

COBHAM

EXPLORER 710

User manual



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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. Cobham SATCOM assumes 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 antenna front

This device emits radio frequency energy when switched on. To avoid injury, keep a minimum safety distance of 1 m from the antenna front when the EXPLORER 710 is on.

For information on the safety distance from the transceiver (WLAN), see the [FCC/IC Radiation Exposure statement](#) on the next page.



Garder à l'écart de l'avant de l'antenne

Le présent appareil émet des radiofréquences lors de son utilisation. Afin d'éviter tout risque pour la santé, une distance minimale de 1 mètre est nécessaire entre l'utilisateur et l'avant de l'EXPLORER 710.

Pour plus d'informations à propos de la distance de sécurité avec l'appareil (WLAN), veuillez consulter [Déclaration de l'IC sur l'exposition aux radiations](#) sur la page suivante.

Only use approved batteries from Cobham SATCOM

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 710 that are marked with this symbol, as it may result in injury.

The terminal has been designed for full usability meaning that there are no restrictions to which interfaces can be used simultaneously. This means that you can use all the interfaces at once at any temperature



within -25 to 55 °C. Be aware that the terminal will get very hot when it is operated at 55 °C with all interfaces active and it is therefore marked with a heating label.

FCC/IC Radiation Exposure statement

WLAN: Transceiver Unit (when separated from the Antenna Unit):

This equipment complies with FCC and IC radiation exposure limits for an uncontrolled environment. This equipment should be installed and operated at a distance greater than 20 centimeters (8 inches) between the transceiver unit and yourself or any bystander to comply with the Radiation Exposure Requirements.

Déclaration de l'IC sur l'exposition aux radiations

WLAN: L'émetteur-récepteur (quand séparé de l'antenne) :

Le présent appareil est conforme aux limites de l'IC sur l'exposition aux rayonnements établies pour un environnement non-contrôlé. Le présent appareil doit être installé et utilisé à une distance minimum de 20 centimètres (8 pouces) entre l'émetteur-récepteur et l'utilisateur ou tout autre individu pour être conforme à la réglementation en matière d'exposition radiologique.

Antenna Safety Instructions

Use Only Manufacturer Supplied Antennas
Antenna Minimum Safe Distance: 1 m

Antenna Gain

Directional, with maximum gain of 14.6 dB with 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 front face of the antenna, i.e. 1 m.

L'antenne fournie par le fabricant doit être placée de telle sorte que, durant les transmissions radio, personne ni aucun groupe de personnes ne puisse s'approcher à une distance inférieure à la distance de sécurité minimal indiquée ci-dessus, c.-à-d., 1 m.

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 use any other antenna than 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 1 m 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 General Population/Uncontrolled Environment. Only use the terminal when persons are at least the minimum distance from the front face of the antenna.

About this manual

Intended readers

This manual is a user manual for the EXPLORER 710. The manual is intended for anyone who is using or intends to use the EXPLORER 710. No specific skills are required to operate the EXPLORER 710. However, it is important that you observe all safety requirements listed in the **Safety summary** in the beginning of this manual, and operate the EXPLORER 710 according to the guidelines in this manual.

Related documents

The following documents are related to this manual and to the EXPLORER 710 system.

Title and description	Document number
EXPLORER 710 Getting Started, English	98-139653
EXPLORER 710 Getting Started, Deutsch (German)	98-140216
EXPLORER 710 Getting Started, Français (French)	98-140217
EXPLORER 710 Getting Started, Español (Spanish)	98-140218
EXPLORER 710 Getting Started, Русский (Russian)	98-140219
EXPLORER 710 Getting Started, 中文 (Chinese)	98-140220
EXPLORER 710 Getting Started, 日本語 (Japanese)	98-140221

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 **Control panel** > **LAN** and click **Enable**".

Italic is used to emphasize the paragraph title in cross-references.

Example: "For further information, see *Connecting Cables* on page..."

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Introduction to EXPLORER 710

General description

The EXPLORER 710 is a handy portable terminal supporting simultaneous voice and data communication over BGAN. It provides versatility and high speed access with multiple interfaces for countless applications. Just connect your phone, laptop, smartphone or tablet, point the antenna towards the BGAN satellite - and you are online.



The EXPLORER 710 provides access to the highest bandwidth available on the BGAN network. With BGAN HDR (High Data Rate) you get a portfolio of four channel streaming rates including symmetric and asymmetric options so you only pay for the data you need. The system offers multi-user as well as single-user functionality, making it a flexible solution for a variety of applications, such as:

- Broadcasting
- Internet browsing
- E-mail
- Phone services
- Large file transfers

- Video conference and Streaming
- VPN (Virtual Private Network) access to corporate servers

The EXPLORER 710 can withstand severe environmental conditions such as humidity, dust, extreme weather and changing temperatures. It is small in size and fits easily into a backpack or similar. With the detachable antenna it is well suited for temporary camps or fixed installations.

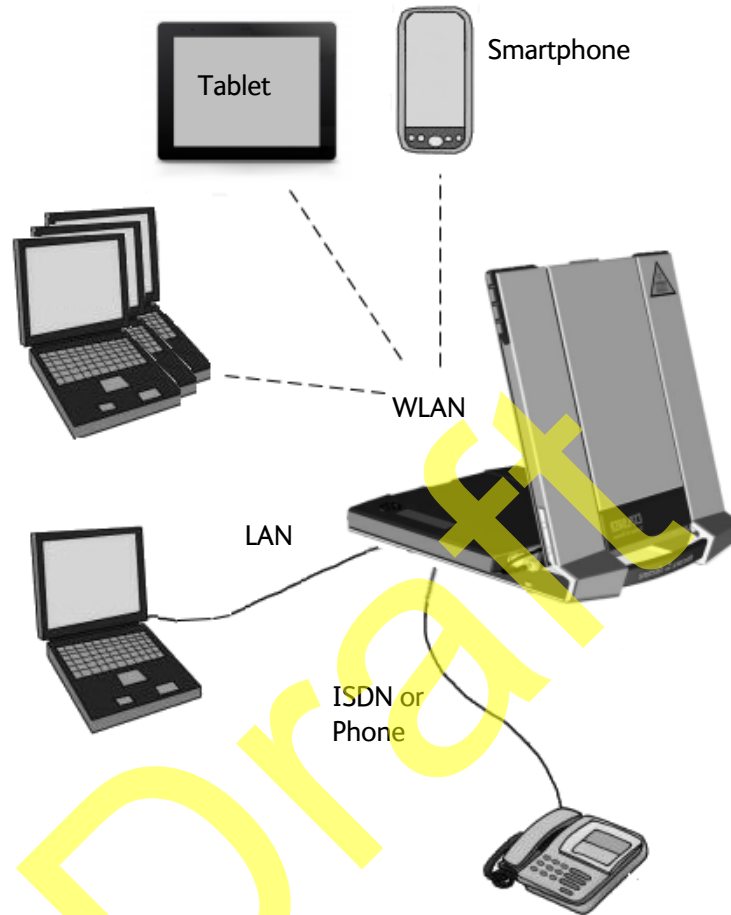
Features and interfaces of the EXPLORER 710

Features

- Full duplex, single or multi-user, standard data up to 492 kbps
- Support for streaming data at 32, 64, 128, 176, 256 kbps, HDR (asymmetric or symmetric) and BGAN X-Stream
- Standard LAN w. PoE, WLAN, ISDN and Phone ports and USB Host interface
- Detachable antenna with integrated transceiver stand and transceiver-to-antenna range up to 100 m/328 ft.
- Built-in DHCP/NAT wireless router
- Solar panel direct interface
- Support for battery hot swap
- 10-32 VDC input
- 100-240 VAC power adapter
- Built-in web interface allowing you to manage your calls and customize the terminal to your specific needs, using a smartphone, computer or tablet.
- Point-to-Point Protocol over Ethernet (PPPoE)
- Built-in PBX managing voice communication
- CE, FCC, GMPCS and IC certified

Overview of interfaces

The EXPLORER 710 provides a number of interfaces for connection of various types of computers, phones and other equipment.



