunchPad during pointing and registration

Note the following about BGAN LaunchPad during pointing and registration:

- During pointing, the location shown on the coverage map is based on your previous location. The coverage map displays your current position only after you exit pointing and register with the network.
- During pointing, signal strength information is provided by the satellite's global beam. Once you have registered, the signal strength is provided by the satellite's regional beam. Therefore the signal strength bar shown in BGAN LaunchPad may change after registration. Once you have opened a data connection, signal strength is provided by the spot beam.
- To check the actual signal strength, select Help > Diagnostic Report in BGAN

LaunchPad. The actual signal strength is given in the dialog box that is displayed.

Tip You can make or receive phone calls, send and receive a text message and make an ISDN data connection even if you do not have an IP data connection.

Automatic mode

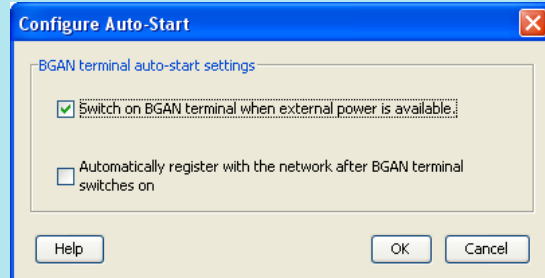
The HNS 9201 has a number of automatic features. Some automatic features can be activated as you require, other features depend on how you are using your terminal. For example, Inmarsat recommends that you can only activate the automatic registration feature if you are using your terminal in a fixed location.

The available features are described below:

- **Automatic power-on and registration** - The automatic power-on feature can be used to ensure the terminal automatically recovers from a power outage. It is also useful if the terminal is mounted in a fixed location where the power switch cannot easily be reached, for example, on a pole.

You can also set up automatic registration on the terminal. This option bypasses the pointing procedure and automatically reconnects to the network. Automatic registration should only be used for fixed installation where pointing is not required after initial set up.

To set up these options, from BGAN LaunchPad main menu, select Terminal > Auto-Start mode. The following screen is displayed:



Check the check box for the feature you want to activate.

- **Terminal automatic data connection** – By default, the terminal automatically opens a data connection after you register with the network. However, there is a minimum charge for opening an IP data connection (unless you are on a lease package) and data may be transferred across the connection even if you are not actively using an application (for example, your computer may be receiving automatic updates).

If you do not want to incur these charges, you can switch off the automatic connection feature using BGAN LaunchPad. Refer to “BGAN LaunchPad User Guide” for details.

Voice and Data Connections

4 Making voice, data and text connections

You can connect to the terminal using any of the following interfaces:



- USB, for IP data connections.
- Ethernet, for IP data connections. If required, you can connect the LAN port to a hub, switch or router for multi-user connections.
- ISDN, for voice (4kbps), audio (3.1kHz) or ISDN data connections.
- WLAN, for IP data connections. If required, you can connect more than one wireless-enabled computer to the terminal's built-in wireless access point for multi-user connections.

If required, you can connect to more than one interface simultaneously.

4.1 Making an ISDN voice or data connection

You can use the HNS 9201 to make any of the following ISDN connections:

- Voice, for example using an ISDN handset.
- 3.1kHz audio, for example using a fax machine.
- Data, for example using an ISDN card on your computer, an ISDN AudioVideo camera or an ISDN fax machine.

Only one device at a time can make a call since only one B channel is supported. However, up to four ISDN phones can be utilized on the one ISDN connection. Note that this limit is imposed by the terminal's power limit in order to protect Ethernet devices in case they are accidentally connected to the ISDN port.

Making a voice connection

If the terminal is in automatic mode, you can plug in an ISDN handset and make a call after automatic registration. If the terminal is not in automatic mode, you must register with the network before you can make a call.

You can make and receive voice calls by connecting a telephone handset to the terminal, as shown below:



You can use two types of phone handset:

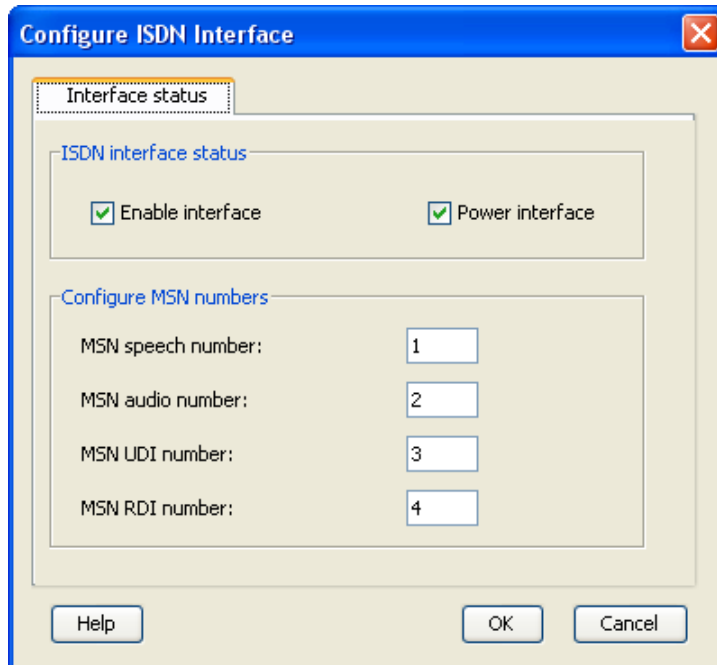
- An ISDN handset.
- A 2-wire analogue handset with an ISDN terminal adaptor.

