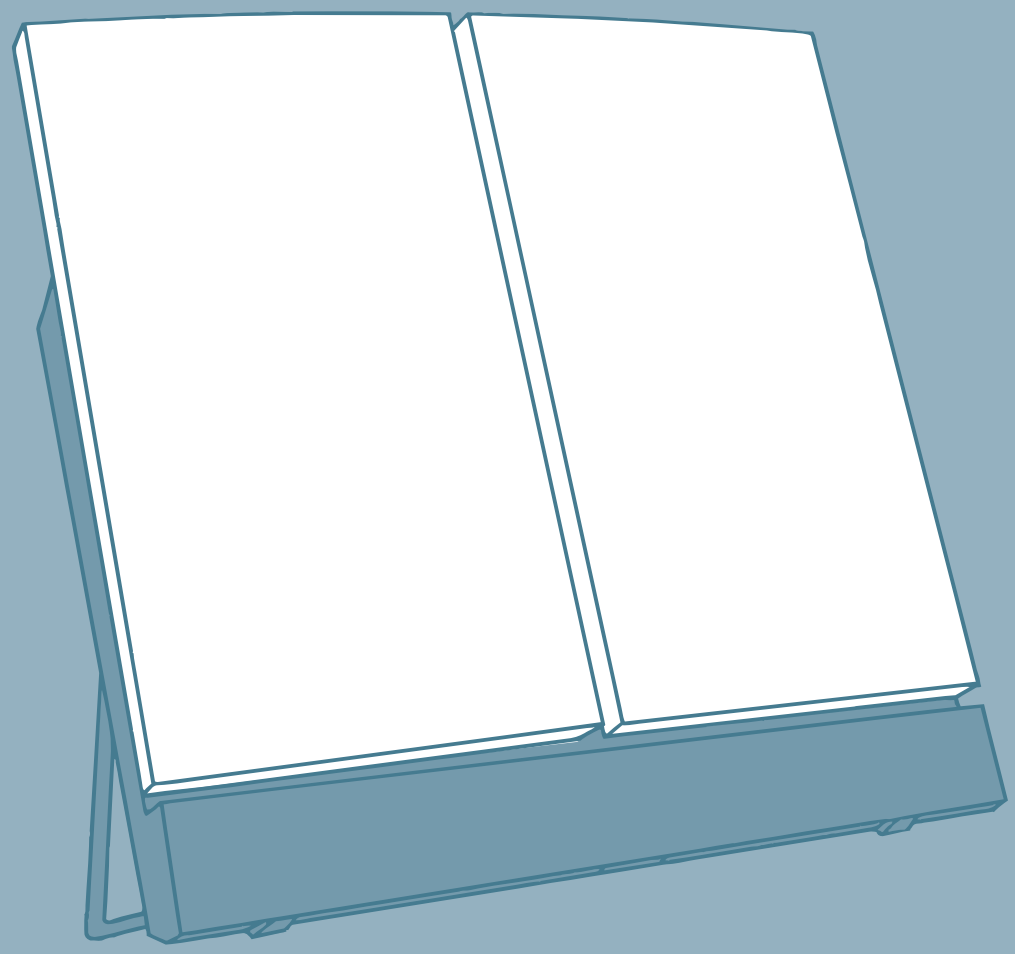
EXPLORER™ 500

USER MANUAL



bgan inmarsat

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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. 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 Front

This device emits radio frequency energy when switched on. To avoid injury, keep a minimum safety distance of 0.6 m from the antenna front when the EXPLORER™ 500 is on. See also the below section **Antenna Safety Instructions**.

Only Use Approved Batteries from Thrane & Thrane

Use of non approved batteries may result in explosion, fire, electrical shock or injury.

Observe Marked Areas

Under extreme heat conditions do not touch areas of the EXPLORER™ 500 that are marked with this symbol, as it may result in injury.

Antenna Safety Instructions

Use Only Manufacturer Supplied Antennas

Antenna Minimum Safe Distance: 60 cm

Antenna Gain

Directional, with maximum gain of 11.1 dB reference to isotropic.

The Federal Communications Commission has adopted a safety standard for human exposure to RF (Radio Frequency) energy which is below the OSHA (Occupational Safety and Health Act) limits.

Antenna Mounting

The antenna supplied by the manufacturer must be located such that during radio transmission, no person or persons can come closer than the above indicated minimum safe distance to the antenna, i.e. 60 cm.

To comply with current FCC RF Exposure limits, the antenna must be installed at or exceeding the minimum safe distance shown above, and in accordance with the requirements of the antenna manufacturer or supplier.

Antenna Substitution

Do not substitute any antenna for the models supplied or recommended by the manufacturer. You may be exposing people to excess radio frequency radiation. You may contact the manufacturer for further instructions.

Radiation Warning

WARNING! Maintain a separation distance of at least 60 cm from the front face of the antenna to a person.

You, as the qualified end-user of this radio device, must control the exposure conditions of bystanders to ensure the minimum separation distance (above) is maintained between the antenna and nearby persons, for satisfying RF Exposure compliance. The operation of this transmitter must satisfy the requirements of Occupational/Controlled Exposure Environment, for work-related use. Only use the terminal when persons are at least the minimum distance from the front face of the antenna.

About the Manual

Intended Readers

This manual is a user manual for the EXPLORER™ 500. The readers of the manual include anyone who is using or intends to use the EXPLORER™ 500. No specific skills are required to operate the EXPLORER™ 500. However, it is important that you observe all safety requirements listed in the **Safety Summary** and in the **Antenna Safety Instructions** in the beginning of this manual, and operate the EXPLORER™ 500 according to the guidelines in this manual.

Manual Overview

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 and battery, start up the unit, and navigate the display menus. 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** explains how to set up and use each interface.
- **Using the Web Interface** explains how to use the built-in Web interface of the EXPLORER™ 500, and describes the available menus and settings. It also explains advanced setup of interfaces with the Web interface.
- **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: “Do **not** touch the antenna front during pointing”.
- To indicate what the user should select in the user interface.
  Example: “Select **Settings** > **Interfaces** > **Bluetooth** and click **Enabled**”.
- To emphasize the paragraph title in cross-references.
  Example: “For further information, see **Connecting Cables** on page...”.

COURIER (with capital letters) 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**”.

Table of Contents

Chapter 5 Using the Web Interface

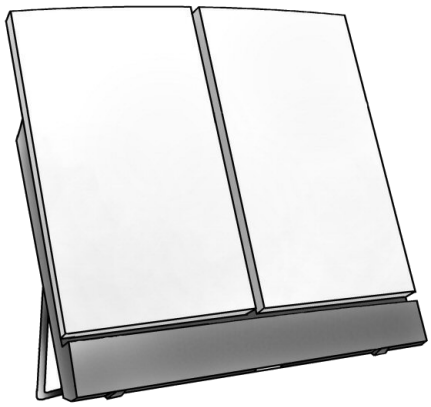
Introduction

Welcome

Congratulations on the purchase of your EXPLORER™ 500!

The EXPLORER™ 500 is a broadband mobile terminal with integrated antenna, providing high-speed data and voice communication via satellite through the Broadband Global Area Network (BGAN).

Just plug in a phone, fax, laptop or PDA, or use the Bluetooth® interface, point the antenna towards the BGAN satellite - and you are online.



The flat, light-weight design of the EXPLORER™ 500 makes it easy to carry e.g. in the front pocket of a laptop bag.

Applications include:

- High-speed data access
- Phone and fax services
- Large file transfers
- Video conferencing and streaming
- Internet browsing
- Email
- VPN access to corporate servers

In This Chapter

This chapter gives an overview of the BGAN system and services, and introduces the EXPLORER™ 500.

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

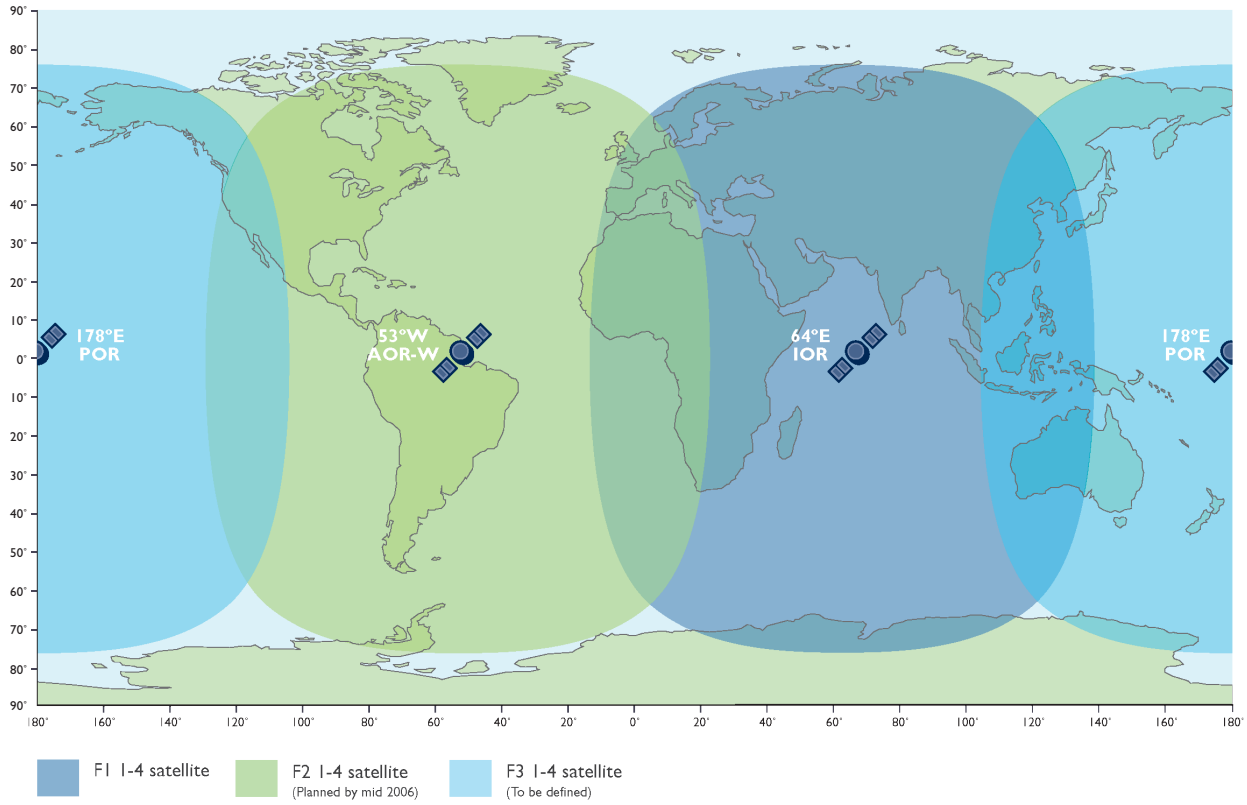
The BGAN System

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.



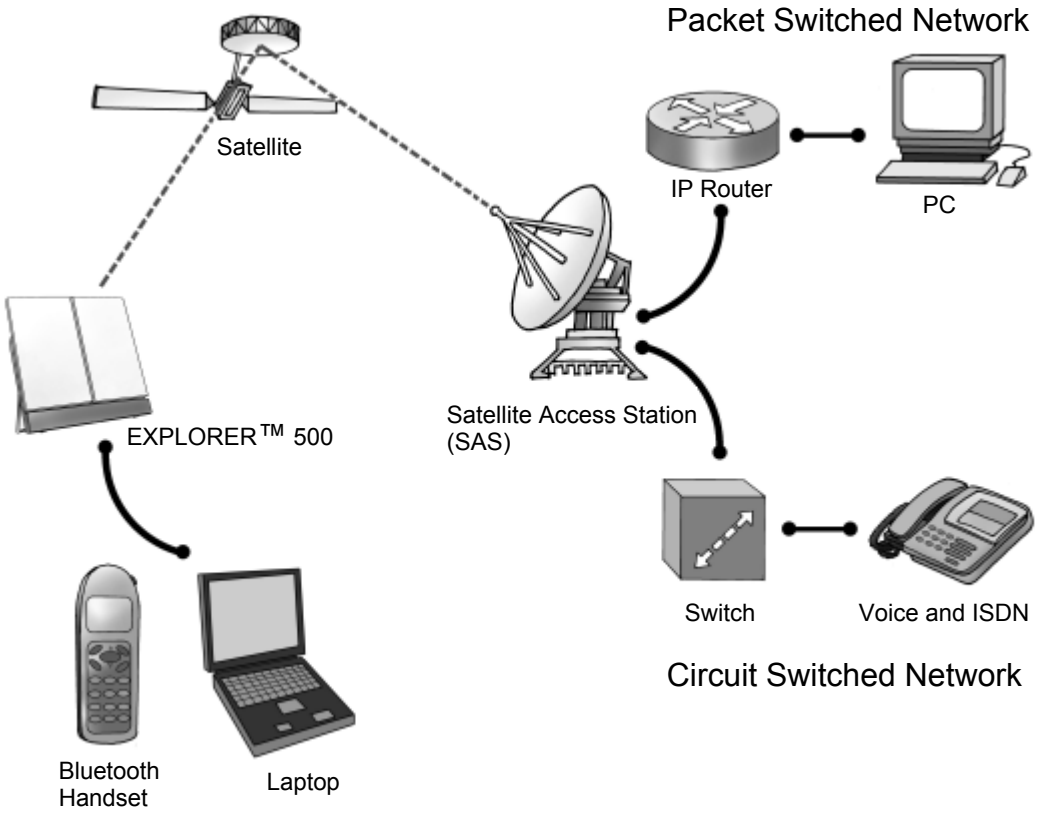
Note

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 F-3 satellite will be determined in due course.

Overview of the BGAN System

A complete BGAN system includes the EXPLORER™ 500 with connected peripherals, the BGAN satellite, and the Satellite Access Station (SAS). The satellites are the connection between your EXPLORER™ 500 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 (Dialled) 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 (Dialled) 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, G.3 fax or analogue modem.
  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 provides the following Supplementary services:

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

Overview of the EXPLORER™ 500

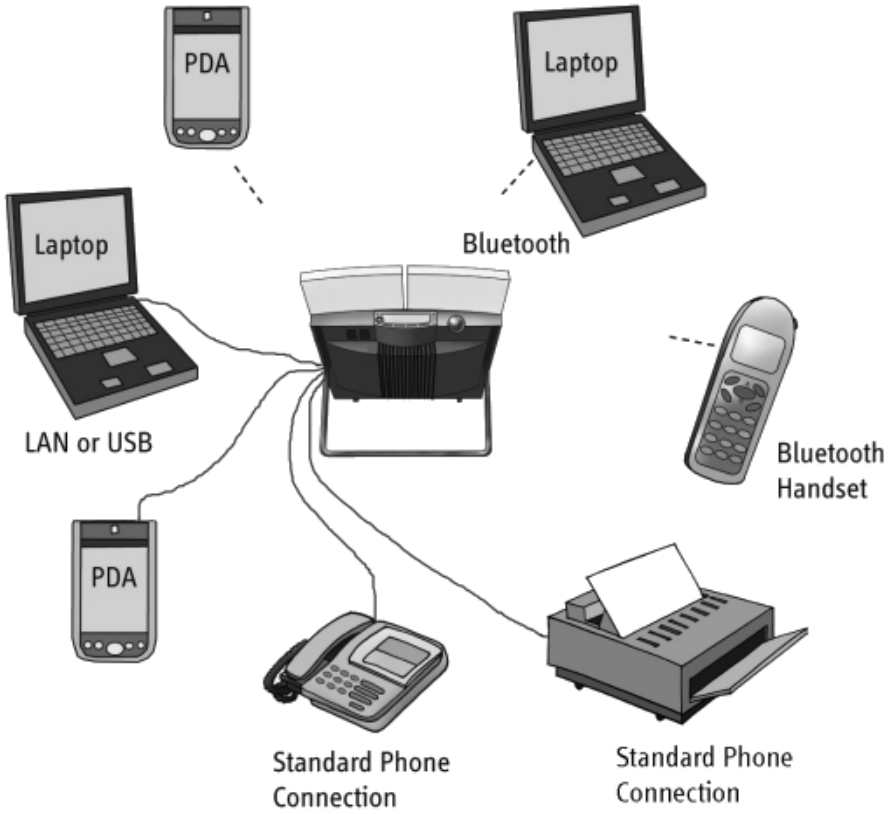
Features

The EXPLORER™ 500 provides the following features:

- High speed data up to 464 kbps - shared bandwidth
- Support for streaming classes 32, 64 and 128 kbps
- Simultaneous voice and data
- Standard interfaces (LAN, USB, Bluetooth and phone/fax)
- Lightweight and portable design
- Easy setup and use
- Robust and durable design
- CE, FCC and GMPCS certified

Overview of Interfaces

The EXPLORER™ 500 provides a number of interfaces for connection of various types of computers, fax devices and phones.



Using the Interfaces on page 40 describes how to use each of the available interfaces.

Minimizing Power Consumption

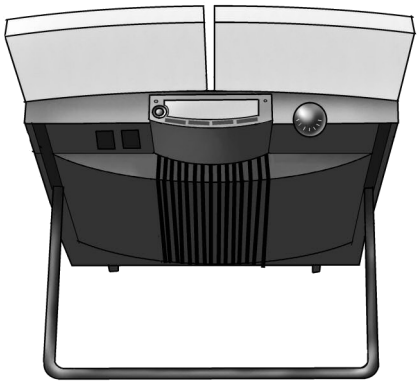
The EXPLORER™ 500 is designed for minimum power consumption. This means that functions that are not currently used will automatically go into a "sleep mode" to minimize the power consumption.

In addition to this automatic sleep mode function, you can disable each of the interfaces if they are not currently used. Note, however, that you will not be able to use these interfaces until you enable them again. For information on how to enable/disable interfaces, see **Enabling or Disabling an Interface** on page 42.