[Using the EXPLORER 710](#) on page 21 describes how to use each of the available interfaces.

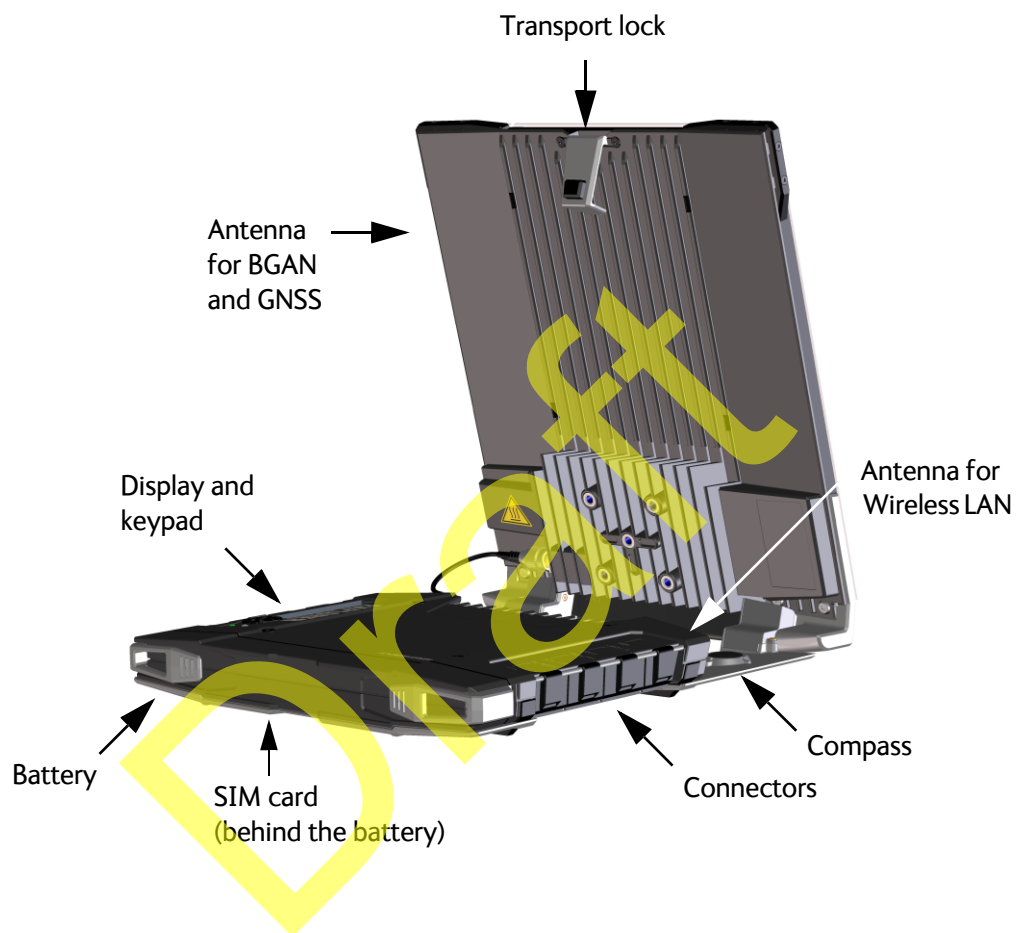
Minimizing power consumption

The EXPLORER 710 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 22.

Your EXPLORER 710 terminal

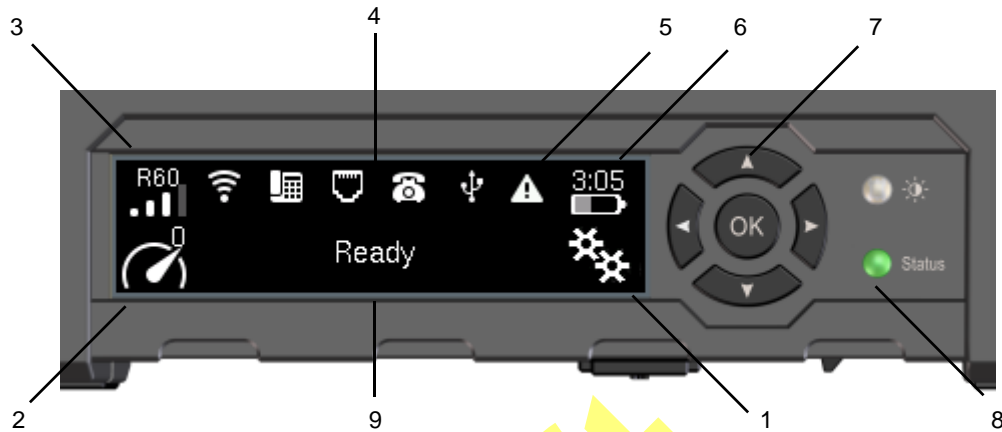
Overview

The EXPLORER 710 is a compact unit comprising a transceiver with a detachable antenna, compass, display and keypad, all in one unit.



Display and keypad

The EXPLORER 710 has a display and keypad providing quick access to important functions and simple setup, and for displaying status.