Before you can use your handset for voice services, you must program its MSN (Mobile Subscriber Number) to 1 for a 4kbps call or 2 for a 3.1kHz speech call. This identifies the handset and call quality required to the terminal.

Note Voice calls are charged by call duration and a 3.1kHz voice call is charged at a higher rate than a 4kbps voice call. Refer to your Service Provider for details on call charges.

In addition, make sure that the ISDN interface is set up in BGAN LaunchPad. To do this:

- a. Select **Terminal > ISDN Interface Settings** from the BGAN LaunchPad main menu. The **Configure ISDN Interface** dialog box is displayed:



- b. Check **Enable Interface** to activate the ISDN interface or uncheck to deactivate the interface.
- c. Enter 1 in the **MSN speech number:** text box for a 4kbps call, or enter 2 for a 3.1kHz call.
- d. Click on **OK**

Note You can make an emergency call without being registered with the network, without a SIM card in the terminal and without having programmed an MSN number.

Tip To check your MSISDN number(s) and SIM card details whilst connected to the terminal, open the diagnostic report from BGAN LaunchPad. To do this, select **Help > Diagnostic Report** from the BGAN LaunchPad main menu.

Making an ISDN data or fax connection

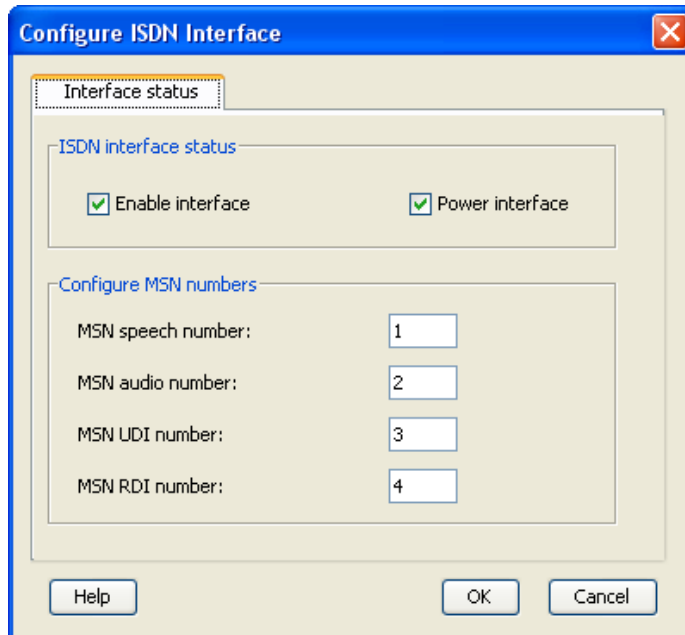
Data and 3.1kHz audio can be sent and received via the ISDN interface on the terminal. To make use of this service, you must program an MSN number into the equipment type, enter the MSN number of the equipment type into BGAN LaunchPad and connect the equipment to the ISDN port of the terminal.

To do this:

- a. Program an MSN (Mobile Subscriber Number) into the equipment.
 - For equipment that sends and receives data as 3.1KHz audio, such as Group 3 fax machines, use MSN 2.
 - For equipment that sends and receives data as Unrestricted Digital Information (UDI) use MSN 3 or as Restricted Digital Information (RDI), use MSN 4.

Refer to the instructions supplied with your ISDN equipment for information on the equipment capability and how to program the appropriate MSN.

- b. Select **Terminal > ISDN Interface Settings** from the BGAN LaunchPad main menu. The **Configure ISDN Interface** dialog box is displayed:



- c. Check **Enable Interface** to activate the ISDN interface or uncheck to deactivate the interface.
- d. Do one of the following:
- For a 3.1 KHz audio call, enter **2** into the **MSN audio number:** text box. Typically, this is the option you use if you are connecting a Group 3 fax machine to the ISDN port.
 - For an Unrestricted Digital Information (UDI) call (64kbps ISDN), enter **3** into the **MSN UDI number:** text box. Check the documentation supplied with your device for details on whether it is a UDI device.
 - For a Restricted Digital Information (RDI) call (56kbps ISDN), enter **4** into the **MSN RDI number:** text box. Check the documentation supplied with your device for details on whether it is an RDI device.
- e. Click on **OK** to save the changes, or on **Cancel** to exit without saving.
- f. Connect the ISDN equipment to the ISDN port on the BGAN terminal using the ISDN cable supplied with the terminal.

4.2 Making an IP Data Connection

Pre-requisites

Before you can open an IP data connection, ensure that you have done the following:

- Installed a provisioned SIM card, supplied by your Service Provider. The SIM card contains Access Control Point (APN) information, therefore Inmarsat recommends that you do not change the APN after installing the SIM card.
- Connected your computer to the BGAN terminal, using one of the terminal's interfaces.
- Pointed the terminal to obtain the maximum possible signal strength.
- Registered with the BGAN network.

You can make an IP data connection using any of these interfaces:

- Ethernet
- USB
- WLAN

Note If the terminal is in automatic connection mode, the first user to connect is automatically assigned a data connection. All other users must use BGAN LaunchPad to open their own data connection.

