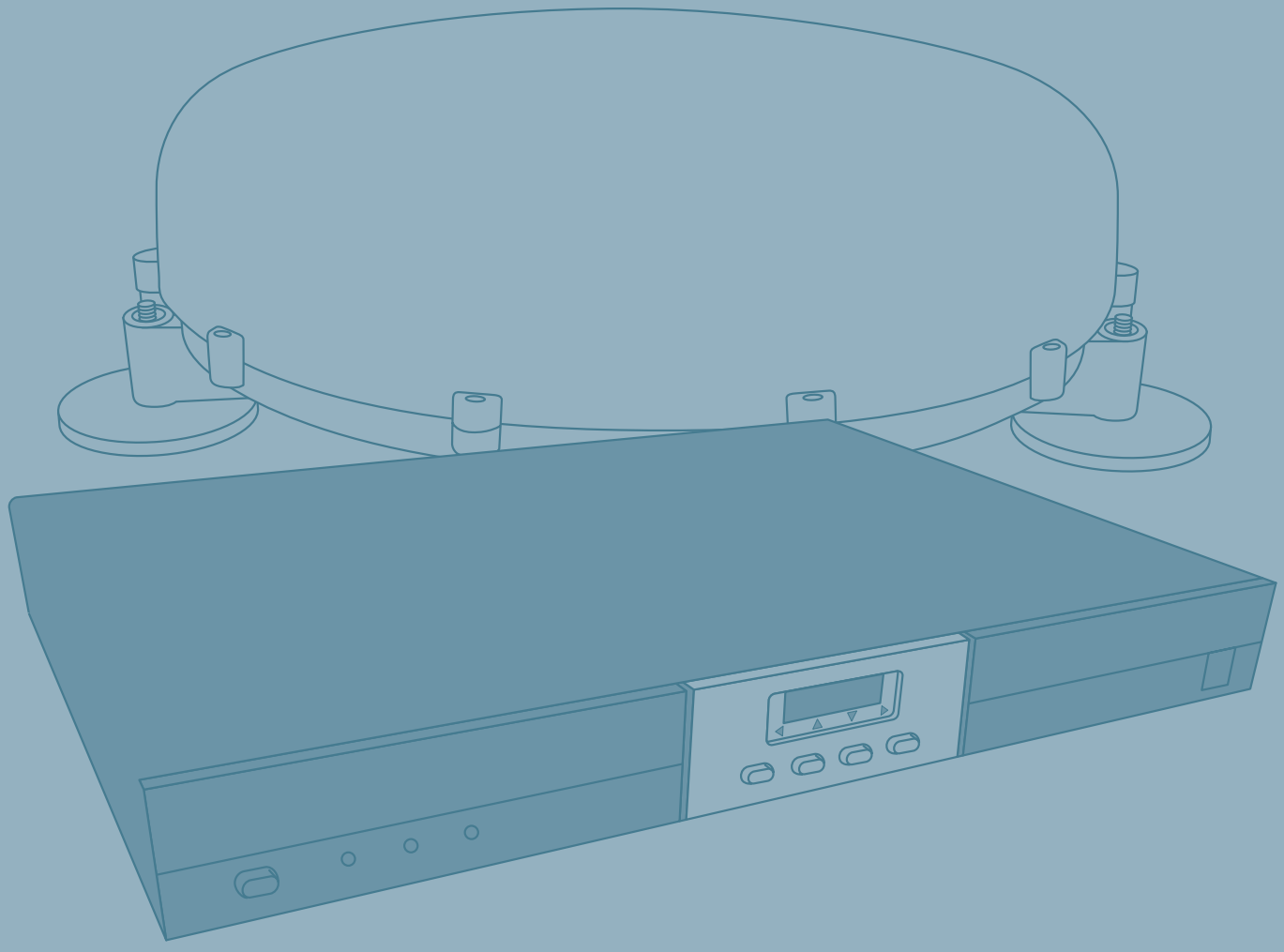
EXPLORER™ 527

USER MANUAL



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inmarsat

TT-3712A EXPLORER 527

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Safety summary

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. Thrane & Thrane A/S assume no liability for the customer's failure to comply with these requirements.

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, except for the SIM cover. 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.

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

Do not substitute parts or modify equipment
Because of the danger of introducing additional hazards, do not substitute parts or perform any unauthorized modification to the equipment.

Keep away from active antenna
The TT-3053A antenna for the EXPLORER 527 emits radio frequency energy when connected to the EXPLORER 527 and switched on. To avoid injury, keep a minimum safety distance of 1 m to the side and above the antenna when the EXPLORER 527 is on. The safety distance of 1 m does not apply directly below the antenna, as the radiation forms a hemisphere above the antenna.



About this manual

Intended readers

This manual is a user manual for the EXPLORER 527. The readers of the manual include anyone who is using or intends to use the EXPLORER 527. No specific skills are required to operate the EXPLORER 527. However, it is important that you observe all safety requirements listed in the *Safety summary* in the beginning of this manual, and operate the EXPLORER 527 according to the guidelines in this manual.

Manual overview

This manual may not always reflect the latest software functionality of your EXPLORER 527. To obtain the latest version of the manual, please enter the Thrane & Thrane Extranet and download the latest version, or acquire it from your distributor.

This manual has the following chapters:

- ***Introduction*** contains an overview of the BGAN services and a brief description of the system.
- ***Getting started*** explains how to insert SIM card, install the EXPLORER 527 and antenna, connect cables, start up the unit and enter the PIN. It also contains a short guide to making the first call.
- ***Using the display and keypad*** contains an overview of the display menu system and explains how to use the menus.
- ***Using the interfaces*** goes through the basic setup and use of each interface.
- ***Using the web interface*** explains how to use the built-in web interface of the EXPLORER 527, and describes the available menus and settings. It also explains advanced setup of interfaces.
- ***Maintenance and troubleshooting*** contains a short troubleshooting guide and explains how to update software. It also describes and lists the alarm messages that may appear in the handset, and gives information on where to get further help if necessary.

Typography

In this manual, typography is used as indicated below:

Bold is used for the following purposes:

- To emphasize words.
  Example: “Enabling stealth mode will **not put the EXPLORER 527 into stealth mode**, it only enables the use of stealth mode”.
- To indicate what the user should select in the user interface.
  Example: “Select **SETTINGS > LAN** and click **Enabled**”.

Italic is used to emphasize the paragraph title in cross-references.
Example: “For further information, see *Connecting Cables* on page...”.

COURIER is used for the following purposes:

- To indicate text appearing in the display.
  Example: “the Main screen shows READY”.
- To indicate low level commands such as AT commands.
  Example: “In your terminal program, type **ATD**”.

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Introduction

Welcome

Congratulations on the purchase of your EXPLORER™ 527!

EXPLORER 527 is a land-vehicular rack-mountable terminal with a tracking antenna, providing high-speed data and voice communication via satellite through the Broadband Global Area Network (BGAN).

Just plug in a phone, fax or computer, switch on - and you are online. With the transceiver connected to the rooftop tracking antenna your car, truck or other vehicle turns into a true mobile communications center wherever you are.



Applications include:

- Internet browsing
- E-mail
- Phone/fax services
- Large file transfers
- Video conferencing and Streaming
- VPN (Virtual Private Network) access to corporate servers

In this chapter

This chapter gives an overview of the BGAN system and services, and introduces the EXPLORER 527.

It also gives an overview of the physical unit and its features and functions.

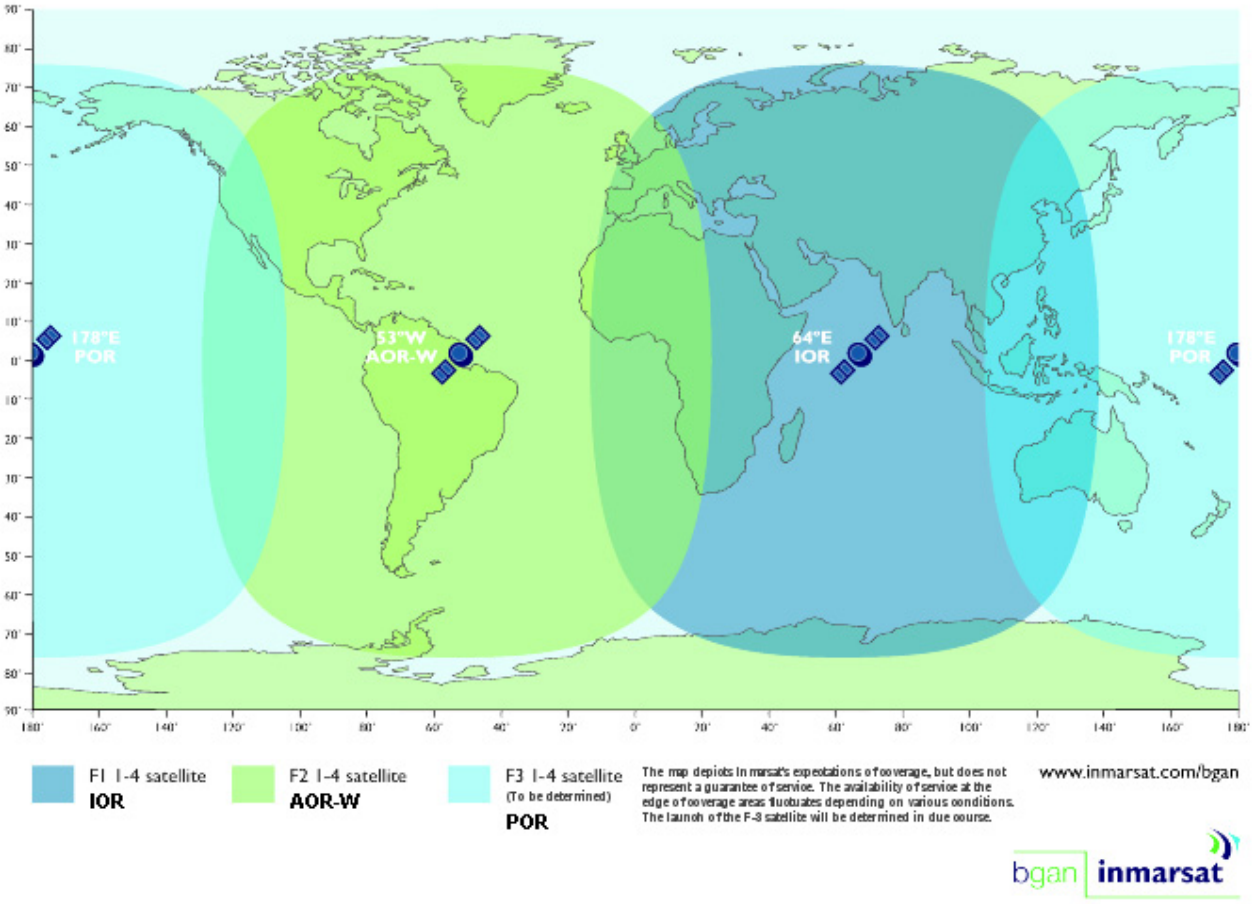
The BGAN system

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.

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.

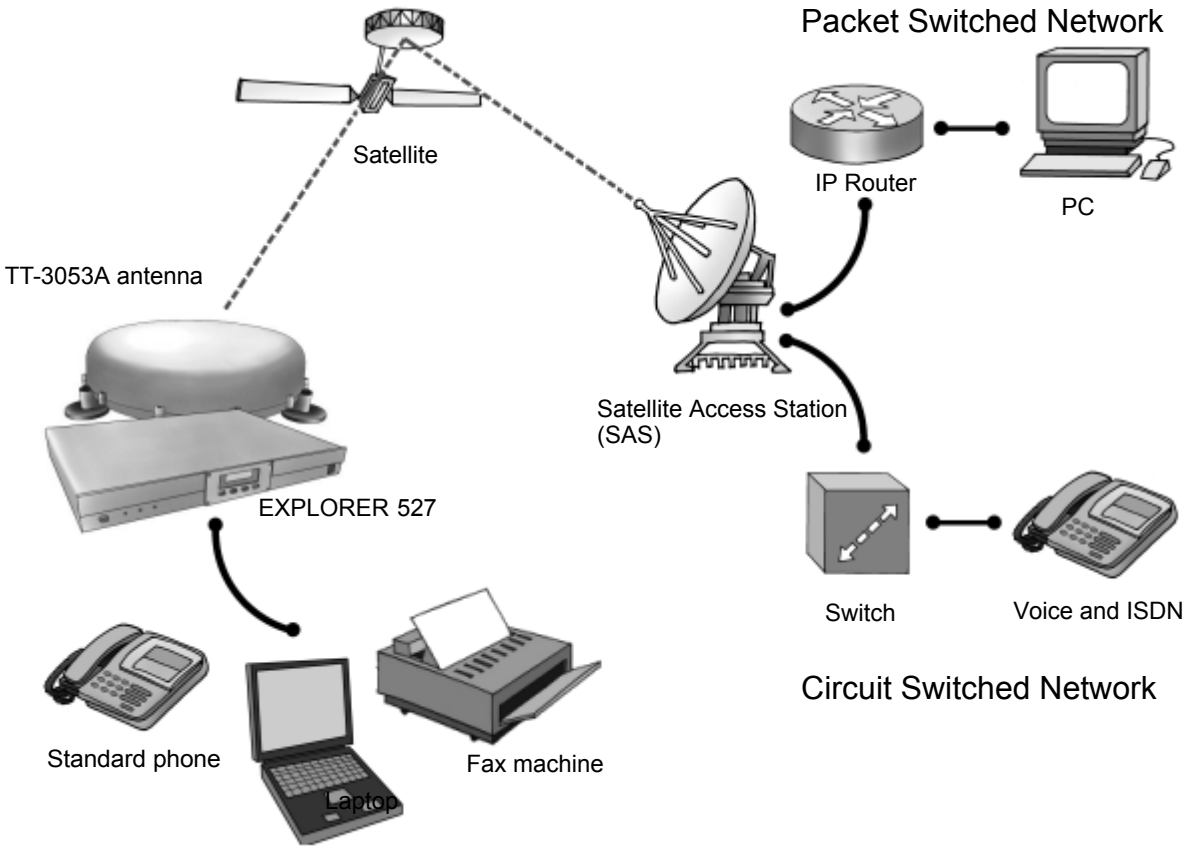


Note The map depicts Inmarsat's expectations of coverage, but does not represent a guarantee of service. The availability of service at the edge of coverage areas fluctuates depending on various conditions.

The launch of the F3 satellite (POR) will be determined in due course.

Overview of the BGAN system

A complete BGAN system may include the EXPLORER 527 with antenna and connected peripherals, the BGAN satellite, and the Satellite Access Station (SAS). The satellites are the connection between your EXPLORER 527 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).

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, analog modem or ISDN (speech, G4 fax or 64 kbps UDI/RDI data).
  The signal is uncompressed 3.1 kHz audio, which allows for optimum voice quality.

SMS service

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

Supplementary services

The BGAN system also supports the following supplementary services:

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

- Closed user group

Note that the supplementary services are provided by the Airtime Provider. The Airtime Provider may only provide a subset of the above services.

Features and interfaces of the EXPLORER™ 527

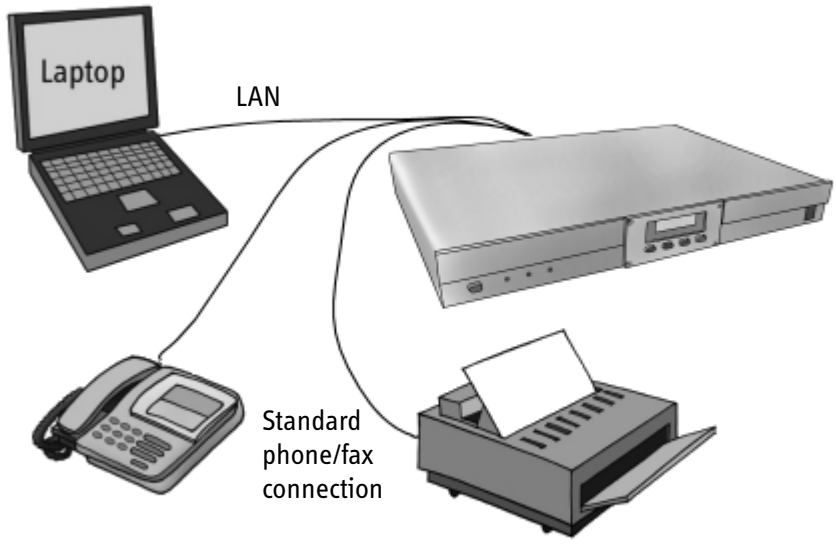
Features

The EXPLORER 527 provides the following features:

- High speed data, single or multi-user, up to 464 kbps - shared bandwidth
- Support for Streaming classes 32, 64 and 128 kbps
- Simultaneous voice and data
- Seamless global coverage
- Standard LAN and phone/fax ports
- USB service interface
- Easy system setup and operation
- Built-in web interface allowing you to manage your phone book, messages and calls, and customize the terminal to your specific needs
- 12 or 24 V power system
- Robust, reliable and durable design
- Top mount or rack mount installation

Overview of interfaces

The EXPLORER 527 provides different interfaces for connection of a phone, fax and/or computer.



Using the interfaces on page 42 describes how to use each of the available interfaces.

Your EXPLORER™ 527 terminal

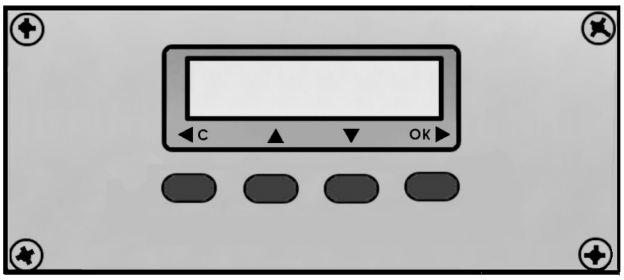
Overview

The EXPLORER 527 is a rack-mountable unit with a tracking antenna, designed to be installed on a vehicle.



Display and keypad

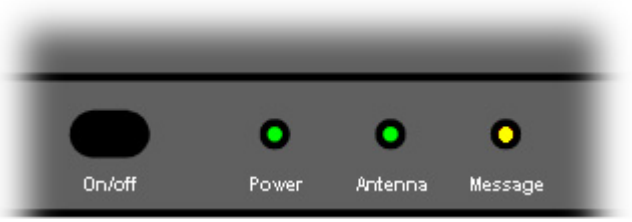
The EXPLORER 527 has a display and a keypad for displaying status and for setting up the EXPLORER 527.



For information on how to use the keypad and display, and for an overview of the display menu system, see *Using the display and keypad* on page 27.

Light indicators

The EXPLORER 527 has three light indicators in the front panel.



Power indicator
The function of the green Power indicator is as follows:

Behavior of green indicator	Meaning
Steady light	The EXPLORER 527 is on.
Off	No power or Stealth mode.

Antenna indicator
The function of the Antenna indicator is as follows:

Behavior of green/red indicator	Meaning
Flashing green	The antenna is searching for the network operator.
Steady green light	The antenna has registered on the BGAN network and is ready for use.
Steady red light	Antenna error.
Off	No power or Stealth mode.

Message indicator
The function of the yellow Message indicator is as follows:

Behavior of yellow indicator	Meaning
Steady light	An alarm is active or an SMS message has arrived. Press **OK** on the keypad to view the alarm(s) or SMS message(s).[a] The yellow light will stay on after OK is pressed if • there are more SMS messages, or • an alarm is still active. For information on alarm messages, see *Alarm messages* on page 115.
Off	No messages, or the EXPLORER 527 is in Stealth mode or off.

a. If a computer is connected, you can also view alarms and SMS messages in the built-in web interface in the EXPLORER 527. For further information, see *Icons in the icon bar* on page 62.

User interfaces

The **keypad and display** are used for displaying status and for changing simple parameters.

To obtain full access to all features and for ease-of-use, you should use a computer (a PC, Laptop or similar) and the built-in **web interface**.

The web interface is used for easy configuration and daily use. The web interface is accessed directly from a computer connected to the EXPLORER 527, using an Internet browser. No installation of software is needed.
For further information on the web interface, see Chapter 5, *Using the web interface*.

Additionally, it is possible to control the EXPLORER 527 using AT Commands. Refer to Appendix B, *AT commands* for a list of supported commands.

Antenna

The EXPLORER 527 uses an active tracking antenna, TT-3053A, which can be mounted on the roof of a vehicle, either with 3 bolts or with magnetic mounts. The antenna is connected to the EXPLORER 527 with one of the antenna cables included in the delivery. The antenna automatically points to the BGAN satellite and registers on the BGAN network after start-up.

SIM card

The SIM (Subscriber Identity Module) card used for the EXPLORER 527 is a standard SIM card, which is acquired from the Airtime Provider.

The EXPLORER 527 requires a SIM card to go online and to access the settings of the EXPLORER 527. Without a SIM card you can only see the Main screen of the display system showing signal strength etc. Using the web interface, you can view the properties of the EXPLORER 527 and upload software without inserting a SIM card. Upload of software, however, requires an Administrator user name and password.

SIM lock

The supplier may SIM lock the EXPLORER 527 to a specific provider. For further information, contact your supplier.

Matrix of services and communication interfaces

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

Service		Interface on the EXPLORER 527		
		Phone/Fax	LAN	Display/ Keypad
Circuit Switched Connection	3.1 kHz Audio	Analog telephone		
		G3 Fax machine		
	Standard Voice	Analog telephone		
	Data	Computer with analog modem		
Packet Switched Connection	Data multi-user		Computer with Switch/Hub	
	Data single-user		Computer	
SMS			Computer	View only

What's next?

This chapter has provided an overview of the BGAN system and of the EXPLORER 527.

The next chapters will go into more detail about how to set up and use the EXPLORER 527. The following chapter, *Getting started*, explains how to unpack and start up the EXPLORER 527.

Getting started

In this chapter

This chapter describes:

- what is included in the delivery,
- how to insert and remove the SIM card,
- how to install the EXPLORER 527 and antenna
- how to start up the EXPLORER 527 and make the first call or data session.

Unpacking and assembling

Unpacking

Unpack the EXPLORER 527 and accessories and check that the below items are present. Note that the antenna is packed separately.

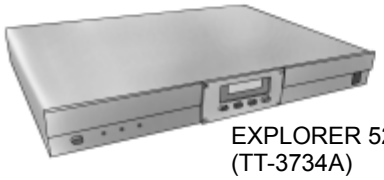


Antenna
(TT-3053A)



Getting Started Kit containing:

- Getting Started leaflet
- Quick Guide
- EXPLORER 527 CD-ROM



EXPLORER 527
(TT-3734A)



LAN cable



4 mounting brackets



Antenna cable, 2.7 m
Antenna cable, 5 m



4 rubber pads



Power cable, 2 m

Inserting the SIM card

The SIM card is provided by your Airtime Provider.

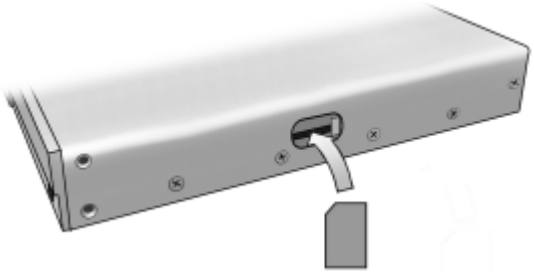
To access the SIM slot you need to remove the small SIM cover on the side of the EXPLORER 527.

Do as follows:

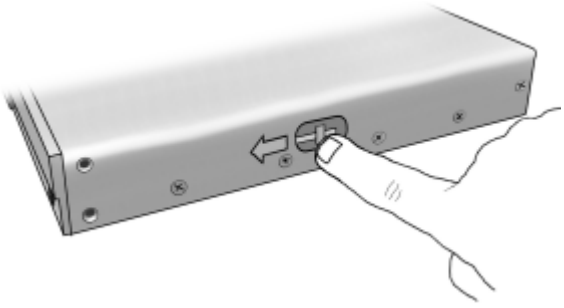
1. Use a screwdriver to loosen the two screws that hold the SIM cover.
2. Remove the SIM cover from the EXPLORER 527.



3. Insert the SIM card into the SIM slot. Make sure the SIM card is positioned as shown on the label in the SIM slot!
4. Press gently until it clicks.



5. Slide the lock to close the SIM slot.
6. Reinsert the SIM cover and secure it with the two screws.



Removing the SIM card

Note

When the SIM card is removed, you cannot use the display menu system nor make calls or start data sessions.
Only emergency calls are allowed, and only if permitted by the network.

If you have an administrator user name and password, you can upload software using the web interface without inserting the SIM card. For further information, see *Uploading software* on page 95.

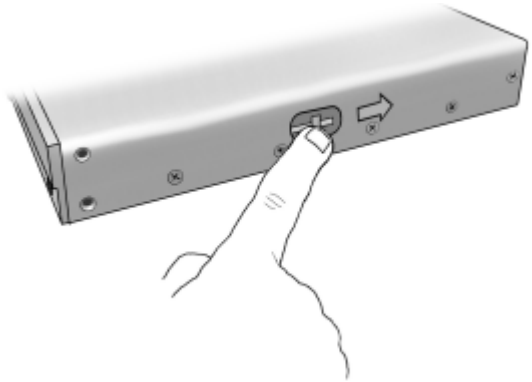
Remove the SIM card as follows:

To access the SIM slot you need to remove the SIM cover on the side of the EXPLORER 527. Do as follows:

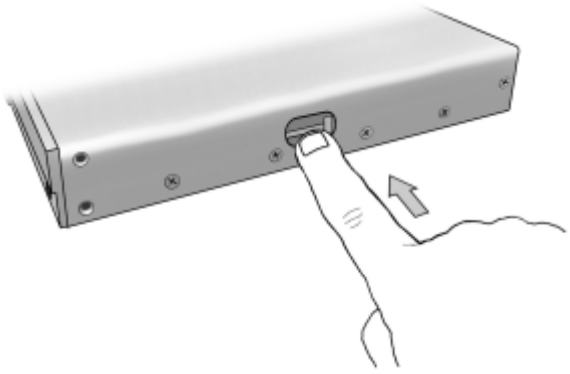
1. Use a screwdriver to loosen the two screws that hold the SIM cover.
2. Remove the SIM cover from the EXPLORER 527.



1. Slide the lock aside to open the SIM slot as shown.



2. Gently press the SIM card and let it pop out of the slot.
3. Remove the SIM card.



installing the terminal

Before you start

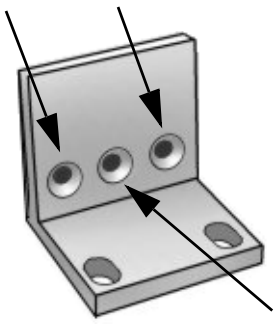
There are two options for mounting the EXPLORER 527: Rack mounted or top mounted.

Four **rubber pads** are included with the EXPLORER 527:

- If the EXPLORER 527 is to be top mounted, mount the rubber pads in the four holes in the bottom of the EXPLORER 527.
- If the EXPLORER 527 is rack-mounted, do not mount the rubber pads.

Four **mounting brackets** are also included with the EXPLORER 527.

Each bracket has three circular holes for mounting the bracket on the EXPLORER 527 and two oval holes for fastening the EXPLORER 527 to a rack or a surface.



Rack mount

Do as follows:

1. Remove the two screws closest to the front panel in each side of the EXPLORER 527 (one at the top and one at the bottom).
   Keep the four screws.

2. Use the screws that were removed in the previous step to attach one bracket to each side of the front panel as shown.
   Use only two of the three circular holes for each bracket, as illustrated in the previous section.



3. Insert the EXPLORER 527 in a 19" rack.

4. Secure the EXPLORER 527 to the rack using the oval holes in the mounting brackets.

Top mount

Do as follows:

1. Mount the four rubber pads (included in the delivery) in the four holes in the bottom of the EXPLORER 527.
2. Remove the two screws on each side of the EXPLORER 527 where the brackets are to be attached as shown.
   Keep the four screws.
3. Use the screws that were removed in the previous step to attach two brackets to each side of the EXPLORER 527 as shown.
   Use only the center circular hole in each bracket.



4. Mount the unit on a surface, using the oval holes in the mounting brackets.

Installing the antenna

Important note!

The EXPLORER 527 is designed for use with the TT-3053A antenna **only**. Do not use any other antenna with the EXPLORER 527!

Placing the Antenna



WARNING! Avoid exposure to microwave radiation. Keep a safe distance of minimum 1 meter (39 inches) to the side and above the antenna.

Do not place the antenna close to interfering signal sources or receivers. It is recommended that no other antennas be located within three meters of the TT-3053A antenna. If other equipment is installed near the EXPLORER 527 it is recommended to operate all equipment simultaneously and verify there is no co-interference.