Your EXPLORER™ 500

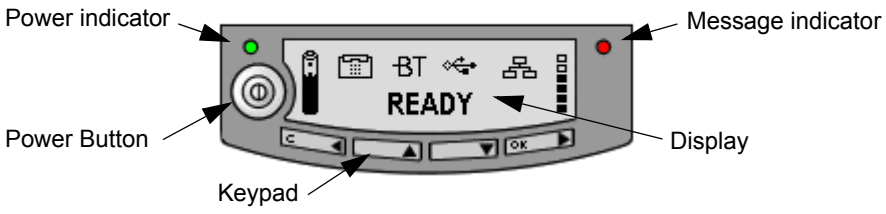
Overview

The EXPLORER™ 500 is a compact unit, comprising antenna, compass, display and keypad, all in one unit.



Display and Keypad

The EXPLORER™ 500 has a display and a keypad for displaying status and for changing simple parameters.



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™ 500 has two light indicators next to the display: a green power indicator and a red message indicator.

Green Power Indicator
The function of the **green Power indicator** to the left of the display is as follows:

Behaviour of Green Indicator	Meaning
Short flash every 2 seconds	The EXPLORER™ 500 is on.
Steady light	The battery is charging.
Flashing rapidly	A charging error has occurred. For further information, refer to the **Troubleshooting Guide** on page 94.
Off	No power.

Red Message Indicator
The function of the **red Message indicator** is as follows:

Behaviour of Red Indicator	Meaning
Flashing	An alarm is active or An SMS message has arrived. Press **OK** to view the alarm(s) or SMS message(s). The red light will keep flashing 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 100.
Off	No messages are present.

User Interfaces

The **keypad and display** are used for pointing the antenna, 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, PDA or similar) and one of the following:

- The **Web interface**. The EXPLORER™ 500 has a built-in Web interface for easy configuration and daily use. The Web interface is accessed directly from a computer connected to the EXPLORER™ 500, using a standard Internet browser.
  For information on the Web interface, see **Chapter 5, Using the Web Interface**.
- The **BGAN LaunchPad** from Inmarsat. BGAN LaunchPad is a computer application used to control terminals in the BGAN system. LaunchPad is provided on the Inmarsat BGAN CD-ROM supplied with your EXPLORER™ 500. For information on how to use the LaunchPad, refer to the manual on the Inmarsat CD-ROM.

Additionally, it is possible to control the EXPLORER™ 500 using AT Commands. Refer to **Appendix B, AT Commands**.

Antenna

The white part of the EXPLORER™ 500 is the antenna module. The antenna module comprises a GPS antenna, a BGAN antenna and a Bluetooth antenna.

Compass

The EXPLORER™ 500 also provides a compass to help positioning the antenna. For further information on how to use the compass, see **Pointing the Antenna** on page 19.

Battery

The EXPLORER™ 500 comes with a rechargeable battery, which is easily inserted. The battery is automatically recharged when power is applied to the EXPLORER™ 500. Steady green light indicates that the battery is charging.

SIM Card

The SIM card of the EXPLORER™ 500 is a standard SIM card, which is acquired from the Airtime Provider.

The EXPLORER™ 500 requires a SIM card to go online and to access the settings of the EXPLORER™ 500. Without a SIM card you can only see the Main screen of the display system, showing battery status etc.

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™ 500				
		Phone/Fax	**Bluetooth**	**USB**	**LAN**	**Display/ Keypad**
Circuit Switched Connection	**3.1 kHz Audio**	Analogue telephone	Bluetooth handset			
		G.3 Fax machine				
	Standard Voice	Analogue telephone	Bluetooth handset			
	Data	Computer with analogue modem	Computer with Soft modem			
Packet Switched Connection	**Data multi-user**		Computer		Computer with Switch/Hub	
	Data single-user		Computer	Computer	Computer	
SMS			Computer	Computer	Computer	View only

What's Next?

This chapter has provided an overview of the BGAN system and of the EXPLORER™ 500.

The next chapters will go into more detail about how to set up and use the EXPLORER™ 500. The following chapter, **Getting Started**, explains how to unpack and start up the EXPLORER™ 500, and how to point the antenna in order to get the best possible signal.

Getting Started

In This Chapter

This chapter describes:

- what is included in the delivery,
- how to insert and remove the battery and SIM card, and
- how to start up the EXPLORER™ 500 and make the first call or data session.

Unpacking and Assembling

Unpacking

Unpack the EXPLORER™ 500 and accessories and check that the following items are present:

EXPLORER™ 500

Getting Started packet containing:

- Getting Started leaflet
- Quick Guide
- EXPLORER™ 500 CD-ROM
- BGAN LaunchPad CD-ROM

AC/DC Power Supply

USB Cable

EXPLORER™ 500 Battery

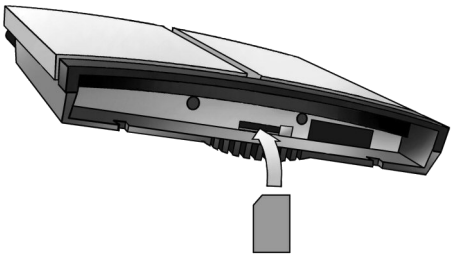
LAN Cable

Inserting the SIM Card

The EXPLORER™ 500 is delivered with the battery separated from the terminal. If the battery is already inserted, remove it as described in **Removing the Battery** on page 12.

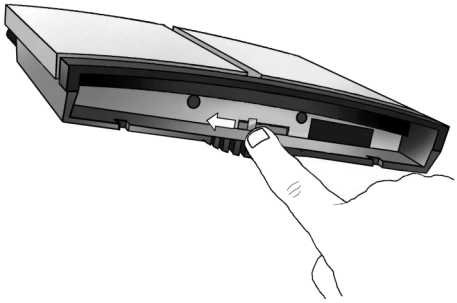
The SIM card is provided by your Airtime Provider. Insert the SIM card as follows:

1. Insert the SIM card into the SIM slot.
   Make sure the SIM card is positioned as shown!



2. Press gently until it clicks.

3. Slide the lock to close the SIM slot.

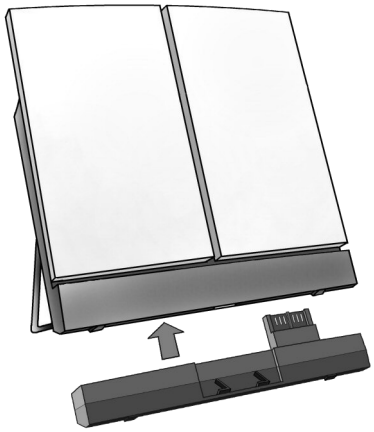


Inserting the Battery

Do as follows:

1. Insert the battery.
   Make sure the battery is positioned correctly as shown.

2. Press gently until it locks.

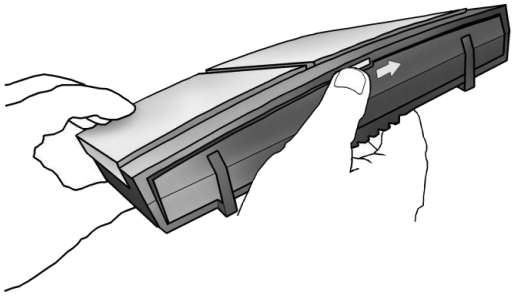


Note To ensure accurate information on the battery capacity, you should fully charge, then fully discharge the battery (until the EXPLORER™ 500 closes down automatically), and finally recharge the battery. The EXPLORER™ 500 can be used during the discharging process, but the remaining battery capacity may not be displayed correctly.
For information on how to recharge the battery, see **Recharging the Battery** on page 90.

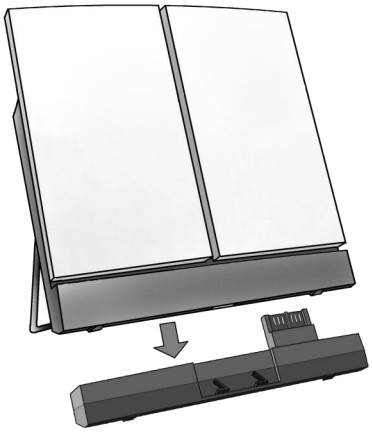
Removing the Battery

To remove the battery, do as follows:

1. Locate the slide lock at the bottom of the unit.
2. Slide the lock aside to release the battery from the unit.



3. Remove the battery.



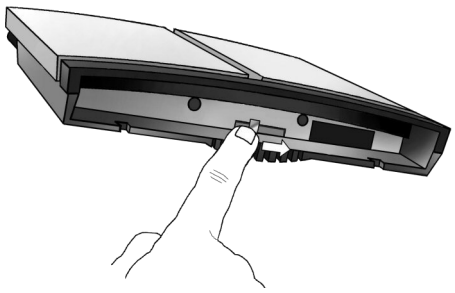
Removing the SIM Card

To remove the SIM card, first remove the battery as described in **Removing the Battery** on page 12.

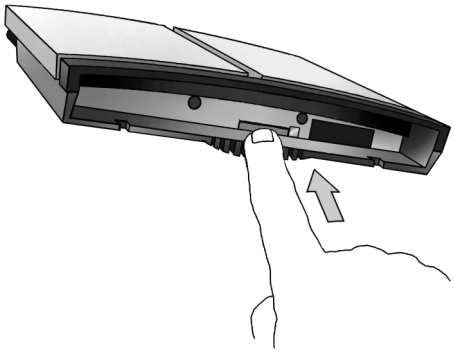
Note When the SIM card is removed, you cannot use the display menu system nor make calls or start data sessions.
Only emergency calls are allowed, and only if permitted by the network.

Remove the SIM card as follows:

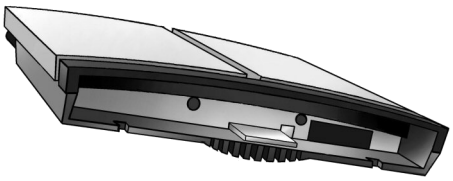
1. Slide the lock aside to open the SIM slot as shown.



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



3. Remove the SIM card.



Connecting Cables

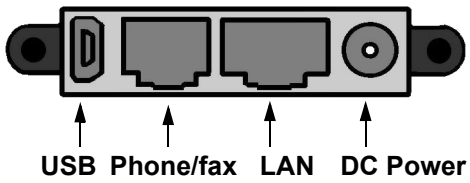
After inserting SIM card and battery, connect all relevant cables.

Important Connect the cables before making the final adjustment of the antenna position. Otherwise you may accidentally move the antenna when you connect the cables.

Side Connector Panel

The connector panel is placed on the side of the EXPLORER™ 500 and has the following connectors:

- USB connector for data equipment
- Phone/fax connector for phone, fax or analogue modem
- LAN connector for data equipment
- DC power connector (10-16 V DC) for connection to a 100-240 V AC/DC power supply or to a charger cable which connects to the cigarette lighter socket in a car

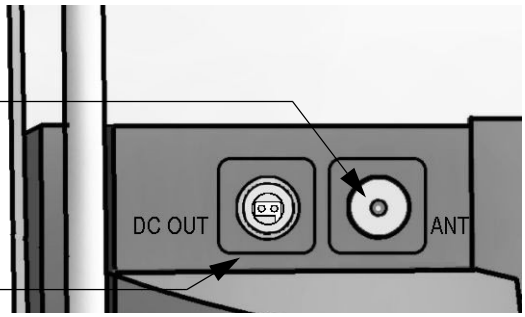


For information on how to connect to a specific interface, see the corresponding section in **Chapter 4, Using the Interfaces**. However, connecting to power is described at the end of this section.

Rear Connectors

Apart from the connectors in the connector panel, the EXPLORER™ 500 has two connectors placed on the rear side of the EXPLORER™ 500,

- a connector for the Thrane & Thrane **external antenna**, marked **ANT** and
- a connector for **charging the EXPLORER™ 500 Bluetooth Handset**, marked **DC OUT**.



For information on how to connect to these interfaces, see **Additional Interfaces** on page 63.

Before Connecting to Power

You can connect to power or use the battery delivered with your EXPLORER™ 500.

Refer to **Power Input** on page 108 for specifications and pin-out for the DC power input.

If you are connecting to 100-240 V Mains, use the AC/DC power supply included with your EXPLORER™ 500.

You may also connect directly to the cigarette lighter socket in a car. A suitable charger cable is available from Thrane & Thrane.

Connecting to Power

You can connect the DC input to power without the battery inserted.

If the battery is inserted when you apply power to the EXPLORER™ 500, the battery is automatically recharged.

Connecting to 100-240 V Mains: Connect the AC/DC power supply to the DC power input of the EXPLORER™ 500. Then connect the power cable between 100-240 V Mains and the AC/DC power supply.

Connecting to the cigarette lighter in a car: Connect the charger cable between the DC power input of the EXPLORER™ 500 and the cigarette lighter socket in the car.

Powering the EXPLORER™ 500

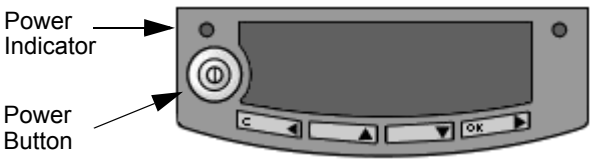
Automatic Power Up

The default behaviour of the EXPLORER™ 500 is to power up automatically when you connect the power cable. If you wish, you can change this power up mode, so that the EXPLORER™ 500 is only powered if the power button is pressed.

For further information on power up mode, see **Setting the Power up Mode** on page 35 or **Power up Behaviour** on page 71.

Switching the EXPLORER™ 500 On/Off

To switch on the EXPLORER™ 500, push the power button next to the display and hold it down until the green Power indicator lights up. It normally takes one or two seconds.



To switch off the EXPLORER™ 500, push the power button again and hold it until the display shows **`SWITCHING OFF...`**.

After switching on the EXPLORER™ 500 you will be prompted for a PIN code, unless the PIN code is disabled.

For information on the options after power on, see the next section.

Options for the Start-up Procedure

Overview of the Start-up Options

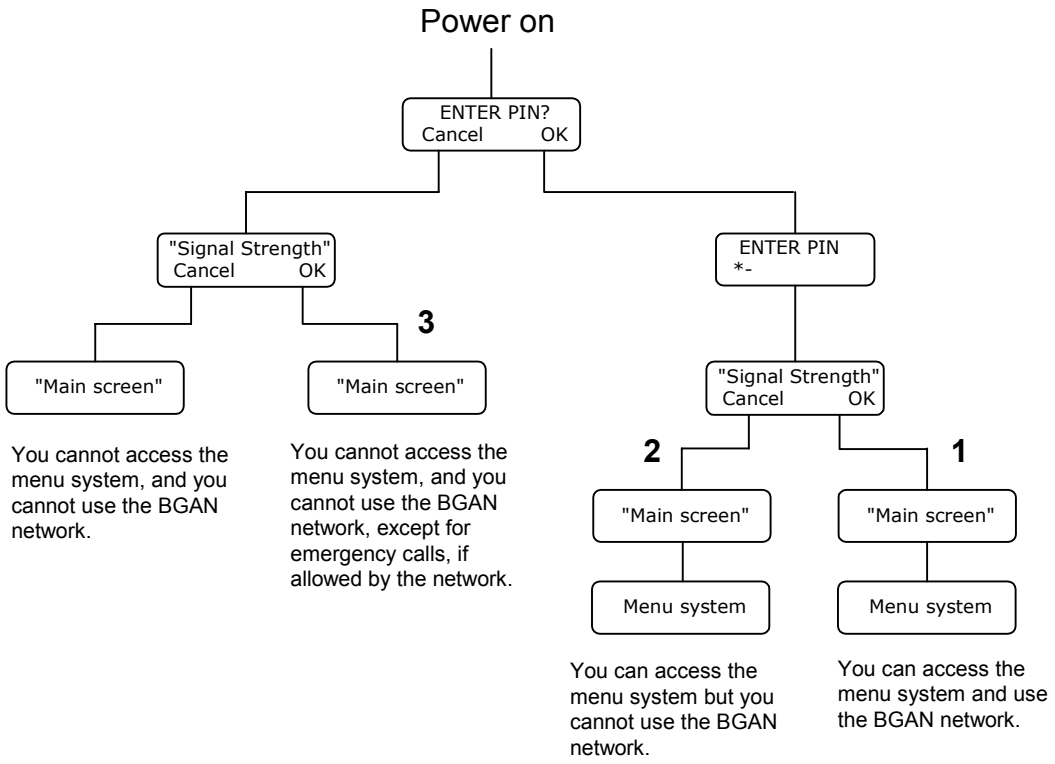
You have different options for the start-up procedure. Each of these options are briefly described in this section.

For information on how to enter PIN code and point the antenna, see the subsequent sections.

The following drawing shows the options available after power on.

Note If the use of PIN code is disabled, the display sequence is the same as after successfully entering the PIN code. This means that after power on, you will see the Signal strength screen.

The numbers on the drawing refer to the different start-up options described below.



"Full" Procedure (1)

After power on, enter the PIN code and then point the antenna.

In this mode you have full access to the EXPLORER™ 500, that is you can use the menu system and communicate on the BGAN network.

The display will show `READY` when the menu system is not activated.

“Off-line” Procedure (2)

After power on, enter the PIN code, but cancel pointing.

In this mode you can use the menu system, but are not able to communicate on the BGAN network.

The display will show `POINT NOW?` when in the Main screen.

Press ▲ or ▼ to enter the menu system.

If you want to point the antenna later, press **OK** from the Main screen.

“Emergency” Procedure (3)

After power on, cancel the PIN code and then point the antenna.

In this mode you can only place emergency calls, and only if permitted by the network. You are not able to access the menu system nor to communicate on the BGAN network (apart from emergency calls), until you enter the PIN code.

The display will show `ENTER PIN?`
If you press OK you can enter the PIN code. No other options are available from the keypad.

Entering the PIN Code

Overview

You have to enter a PIN code to use the EXPLORER™ 500, unless the use of PIN codes is disabled using the built-in Web interface of the EXPLORER™ 500.

The first time you are asked for a PIN code, you can choose to cancel (press **C**). If you cancel, you are asked again after pointing is completed. At that point you must enter the PIN code to be able to continue.