Opening a standard data connection

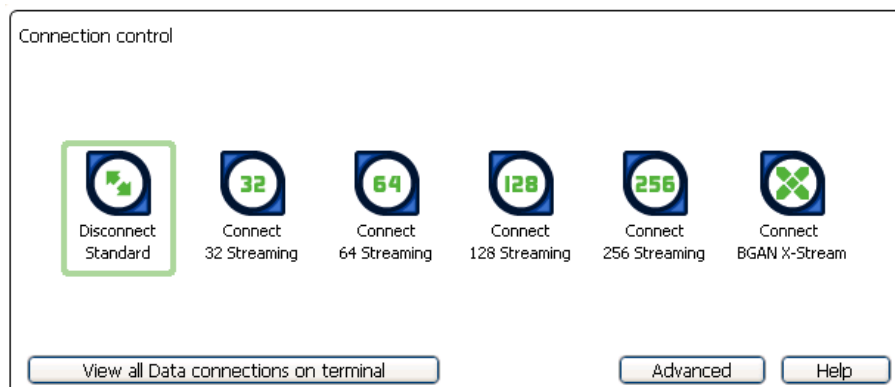


By default, when you first register with the BGAN network, the terminal opens a standard IP data connection. The standard connection is an always-on, best effort connection and is suitable for most basic data applications. It is charged by the amount of data sent and received.

To check that the standard connection is open, select the **Data** tab in BGAN LaunchPad.



The following screen is displayed:



If the standard connection is open, the words **Disconnect Standard** are displayed below the connection icon.

Note If the standard connection is closed, the words **Connect Standard** display below the connection icon. Click on the icon to open the standard connection.

You can now browse the Internet, send and receive email and use other IP applications. All traffic is transferred across the standard connection.

Note If more than one user wants to open a data connection, each user must open a separate session of BGAN LaunchPad. Refer to "BGAN and IP data connections" for details.

Opening a streaming data connection



If you require a guaranteed data rate for your connection (if, for example, the application is time critical), you can connect using one of the five dedicated streaming connections at the following data rates:

- 32kbps streaming
- 64kbps streaming
- 128kbps streaming
- 256kbps streaming
- 384kbps streaming (BGAN X-Stream)

Each streaming class connection is charged by the length of time that the connection is live. When you open a streaming connection, the standard connection is closed.

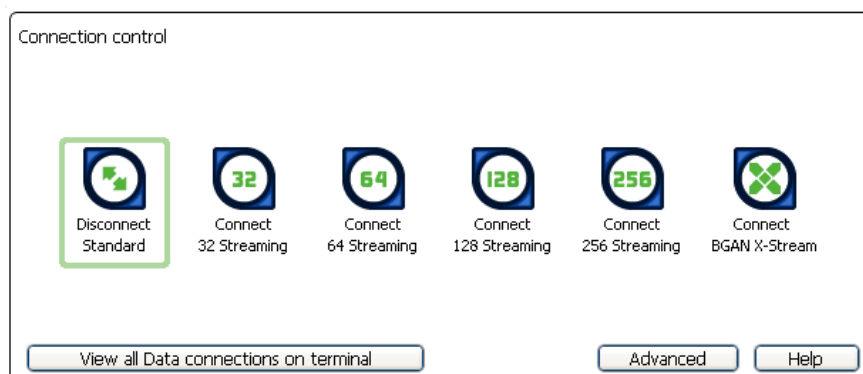
Tip By default, error correction (also called network packet retransmission) is switched on. Inmarsat recommends that you turn error correction off for UDP/IP connections, as this feature is not required for this connection type. Refer to “BGAN and IP data connections” for details.

To open a streaming connection:

- a. Select the **Data** tab in BGAN LaunchPad:

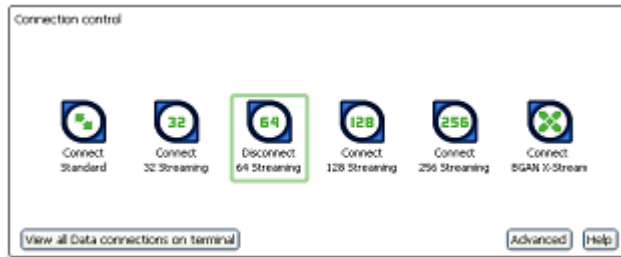


The following screen is displayed:



- b. Select the required streaming connection, for example **64 Streaming**. You will be prompted to confirm that you want to close your current connection and open a new connection, charged by time:

c. Click on **OK**. The new data connection opens and the following screen is displayed:



The **Standard** connection is closed and the **64 Streaming** connection is open. All traffic is transferred across the selected streaming connection.

Note If you subsequently want to close the streaming connection and open another streaming connection, or reopen the standard connection, repeat steps 1 to 3.

Note If you want to close the currently open connection, click on the icon.

Configuring a dedicated streaming connection



In addition to the default connections, BGAN LaunchPad enables you to configure and open one or more dedicated streaming connections (you can associate one of the icons shown above with a dedicated streaming connection). These are assigned to specific applications, for example Win Media, to ensure that the connection for this application's data is not shared with any other application.

You must open a pre-configured standard or streaming connection (called a primary connection) before you can open a dedicated streaming connection (secondary connection). This is because each dedicated streaming connection creates a virtual IP data connection which shares the IP address of the pre-configured standard or streaming connection.