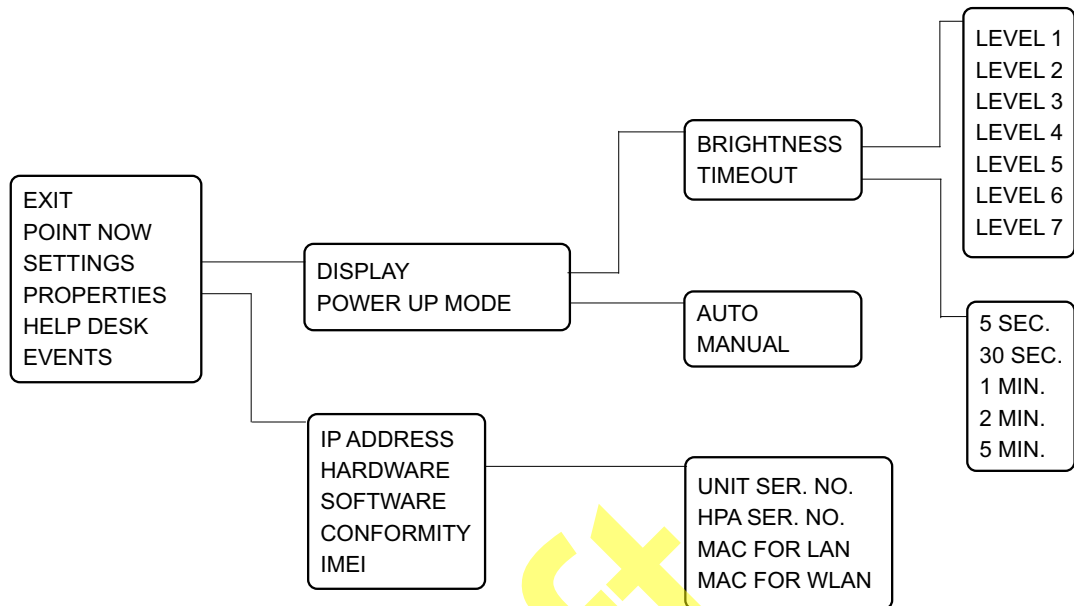


1. Menu: Opens the display menu. For a menu overview, see next page.
2. Connect: Allows you to start a data connection.
3. Signal strength: Shows the signal strength of the satellite connection and whether the connection is global beam (G), regional beam (R) or narrow beam (N). Press **OK** to see the GPS position.
4. Interfaces on/off: Allows you to switch the interfaces on or off. Disabled interfaces are crossed out.
5. Warning: Shows if there are warning messages. Press **OK** to see the messages.
6. Battery status: Shows remaining time for the internal battery and the external battery (if connected).
7. Keypad for navigation: Allows you to move between the available options (arrow keys) and select them (OK).
8. Status indicator: Shows status of the EXPLORER 710. For information on functions, see [Status indicator](#) on page 83.
9. Status text: Shows the current status of the EXPLORER 710 and the network connection. For example, the text may show the status during start-up (see [The registration procedure](#) on page 17).

To navigate the display functions

- To **highlight** one of the icons, use the **arrow buttons**.
- To **move around** between the icons, use the **arrow buttons**.
- To **select** menu items, functions or values, press the **OK** key.

Display menu



User interfaces

The **keypad and display** are used for pointing the antenna, starting and stopping data sessions, enabling or disabling interfaces and for displaying status and changing simple parameters. To obtain full access to all features and for ease-of-use, you should use a computer or smartphone and the web interface.

The **web interface** is a built-in web interface for easy configuration and daily use. The web interface is accessed from a computer, smartphone or tablet connected to the EXPLORER 710, using an Internet browser. No installation of software is needed. For further information on the web interface, see [Using the web interface](#) on page 39.

A **smartphone app, EXPLORER Connect**, is also available. The app includes a SIP function that enables you to make calls to and from your smartphone over the satellite network using the EXPLORER 710 terminal. It also includes the complete feature set from the built-in web interface of the terminal, allowing you to set up and use the terminal with your smartphone.

With **AT commands** you can configure and control the EXPLORER 710 from a computer using a Telnet session. For further details see [To access the terminal using AT commands](#) on page 29.

Antenna

The white part of the EXPLORER 710, including the support bracket, is the detachable antenna module. The antenna module comprises a GNSS (Global Navigation Satellite System) antenna and a BGAN antenna.

A Wireless LAN antenna is located on the transceiver unit.

Compass

The EXPLORER 710 also provides a compass to help positioning the antenna. For further information on how to use the compass, see [To point the antenna](#) on page 16.

Battery

The EXPLORER 710 comes with a rechargeable battery, which is easily inserted. The battery is automatically recharged when power is applied to the EXPLORER 710. The Status indicator shows that the battery is charging. See [User interfaces](#) on page 6.

Time between recharging depends on the use. The display shows estimated time left for the battery.

SIM card

The EXPLORER 710 requires a SIM card to go online. Without a SIM card you can still configure the terminal and you may be able to make emergency calls if the network allows it, but you cannot make normal calls nor access the internet.

Draft

Getting Started

This chapter describes:

- [Unpacking and assembling](#)
- [Connecting cables](#)
- [Starting up the EXPLORER 710](#)
- [Making the first call or data session](#)
- [Fixed antenna installation](#)

Unpacking and assembling

Initial inspection

Inspect the shipping carton immediately upon receipt for evidence of damage during transport. If the shipping carton is severely damaged or water stained, request that the carrier's agent be present when opening the carton. Save the carton packing material for future use.



WARNING! To avoid electric shock, do not apply power to the system if there is any sign of shipping damage to any part of the front or rear panel or the outer cover. Read the safety summary at the front of this manual before installing or operating the system.

After unpacking the system, inspect it thoroughly for hidden damage and loose components or fittings. If the contents are incomplete, if there is mechanical damage or defect, or if the system does not work properly, notify your dealer.

What's in the delivery

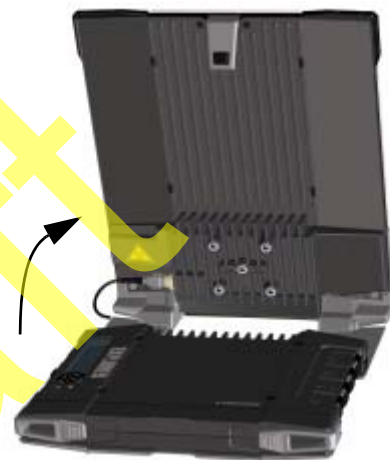
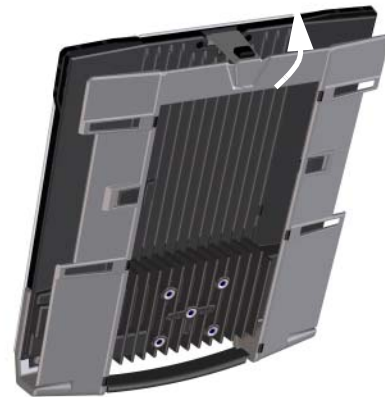
The following items are included in the delivery:

- EXPLORER 710 terminal including transceiver, antenna and antenna cable
- Battery pack
- AC/DC adapter
- Getting started kit including:
 - Ethernet/ISDN cable, 2 m screened
 - Getting started booklet

To open the transport latch

The EXPLORER 710 has a transport latch, securing the transceiver and antenna during transport.

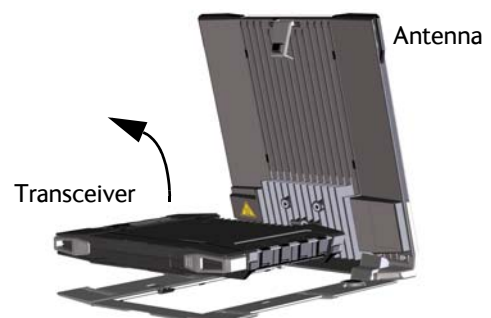
1. Lift the transport latch to open the terminal.
2. Flip up the antenna module.
You can now access the keypad and connectors on the EXPLORER 710.



To detach the antenna (optional)

You have two options for using the EXPLORER 710 antenna:

- **Attached.** You can go through the pointing process with the antenna and transceiver attached as one unit. This means you have to move the entire terminal in order to point the antenna towards the BGAN satellite. If you choose this option, make sure you connect all cables including the short antenna cable, and enter the PIN, before pointing the antenna. If not, you may accidentally move the antenna when you connect cables or enter the PIN.
- **Detached.** You can detach the antenna module and use it as a separate antenna. With the antenna separated from the transceiver, it is easier to use the transceiver without accidentally moving the antenna. Also, you can choose the optimum location for the antenna while keeping the transceiver in a more comfortable location.