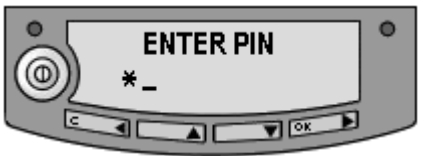
Entering the PIN Code

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

1. When you are asked for a PIN code, 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 a *.



   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 code.

Note At this point the EXPLORER™ 500 may make a sound. This sound is used for pointing the antenna. To toggle the pointing sound on/off, press ▲ or ▼.

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 code using a phone or computer connected to the EXPLORER™ 500. For further information, see **Entering the PIN Code Using a Phone** on page 47 or **Entering the PIN Code in the Web Interface** on page 67.

Wrong PIN Code

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

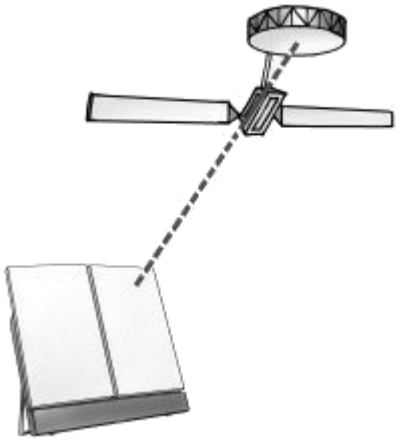
Important If you enter a wrong PUK code 10 times, the SIM card will no longer be functional, and you have to contact your Airtime Provider for a new SIM card.

Pointing the Antenna

The Importance of Pointing

In order to obtain the best possible signal at the lowest possible cost, it is important that the EXPLORER™ 500 antenna is pointed correctly towards the satellite.

The antenna must have a clear line of sight to the satellite without any obstacles blocking the signal, and the pointing direction of the antenna should be as accurate as possible.



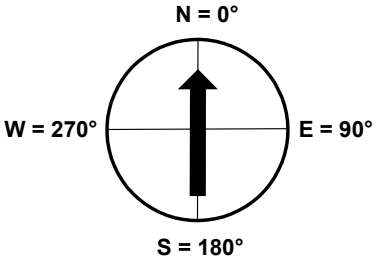
Important Incorrect pointing may result in poor quality of the signal, and in some cases retransmission may be necessary. This could mean you will be paying more than necessary for your transmission.

The next sections describe how to point the antenna for the best possible signal.

Pointing Data

If the position of the satellite in relation to the EXPLORER™ 500 is known, you can use the compass to roughly point the antenna in the right direction. If you know the **Azimuth** and the **Elevation**, you can use this data to adjust the antenna.

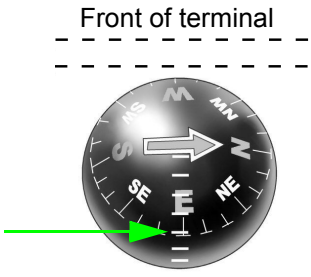
- The **Azimuth** is the horizontal rotation angle relative to North (moving clockwise).



- The **Elevation** is the vertical rotation angle relative to horizontal. This means that an Elevation of 0° corresponds to the EXPLORER™ 500 being in an upright position, pointing towards the horizon.

The compass has 7 lines dividing the Elevation scale into 6 spaces. The space between two lines corresponds to 15°.

The Elevation is measured where the lines meet. This compass shows an Elevation of 30° (2 spaces up from the first line) and an Azimuth of 270° (antenna pointing towards West).



Note The above explanation assumes that the compass shows the exact orientation. Please take into consideration the possible deviation and variation that can occur, e.g. because of the geographical location or the presence of magnetic objects.

Required Signal Strength

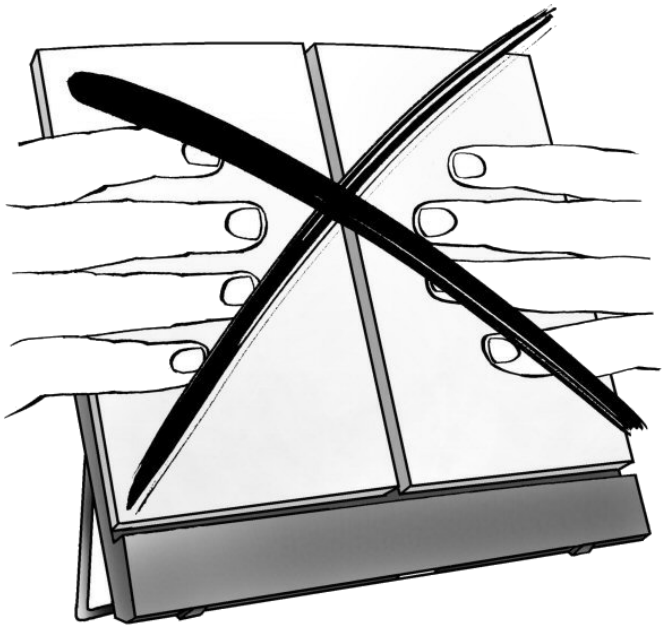
As a rule of thumb, the signal strength should typically be 45 dBHz or more for the EXPLORER™ 500 to be able to establish a call or data session. However, the required signal strength can vary, depending on a number of factors.

Do Not Block the Antenna Signal With Your Hands

Important

When pointing the antenna, **do not touch** the antenna part of the EXPLORER™ 500. For your safety, always maintain a distance of minimum 60 cm from the front of the antenna. Also, if you place your fingers on the antenna you will be blocking the signal, and the antenna will not work efficiently.

You can hold the support bracket or the battery module below the antenna while pointing the EXPLORER™ 500.



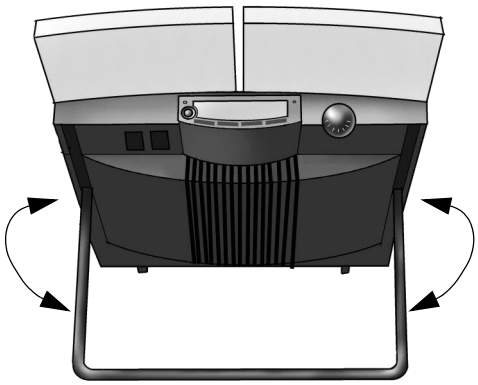
Pointing the Antenna Towards the Satellite

To help you obtain the best possible signal strength, the EXPLORER™ 500 uses a pointing sound to indicate the signal strength during pointing. The frequency of the tone increases with the signal strength.

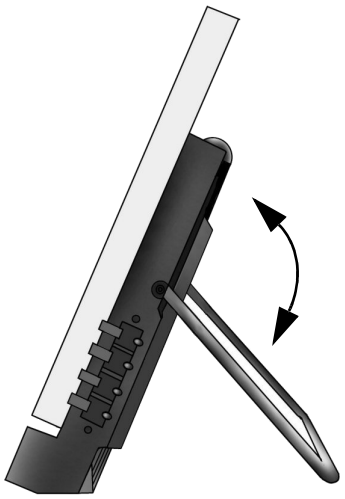
You can toggle the pointing sound on/off by pressing ▲ or ▼on the keypad.

Do as follows to point the antenna:

1. While observing the built-in compass of the EXPLORER™ 500, rotate the EXPLORER™ 500 left or right until it points in the correct horizontal direction, known as the **Azimuth**. Refer to **Pointing Data** on page 19.



2. Tilt the EXPLORER™ 500 slowly up or down until it points in the correct vertical direction, known as the **Elevation**. Refer to **Pointing Data** on page 19.



Note Make sure all cables are connected before fine adjusting the antenna position. If you connect cables after the final adjustment of the antenna position, you may accidentally move the antenna.

3. After passing the PIN code screen, the display shows the current satellite signal strength. Use this information to fine-adjust the antenna position as shown in step 1 and 2.
Remember not to touch the antenna part!

Important When fine-adjusting the antenna, the display may take a while to update the signal strength. Wait a second or two after each move to make sure the display is updated.

If the right most part of the signal strength bar is grey, it indicates that the level has previously been higher than the current level.

4. When you have the highest signal strength you can obtain, press **OK** on the keypad.
The EXPLORER™ 500 now tries to establish a connection to the BGAN network.
The display shows the progress as follows:

- **SEARCHING:** The EXPLORER™ 500 searches for the network operator. Note that the search procedure can be very short, so you may not see this text.
- **REGISTERING:** The EXPLORER™ 500 is registering itself on the 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 95.
- **READY or DATA ACTIVE:** READY means the EXPLORER™ 500 is registered on the network and is ready to go online. If you have already connected a computer, the display shows DATA ACTIVE instead of READY.

Note The display may show a different text than READY or DATA ACTIVE if there is more important information to show. For example, the display will show ENTER PIN? if you pressed C at the first request for a PIN code. See also the **Troubleshooting Guide** on page 95.

CANCEL: If you press **C** instead of **OK**, you exit the pointing menu and the display shows the Main screen with the message **POINT NOW?**.
If the PIN code has been entered, you now have access to the menu system, but you will not be able to connect to the BGAN network, because the signal strength has not yet been accepted.

Using an External Antenna

The EXPLORER™ 500 has a connector for attaching an external antenna.
Before using an external antenna with the EXPLORER™ 500, please refer to the **Antenna Safety Instructions** in the beginning of this manual.

Important Only use the specified antenna from Thrane & Thrane. The antenna and accessories for connecting to the EXPLORER™ 500 are listed in **Options and Accessories** on page 92.

The connector is placed at the back of the EXPLORER™ 500. For further information on the interface, see the technical specifications in **External Antenna** on page 114.

Using a Fixed EXPLORER™ 500

You can keep the EXPLORER™ 500 in a fixed position, using the Pole mount kit for EXPLORER™ 500.

Note The EXPLORER™ 500 is not suited for permanent outdoor installation. Use an external antenna if the installation is to be permanent.

Do as follows:

1. Mount the EXPLORER™ 500 using the Pole mount kit for EXPLORER™ 500.
2. Start up the EXPLORER™ 500 and point the antenna as described in **Pointing the Antenna** on page 19.
3. Accept the signal strength by pressing **OK** on the EXPLORER™ 500 keypad.
4. Fasten the EXPLORER™ 500 in the pointed position.

You only have to point the antenna once, when you mount it. Using a computer connected to the EXPLORER™ 500, you can set up the EXPLORER™ 500 to skip pointing at power up. Refer to **Pointing at Power up** on page 71.

Making the First Call

Introduction

After connecting cables, entering the PIN code and pointing the antenna, 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™ 500** on page 48.

Making a Call From the EXPLORER™ 500

If you are using an analogue phone, it must be connected to the phone/fax interface of the EXPLORER™ 500. See **Before Connecting to the Phone/Fax Interface** on page 45.

If you are using a Bluetooth handset, the Bluetooth handset and the EXPLORER™ 500 must be paired and connected before you can make a call. See **Bluetooth Pairing** on page 61.

To make a call from a phone connected to the EXPLORER™ 500, dial:

00 <country code> <phone number> followed by **#** or off-hook key (# on analogue phones, off-hook key on Bluetooth handsets).

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

Making a Call to the EXPLORER™ 500

To make a call to a phone connected to the EXPLORER™ 500, 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**: The mobile subscriber number of the EXPLORER™ 500 you are calling.
  The mobile subscriber numbers of the EXPLORER™ 500 are listed in the display menu system of the EXPLORER™ 500 under **`PROPERTIES`** > **`MOBILE NUMBERS`**.

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

Example: If you are calling from Denmark and the mobile subscriber number for 3.1 kHz Audio is 772112345 on your EXPLORER™ 500, and you want to make a call to the EXPLORER™ 500 using 3.1 kHz Audio, dial: **00 870 772112345**.

Making a Call from one EXPLORER™ 500 to Another EXPLORER™ 500

To make a call from a phone connected to one EXPLORER™ 500 to a phone connected to another EXPLORER™ 500, dial **00 870 <Mobile subscriber number>**.

Receiving a Call

To be able to receive a call with an analogue phone, the phone must be connected to the Phone/fax interface of the EXPLORER™ 500.

To be able to receive a call with a Bluetooth handset, the handset must be paired with the EXPLORER™ 500. For information on how to pair Bluetooth devices, see **Bluetooth Pairing** on page 61.

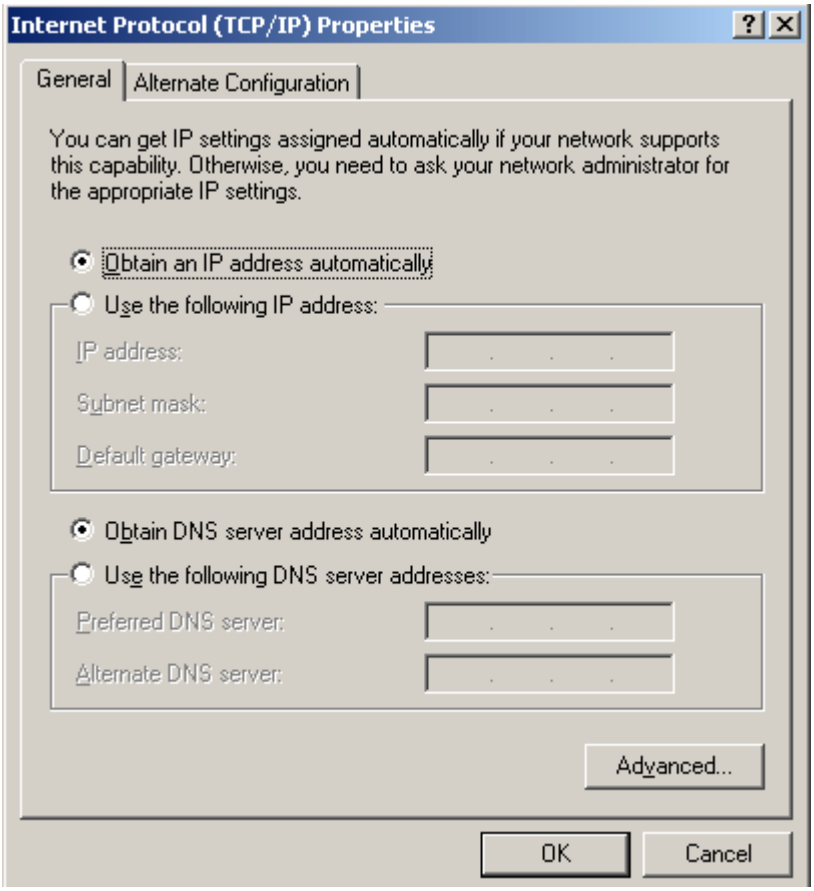
You can see unanswered calls in the Call menu of the display and the Web interface.

Making the First Data Connection (LAN)

Before Connecting to the LAN Interface

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. 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.

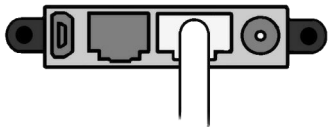


Connecting to the LAN Interface

Do as follows:

1. Connect the LAN cable to the network interface of your computer.
   A suitable cable is provided with your EXPLORER™ 500.

2. Connect the other end of the cable to the LAN connector on the EXPLORER™ 500.



3. Start up and point the EXPLORER™ 500 as described earlier in this chapter.

4. Power on the computer.

5. When power up and pointing 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 65.

What's Next?

After reading this chapter you should be able to start up the EXPLORER™ 500 and make a simple data or voice connection.

The next chapters provide more information on the user interfaces and the setup of the EXPLORER™ 500. The following chapter, **Using the Display and Keypad**, explains the display menu system, which is the basic tool for setting up the EXPLORER™ 500.

Using the Display and Keypad

In This Chapter

This chapter describes how to use the built-in display menu system of the EXPLORER™ 500.

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

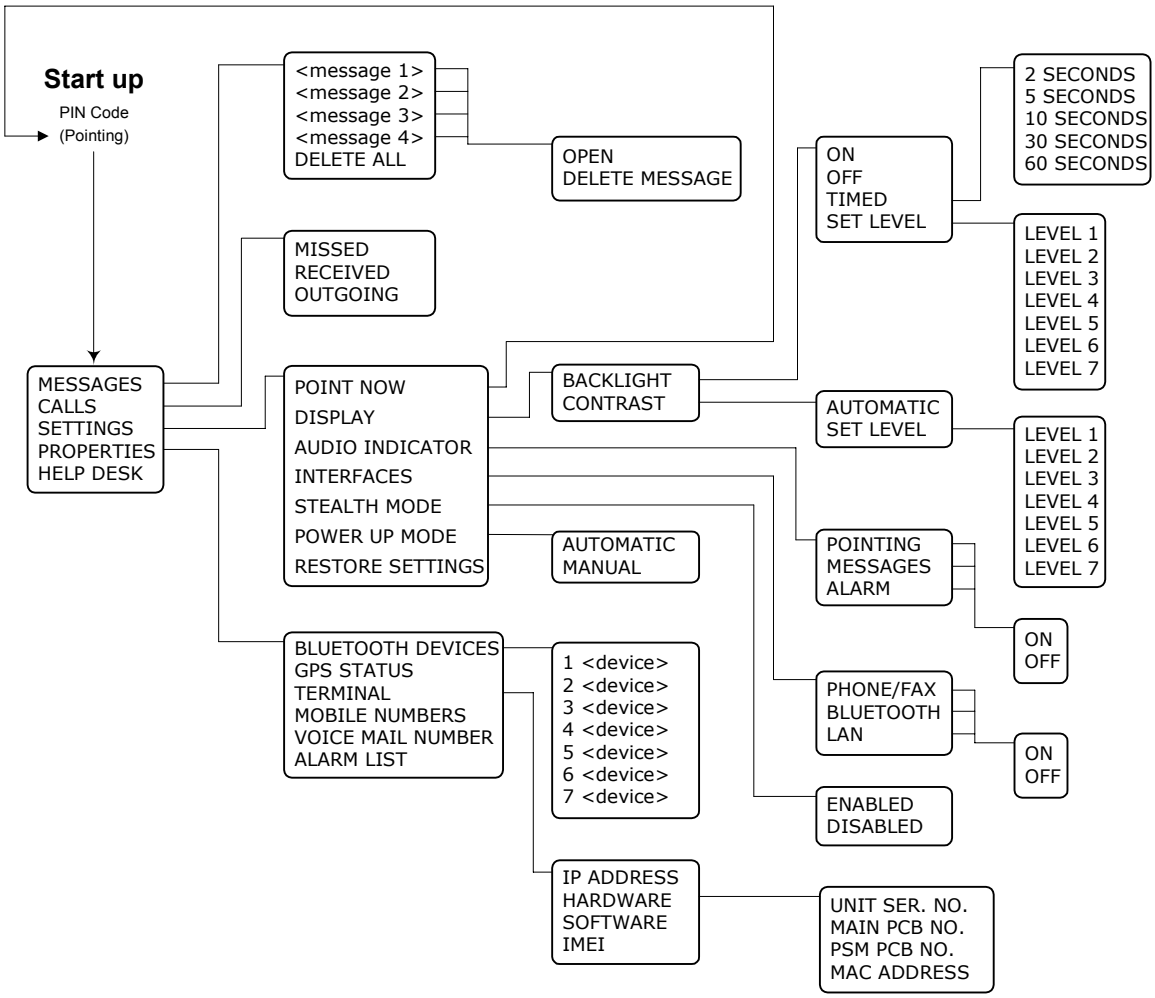
The items of the main menu are:

- **Messages**
  shows all incoming SMS messages and allows you to open or delete each message or delete all messages.
- **Calls**
  shows missed, received and outgoing calls (Voice only).
- **Settings** allows you to
  - restart the pointing procedure,
  - 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),
  - set the power up mode, and
  - restore settings.
- **Properties** shows:
  - known and accepted Bluetooth devices,
  - GPS status,
  - IP address, hardware and software numbers,
  - IMEI number, mobile subscriber numbers and voice mail numbers, and
  - a list of active alarms.
- **Help Desk**
  shows the phone number to the Airtime Provider.