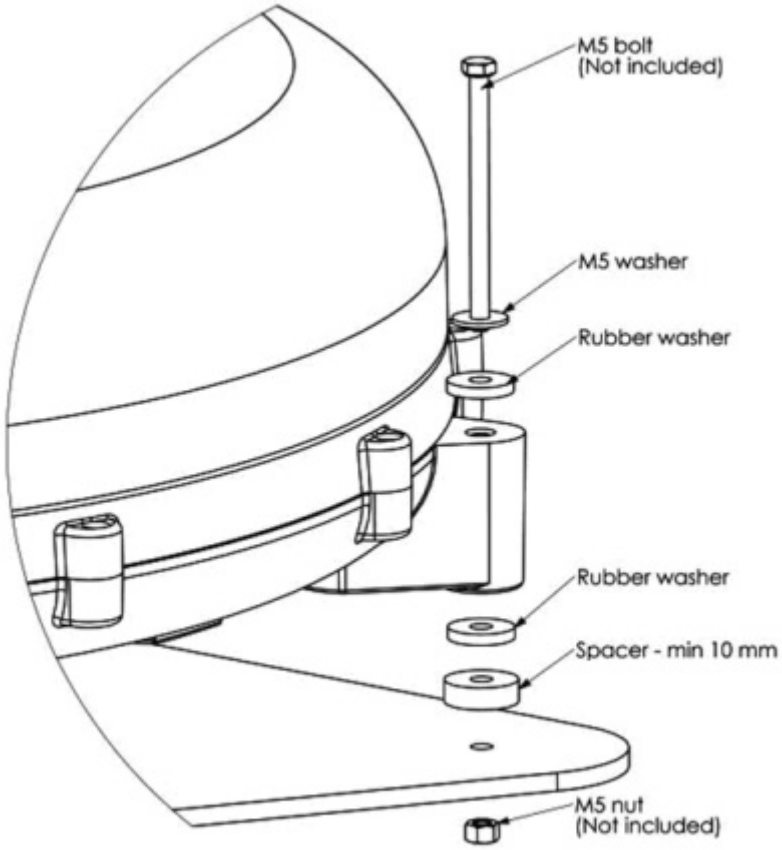
A clear line-of-sight to the satellite is mandatory. Preferably, avoid all obstructions within three meters of the antenna. Obstructions less than 15 cm (6 inches) in diameter can be ignored beyond this distance.

If the antenna is being mounted on a vehicle it is important to ensure there is a clear line-of-site to the satellite(s) in all directions. After the EXPLORER 527 is commissioned and operational it is recommended that the signal strength be checked while the vehicle is slowly driven in a 360° circle. The signal strength should not vary significantly or be degraded in any particular direction.

Direct mounting, e.g. on the roof of a car

The antenna may be mounted directly on the roof of your car, using three M5 bolts and rubber washers. This solution requires that you drill three holes in the roof of the car.

Mounting accessories are included with each antenna - 6 M5 Rubber Washers, 3 M5 Stainless Steel Washer and 6 Spacers (10 mm). Note that the bolt and nut are not included, because the required dimensions may vary depending on the place of installation.



When mounting the antenna on a flat surface, use 3 Stainless Steel M5 bolts of suitable length (not supplied in the kit). Note the individual position of washers and spacers.

Important The drainage holes at the buttom of the antenna must have a clearance of 10 mm above the base plane. Use 3 Spacers to "lift" the antenna. If the base plane is curved, it may be necessary to place extra spacers to ensure the clearance of 10 mm.

Alternatively you may use the magnetic mount kit described in the next section.

Magnetic mount

For temporary use – or to avoid drilling of holes – you may use a magnetic mount installation kit. For ordering information, see *Options and accessories* on page 109.

Three magnetic mounts each with an adhesive force of at least 420 N are used to secure the antenna.

Installation and use of the magnetic mount kit

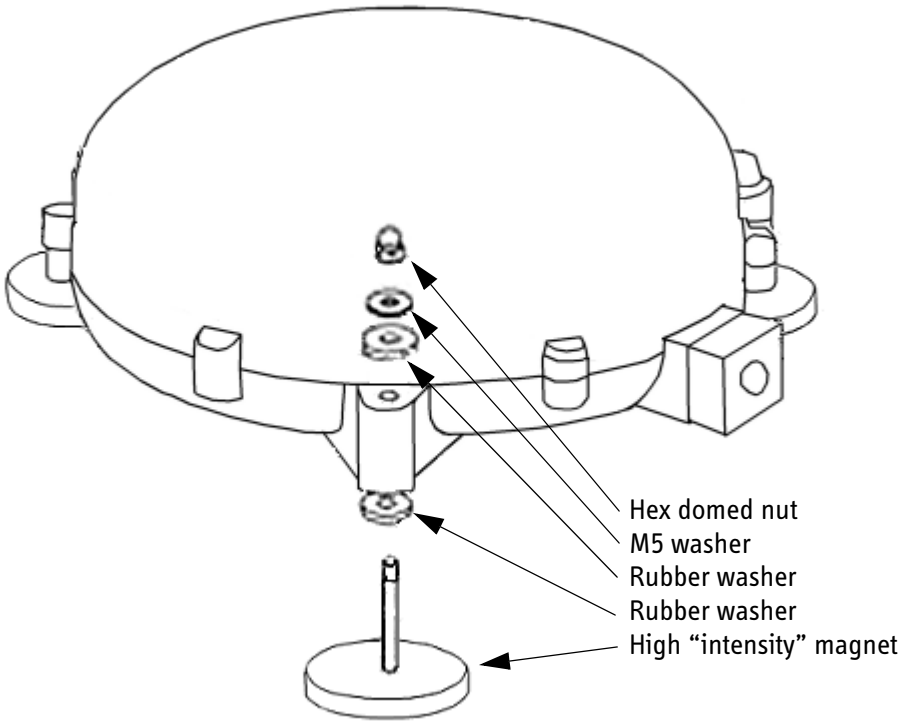
The Magnet Mount kit consists of 3 individual high intensity magnets with rubber coating. Each magnet has a stainless steel M5 center bolt.

To use the magnetic mounts, do as follows:

1. First attach the magnets to the antenna.

   Important The drainage holes at the buttom of the antenna must have a clearance of 10 mm above the base plane. If the base plane is curved, it may be necessary to place extra spacers to ensure the clearance of 10 mm.

   There are 3 “legs” on the antenna where the magnets are placed. Note the position of the rubber washers just below and above each “leg”, the stainless steel washer above the upper rubber washer and the M5 protective nut on top.



2. Place the antenna with magnets on the roof of the car. Remember that the magnets only work on a metal roof!

Detaching the antenna

Grab the antenna near one of the magnets and lift it. When one magnet is loose, the other two are easy to “break off”. In some situations the magnetic force may be so great that it is necessary to unscrew the antenna first and remove the magnets separately.

Connecting cables

After inserting the SIM card and mounting the EXPLORER 527 and antenna, connect all relevant cables.

Connector panel

The connector panel is placed on the rear side of the EXPLORER 527 and has the following connectors:



- Threaded GND stud, marked ⏚
- USB connector for service use, marked **USB**
- Phone/Fax connector for phone, fax or analog modem, marked **Phone/Fax**
- Antenna connector, marked **Antenna**
- LAN connector for data equipment, marked **LAN**
- DC power connector for connection to 12/24 V DC in a car, marked **DC**

For information on how to connect to a specific interface, see the corresponding section in Chapter 4, *Using the interfaces*. The end of this section describes how to connect to the antenna and to power.

Front connector

The EXPLORER 527 has an additional Phone/Fax connector, marked **Phone/Fax**, in the front panel of the EXPLORER 527.



Before connecting the antenna

CAUTION! Do not connect the antenna cable when the EXPLORER 527 is powered! The inrush current may cause damage to the antenna connector.

Do not use any other antenna than the TT-3053A antenna with the EXPLORER 527.

The antenna connector is located in the rear connector panel.

Use one of the antenna cables delivered with your EXPLORER 527. The antenna cables are 50 Ω cables with male TNC connectors, an angled connector at one end and a straight connector at the other end. This line carries RF, signaling and DC power for the antenna.

Important When installing the antenna cable, protect it against moisture by using self-adhesive tape or similar wrapped around the coaxial connector. Also be careful to secure the cable run from the antenna at short intervals. An unsupported length of cable will vibrate when the vehicle is in motion and could negatively affect the connection over time.

Connecting the antenna

Connect the antenna as follows:

1. Make sure the EXPLORER 527 is switched off.

2. Connect the antenna cable between the antenna and the antenna connector in the rear connector panel of the EXPLORER 527.
   Note that the TNC connectors on the cable are different, one end is straight, the other is angled.



Before connecting to power

The EXPLORER 527 DC input can connect to a DC voltage between 10 and 32 V DC, e.g. 12 or 24 V DC in a car.

The power connector is located in the rear connector panel.

The DC input of the EXPLORER 527 is protected by a circuit breaker, marked **Fuse 10A**, located next to the power connector in the connector panel. The circuit breaker will disconnect power when the system is overloaded. To reconnect push the circuit breaker back in.

When connecting to power use the Power cable delivered with your EXPLORER 527.

Use a suitable cable to connect the threaded stud of the EXPLORER 527 to the chassis of the car.

Connecting to power

Do as follows:

1. Connect a cable between the threaded stud in the rear connector panel, marked ⏚, and the chassis of the car.



2. Connect the unmounted end of the power cable to 12 or 24 V DC in your car (black wire to GND, red wire to +).

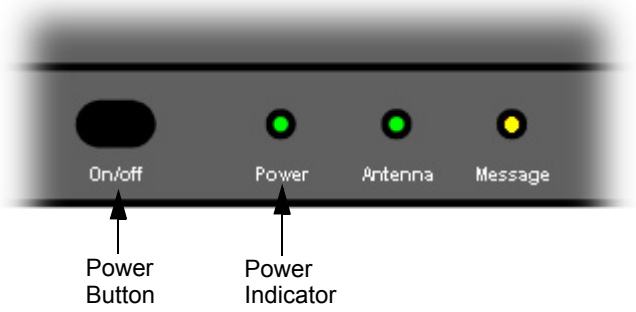
3. Connect the mounted end of the cable to the power input on the EXPLORER 527, marked **DC**.
   Make sure it is oriented correctly in relation to the coding of the connector.



Powering the EXPLORER™ 527

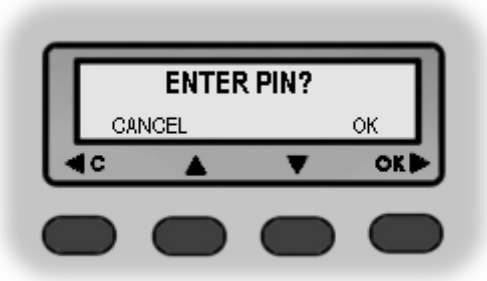
Switching the EXPLORER™ 527 on/off

To switch on the EXPLORER 527, push the Power button in the left side of the front panel. The button stays in when the EXPLORER 527 is on. The display and the green Power indicator light up.



To switch off the EXPLORER 527, push the power button again and let it pop out. Note that the EXPLORER 527 may take a couple of seconds to close down properly.

After switching on the EXPLORER 527 you are prompted for a PIN (Personal Identification Number), unless the PIN is disabled. [1]



If it is the first time the EXPLORER 527 system is used, the antenna will start scanning immediately after power on. If the system has been in use before, the antenna will start up in the last used position. The Antenna indicator is flashing green during the scanning process and until the EXPLORER 527 is registered on the BGAN network.

Note that the EXPLORER 527 system will not attempt to register on the BGAN network until the PIN has been accepted (unless the PIN is disabled).

See the next section for information on how to enter the PIN.

1. The PIN can only be disabled/enabled by use of AT commands (`AT+CLCK`).

Entering the SIM PIN

Overview

You have to enter a PIN to use the EXPLORER 527, unless the use of PINs is disabled.

When you are asked for a PIN, you can choose to cancel (press **C**). If you cancel, you can always go back and enter the PIN at a later stage by pressing OK from the Main screen, or using a phone or the web interface.

You cannot use the display menu system nor make calls or start data sessions without entering the PIN.
Only emergency calls are allowed, and only if permitted by the network.

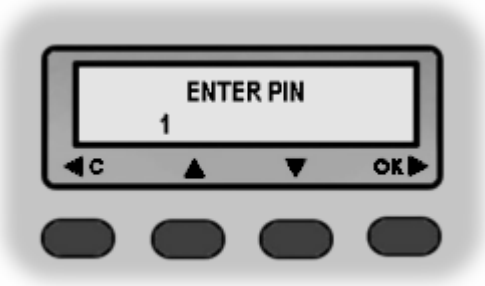
However, if you have an administrator user name and password, you can upload software using the web interface. For further information, see *Uploading software* on page 95.

Entering the PIN

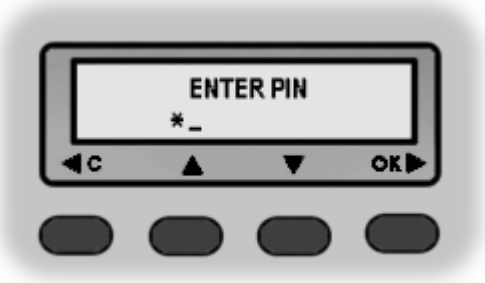
To enter the PIN using the display and keypad, do as follows:

1. When you are asked for a PIN, press **OK**.

2. Press ▲ or ▼ a number of times until the first digit is correct.



3. Press **OK** to go to the next digit.
   When OK is pressed, the previous digit is indicated by *.
   To correct an entered digit, press **C** to go back and use the ▲ and ▼ buttons again.



4. After entering the last digit with **OK**, press **OK** again to apply the PIN.
   When the PIN is accepted the terminal can attempt to register on the BGAN network. When the terminal is registered on the network, the Antenna indicator turns steady green and the display reads `READY`. The terminal is now ready for communication.

For further information on how to use the keypad and display, see *Using the display and keypad* on page 27.

You can enter the PIN using a phone or computer connected to the EXPLORER 527. For further information, see *Entering the SIM PIN using a phone* on page 48 or *Entering the SIM PIN in the web interface* on page 63.

Wrong PIN

You have 3 attempts to enter the PIN, before you are asked to enter the PUK (Pin Unblocking Key). The PUK is supplied with your SIM card.
Enter the PUK followed by a new PIN of your own choice. The PIN must be from 4 to 8 digits long.

Important If you enter a wrong PUK 10 times, the SIM card will no longer be functional, and you have to contact your Airtime Provider for a new SIM card.

Making the first call

Introduction

After connecting cables and entering the PIN, you are ready to make or receive the first call.

The following sections provide a short guide to making calls. For more detailed information, see *Making or receiving a phone call with the EXPLORER™ 527* on page 49.

Making a call from the EXPLORER™ 527

Your phone must be connected to one of the Phone/Fax connectors. For further information, see *Before connecting to the Phone/Fax interface* on page 47.

Note Only one of the Phone/Fax connectors can be used at a time.

To make a call from a phone connected to the EXPLORER 527, dial

00 <country code> <phone number> #.

Example: To call Thrane & Thrane in Denmark (+45 39558800), dial **00 45 39558800 #**

Making a call to the EXPLORER™ 527

To make a call to a phone connected to the EXPLORER 527, dial

+870 <Mobile subscriber number>

- **+** is the prefix used in front of the country code for international calls. This is **00** when calling from most countries in Europe and from many other countries.
- **Mobile subscriber number**: The mobile subscriber number of the EXPLORER 527 you are calling.
  If the mobile subscriber number of the EXPLORER 527 is available on the SIM card, it is listed in the display menu system of the EXPLORER 527 under **PROPERTIES > MOBILE NUMBERS**. If it is not available, refer to your airtime subscription.

Note There are two voice numbers, one for 3.1 kHz Audio and one for Standard Voice.

Example: If you are calling from Denmark to the EXPLORER 527 and the mobile subscriber number for 3.1 kHz Audio is 772112345 on your EXPLORER 527, and you want to make a call to the EXPLORER 527 using 3.1 kHz Audio, dial **00 870 772112345**.

Making a call from one EXPLORER™ 527 to another EXPLORER™ 527

To make a call from one EXPLORER 527 to another EXPLORER 527, dial **00 870 <Mobile subscriber number>**.

Receiving a call

To be able to receive a call, the phone must be connected to one of the Phone/Fax connectors on the EXPLORER 527.

You can see unanswered calls in the **CALLS** menu of the display and the web interface.

Making the first data connection (LAN)

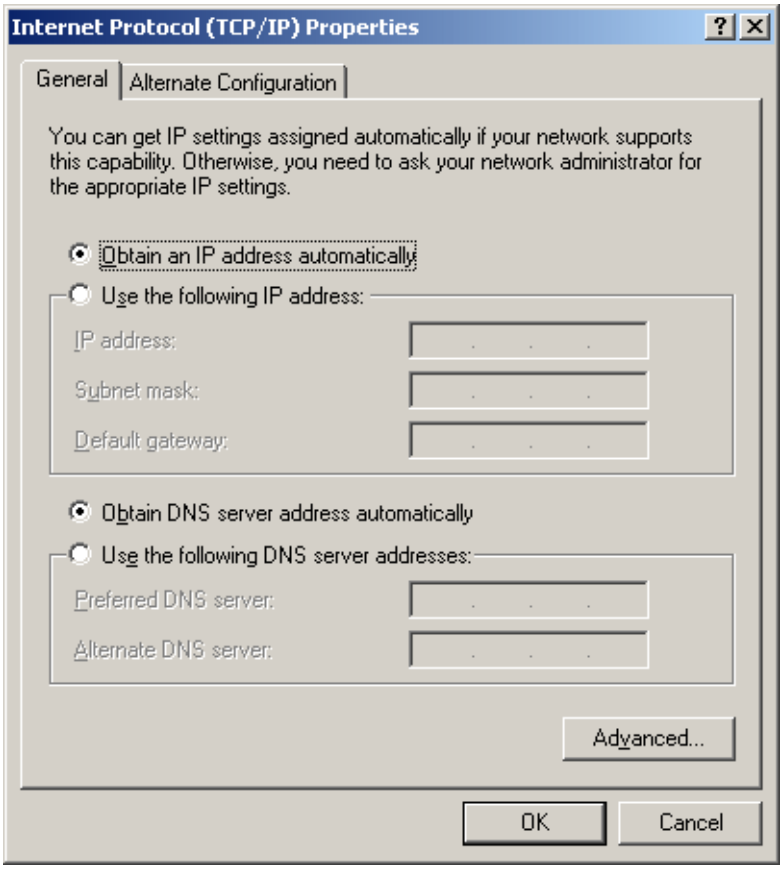
Before connecting to the LAN interface

For the LAN (Local Area Network) interface to work without any further setup, the computer must be set up to obtain an IP address and a DNS server address automatically.
To check these settings on your computer, do as follows (For Windows® XP):

1. From the **Start** menu, select **Connect To** > **Show All Connections**.

2. Double-click **Local Area Connection** and click **Properties**.

3. Select **Internet Protocol (TCP/IP)** from the list and click **Properties**.
   Make sure both fields are set to obtain an address automatically.

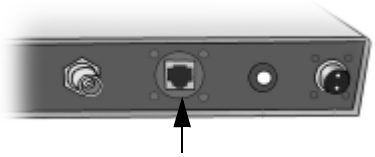


Connecting to the LAN interface

Do as follows:

1. Connect a LAN cable to the network interface of your computer.
   A suitable cable is included in the delivery.

2. Connect the other end of the cable to the LAN connector, marked **LAN**, in the connector panel of the EXPLORER 527.



3. Start up the EXPLORER 527 as described earlier in this chapter.

4. Power on the computer.

5. When power on is completed, check the connection e.g. by starting your Internet Browser. You may have to disable the Proxy server settings in your browser. For further information, see *Browser settings* on page 60.

What's next?

After reading this chapter you should be able to start up the EXPLORER 527 and make a simple data or voice connection.

The next chapters provide more information on the user interfaces and the setup of the EXPLORER 527. The following chapter, *Using the display and keypad*, explains the display menu system, which is the basic tool for setting up the EXPLORER 527.

Using the display and keypad

In this chapter

This chapter describes how to use the built-in display menu system of the EXPLORER 527.

It contains an overview of the entire menu system followed by a description of each menu. It also explains the symbols and messages that may appear in the display, and describes how to navigate using the keypad.

Menu overview

Main menu

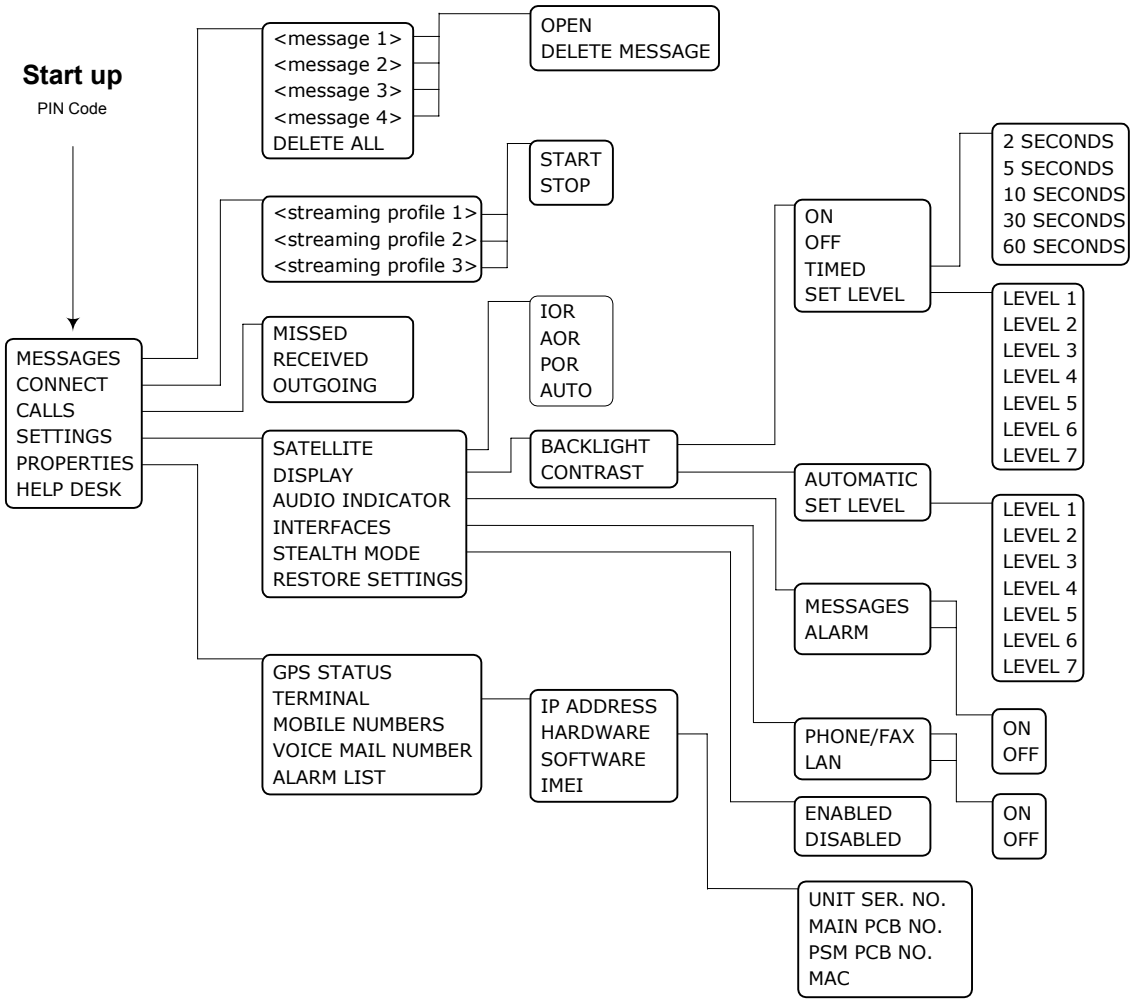
The items of the main menu are:

- **MESSAGES**
  shows all incoming SMS messages and allows you to open or delete each message or delete all messages.
- **CONNECT**
  shows a list of the Streaming Profiles that are defined and selected for the LAN interface using the web interface. The CONNECT menu allows you to start and stop data sessions with the listed Streaming Profiles.
- **CALLS**
  shows missed, received and outgoing calls and data sessions.
- **SETTINGS** allows you to
  - set display backlight and contrast,
  - set audio indications on or off,
  - enable or disable each interface,
  - enable or disable stealth mode (a terminal mode where lights and sound are off), and
  - restore settings.
- **PROPERTIES** shows:
  - GPS status,
  - Terminal information (IP address, hardware and software numbers, IMEI number),
  - Mobile numbers,
  - Voice mail number, and
  - a list of active alarms.
- **HELP DESK**
  shows the phone number to the Airtime Provider, if available.

For information on how to navigate in the menu system, see *Navigating the display and keypad* on page 31.

Menu drawing

The below drawing shows an overview of the menus in the display menu system of the EXPLORER 527.

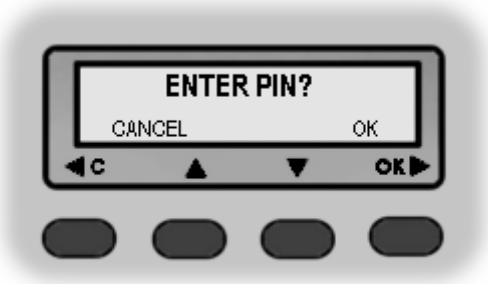


The next section shows an overview of the start-up sequence before entering the menu system. The menus are further described in the following sections of this chapter.

Display during start-up

Start-up sequence

After power on you are asked for a PIN.



When you have entered the correct PIN, the display shows the Main screen.

While the antenna is attempting to connect to the BGAN network, the Main screen shows the progress as follows:

- **`SEARCHING:`** The EXPLORER 527 is searching for the network operator.
- **`REGISTERING:`** The EXPLORER 527 is registering itself on the BGAN network. If the GPS position has not yet been acquired at this point, the display will show **`NO GPS`**. For further information, see the *Troubleshooting Guide* on page 111.
- **`READY:`** The EXPLORER 527 is registered on the network and is ready to go online. If a computer is already connected, the display will show `DATA` instead of `READY`.

Main screen

The Main screen is shown after passing the PIN screen, and anytime you leave the menu system.

The Main screen shows the most important status of the EXPLORER 527 such as signal strength and general status.

The Main screen also shows icons for any interfaces that are turned on.
In this case, the Phone/Fax interface, the USB service interface and the LAN interface are all on.



Display symbols

Apart from the menu text, the display can show various symbols. Below is a list of the possible symbols with an explanation to each symbol.

Symbol	Explanation
	The signal strength. Minimum two bars are normally required to be able to make a Standard Voice call.
	Phone/Fax interface is on.
	USB service interface is on.
	LAN interface is on.
	Unread message (shown next to the message in the message list)
	Read messages (shown next to the message in the message list)
	The current connection on the BGAN network is not ciphered. Do not transmit data that requires ciphering.

Navigating the display and keypad

Navigating with the keypad

The PIN must be accepted by the EXPLORER 527 before you can access the menu system.

Note In low temperatures the display may respond slowly when a key is pressed. At temperatures close to -25°C/-13°F the display may even turn black for a moment, e.g. when you are scrolling through a menu. After 1-2 seconds with no keypad activity the display will be readable again.



- **To access the menu system from the Main screen,** press ▲ or ▼.
- **To move up and down in the current menu,** press ▲ or ▼.
- **To select the current menu item or setting,** press **OK**.
- **To escape the current menu/setting** and return to the previous level, press **C**.
- **To see the hidden part of long text strings,** press ▶.
- **To move backwards in the menu system, or in long text strings,** press ◀.
- **To adjust settings,** press ▲ and ▼.

Short-cuts

The following short-cuts are available in the menu system:

- **To exit the menu system,** press and hold **C** for one second. The display returns to the Main screen.
- **To activate/deactivate Stealth mode,** Press **C+OK**. When stealth mode is activated, the display shows `STEALTH ACTIVATED` for a moment; then all lights and sounds are turned off.

  Note For Stealth mode to be available, it must be enabled in the EXPLORER 527. Refer to *Enabling or disabling stealth mode* on page 36.

Display text

When you have not entered the menu system, the Main screen shows the currently most important information. Refer to *Dynamic information in the display* on page 40.

CANCEL in the left side of the display means: Press **C** to cancel the current operation.

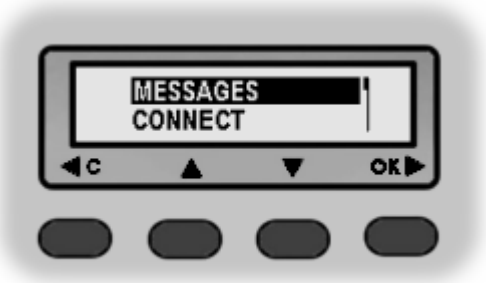
OK in the right side of the display means: Press **OK** to accept the current operation.

The menus

The following sections describe each of the menus in the menu system.

All available settings and status items are explained.

To access the menu system from the main screen, press ▲ or ▼.



Messages menu

Viewing the list of messages

To see the list of SMS messages, enter the menu system and select **MESSAGES**. Each message is listed with the name (if known) or the number of the sender.
An unopened folder 🗀 indicates an unread message and an opened folder 🗁 indicates a read message.
Use ▲ and ▼ to scroll through the list.

For information on how new messages are presented, see *Received messages* on page 40.

Opening or deleting received SMS messages

To delete all messages, go to the bottom of the list of messages and select **DELETE ALL**.