Important

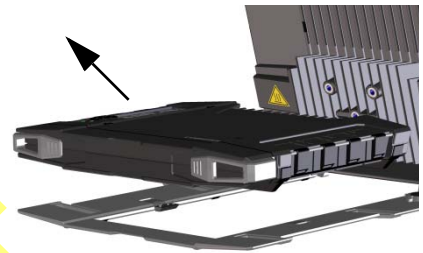
Do **not** place the transceiver in front of the antenna module!
The antenna emits radio frequency energy, which can affect the transceiver.

To detach the antenna, do as follows:

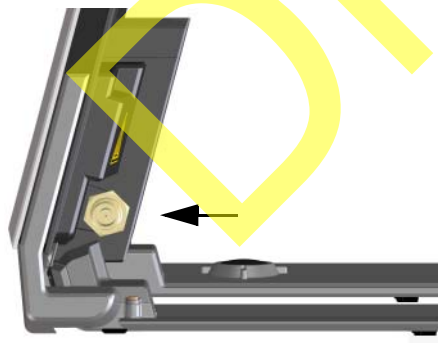
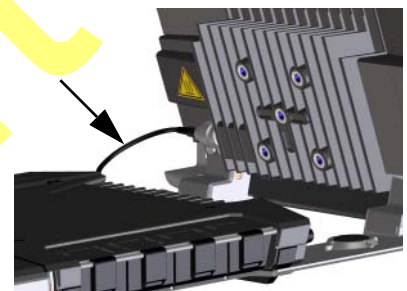
1. Locate the slide locks on the bottom of the terminal.
2. Press and slide the locks outwards while lifting the transceiver to release it from the antenna bracket.



3. Remove the transceiver from the antenna bracket.



4. To move the antenna and transceiver further apart, disconnect the short antenna cable and connect a longer antenna cable between the antenna and the transceiver.



To insert the SIM card

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

1. Locate the SIM slot on the same side where the battery is inserted.
2. Insert the SIM card into the SIM slot with the chip side facing up.
3. Press gently until it clicks.
4. Slide the lock in front of the SIM slot.



To insert the battery

Note

The battery should not be partially charged too often. For further information on the battery, see [Maintenance](#) on page 74.

Do as follows:

1. Insert the battery so that the connector fits into the battery slot, indicated in the figure.
2. Press gently until it locks.



Note

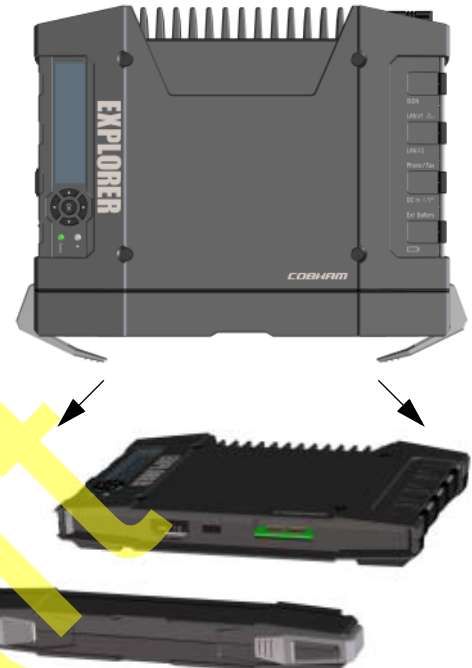
Before using the terminal the first time: to ensure accurate information on the battery capacity you should fully charge, then fully discharge the battery, and finally recharge the battery while it is inserted in the terminal. The EXPLORER 710 can be used during the discharging process, but the remaining battery capacity may not be displayed correctly.

To remove the battery

Note For protection of the transceiver, always leave the battery inserted. Only remove the battery to replace it.

To remove the battery, do as follows:

1. If the transceiver and antenna are attached, open the transport latch and detach the antenna as described in [To detach the antenna \(optional\)](#) on page 9.
2. On the transceiver, open the battery latches as shown.
3. Remove the battery.



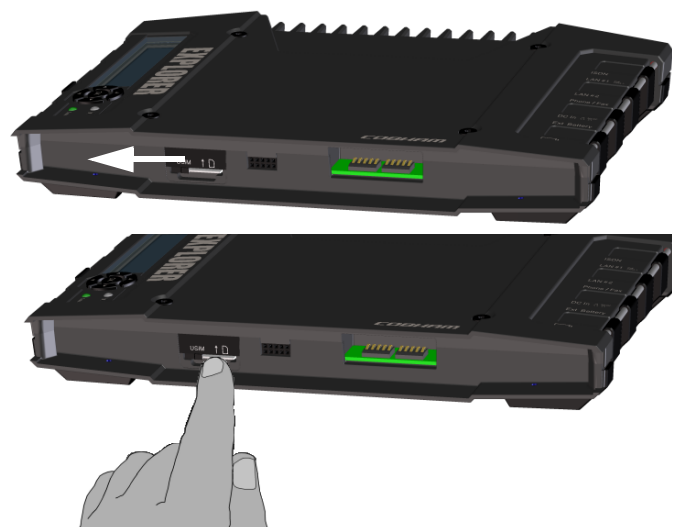
To remove the SIM card

To remove the SIM card, first remove the battery as described in [To remove the battery](#) on the previous page.

Note When the SIM card is removed you cannot make calls or data sessions, but you can still use the display menu system and the built-in web interface to set up the terminal.

Remove the SIM card as follows:

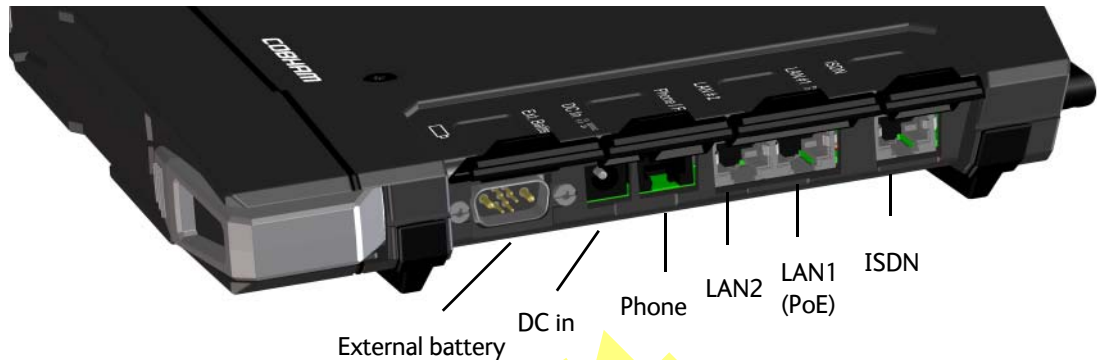
1. Slide the lock aside to open the SIM slot as shown.
2. Gently press the SIM card and let it pop out of the slot.
3. Remove the SIM card.