For information on how to navigate in the menu system, see on page 30.

Menu Drawing

The below drawing shows an overview of the menus in the display menu system of the EXPLORER™ 500.



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

There are different options for the start-up procedure. The complete startup procedure is described in **Chapter 2, Getting Started**.
This section only describes the behaviour of the display during normal startup.

After power on you are asked for a PIN code:

When you press OK and enter PIN code, the signal strength screen appears

When you have pointed the antenna and pressed OK to accept the signal strength, The display shows the progress in the Main screen as follows:

- **SEARCHING:** The EXPLORER™ 500 is searching for the network operator.
- **REGISTERING:** The EXPLORER™ 500 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 95.
- **READY:** The EXPLORER™ 500 is registered on the network and is ready to go online. If a computer is already connected, the display will show `DATA ACTIVE` instead of `READY`.

Main Screen

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

The Main screen shows the most important status of the EXPLORER™ 500 such as battery status, signal strength, and general status.

The Main screen also shows icons for any interfaces that are turned on. In this example, all interfaces (Phone/fax, Bluetooth, USB and LAN) are turned 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 battery charge level. When the level is too low (below 10%) the icon flashes. Recharge the battery as soon as possible. If no battery is inserted, the symbol is not shown in the display.
	The battery is charging.
	The signal strength. Minimum two bars are normally required to be able to make a Standard Voice call.
	LAN interface is on.
	USB interface is on.
	Bluetooth interface is on.
	Phone/fax interface is on.
	The current connection on the BGAN network is not ciphered. When you see this symbol in the display, do not transmit data that requires ciphering.

Navigating the Display and Keypad

Navigating with the Keypad

Note The PIN code must be entered before you can access the menu system.

- **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™ 500. Refer to **Enabling or Disabling Stealth Mode** on page 34.

- **To turn Pointing sound on/off,** Press ▲ or ▼ from the pointing screen.

This action only applies to the current pointing session. To turn the sound on or off for all pointing sessions, select
`SETTINGS` > **`AUDIO INDICATORS`** > **`POINTING`** and select **`ON`** or **`OFF`**.

Display Text

When you have not entered the menu system, the Main screen shows the currently most important information. For further information, see **Dynamic Information in the Display** on page 38.

`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**. The messages are listed with the name (if known) or the number of the sender.
An unopened envelope indicates an unread message and an opened envelope indicates a read message.
Use ▲ and ▼ to scroll through the list.

For information on how new messages are presented, see **Received Messages** on page 38.

Opening or Deleting Received SMS Messages

In the **MESSAGES** list, select the message you want to open or delete and press **OK**. 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.

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

Calls Menu

To see a list of calls, select **CALLS** and then 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.

Note | Local calls are not registered.

Select a call from the list to see details such as time, date and phone number.

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

Settings Menu

Point Now

Important | This function will interrupt any ongoing calls or sessions!

If you need to repoint the antenna after the first pointing process, select **SETTINGS** > **POINT NOW**.

This will bring you to the Pointing screen, described in **Pointing the Antenna** on page 19.

Setting the Display Backlight

To adjust the backlight of the display, select
SETTINGS > **DISPLAY** > **BACKLIGHT**.

From this menu you can set the backlight of the display. Select one of the following:

- **ON**: to turn the light on.
- **OFF**: to turn the light off.
- **TIMED**: to set how long the light should be on after the last key was pressed (2, 5, 10, 30 or 60 seconds).
- **SET LEVEL**: to set the level of backlight.

Setting the Display Contrast

To adjust the contrast of the display, select:
SETTINGS > **DISPLAY** > **CONTRAST**.

From this menu you can set the contrast of the display. Select one of the following:

- **SET LEVEL**: to set the contrast manually.
- **AUTOMATIC**: to let the EXPLORER™ 500 automatically adjust the contrast according to the temperature.
  The contrast of the display is affected by the temperature. The EXPLORER™ 500 can automatically adjust the contrast so that the display looks the same, regardless of changes in the temperature.

Turning Audio Indicators On or Off

The EXPLORER™ 500 has audio indicators to indicate an event.

You can turn each of these audio indicators on or off.

Select **SETTINGS** > **AUDIO INDICATOR** and select one of the following:

- **POINTING**: a sound to indicate the signal level during pointing.
- **MESSAGES**: a sound to indicate that a message has arrived.
- **ALARM**: a sound to indicate that an alarm is present.

Then select **ON** or **OFF**.

Enabling or Disabling Interfaces

Each interface (except USB) can be disabled to minimize the power consumption.

Specially if the EXPLORER™ 500 is battery powered, it is a good idea to disable unused interfaces.

To turn an interface on or off, select **SETTINGS** > **INTERFACES** and select one of the following interfaces:

- **PHONE/FAX**
- **BLUETOOTH**
- **LAN**

Then select **ON** or **OFF**.

Enabling or Disabling Stealth Mode

In certain situations it may be important that the EXPLORER™ 500 is not seen nor heard.

When the EXPLORER™ 500 is in stealth mode, all lights and sounds are turned off. You can still use the EXPLORER™ 500, and the display text is readable.

To enable or disable the use of stealth mode, select
SETTINGS > **STEALTH MODE** and select one of the following:

- **ENABLED**
- **DISABLED**

Important Enabling stealth mode will **not put the EXPLORER™ 500 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.

Setting the Power up Mode

By default, the EXPLORER™ 500 starts up automatically when you apply external power.

You can change this mode, so that you always have to press the power button to switch on the EXPLORER™ 500.

To set the power up mode, select
SETTINGS > **POWER UP MODE** and select one of the following:

- **AUTOMATIC**: to have the EXPLORER™ 500 power up automatically when external power is applied.
- **MANUAL**: to have the EXPLORER™ 500 power up only when the power button is pressed.

Restoring Settings

You can restore all settings to factory default.

Important Be careful - this action will replace all your current settings with default factory settings. The EXPLORER™ 500 will return to the state in which is was received from the factory.

To restore settings, select **SETTINGS** > **RESTORE SETTINGS**. Then press **OK**.

Properties Menu

Viewing Known Bluetooth Devices

You can view a list of the Bluetooth devices that have been accepted by the EXPLORER™ 500. The devices are listed with their Bluetooth name and local phone number.
The devices in this list can communicate with the EXPLORER™ 500 without any further setup.

To view the list of known Bluetooth devices, select
PROPERTIES > **BLUETOOTH DEVICES**.

The devices are listed in the same order they were paired.

To see details on a specific Bluetooth device, select the device in the list and press **OK**.

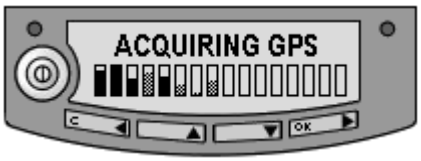
Viewing the GPS Status

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™ 500 is not yet registered on the BGAN network, but the GPS position is received.

Viewing Terminal Properties

You can view properties of the EXPLORER™ 500 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 built-in Web interface of the EXPLORER™ 500. The Web interface is a built-in web server used to configure and set up the EXPLORER™ 500. For further information on the Web interface, see **Using the Web Interface** on page 64.
- **HARDWARE** to see the serial number, PCB numbers and MAC address of your EXPLORER™ 500.
- **SOFTWARE** to see the software version of the EXPLORER™ 500.
- **IMEI** to see the IMEI number (International Mobile Equipment Identity) of the EXPLORER™ 500. This is the unique mobile equipment number that identifies your EXPLORER™ 500.

Viewing Mobile Subscriber Numbers

The MOBILE NUMBERS menu lists the mobile subscriber numbers to use when calling the EXPLORER™ 500.

Note There are two voice numbers, one for 3.1 kHz Audio and one for Standard Voice. For further information, see **Selecting the Voice Quality** on page 43.

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

If the mobile numbers are not available, the display reads
NO INFORMATION AVAILABLE.

Viewing the Voice Mail Number

The EXPLORER™ 500 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. The voice mail number is normally stored on the SIM card.

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 100.

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 number.
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™ 500 to store the help desk name and number. For further information, see **Accessing the Help Desk** on page 88.

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™ 500, the display indicates the number of new messages that have arrived, and the red message indicator is flashing.

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 red message indicator will keep flashing 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™ 500, the display indicates the number of new alarms, and the red message indicator is flashing.

For further information, see **Display of Alarm Messages** on page 100.

All alarms are logged in the alarm log. For information on the alarm log, see **Alarm Log** on page 105.

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 ACTIVE`.

Displaying Ongoing Transmission

When a call or data session is in progress, the display shows `DATA ACTIVE` in the Main screen.

WARNING! When the EXPLORER™ 500 is powered on, stay clear of the antenna front! The antenna emits radio frequency energy, not only when the display shows `DATA ACTIVE`. Always keep a minimum distance of 0.6 m from the antenna front.

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. `POINT NOW?` or `INSERT SIM`.

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™ 500.

The following chapter, **Using the Interfaces**, explains in detail how to set up and use each interface of the EXPLORER™ 500.

Using the Interfaces

In This Chapter

This chapter describes how to use the interfaces of the EXPLORER™ 500. 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

Tools for Setup and Use

Overview

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, PDA or similar).

With a computer and a browser, you can use the following applications to set up the EXPLORER™ 500:

- The built-in **Web interface** of the EXPLORER™ 500
- The **BGAN LaunchPad**

The Web Interface of the EXPLORER™ 500

The Web interface is a built-in web server for setting up and controlling the EXPLORER™ 500, using a connected computer with a browser. For information on how to use the Web interface, see **Using the Web Interface** on page 64.

The BGAN LaunchPad

BGAN LaunchPad is a computer application for setting up terminals in the BGAN system. A CD-ROM with the LaunchPad is included in the delivery. For information on how to use the LaunchPad, refer to the user guide provided with the LaunchPad.

Services and Interfaces

A variety of services can be accessed from different interfaces on the EXPLORER™ 500.

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

Service		Interface on the EXPLORER™ 500				
		Phone/Fax	**Bluetooth**	**USB**	**LAN**	**Display/ Keypad**
Circuit Switched Connection	**3.1 kHz Audio**	Analogue telephone	Bluetooth handset			
		G.3 Fax machine				
	Standard Voice	Analogue telephone	Bluetooth handset			
	Data	Computer with analogue modem	Computer with Soft modem			
Packet Switched Connection	**Data multi-user**		Computer		Computer with Switch/Hub	
	Data single-user		Computer	Computer	Computer	
SMS			Computer	Computer	Computer	View only

Enabling or Disabling an Interface

Overview

By default, all interfaces are enabled. However, you can disable the LAN interface, the Bluetooth interface and/or the Phone/Fax interface in order to minimize the power consumption.

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

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.

Web interface

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

1. Access the Web interface.
   For further information, see **The Web Interface** on page 64.
2. From the left navigation pane in the Web interface, select **Settings > Interfaces**.
3. Select the interface you want to enable or disable.
4. Select **Enabled** or **Disabled**.

Using a Phone or Fax Machine

Selecting the Voice Quality

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 or the Bluetooth interface.

Note | 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, for example, an incoming Standard Voice call is received, the phone/fax interface will not ring.

Selecting the Default Outgoing Voice Quality

To select the default voice quality for outgoing calls, connect a computer and do as follows:

1. Access the Web interface.
   For further information, see **The Web Interface** on page 64.
2. Select **Settings** > **Interfaces**.
3. Select **Phone/fax** or **Bluetooth**.
4. At **Outgoing calls**, select **Standard** or **3.1 kHz Audio**.
   Up to 7 Bluetooth handsets can be connected. Remember to set the voice quality for each handset in the **Devices with access** list.

Overriding the Default Outgoing Voice Quality

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

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

Example: To make a call to Thrane & Thrane in Denmark (+45 39558800), forcing the connection to be Standard Voice, dial: **1* 0045 39558800** followed by **#** if calling from an analogue phone, or off-hook key if calling from a Bluetooth handset.

Note | This will not change the default voice quality setting, but only the quality of the call in progress.

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™ 500 can select whether to use 3.1 kHz Audio or Standard Voice, simply by using one of the two phone numbers.

Note The voice quality you are using must be selected in the Web interface (refer to the next section).

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 64.

For information on how to make a call to the EXPLORER™ 500, see **Making a Call To the EXPLORER™ 500** on page 49.

Selecting the Incoming Voice Quality

To select which voice qualities are accepted for an incoming call, do as follows:

1. Access the Web interface.
   For further information, see **The Web Interface** on page 64.
2. Select **Settings** > **Interfaces**.
3. Select **Phone/fax** or **Bluetooth**.
4. At **Incoming Calls**, check **Standard** or **3.1 kHz Audio** or both.
   Up to 7 Bluetooth handsets can be connected. Remember to set the voice quality for each handset in the **Devices with Access** list.

If the voice quality used for a call to the EXPLORER™ 500 is not selected in the Web interface, the connected phone will not ring.

Connecting an Analogue Phone or a Fax Machine

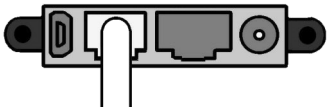
Before Connecting to the Phone/Fax Interface

To connect a phone to the phone/fax interface, you need an analogue telephone cable with an RJ-11 connector. For specifications and pin-out, refer to **Phone/Fax Interface** on page 109.

Connecting to the Phone/Fax Interface

1. Connect the cable to your phone.

2. Connect the other end of the cable to the phone/fax connector on the EXPLORER™ 500.



3. Power up and point the EXPLORER™ 500 as described in **Pointing the Antenna** on page 19. The same section lists the minimum required signal strength for different types of services.

4. Check the connection by making a phone call or sending a fax.
   See **Making or Receiving a Phone Call With the EXPLORER™ 500** on page 48 or **Sending or Receiving a Fax Message** on page 53.

If connection fails, check that the interface is enabled in the EXPLORER™ 500.
If the analogue 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 42.
If the interface is enabled, but connection fails, refer to the **Troubleshooting Guide** on page 97.

Connecting a Bluetooth Handset

Before Connecting

To use a Bluetooth handset with the EXPLORER™ 500, you first have to pair the two devices.
For information on pairing devices, see **Bluetooth Pairing** on page 61.

The Bluetooth handset must be placed within a maximum distance of 100 m from the EXPLORER™ 500. Note that this is the absolute maximum distance; the actual maximum distance may be shorter, depending on the environment.

Connecting Paired devices

If the devices are already paired, do as follows to connect:

1. Power up your computer and the EXPLORER™ 500.

2. Place the computer close to the EXPLORER™ 500.

3. Turn on Bluetooth on your device.
   The Bluetooth connection should now be established, and you are ready to make a call.

If connection fails, check that the interface is enabled in the EXPLORER™ 500.
If the Bluetooth 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 42.

If the interface is enabled, but connection fails, refer to the **Troubleshooting Guide** on page 98.

For information on how to make and receive calls, see **Making or Receiving a Phone Call With the EXPLORER™ 500** on page 48.

Entering the PIN Code Using a Phone

Entering the PIN Code

If you have a phone connected to the EXPLORER™ 500, you can use it to enter the PIN code at start up, as an alternative to the keypad.

When the EXPLORER™ 500 is waiting for a PIN code, you will hear 2 beeps - pause - 2 beeps - etc.

You simply dial the PIN code the same way you would dial a phone number, that is:

- **For an analogue phone**, take the phone off hook and dial: <**PIN**> followed by **#**. When you hear a “busy” tone or a dialling tone, the PIN has been entered and you can put the phone back on hook.
- **For a Bluetooth handset**, dial: <**PIN**> and press off hook key. When you hear a “busy” tone or a dialling tone, the PIN has been entered and you can press the on hook key.

Wrong PIN Code

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

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

Dial the following:

<PUK> * <New PIN> * <New PIN> followed by # or off-hook key.

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

87654321 * 1234 * 1234 followed by # or off-hook key.

If you enter 10 wrong PUK codes, 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™ 500

Analogue Phone or Bluetooth Handset

If you are using an analogue phone, it must be connected to the phone/fax interface of the EXPLORER™ 500. Refer to **Before Connecting to the Phone/Fax Interface** on page 45.

If you are using a Bluetooth handset, the handset must be paired and connected with the EXPLORER™ 500.
For information on how to pair Bluetooth devices, see **Pairing Devices in Which You Can Enter a Passkey** on page 61.

Note

After dialling a phone number, you must activate the call. This is done as follows:

- **Analogue phone:** Dial # after the number.
- **Bluetooth handset:** Press the off-hook key after the number.