For details on configuring dedicated streaming connections, using **Win Media** as the example application, refer to "BGAN LaunchPad User Guide".

Traffic Flow Templates

Each dedicated streaming connection is associated with a Traffic Flow Template (TFT). A TFT, also called an Application Template, assigns a priority to a selected type of traffic in order to maximize performance.

BGAN LaunchPad supports the following pre-configured TFTs, any one of which can be selected when you configure a dedicated streaming connection to ensure that the defined traffic has its own dedicated connection:

- FTP
- QuickLink
- QuickTime
- Real Media
- Streambox
- WinMedia

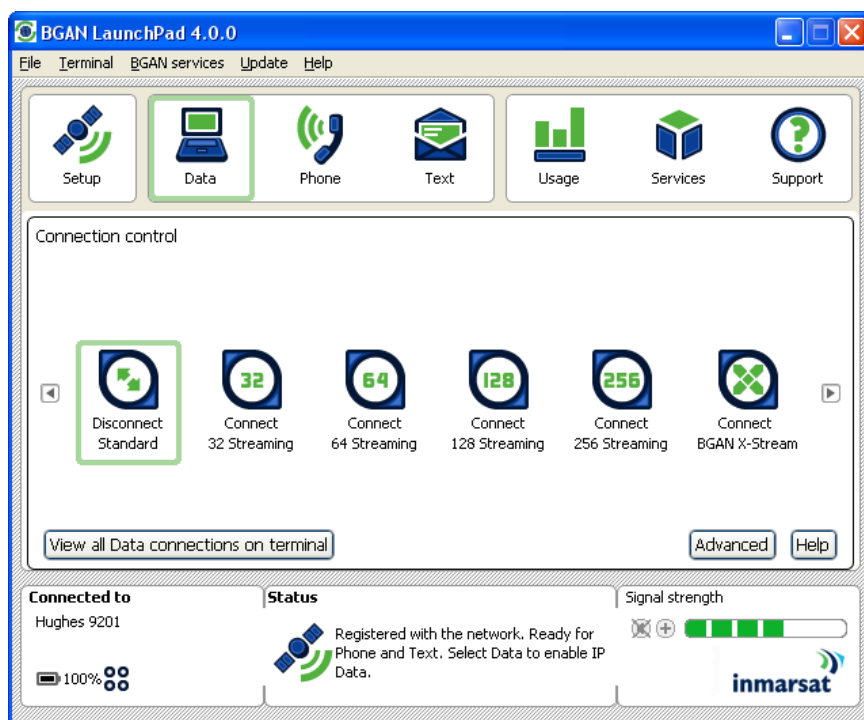
If you wish to want to define your own TFT for another application, contact your Service Provider for assistance.

To open a dedicated streaming connection:

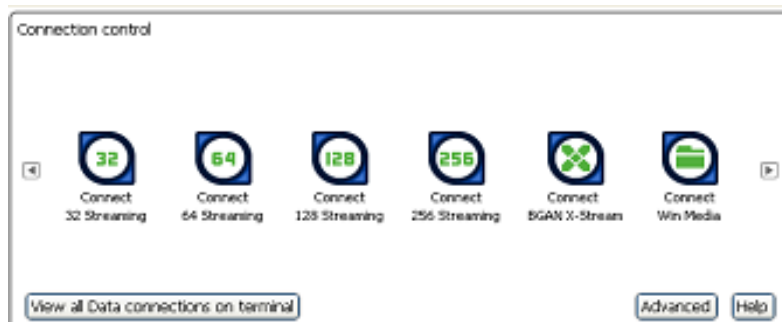
- a. Select the **Data** tab in BGAN LaunchPad.



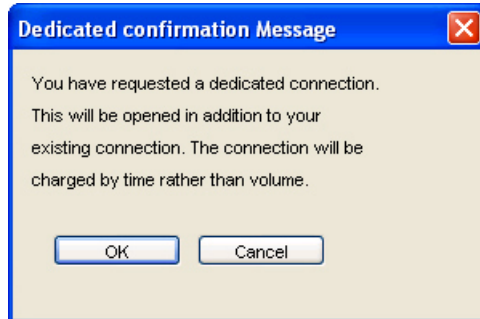
The following screen is displayed:



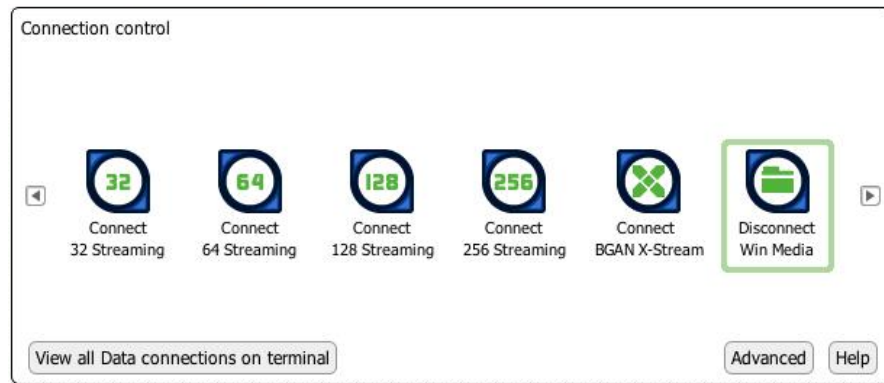
- b. In this scenario, you have set up a dedicated streaming connection for **Win Media**. The standard connection is currently open. The newly-created dedicated streaming IP data connection (**Win Media**) has been added to the list of available connections, to the right of BGAN X-Stream. The **Connection control** window has been modified to provide left and right arrows to scroll sideways. Click on the right arrow to reveal **Connect Win Media**. The standard IP data connection scrolls off the left of the screen, but can be accessed again by clicking the left arrow.