Connecting cables

Connectors

The connector panel is placed on the side of the EXPLORER 710 and has the following connectors:



- 1 **Ext battery** connector for connecting an **extra EXPLORER 710 battery**. See [To connect an extra, external EXPLORER 710 battery](#) on page 75.
- 1 **DC power input** connector for 10 - 32 VDC. See [To connect power](#) on page 14.
- 1 **Phone** connector. See [To connect an analogue phone](#) on page 33.
- 2 **LAN** connectors, one with **PoE**. See [To connect to the LAN interface](#) on page 25 and [To connect a phone using LAN or WLAN](#) on page 31.
- 1 **ISDN** connector. See [To connect an ISDN phone or modem](#) on page 34.

Apart from the connectors in the connector panel, there is:

- 1 **USB (Host)** connector placed next to the Power button. The USB (Host) connector is primarily used for charging phones or tablets (up to 2 A) and for recovery update of software. See [To charge your smartphone or tablet](#) on page 37 and [To upload software with USB](#) on page 72.



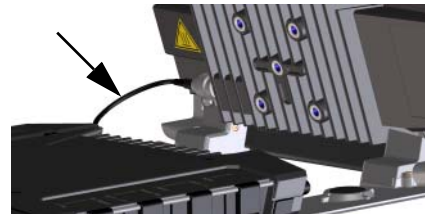
- 1 **antenna** connector for connecting the antenna module of the EXPLORER 710. See the next section.

To connect the antenna

The antenna cable is connected at delivery.

Note

If you want to use the antenna separated from the transceiver, use a longer antenna cable and remove the transceiver from the antenna bracket. See the [To detach the antenna \(optional\)](#) on page 9.



To connect power

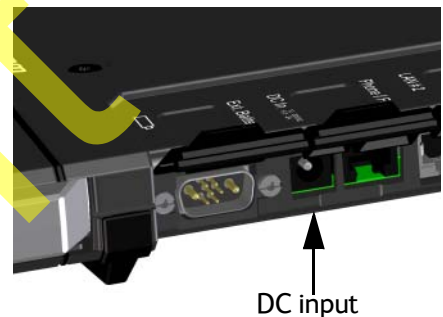
When you connect external power to the DC input, the battery is charged while maintaining normal operation.

DC input

Refer to [Technical specifications](#) on page 87 for specifications and pin-out for the DC Power input.

To power the terminal or to charge the battery, connect one of the following external power sources to the DC input:

- 10-32 VDC
- The supplied AC/DC adapter connected to 100-240 V Mains
- A solar panel (min. 65 W, 10-32 VDC)



Starting up the EXPLORER 710

Automatic power up

The default behaviour of the EXPLORER 710 is to power up automatically when you connect external power. If you wish, you can change this power up mode, so that the EXPLORER 710 is only powered if the Power button is pressed.

For further information on power up mode, see [Automatic power up](#) on page 37.

To switch the EXPLORER 710 on or off

1. Slide and hold the power button until the Status indicator lights up. This may take some seconds.
2. When the Status indicator flashes slowly or is constant green, and the display shows Ready, the terminal is ready for use.
3. To switch off, hold the power button until the Status indicator flashes yellow. This may take some seconds.



To enter the SIM PIN

Note

You may not need a SIM PIN for your terminal. If you are asked for a PIN and you select **Cancel**, you cannot communicate on the BGAN network, but you can access all terminal settings.

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

1. When the display shows **Enter PIN?**, highlight the text using the arrow keys and press **OK**. If you select **Cancel**, the startup procedure is continued, but you will not be able to make calls or data sessions over the satellite network. See the previous section.
2. Press **▼** or **▲** a number of times until the first digit is correct.
3. Press **OK** to go to the next digit. The previous digit is indicated by a *.
4. After pressing **OK** to enter the last digit, press **OK** again to apply the PIN.



For an overview of the display and keypad, see [Display and keypad](#) on page 5.

For information on how to enter the PIN in the web interface, see [To enter the SIM PIN](#) on page 43.

To point the antenna

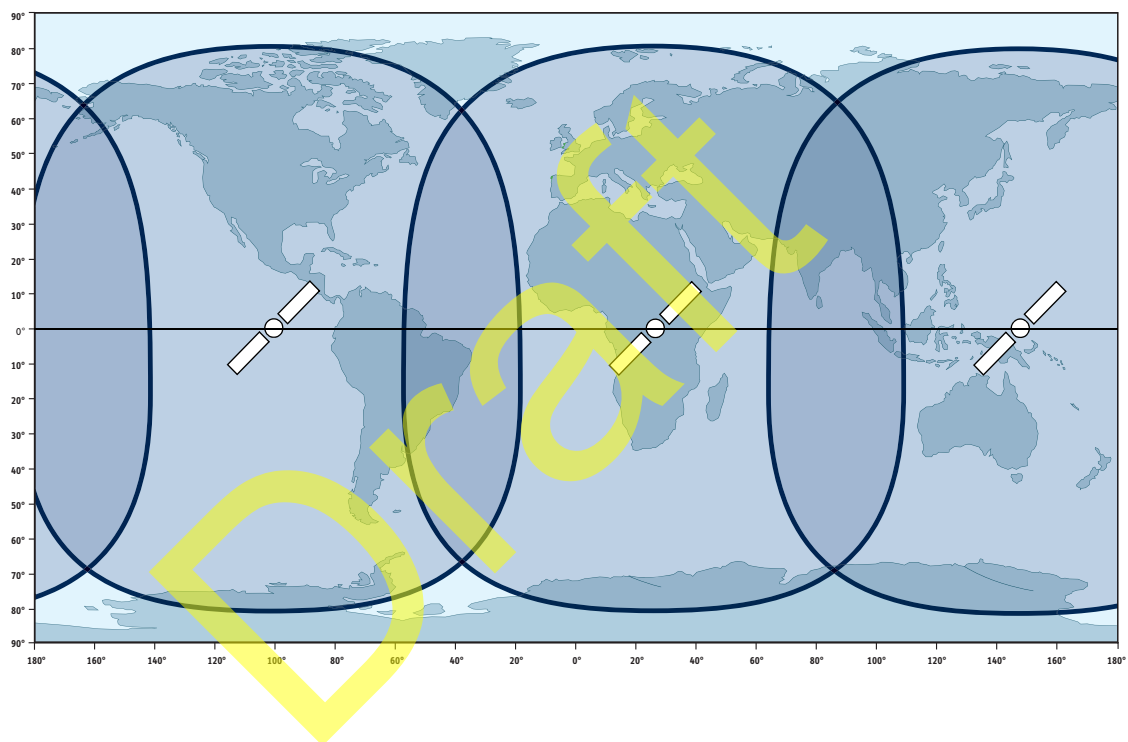
Note

You can choose to cancel pointing. In this case you cannot communicate on the BGAN network, but you can access all terminal settings.

Before pointing

Before pointing the antenna you can use the coverage map below to find your approximate location in relation to the satellites. Then you can use the compass to find the pointing direction to the closest satellite.


The 3 Inmarsat satellites are positioned above the equator, at the centre of each “footprint”.