To open or delete one message, do as follows:

1. In the **MESSAGES** list, select the message you want to open or delete and press **OK**.
2. Then select one of the following:
   - **OPEN** to open the selected message.
     The display shows the time and the message contents. Use ▲ and ▼ to scroll through the message and details.
   - **DELETE** to delete the selected message.

Connect menu

Streaming Profiles

Using the web interface you can define a number of Profiles for data transmission. The Streaming Profiles defined and selected for the LAN interface appear in the CONNECT menu, and can be started and stopped using the keypad.

Streaming Profiles are Profiles where the Traffic Class is set to Streaming in the Profiles window of the web interface.

For information on Profiles, see *Using Profiles* on page 101.

For information on Streaming, see *Standard or Streaming data* on page 54.

Starting or stopping a Streaming session

To start or stop a Streaming session on the LAN interface, do as follows:

1. Select **CONNECT**.
2. Select the Streaming Profile you want to start or stop.
   The list only shows Profiles that have been selected for the LAN interface.
   For information on how to set up the LAN interface, see *Configuring the LAN interface* on page 80.
3. Select **START** or **STOP** and confirm.

Important When running a Streaming session you are charged for the time you are connected. An active Streaming session will stay active until you stop it.

You can also start/stop Streaming sessions using the web interface. For further information, see *Setting up and activating a Streaming connection* on page 54.

Calls menu

To see a list of calls or data sessions, do as follows:

1. Select **CALLS**.

2. Select one of the following:
   - **MISSED** to see a list of incoming calls that were not answered.
   - **RECEIVED** to see a list of incoming calls that were answered.
   - **OUTGOING** to see a list of outgoing calls or data sessions.

3. Select a call from the list to see details such as time, date and phone number.
   If there was an error, the call log shows the cause of the error when possible.

When there are more than 100 calls in the list, the oldest calls are automatically deleted to make room for new calls.

If you need to preserve the call log, you can export it to a file using the built-in web interface. For further information, see *Exporting the call log* on page 68.

Settings menu

Selecting the preferred satellite

By default the EXPLORER 527 is set up to automatically find the most appropriate satellite to connect to. However, if you are located in an area with coverage from more than one BGAN satellite, you can select the satellite you prefer to use. Do as follows:

1. Select **SETTINGS > SATELLITE**

2. Select one of the following:
   - **IOR** to use the Indian Ocean Region satellite.
   - **AOR** to use the Atlantic Ocean Region satellite.
   - **POR** to use the Pacific Ocean Region satellite. Note that at this writing the POR satellite is not yet available.
   - **AUTO** to automatically use the most appropriate satellite (the default setting).

Note If you have selected one of the satellites, the EXPLORER 527 will **only** try to establish a connection to the selected satellite. This means that if the antenna is outside the coverage area for that satellite, the EXPLORER 527 will not be able to register with the BGAN network.

Setting the display backlight

To adjust the backlight of the display, do as follows:

1. Select **SETTINGS > DISPLAY > BACKLIGHT**.
2. Select one of the following:
   - **ON** have constant backlight.
   - **OFF** to turn the backlight off.
   - **TIMED** to set how long the backlight should be on after the last key was pressed (2, 5, 10, 30 or 60 seconds).
   - **SET LEVEL** to set the level of backlight (1 to 7).

Setting the display contrast

To adjust the contrast of the display, do as follows:

1. Select **SETTINGS > DISPLAY > CONTRAST**.
2. Select one of the following:
   - **AUTOMATIC** to let the EXPLORER 527 automatically adjust the contrast according to the temperature.
     The contrast of the display is affected by the temperature. The EXPLORER 527 can automatically adjust the contrast so that the display looks the same, regardless of changes in the temperature.
   - **SET LEVEL** to set the level of the contrast manually (1 to 7).

Turning audio indicators on or off

The EXPLORER 527 has audio indicators to indicate an event. You can turn each of these audio indicators on or off.

1. Select **SETTINGS > AUDIO INDICATOR**.
2. Select one of the following:
   - **MESSAGES:** a sound to indicate that a message has arrived.
   - **ALARM:** a sound to indicate that an alarm is present.
3. Select **ON** or **OFF** to enable or disable the selected audio indicator.
   Note that the sound from the audio indicator is weak. The noise from your vehicle may drown the sound from the audio indicator.

Enabling or disabling interfaces

To turn an interface on or off, do as follows:

1. Select **SETTINGS > INTERFACES**.
2. Select one of the following interfaces:
   - **PHONE/FAX**
   - **LAN**
3. Select **ON** or **OFF** to enable or disable the selected interface.

Enabling or disabling stealth mode

When the EXPLORER 527 is in stealth mode, all lights and sounds are turned off. You can still use the EXPLORER 527, and the display text is readable.

To enable or disable the use of stealth mode, do as follows:

1. Select **SETTINGS > STEALTH MODE**.
2. Select one of the following:
   - **ENABLED**
   - **DISABLED**

Note Enabling stealth mode will **not put the EXPLORER 527 into stealth mode**, it only enables the use of stealth mode.

- To activate Stealth mode (after enabling Stealth mode), press **C+OK** on the keypad.
- To deactivate Stealth mode, press **C+OK** again.

Selecting the language

You can change the language used in the display and in the web interface of the EXPLORER 527. Do as follows:

Select **SETTINGS > LANGUAGE** and select the language you want to use. The following languages are available:

- English
- French
- Spanish
- German
- Russian

Restoring settings

You can restore default values for the settings in the SETTINGS menu, except the contrast setting. The following settings are restored:

- Backlight
- Audio indicators
- Stealth mode
- Interfaces enabled

Note that all other settings are left unchanged.

To restore settings, do as follows:

1. Select **SETTINGS > RESTORE SETTINGS**.
2. Press **OK**.

Properties menu

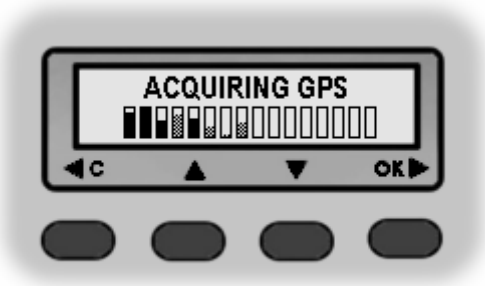
Viewing the GPS status

The display can show the current GPS status.

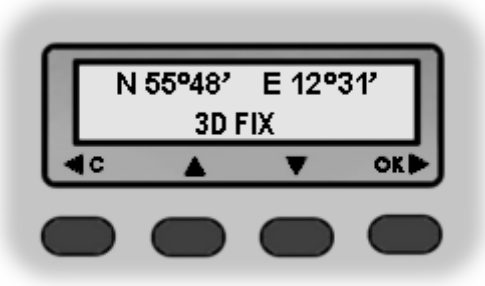
To view the GPS status, select **PROPERTIES > GPS STATUS**.

The GPS status screen can vary, depending on the situation.

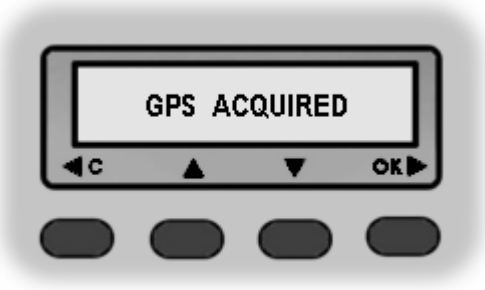
- If the GPS position has not yet been obtained, the display shows the status of each of the 16 GPS satellites as follows:



- If the GPS position is known, the display shows the GPS position, and whether it is a 2-dimensional or 3-dimensional position (2D fix or 3D fix).



- In some cases, the BGAN network does not allow the position to be displayed to the user. If this is the case, the display may just show `GPS ACQUIRED`. This means that the GPS position is received, but the user is not allowed to see it.
  This also applies if the EXPLORER 527 is not yet registered on the BGAN network, but the GPS position is received.



Viewing terminal properties

You can view properties of the EXPLORER 527 such as IP address, hardware numbers, software version and IMEI number. When contacting Support, please include these numbers.

To view the properties, select **`PROPERTIES > TERMINAL`** and select one of the following options:

- **`IP ADDRESS`** to see the IP address of the EXPLORER 527. This IP address is used to access the web interface of the EXPLORER 527. The web interface is a built-in web server used to configure and set up the EXPLORER 527. For further information on the web interface, see *Using the web interface* on page 59.
- **`HARDWARE`** to see the serial number, PCB numbers and MAC address of your EXPLORER 527.
- **`SOFTWARE`** to see the software version of the EXPLORER 527.
- **`IMEI`** to see the IMEI number (International Mobile Equipment Identity) of the EXPLORER 527. This is the unique mobile equipment number that identifies your EXPLORER 527. The IMEI number is also printed on the serial number label at the back of the terminal.

Viewing mobile subscriber numbers

If available on the SIM card, the `MOBILE NUMBERS` menu lists the mobile subscriber number to use when calling the EXPLORER 527.

To view the mobile subscriber number, select **`PROPERTIES > MOBILE NUMBERS`**.

If the mobile number is not available, the display reads `NO INFORMATION AVAILABLE`.

Viewing the voice mail number

The EXPLORER 527 informs you of any incoming voice mail through the display and through the web interface.

The voice mail number is the number you call to hear your incoming voice mail.
If it is available on the SIM card, the `PROPERTIES` menu shows the voice mail number.

To view the voice mail number, select
PROPERTIES > VOICE MAIL NUMBER.

If the voice mail number is not available, the display reads
NO INFORMATION AVAILABLE.

Alarm list

If an error is present in the system, an alarm will be issued. For information on how new alarms are presented, see *Display of alarm messages* on page 115.

You can always view the list of currently active alarms by entering the menu system and selecting **PROPERTIES > ALARM LIST**.

In the alarm list, the alarms are listed with their ID numbers.
To see the name and time stamp of the alarm, press **OK**. Use ▲ and ▼ to scroll through the name, ID and time stamp. If the text is too long, press **OK** (▶) to scroll through the rest of the text.

Help desk

If you need support **regarding airtime**, you may call the Airtime Provider help desk.

To see the help desk number, select **HELP DESK** in the menu system.

The display will show the name and phone number of your Airtime Provider, if it is available on the SIM card.

If the information is not available on the SIM card, you can use the built-in web interface of the EXPLORER 527 to store the help desk name and number. For further information, see *Accessing the Help desk* on page 106.

Dynamic information in the display

Types of display information

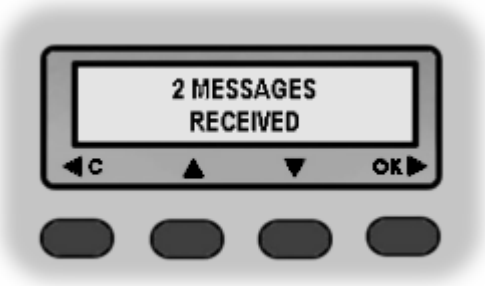
Text in the display can be:

- Information of received messages.
- Alarms.
- Status information.
- Request for action.

Received messages

When messages arrive in your EXPLORER 527, the display indicates the number of new messages that have arrived, and the yellow Message indicator in the left side of the front panel lights up.

The messages can be SMS messages or notification of voice mail.



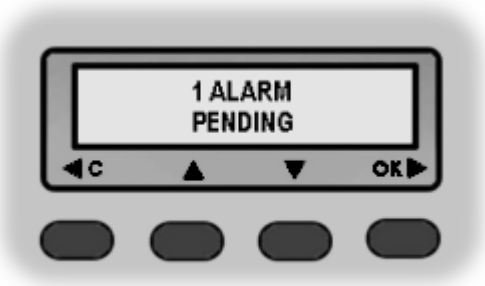
If the message is an SMS message, you can go directly to the message list by pressing **OK**.

If the message is information of voice mail, you can press **OK** or **C** to go back to the Main screen. The yellow message indicator will stay on until you have collected your voice mail. To hear your voice mail, call the voice mail service number provided by your Airtime Provider.

To see the voice mail service number, select
PROPERTIES > VOICE MAIL NUMBER

Alarms

When alarms are issued in your EXPLORER 527, the display indicates the number of new alarms, and the yellow message indicator lights up.



See also:

- *Display of alarm messages* on page 115.
- *List of alarms* on page 116.
- *Alarm log* on page 120.

Status information

Status information in the display is normally shown in the lower line of the Main screen.

Examples of status information are: `READY`, `REGISTERING` and `DATA`.

Displaying ongoing transmission

The display shows information on type and duration/MB for calls and data sessions in progress.

- A 64 K Streaming session is displayed as **`64K`** followed by the duration,
- a CS call is displayed as **`CALL`** followed by the duration and
- Backgound data is displayed as **`DATA`** followed by MB.

Two lines are available in the display. If more than two calls or sessions are active, display of Streaming data has the highest priority, then CS calls and then Background data. Within these categories, the oldest calls/data sessions have the highest priority.



WARNING! When the EXPLORER 527 is powered on, stay clear of the antenna top and sides! The antenna emits radio frequency energy, **not only** when a call or data session is in progress. Always keep a minimum distance of 1 m from the antenna top and sides when the system is powered.

Request for action

A request for action, if it is not an alarm, is shown in the lower line of the display. This could be e.g. `INSERT SIM` or `ENTER PIN`.

When the text is a question, press **OK** to accept.

What's next?

This chapter has explained how to navigate in the display menu system and how to use it for basic setup of the EXPLORER 527.

The following chapter, *Using the interfaces*, explains in detail how to set up and use each interface of the EXPLORER 527.

Using the interfaces

In this chapter

This chapter describes how to use the interfaces of the EXPLORER 527. For each connection type it describes how to connect cables and the necessary setup to establish a connection.

It does not describe advanced configuration of interfaces. For this type of information, refer to the “Configuring...” sections for the data interfaces in Chapter 5, *Using the web interface*.

General

Connecting to the antenna and to power

For information on how to connect to the antenna and to power, refer to *Connecting the antenna* and *Connecting to power* on page 20.

Tools for setup and use

Display and keypad

The **display and keypad** can be used for simple setup, but for enhanced use and for configuration of interfaces, you need to connect a computer (PC, laptop or similar).

For information on the display menu system, see *Using the display and keypad* on page 27.

web interface

With a computer and a browser, you can use the built-in **web interface** to set up and control the EXPLORER 527.

For information on how to use the web interface, see *Using the web interface* on page 59.

Services and interfaces

A variety of services can be accessed from different interfaces on the EXPLORER 527.

The following table shows the possible combinations of services and interfaces, and which types of equipment can be used.

Service		Interface on the EXPLORER 527		
		Phone/Fax	**LAN**	**Display/ Keypad**
Circuit Switched Connection	**3.1 kHz Audio**	Analog telephone		
		G3 Fax machine		
	Standard Voice	Analog telephone		
	Data	Computer with analog modem		
Packet Switched Connection	**Data multi-user**		Computer with Switch/Hub	
	Data single-user		Computer	
SMS			Computer	View only

Enabling or disabling an interface

Overview

By default, all interfaces are enabled. However, you can disable the LAN interface and/or the Phone/Fax interface.

Note The USB service interface cannot be disabled; it is always enabled.

Using display and keypad

To enable or disable an interface using the **display and keypad**, do as follows:

1. Enter the menu system.
   From the Main screen, press ▲ or ▼.
2. Select **SETTINGS > INTERFACES**.
3. Select the interface you want to enable or disable.
4. Select **ON** to enable or **OFF** to disable.

Using web interface

To enable or disable an interface using the **web interface**, do as follows:

1. Connect a computer. Refer to *Connecting to the LAN interface* on page 56.
2. Access the web interface.
   For further information, see *The web interface* on page 59.
3. From the left navigation pane in the web interface, select **SETTINGS** and then select the interface you want to enable or disable.
4. Select **Enabled** or **Disabled** at the top of the window.

Using a phone or fax machine

Selecting the call type

Definition

The phone connection can be either a **Standard Voice** connection or a **3.1 kHz Audio** connection. In the web interface you can set up which type of connection to use by default when you make or receive a call from the Phone/Fax interface.

When connecting a fax or a modem you must use 3.1 kHz Audio.

Example: If you always have a fax connected to the Phone/Fax interface you can set this interface to 3.1 kHz Audio only. This will mean that if an incoming Standard Voice call is received, the Phone/Fax interface will not ring.

Selecting the default outgoing call type

To select the default call type for outgoing calls, first connect a computer. Refer to the relevant section in this chapter, e.g. *Connecting to the LAN interface* on page 56.

Then do as follows:

1. Access the web interface.
   For further information, see *The web interface* on page 59.
2. Select **SETTINGS > Phone/Fax**.
3. At **Outgoing calls**, select **Standard** or **3.1 kHz Audio**.

Overriding the default outgoing call type

To override the default setting for a specific outgoing call, do as follows:

- To use **Standard Voice** for the call,
  dial **1*** before the number.
- To use **3.1 kHz Audio** for the call,
  dial **2*** before the number.

Example: To make a call to Thrane & Thrane in Denmark (+45 39558800), forcing the connection to use Standard Voice, dial **1* 0045 39558800 #**.

Note This will not change the default call type, only the type used for the ongoing call.

Phone numbers for incoming 3.1 kHz Audio and Standard Voice

3.1 kHz Audio and Standard Voice have separate phone numbers. This way a person calling a phone connected to the EXPLORER 527 can select whether to use 3.1 kHz Audio or Standard Voice, simply by using one of the two phone numbers.

Note The call type you are using must be selected in the web interface (refer to the next section).

If the Mobile subscriber numbers are available on the SIM card you can look them up, using either the display menu system or the web interface.

To view the phone numbers for Standard Voice and 3.1 kHz Audio, do one of the following:

- Select **PROPERTIES > MOBILE NUMBERS** in the display menu system, or
- access the web interface and select **PROPERTIES**. The numbers are listed in the field **Mobile subscriber numbers**. For further information, see *The web interface* on page 59.

If the numbers are not available in the display menus nor the web interface, refer to your airtime subscription.

For information on how to make a call to the EXPLORER 527, see *Making a call to the EXPLORER™ 527* on page 50.

Selecting the incoming call type

To select which call types are accepted for an incoming call, first connect a computer. Refer to the relevant section in this chapter, e.g. *Connecting to the LAN interface* on page 56.

Then do as follows:

1. Access the web interface.
   For further information, see *The web interface* on page 59.
2. Select **SETTINGS > Phone/Fax**.
3. At **Incoming Calls**, select **Standard** or **3.1 kHz Audio** or both.
   If the call type used for a call to the EXPLORER 527 is not selected in the web interface, the connected phone will not ring.

Connecting an analog phone or a fax machine

Before connecting to the Phone/Fax interface

The EXPLORER 527 has two Phone/Fax connectors, one at the front panel and one at the rear connector panel.

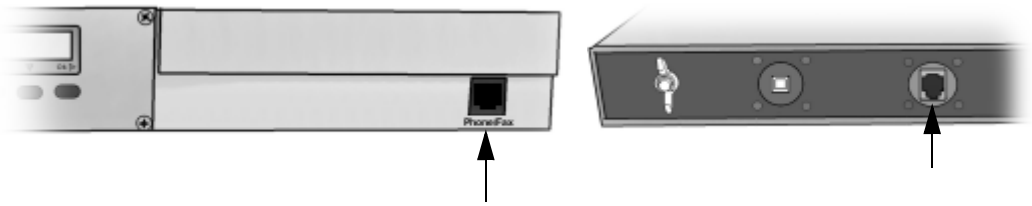
To connect a phone or a fax machine to one of the Phone/Fax connectors, you need an analog telephone cable with an RJ-11 connector. For specifications and pin-out, refer to *Phone/Fax interface* on page 125.

Connecting to the Phone/Fax interface

Do as follows:

1. Connect the cable to your phone or fax machine.

2. Connect the other end of the cable to one of the Phone/Fax connectors on the EXPLORER 527.



One Phone/Fax connector is placed at the front panel, the other is placed at the rear connector panel. Both are marked **Phone/Fax**.

Note | You can only connect to one of the Phone/Fax connectors at a time.

3. Power on the EXPLORER 527.

4. Check the connection by making a phone call or sending a fax.
   See *Making or receiving a phone call with the EXPLORER™ 527* on page 49 or *Sending or receiving a fax message* on page 53.

If connection fails, check that the interface is enabled in the EXPLORER 527.
If the analog phone icon is not present in the display Main screen and in the Home window of the web interface, the interface is disabled.
See *Enabling or disabling an interface* on page 44.

If the interface is enabled, but connection fails, refer to the the *Troubleshooting Guide* on page 113.

Entering the SIM PIN using a phone

Entering the PIN

If you have a phone connected to the EXPLORER 527, you can use it to enter the PIN at start up, as an alternative to the keypad.

Do as follows:

1. Pick up the phone.
   When the EXPLORER 527 is waiting for a PIN, you will hear 2 beeps - pause - 2 beeps - etc.

2. Dial the PIN the same way you would dial a phone number:
   Dial **<PIN> #**.
   When you hear a “busy” tone or a dialing tone, the PIN has been accepted and you can put the phone back on hook.

Wrong PIN

If, instead of the busy tone or dialing tone, you continue to hear 2 beeps - pause - 2 beeps - etc., it means the PIN was wrong. Check that you have the correct PIN and try again.

If a wrong PIN has been entered three times, you will hear 3 beeps - pause - 3 beeps - etc. This means you have to enter the PUK (PIN Unblocking Key) provided with your SIM card.
After entering the PUK, you must enter a new PIN of your own choice (4 to 8 digits long).

Dial the following:

<PUK> * <New PIN> * <New PIN> followed by **#**.

Example: If the PUK is 87654321 and the new PIN is 1234, dial

87654321 * 1234 * 1234 followed by **#**.

If you enter 10 wrong PUKs, the SIM card will no longer be functional. Contact your Airtime Provider for a new SIM card.

Making or receiving a phone call with the EXPLORER™ 527

Making a call

You have two methods for making a call:

- **Short Dial**. If the number is in the phone book of the EXPLORER 527, you can use the Short Dial number, which is found in the first column of the phone book in the web interface. See *Short dial* on page 67.
  Simply dial **0 <Short Dial> #**.

  Example: To call entry number 4 in the phone book, dial **04 #**.

- **Manual Dial.** To make a call, dial
  00 <country code> <phone number> #.

  Example: To call Thrane & Thrane in Denmark (+45 39558800), dial **00 45 39558800 #**

If there was an error establishing the connection, the web interface and the display of the EXPLORER 527 show an error message. Refer to the *Troubleshooting Guide* on page 113.

Receiving a call

To be able to receive a call, the phone must be connected to the relevant interface on the EXPLORER 527.

By default, all devices connected to the Phone/Fax interface will ring when one of the mobile subscriber numbers is called. Note, however, that this depends on the call type settings. Refer to *Selecting the incoming call type* on page 46.

Information of missed calls is stored in the call log of the EXPLORER 527. You can view the call log with the display menu system or the web interface. See *Calls menu* on page 34 or *Viewing the lists of calls* on page 69.

Making a call to the EXPLORER™ 527

To make a call to a phone connected to the EXPLORER 527, dial

+870 <Mobile subscriber number>

- **+** is the prefix used in front of the country code for international calls. This is **00** when calling from countries in Europe and from many other countries.
- **Mobile subscriber number**. If the mobile subscriber numbers are available on the SIM card, you can look them up using the display menu system or the web interface.
  - **Display menu system:**
    Enter the menu system and select **PROPERTIES > MOBILE NUMBERS**.
  - **web interface:**
    If a computer is connected, access the web interface, select **PROPERTIES** and locate the **Mobile subscriber numbers** section. For further information on the web interface, see *The web interface* on page 59.

  If the mobile subscriber numbers are not available in the display menu system nor the web interface, refer to your airtime subscription.

  Note There are two Voice numbers, one for 3.1 kHz Audio and one for Standard Voice.

Dialing functions

Overview

There are a number of dialing functions available in the EXPLORER 527.

The following list shows the allocated special-purpose numbers for the EXPLORER 527.

Number	Function
0 * followed by **#**	Redial last called number on this interface.
00 * followed by **#**	Redial last answered call on this interface. Note: If the last answered number is an unlisted number, you will not be allowed to dial back.
0 followed by one of the numbers **1-199** and **#**	Short dial phone numbers in phone book.

Apart from the numbers above, the EXPLORER 527 uses the following dialing prefixes:

- **1 *** before the phone number will force the connection to use **Standard Voice**.
- **2 *** before the phone number will force the connection to use **3.1 kHz Audio**.
- **# 31 #** before the phone number will hide the callers phone number to the recipient.
- *** 31 #** before the phone number will show the callers phone number to the recipient where it would otherwise be hidden, e.g. because the number is an ex-directory number.
- **R** is used during a call to indicate that the following key-presses should activate a supplementary services function. The supplementary services functions supported by the EXPLORER 527 are described in the subsequent sections.

> **Note** The supplementary services are only available if they are provided by the Airtime Provider.

Handling waiting calls

Note The phone must have an R key to be able to use these functions.

During a call, if a second party attempts to make contact with you, you will hear a Call Waiting indication. The Call Waiting indication is two beeps and a pause of 3 seconds, then two beeps again etc. If no action is taken, the waiting call is released after a time out period.

In the web interface you can enable or disable the call waiting indication. For further information, see

When you receive a Call Waiting indication, you have the following options:

If you want to:	Do as follows:
Clear the current call, and accept the waiting call.	Press **R 1 #**, within the time out period.
Hold the current call, and accept the waiting call.	Press **R 2 #**, within the time out period.
Ignore the waiting call.	Take no action.
Reject the waiting call.	Press **R 0 #**, within the time out period.

Holding a call

Note The phone must have an R key to be able to use these functions.

During a call, you may place the initial call on hold while another call is made.

If you want to:	Do as follows:
Place a call on hold.	Press **R 2 #**.
Place the existing call on hold and establish a new call.	Press **R** and dial the second phone number followed by **#**.
Shuttle between the two calls.	Press **R 2 #** (irrespective of whether the second call was acquired using Call Hold or acceptance of Call Waiting.)
Clear the held call, if no waiting call exists.	Press **R 0 #**.
Clear an active call and return to the held call.	Press **R 1 #**. Note that this is only possible if no waiting call exists.

Sending or receiving a fax message

Handling delays

When sending or receiving fax messages over satellite, both fax units must be capable of handling longer delays without timing out. Some fax machines have an Overseas mode, which enables the unit to handle the long delays.

Sending a fax message

The fax machine must be connected to the Phone/Fax interface of the EXPLORER 527. Refer to *Before connecting to the Phone/Fax interface* on page 47.

3.1 kHz Audio must be used for an analog fax machine. Refer to *Selecting the default outgoing call type* on page 45.

To send a fax from a fax machine connected to the EXPLORER 527, dial
00 <country code> <phone number> #

Example: To send a fax to Thrane & Thrane in Denmark (+45 39558888), dial **00 45 39558888 #**

Note If the default setting in the web interface is not 3.1 kHz Audio, you can dial 2 * before the number, to force the connection to use 3.1 kHz Audio. For further information, see *Selecting the default outgoing call type* on page 45.

Receiving a fax message

An analogue fax machine connected to the EXPLORER 527 can only receive a fax with 3.1 kHz Audio. Refer to *Selecting the incoming call type* on page 46.

Make sure the fax is sent to the 3.1 kHz Audio phone number and that 3.1 kHz Audio is enabled for the Phone/Fax interface.

Using a computer

Standard or Streaming data

Definition

The BGAN network supports different classes of data connection to the Internet. The main classes are Standard data and Streaming data.

- Using a **Standard data** connection, several users can share the data connection simultaneously. This type of connection is ideal for TCP/IP traffic such as 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 For optimum performance it is important that you select the right traffic class when defining Profiles for your connection.

You can set up various types of connection using the Profiles and a Traffic Flow Template. For further information, see *Using Profiles* on page 101 and *Using a Traffic Flow Template* on page 104.

Setting up and activating a Streaming connection

By default, any data connection on the EXPLORER 527 is a **Standard data** connection.

If you want to set up a Streaming connection, select a Streaming Profile when setting up your data interface. See the “Configuring...” section for your interface in Chapter 5, *Using the web interface*.

Before starting a Streaming session on the LAN interface, make sure you have set up the Streaming Profile for the LAN interface.

To start or stop a Streaming session on the LAN interface, do as follows:

1. Access the web interface.
2. Go to the **Home** window and locate the field **STREAMING PROFILES ON LAN**.
3. Click the **Start** or **Stop** link of the relevant Streaming Profile.

Note When running a Streaming session you are charged for the time you are connected. A started Streaming session will stay active until you stop it.