Making a Call

To make a call, dial:

00 <country code> <phone number> followed by **#** or off-hook key.

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

If there was an error establishing the connection, the Web interface and the display of the EXPLORER™ 500 show an error message. Refer to the **Troubleshooting Guide** on page 97.

Receiving a Call

By default, all phones or fax machines connected to the phone/fax interface or the Bluetooth interface will be ringing when one of the mobile subscriber numbers is called. Note, however, that this behaviour may change if the voice quality settings have been changed in the Web interface. Refer to **Selecting the Incoming Voice Quality** on page 44.

Information of missed calls is stored in the call log of the EXPLORER™ 500.

Making a Call To the EXPLORER™ 500

To make a call to a phone connected to the EXPLORER™ 500, 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.** To see your mobile subscriber numbers, use the display menu system and select **PROPERTIES** > **MOBILE NUMBERS**, or,
  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 64.

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

Dialling Functions

Overview

There are a number of dialling functions available in the EXPLORER™ 500.

The following list shows the allocated special-purpose numbers for the EXPLORER™ 500.

Number	Function
0 * followed by # or off-hook key	Redial last called number on this interface.
00 * followed by # or off-hook key	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.
0200 followed by **#** or off-hook key	Local call broadcast to all Bluetooth handsets. All connected Bluetooth handsets will ring. The first handset that answers, takes the call.
0 followed by one of the numbers **201**-**207** and # or off-hook key	Local call to Bluetooth handset.
0300 followed by # or off-hook key	Local call to analogue phone.
0301 followed by # or off-hook key	Local call to analogue phone.
0900 followed by # or off-hook key	Local call broadcast to all handsets

Apart from the numbers above, the EXPLORER™ 500 uses the following dialling 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.

Making Local Phone Calls

You can make local calls between phones connected to the EXPLORER™ 500.

For an overview of the numbers, see **Overview** on page 50.

To make a local call, dial
0 <local number> followed by # or off-hook key.

Example: To make a call to the Bluetooth handset with the local number 202, dial **0202 #**.

Note You cannot make local calls between two Bluetooth handsets through the EXPLORER™ 500. You can only make a local call from an analogue phone to one or more Bluetooth handsets, or from a Bluetooth handset to the analogue phone.

Up to 7 Bluetooth handsets can be connected at the same time, but **only one call** can be active on the Bluetooth interface.

You can look up the local Bluetooth phone numbers in the display or in the Web interface as follows:

- **Display**
  Enter the menu system and select **`PROPERTIES`** > **`BLUETOOTH DEVICES`**. The list shows all accepted Bluetooth devices with local number and Bluetooth name.
- **Web interface**
  Access the Web interface and select **Settings** > **Interfaces** > **Bluetooth**.
  The local phone numbers are listed in the **Paired Devices** list.

Handling Waiting Calls

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

During a call, if a second call 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.

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™ 500. Refer to **Before Connecting to the Phone/Fax Interface** on page 45.

3.1 kHz Audio quality must be used. Refer to **Selecting the Default Outgoing Voice Quality** on page 43.

To send a fax from a fax machine connected to the EXPLORER™ 500, 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 Voice Quality** on page 43.

Receiving a Fax Message

A fax machine connected to the EXPLORER™ 500 can only receive a fax with 3.1 kHz Audio quality. Refer to **Selecting the Incoming Voice Quality** on page 44.

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 in the Web interface.

Using a Computer With the EXPLORER™ 500

Choosing an Interface for Data Connection

The EXPLORER™ 500 has three types of interface for data connection: LAN, USB and Bluetooth. The following table shows some characteristics of each interface, to help you choose the right interface for your application.

Interface	Power Consumption	Amount of Setup	Range
LAN	High	None (or very little)	Up to 100 m of cable
USB	Low	Some setup necessary	Up to 5 m of cable
Bluetooth	Medium	Can be complicated, depending on operating system.	Wireless connection. Up to 100 m depending on the transmitter in the computer and on the transmission conditions.

Using the LAN Interface

Before Connecting to the LAN Interface

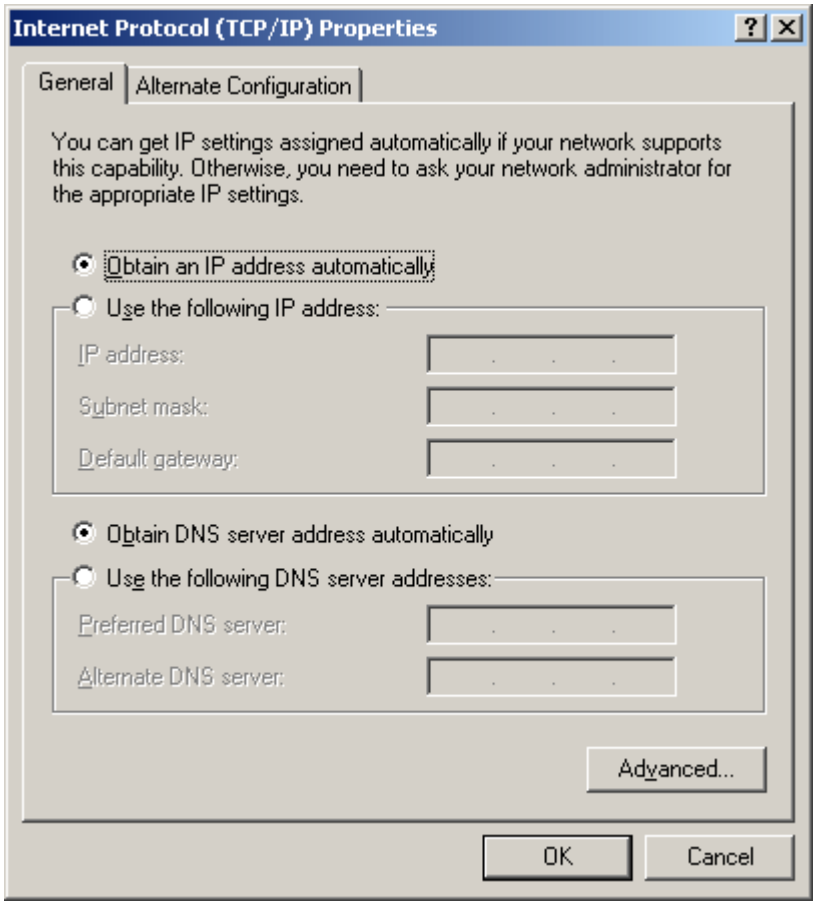
To connect to the LAN interface, use a shielded cable mounted with an RJ-45 connector. The LAN interface is configured as MDI-X. This means that if you are connecting your computer directly to the EXPLORER™ 500, you should use a **straight** cable. If you are connecting a switch to the EXPLORER™ 500, use a crossed cable.

For specifications, refer to **LAN Interface** on page 110.

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

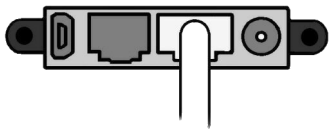


Connecting to the LAN interface

Do as follows:

1. Connect the LAN cable to the network interface of your computer.
   A suitable cable is provided with your EXPLORER™ 500.

2. Connect the other end of the cable to the LAN connector on the EXPLORER™ 500.



3. Power up and point the EXPLORER™ 500 as described in **Pointing the Antenna** on page 19. The same section lists the minimum required signal strength for different types of services.
   After pointing, 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™ 500. 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 42.
If connection still fails, refer to the **Troubleshooting Guide** on page 98.

Using the USB Interface

Before Connecting

To connect to the USB interface, use a USB cable mounted with a USB Mini-B connector. A suitable cable is provided with your EXPLORER™ 500. For specifications, refer to **USB Interface** on page 111.

First Time Setup of USB

If it is the first time you connect your computer to the EXPLORER™ 500 using the USB interface, you must install a driver as follows:

1. Power up 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 on the EXPLORER™ 500.

4. Power up the EXPLORER™ 500 as described in **Getting Started** on page 10.
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.

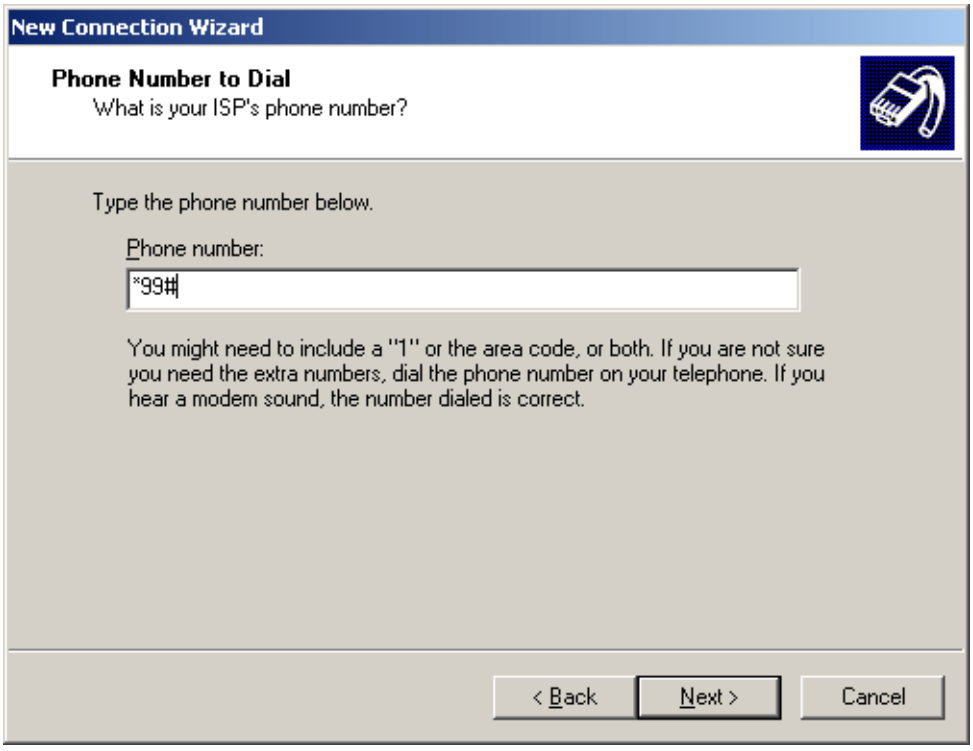
   On **Windows XP**, the New Hardware Wizard will start automatically. Go through the wizard as follows:
   - In the New Hardware Wizard, select **No, not this time** when you are asked if Windows can search for software.
   - Click **Next**.
   - Insert the Thrane & Thrane CD-ROM provided with your EXPLORER™ 500 into the CD-ROM drive of your computer.
   - Select **Install the software automatically** and click **Next**.
   - If you get a warning that the software has not passed Windows logo testing, you can safely click **Continue Anyway**. The installation will use a verified Windows USB driver.
   - Click **Finish** when the installation is complete.
   - When you finish the wizard, the EXPLORER™ 500 USB driver is installed.
6. Create a dial-up connection as described in **Connecting to the USB Interface** on page 59 and **Creating a Dial-up Connection** on page 58.

Creating a Dial-up Connection

Do as follows:

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

1. Connect and start up your computer and the EXPLORER™ 500.
   Refer to **Connecting to the USB Interface** on page 59.
2. On your computer, select **Connect To** from the **Start** menu.
3. Select **Show All Connections**.
4. Open the **New Connection Wizard** and click **Next**.
5. Select **Connect to the Internet** and click **Next**.
6. Select **Set up my connection manually** and click **Next**.
7. Select **Connect using a dial-up modem** and click **Next**.
   If other modems are installed, you must select the EXPLORER™ 500 USB driver from a list of modems. Otherwise, the EXPLORER™ 500 USB driver is selected automatically.
8. In the **ISP Name** field, type a name for your connection and click **Next**.
9. When you are asked for a phone number, type:
   ***98#** if you want a Standard connection to the Internet or the Web interface, or
   ***99#** if you are going to connect **only** to the built-in Web interface of the EXPLORER™ 500.



To dial up using a specific Profile, type ***98*<CID>#**, where <CID> is the number found in the Web interface in the Profile CIDs section at the bottom of the Settings > Interfaces > USB window. For further information, see **Configuring the USB Interface** on page 75.
If you want a UDI connection (ISDN), see **Using 64 kbps UDI (ISDN) Through the USB Interface** on page 60.

10. Click **Next**.

11. If you used *98# or *99# as phone number, you do not need to enter the User name and Password. Click **Next**.

12. Click **Finish**.

When you connect to the USB interface, you must open this dial-up connection to access the Internet or the Web interface.

To open the dial-up connection (in Windows XP), select **Connect To** from the **Start** menu, select your dial-up connection and click **Dial**. When the connection is established, you can access the Internet as usual.

Note | You may need to enter User name and Password to access the Internet. If necessary, enter the User name and Password supplied by your Internet Provider.

Connecting to the USB Interface

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

Do as follows:

1. Power up 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 on the EXPLORER™ 500.

4. Power up and point the EXPLORER™ 500 as described in **Getting Started** on page 10.

To enable communication on the USB interface, open your dial-up connection as follows:

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

1. Select **Connect To** from the **Start** menu.

2. Select the dial-up connection created for this USB connection.

3. Click **Dial** and wait for the connection to be established. Then start your Internet browser or mail program.

If connection fails, refer to the **Troubleshooting Guide** on page 99.

Using 64 kbps UDI (ISDN) Through the USB Interface

You can communicate using ISDN through the USB interface of the EXPLORER™ 500, provided that your Internet Service Provider (ISP) supports Unrestricted Digital Information (UDI) and that it is included in your subscription.

The necessary setup is very limited, so you can very quickly establish a live connection. Note however, that you are charged for the time you are connected (per minute rate).

Do as follows:

1. Make sure 64 kbps UDI is included in your subscription.

2. From your Airtime Provider, acquire the ISP phone number, User name and Password to access the 64 kbps UDI service.

3. If you have not yet installed the EXPLORER™ 500 USB driver from the Thrane & Thrane CD, install it as described in **First Time Setup of USB** on page 57.

4. Connect and create a dial-up connection as described in **Creating a Dial-up Connection** on page 58, **with the following exceptions**:
   - When you are asked for a phone number, type in the ISP phone number.
   - When you are asked for User name and password, type in the User name and Password provided by your ISP.

5. To enable communication, simply open your 64 kbps UDI dial-up connection and click **Dial**.
   You now have a 64 kbps UDI connection to the Internet.

Bluetooth Pairing

What is Pairing?

Bluetooth Pairing happens when two Bluetooth enabled devices agree to communicate with one another. When this happens, the two devices exchange passkeys and join a pair. The pairing process only takes place the first time the two devices are connected. Once the two devices have established a pair, they automatically accept communication when one device recognizes the other device.

Pairing Devices in Which You Can Enter a Passkey

This section describes how to pair devices in which you can enter a passkey.

Note The method for pairing devices may vary depending on your Bluetooth device. Consult your Bluetooth device documentation for information.

The following procedure presupposes that the EXPLORER™ 500 is configured to be visible to other Bluetooth devices, and that the Bluetooth interface is turned on.

Do as follows to pair the devices:

1. Start up the EXPLORER™ 500.
   For further information, see **Getting Started** on page 10.

2. Turn on Bluetooth on your Bluetooth device.

3. On your Bluetooth device, search for new devices and select the EXPLORER™ 500 when it is found.
   The default Bluetooth name of the EXPLORER™ 500 is **EXPLORER 500**.
   If there is more than one EXPLORER™ 500 in the list, you can use the MAC address to locate the correct one. To see the MAC address of your EXPLORER™ 500, select **PROPERTIES** > **TERMINAL** > **HARDWARE** > **MAC ADDRESS**.

4. On your Bluetooth device, enter the passkey of your EXPLORER™ 500.
   The default passkey is the serial number of your EXPLORER™ 500. To see the serial number, enter the display menu system and select **PROPERTIES** > **TERMINAL** > **HARDWARE** > **UNIT SER. NO.**

The new device is now paired and ready to communicate with the EXPLORER™ 500.

Using a Computer with Bluetooth

Before Connecting

> **Note** The procedure may vary depending on the Bluetooth interface in your computer. Consult your Bluetooth manual for details.

If the two devices have not been connected before, you need to pair the devices. For further information, see the section **Bluetooth Pairing**.

If the Bluetooth interface uses a dial-up profile, you have to create a dial-up connection. For further information, see **Creating a Dial-up Connection** on page 58.

Connecting a Computer to the Bluetooth Interface

If the devices are already paired, do as follows to connect:

1. Power up your computer and the EXPLORER™ 500.
2. Place the computer close to the EXPLORER™ 500.
3. Turn on Bluetooth on your computer.
   If the devices are paired, the Bluetooth connection should now be established.
   Note that if your Bluetooth connection is defined as a dial-up connection, you have to open the dial-up connection before you can access the Internet or the Web interface.

If connection fails, check that the interface is enabled in the EXPLORER™ 500.
If the Bluetooth 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 42. If the interface is enabled but connection fails, refer to the **Troubleshooting Guide** on page 99.

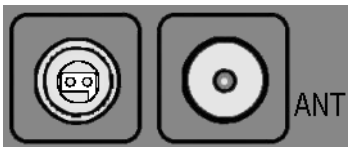
Additional Interfaces

Using an External Antenna

You can connect an external antenna to the EXPLORER™ 500.

Important Only use the specified antenna from Thrane & Thrane. The antenna is listed in **Options and Accessories** on page 92.

The connector for the external antenna is located at the back of the EXPLORER™ 500 and is marked **ANT**.



For information on cable and connector type, refer to specifications in **External Antenna** on page 114.

Using the EXPLORER™ 500 Bluetooth Handset Charger

Before Connecting

You can recharge your Bluetooth handset using the DC charger interface of the EXPLORER™ 500.

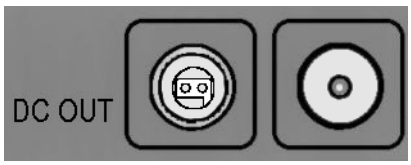
Use the charger cable supplied with the Bluetooth handset.