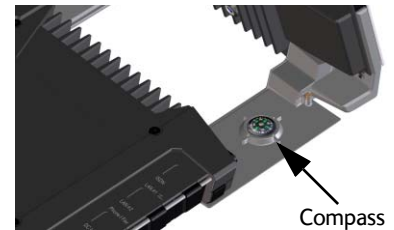


To point the antenna

To obtain optimum bandwidth and operating time, adjust the position of the antenna with great precision.

Do as follows:

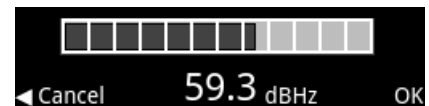
1. If the terminal is not already in pointing mode, select  in the display and select **Point now**.
2. Use the compass to locate the approximate direction from the antenna front face to the satellite.
3. Slowly rotate and tilt the EXPLORER 710 antenna to find the highest possible signal strength.



Use the display and the pointing sound to guide you.

Remember that the more accurately the terminal is aligned, the better throughput and lower power consumption you will get!

4. Press **OK** on the display keypad when you have obtained the highest possible signal strength.



CAUTION! After accepting the signal strength, keep the minimum safety distance of **1 m from the antenna front face**. The antenna may radiate microwave power as soon as the signal strength is accepted.

The EXPLORER 710 now starts to establish a connection to the BGAN network.

The registration procedure

The display shows the progress as follows:

- **SEARCHING:**
The EXPLORER 710 searches for the network operator. Note that the search procedure can be very short, so you may not see this text.
- **REGISTERING:**
The EXPLORER 710 is registering itself on the network.
If the GPS position has not yet been acquired at this point, the display may show NO GPS.

- **READY** (or other status information):
READY means the EXPLORER 710 is registered on the network and is ready to go online. If there is any other status information to show, e.g. if a call or data session is active or there is a warning, the display will show that instead.

Note

By default, the EXPLORER 710 automatically connects to the Internet when you connect equipment to the LAN or WLAN interface (Standard data connection).


If you are not going to use the LAN/WLAN connection, **remove the cable or disable the interface to avoid being charged** for any transmission through this interface.

To repoint the antenna

You may need to point the antenna again later, e.g. if the terminal has been moved or the signal is blocked.

To start the pointing process again, do as follows:

Display: Select  and select **Point now**. Then go through the pointing process as described in the previous section.

web interface: Select  from the top right corner and select **Start**. Then go through the pointing process as described in the previous section, but click **Accept** in the web interface instead of **OK** in the display.

Making the first call or data session

To make the first call

After connecting cables, entering the PIN 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 [To make or receive a phone call with EXPLORER 710](#) on page 35.

For details on how to connect your phone, see

- [To connect a phone using LAN or WLAN](#) on page 31
- [To connect an analogue phone](#) on page 33
- [To connect an ISDN phone or modem](#) on page 34

To make a call from the EXPLORER 710

To make a call from a phone connected to the EXPLORER 710, dial

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

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

To make a call to the EXPLORER 710

To make a call to a phone connected to the EXPLORER 710, dial

+ <Mobile number>

- + is the prefix used in front of the country code for international calls.
- Mobile number: The mobile number of the EXPLORER 710 you are calling. The first part of the mobile number is always 870, which is the “country code” for the BGAN system. For information on your mobile numbers, refer to your airtime subscription.

Note | There are two voice numbers, one for 3.1 kHz audio and one for Standard voice.

Example: If you are calling from Denmark and the mobile number for 3.1 kHz audio is 870782112345 on your EXPLORER 710, and you want to make a call to the EXPLORER 710 using 3.1 kHz audio, dial **00 870 782112345**.

To make the first data connection (LAN)

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

Do as follows:

1. Connect a LAN cable between your computer and LAN#1 or LAN#2 on the EXPLORER 710.
2. When power up and pointing is completed, a Standard data connection is automatically established, if automatic activation is enabled (default enabled).
The status text in the display shows the active connection.

To make the first data connection (WLAN)

To connect to the WLAN interface, do as follows:

1. Check that WLAN is enabled in your EXPLORER 710.
The top line of the display shows which interfaces are enabled.
If WLAN is disabled, use the keypad arrows to highlight the WLAN icon and OK to enable WLAN.



2. If your device is not close to the terminal, turn the WLAN antenna of the transceiver into an upright position.
3. Place your WLAN-enabled device (computer, tablet or smartphone) close to the EXPLORER 710, but **not** in front of the antenna.
4. On your device, search for available WLAN networks.
5. Select the EXPLORER 710 WLAN access point when it appears in your list of available wireless networks. The default name is **EXPLORER710**.
6. You may have to enter a password. By default, the password is the **serial number** of your EXPLORER 710 and the encoding type is **WPA2**. You can find the serial number in the display menu under **PROPERTIES > HARDWARE > UNIT SER. NO.**



For information on how to configure the WLAN interface, see [Configuring the WLAN interface](#) on page 50.

Your device should now be connected to the EXPLORER 710. If the EXPLORER 710 is registered on the BGAN network, the connection to the Internet is established automatically.

You are now ready to browse the Internet, check e-mails, send files etc.

Fixed antenna installation

You can keep the EXPLORER 710 antenna in a fixed position, using the Pole mount kit for EXPLORER 710.

Do as follows:

1. Separate the antenna from the transceiver as described in [To detach the antenna \(optional\)](#) on page 9.
2. Mount the EXPLORER 710 antenna on a pole or a wall, for example using the Pole mount kit.
3. Connect the antenna cable between the antenna and the transceiver.
4. Start up the EXPLORER 710 and point the antenna as described in [To point the antenna](#) on page 16.
5. Accept the signal strength by pressing **OK** on the EXPLORER 710 keypad.
6. Fasten the EXPLORER 710 antenna in the pointed position.

You only have to point the antenna once, when you mount it. Using a computer connected to the EXPLORER 710, you can set up the EXPLORER 710 to skip pointing at power up. Refer to [To set up pointing at power up](#) on page 58.

Using the EXPLORER 710

This chapter describes:

- *User interfaces*
- *Using a Computer, smartphone or tablet*
- *Using a phone*
- *Viewing event messages*
- *Adjusting the display*
- *Automatic power up*
- *Viewing properties of the EXPLORER 710*
- *Tracking the terminal*

User interfaces

The following user interfaces are available when using the EXPLORER 710

- Phone
- ISDN
- LAN
- WLAN
- USB (Host)

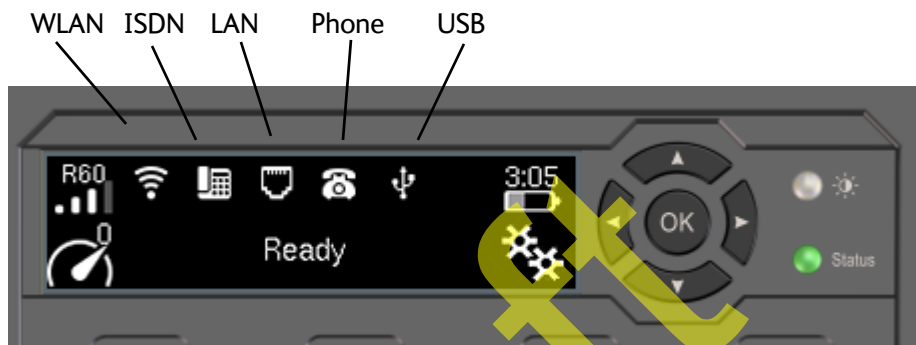
Enabling or disabling an interface

To enable or disable interfaces with the display and keypad

Note By default, only the LAN interface is enabled. However, you can enable or disable each of the interfaces independently

To enable or disable an interface, do as follows:

1. In the top of the display, locate the interface you want to enable or disable.



2. Use the arrow keys on the keypad to highlight the interface you want to enable or disable.
3. Press **OK** to toggle between enable and disable. The interface is greyed and crossed out when disabled.