- c. Select the required dedicated streaming connection, for example **Win Media**. The following message is displayed, asking you to confirm that you want to open a dedicated connection in addition to your current connection:



- d. Click on **OK**. The new data connection opens and the following screen is displayed:



The **Standard** (off screen to the left) and the **Win Media** connections are both open. All traffic other than Win Media data continues to use the standard connection.

You can open up to 10 dedicated streaming connections in addition to your default connection.

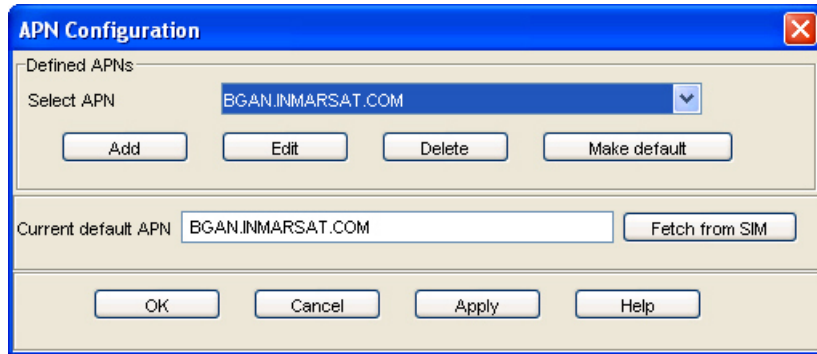
If you can't make a data connection:

If you can't open a data connection, check that the default Access Point Name (APN) is set correctly. The APN is stored on your SIM and must be configured as the access point for each of your data connections for the data connection to open successfully.

Tip If you want to open a dedicated streaming connection, the APN of the dedicated streaming connection must be the same as that of the existing standard or streaming connection.

To check the default APN is set correctly:

- a. Select **BGAN Services > LaunchPad APN Options**. The **APN Configuration** screen is displayed:



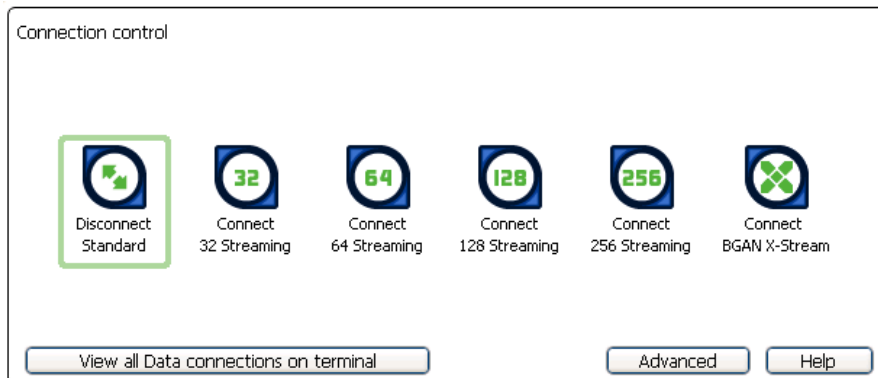
- b. Verify the **Current Default APN** text box to ensure you are connected to the correct APN. If not, either:
 - Click on **Fetch from SIM**, or
 - Select the required APN from the **Select APN** drop-down list and click on **Make default**.

To check that the APN for a specific data connection is set to the default:

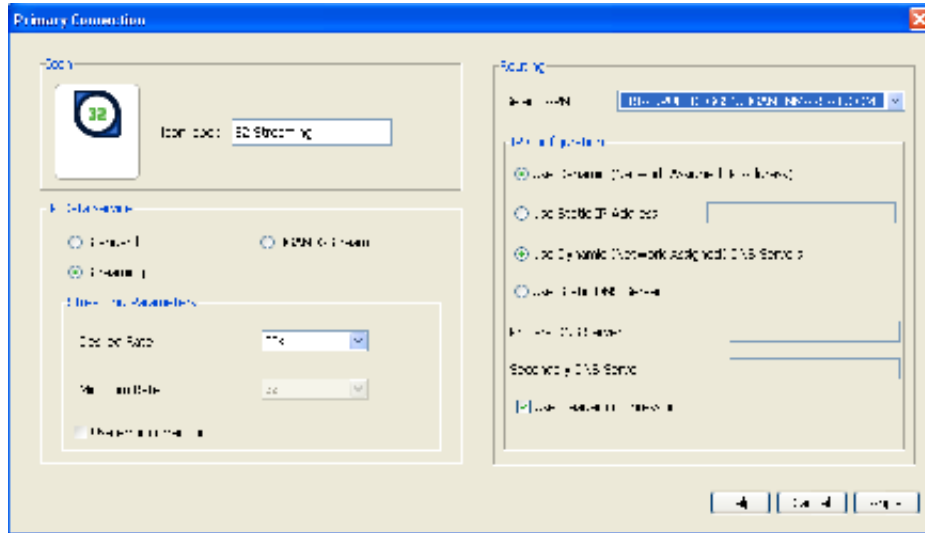
- a. In BGAN LaunchPad, select the **Data** tab.