Using the LAN interface

Before connecting to the LAN interface

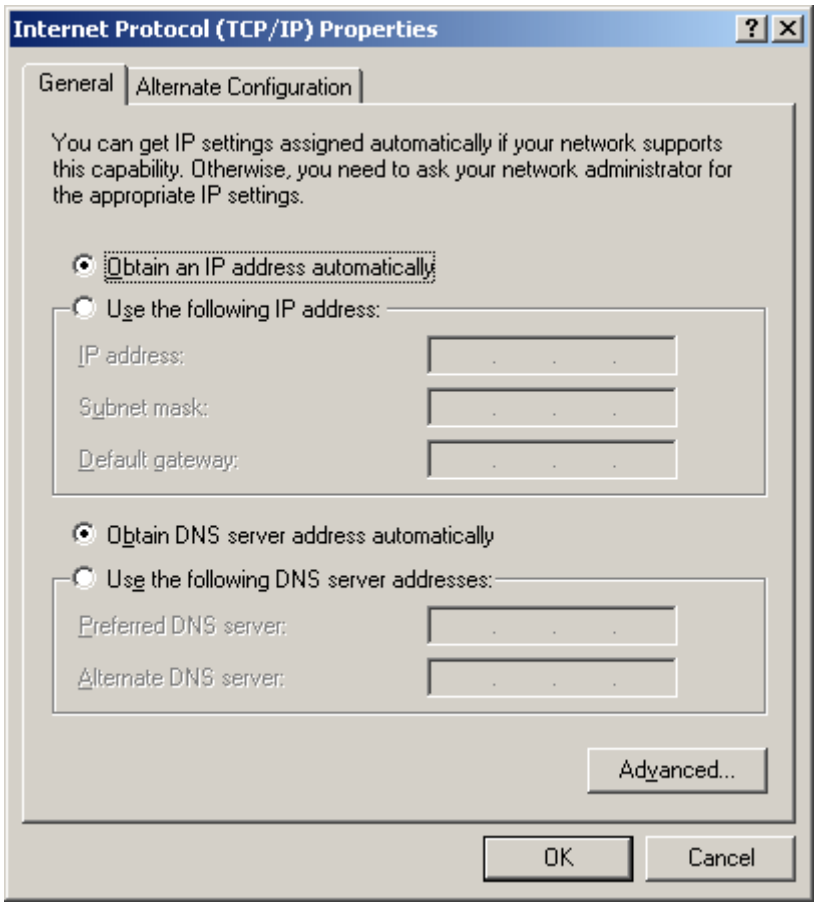
To connect to the LAN (Local Area Network) interface, use a shielded cable mounted with an RJ-45 connector.
The LAN interface is configured as MDI-X. This means that if you are connecting your computer directly to the EXPLORER 527, you should use a **straight** cable. If you are connecting a switch to the EXPLORER 527, use a crossed cable.

For specifications, refer to *LAN interface* on page 126.

For the LAN interface to work without any further setup, the computer must be set up to obtain an IP address and a DNS server address automatically.

To check these settings on your computer, do as follows (For Windows XP):

1. Select **Connect To** > **Show All Connections** from the **Start** menu.
2. Double-click **Local Area Connection**.
3. Click **Properties**
4. Select **Internet Protocol (TCP/IP)** from the list and click **Properties**.
   Make sure both fields are set to obtain an address automatically.



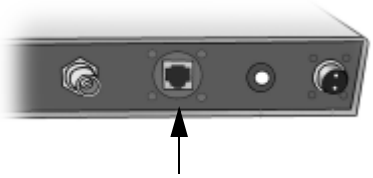
Connecting to the LAN interface

This section does not describe configuration of the LAN interface. For information on configuration, see *Configuring the LAN interface* on page 80.

To connect to the LAN interface, do as follows:

1. Connect a LAN cable to the network interface of your computer.

2. Connect the other end of the cable to the LAN connector, marked **LAN**, in the rear connector panel of the EXPLORER 527.



3. Power on the EXPLORER 527.
   When the EXPLORER 527 is registered on the network, the connection is automatically established. By default, the connection is a Standard data connection.

4. Check the connection, e.g. by starting your Internet Browser.

If connection fails, check that the interface is enabled in the EXPLORER 527. If the LAN icon is not present in the display Main screen and in the Home window of the web interface, the interface is disabled. See *Enabling or disabling an interface* on page 44.
If connection still fails, refer to the *Troubleshooting Guide* on page 113.

Using the USB service interface

Before connecting to the USB service interface

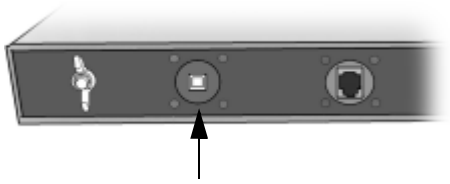
The USB (Universal Serial Bus) service interface of the EXPLORER 527 is intended for accessing the settings of the transceiver in a service situation, using AT commands.

To connect to the USB service interface, use a USB cable mounted with a type B connector. For specifications, refer to *USB service interface* on page 127.

First time setup of USB

If it is the first time you connect your computer to the EXPLORER 527 using the USB service interface, or you have exchanged the EXPLORER 527 with another EXPLORER 527, you must install a driver as follows:

1. Power on your computer.
2. Connect the USB cable to the USB port of your computer.
3. Connect the other end of the cable to the USB connector, marked **USB**, on the rear connector panel of the EXPLORER 527.



4. Power on the EXPLORER 527 as described in *Getting started* on page 11.
5. Your computer should now automatically discover that new hardware is connected.

> **Note** The following description is for **Windows XP**. If you are using a different operating system, the procedure may be different.

6. On **Windows XP**, the New Hardware Wizard starts automatically. Go through the wizard as follows:
7. In the New Hardware Wizard, select **No, not this time** when you are asked if Windows can search for software.
8. Click **Next**.
9. Insert the Thrane & Thrane CD-ROM provided with your EXPLORER 527 into the CD-ROM drive of your computer.
10. Select **Install the software automatically** and click **Next**.
11. If you get a warning that the software has not passed Windows logo testing, you can safely click **Continue Anyway**.
12. Click **Finish** when the installation is complete.
    When you finish the wizard, the Thrane & Thrane EXPLORER USB driver is installed.

To verify that the installation was successful, display the list of modems on your computer (for details, refer to the documentation for your operating system).
Two new ports, **Thrane & Thrane EXPLORER port 1** and **Thrane & Thrane EXPLORER port 2** should now be displayed in the list.

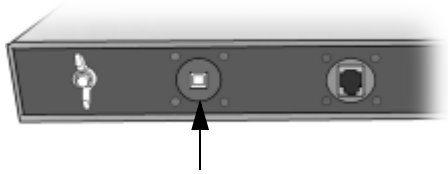
The two new COM ports are now ready for use.

Connecting to the USB service interface

If you are connecting your computer to the USB service interface for the first time, see *First time setup of USB* on page 57.

To connect to the USB service interface, do as follows:

1. Power on your computer.
2. Connect the USB cable to the USB port of your computer.
3. Connect the other end of the cable to the USB connector, marked **USB**, on the rear panel of the EXPLORER 527.



4. Power on the EXPLORER 527 as described in *Getting started* on page 11.
5. Start up your terminal program.
   You can now start an AT-shell and communicate with the EXPLORER 527 using AT commands. For information on supported AT commands, see *AT commands* on page 131.

If connection fails, refer to the *Troubleshooting Guide* on page 114.

What's next?

This chapter has described the basics of how to set up and use each interface.

The following chapter, *Using the web interface*, describes how to use the built-in web interface for setting up and using the EXPLORER 527.

Using the web interface

In this chapter

This chapter describes how to use the web interface to operate, set up and configure the EXPLORER 527.

Initial configuration of interfaces is described in the chapter *Using the interfaces* on page 42.

Introduction

The web interface

What is the web interface?

The web interface is a built-in web server in the EXPLORER 527, used for operating, setting up and configuring the EXPLORER 527.

No installation of software is needed.

You can access the web interface from a standard Internet browser.

Internet Explorer 6.0, Mozilla Firefox 1.0 and Apple Safari 2.0 have been tested successfully with the web interface.

You may be able to use other browser versions as well.

Connecting

Connect your computer to the EXPLORER 527 using the LAN interface.

Make sure your computer is set up for the LAN interface. See *Using the LAN interface* on page 55 for details.

To access the web interface, an Internet browser must be installed on the computer.

Browser settings

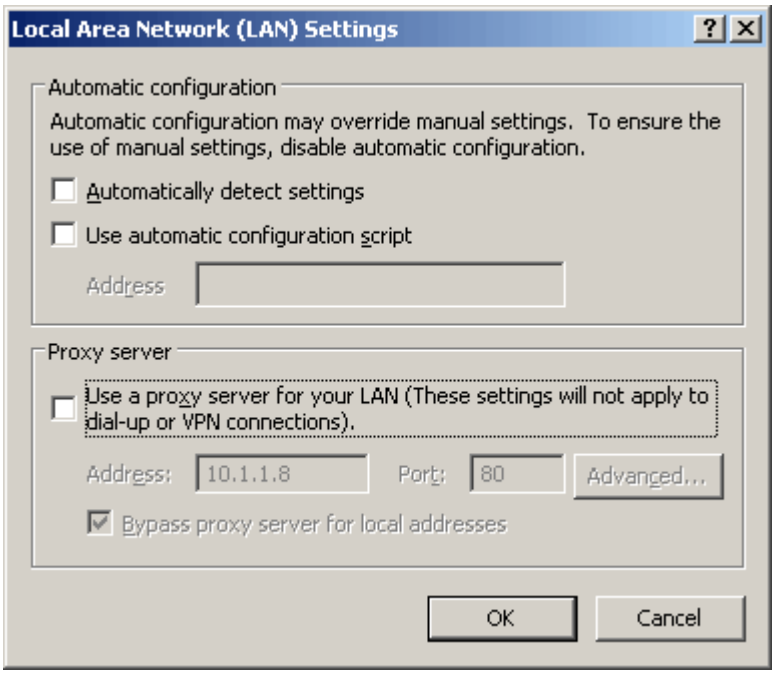
The **Proxy server** settings in your browser must be disabled before accessing the web interface.

Most browsers support disabling of the Proxy server settings for one specific IP address, so you can disable Proxy server settings for the web interface only, if you wish. Consult your browser help for information.

To disable the use of a Proxy server completely, do as follows:

Note The following description is for **Microsoft Internet Explorer**. If you are using a different browser, the procedure may be different.

1. In Microsoft Internet Explorer, select **Tools > Internet Options > Connections > LAN Settings**.



2. Uncheck the box labeled **Use a proxy server for your LAN**.

3. Click **OK**.

When the proxy server settings are disabled, close your browser.

You may need to change this setting back on return to your Internet connection.

Accessing and navigating the web interface

Accessing the web interface

To access the web interface do as follows:

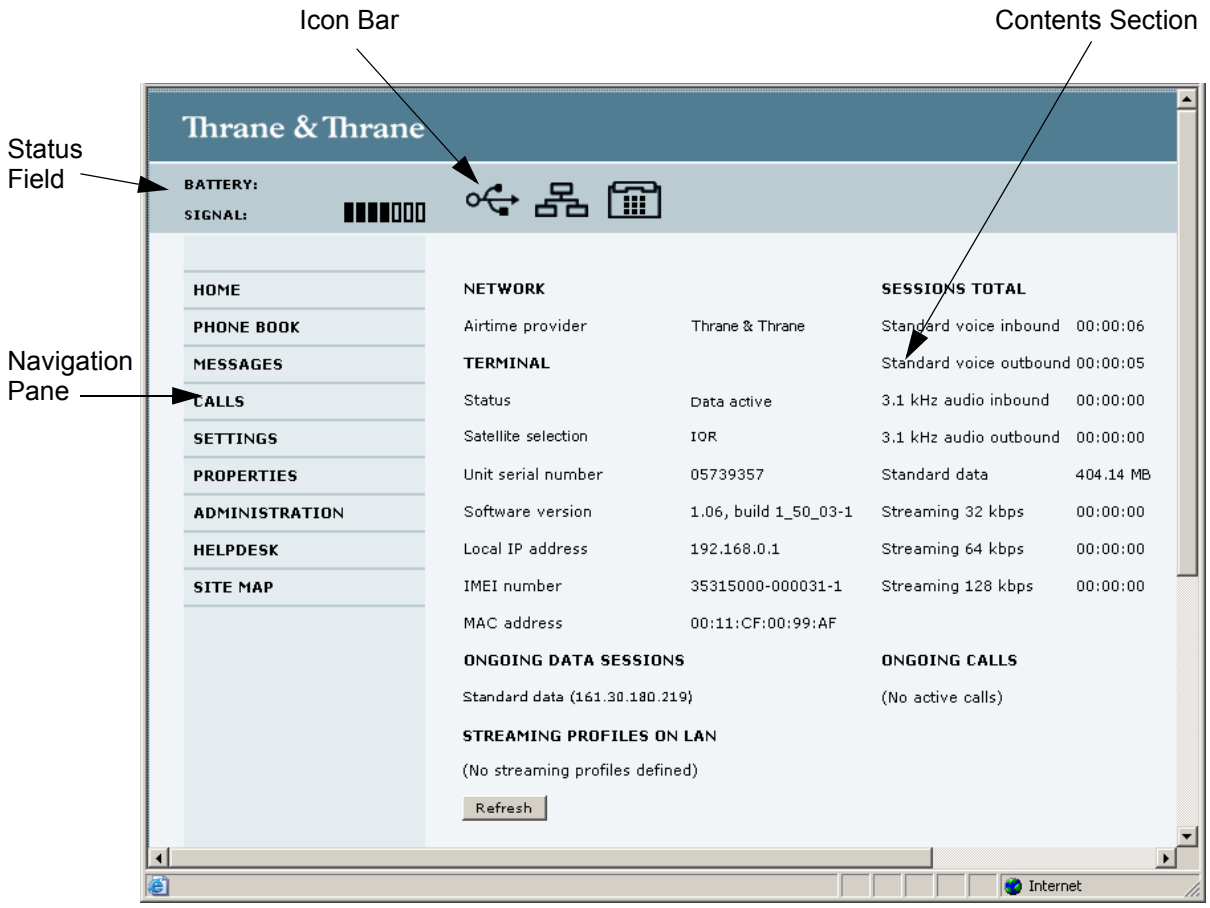
1. Connect your computer to the EXPLORER 527 using the LAN interface.
   For further information, see *Using the LAN interface* on page 55.

2. Start up the EXPLORER 527.
   For further information, see *Getting started* on page 11.

3. Open your browser and enter the IP address of the EXPLORER 527.
   The default IP address is **192.168.0.1**.
   If your EXPLORER 527 uses a different IP address, you can look it up by entering the display menu system of the EXPLORER 527 and selecting
   `PROPERTIES > IP ADDRESS.`

Overview of the web interface

The web interface consists of the following sections.



- The **navigation pane** holds the main menu. Clicking an item in the menu opens a submenu in the navigation pane or a new page in the contents section.
- The **status field** shows the signal strength.
- The **icon bar** shows an icon for each interface that is enabled. It also shows icons for new SMS messages and for active alarms, when relevant. For explanations of the icons, see the next section, *Icons in the icon bar*.
- The **menu path** shows the path through the menu system to the current page shown in the contents section.
- The **contents section** shows the page selected in the navigation pane. This section is used for viewing or changing settings, or for performing actions.

Icons in the icon bar

The following icons may appear in the icon bar in the web interface:

Icon	Explanation
	Phone/Fax interface is on.
	LAN interface is on.
	USB service interface is on.
	A new SMS message, or information of Voice mail, has arrived. Click the icon to see new messages or information of Voice mail. For further information, see *Receiving a message* on page 72.
	An alarm is pending. Click the icon to see a list of active alarms. For explanations of the alarm messages, see *List of alarms* on page 116. Note that the alarm icon will remain in the icon bar as long as the cause of the alarm is still present.

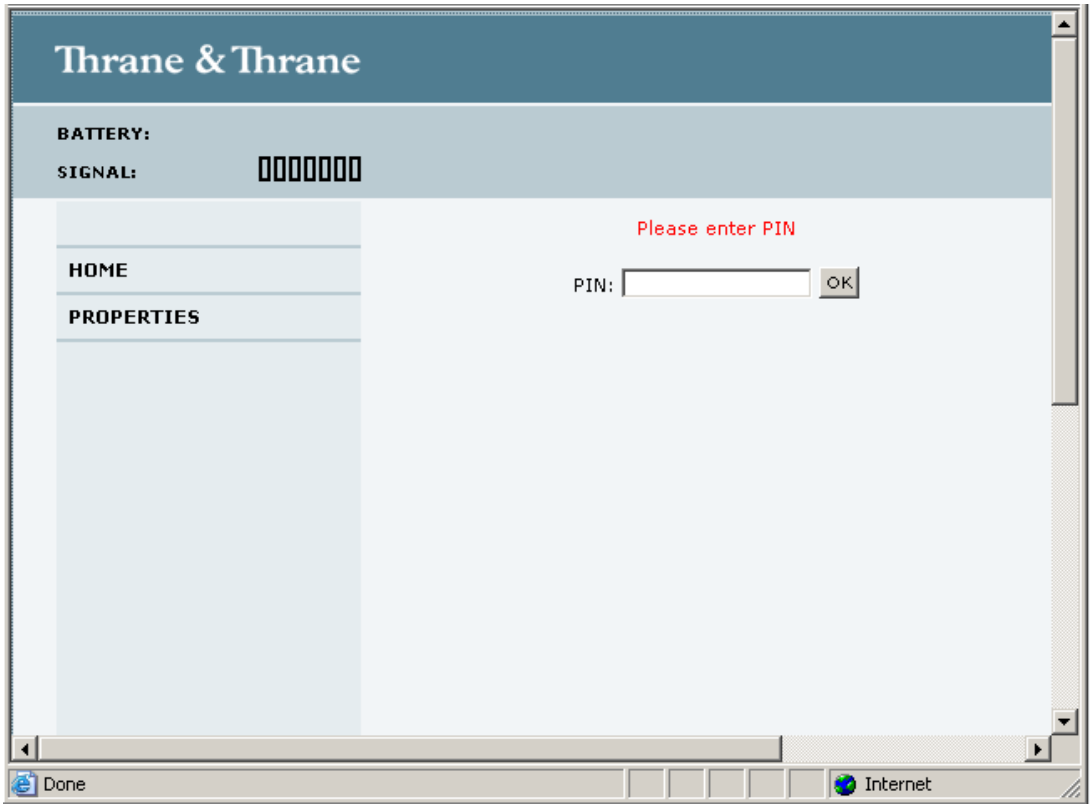
Navigating the web interface

- **To expand a menu**, click the menu in the navigation pane.
- **To access status and settings**, click the relevant subject in the navigation pane, or an icon in the icon bar. The status or settings are displayed in the contents section.
- **To see the site map**, click **SITE MAP** in the navigation pane. Click on items in the site map to go directly to the relevant location.
- **To return to the Home window** from anywhere in the system, click **Home**, either from the navigation pane or from the menu path below the icon bar.

Entering the SIM PIN in the web interface

If a computer is connected when you start up the EXPLORER 527, and the web interface is accessed, you can enter the SIM PIN from the web interface.

Until you enter the PIN in, you can only access the PROPERTIES window and upload software. Access to all other parts of the web interface requires a PIN.



Type in the PIN and press **OK**.

If you enter a wrong PIN 3 times you are asked for a PUK (PIN Unblocking Key). For further information, see *Wrong PIN* on page 23.

If the PIN has already been accepted in the EXPLORER 527, or the PIN is disabled[1], the web interface goes directly to the Home window at start-up.

When the PIN is accepted, the web interface opens the Home window and is ready for use.

1. The PIN can only be disabled/enabled by use of AT commands (`AT+CLCK`).

The Home window

Overview

The Home window of the web interface contains a “dashboard” for control and inspection of ongoing communication and for viewing properties of the EXPLORER 527.

The **NETWORK** section shows the name of the Airtime Provider, if available on the SIM card.



Terminal properties

The **TERMINAL** section of the **Home** window shows the following:

- **Status**. The status of the EXPLORER 527. This field corresponds largely, but not completely, to the status information in the display.
  Examples of status information are: Ready, Registering and Data.
- **Satellite selection.** The satellite selected for logon. For further information, see *Selecting the preferred BGAN satellite* on page 93.
- **Unit serial number**. The serial number of the total unit.
- **Software version**. The version of the software embedded in the EXPLORER 527.
- **Local IP address**. The local IP address of the EXPLORER 527.
- **IMEI number**. The IMEI number (International Mobile Equipment Identity) of the EXPLORER 527. This is a unique number that identifies your EXPLORER 527.
- **MAC address** of the EXPLORER 527.

Managing calls and data sessions

Start/stop a Streaming session on the LAN interface

Note Before starting a Streaming session, make sure you have set up a Streaming Profile and activated it in the SETTINGS > LAN window.

To start or stop a Streaming session, click the relevant link under **STREAMING PROFILES ON LAN.** For information on setup of the LAN interface, see *Configuring the LAN interface* on page 80. For information on how to set up a Profile, see *Using Profiles* on page 101.

Viewing information on calls and data sessions

The following sections in the **Home** window show information on calls and data sessions.

- **ONGOING CALLS** is a list of calls that are currently active. The list shows the Voice quality and the time connected for each call.
- **ONGOING DATA SESSIONS** is a list of data Profiles that are currently active, including the IP address that is assigned to each PDP context.
- **SESSIONS TOTAL** lists the totals for each connection. The list shows the time connected for voice and Streaming data, and MB transferred for Standard data.

Using the phone book

General usage

Overview

In the phone book you can:

- Look up phone numbers.
- Look up short dial numbers for easy dialing from a phone.
- Modify or delete existing names and phone numbers, or enter new names and phone numbers.

Accessing the phone book

To access the phone book, select **PHONE BOOK** from the left navigation pane.



The phone book shows all entries with entry number, name and phone number. Empty place holders are also included.

To sort the phone book, click the title of the column you wish to sort by. For example, to sort by the names in the phone book alphabetically, click on **Name** in the top row of the phone book.

The phone book is divided into subpages. To select the subpages you want, click the relevant link at the bottom of the page.

Short dial

The entry number in the phone book is the Short dial number. When making a call from the EXPLORER 527 you can use this number instead of dialing the entire phone number.

Simply dial **0** **<short dial>** followed by **#**.

Example: To call the third entry in the phone book from an analog phone, take the phone off hook and dial **03** **#**.

Editing phone book entries

Adding a new entry

To add a new entry, do as follows:

1. In the phone book, locate the empty entry number where you want to add the new phone number and click **New**.

2. Type in the name and phone number of the new entry and click **Save entry**.
   The new name and number are now listed at the specified entry number in the phone book.

Modifying an entry in the phone book

To modify an entry, do as follows:

1. In the phone book, click **Edit** next to the entry you want to modify.

2. Modify the name or number as wanted and click **Save entry**.
   The name and/or number in the selected entry is now replaced with the new information.

Deleting an entry in the phone book

To delete an entry, click **Delete** next to the entry you want to delete.

Deleting all entries in the phone book

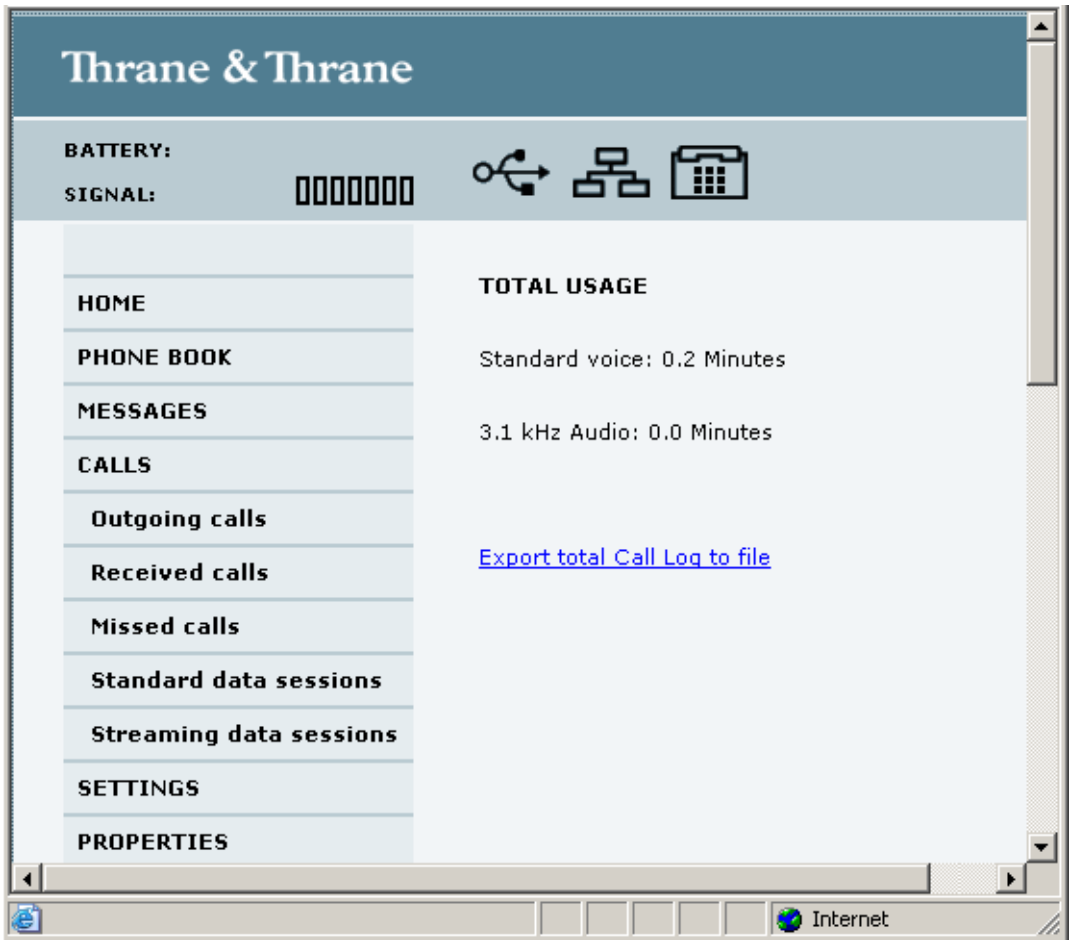
To delete all the entries in the phone book, click **Delete all entries in phone book** at the bottom of the **PHONE BOOK** window.

Call log

Information on total usage

To enter the CALLS window select **CALLS** from the left navigation pane. The CALLS window contains information on usage for circuit switched connections. The listed information includes:

- Time connected using Standard Voice and
- time connected using 3.1 kHz Audio.



Exporting the call log

The EXPLORER 527 logs all calls and data sessions. For information on how to view the lists of calls and data sessions, see the next section.

To export the entire call log to a file, do as follows:

1. In the **CALLS** window, click the link **Export total Call Log to file**.
2. Browse to the location where you want to save the log.
3. Click **OK**.

Viewing the lists of calls

To see information on outgoing, received or missed calls or data sessions, select one of the following lists from the left navigation pane in the **CALLS** window:

- **Outgoing calls** shows the start time, receiving end phone number, duration, type (Standard or 3.1 kHz Audio) and estimated charge of each outgoing call.
- **Received calls** shows the start time, calling phone number, duration and type (Standard or 3.1 kHz Audio) of each incoming call.
- **Missed calls** shows the start time, calling phone number and type (Standard or 3.1 kHz Audio) of each incoming call that was not received.
- **Standard data sessions** shows the start time, bytes in, bytes out and estimated charge of each Standard data session.
- **Streaming data sessions** shows the start time, duration, type (Streaming 32, 64 128 kbps) and estimated charge of each Streaming data session.

Date and time is UTC time, received from the satellite.

Note The estimated charge is based on your entries under ADMINISTRATION > Call charges. Thrane & Thrane does not take responsibility for the correctness of this estimated charge.

You can sort each of the lists by clicking the title of the column you wish to sort by.

If a list covers more than one page, you can click the relevant link at the bottom of the page, to go to another page.

When there are more than 100 calls in the total list, the oldest calls are automatically removed to make room for new calls.

Handling messages

Sending an SMS message from the EXPLORER™ 527

Important

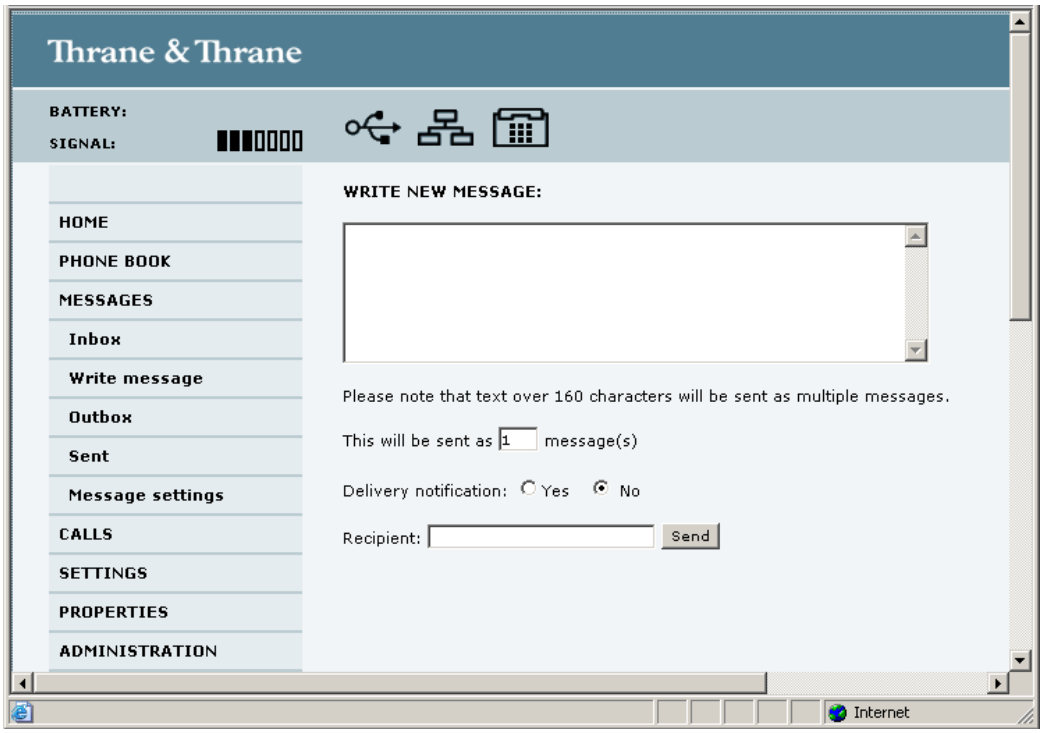
If the EXPLORER 527 is not online when you attempt to send a message, the message is moved to the Outbox in stead of the Sent folder. Messages in the Outbox are **not** automatically sent when the EXPLORER 527 goes online. For further information on the Outbox, see the next section, *Options for messages in the Outbox*.