Note It may take some seconds to enable an interface. When the icon stops pulsating and is no longer crossed out, the interface is enabled.




To enable or disable interfaces with the web interface

Note By default, only the LAN interface is enabled. However, you can enable or disable each of the interfaces independently

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

1. Connect your smartphone, tablet or computer to the EXPLORER 710, using the LAN or WLAN interface. See:
 - [To connect to the LAN interface](#) on page 25
 - [To connect to the WLAN interface](#) on page 24
2. To access the web interface, open your browser and type **ut.bgan** in the address bar, or type the IP address of your EXPLORER 710¹ (default IP address: 192.168.0.1). For further information on the web interface, see [Using the web interface](#) on page 39.

¹ You find the IP address in the display menu system by entering the menu and selecting **PROPERTIES > IP ADDRESS**.

3. When the web interface opens, click  (Control panel) from the bottom right corner of the page.
4. Locate the tile with the interface you want to enable or disable.
 -  means the interface is **disabled**.
 -  means the interface is **enabled**.
5. To enable or disable the interface, click the tile and select or clear **Enable**.
6. Click **Save**.

Note

It may take some seconds to enable the interface. When the icon changes to the **enabled** icon shown in [step 4](#)., the interface is enabled.

Using a Computer, smartphone or tablet

Overview

The following interfaces are available for connecting computers, smartphones or tablets:

- WLAN
- LAN

To choose an interface for data connection

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
WLAN	High	Some setup necessary on your WLAN device and in the web interface of the EXPLORER 710	Wireless connection. Up to 100 m depending on the transmitter in the computer and on the transmission conditions.
LAN	High	None (or very little)	Up to 100 m of cable

Router function

The terminal has a router function which routes traffic between the local network connected to the terminal and the BGAN network connection (also called PDP context on the BGAN network).

The router contains NAT (Network Address Translation) which allows sharing of a public IP address between a number of local network users.

Standard or Streaming data

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

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

To connect to the WLAN interface

To connect to the WLAN interface, do as follows:

1. Check that WLAN is enabled in your EXPLORER 710.
The top line of the display shows which interfaces are enabled.
2. If your device is not close to the EXPLORER 710, turn the WLAN antenna of the transceiver into an upright position.
3. Place your WLAN-enabled device (computer, tablet or smartphone) close to the EXPLORER 710, but **not** in front of the antenna.
4. On your device, search for available WLAN networks.
5. Select the EXPLORER 710 WLAN access point when it appears in your list of available wireless networks.
The default name is **EXPLORER710**.
6. You may have to enter a password.
By default, the password is the **serial number** of your EXPLORER 710 and the encoding type is **WPA2**. You can find the serial number in the display menu under PROPERTIES > HARDWARE > UNIT SER. NO.



For information on how to configure the WLAN interface, see [Configuring the WLAN interface](#) on page 50.

Your device should now be connected to the EXPLORER 710. If the EXPLORER 710 is registered on the BGAN network, and automatic activation is enabled in the terminal, the connection to the Internet is established automatically. The status text in the display shows if there is an active data connection.

You are now ready to browse the Internet, check e-mails, send files etc.

Calls: If you want to use WLAN to make calls over the BGAN network, you must have a SIP client installed on your smartphone. See [To connect a phone using LAN or WLAN](#) on page 31.

To connect to the LAN interface

Before connecting to the LAN interface

The EXPLORER 710 has two LAN connectors. If more than one LAN or WLAN user is connected to the EXPLORER 710, the terminal should be in Router mode (default). Refer to [Configuring the LAN interface](#) on page 49 and [User group settings \(LAN and WLAN\)](#) on page 52.

To connect to the LAN interface, use a shielded cable mounted with an RJ-45 connector.

For specifications, refer to [LAN interface, 2-port](#) on page 92.

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 connect to the LAN interface

This section does not describe configuration of the LAN interface. For information on configuration, see [Configuring the LAN interface](#) on page 49.

To connect 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 710.
2. Connect the other end of the cable to one of the LAN connectors on the EXPLORER 710.

Important

The ISDN interface and the LAN interface use the same connector type. Be careful not to connect to the wrong interface.



LAN#1 and LAN#2

If the EXPLORER 710 is registered on the BGAN network, and automatic activation is enabled in the terminal, the connection to the Internet is established automatically. The status text in the display shows if there is an active data connection.

To start or stop a data connection (LAN or WLAN) using the display

By default, if the terminal is powered, pointed and registered on the BGAN network, a Standard data connection is automatically established when LAN or WLAN equipment is connected.

However, you can disable automatic activation in the web interface. See [User group settings \(LAN and WLAN\)](#) on page 52.

To start or stop a data connection manually using the display and keypad, do as follows:

1. Connect your equipment to the interface you want to use.
2. Start up the terminal as described in [Starting up the EXPLORER 710](#) on page 15.
3. Use the arrow keys to highlight the connection icon in the bottom left corner of the display.



4. Press **OK** to see the available connections.
5. Select the connection type you want to start or stop.
6. Press **OK** on the keypad.

Note

It may take some time to start up the connection. The display shows the status while the connection is being established and when it has been started.

If the connection fails, the display shows an error message.

For information on how to start and stop data connections with the web interface, see [To start and stop data connections](#) on page 45.

Using PPPoE (Point-to-Point Protocol over Ethernet)

Note

You cannot see in the display nor in the web interface if a PPPoE connection is active!