For specifications on the charger interface, see **EXPLORER™ 500 Bluetooth Handset Charger Interface** on page 115.

Connecting to the EXPLORER™ 500 Bluetooth Handset Charger Interface

Do as follows:

1. Connect the Bluetooth charger cable to the charging connector on the EXPLORER™ 500.
   The charging connector is located at the back of the EXPLORER™ 500, and is marked **DC OUT**.
   Make sure the connector is oriented correctly in relation to the coding of the plastic insert.



2. Connect the other end of the cable to your EXPLORER™ 500 Bluetooth handset.
   If the EXPLORER™ 500 is switched on, the battery of the Bluetooth handset is now recharged.

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™ 500.

Using the Web Interface

In This Chapter

This chapter describes how to use the Web interface to operate, set up and configure the EXPLORER™ 500.

Initial configuration of interfaces is described in the chapter **Using the Interfaces** on page 40.

Introduction

The Web Interface

What is the Web Interface?

The Web interface is a built-in web server in the EXPLORER™ 500, used for operating, setting up and configuring the EXPLORER™ 500.

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™ 500.

Make sure your computer is set up for the interface you are planning to use for connecting to the EXPLORER™ 500. You can use LAN, USB or Bluetooth. See **Using the Interfaces** on page 40 for details.

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

Important If you are going to use USB or Bluetooth with Dial-up Networking to access **only** the Web interface and **not** the Internet, you must use a dial-up connection with the phone number set to ***99#**. For further information, see **First Time Setup of USB** on page 57.

Browser Settings

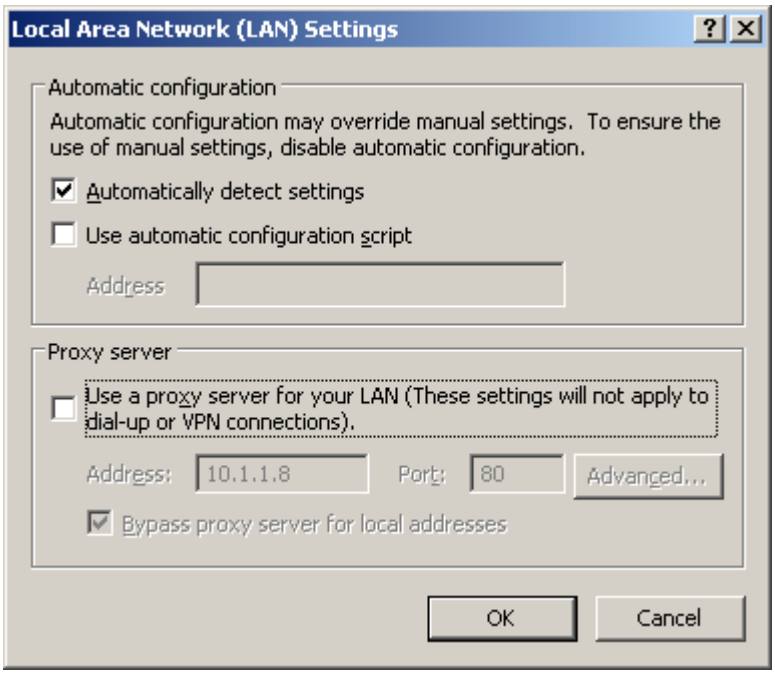
If you are connecting your computer using the LAN interface, the **Proxy server** settings in your browser must be disabled before accessing the Web interface.

Most browsers support disabling of the Proxy server settings for a specific IP address only, 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 labelled **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 from a connected computer, do as follows:

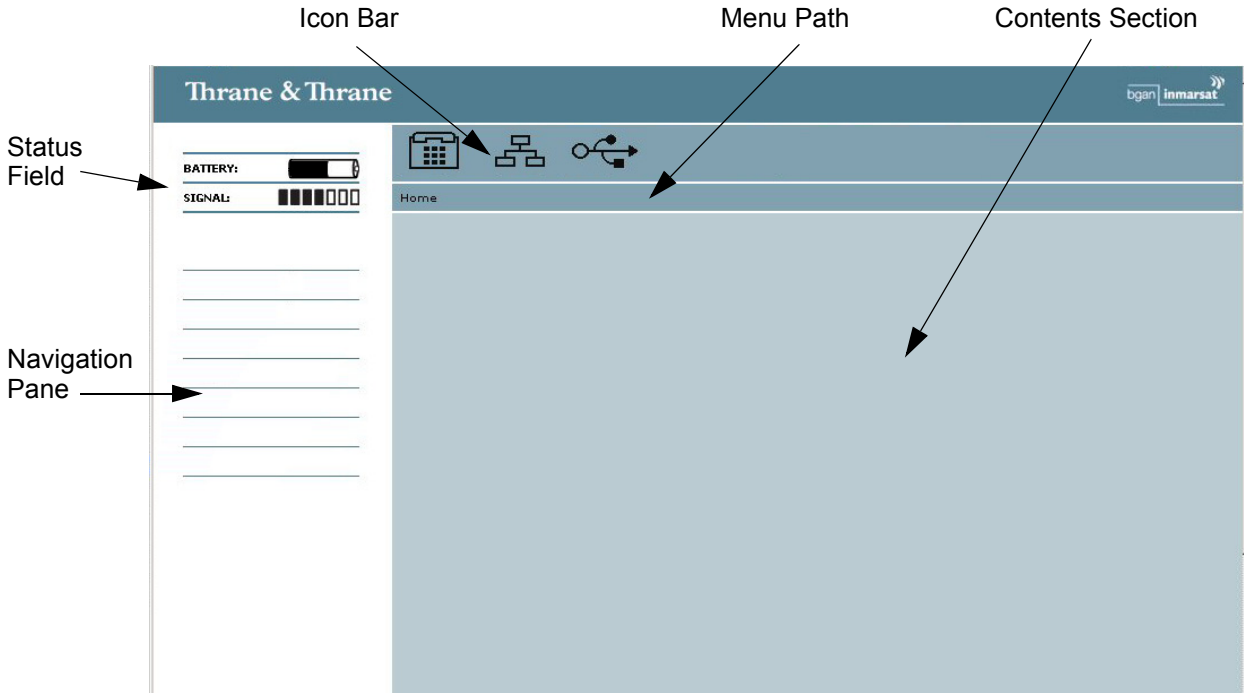
1. Connect your computer to the EXPLORER™ 500.
   For further information, see **Using a Computer With the EXPLORER™ 500** on page 54.

2. Start up the EXPLORER™ 500.
   For further information, see **Getting Started** on page 10.

3. Open your browser and enter the IP address of the Web interface.
   The standard IP address is **192.168.0.1**.
   If your EXPLORER™ 500 uses a different IP address, you can look it up by entering the display menu system of the EXPLORER™ 500 and selecting
   PROPERTIES > **IP ADDRESS**.

Overview of the Web Interface

The Web interface consists of a navigation pane in the left side holding the main menus and a status field, an icon bar at the top, and a contents section with status and settings. The bar just below the icon bar shows the menu path to the currently selected menu item.



During pointing, the entire window is replaced by a pointing window. When the signal strength is acknowledged and pointing is done (or pointing is cancelled), the Web interface returns to the Home page.

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. The status or settings are displayed in the contents section.
- **To see the Site map**, click **Site map** in the navigation pane.
- **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.

PIN Code and Pointing

Entering the PIN Code in the Web Interface

If a computer is connected when you start up the EXPLORER™ 500, and the Web interface is accessed, you can enter the PIN code from the Web interface.

If the PIN code is not entered with the EXPLORER™ 500 keypad, the Web interface will ask for a PIN code when it is accessed.

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

If you enter a wrong PIN code 3 times you are asked for a PUK code. For further information, see **Wrong PIN Code** on page 18.

When the correct PIN code is entered, the Web interface opens the Home window and is ready for use.

Pointing Using Web Interface

Instead of using the display for observing the signal strength you can view and accept the signal strength in the Web interface.

Do as follows:

1. From the Home window of the Web interface, click the link **Go to pointing mode**. The Pointing window opens, and the EXPLORER™ 500 enters pointing mode.

   Note At this point the EXPLORER™ 500 may make a sound. This sound is used for pointing the antenna. The frequency of the sound increases with the signal strength.

   To toggle the pointing sound on/off, press ▲ or ▼on the keypad of the EXPLORER™ 500.

2. Point the antenna as described in **Pointing the Antenna** on page 19, while observing the signal strength in the Web interface.

3. When you have the highest signal strength you can obtain, click **Accept**.

The Web interface now returns to the Home window, and the EXPLORER™ 500 tries to establish a connection and register itself on the BGAN network.

If you click **Cancel**, the EXPLORER™ 500 will not try to register on the BGAN network.

Handling Messages

Sending an SMS Message From the EXPLORER™ 500

To send an SMS message **from** the EXPLORER™ 500, do as follows:

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

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

3. Type in the message in the **Message** field.
   If the message text is too long for one SMS, the message is sent as two or more SMS messages. The field next to 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. Click **Send**.
   The message is now moved to the Outbox.
   Until the EXPLORER™ 500 goes online, messages in the Outbox can still be deleted.
   To delete the messages in the Outbox click **Delete all messages in Outbox**.

Sending an SMS Message to the EXPLORER™ 500

You can send an SMS message to the EXPLORER™ 500 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™ 500, select **Properties** from the Web interface or from the display menu system and view **Mobile subscriber numbers**.

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 status 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™ 500 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, you have to call your voice mail service number to hear the voice mail.
To find your voice mail service number, select **PROPERTIES** > **VOICE MAIL NUMBER** from the display menu system.

Options for New SMS 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**.
- 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**.

Delete: New messages cannot be deleted until they have been moved to the Inbox.

Options for SMS Messages in 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**.
- 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.

EXPLORER™ 500 Settings

Power up Behaviour

Pointing at Power up

If the EXPLORER™ 500 is placed in a fixed position it may not be necessary to go through the pointing process every time the EXPLORER™ 500 is powered. You can set up the EXPLORER™ 500 to automatically establish a connection to the BGAN network, if you know that the signal strength is sufficient.

1. In the **Power up** section of the **Settings** window, select whether or not pointing is required at power up.
   - To go through the pointing process every time the EXPLORER™ 500 is powered, select **Yes**.
   - To have the EXPLORER™ 500 automatically register itself on the network every time the EXPLORER™ 500 is powered, select **No**.

2. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

If you have selected that pointing is not required at power up, the start up procedure will be as follows:

1. Power up.

2. Enter PIN code.
   After the PIN code is entered, the EXPLORER™ 500 immediately tries to connect to the BGAN network.
   The terminal display shows the progress as follows:
   - `SEARCHING` (this phase can be very short and may not be seen)
   - `REGISTERING`
   - `READY`

Automatic Power up

1. In the **Power up** section of the **Settings** window, select whether or not the EXPLORER™ 500 should switch on automatically when external power is applied.
   - To have the EXPLORER™ 500 switch on automatically when external power is applied, select **Yes**.
   - To have the EXPLORER™ 500 switch on only when the power button is pressed, click **No**.

2. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

Setting the Display Backlight and Contrast

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

1. Select **Settings** > **Display** from the left navigation pane.

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

3. Set the backlight level with the scroll bar.

4. In the **Contrast** section, click Automatic **on** if you want the contrast to be adjusted automatically according to the temperature.
   The contrast of the display changes with the temperature. The EXPLORER™ 500 can automatically adjust the contrast to compensate for these variations.

5. If you want to set the contrast manually, set the contrast level with the scroll bar.

6. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

Turning Audio Indicators on or off

The EXPLORER™ 500 has audio indicators for different events or situations.

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

1. Select **Settings** > **Display** from the left navigation pane.

2. In the **Audio indicators** section of the **Display** window, turn the audio indicators on or off using the radio buttons.

3. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

The EXPLORER™ 500 has audio indicators for the following events:

- **Pointing.**
  The Pointing indicator is a sound used during the pointing process. The frequency increases with the signal strength, to help you find the maximum signal strength when pointing the antenna.
  This setting is a default setting. When the EXPLORER™ 500 is in pointing mode, you can toggle pointing sound on/off for the current pointing process using ▲ or ▼on the keypad of the EXPLORER™ 500. However, the default setting applies at the next pointing process.
- **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™ 500 detects an error that requires your action.

Enabling Activation of Stealth Mode

In Stealth mode, the EXPLORER™ 500 operates with no sounds nor lights. However, it is still possible to operate the EXPLORER™ 500 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™ 500.

To enable the use of Stealth mode for the EXPLORER™ 500, do as follows:

1. Select **Settings** > **Display** from the left navigation pane.
2. In the **Stealth mode** section, click **Enable**.
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**.

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

   If you click **Cancel**, all changes in the current window are discarded.

Setting Up the Interfaces

Enabling/Disabling Interfaces

By default, all interfaces are enabled. However, you can disable the LAN interface, the Bluetooth interface and/or the Phone/Fax interface in order to minimize power consumption.

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 interface cannot be disabled; it is always enabled.

1. Select **Settings > Interfaces** from the left navigation pane.
2. Select the interface you want to enable or disable.
3. Select **Enabled** or **Disabled**.
4. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

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, but does not provide detailed information.

APN (Access Point Name)

The APN is used by the EXPLORER™ 500 user to establish the connection to the required destination network. This means that the EXPLORER™ 500 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 on**: Recommended for low-noise applications.
  If you select Header Compression on, 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 off**: Recommended in noisy environments.
  If Header Compression is off, the system will be less sensitive to noise.

TCP/IP Spoofing

Some packet data applications will not work efficiently with the extra delay introduced by a satellite link. In many cases, this problem can be solved using a technique called TCP speed-up or TCP acknowledge spoofing.

However, e.g. on VPN connections, TCP acknowledge spoofing has no effect.

Primary and Secondary Class of Service

The Class of Service defines which profile to use for your data transmission. You can select between a number of predefined profiles.

A profile (or Class of Service) is basically a way of classifying and prioritizing packets based on application type (voice, video, file transfers, transaction processing), the type of user (CEO, secretary), or other settings.

You may also define your own profiles to accommodate your particular needs, and combine them in a Traffic Flow Template. Note, however, that in the EXPLORER™ 500 these settings are protected with an administrator password.

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™ 500 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™ 500, it is necessary to use a switch, as the EXPLORER™ 500 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™ 500.

Configuring the USB Interface

Note The USB interface cannot be turned off; it is always on.

For an explanation of each of the data settings, see **Description of Data Settings** on page 74.

To configure the USB interface, do as follows:

1. Select **Settings** > **Interfaces** > **USB**.

2. Under **TCP/IP**, select whether your computer uses a **Dynamic IP address** or a **Static IP address**. If you are using a static IP address, type in the address.

To check this setting on your computer, see the TCP/IP properties of the USB connection on your computer.

3. Select the source of the **APN**.
   There are four possibilities for setting the APN:
   - **Common.** The APN is taken from the Common settings defined under **Settings > Interfaces > Common**.
   - **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.

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

5. Select the **Primary profile**.
   Select a profile from the scroll list. There are a number of predefined profiles. For further information on profiles, see **Using Profiles** on page 83.

6. Select the **Secondary profile**.
   To select more than one secondary profiles, press and hold Ctrl while selecting.

   Note: The Context Identifiers (CIDs) for the selected primary and secondary profiles are listed under **Profile CIDs**. You need these CIDs when you create a dial-up connection. For further information, see **Creating a Dial-up Connection** on page 58.

7. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

Configuring the LAN Interface

For an explanation of each of the data settings, see **Description of Data Settings** on page 74.

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** > **Interfaces** > **LAN**.

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

3. Under **NAT**, select whether the EXPLORER™ 500 should run in Router mode or in Modem mode.
   Select **Router mode** if one or more computers are connected using the LAN interface, and the EXPLORER™ 500 should act as a router. When Router mode is selected, the EXPLORER™ 500 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™ 500 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™ 500 is enabled.

5. Under **EXPLORER 500 IP address**, type in the IP address and netmask for your EXPLORER™ 500.
   This is the local IP address for your EXPLORER™ 500 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. Select the source of the **APN** (Access Point Name).
   There are four possibilities for setting the APN:
   - **Common.** The APN is taken from the Common APN defined under **Settings > Interfaces > Common**.
   - **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.

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

9. Select the **Primary profile**.
   Select a profile from the scroll list. There are a number of predefined profiles. For further information on profiles, see **Using Profiles** on page 83.

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

11. Click **Apply**.
    If you click **Cancel**, all changes in the current window are discarded.

Handling Bluetooth Device Access

What is Pairing?

Bluetooth Pairing happens when two Bluetooth enabled devices agree to communicate with one another. When this happens, the two devices exchange passkeys and join a pair. The pairing process only takes place the first time the two devices are connected. Once the two devices have established a pair, they automatically accept communication when one device recognizes the other device.

Preparing the EXPLORER™ 500 for Bluetooth Pairing

To prepare the Bluetooth interface on the EXPLORER™ 500, do as follows:

1. Connect a computer to the EXPLORER™ 500, e.g. using the LAN interface.

2. Access the Web interface from your connected computer.
   Refer to **The Web Interface** on page 64.

3. In the Web interface, select **Settings** > **Interfaces** > **Bluetooth** and make sure that Bluetooth is **Enabled**.

4. Use the predefined **Device name** or type in a new name for your EXPLORER™ 500.
   The Device name is shown to other Bluetooth devices, if the EXPLORER™ 500 is configured to be shown (refer to **step 6.** below).

5. Use the predefined **Default passkey** or type in a new one.
   The Default passkey is used by default when pairing devices with the EXPLORER™ 500.

6. Next to **Visibility**, select **Show** or **Hide**.
   - If you select **Show**, the device name of the EXPLORER™ 500 is shown to other Bluetooth devices that are searching for devices.
   - If you select **Hide**, other Bluetooth devices will not see the EXPLORER™ 500 when searching for devices.

7. Click **Apply**.

Pairing Devices with a Fixed Passkey

Some Bluetooth devices, such as headsets, do not provide the possibility to enter a passkey for connecting to another device. These devices will normally have a fixed passkey which must be entered on the other device. This section describes how to pair such devices with the EXPLORER™ 500.