The following screen is displayed:



- b. Right-click on the connection you want to verify and select **Edit**. The **Primary Connection** screen is displayed:



- c. Verify the displayed APN in the **Select APN** field. If it is not correct, select the required APN from the drop-down list and click on **OK**.

Tip Some Distribution Partners assign usernames and passwords to the APN. You may need to enter these when accessing or changing APN details.

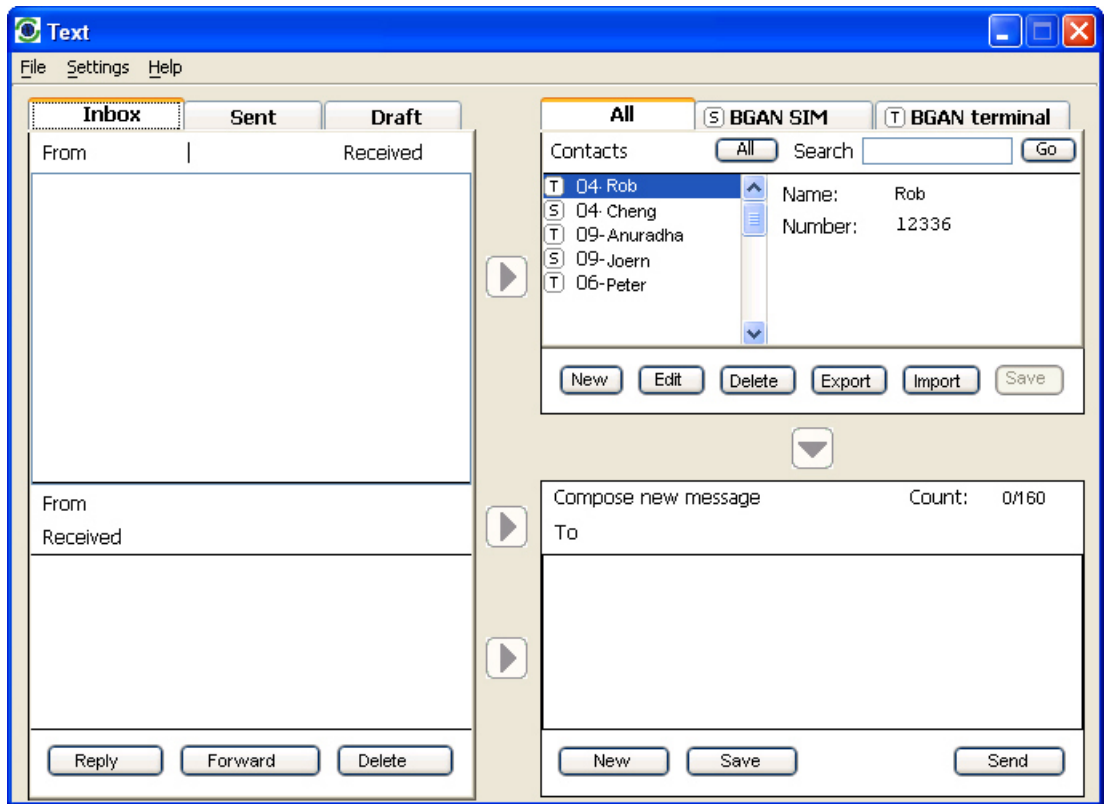
4.3 Sending or receiving a text message

You can send text messages from a BGAN terminal to another BGAN terminal and from a BGAN terminal to a mobile phone. You can also sending a text messages from a mobile phone to a BGAN terminal, but only on those networks with which Inmarsat has an agreement.

To access text features, select the **Text** tab in BGAN LaunchPad:



The following screen is displayed:



Refer to "BGAN LaunchPad User Guide" for details on using this screen.

Note LaunchPad advises you with a pop-up message when a new text has been received.

Configuring a Wireless LAN

5 Making a WLAN connection

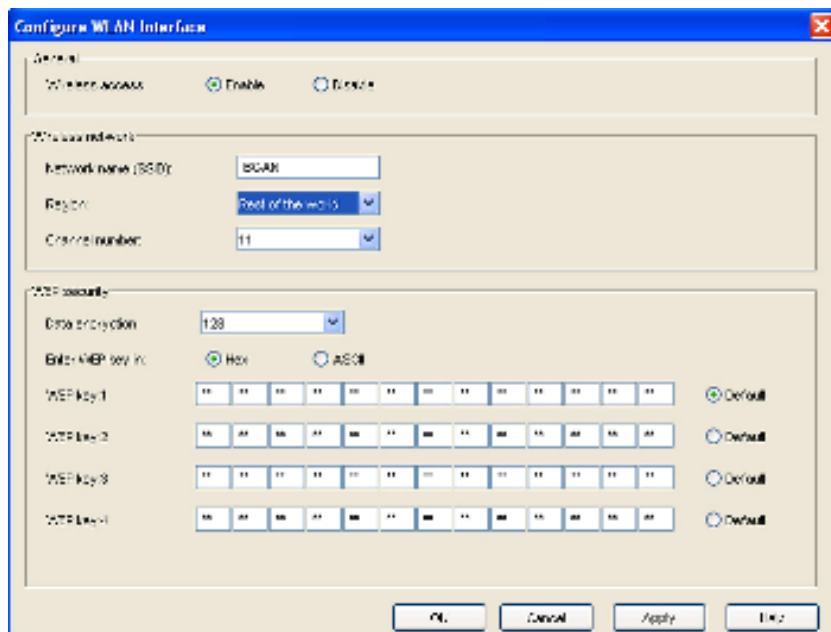
WLAN and the HNS 9201

For the WLAN to work, you must configure the BGAN terminal and your computers with the same channel, network name and WEP security settings. Note the following about WLAN channels:

- The WLAN channels you may legally use vary in different regions of the world. In some countries, certain channels are not available. Please be sure to select your Region from the drop down menu before selecting one of the available channels.
- Channel 11 is common to almost all regions and so it is used as the default channel.
- Inmarsat recommends that you observe any local regulations regarding the use of radio transmitting devices. In particular, note that if you are in France or Spain the channels available for selection are limited.

The HNS 9201 has a built-in WLAN 802.11b Access Point. By default, the WLAN interface is disabled. Use BGAN LaunchPad to enable and set up the WLAN interface after registration as follows:

- a. Select **Terminal > WLAN Interface Settings**. The **Configure WLAN Interface** dialog box is displayed:



- b. Check **Enable** to activate the WLAN interface.
- c. Enter a **Network Name (SSID)**. The default is BGAN, but you can change this if required.
- d. Select a **Region** from the drop-down list.
- e. Select a **Channel number** from the drop-down list. This controls the channel number (1-14) used by the access point. Depending on the country only certain options are available for selection. Channel 11 is common to almost all regulatory options and so is the default.

- f. Select an **Encryption rate** from the drop-down list. There are two levels available, 64 bit and 128 bit. 128 bit offers a higher level of security, but may cause a slight degradation in performance.
- g. Select an encryption type at the **Enter WEP key in:** text box. This can be either Hex or ASCII. Hex keys use hexadecimal numbers (0-9, A-F) to encrypt and decrypt data and are the most widely supported format. Plain text (ASCII) keys are supported on some operating systems (check that your operating system supports ASCII before you select this option).
- h. Enter up to four **WEP Key** numbers. The format depends on whether you selected Hex or ASCII.
 - **Hex.** Enter a two digit hexadecimal number (0-9, A-F) in each box on the **WEP Key 1** row. You can enter up to four keys in total and can change the default key periodically for added security.
 - **ASCII.** Enter a string of 5 characters for 64 bit encryption or 13 characters for 128 bit encryption. You can enter up to four keys in total and can change the default key periodically for added security.

Note Check that each key that you set up here is exactly the same as each key on your Access Point. That is, **WEP Key 1** on the LaunchPad must be the same as **Key 1** on the Access Point and so on.

- i. Click on **OK** to save the changes, on **Cancel** to exit without saving, or on **Apply** to apply the settings for this WLAN session only.

Any computer with WLAN capability and in range of the terminal can detect the terminal's WLAN SSID and connect to it automatically using BGAN LaunchPad. Up to 11 WLAN users can connect to the terminal simultaneously.

The WLAN LED on the HNS 9201

When the terminal's WLAN interface is enabled and if WEP encryption is enabled, the WLAN LED on the terminal lights green, as shown below:



If WEP encryption is disabled, the WLAN LED lights red.

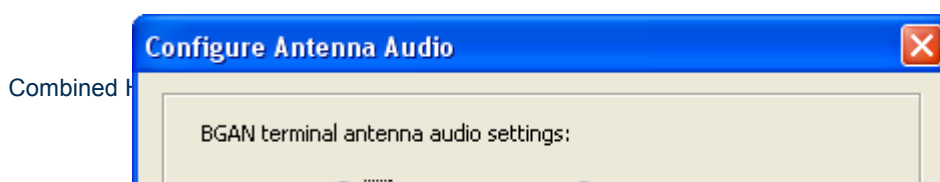
Managing the terminal

6 Enabling or disabling antenna audio

The terminal has a built in audio buzzer which you can use to assist you in pointing the terminal. The higher the pitch of the buzzer and the shorter the interval between tones, the stronger the satellite signal.

To turn the audio buzzer on or off:

- a. Select **Terminal > Antenna Audio**. The **Configure Antenna Audio** dialog box is displayed:



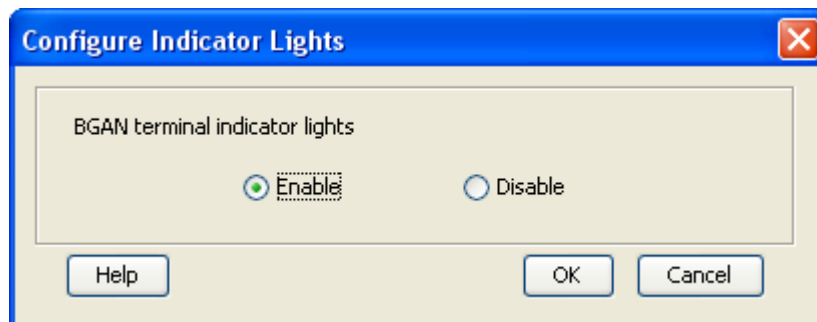
- b. Check either **On** or **Off** to switch the audio buzzer on or off as required.
- c. Click on **OK** to save the setting, or on **Cancel** to exit without saving.