To make sure a message has been sent, check that it has been moved to the Sent folder.

To send an SMS message **from** the EXPLORER 527, do as follows:

1. Click **MESSAGES** from the left navigation pane.
   This window contains new incoming messages.

2. In the left navigation pane, click **Write message**.



3. Type in the message in the **Write new message** field.
   If the message text is too long for one SMS, the message is sent as two or more SMS messages. The field below the message field shows the number of SMS messages used to send the message.

4. Type in the phone number in the **Recipient** field.
   Remember **00** and **country code**
   (e.g. **00 45** to call Denmark or **00 1** to call USA).

5. Select whether or not you want **Delivery notification** for this SMS message.
   If you click Yes, the Status column in the Sent folder will show the status of your message when it has been sent.
   You can set up delivery notification generally for all SMS messages. This setting is used by default when you send a message. For further information, see *Configuring message settings* on page 74.

6. Click **Send**. The message is now sent and moved to the Sent folder.

Options for messages in the Outbox

Messages in the Outbox are messages that have not been sent, e.g. because the EXPLORER 527 was not online when you attempted to send the messages.

To access the Outbox, click **MESSAGES > Outbox** from the navigation pane.

You have the following options for messages in the Outbox:

- When the EXPLORER 527 is online, click **Resend** next to the message you want to send.
  When the Write message window opens, click **Send**.
  The EXPLORER 527 now attempts to send the message again. To make sure the message has been sent, look in the Sent folder.

  Note The original message remains in the Outbox. When you have succeeded in sending the message you may want to delete it from the Outbox.

- Click **Delete** next to a message to delete it.
- Click **Delete all messages in Outbox** to delete all the messages.

Options for messages in the Sent folder

The Sent folder contains SMS messages that have been sent.

To access the Sent folder, select **MESSAGES > Sent** from the navigation pane.

The Status column shows the status of each message, if you have selected Delivery notification when sending the message.

From the Sent folder you have the following options:

- Click **Resend** next to a message you want to send again.
  When the Write message window opens, click **Send**.
  The EXPLORER 527 now attempts to send the message again. To make sure the message has been sent, look in the Sent folder. There should now be two copies of the sent message.
- Click **Forward** next to a message you want to forward.
  When the Write message window opens, type in the phone number of the new recipient and click **Send**.
  The EXPLORER 527 now attempts to send the message to the new recipient. To make sure the message has been sent, look in the Sent folder.
- Click **Delete** next to a message to delete it.
- Click **Delete all sent messages** to delete all the messages.

Sending an SMS message to the EXPLORER™ 527

You can send an SMS message to the EXPLORER 527 e.g. from a mobile phone, using one of the mobile subscriber numbers for voice. Dial

+870 <Mobile subscriber number>

To see the voice numbers of your EXPLORER 527, select **PROPERTIES** from the web interface or from the display menu system and view **Mobile subscriber numbers**. Note, however, that these numbers are only listed if they are available on the SIM card. Otherwise, refer to the information included with your airtime subscription.

Note There are two Voice numbers, one for 3.1 kHz Audio and one for Standard Voice.

Receiving a message

If a message has arrived, the icon bar at the top of the web interface shows an unopened envelope. Click the envelope to see the new message(s).

Otherwise, to see new messages, click **MESSAGES** from the left navigation pane.

The window shows new incoming messages.

Note The EXPLORER 527 does not accept more than 100 incoming messages (including read and unread messages). If you have received 100 messages, you have to delete some of them in order to free space for new messages. Otherwise, the new messages are rejected.

If the message is not an SMS message but information of voice mail, call your voice mail service number to hear the voice mail.
To find your voice mail service number, select **MESSAGES > Message settings** from the left navigation pane and locate the **Voice mail service number**.

Note that the voice mail number is only shown if it is available on the SIM card. Otherwise, refer to the information included with your Airtime subscription.

Options for incoming SMS messages

New messages

To see new messages, click **MESSAGES** from the left navigation pane.

Besides viewing the new messages, you have a number of options for what to do with each message:

- Click **Read** to move it to your Inbox containing read messages.
- Click **Reply** to reply to a message.
  Then type in your reply and click **Send**.
  For information on how to include the original message in your reply, see *Setting up the default message options* on page 74.
- Click **Forward** to forward a message to someone.
  Then type in the phone number in the **Recipient** field and click **Send**.
- If you want to move all the new messages, click **Move all new messages to Inbox**.

Note | New messages cannot be deleted until they have been moved to the Inbox.

SMS messages in the Inbox

The messages in the Inbox are the incoming messages that have been read and moved from the list of new messages (refer to the previous section).

From the Inbox, you have the following options:

- Click **Reply** to reply to a message.
  Then type in your reply and click **Send**.
  For information on how to include the original message in your reply, see *Setting up the default message options* on page 74.
- Click **Forward** to forward a message to someone.
  Then type in the phone number in the **Recipient** field and click **Send**.
- Click **Delete** to delete the message.
- Click **Delete all messages in Inbox** to delete all read messages in the Inbox.

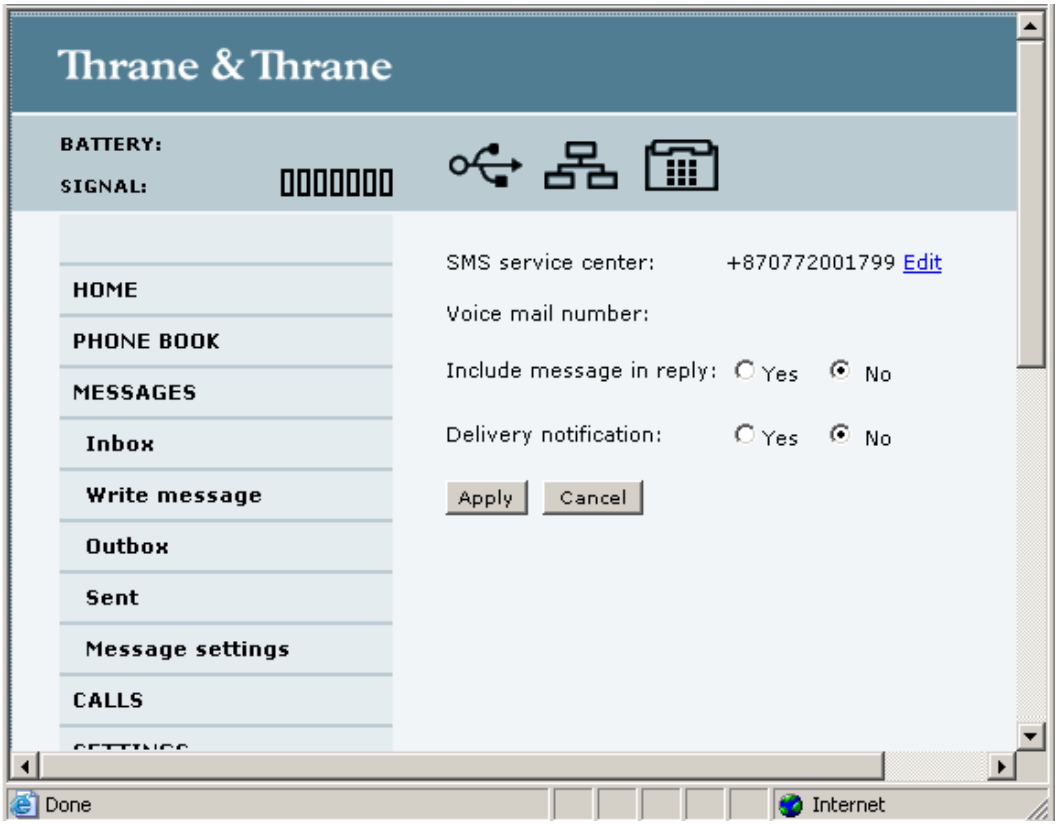
Configuring message settings

Setting up the default message options

You can set up general options for your outgoing messages. These settings apply by default to all your outgoing messages. Note, however, that you can change the Delivery notification setting for an individual message. For further information, see *Sending an SMS message from the EXPLORER™ 527* on page 70.

Do as follows:

1. Select **MESSAGES** > **Message settings** from the left navigation pane.



2. If you want to include the original message when you reply, select **Yes** next to **Include message in reply**.

3. Select whether or not you want **Delivery notification** for SMS messages.
   If you click Yes, the Status column in the Sent folder will show the status of your message when it has been sent.

4. Click **Apply**.

Viewing or changing SMS service center number

The SMS service center number identifies the SMS service center used when sending and receiving SMS messages. The SMS service center number is stored on the SIM card.

- To see the SMS service center number, select **MESSAGES** > **Message settings** from the left navigation pane.
- To change the number, click **Edit** next to **SMS service center**, change the number and click **Save**. Then click **Apply** to apply all changes in the window.

The SMS service center number is provided from your Airtime Provider.

Viewing the Voice mail number

The Voice mail number is the number you call to hear your incoming voice mails.

Note The Voice mail number is only listed if it is available on the SIM card. Otherwise, refer to the information included with your Airtime subscription.

To see the Voice mail number, select
MESSAGES > **Message settings** from the left navigation pane.

EXPLORER™ 527 settings

Accessing the EXPLORER™ 527 settings

Select **SETTINGS** from the left navigation pane. The SETTINGS window contains the local settings of the EXPLORER 527. The next sections describe these settings.



Setting the display backlight and contrast

To set the display backlight and contrast, do as follows:

1. In the **Backlight** section of the **SETTINGS** window, set the timing.
   The **Timed** period is the period of time the light will stay on after the last key is pressed.

2. Set the level of the backlight with the **Set level** scroll bar.

3. In the **Contrast** section, click **Yes** next to **Automatic** if you want the contrast to be adjusted automatically according to the temperature.

The contrast of the display changes with the temperature. The EXPLORER 527 can automatically adjust the contrast to compensate for these variations.

4. If you want to set the contrast manually, set the contrast level with the **Set level** scroll bar.

5. Click **Apply**.

Turning audio indicators on or off

The EXPLORER 527 has audio indicators for different events or situations.

To enable or disable these audio indicators, do as follows:

1. In the **Audio indicators** section of the **SETTINGS** window, turn the audio indicators on or off using the radio buttons.
   - **Messages.**
     The Message indicator is a sound indicating that a message has arrived.
   - **Alarm.**
     The Alarm indicator is a sound indicating that an alarm is issued.
     An alarm is issued if the EXPLORER 527 detects an error that requires your action.

2. Click **Apply**.

Enabling activation of stealth mode

In Stealth mode, the EXPLORER 527 operates with no sounds nor lights. However, it is still possible to operate the EXPLORER 527 and the display text is, in most cases, readable.

Important Only enable activation of Stealth mode if you are going to use it. If Stealth mode is activated by mistake, it may be difficult to operate the EXPLORER 527.

To enable the use of Stealth mode for the EXPLORER 527, do as follows:

1. Select **SETTINGS** from the left navigation pane.

2. In the **Stealth mode** section, click **Enable**.
   If you click Disable, the Stealth mode function cannot be activated.

3. Click **Apply**.

Note This setting does **not** activate Stealth mode, it only enables the use of Stealth mode. To activate Stealth mode, press **C+OK** on the keypad.

To deactivate Stealth mode and return to normal function, press **C+OK** again.

Setting up the interfaces

Enabling/disabling interfaces

By default, all interfaces are enabled. However, you can disable the LAN interface and/or the Phone/Fax interface.

The icons in the Icon bar at the top of the web interface shows interfaces that are enabled. Clicking an icon brings you to the window where you can set up the interface or enable/disable it.

Note The USB service interface cannot be disabled; it is always enabled.

To enable or disable an interface from the menu, do as follows:

1. Select **SETTINGS** from the left navigation pane.
   The SETTINGS menu expands.

2. Under **SETTINGS** in the left navigation pane, select the interface you want to enable or disable.

3. At the top of the window, select **Enabled** or **Disabled**.

4. Click **Apply**.

Description of data settings

Introduction

There are several data parameters that can be set up in the web interface. This section gives an overview of these parameters.

APN (Access Point Name)

The APN is used by the EXPLORER 527 user to establish the connection to the required destination network. This means that the EXPLORER 527 must know the APN in order to be able to connect to the destination network.
APNs are provided from the Airtime Provider. They may also be defined on the SIM card.

Header compression

The Header of a data packet contains control information belonging to that packet. The information in the Header can take up a considerable amount of bandwidth. In order to save bandwidth, you can use Header Compression, meaning you compress the header information, leaving some of the information out.

You can select whether or not to use Header Compression for your data transmission.

- **Header Compression enabled**: Recommended for low-noise applications.
  If you select Header Compression enabled, you will be using less bandwidth on header

information, leaving more bandwidth for the actual payload.
However, if the environment is noisy, the system will have to retransmit information, and you may end up using more bandwidth than without Header Compression.

- **Header Compression disabled**: Recommended in noisy environments.
  If Header Compression is disabled, the system will be less sensitive to noise.

Primary and secondary Profiles

A Profile is a collection of Quality of Service (QoS) settings and other settings defining the mode in which data is transmitted on an interface. For example, a Profile is used to define whether a connection should be a Standard or Streaming connection.

You can select between a number of predefined Profiles or define your own Profiles for your data transmission.

Note If you have selected more than one Profile (one primary and one or more secondary Profiles) for an interface, you must define a Traffic Flow Template before you can establish a valid connection.

In the EXPLORER™ 527, you need an Administrator password to define Profiles and Traffic Flow Templates.

NAT (Network Address Translation)

NAT enables a local-area network to use one set of private IP addresses for internal traffic and an assigned or static IP address for external traffic. The built-in NAT module in the EXPLORER 527 makes all necessary address translations between the local-area traffic and the external traffic. If more than one user is connected to the LAN interface of the EXPLORER 527, it is necessary to use a switch, as the EXPLORER 527 only has one LAN connector. If more than one user is connected using a switch, you must select **Router mode** to use the NAT of the EXPLORER 527.

Configuring the LAN interface

Data settings

For an explanation of each of the data settings, see *Description of data settings* on page 78.

CAUTION! If you are connected using LAN while changing the settings below, your changes may affect your current connection.

To configure the LAN interface, do as follows:

1. Select **SETTINGS > LAN**.



2. Select whether the LAN interface should be **Enabled** or **Disabled**.

3. Under **NAT/DHCP**, select whether the EXPLORER 527 should run in Router mode or in Modem mode. Router mode is recommended for most purposes.
   Select **Router mode** if one or more computers are connected using the LAN interface, and the EXPLORER 527 should act as a router. When Router mode is selected, the EXPLORER 527 uses the built-in NAT module for making the necessary address translations.
   Select **Modem mode** if
   - only one computer is connected to the LAN interface, and the EXPLORER 527 should act as a modem, or
   - more than one computer is connected to the LAN interface using an external router.

   Note Do **not** connect more than one computer to the LAN interface in Modem mode, unless you have an external router.

4. Under **DHCP status**, enable or disable DHCP.
   If you select Enabled, the internal DHCP server in the EXPLORER 527 is enabled.

5. Under **Local IP address** and **Netmask**, type in the IP address and netmask for your EXPLORER 527.
   This is the local IP address for your EXPLORER 527 when it is in Router mode.

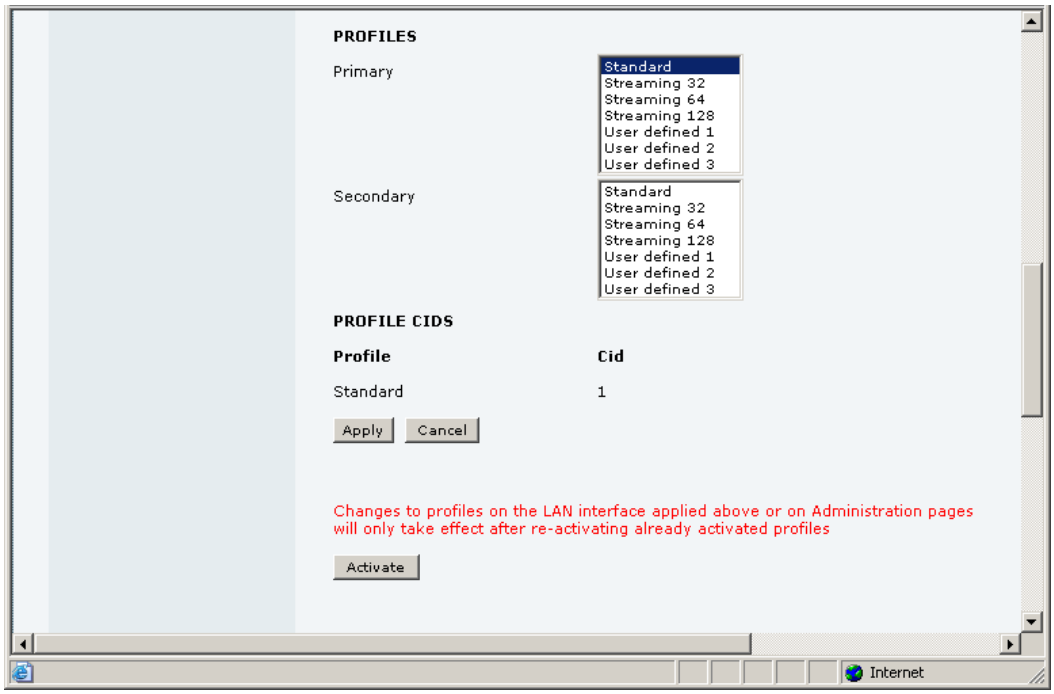
6. Under **TCP/IP**, select whether your computer uses a **Dynamic IP address** or a **Static IP address**. If you are using a static address, type in the address.
   This is the IP address used externally on the satellite network.
   To check this setting on your computer, see the TCP/IP properties of the LAN connection.

7. Under **IP Header compression**, select **Enabled** or **Disabled**. For information on this setting, see *Header compression* on page 78.

8. Select the source of the **APN** (Access Point Name).
   There are four options for setting the APN. Unless you have special requirements, it is recommended to use the SIM default, or to set the common APN to SIM default, and then select Common here. You have the following options:
   - **Common.** The APN is taken from the Common APN defined under **SETTINGS > Common**. Refer to *Setting a common APN* on page 92.
   - **SIM default**. The APN is taken from the SIM card.
   - **Network assigned.** The APN is assigned from the network.
   - **User defined**. Type in the APN. APNs are provided from the Airtime Provider.

9. If your APN uses a password, type in the user name and password provided from the Airtime Provider.

10. Select the **Primary Profile**.



Select a Profile from the Primary scroll list. This Profile is used by the LAN interface as a first choice, when possible.
There are 4 predefined Profiles: Standard, Streaming 32 kbps, Streaming 64 kbps and Streaming 128 kbps. Additionally, you can define your own custom Profiles.

Important If you have selected a Streaming connection as your Primary Profile, the LAN interface will be running a Streaming connection until you select another Profile or disconnect the interface. However, if you select one or more Secondary Profiles, you can set up your Traffic Flow Template so that it will only use the Streaming Profile for certain types of traffic.

For further information on Profiles and Traffic Flow Templates, see *Using Profiles* on page 101 and *Using a Traffic Flow Template* on page 104.

11. Select the **Secondary Profile**.
To select more than one secondary Profile, press and hold **Ctrl** or **Shift** while selecting.

Note If you have selected both a Primary and one or more Secondary Profiles you must define a Traffic Flow Template before you can establish a valid connection.

The Context Identifiers (CIDs) for the selected primary and secondary Profiles are listed under **Profile CIDs**.

12. Click **Apply**.
Your LAN settings are applied. Note that changes to your Profiles are not activated until you click Activate.

13. Click **Activate** if you want to activate the changes to your Profiles.

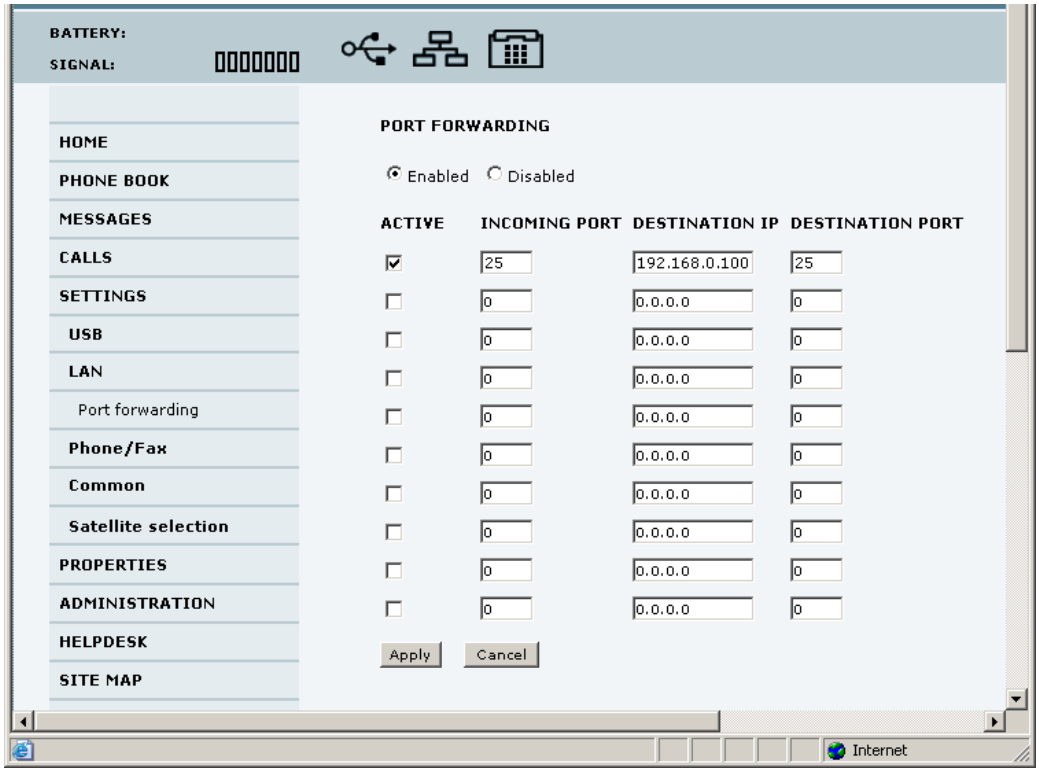
Port forwarding

Port forwarding enables you to setup a server connected to the EXPLORER 527 while the terminal is in Router mode. Without port forwarding it would not be possible to contact the server from the internet.

For information on how to set the terminal in Router mode, see *Configuring the LAN interface* on page 80.

The following example shows how to allow internet access to a mail server (smtp) connected to the terminal . The mail server in this example has the IP address 192.168.0.100.

1. Select **LAN > Port forwarding** in the left navigation pane.



2. Select **Enabled** to globally enable port forwarding.

3. Type in the port number of the **Incoming port**.

4. Type in the **Destination IP** address, which in this example is the IP address of the mail server: 192.168.0.100.

5. Type in the **Destination port** number.

6. Repeat step 3. to step 5. to set up port forwarding to additional servers.

7. In the **Active** column, select which ports should have port forwarding activated.

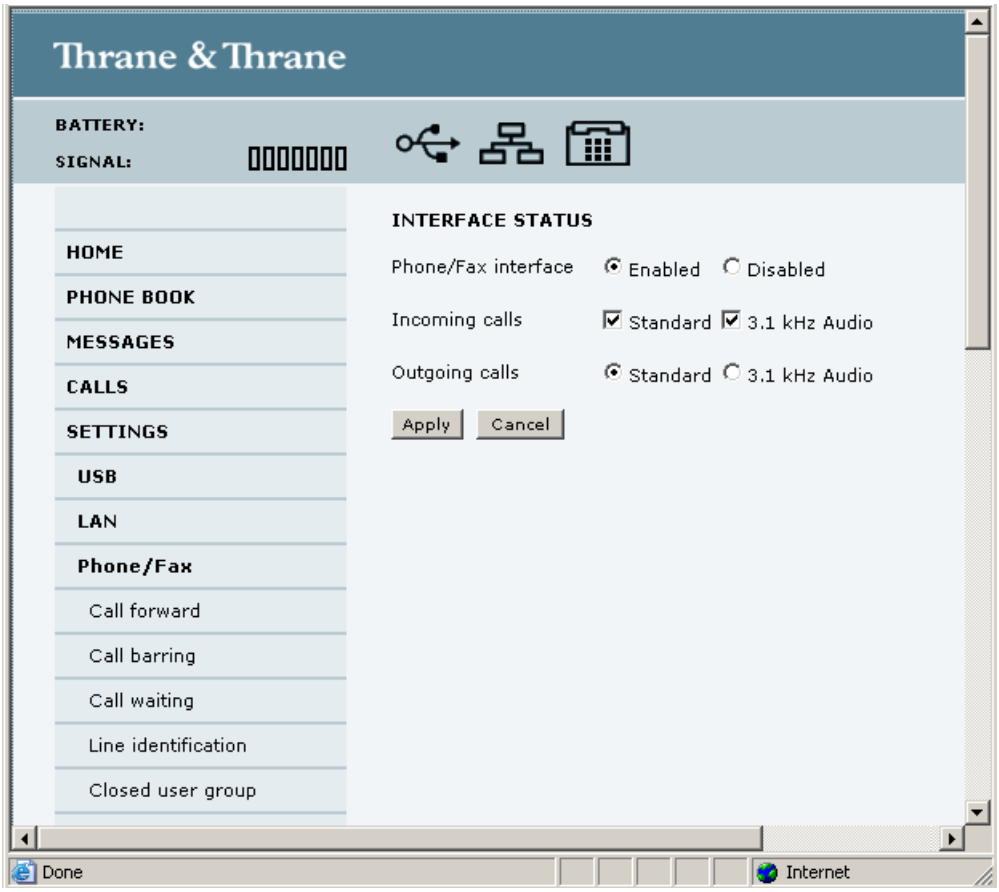
8. Click **Apply**.

You can now access the mail server from the Internet, using the external IP address of the EXPLORER 527.

Configuring the Phone/Fax settings

Do as follows:

1. Select **SETTINGS** > **Phone/Fax** from the left navigation pane.



2. Select **Enabled** or **Disabled** to enable/disable the Phone/Fax interface.

3. Set the voice quality for incoming and outgoing calls.
   Voice quality is described in more detail in *Selecting the call type* on page 45.
   - For **Incoming calls**, you can check Standard or 3.1 kHz Audio or both.
     If you check both, any device connected to the Phone/Fax interface will react (ring) on incoming calls.
     If you select e.g. Standard, the Phone/Fax interface will only react on calls made to the Standard phone number.
   - For **Outgoing calls**, you can select either Standard or 3.1 kHz Audio. The selected quality will be used by default, if possible, for any outgoing call. Note, however, that fax machines and modems must use 3.1 kHz Audio.

   Note You can override the default setting for outgoing calls by dialing 1* (force the call to Standard) or 2* (force the call to 3.1 kHz Audio) before the number. For further information, see *Overriding the default outgoing call type* on page 45.

4. Click **Apply**.

Setting up supplementary services

Overview

The EXPLORER 527 supports a number of supplementary services.

Note The EXPLORER 527 must be registered on the BGAN network before you can set up supplementary services in the web interface.