Note The method for pairing devices may vary depending on your Bluetooth device. Consult your Bluetooth device documentation for information.

Do as follows to pair the devices:

1. Connect a computer to the EXPLORER™ 500, e.g. using the LAN interface.
2. Start up the EXPLORER™ 500.
   Refer to **Getting Started** on page 10.
3. Turn on Bluetooth on your Bluetooth device.
4. Access the Web interface from your connected computer.
   For further information, see **The Web Interface** on page 64.
5. Select **Settings > Interfaces > Bluetooth** and make sure that Bluetooth is **Enabled**.
6. From the left menu of the Bluetooth window, select **Add device**.
   The EXPLORER™ 500 will now search for Bluetooth devices and list all found devices.
7. When the device you want to pair appears in the list, click **Pair** next to the device.
8. Enter the passkey of your Bluetooth device.
   The new device should now be paired with the EXPLORER™ 500. However, depending on your Bluetooth device, you may be asked to enter the passkey on your device as well.
   When the device is paired, it is removed from the Search list and added to the list of Paired devices.

Viewing Paired Devices

To see a list of devices that have been paired with the EXPLORER™ 500, do as follows:

1. Access the Web interface.
   Refer to **The Web Interface** on page 64.
2. Select **Settings** > **Interfaces** > **Bluetooth > Paired devices**.

The list shows all devices that are paired with the EXPLORER™ 500.

You can also see paired devices in the display. Select **`PROPERTIES`** > **`BLUETOOTH DEVICES`** in the display menu system to see a list of all paired devices.

Unpairing Devices

To remove a device from the list of Paired devices, you have to use the Web interface. Do as follows:

1. Access the Web interface and select
   Settings > **Interfaces** > **Bluetooth > Paired devices**.
2. In the **Paired devices** list, click **Unpair** next to the device you want to remove.

When the device is removed from the list, you have to pair it with the EXPLORER™ 500 again to make a connection.

Configuring the Bluetooth Interface

Not yet implemented.

Configuring a Common APN

Configuring the Common APN

To configure a common APN, do as follows:

1. Select **Settings** > **Interfaces** > **Common**.

2. Select the **APN**. You have the following options:
   - **From SIM**. If APNs are defined on the SIM card, you must choose one of the APNs from the drop-down list.
   - **Network assigned**. If no APNs are defined on the SIM card, the APN can be assigned from the network.
   - **User defined**. If no APNs are defined on the SIM card, you can type in an APN provided from your Airtime Provider.

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

4. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

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.

Configuring the Phone/Fax Settings

Do as follows:

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

2. Select **Enabled** or **Disabled** to eneable/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 Voice Quality** on page 43.
   - 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 dialling 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 Voice Quality** on page 43.

4. Click **Apply**.
   If you click **Cancel**, all changes in the current window are discarded.

Properties and Software Upload

Viewing Properties of the EXPLORER™ 500

Properties

To view the properties of the EXPLORER™ 500, select **Properties** from the left navigation pane.

The Properties window shows:

- **EXPLORER 500 address**. The local IP address of the EXPLORER™ 500.
- **IMEI number**. The IMEI number (International Mobile Equipment Identity) of the EXPLORER™ 500. This is a unique number that identifies your EXPLORER™ 500.
- **SMS service number**. A number used to identify the SMS service centre used by your EXPLORER™ 500 to send and receive SMS messages.
- **Voice mail service number** (if available). The phone number to call to hear your voice mail.
- **Mobile subscriber numbers** (if available). The numbers to use for Standard Voice, 3.1 kHz Audio and data connection when calling the EXPLORER™ 500.
- **Software version**. The software version.
- **Hardware information**.The unit serial number, PCB numbers and MAC address of the EXPLORER™ 500.

Updating Software

To update the software of the EXPLORER™ 500, 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.
3. Locate the **Software information** field and check the current version of the EXPLORER™ 500 software.
4. To upload new software, click **Upload** from the left navigation pane.
5. Click **Browse**.
6. Browse to the new software version and click **Open**.
7. Click the **Upload** button.
   Note that the upload procedure takes a couple of minutes.

   Note When upload is done, your EXPLORER™ 500 automatically restarts with the new software.

Administration

Accessing the Administration Settings

Logging On

The Administration settings require an Administration Username and Password.

1. Select **Settings** > **Administration** from the left navigation pane.
2. Enter the Administration Username and Password.
   The default Username is **admin** and the default password is **1234**.
3. Click **Apply**.

Changing the Administration Username and Password

Do as follows:

1. After applying the Administration Username and Password, type in the new Username and Password under **Change password**.
2. Click **Change**.
   If you click Cancel, the username and password will not be changed.

Logging Off

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

To log off manually, click **Log off** from the **Administration** window.

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.

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

The Profiles can be combined in a Traffic Flow Template. See **What is a Traffic Flow Template?** in the next section.

For further information on the principles and parameters of the 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 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

Note 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 **Settings** > **Administration** > **Profiles**.

2. In one of the **User defined** columns, fill in the top field with the name of your new profile.
   Then fill in all the settings in this column as described in the following steps.

3. In the **Traffic class** row, select a class from the drop-down list.
   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 bitrates in kbps in the following rows:
   - **Maximum bitrate ul (kbps)** is the maximum upload bitrate allowed for this profile.
   - **Maximum bitrate dl (kbps)** is the maximum download bitrate allowed for this profile.
   - **Guaranteed bitrate ul (kbps)** is the guaranteed upload bitrate needed for this profile.
   - **Guaranteed bitrate dl (kbps)** is the guaranteed download bitrate needed for this profile.

   Note When you click Apply, the bitrate 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 packets are delivered in the same order as 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 **SDU error ratio** row, select from the drop-down list the fraction of a packet allowed to be lost or erroneous.

8. In the **Residual bit error ratio** row, select from the 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.

9. In the **Delivery of erroneous SDUs** row, select one of the following from the drop-down 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 above will apply.
   - **No** means packets are not allowed to contain errors.
   - **No detect** means that errors will not be detected, and the SDU Error settings above will not be applied.

10. In the **Transfer delay (ms)** row, type in the delay in ms. This is the delay from when data is received in the EXPLORER™ 500 until it is received 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.
    If you click **Cancel**, all changes in the window are discarded.

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™ 500 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.

For further information on the principles and parameters of the Traffic Flow Template, refer to the 3GPP standard TS 23.060.

Purpose of the Traffic Flow Template

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

Example: When you are browsing the Internet, a Standard data connection will normally be sufficient. However, if you need to run an ftp session or 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 run an ftp session.

Defining the Traffic Flow Template

To define a new template, do as follows:

1. From the left navigation pane, select
   Settings > **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**.
   If you click **Cancel**, all changes in the window are discarded.

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
   Settings > **Administration** > **Traffic Flow Templates > Traffic flow filters**.
   Then fill in the details for your traffic flow filters as described below.

2. Type in a name for the filter in the first column.

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

   Note | Each filter must have a different Evaluation Precedence Index.

4. Type in the **Source address**.
5. Type in the **Subnet mask**.
6. Type in the **Protocol number**.
7. Type in the **Destination port range**.
8. Type in the **Source port range**.
9. Type in the **Type of Service**.
10. Type in the **Type of Service mask**.
11. Click **Apply**.
    If you go back to the Traffic flow template window, the new filter will now appear in the list, and can be selected.
    If you click **Cancel**, all changes in the window are discarded.

Help Desk and Diagnostic Report

Accessing the Help Desk

If you need help **with airtime-related issues** you may call the Help desk. The Help desk is the phone number for your Airtime Provider.

Select **Help desk** from the left navigation pane.

The helpdesk number can be taken from the SIM card or entered manually. To change the number, click the link, change the number and click **Apply**.

If you need help **with EXPLORER™ 500 issues** you should call your local distributor.

Generating a Diagnostic Report

If you want to generate a diagnostic report, click **Generate report** from the **Help desk** window. When the report is generated, you can save it to a file which you can enclose when reporting an error.

The diagnostic report contains relevant information for troubleshooting.

What's Next?

This chapter has explained how to use the Web interface for setup and use of the EXPLORER™ 500. You should now be able to set up the EXPLORER™ 500, check status, read and send SMS messages 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 signalling,

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 local distributor.

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 of your EXPLORER™ 500 and select HELP DESK.

EXPLORER™ 500 Support

If you need assistance with problems caused by the EXPLORER™ 500, please call a distributor in your area.

Click this link to see a list of Thrane & Thrane distributors.

Note

The list of distributors is located on the EXPLORER™ 500 CD-ROM delivered with your EXPLORER™ 500, so it may not always be up to date.

An updated list is available on Thrane & Thrane's web site: www.thrane.com. Click **Land Mobile** and select **Distributors** from the top menu bar.

Battery Use and Maintenance

Normal Use

It is recommended **not** to partially charge/discharge the battery several times in a row. Partial charging/discharging affects the accuracy of the capacity measurement.

Never leave the battery fully discharged for a longer period of time. If the battery is not to be used for a shorter period of time (1 month), charge the battery to minimum 20 to 30% and remove it from the EXPLORER™ 500. If the Battery is stored for more than a month, see **Storage** at the end of this section.

Recharging the Battery

To recharge the battery, insert it into the EXPLORER™ 500 and connect the EXPLORER™ 500 to power.

The indicator left to the display is constantly green as long as the battery is charging. When the battery is fully recharged, the green indicator is turned off. If the EXPLORER™ 500 is switched on, the green indicator will be flashing shortly every 2 seconds.

If a charging error occurs, the green indicator on the EXPLORER™ 500 flashes rapidly. See the **Troubleshooting Guide** on page 94.

Accurate Display of the Battery Capacity

To ensure accurate display of the battery capacity, it is recommended to run a “learning cycle” for every 100 recharge/discharge and at first time use. The learning cycle must be performed at 20°C-30°C.

A learning cycle is performed as follows:

1. Fully charge the battery.

2. Fully discharge the battery:
   Use the EXPLORER™ 500 and/or leave it on until it turns off automatically.
   This way the EXPLORER™ 500 “learns” the complete capacity of the battery.

3. Recharge the battery, so it is ready for use.

Storage

Do not leave the battery inserted in the EXPLORER™ 500 during storage.

If the battery is not to be used for a longer period of time, do as follows:

1. Fully charge the battery.
2. Use the EXPLORER™ 500 or leave it on until the display shows a battery capacity of approximately 50%.
3. Switch off the EXPLORER™ 500.

   Important Switch off the EXPLORER™ 500 **before** removing the battery!

4. Remove the battery and store it.

In this condition, the battery can be stored for approximately 1 year at 20°C-30°C. For further information on storage temperature, see **Battery** on page 107.

Options and Accessories

The following options and accessories are available from Thrane & Thrane:

Item	Number
EXPLORER™ 500 Bluetooth Handset + charger cable 	TT-3625A
Desktop charger cradle for EXPLORER™ 500 Bluetooth handset + charger 	Opt. 003
EXPLORER™ 500 External antenna + antenna cable	TT-3008I
Pole mount kit for EXPLORER™ 500 External antenna	Opt. 920 for TT-3008I
EXPLORER™ 500 Softbag 	Opt. 202
EXPLORER™ 500 Battery 	TT-3686L
EXPLORER™ 500 Dummy Battery	TT-3686F
EXPLORER™ 500 Car charger cable (37-108299-A) 	Opt. 009
Pole mount kit for EXPLORER™ 500	Opt. 922
AC/DC power supply 	TT-3682L

Upgrading Software

Viewing Software Version Status

To view the version of the embedded software in the EXPLORER™ 500, select **Properties** in the Web interface or in the display menus and see **Software information**.

Updating Software Using the Web Interface

To update the software of the EXPLORER™ 500, 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.
3. Locate the **Software information** field and check the current version of the EXPLORER™ 500 software.
4. To upload new software, click **Upload**.
5. Click **Browse**.
6. Browse to the new software version and select it.
7. Click **Upload**.
   The software is now updated. Note that the upload procedure takes a couple of minutes.

   Note When upload is done, your EXPLORER™ 500 automatically restarts with the new software.

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
The EXPLORER™ 500 cannot be switched on, or does not stay on when powered by the battery.	The battery needs recharging.	Recharge the battery. Check the battery indicator in the display.
	The battery is not inserted properly.	Remove the battery and re-insert it. Make sure the battery is inserted properly and that the latch is locked.
	The battery contacts are dirty or damaged.	Clean the battery contacts if necessary. If the contacts are damaged, replace the battery.
There is no light in the power indicator nor in the display when the EXPLORER™ 500 is switched on.	The EXPLORER™ 500 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.
The EXPLORER™ 500 cannot be switched off.	The Power button was not pressed long enough.	When you switch off the EXPLORER™ 500, hold the power button until the display shows "Switching off". In rare cases, it may take up to 10 seconds to switch off the EXPLORER™ 500.
Charging error - The green Power indicator flashes rapidly while the battery is being recharged.	The temperature is below 0°C or above 45°C.	Only charge the battery when the temperature is within the range 0°C to 45°C.
	The charging voltage is less than 9 V.	Wait until charging begins (the green Power indicator lights constantly). If the battery is completely discharged, and it has been out of use for a long time, the charging process may take a long time to start. If charging does not begin within 2-3 hours, contact your local distributor, or purchase a new battery.

Problem	Possible Cause	Remedy
The display shows `INSERT SIM`.	The SIM card is not present.	Remove the battery and insert the SIM card in the SIM slot according to the instructions in the section **Inserting the SIM Card** on page 11.
	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 11.
The display shows `NO GPS FIX`.	The EXPLORER™ 500 is unable to register on the network, because the GPS position is unknown.	Make sure the view to the GPS satellites is not blocked. The EXPLORER™ 500 should be placed in an open area with a clear view to the sky.
The display shows `EMERGENCY ONLY`.	The BGAN network is only available for emergency calls. The reason may be one of the following: 1) You have pressed C on the EXPLORER™ 500 instead of entering the PIN code. 2) Your Airtime subscription has expired. 3) You are using the wrong SIM card.	1) If the display reads "`ENTER PIN?`" and/or you cannot enter the display menu system, you may have pressed C instead of entering the PIN code. Unless the use of PIN code is disabled, you must enter the PIN code before you are allowed make calls. 2) Check your subscription with the Airtime Provider. 3) Check that your SIM card is valid for communication on the BGAN network.
The display shows `NOT REGISTERED`.	The EXPLORER™ 500 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.

Problem	Possible Cause	Remedy
The EXPLORER™ 500 cannot obtain its position using GPS.	There is no GPS signal, or the signal is weak.	Check the GPS status in the display or the Web interface. Make sure the GPS antenna has a clear view of the sky.
	If the EXPLORER™ 500 has not been used recently within the same location, it can take up to 10 minutes to obtain the GPS position.	Wait 10 minutes. If you know the approximate direction to the BGAN satellite, you can start the pointing process before the GPS position is found.
No signal or weak signal from the BGAN satellite.	The view to the satellite is blocked.	Make sure the EXPLORER™ 500 has a clear view to the satellite. Be aware that window glass may reduce the signal level.
	The antenna is pointed in the wrong direction.	Check that the antenna is pointed according to the position data. Adjust the position to the highest possible signal strength.
Connection to the Internet cannot be established.	The signal strength is too low.	Check that the antenna is pointed according to the position data. Adjust the position to the highest signal strength you can obtain. As a rule of thumb, you should have a a signal strength of 49 dBHz or more to be able to make a call or data session.
	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.

Problem	Possible Cause	Remedy
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 *98# or *99# as the phone number to indicate that this is a 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.
A Phone/Fax connection cannot be established.	The interface is disabled in the EXPLORER™ 500.	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** > **interfaces** > **Phone/Fax** > **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 **Phone/Fax Interface** on page 109.
	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™ 500 is selected in the Web interface. Access the Web interface and select **Settings**> **Interfaces** > **Phone/Fax**. Then select the voice quality for incoming calls.

Problem	Possible Cause	Remedy
A Bluetooth handset connection cannot be established.	The interface is off in the EXPLORER™ 500.	Enable the interface by entering the display menu system and selecting **SETTINGS** > **INTERFACES** > **BLUETOOTH** > **ON**, or by accessing the Web interface and selecting **Settings** > **interfaces** > **Bluetooth** > **Enabled**
	The Bluetooth handset is placed too far away from the EXPLORER™ 500.	Bring the handset closer to the EXPLORER™ 500. Note that the specified maximum distance is only valid under ideal conditions.
	The handset is not yet paired with the EXPLORER™ 500.	Pair the devices. Refer to **Making a Call To the EXPLORER™ 500** on page 49.
	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™ 500 is selected in the Web interface. Access the Web interface and select **Settings** > **Interfaces** > **Bluetooth**. Then select the voice quality for incoming calls.
A LAN connection cannot be established.	The interface is off in the EXPLORER™ 500.	Enable the interface by entering the display menu system and selecting **SETTINGS** > **INTERFACES** > **LAN** > **ON**, or by accessing the Web interface and selecting **Settings** > **interfaces** > **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 110.

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 Interface** on page 111.
	The dial-up connection is not created correctly.	Refer to **First Time Setup of USB** on page 57.
	The EXPLORER™ 500 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 EXPLORER™ 500 USB driver is assigned. In Windows XP, open your dial-up connection and select **Properties**. Under **Connect using:** check that the EXPLORER™ 500 USB driver is selected. If not, click **Configure** and select the EXPLORER™ 500 USB driver.
A Bluetooth data connection cannot be established.	The interface is off in the EXPLORER™ 500.	Enable the interface by entering the display menu system and selecting **SETTINGS** > **INTERFACES** > **BLUETOOTH** > **ON**, or by accessing the Web interface and selecting **Settings** > **interfaces** > **Bluetooth** > **Enabled**.
	The computer is placed too far away from the EXPLORER™ 500.	Bring the computer closer to the EXPLORER™ 500. Note that the specified maximum distance is only valid under ideal conditions.
	The computer is not yet paired with the EXPLORER™ 500.	Pair the devices. Refer to **Making a Call To the EXPLORER™ 500** on page 49.