7 Enabling or disabling indicator lights

The terminal has a number of indicator lights (also called LEDs) on its side panel that indicate the status of various terminal features. You can turn these lights off if required – for example, you may need to turn them off for security reasons.

To turn the indicator lights off:

- a. **Select Terminal > Indicator Lights**. The **Configure Indicator Lights** dialog box is displayed:



- b. Check either **Enable** or **Disable** to switch the indicator lights on or off as required.
- c. Click on **OK** to save the setting, or on **Cancel** to exit without saving.

8 Enabling auto start and automatic registration

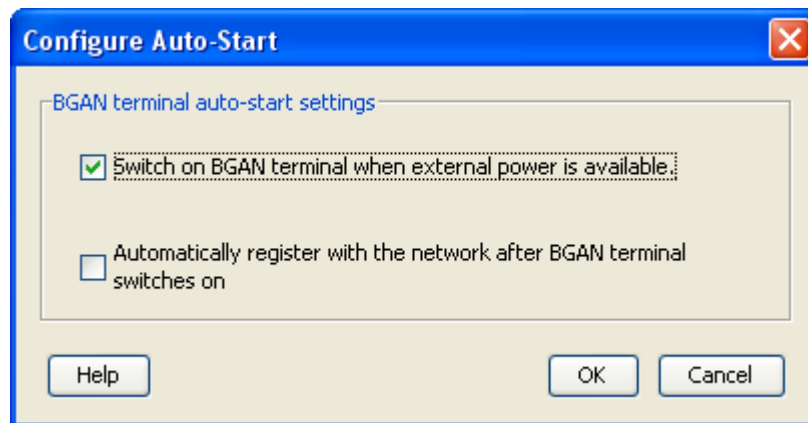
The auto start feature can be used in conjunction with automatic registration to allow the terminal to automatically recover from a power outage. This is useful if the terminal is mounted in a fixed location where the power switch cannot easily be reached, for example on a pole.

In normal operation, the terminal does not turn back on when power is reapplied after a power failure. If you activate the auto start feature, the terminal turns back on automatically.

You can also enable automatic registration, in which case the terminal bypasses the pointing procedure and automatically reconnects to the network. Automatic registration should only be used for fixed installations, where pointing is not required after initial setup.

To activate auto start and/or automatic registration:

- a. Select **Terminal > Auto-Start Mode**. The **Configure Auto Start** dialog box is displayed:



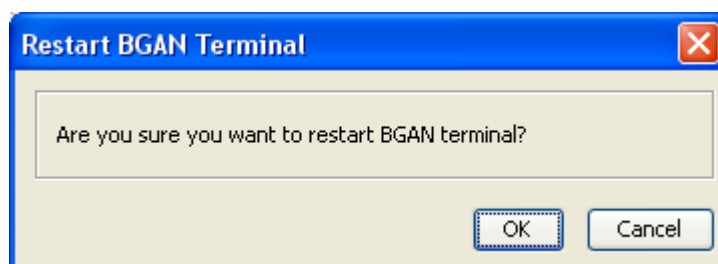
- b. Check **Switch on BGAN terminal when external power is available** to turn on auto start.
- c. If required, check **Automatically register with the network after BGAN terminal switches on** to bypass pointing in the event of power failure.
- d. Click on **OK** to save the settings, or on **Cancel** to exit without saving.

9 Restarting the terminal

If required, you can turn the terminal off and back on again from LaunchPad.

To do this:

- a. Select **Terminal > Restart Terminal**. The **Restart Terminal** dialog box is displayed:



- b. Click on **OK** to restart the terminal.

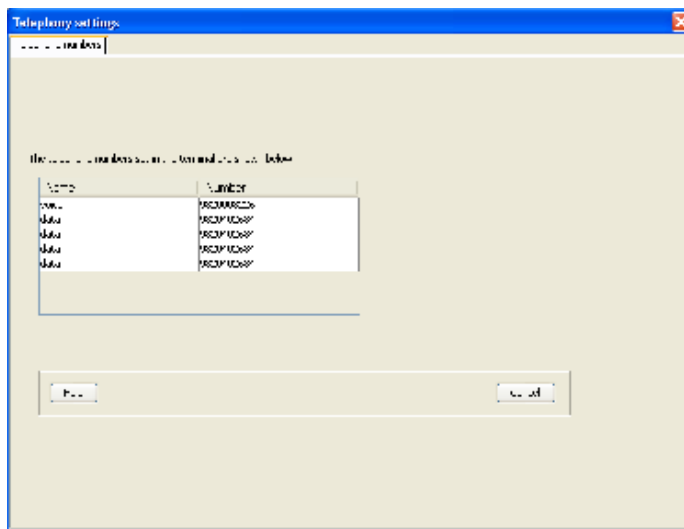
Telephony settings

10 Viewing telephone numbers

You can display the terminal's telephone and ISDN numbers in LaunchPad if they have been supplied by your service provider.

To do this:

- a. Select **BGAN services > Telephony Settings** (or click on **Advanced** in the **Phone** window). The **Telephony settings** window is displayed:



- b. The telephone and ISDN numbers available to you are displayed in the **Telephone numbers** tab.