In the web interface you can set up the following supplementary services:

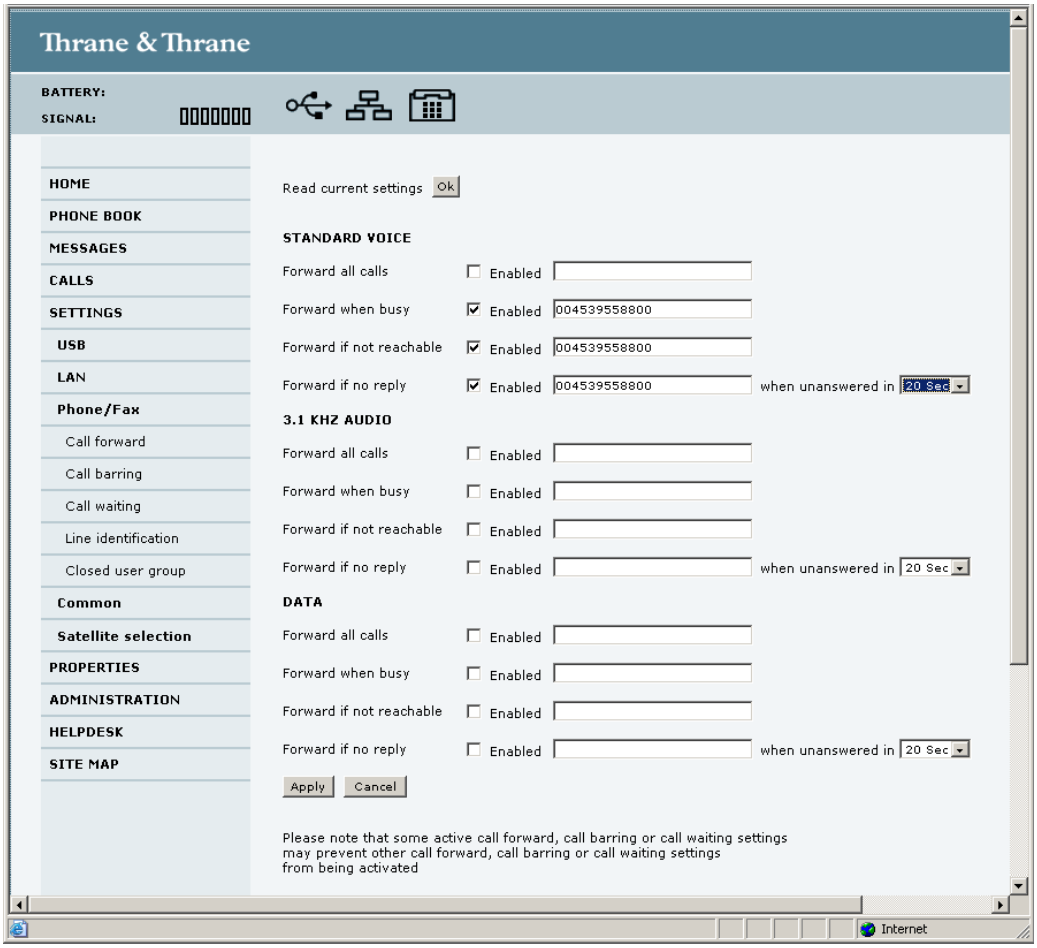
- Call forwarding
- Call barring
- Call waiting
- Line identification
- Closed user group

Note that some active supplementary service settings may prevent other supplementary service settings from being activated.

Call forwarding

You can forward incoming calls to another phone number. Do as follows:

1. Select **Settings > Phone/Fax > Call forward** from the left navigation pane.



2. For each call type, select **Enabled** next to the situation(s) in which you want to forward incoming calls.

3. Next to the enabled items, type in the phone number you want to forward the call to.

4. If you have selected **Forward if no reply**, select from the drop-down list the period of time the system should wait before forwarding the call.

5. Click **Apply**.

Call barring

You can bar incoming and/or outgoing calls to and from the EXPLORER 527.

Do as follows:

1. Select **Settings > Phone/Fax > Call barring** from the left navigation pane.



2. Click **OK** next to **Read current settings**, to make sure the window is updated.

3. For each call type, select which calls should be barred.

4. In the **Barring PIN** field at the bottom, type in a PIN for your call barring setup.
   Anyone who subsequently wants to change any settings in the Call barring window must enter this PIN for the settings to take effect.

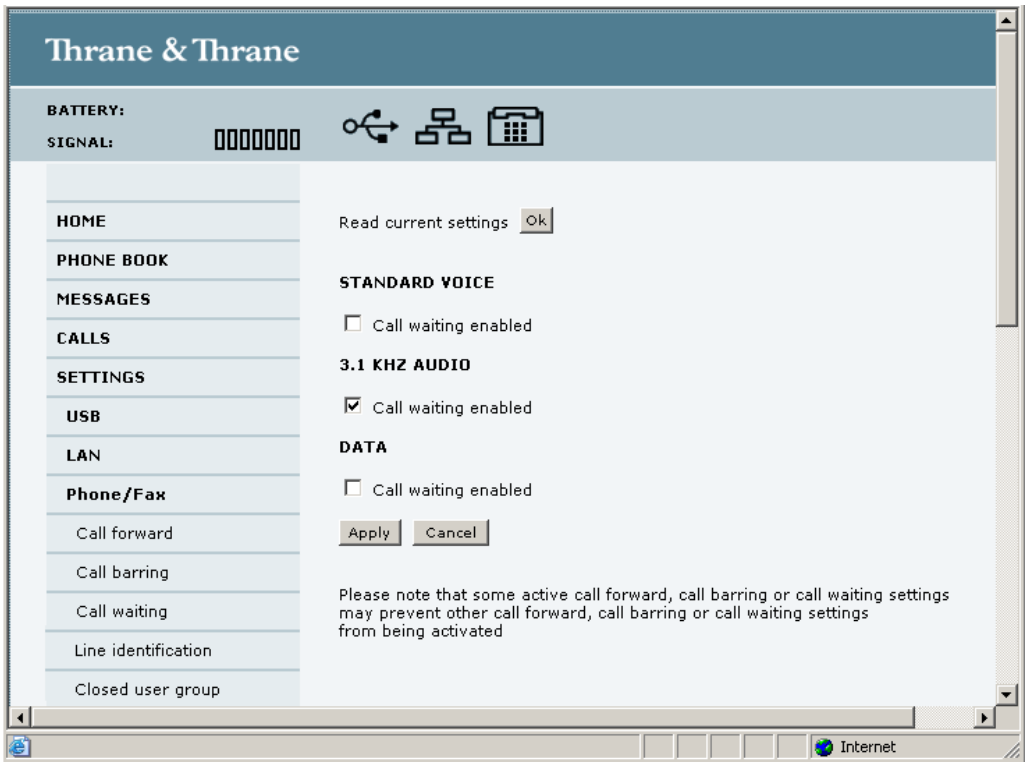
5. Click **Apply**.

Call waiting

You can set up whether or not you want to receive notification of waiting calls while you are making a call or transmitting data on the Phone/Fax interface.

Do as follows:

1. Select **Settings > Phone/Fax > Call waiting** from the left navigation pane.



2. Click **OK** next to **Read current settings** to make sure the window is updated.

3. For each call type, select **Call waiting enabled** if you want to get notification of waiting calls while you are making a call or transmitting data on the Phone/Fax interface.

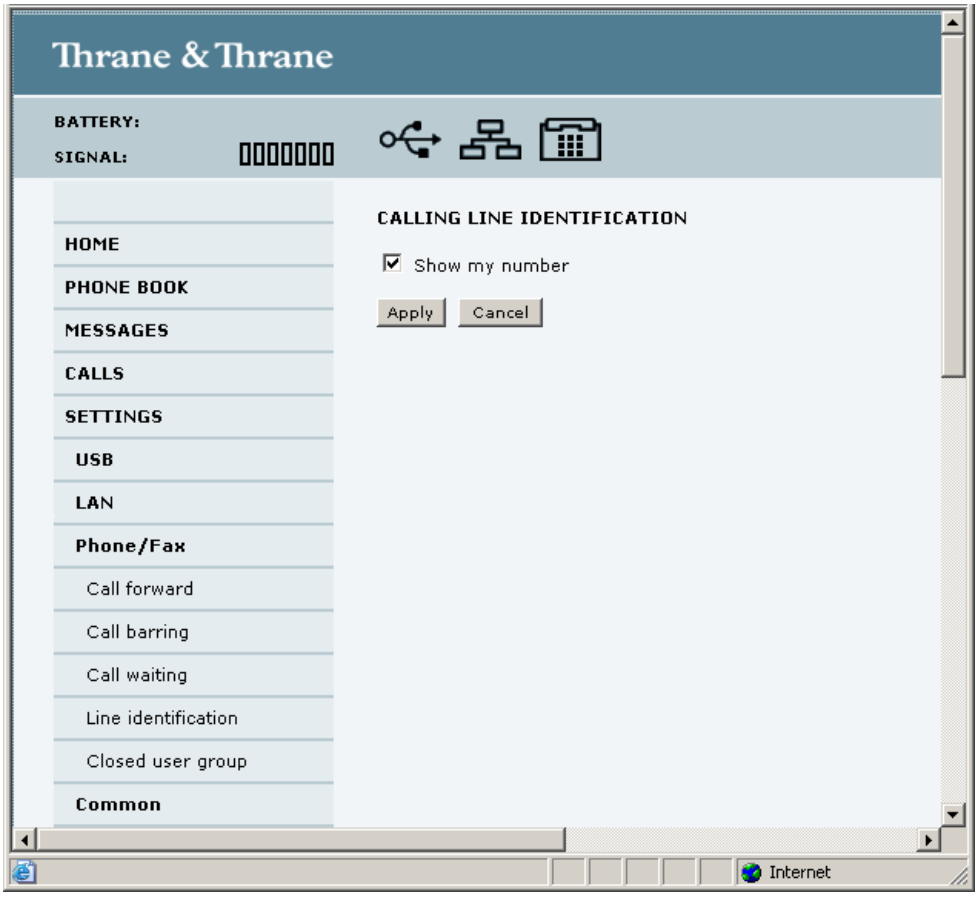
4. Click **Apply**.

Line identification

You can set up the terminal to show your number when you are making a call or transmitting data on the Phone/Fax interface.

Do as follows:

1. Select **Settings > Phone/Fax > Line identification** from the left navigation pane.



2. Select **Show my number** and click **Apply**.

Closed user group

Your subscription may include one or more closed user groups. A closed user group is a group of users permitted to make calls to each other but not to users outside the group.

To define the settings for these user groups, do as follows:

1. Select **Settings > Phone/Fax > Closed user group** from the left navigation pane.



2. Type in your user group number(s) under **Group no.**

3. Select which group(s) should be active.
   If you select **Subscribed**, the group(s) included in your subscription will be active.

4. To allow outgoing access for the activated user group(s), select **Outgoing Access** under **SETTINGS FOR ACTIVE CLOSED USER GROUP**. Note that if you selected Subscribed above, this setting will not be used.

5. Select **Preferential** if you want the activated user group to be selected when a member of a user group does not specify the group number during call set up. Note that if you selected Subscribed above, this setting will not be used.

6. Click **Apply**.

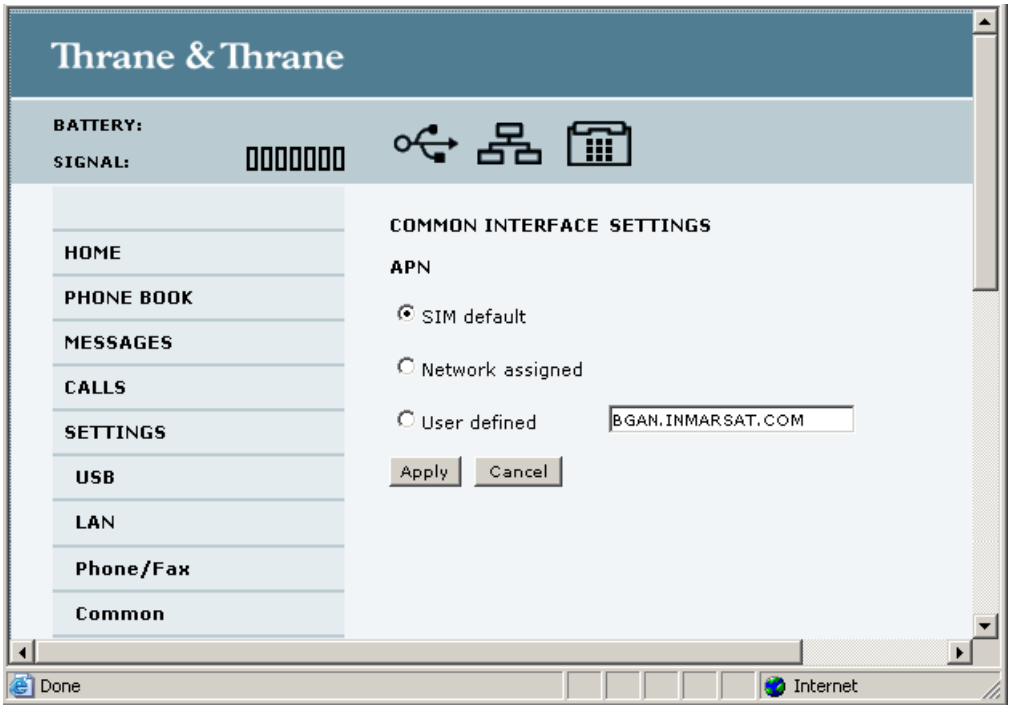
Setting a common APN

Setting the common APN

The common APN setting is defined here and can be selected for each interface. If you are using the same APN for many interfaces, it is easier to define it once, and then simply select it for the relevant interfaces. Also, if you change the common APN at a later stage, it is automatically updated for all interfaces where the Common setting is selected.

To set a common APN, do as follows:

1. Select **SETTINGS > Common**.



2. Select the source of the **APN**. You have the following options:
   - **SIM default**. The APN is taken from the SIM card. This is the recommended option, unless you have special requirements.
   - **Network assigned**. The APN is assigned from the network.
   - **User defined**. Type in the APN. APNs are provided from the Airtime Provider.

3. If your APN uses a password, type in the user name and password provided from the Airtime Provider.

4. Click **Apply**.

How to use the common APN

When you configure your individual interface, select **Common** to use the setting from this window.

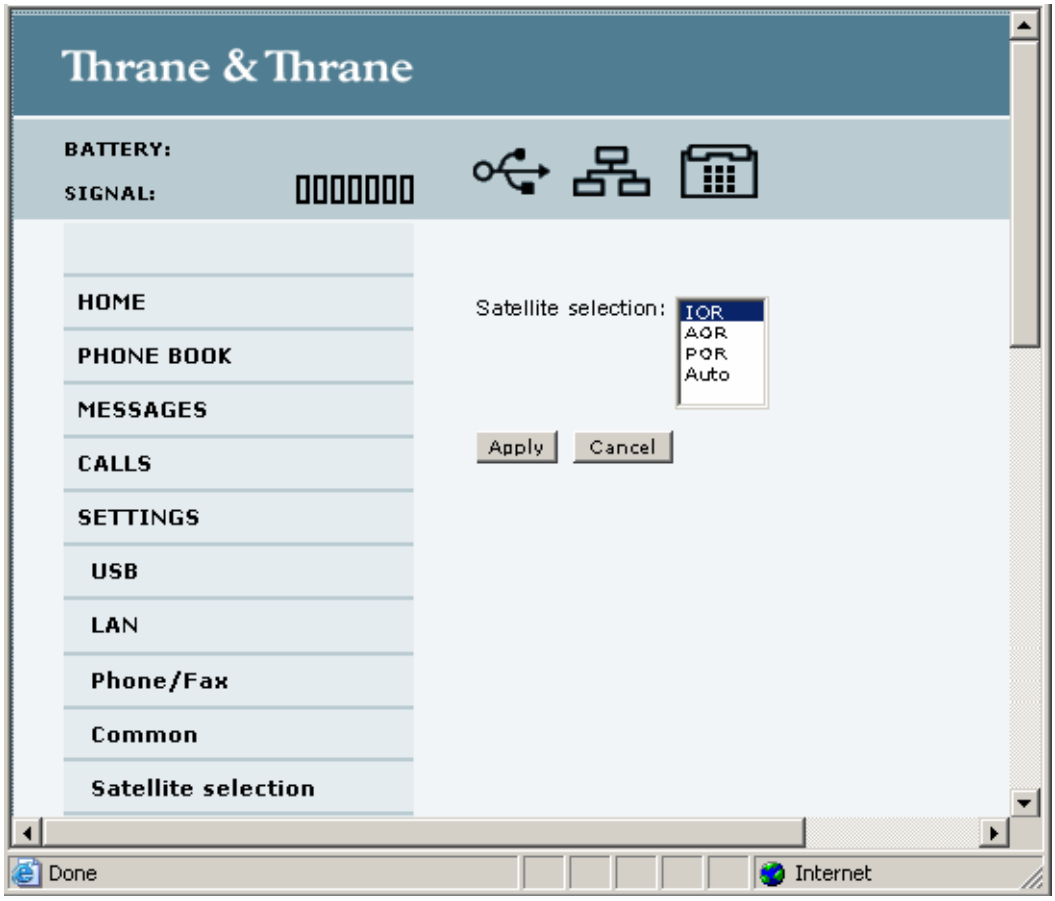
Where Common is selected in the individual interface settings, the setting will automatically be updated when the Common APN is changed.

Selecting the preferred BGAN satellite

By default the EXPLORER 527 is set up to automatically find the most appropriate satellite to connect to ("Auto" mode). However, if you are located in an area with more than one BGAN satellite available, you can select the satellite you prefer to use when connecting to the BGAN network.

Do as follows:

1. Select **SETTINGS > Satellite selection** from the left navigation pane.



2. Select the satellite you prefer to use.
   If you select **Auto** (the default setting) the EXPLORER 527 automatically uses the most appropriate satellite.
   Note that at this writing the POR satellite is not yet available.

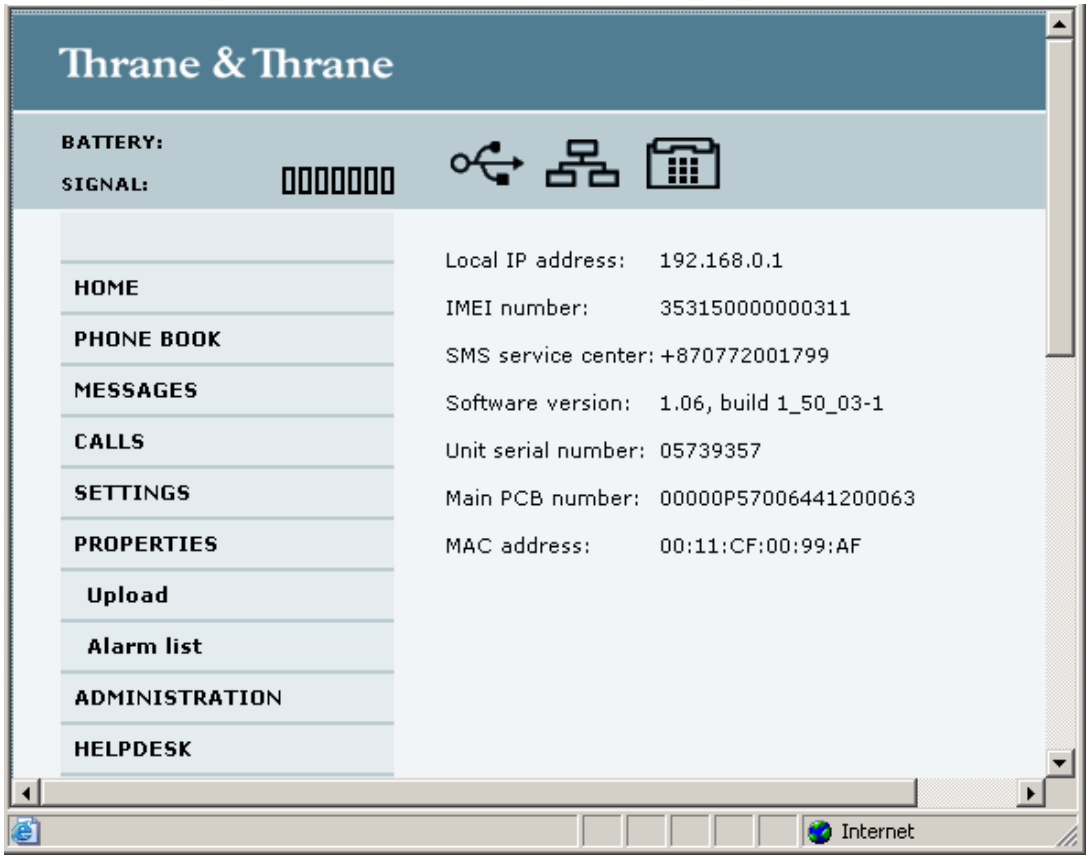
3. Click **Apply**.

Note If you have selected one of the satellites, the EXPLORER 527 will **only** try to establish a connection to the selected satellite. This means that if the antenna is outside the coverage area for that satellite, the EXPLORER 527 will not be able to register with the BGAN network.

Properties, software upload and alarm list

Viewing the properties of the EXPLORER™ 527

To view the properties of the EXPLORER 527, select **PROPERTIES** from the left menu.



The PROPERTIES window shows:

- **Local IP address**. The local IP address of the EXPLORER 527.
- **IMEI number**. The IMEI number (International Mobile Equipment Identity) of the EXPLORER 527. This is a unique number that identifies your EXPLORER 527.
- **SMS service center**. A number used to identify the SMS service center used by your EXPLORER 527 to send and receive SMS messages.
- **Mobile subscriber numbers** (if available on SIM card). The numbers to use for Standard Voice, 3.1 kHz Audio and data connection when calling the EXPLORER 527.
- **Software version**. The version of the software embedded in the EXPLORER 527.
- **Unit serial number**. The serial number of the total unit.
- **Main PCB number**. The number of the Main PCB in the EXPLORER 527.
- **MAC address** of the EXPLORER 527.

Uploading software

You can upload software to the EXPLORER 527 without entering the PIN. However, if the PIN is not entered, you must enter the Administration user name and password.

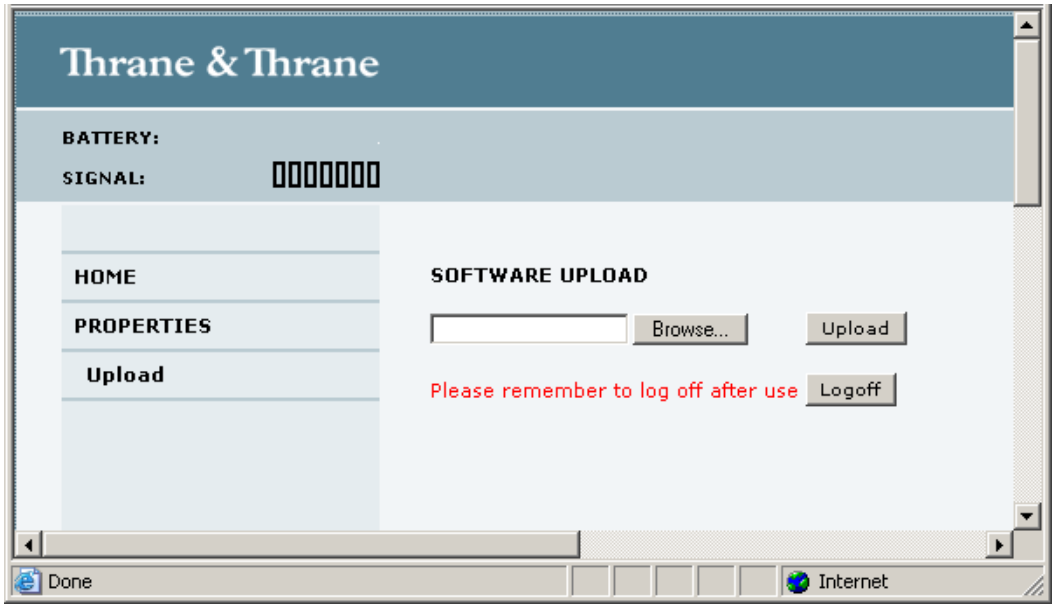
To upload software to the EXPLORER 527, do as follows:

1. Acquire the new software version from Thrane & Thrane and save it on your computer.

2. In the web interface, select **PROPERTIES** from the left navigation pane.
   The **Software version** field shows the current software version.

3. Click **Upload** from the left navigation pane.
   If you have not entered the PIN at start-up, you are prompted for an Administration user name and password.

4. If required, type in the Administration user name and password and click Logon.
   The default user name is **admin** and the default password is **1234**.



5. Click **Browse...**

6. Browse to the new software version and accept it.

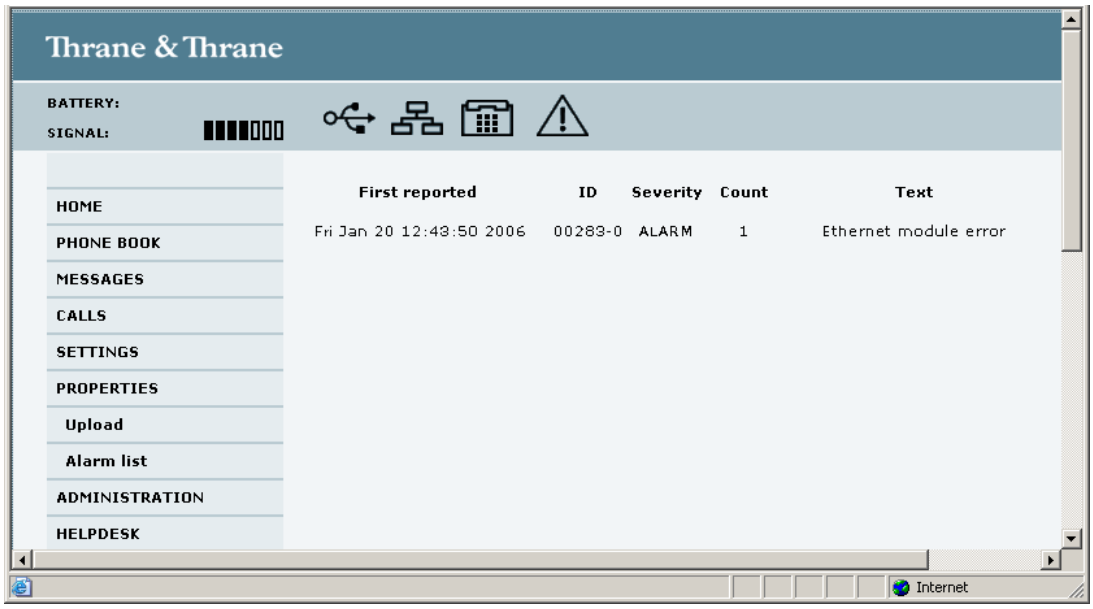
7. Click the **Upload** button.
   Note that the upload procedure takes a couple of minutes.

Note When upload is done, your EXPLORER 527 automatically restarts with the new software.

Viewing the Alarm List

When an alarm is issued, the web interface shows an alarm icon ⚠ in the icon bar.

To view the Alarm list, click the alarm icon from the icon bar at the top of the web interface or select **Properties > Alarm list** from the left navigation pane.



The Alarm list window shows a detailed list of active alarms including the time of the first occurrence, ID and severity of the alarm message, number of occurrences and a short text describing the error. For more information on the alarm messages, refer to *Alarm messages* on page 115.

If you need to report the alarms for service purposes, make sure you include the complete ID number. This number is used by service personnel to uniquely identify an alarm.

Administration

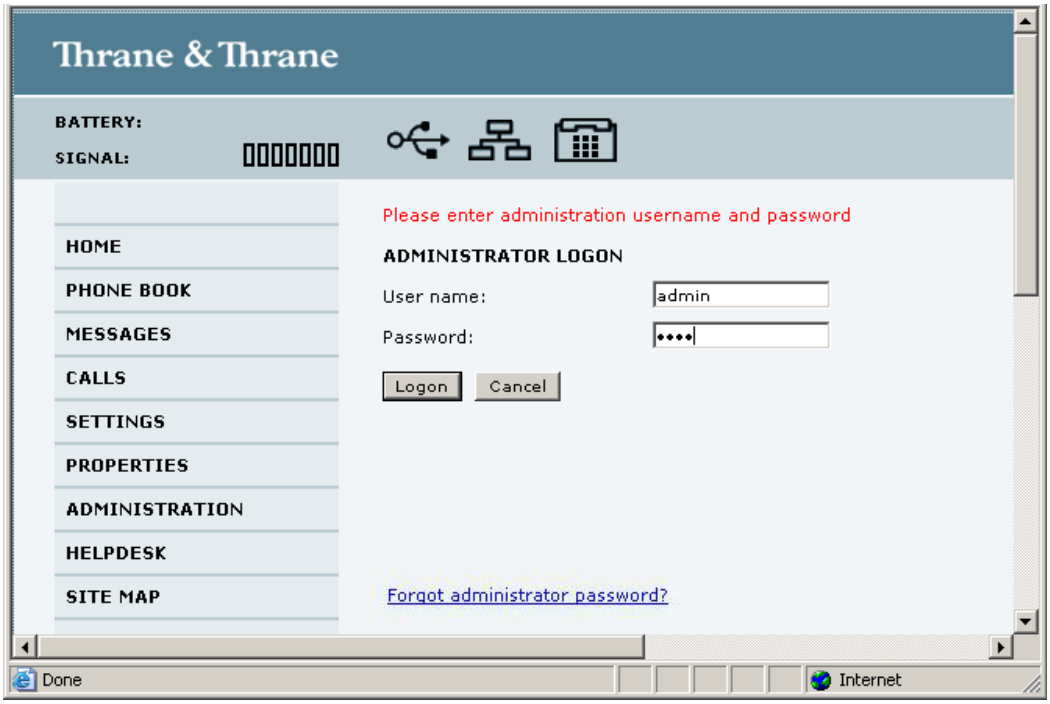
Accessing the administration settings

Logging on

The Administration settings require an Administration user name and password.