Status Signalling

There are many ways of troubleshooting if an error occurs. The EXPLORER™ 500 has different means of status signalling, to help you find the cause of a problem:

- **Indicators**.
  The function of the light indicators next to the display is described in **Light Indicators** on page 7.
- **Alarm messages.**
- **Log files.**

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

Alarm Messages

Display of Alarm Messages

The EXPLORER™ 500 can detect errors during POST (Power On Self Test) or CM (Continuous Monitoring). When the EXPLORER™ 500 detects an error that requires your action, it issues an alarm.

When alarms are issued in your EXPLORER™ 500, the display indicates the number of new alarms, and the red message indicator is flashing.

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 number.
  To see the name and time stamp of the alarm, 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.

As long as the cause of an alarm is still present, the Main screen shows `VIEW ALARM LIST?` If you press OK, the list of currently active alarms appears.

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 105.

List of Alarms

The following list explains the alarms that may show in the display and in the Web interface of the EXPLORER™ 500.

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 distributor.

ID	Alarm Text	Explanation	Remedy
00101 to 00199	System Data Damaged	Important system data is damaged	Do not use the EXPLORER™ 500. Contact your distributor.
00201 to 00209	Battery Error	Error during communication with the battery	Only use the EXPLORER™ 500 with external power supply. Contact your distributor.
00211 to 00219	Sim Module Error	The SIM interface on the EXPLORER™ 500 cannot be used.	Contact your distributor.
00221 to 00229	Usb Module Error	The USB interface on the EXPLORER™ 500 is out of function.	Contact your distributor.
00231 to 00239	Temperature Sensor Fatal	The system is in danger of overheating.	Do not use the EXPLORER™ 500. Contact your distributor.
00241 to 00249	Temperature Sensor Error	Automatic adjustment of the display contrast does not work.	Contact your distributor.
00251 to 00259	Bluetooth Module Error	The Bluetooth interface on the EXPLORER™ 500 cannot be used.	Contact your distributor.
00261 to 00269	System Error	The EXPLORER™ 500 cannot communicate on the satellite network.	Contact your distributor.
00271 to 00279	Voice Module Error	The Voice module in the EXPLORER™ 500 is out of function.	Contact your distributor.

ID	Alarm Text	Explanation	Remedy
00281 to 00289	`Ethernet Module Error`	The Ethernet interface on the EXPLORER™ 500 is out of function.	Contact your distributor.
00291 to 00299	`Power Supply Error`	Power on/off, charging and/or LED control may be out of function.	Contact your distributor.
00301 to 00309	`Gps Module Error`	The GPS module is out of function. The EXPLORER™ 500 cannot obtain a valid GPS position.	Contact your distributor.
01000	`Temperature Too Low`	Low ambient temperature is causing the performance of the EXPLORER™ 500 to be degraded or halted.	Move the EXPLORER™ 500 to a warmer location. For information on temperature limits, see **General Specifications** on page 106.
01100	`Temperature Too High`	High ambient temperature is causing the performance of the EXPLORER™ 500 to be degraded or halted.	Move the EXPLORER™ 500 to a cooler location. For information on temperature limits, see **General Specifications** on page 106.
01200	`Battery Level Low`	The battery is running out of power.	Recharge the battery or replace it with a new one.
01300	`No Gps Fix`	The GPS receiver has not yet achieved position fix.	Make sure the view to the GPS satellites is not blocked. The EXPLORER™ 500 should be placed in an open area with a clear view to the sky. Note that in some cases it may take up to 10 minutes to obtain GPS fix.

ID	Alarm Text	Explanation	Remedy
01400	Satellite Signal Lost	The EXPLORER™ 500 no longer receives a signal from the satellite.	Make sure the EXPLORER™ 500 has a clear view to the satellite. Check that the antenna is pointed according to the position data. Adjust the position to the highest possible signal strength.
01500	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	Sos Calls Only	The SIM card is not accepted by the network. Only emergency calls are allowed.	Enter the PIN code and wait for network approval. If the problem persists, contact your Airtime Provider.
01700	Registration For Voice Failed	The EXPLORER™ 500 has not yet been allowed to register for voice services (Circuit Switched).	If the problem persists, contact your Airtime Provider.
01800	Registration For Data Failed	The EXPLORER™ 500 has not yet been allowed register for data services (Packet Switched).	If the problem persists, contact your Airtime Provider.
01900	Temperature Too Low For Charging	The temperature is too low for the battery charger to operate.	If charging is needed, move the EXPLORER™ 500 to a warmer location. The temperature must be above 0°C/+32°F for the battery charger to operate.
02000	Satellite Signal Weak	The signal from the satellite is weak.	Check the line of sight to the satellite. Be aware that window glass may reduce the signal level. Check that the antenna is pointed according to the position data. Adjust the position to the highest possible signal strength.

ID	Alarm Text	Explanation	Remedy
02100	Ciphering Off	The network has turned ciphering off.	Do not transmit data that requires ciphering.
02200	Ethernet Data Session Failed	Ethernet data session could not be created.	If the problem persists, contact your distributor.
02300	Invalid External Antenna	The EXPLORER™ 500 is not able to detect the external antenna type.	Correct communication with the satellite requires an original Thrane & Thrane antenna.
02400	Invalid Battery	The EXPLORER™ 500 is not able to detect the battery type.	The EXPLORER™ 500 requires an original Thrane & Thrane battery.
02500	System Error	Internal system error.	
02600	Antenna Relay Failure	The EXPLORER™ 500 is not able to detect the state of the antenna relay.	Do not use the terminal. Contact your distributor.

Log Files

Note

When contacting Thrane & Thrane 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™ 500.

The log includes the time of the error, a short description, location of the error etc. This information can help you troubleshoot errors in the EXPLORER™ 500.

Call Log

The call log holds information of up to 100 calls and data sessions to/from the EXPLORER™ 500.

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 32.

Note | The call log in the display shows information on voice calls but not on data sessions.

Technical Specifications

In This Appendix

This appendix contains technical specifications for the EXPLORER™ 500.

General Specifications

The EXPLORER™ 500 meets or exceeds current and proposed Inmarsat specifications for operation on the Inmarsat Broadband Global Area Network.

Item	Specification
Type	BGAN Class 2 Terminal
Max. data rate[a] Downlink Uplink	 464 kbps (shared) 448 kbps (shared)
Physical dimensions	218 mm x 216 mm x 52 mm/ 8.6” x 8.5” x 2.0”
Weight (incl. Battery)	1.4 kg/3.1 lbs
Environmental conditions Operating temperature Powered by external DC Powered from battery Storage temperature Without battery With battery Relative humidity Water & Dust Max. wind-load	 -25°C to +55°C/-13°F to +131°F -10°C to +55°C/+32°F to +131°F -40°C to +80°C/-40°F to +176°F -20°C to +60°C/-4°F to +140°F 95% non-condensing at +40°C/+104°F IP-54 (dust and spray proof in all directions) 18 m/s or 59 ft/s (Operational)
Robustness	0.5 m/1.64 ft drop on concrete (Operational, 95% survival)
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.

Battery

Specifications

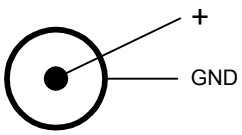
Item	Specification
Battery type	Lithium ion (Rechargeable)
Voltage	11.1 V
Capacity	2.2 Ah
Time between recharging Standby time Standard call[a] Premium voice call[a] Download Streaming 128 kbps Upload Streaming 128 kbps	 36 h 3 hours 1 hour 30 minutes 3 hours 30 minutes 2 hours 15 minutes
Charge time[b]	Less than 3 hours (when the EXPLORER™ 500 is switched off)
Charge temperature	0°C to +45°C/+32°F to +113°F Ambient
Min. charge cycles	300
Storage temperature 1 Month 3 Months 1 Year	 -20°C to +60°C/-4°F to +140°F Ambient -20°C to +45°C/-4°F to +113°F Ambient -20°C to +20°C/-4°F to +68°F Ambient

a. With either Bluetooth or Phone/Fax interface.
b. Performance depends on a wide range of factors and actual usage.

Power Input

Connector Pin-Out

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



Specifications

Item	Specification
DC input range	+10 to +16 V DC
Power consumption[a] Standby mode Transmit mode During charging	 0.5 to 1 W (Typical) 14 W (Typical) 38 W max.
Connector type	Proprietary DC Jack, 2.5 mm, positive centre

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

AC/DC Power supply

Item	Specification
AC input range	100 to 240 V AC, 47 to 63 Hz
DC output	15 V DC, 50 W

SIM Interface

Specifications

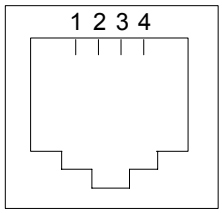
Item	Specification
Slot type	Standard SIM card holder

Phone/Fax Interface

Connector Pin-Out

The pin-out for the Phone/fax connector is as follows:

RJ-11 Connector



Female (Receptacle)

Pin	Function
1	NC
2	Tip
3	Ring
4	NC

Specifications

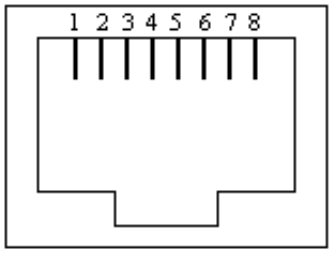
Item	Specification
Connector type	RJ-11
Impedance	600Ω
Max. cable length	400 m/1312 ft
Max. units connected	One unit

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

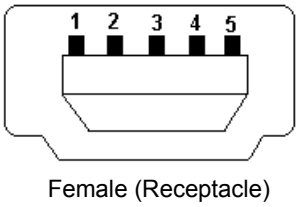
Specifications

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

USB Interface

Connector Pin-Out

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



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

Specifications

Item	Specification
Version	1.1 (Slave)
Connector type	Mini-B
Max. data rate	12 Mbps
Max. cable length	5 m/16.4 ft
Max. units connected	7 physical devices
Driver	Proprietary, enclosed on CD with the product

Bluetooth Interface

Specifications

Item	Specification
Version	1.2
Standard	Power Class 1. The Class 1 interface also supports Class 2 and Class 3 peripherals if they support RSSI (Received Signal Strength Indicator).
Physical media	Frequency-Hopping Spread Spectrum RF
Max. data rate	721 kbps + 57.6 kbps
Frequency	2400 to 2483.5 MHz
Max. coverage outdoor[a]	100 m/328 ft
Max. number of devices connected	7
Profiles supported	Cordless Telephony Serial Port Service Discovery Application Dial-up networking LAN access

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

Built-in Antenna

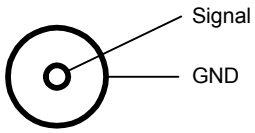
Specifications

Item	Specification
Type	Directional patch array, manually adjustable
Polarization	RHCP
Frequencies Inmarsat Transmit Receive Bearer bandwidth GPS Bluetooth	 1626.5 to 1660.5 MHz 1525.0 to 1559.0 MHz 200 kHz 1575.42 MHz 2400.0 to 2483.5 MHz
EIRP	15.1 dBW ±1 dB
Power steps	0 to 10 dB in 1 dB steps

External Antenna

Connector Pin-Out

This drawing shows the pin-out for the external antenna connector on the EXPLORER™ 500.



Specifications

Important Only use the specified antenna from Thrane & Thrane. The antenna is listed in **Options and Accessories** on page 92.

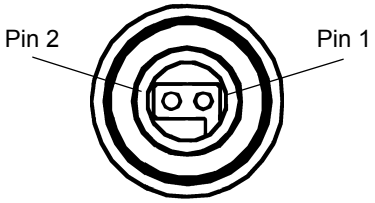
Item	Specification
Type	Directional patch array, manually adjustable
Polarization	RHCP
Connector type	50 Ω QLA (female)
Frequencies Inmarsat Transmit Receive Bearer bandwidth GPS	 1626.5 to 1660.5 MHz 1525.0 to 1559.0 MHz 200 kHz 1575.42 MHz
EIRP	15.1 dBW ±1 dB

EXPLORER™ 500 Bluetooth Handset Charger Interface

Connector Pin-Out

This drawing shows the connector for the EXPLORER™ 500 Bluetooth Handset charging interface.

The connector is placed at the back of the EXPLORER™ 500. Pin 1 is the pin closest to the coding projection on the plastic insert.



Specifications

Item	Specification
Connector type	Proprietary
Output	6.2 V/350 mA

Compliance

CE

The EXPLORER™ 500 is CE certified (R&TTE directive) as stated in “Explorer 500, Declaration of Conformity with R&TTE”, enclosed in copy on the next page.

FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. this device must accept any interference received, including interference that may cause undesired operation.

Part 15.21
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

GMPCS

The EXPLORER™ 500 is GMPCS certified.

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-3710A	EXPLORER™ 500	PN = 403710A
TT-3682L	AC/DC Power Supply	PN = 403682L

Equipment Applicability

The TT-3017A EXPLORER™ 500 is a mobile terminal that provides voice, fax or high-speed data communication through the Inmarsat satellite service world wide between a mobile terminal and any destination in the world. Only the Bluetooth interface of the terminal has restrictive use in France and Italy in EU. The Inmarsat interface to a satellite has no restriction in use. See User manual for further information.

Declaration

The safety requirement with respect to the LVD directive 73/23/EC is shown by conforming to the harmonized EU standard EN 60950. The protection requirement with respect to the EMC directive 89/336/EC is shown by conforming to the harmonized EU standards ETSI EN 301489-1, ETSI EN 301489-17 and ETSI EN 301489-20. Effective use of frequency spectrum is shown by conforming to the harmonized EU standards ETSI EN 301444 and ETSI EN 300328.

Manufacturer

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

Place and Date

Kgs. Lyngby, 16. November 2005

CE

Henrik Lunde, CEO President

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AT Commands

In This Appendix

This appendix contains a list of AT Commands for the EXPLORER™ 500.

Starting up an AT Command Session

Set up your computer to use either the USB or Bluetooth interface. For further information, see **Using the USB Interface** on page 57 or **Using a Computer with Bluetooth** on page 62.

Connect your computer to the USB or Bluetooth interface of the EXPLORER™ 500 and launch your terminal program.

The following section contains a list of commands that can be used with the EXPLORER™ 500. For further information on the AT commands, refer to the following standards:

- **ITU V.250** Serial asynchronous automatic dialling 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 dialling (command)
ATQ	Result code suppression
ATS	Set register
ATT	Select tone dialling (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) behaviour
AT&D	Circuit 108 (Data terminal ready) behaviour
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+CBC	Battery charge
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

Command	Function
AT+CGQMIN	Quality of service profile (minimum acceptable)
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

Command	Function
AT+CMOD	Call mode
AT+CMSS	Send message from storage
AT+CMUX	Multiplexing mode
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 centre address
AT+CSCS	Select TE character set

Command	Function
AT+CSDF	Settings date format
AT+CSIL	Silence command
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_IBLTH	Bluetooth management
AT_IBNOTIFY	Control the sending of unsolicited result codes
AT_IBTIF	Bluetooth configuration
AT_IBTINQ	Bluetooth inquiry management

Command	Function
AT_IGPS	GPS location information
AT_ILOG	Retrieve log file from the EXPLORER™ 500
AT_IMETER	Call metering
AT_INIS	Network interface status
AT_IPOINT	Antenna pointing
AT_ISIG	Signal quality indication
AT_ITCSI	Configure incoming voice quality
AT_ITCSO	Configure outgoing voice quality
AT_ITEMP	Temperature in the EXPLORER™ 500
AT_ITNAT	Configure NAT for an interface

Glossary

A

APN	Access Point Name. The Access Point Name is used by the EXPLORER™ 500 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

CE	Conformitée Européenne. This term signifies that a CE certified product conforms to European health, environmental, and safety regulations. In short, it makes the product legal to be sold in the European Union.
CID	(PDP) Context IDentifier

D

DHCP	Dynamic Host Configuration Protocol.

F

FCC	Federal Communications Commission. An independent United States government agency, directly responsible to Congress. FCC certification makes a product legal to be sold in the United States.
ftp	File Transfer Protocol. A communications protocol used to transmit files between computers in a network without loss of data. A file transfer protocol can handle all types of files including binary files and ASCII text files.

G

Geostationary	Placed in a fixed position relative to a point on the surface of the earth.
GMPCS	Global Mobile Personal Communications by Satellite.

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.
GPS	Global Positioning System. A system of satellites, computers, and receivers that is able to determine the latitude and longitude of a receiver on Earth by calculating the time difference for signals from different satellites to reach the receiver.

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.
ISDN	Integrated Services Digital Network. An international communications standard for sending voice, video, and data over digital telephone lines or normal telephone wires. ISDN supports data transfer rates of 64 kbps.
ISP	Internet Service Provider

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.
LaunchPad	LaunchPad is a PC application used to control terminals in the BGAN system. LaunchPad is provided on the Inmarsat CD-ROM supplied with your EXPLORER™ 500. Use of the LaunchPad is described in the user guide on the CD-ROM.

M

MAC	Media Access Control address. 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.

P

Pairing	Bluetooth Pairing happens when two Bluetooth enabled devices agree to communicate. The two devices exchange passkeys and join what is called a trusted pair. In a trusted pair, the two devices automatically accept communication with each other.
Passkey	A unique PIN code or password used when pairing Bluetooth devices.
PCB	Printed Circuit Board
PDA	Personal Digital Assistant. A lightweight, hand-held, usually pen-based computer used as a personal organiser.
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.
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

RSSI	Received Signal Strength Indicator

S

SAS	Satellite Access Station
SDU	Service Data Unit. Also known as a data packet.

Streaming	A technique for transferring data - such as audio or video clips - so that it is processed as a continuous stream.

T

TFT	Traffic Flow Template. A packet filter list allowing the Core network and the EXPLORER™ 500 to classify packets received from the external network into the proper PDP context.

U

UDI	Unrestricted Digital Information. A transparent 64 kbps data channel.
USB	Universal Serial Bus. An interface standard for communication between a computer and external peripherals over an inexpensive cable using biserial transmission. Mostly used with keyboards, mice, monitors and printers.

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