1. Select **ADMINISTRATION** from the left navigation pane.

2. Enter the Administration user name and password.
   The default user name is **admin** and the default password is **1234**.



   In software version 1.07 and greater, if you have forgotten the administrator password, you can reset the password by clicking the link at the bottom of the window. For further information, see the next section *Resetting the Administrator password*.

3. Click **Logon**.
   The Administration window is now updated to let you change the user name and password, Save/load a configuration or log off Administration.

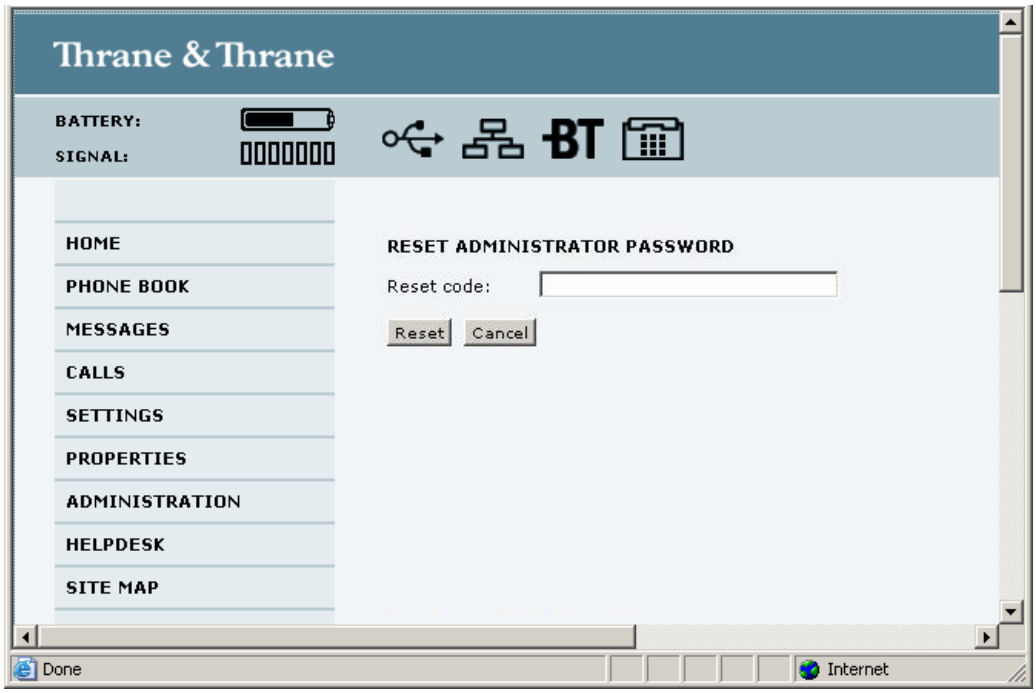
Resetting the Administrator password

Note This feature is only available in software version 1.07 and greater.

If you have forgotten the administrator password, do as follows:

1. Contact your supplier for a reset code.
   Please report the serial number and IMEI number of the terminal.

2. Click the link **Forgot administrator password?** at the bottom of the ADMINISTRATOR LOGON window (see the previous section).



3. Type in the reset code obtained from your supplier and click **Reset**.

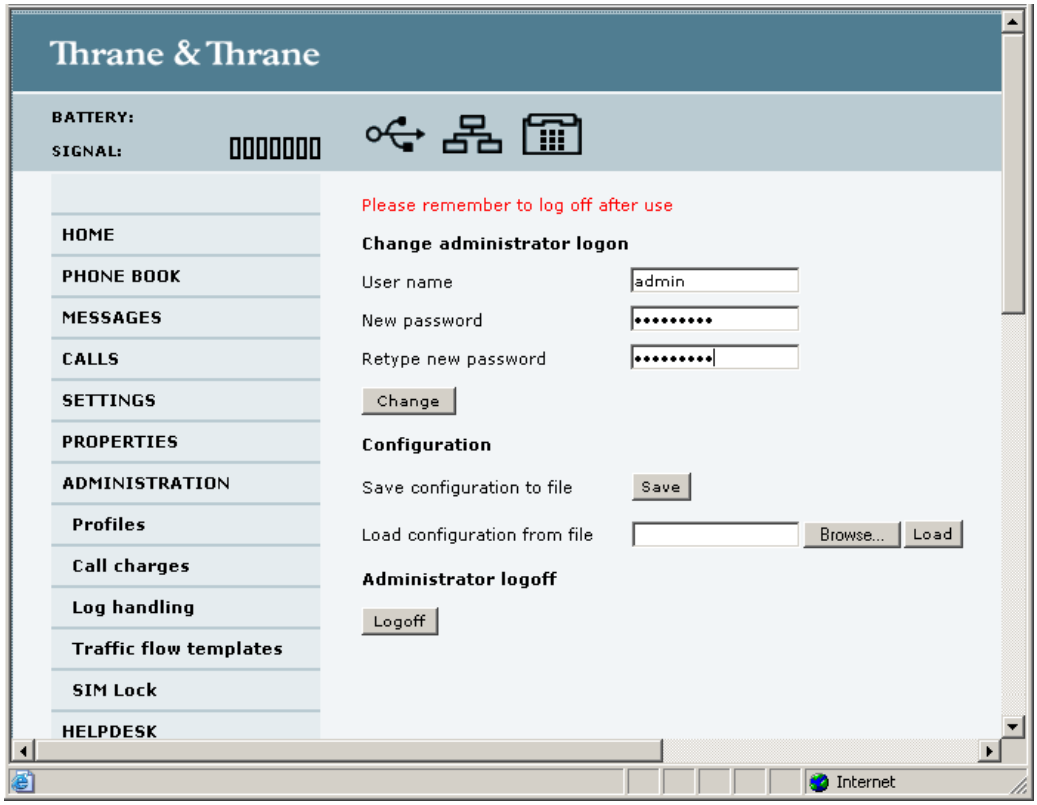
4. Type in the user name **Admin** and the default password **1234**.

5. Click **Logon**.
   For information on how to change the password, see the next section *Changing the administrator password*.

Changing the administrator password

Do as follows:

1. After entering the Administrator user name and password in the **ADMINISTRATION** window, locate the section **Change administrator logon**.



2. Type in the existing user name.

3. Type in the new password twice.

4. Click **Change**.
   At the next logon the new password is required.

Saving a configuration to a file

If you need to reuse a configuration in another EXPLORER 527, you can save your current configuration to a file, which can then be loaded into the other EXPLORER 527.

Do as follows:

1. In the **ADMINISTRATION** window, under Configuration, click **Save**.

2. Accept the default destination file name or type in the destination file name and location.

3. Click **OK**.
   The configuration is now saved to a file. This file is used to load the configuration into another EXPLORER 527. See the next section.

Loading a configuration from a file

1. In the **ADMINISTRATION** window, under Configuration, click **Load**.
2. Click **Browse...** to browse to the file you want to import. Then click **Open**.
3. Click **Load**.
   The new configuration is now loaded into your EXPLORER 527.

Logging off administration

If you have not entered anything for 30 minutes under ADMINISTRATION, you are logged off automatically.

To log off manually, click **Logoff** under Administrator logoff in the **ADMINISTRATION** window.

Call charges

If you know the tariff for your subscribed services, you can enter these tariffs in the web interface and automatically calculate the charges for your calls and data sessions.

Note Thrane & Thrane does not take responsibility for the correctness of the estimated charges. This calculation is only a rough estimate of the charge, based on the tariff entered by the user. Also, the Airtime Provider may have different methods of calculating the charge.

Do as follows:

1. From the left navigation pane in the **ADMINISTRATION** window, select **Call Charges**.
2. Select the currency from the Currency drop-down list.
3. Enter the tariff for each of the services.
4. Click **Apply**.
   The entered tariffs are used for estimating the charges for calls and data sessions. The estimated charge is listed for each call or data session in the call log. For further information, see *Viewing the lists of calls* on page 69.

Log handling

1. From the left navigation pane in the **ADMINISTRATION** window, select **Log Handling**.
2. To clear the **Call log**, click **OK** next to **Clear call log?**.
3. To clear the **total counters**, click **OK** next to **Clear total counter?**.
   This will reset the **Time connected** counters on the Calls page.

Using Profiles

What is a Profile?

A Profile is a collection of Quality of Service (QoS) settings and other settings defining the mode in which data is transmitted on an interface. For example, a Profile is used to define whether the connection is a Streaming connection or a Standard connection.

You can select between a number of predefined Profiles or define your own Profiles for your data transmission.

If no Traffic Flow Template (TFT) is defined, the Primary Profile for an interface is used for all traffic on that interface. See *What is a Traffic Flow Template?* in the next section.

For further information on Profiles, refer to the 3GPP standard TS 23.107.

Selecting the Profiles for an interface

When you set up your interface, you select the Profiles to use for that interface. You select a Primary Profile and optionally one or more Secondary Profiles.

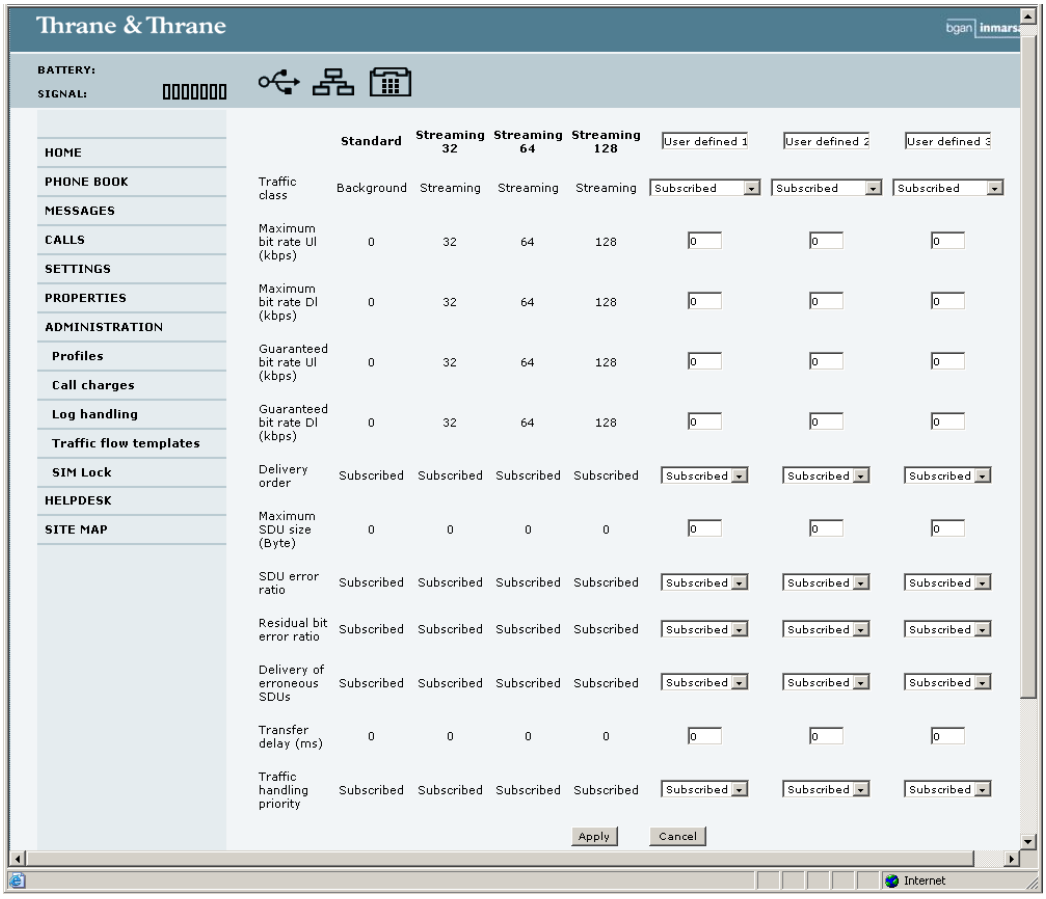
For further information on how to select the Profiles, see the “Configuring...” sections for the individual interfaces in this chapter.

Defining new Profiles

When you define your Profiles you can select **Subscribed** for many of the settings. If you select Subscribed, the value given in your Airtime subscription will automatically be used.

To define a new Profile, do as follows:

1. From the left navigation pane, select **ADMINISTRATION > Profiles**.



2. In one of the **User defined** columns, fill in the top field with the name of your Profile.

3. In the **Traffic class** row of your new Profile, select a class from the drop-down list.

Important For best performance, choose the right traffic class for your application. In general, Standard data (Background) is best suited for TCP/IP applications, and Streaming data is best suited for UDP traffic, e.g. live video or audio.

You may select one of the following:

- **Conversational** is real-time two-way conversation. It is primarily used for voice over IP and video conferencing.
- **Streaming** is real-time one-way communication. It is primarily used for video and audio.
- **Interactive** is two-way communication (not real-time). It is used for communication that is not very delay-sensitive, such as web browsing, data base retrieval and server access. Examples of machines interaction with remote equipment are: polling for measurement records and automatic data base enquiries (tele-machines).

- **Background** is used for data which is not delay-sensitive, such as E-mails, SMS, download of databases and reception of measurement records.

4. Type in the bit rates in kbps in the following rows:
   - **Maximum bit rate ul (kbps)** is the maximum upload bit rate allowed for this Profile.
   - **Maximum bit rate dl (kbps)** is the maximum download bit rate allowed for this Profile.
   - **Guaranteed bit rate ul (kbps)** is the guaranteed upload bit rate needed for this Profile.
   - **Guaranteed bit rate dl (kbps)** is the guaranteed download bit rate needed for this Profile.

   Note When you click Apply, the bit rate values you typed in may be rounded off because only certain values are allowed.

5. In the **Delivery order** row, select from the scroll list whether or not data should be delivered in the same order it was sent. Yes means the data packets are delivered in the same order they were sent.

6. In the **Maximum SDU size (byte)** row, type in the maximum allowed packet size in Bytes (rounded off to nearest 10). The maximum packet size possible is 1520.

7. In the **Delivery of erroneous SDUs** row, select one of the following from the list:
   - **Yes** means packets are allowed to contain errors. This setting is suitable for delay-sensitive transmission, because the need for retransmission is limited. The SDU Error settings in step 8. and step 9. will apply.
   - **No** means packets are not allowed to contain errors, and the SDU Error setting in step 8. will **not** be applied. This setting is suitable where error-free transmission is important and delays are accepted.
   - **No detect** means that errors will not be detected, and the SDU Error setting in step 8. will **not** be applied.

8. If you selected **Yes** in step 7., select from the **SDU error ratio** drop-down list the fraction of a packet allowed to be lost or erroneous.

9. Select from the **Residual bit error ratio** drop-down list the undetected bit error ratio of a packet. If no error detection is requested, Residual bit error ratio indicates the bit error ratio in the delivered packets.

10. In the **Transfer delay (ms)** row, type in the delay in ms. This is the delay from data is received in the EXPLORER 527 until it arrives at the receiving end.

11. In the **Traffic handling priority** row, select from the drop-down list which priority this connection should have.

12. Click **Apply**.
    The new Profile is now added, and can be selected from the lists of primary and secondary Profiles when you set up your interfaces.

Using a Traffic Flow Template

What is a Traffic Flow Template?

A Traffic Flow Template (TFT) is a packet filter list allowing the Core network and the EXPLORER 527 to classify packets received from the external network into the proper PDP (Packet Data Protocol) context.

A TFT consists of from one and up to eight packet filters, each identified by a unique packet filter identifier. A packet filter also has an evaluation precedence index that is unique within all TFTs associated with the PDP contexts that share the same PDP address.

Information of source, destination, type of service etc. is combined in each packet filter in the TFT.

Purpose of the Traffic Flow Template

The purpose of the TFT is to assign different priorities to different types of traffic, in order to optimize performance.

Example: When you are browsing the Internet, a Standard data connection will normally be sufficient. However, if you need to have a video conference, you may need to use a Streaming connection, in order to obtain a direct connection without interruptions. Your Traffic Flow Template can define these priorities, so that your connection automatically switches to Streaming e.g. when you have a video conference.

Defining the Traffic Flow Template

To define a new template, do as follows:

1. From the left navigation pane, select **ADMINISTRATION > Traffic Flow Templates**.

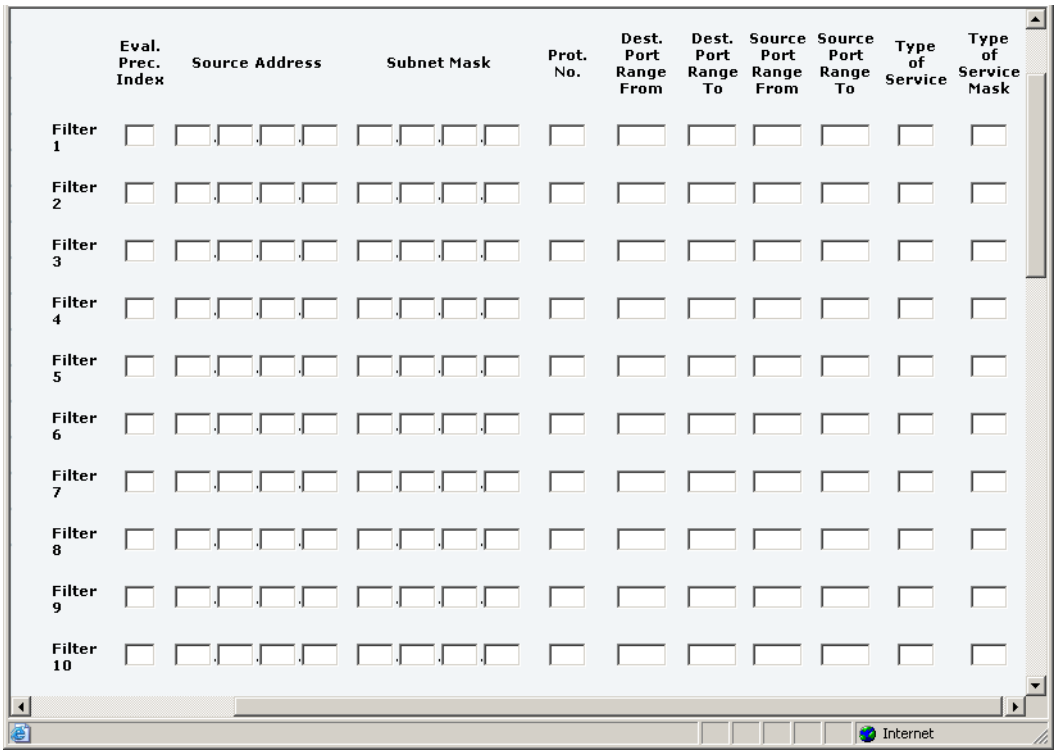
2. Select which filters should apply to which Profiles.
   The filters are defined in the Traffic flow filters list. Refer to the next section

3. Click **Apply**.

Defining filters for the Traffic Flow Template

To define the filters used in the Traffic flow template, do as follows:

1. From the left navigation pane, select
   ADMINISTRATION > Traffic Flow Templates > Traffic flow filters.



   Then fill in the details for each traffic flow filter as described below.

2. Type in an Evaluation Precedence Index in the **Eval.Prec. Index** column.

   Note This field is mandatory. Each filter must have a different Evaluation Precedence Index.

3. Fill in one or more of the following fields to define the filter.
   The allowed ranges appear in hover text when you pass the mouse over the fields.
   - **Source address** + **Subnet mask**.
   - **Protocol number**.
   - **Destination port range** (From and To). Note that Source and Destination are relative the core network. This means that Destination is your EXPLORER 527 terminal.
   - **Source port range** (From and To).
   - **Type of Service** + **Type of Service mask**.

   For further information on the principles and parameters of the Traffic Flow Template, refer to the 3GPP standards TS27.007 V4.2.0 and TS 23.060 V4.7.0.

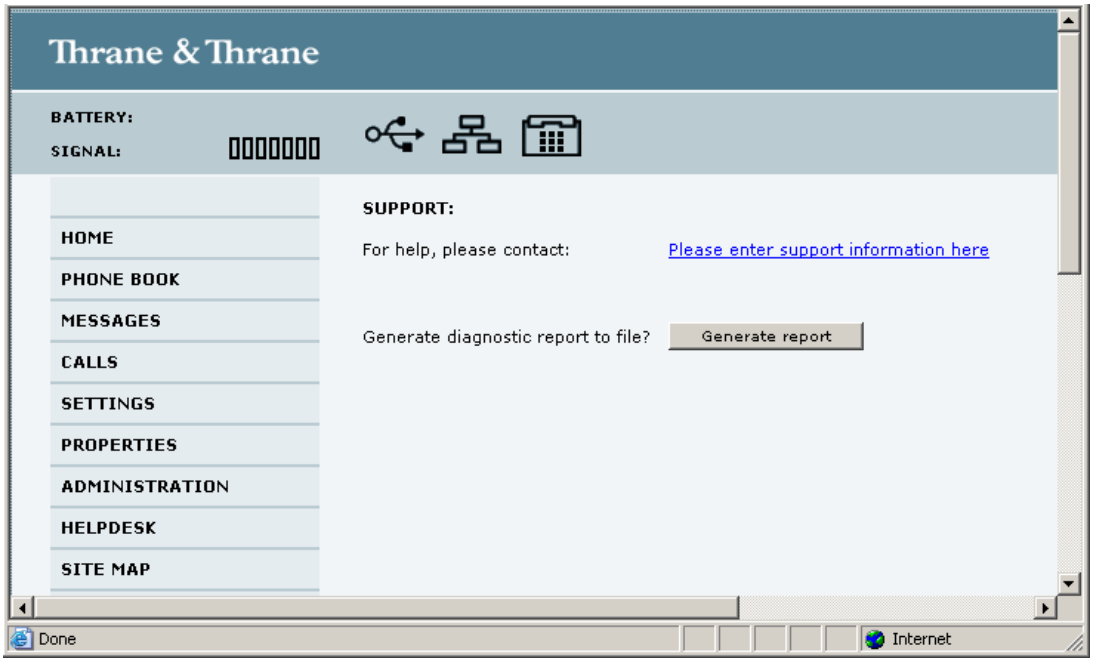
4. Click **Apply** at the bottom of the window.
   The new settings are included if you select the filter in the Traffic flow template window.

Help desk and diagnostic report

Accessing the Help desk

If you need help **with airtime-related issues** you may call the Help desk. By default, the Help desk is the phone number for your Airtime Provider, if it is available on the SIM card.

Select **HELP DESK** from the left navigation pane.



If the Help desk number is available on the SIM card, the number is displayed as a link. To change the number, click the link, change the number and click **Apply**.

If you need help **with EXPLORER 527 issues** you should call your supplier.

Generating a diagnostic report

If you want to generate a diagnostic report, do as follows:

1. Click **Generate report** from the **HELP DESK** window.
   In some browsers the file may open directly in your browser. If it does, choose **File > Save As** to save the file.

2. Choose a location for the file and save it.

The diagnostic report contains relevant information for troubleshooting. Please enclose this file when you are reporting an error.

What's next?

This chapter has explained how to use the web interface for setup and use of the EXPLORER 527. You should now be able to set up the EXPLORER 527, check status, read and send SMS messages, use the phone book and much more.

The following chapter, *Maintenance and troubleshooting*, provides guidelines for troubleshooting and for general maintenance.

Maintenance and troubleshooting

In this chapter

This chapter gives guidelines for troubleshooting and for general maintenance. It also provides an overview of the different means of status signaling,

Getting support

Overview

If this manual does not provide the information required to solve your problem, you may want to contact your Airtime Provider or your supplier.

Airtime support

If you need assistance from your Airtime Provider, please call the help desk.
To see the help desk number, enter the display menu system or the web interface of your EXPLORER 527 and select **HELP DESK**. This help desk number is either taken from the SIM card or entered manually. If no number is available under HELP DESK, check your Airtime subscription for a contact number.

EXPLORER™ 527 support

If you need assistance with problems caused by the EXPLORER 527, please call the supplier of your EXPLORER 527 system.

Uploading software

Viewing software version status

To view the version of the embedded software in the EXPLORER 527, select **PROPERTIES** in the web interface or in the display menus and see **Software information**.

Uploading software using the web interface

You can upload software from the PROPERTIES > Upload window in the web interface.

If you have an Administrator user name and password you do not need to insert a SIM card nor to enter the PIN to be able to upload software.

For further information, see *Uploading software* on page 95.

Reinserting the fuse

The EXPLORER 527 is protected by an automatic fuse (circuit breaker) located in the connector panel. If the system is overloaded the circuit breaker automatically disconnects power.

To reconnect push the circuit breaker back in.

Options and accessories

The following option is available from Thrane & Thrane:

Item	Number
Magnetic mount for TT-3053A antenna.	TT-3712A, Opt. 920

Troubleshooting guide

The below table provides information on some of the problems that might occur, including possible causes and remedies to solve the problems.

Problem	Possible Cause	Remedy
There is no light in the power indicator nor in the display when the EXPLORER 527 is switched on.	The EXPLORER 527 may be in Stealth Mode (all lights and sounds are off).	Press **C+OK** on the display keypad. This will toggle Stealth Mode on/off, if it is enabled in the EXPLORER 527. If the terminal is not in Stealth mode and the problem persists, contact your supplier.
The EXPLORER 527 cannot power up.	The circuit breaker has cut out.	Push the circuit breaker back in and power up the EXPLORER 527. If the problem persists, contact your supplier.
The Antenna indicator in the front panel lights red.	There is no connection with the antenna. The reason may be one of the following: 1. The cable is not connected properly or the cable is defective. 2. A processor in the antenna is faulty	 1. Check the cable and the connectors. Replace the cable if necessary. 2. Contact your supplier for repair of the antenna
The display shows `INSERT SIM`.	The SIM card is not present.	Remove the SIM cover and insert the SIM card in the SIM slot according to the instructions in the section *Inserting the SIM card* on page 12.
	The SIM card is not inserted properly.	Remove the SIM card and re-insert it according to the instructions in the section *Inserting the SIM card* on page 12.

Problem	Possible Cause	Remedy
The display shows NO GPS.	The EXPLORER 527 is unable to register on the network, because the GPS position is unknown.	Make sure the view to the GPS satellites is not blocked. To obtain GPS fix, the antenna should be in a location with a clear view to as much of the sky as possible. When the antenna has obtained GPS fix, it can register on the BGAN network. To see the GPS status, enter the menu system and select **PROPERTIES > GPS STATUS**.
The display shows EMERGENCY ONLY.	The BGAN network is only available for emergency calls. The reason may be one of the following: 1) Your Airtime subscription has expired. 2) You are using the wrong SIM card.	1) Check your subscription with the Airtime Provider. 2) Check that your SIM card is valid for communication on the BGAN network.
The display shows NOT REGISTERED.	The EXPLORER 527 cannot register on the BGAN network.	Check that your SIM card is valid for communication on the BGAN network. Check your subscription with the Airtime Provider.
The EXPLORER 527 cannot obtain its position using GPS.	There is no GPS signal, or the signal is weak. If the EXPLORER 527 has not been used recently within the same location, it can take up to 10 minutes to obtain the GPS position.	Check the GPS status in the display or the web interface. To obtain GPS fix, the antenna should be in a location with a clear view to as much of the sky as possible. When the antenna has obtained GPS fix, it can register on the BGAN network
No signal or weak signal from the BGAN satellite.	The view to the satellite is blocked.	Make sure the EXPLORER 527 antenna has a clear view to the satellite. Be aware that trees or even rain may reduce the signal level.

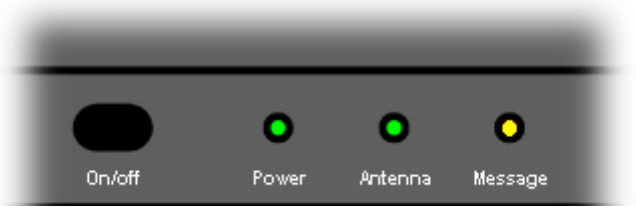
Problem	Possible Cause	Remedy
Connection to the Internet cannot be established.	Your connection is defined as a dial-up connection, but you have not opened the dial-up connection.	You need to open the dial-up connection before you can connect to the Internet.
	Your connection is a dial-up connection, but you have not entered the phone number *98# to indicate a connection to the Internet.	Change the phone number in the dial-up connection to *98# and open the dial-up connection before accessing the Internet.
The web interface cannot be accessed.	The browser is configured to use a proxy server.	For Microsoft Internet Explorer, select **Tools > Internet Options > Connections > LAN Settings** and uncheck **Use a proxy server for your LAN**.
	You have entered a wrong IP address.	Check the IP address and re-enter it.
	Your connection is defined as a dial-up connection, but you have not opened the dial-up connection.	You need to open the dial-up connection before you can connect to the Web server.
	Your connection is a dial-up connection, but you have not entered the phone number *98# or *99# to indicate connection to the Internet and/or the web interface.	Change the phone number in the dial-up connection to *98# or *99# and open the dial-up connection before accessing the web interface.

Problem	Possible Cause	Remedy
A phone/fax connection cannot be established.	The interface is disabled in the EXPLORER 527.	Enable the interface by entering the display menu system and selecting **SETTINGS > INTERFACES > PHONE/FAX > ON**, or by accessing the web interface and selecting **SETTINGS > Phone/Fax > Enabled**
	The cable is not properly connected.	Connect the cable.
	The connector type is not correct.	For information on the correct type of connector, refer to *Phone/Fax interface* on page 125.
	Incoming calls: The voice quality used for the call is not selected in the web interface.	Make sure the voice quality used for calls to the EXPLORER 527 is selected in the web interface. Access the web interface and select **SETTINGS** > **Phone/Fax**. Then select the voice quality for incoming calls.
A LAN connection cannot be established.	The interface is off in the EXPLORER 527.	Enable the interface by entering the display menu system and selecting **SETTINGS > INTERFACES > LAN > ON**, or by accessing the web interface and selecting **SETTINGS > LAN > Enabled**
	The cable is not properly connected.	Connect the cable.
	The cable type or connector type is not correct.	For information on the correct type of connector and cable, refer to *LAN interface* on page 126.

Problem	Possible Cause	Remedy
A USB connection cannot be established.	The cable is not properly connected.	Connect the cable.
	The cable type or connector type is not correct.	For information on the correct type of connector and cable, refer to *USB service interface* on page 127.
	The Thrane & Thrane EXPLORER USB driver is not installed.	Install the driver as described in *First time setup of USB* on page 57.
	The USB connection uses a wrong COM port.	Make sure the connection uses the COM port to which the Thrane & Thrane EXPLORER USB driver is assigned. In Windows XP, open your dial-up connection and select **Properties**. Under **Connect using:** check that **Thrane & Thrane EXPLORER port 1** or **Thrane & Thrane EXPLORER port 2** is selected.
The Administrator password does not work.	Someone has changed the Administrator password.	If the correct password is not found, you have to reset the password. Contact your supplier for a reset code. You must provide the serial number and IMEI number of the terminal. Then enter the web interface and reset the password as described in: *Resetting the Administrator password* on page 98.

Status signaling

There are many ways of troubleshooting if an error occurs. The EXPLORER 527 has different means of status signaling, to help you find the cause of a problem:



- **Indicators**.
  The function of the light indicators on the front panel is described in *Light indicators* on page 8.
- **Alarm messages.**
- **Log files.**

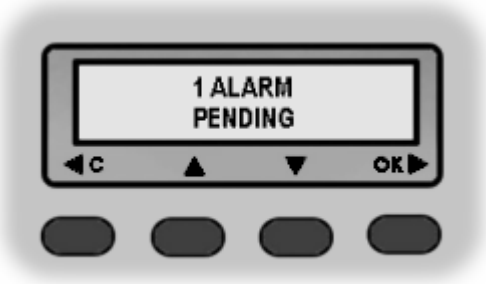
Alarm messages and log files are described in the following sections.

Alarm messages

Display of alarm messages

When the EXPLORER 527 detects an error that requires your action, it issues an alarm.The EXPLORER 527 can detect errors during POST (Power On Self Test) or CM (Continuous Monitoring).

When alarms are issued in your EXPLORER 527, the display indicates the number of new alarms, and the yellow message indicator lights up.



You now have the following options:

- Press **C** to ignore the alarm message and continue from where you were before the alarm was issued.
- Press **OK** to enter the alarm list showing all active alarms. The alarms are listed with their ID numbers. Unacknowledged alarms are marked `NEW`.
  To acknowledge an alarm and see the name and time stamp, press **OK** again.
  Use ▲ and ▼ to scroll through the name, ID and time stamp. If the text is too long, press **OK** (▶) to scroll through the rest of the text.

Once the alarm is acknowledged (OK) or C is pressed, the display returns to normal operation. The yellow message indicator stays on as long as the cause of the alarm is still present.

Explanations for the alarms and remedies to solve the problems are listed in the next section.

All alarms are logged in the alarm log. For information on the alarm log, see *Alarm log* on page 120.

List of alarms

The following list explains the alarms that may show in the display and in the web interface of the EXPLORER 527.

Note In the display and in the web interface the ID includes a hyphen followed by a control-digit at the end. This digit is used to make sure the ID is not misinterpreted when passed on, e.g. to service personnel. Make sure you include the entire number when contacting your supplier.

ID	Alarm Text	Explanation	Remedy
00100 to 00199	System Data Damaged	Important system data is damaged.	Do not use the EXPLORER 527. Contact your supplier.
00210 to 00219	SIM Module Error	The SIM interface on the EXPLORER 527 cannot be used.	Contact your supplier.
00220 to 00229	USB Module Error	The USB service interface on the EXPLORER 527 cannot be used.	Contact your supplier.
00230 to 00239	Temperature Sensor FATAL	The system is in danger of overheating.	Do not use the EXPLORER 527. Contact your supplier.
00240 to 00249	Temperature Sensor Error	Automatic adjustment of the display contrast does not work.	Contact your supplier.
00260 to 00269	System Error	The EXPLORER 527 cannot communicate on the satellite network.	Contact your supplier.
00270 to 00279	Voice Module Error	Voice services cannot be accessed by the EXPLORER 527.	Contact your supplier.
00280 to 00289	Ethernet Module Error	The Ethernet interface on the EXPLORER 527 cannot be used.	Contact your supplier.
00290 to 00299	Power Supply Error	Power on/off and/or LED control may be out of function.	Contact your supplier.

ID	Alarm Text	Explanation	Remedy
00300 to 00309	GPS Module Error	The GPS module is out of function. The EXPLORER 527 cannot obtain a valid GPS position.	Contact your supplier.
01000 to 01009	Temperature Too Low	Low ambient temperature is causing the performance of the EXPLORER 527 to be degraded or halted.	Move the EXPLORER 527 to a warmer location. For information on temperature limits, see *General specifications* on page 121.
01100 to 01109	Data rate reduction due to high temperature	High ambient temperature is causing the performance of the EXPLORER 527 to be degraded or halted.	Move the EXPLORER 527 to a cooler location. For information on temperature limits, see *General specifications* on page 121.
01300 to 01309	No GPS Fix	The GPS receiver has not yet achieved position fix.	Make sure the view to the GPS satellites is not blocked. To help the EXPLORER 527 obtain GPS fix, the antenna should be in a location with a clear view to as much of the sky as possible. Note that in some cases it may take up to 10 minutes to obtain GPS fix.
01400 to 01409	Satellite Signal Lost	The EXPLORER 527 no longer receives a signal from the satellite.	Make sure the EXPLORER 527 antenna has a clear view to the satellite.
01500 to 01509	SIM Card Missing	No SIM card is detected in the SIM slot.	Insert SIM card. If the SIM card is already inserted, try removing and reinserting it.
01600 to 01609	SOS Calls Only	The SIM card is not accepted by the network. Only emergency calls are allowed.	Enter the PIN and wait for network approval. If the problem persists, contact your Airtime Provider.

ID	Alarm Text	Explanation	Remedy
01700 to 01709	`Registration For Voice Failed`	The EXPLORER 527 has not yet been allowed to register for voice services (Circuit Switched).	If the problem persists, contact your Airtime Provider.
01800 to 01809	`Registration For Data Failed`	The EXPLORER 527 has not yet been allowed register for data services (Packet Switched).	If the problem persists, contact your Airtime Provider.
02000 to 02009	`Satellite Signal Weak`	The signal from the satellite is weak.	Check the line of sight to the satellite. Be aware that window glass, trees, or even rain may reduce the signal level.
02200 to 02209	`Ethernet Connection Failed`	Ethernet data session could not be established.	See the display call log for the cause of the error. Refer to *Calls menu* on page 34. If the problem persists, contact your supplier.
02900 to 02909	`Network failed authentication`	The EXPLORER 527 does not accept the network as a valid BGAN network.	Restart the EXPLORER 527. If the problem persists, contact your supplier.
03200 to 03209	`AVR failure`	Communication with an external AVR processor is not working.	If the problem is recurrent, the EXPLORER 527 should be returned for repair. Contact your supplier.
03300 to 03309	`Antenna link down`	There is no connection with the antenna. The reason may be one of the following: 1. The cable is not connected properly or the cable is defective. 2. A processor in the antenna is faulty	1. Check the cable and the connectors. Replace the cable if necessary. 2. Contact your supplier for repair of the antenna

ID	Alarm Text	Explanation	Remedy
03400 to 03409	`HPA heat alarm`	The HPA in the antenna is overheated. Transmission from the antenna is not possible.	Switch off the system until the HPA has cooled down. Then restart the system.

Log files

Diagnostic report

When contacting your supplier for support, please include a diagnostic report.
The diagnostic report contains information relevant for the service personnel during troubleshooting.

To generate the diagnostic report, access the web interface and select **Help Desk**. Then click **Generate report**.

Alarm log

The alarm log holds information of all alarms issued by the EXPLORER 527.

The log includes the time of the error, a short description, location of the error etc. This information can help troubleshooting errors in the EXPLORER 527. The Alarm log is not accessible from the user interface, but is included when you generate a diagnostic report. For information, see *Help desk and diagnostic report* on page 106.

Call log

The call log holds information of up to 100 calls and data sessions to/from the EXPLORER 527.

The call log contains detailed information such as date, time, phone numbers, duration, Mb transferred etc., for each call or data session.

Date and time is UTC time, received from the satellite.

For information on how to view the call log in the display, see *Calls menu* on page 34.

For information on how to view the call log in the web interface, see *Viewing the lists of calls* on page 69.

Technical specifications

In this appendix

This appendix contains technical specifications for the EXPLORER 527.

General specifications

Transceiver

The EXPLORER 527 meets or exceeds current and proposed Inmarsat specifications for operation on the Inmarsat Broadband Global Area Network.

Item	Specification
Type	EXPLORER 527
Max. data rate[a] Downlink Uplink Streaming IP	 464 kbps (shared) 448 kbps (shared) 32, 64, 128 kbps
Physical dimensions	19'' 1U rack-mountable casing
Weight	4.9 kg/10.8 lbs
Environmental conditions Operating temperature Storage temperature	 -25°C to +55°C/-13°F to +131°F -40°C to +80°C/-40°F to +176°F
Vibration Operational Survival	 random 5-20 Hz, 0.02 g sq/Hz, 20-150 Hz, -3 dB/oct (1.05 g) random 5-20 Hz, 0.05 g sq/Hz, 20-150 Hz, -3 dB/oct (1.7 g)
Vehicle motion Turning rate Turning acceleration Induced acceleration Coverage limits	 60°/s 50°/s^2 0.8 g 5-85° (no tilt)
Robustness	0.5 m/1.64 ft drop on concrete (survival)

Item	Specification
Supported web browsers (Other browsers may be supported as well, but only these have been tested.)	Microsoft Internet Explorer 6.0 Mozilla Firefox 1.0 Apple Safari 2.0

a. Performance depends on a wide range of factors and actual usage.

Antenna

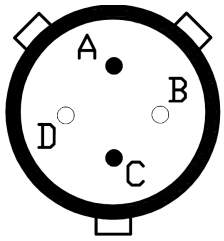
Item	Specification
Type	Active tracking antenna with fixed gain HPA/LNA Combined Inmarsat BGAN and GPS Antenna/LNA
Polarization	RHCP
Dimensions	Ø 50 cm/20'', max. height 15 cm/5''
Weight	5.2 kg/11.5 lbs
Housing	Waterproof outdoor housing
Connector type	TNC female
Frequencies Inmarsat Transmit Receive GPS	 1626.5 MHz - 1660.5 MHz 1525 - 1559 MHz 1575 MHz
EIRP	Max. 17.5 dBW (nominal)
Mounting	Fixed or magnetic mounting

Item	Specification
Environmental conditions	
Operating temperature	-25°C to +55°C/-13°F to +131°F
Storage temperature	-40°C to +80°C/-40°F to +176°F
Relative humidity	100% condensing at +40°C/+104°F
Rain	Up to 50 mm/h
Operational wind load	200 km/h relative wind speed (operational)
Ice	25 mm ice (non-operational)
Vibration	
Operational	random 5-20 Hz, 0.02 g sq/Hz, 20-150 Hz, -3 dB/oct (1.05 g)
Survival	random 5-20 Hz, 0.05 g sq/Hz, 20-150 Hz, -3 dB/oct (1.7 g)
Unpackaged drop	0.5 m on concrete (survival)
Shock survival	20 g / 11 ms half sine
Solar radiation	1120 W/m^2; MIL-SPEC 810E 505.3
Water & Dust	IP-56 dust and water jet proof
Air pressure transport	4500 m AMSL; Mil-SPEC 810E 500.3

Power input

Connector pin-out

This drawing shows the pin-out for the DC power connector.



Pin	Function
A	GND
B	NC
C	+
D	NC

Specifications

Item	Specification
DC input range	+10 to +32 V DC, 60 W
Power consumption[a] Standby mode Transmit mode	 20 W 60 W
Connector type	Proprietary, male connector with lock.

a. Performance depends on a wide range of factors and actual usage.

SIM interface

Specifications

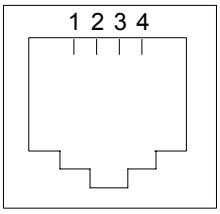
Item	Specification
Slot type	Standard SIM card holder located behind a small SIM cover.

Phone/Fax interface

Front panel connector pin-out

The pin-out for the Phone/Fax connector in the front panel is as follows:

RJ-11 Connector



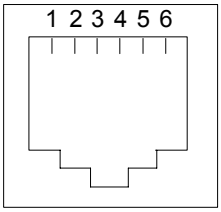
Female (Receptacle)

Pin	Function
1	NC
2	Tip
3	Ring
4	NC

Rear panel connector pin-out

The pin-out for the Phone/Fax connector in the connector panel is as follows:

RJ-11 Connector



Female (Receptacle)

Pin	Function
1	NC
2	NC
3	Tip
4	Ring
5	NC
6	NC

Specifications

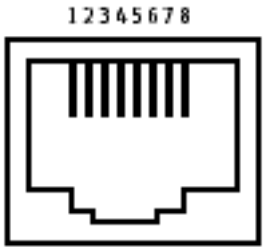
Item	Specification
Number of connectors	2, one in the front panel and one in the connector panel. Note that only one of them can be connected at a time.
Connector type	RJ-11, female
Impedance	180 Ω + 750 Ω/150 nF
Max. cable length	100 m/80 Ω
Max. units connected	One unit

LAN interface

Connector pin-out

The pin-out for the LAN connector is as follows:

RJ-45 Connector



Female (Receptacle)

Pin	Function
1	Rx +
2	Rx -
3	Tx +
4	NC
5	NC
6	Tx -
7	NC
8	NC

Specifications

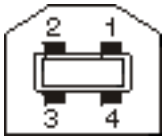
Item	Specification
Connector type	RJ-45, female, MDI-X (IEEE 802.3 10/100BaseT), with lock
Standard	ISO/IEC 8877:1992 and IEEE 802.3 1998 Edition
Max. data rate	10/100 Mbps
Max. cable length	100 m/328 ft with Cat5 UTP

USB service interface

Connector pin-out

The pin-out for the USB connector is as follows:

Type B



Female (Receptacle)

Pin	Function
1	NC
2	D -
3	D +
4	GND

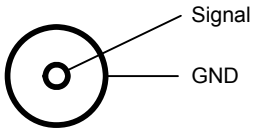
Specifications

Item	Specification
Version	1.1 (Slave)
Connector type	USB Type B, female
Max. data rate	12 Mbps
Max. cable length	5 m/16.4 ft
Driver	Proprietary, enclosed on CD with the product

Antenna interface on EXPLORER™ 527

Connector pin-out

This drawing shows the pin-out for the antenna connector on the EXPLORER 527.



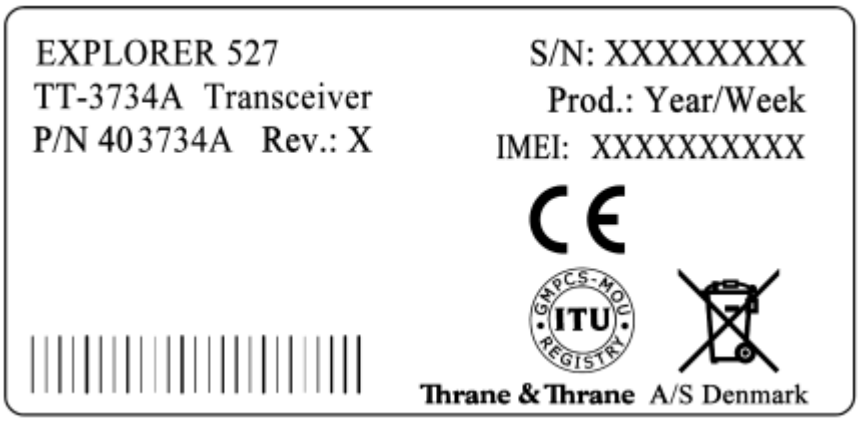
Specifications

Important Only use the TT-3053A antenna included with the EXPLORER 527.

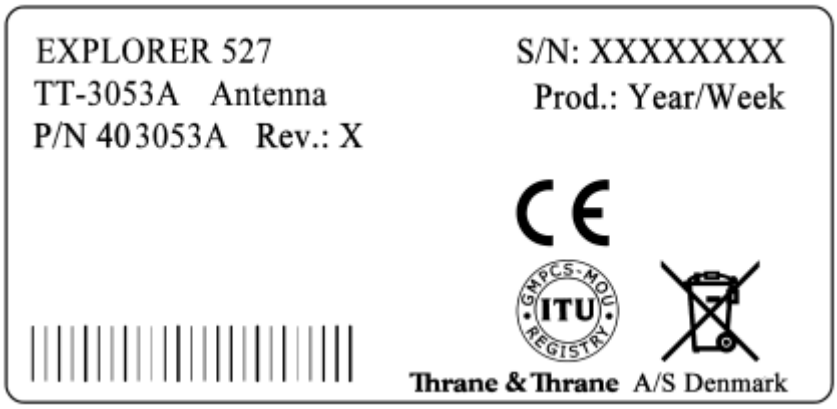
Item	Specification
Connector type	TNC female

Serial number labels

The following label is placed on the transceiver part of the EXPLORER 527.



The following label is placed on the antenna part of the EXPLORER 527.



"Xes" are replaced by the relevant numbers for the specific transceiver/antenna.

Conformity

CE (R&TTE)

The EXPLORER 527 is CE certified (R&TTE directive) as stated in "Declaration of Conformity with R&TTE Directive", enclosed in electronic copy on the next page.

Thrane & Thrane A/S

Declaration of Conformity with R&TTE Directive

The undersigned of this letter declares that the following equipment complies with the specifications of EC directive 1999/5/EC concerning Radio & Telecommunications Terminal Equipment.

Equipment included in this declaration

TT-3712A	EXPLORER™ 527		PN = 403712A
Consisting of:	TT-3734A	Transceiver Unit	PN = 403734A
	TT-3053A	Antenna Unit	PN = 403053A

Equipment Applicability

The TT-3712A EXPLORER™ 527 is a mobile Land Vehicular BGAN terminal that provides voice, fax or high-speed data communication through the Inmarsat satellite service world wide between a vehicle and any destination in the world.

Declaration

The safety requirement with respect to the LVD directive 73/23/EC is met by conforming to the harmonized EU standard EN 60950-1. The protection requirement with respect to the EMC directive 89/336/EC is met by conforming to the harmonized EU standards ETSI EN 301489-1 and ETSI EN 301489-20. Effective use of frequency spectrum is met by conforming to the harmonized EU standards ETSI EN 301444.

Manufacturer

Thrane & Thrane A/S, Lundtoftegårdsvej 93D, DK-2800 Kgs. Lyngby, Denmark

Place and Date

Kgs. Lyngby, 15. January 2007

CE

Henrik Lunde, CEO

Doc. no. 99-124913-A

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DANAK Reg.nr. 5001 Quality system according to DS/EN ISO 9001:2000 by Det Norske Veritas, Denmark A/S

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AT commands

In this appendix

This appendix contains a list of AT Commands for the EXPLORER 527.

Starting up an AT command session

Set up your computer to use the USB service interface. For further information, see *Using the USB service interface* on page 57.

Connect your computer to the USB service interface of the EXPLORER 527 and launch your terminal program.

The following section contains a list of commands that can be used with the EXPLORER 527. For further information on the AT commands, refer to the following standards:

- **ITU V.250** Serial asynchronous automatic dialing and control
- **3GPP TS 27.005 ver. 4.2.0**, Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE-DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)
- **3GPP TS 27.007 ver. 4.6.0**, AT command set for User Equipment (UE)

3GGP standards are found on www.3gpp.org

ITU standards are found on www.itu.int

List of supported AT commands

Command	Function
ATA	Answer
ATD	Dial
ATE	Command echo
ATH	Hang up
ATI	Request identification information
ATL	Monitor speaker loudness
ATM	Monitor speaker mode
ATN	Automode control
ATP	Select pulse dialing (command)
ATQ	Result code suppression
ATS	Set register
ATT	Select tone dialing (command)
ATV	DCE response format
ATX	Result code selection and call progress monitoring control
ATZ	Reset to default configuration
AT&C	Circuit 109 (Received line signal detector) behavior
AT&D	Circuit 108 (Data terminal ready) behavior
AT&F	Set to factory defined configuration
AT&V	Display active and stored profile
AT&W	Store profile
AT+CACM	Accumulated call meter
AT+CAEMLPP	eMLPP priority registration and interrogation
AT+CALM	Alert sound mode
AT+CAMM	Accumulated call meter
AT+CAOC	Advice of charge

Command	Function
AT+CBST	Select bearer service type
AT+CCFC	Call forwarding number and conditions
AT+CCLK	Clock
AT+CCUG	Closed user group
AT+CCWA	Call waiting
AT+CCWE	Call meter maximum event
AT+CDIP	Called line identification presentation
AT+CEER	Extended error report
AT+CFCS	Fast call setup conditions
AT+CFUN	Set phone functionality
AT+CGACT	PDP context activate or deactivate
AT+CGATT	PS attach or detach
AT+CGCLASS	GPRS mobile station class
AT+CGCMOD	PDP context modify
AT+CGDATA	Enter data state
AT+CGDCONT	Define PDP context
AT+CGDSCONT	Define secondary PDP context
AT+CGEQMIN	3G quality of service profile (minimum acceptable)
AT+CGEQNEG	3G quality of service profile (negotiated)
AT+CGEQREQ	3G quality of service profile (requested)
AT+CGEREP	Packet domain event reporting
AT+CGMI	Request manufacturer identification
AT+CGMM	Request model identification
AT+CGMR	Request revision identification
AT+CGPADDR	Show PDP address
AT+CGQMIN	Quality of service profile (minimum acceptable)

Command	Function
AT+CGQREQ	Quality of service profile (requested)
AT+CGREG	GPRS network registration status
AT+CGSMS	Select service for MO SMS messages
AT+CGSN	Request product serial number identification
AT+CGTFT	Traffic flow template
AT+CHLD	Call related supplementary services
AT+CHUP	Hang-up call
AT+CIMI	Request International Mobile Subscriber Identity
AT+CIND	Indicator control
AT+CLAC	List all available AT commands
AT+CLCC	List current calls
AT+CLCK	Facility lock
AT+CLIP	Calling line identification presentation
AT+CLIR	Calling line identification restriction
AT+CMAR	Master reset
AT+CMEC	Mobile equipment control mode
AT+CMEE	Report mobile equipment error
AT+CMER	Mobile equipment event reporting
AT+CMGC	Send command
AT+CMGD	Delete message
AT+CMGF	Message format
AT+CMGL	List messages
AT+CMGR	Read messages
AT+CMGS	Send message
AT+CMGW	Write message to memory
AT+CMOD	Call mode

Command	Function
AT+CMSS	Send message from storage
AT+CNMI	New message indication to TE
AT+CNUM	Subscriber number
AT+COLP	Connected line identification presentation
AT+COPN	Read operator names
AT+COPS	PLMN selection
AT+CPAS	Phone activity status
AT+CPBF	Find phone book entries
AT+CPBR	Read phone book entries
AT+CPBS	Select phone book memory storage
AT+CPBW	Write phone book entry
AT+CPIN	Enter PIN
AT+CPLS	Selection of preferred PLMN list
AT+CPMS	Preferred message storage
AT+CPOL	Preferred PLMN list
AT+CPPS	eMLPP subscriptions
AT+CPUC	Price per unit and currency table
AT+CPWD	Change password
AT+CR	Service reporting control
AT+CRC	Cellular result codes
AT+CREG	Network registration
AT+CRSM	Restricted SIM Access
AT+CSCA	Service center address
AT+CSCS	Select TE character set
AT+CSDF	Settings date format
AT+CSIL	Silence command

Command	Function
AT+CSMS	Select message service
AT+CSQ	Signal quality
AT+CSSN	Supplementary service notifications
AT+CSTA	Select type of address
AT+CSTF	Settings time format
AT+CSVM	Set voice mail number
AT+CUSD	Unstructured supplementary service data
AT+CAAP	Automatic answer for eMLPP Service
AT+FCLASS	Select mode
AT+GCAP	Request complete capabilities list
AT+GCI	Country of Installation
AT+GMI	Request manufacturer identification
AT+GMM	Request model identification
AT+GMR	Request revision identification
AT+GSN	Request product serial number identification
AT+ICF	DTE DCE character framing
AT+IFC	DTE-DCE local flow control
AT+ILRR	DTE-DCE local rate reporting
AT+IPR	Fixed DTE rate
AT+WS46	PCCA STD-101 [17] select wireless network
AT_IBNOTIFY	Control the sending of unsolicited result codes
AT_IGPS	GPS location information
AT_ILOG	Retrieve log file from the EXPLORER 527
AT_IMETER	Call metering
AT_INIS	Network interface status
AT_ISIG	Signal quality indication

Command	Function
AT_ITCSI	Configure incoming voice quality
AT_ITCSO	Configure outgoing voice quality
AT_ITEMP	Temperature in the EXPLORER 527
AT_ITNAT	Configure NAT for an interface

A

AOR	Atlantic Ocean Region
APN	Access Point Name. The Access Point Name is used by the EXPLORER 527 user to establish the connection to the required destination network.

B

BGAN	Broadband Global Area Network. A satellite network based on geostationary satellites, delivering data rates of up to 492 kbps to virtually any part of the earth, with full UMTS (3G) compatibility.

C

CIDContext Identifier

D

DHCP	Dynamic Host Configuration Protocol. A protocol for assigning dynamic IP addresses to devices on a network. With dynamic addressing, a device can have a different IP address every time it connects to the network.

G

Geostationary	Placed in a fixed position relative to a point on the surface of the earth.
GPRS	General Packet Radio Service. A standard for wireless communications which runs at speeds up to 115 kbps, compared with current GSM (Global System for Mobile Communications) systems' 9.6 kbps.

I

IMEI	International Mobile Equipment Identity. A unique number given to every single piece of mobile phone equipment. IMEI numbers are stored in a database containing all valid mobile phone equipment.
IMSO	International Maritime Satellite Organisation. An intergovernmental body established to

	ensure that Inmarsat continues to meet its public service obligations, including obligations relating to the GMDSS.
IOR	Indian Ocean Region

K

kbps	kilobits per second

L

LAN	Local Area Network. A system that links together electronic office equipment such as computers and word processors, and forms a network within an office or building.

M

MAC	Media Access Control. A hardware address that uniquely identifies each node of a network.
MDI-X	Medium Dependent Interface. An MDI-X (for MDI crossover) is a version of MDI that enables connection between like devices. MDI ports connect to MDI-X ports via straight-through cabling. MDI-to-MDI and MDIX-to-MDIX connections use crossover cabling.

N

NAT	Network Address Translation. An Internet standard that enables a local-area network to use one set of IP addresses for internal traffic and a second set of addresses for external traffic. A NAT module makes all necessary address translations.
NC	Not Connected ,

P

PCB	Printed Circuit Board
PDA	Personal Digital Assistant. A lightweight, hand-held, usually pen-based computer used as a personal organizer.
PDP	Packet Data Protocol. A network protocol used by external packet data networks that communicate with a GPRS network.
PIN	Personal Identification Number. A code number used to provide access to a system that has restricted access.

POR	Pacific Ocean Region
PUK	PIN Unblocking Key. An eight-digit code used to unblock a SIM card after three incorrect PINs have been entered. The PUK code is supplied with the SIM card.

R

RDI	Restricted Digital Information

S

SAS	Satellite Access Station. The gateway between the satellites and the worldwide networks such as Internet, telephone network, cellular network etc.
SDU	Service Data Unit. Also known as a data packet.
SIM	Subscriber Identity Module.The SIM provides secure storing of the key identifying a mobile phone service subscriber but also subscription information, preferences and storage of text messages.
Streaming	A technique for transferring data - such as audio or video clips - so that it is processed as a continuous stream. With a Streaming connection you are charged by the minute, like for a telephone connection.

T

TFT	Traffic Flow Template. A packet filter list allowing the Core network and the EXPLORER 527 to classify packets received from the external network into the proper PDP context.

V

VPN	Virtual Private Network. A network that is constructed by using public wires to connect nodes. You can create networks using the Internet for transporting data, using security mechanisms so that only authorized users can access the network.

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