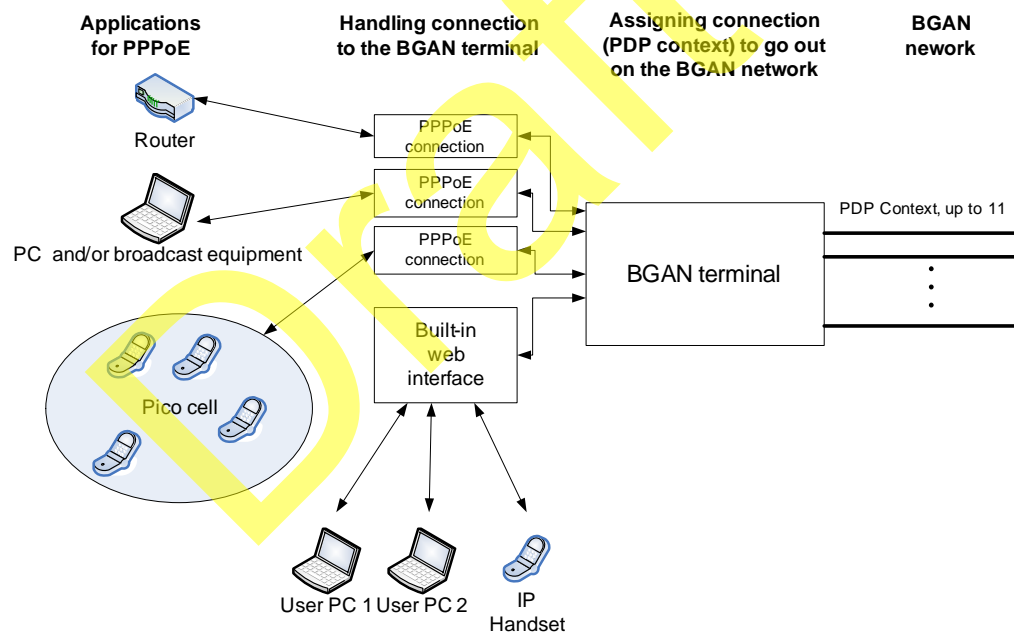
Overview

You can establish a PPPoE connection to the BGAN network using the EXPLORER 710 system. Use PPPoE if you want to control your connection independently of the web interface and the Thrane IP Handset.

Possible applications are:

- Connecting a router
- Connecting broadcast equipment, optionally through a PC
- Establishing a Picocell for the use of cell phones

The following drawing shows connections managed through PPPoE and web interface respectively.



Configuring the connected equipment for PPPoE

How to configure your equipment depends on the type of equipment. Refer to the user documentation of the equipment. As a minimum, you need to configure the following parameters in your equipment in order to make PPPoE work with the terminal:

- User name and password.
The user name and password can be left blank (or insert user name: void and password: void). Then the registration on the Access Point is most commonly done in such a way that the data connection is established with a dynamic IP address from the airtime provider.

To request a static IP (if subscribed to) from the Access Point you must type in the user name and password from your airtime subscription.

Note for MAC OS: User name and password are required. Use user name void and password void. This works for some ISPs. Contact your airtime provider for further information.

- For setups that have a check box for “Enable LCP extensions”, deselect this.

No further configuration is needed to make a Standard IP data connection to the Internet.

See the table below for information on how to configure specific services for your PPPoE connection.

If you need a certain service, for example a Streaming class, you must type in a specified text string when asked for a service name. The following table shows the service names supported by the terminal.

Text to type in the Service Name field	Function
(Blank)	Initiates a Primary Standard Data connection (default)
XBB:BACKGROUND	Initiates a Primary Standard Data connection (same as blank)
XBB:STREAM8K	Initiates a Primary Streaming 8 kbps connection
XBB:STREAM16K	Initiates a Primary Streaming 16 kbps connection
XBB:STREAM32K	Initiates a Primary Streaming 32 kbps connection
XBB:STREAM64K	Initiates a Primary Streaming 64 kbps connection
XBB:STREAM128K	Initiates a Primary Streaming 128 kbps connection
XBB:STREAM176K	Initiates a Primary Streaming 176 kbps connection
XBB:STREAM256K	Initiates a Primary Streaming 256 kbps connection
XBB:X-STREAM	Initiates a Primary X-Stream connection (from a minimum of 384 kbps up to approximately 450 kbps)
XBB:HDR_STREAM416K	Initiates a Primary Streaming 416 kbps (½HDR) connection
XBB:HDR_STREAM896K	Initiates a Primary Streaming 896 kbps (HDR) connection
XBB:HDR_STREAM416K_64K	Initiates a Primary Streaming 416 kbps (½HDR) upload and 64 kbps download connection
XBB:HDR_STREAM896K_64K	Initiates a Primary Streaming 896 kbps (HDR) upload and 64 kbps download connection
XBB:<AT String>	This allows the PPPoE clients to enter a full AT context activation string. Examples: XBB:AT+CGDCONT=1,ip,"bgan.inmarsat.com" XBB:AT+CGEQREQ=1,1,64,64,64,64

To access the terminal using AT commands

1. Connect your computer to the EXPLORER 710 terminal.
You may connect directly to the terminal or use a remote connection as described in the next sections.
2. On the connected computer, start a Telnet session.
3. Select TCP/IP and type in the IP address and port number.
 - For **local connection**, use the local IP address of the EXPLORER 710 (default 192.168.0.1) and port number 5454.
 - For **remote connection**, use the external IP address of the terminal ([step 3.](#) in the next section). The port number for AT commands is normally 5454 but is defined in the Remote management page under AT commands (see [Remote management](#) on page 67).
4. When the connection is established, type in your AT commands.

To access the terminal from a remote location

To prepare the terminal for remote management

There are three steps you must go through before you can access the terminal from a remote location:

1. Set up the terminal for control from a remote location as described in [Remote management](#) on page 67.
2. Activate a data connection in one of the following ways:
 - Remote start of a data connection with an SMS, see [Remote access with SMS](#) on page 68 and [To activate a data connection with an SMS](#) below.
 - Automatic activation of a Standard data connection, see [step 3.](#) in [User group settings \(LAN and WLAN\)](#).
 - Manual activation of a data connection, see [To start or stop a data connection \(LAN or WLAN\) using the display](#) on page 26.
3. Note the terminal's external IP address, found in one of the following ways:
 - If you are using SMS activation and you have selected SMS confirmation, you will receive an SMS with the IP address.
 - Otherwise, connect a computer locally to the terminal and start the web interface. The external IP address of the terminal is shown in the Dashboard in the tile with the connection you started in the previous step.

This is the IP address you must use afterwards to access the terminal.

Note

If Static IP is included in your airtime subscription, we recommend using this static public IP address for the terminal in order to provide easy access to the terminal. To use the static IP address, you must set the APN source to SIM default. For details, see [User group settings \(LAN and WLAN\)](#) on page 52.

To activate a data connection with an SMS

To be able to activate a data connection on the terminal from a remote location, the terminal must be set up as described in [Remote access with SMS](#) on page 68.

Send an SMS to the mobile number of the terminal. The text in the activation SMS must have the following format for activating and deactivating a connection:

- ACTIVATE <name of network user group>:<name of profile> <password>
- DEACTIVATE <name of network user group>:<name of profile> <password>
 - <name of network user group>: **default group**
 - <name of profile> **standard** (presently, only standard is supported)
 - <password> Defined in the web interface under **Advanced > Remote activation**.

Example: To activate a connection for remote management with the standard data connection and password=1234567890, send an SMS to the terminal with the text: **ACTIVATE default group:standard 1234567890**

If you have selected SMS confirmation, you receive a response including the IP address to use when you access the terminal from a remote location (see the next two sections).

Example: A confirmation SMS after sending an activation SMS may look like this:
Activation: Succeeded., IP 161.30.181.31

Remote access with the web interface

Note

The web interface may take a long time to load the pages if your Internet connection speed is slow.

After preparing the terminal as described in the previous sections, do as follows to access it:

1. Make sure your remote computer has access to the Internet.
2. On the remote computer, open your web browser.
3. In the address bar of your browser, enter the IP address of the terminal followed by a colon and the port number
http://<ip address>:<incoming port>.
 - <ip address> is the address from [step 3](#). in the previous page
 - <incoming port> is the port you defined in [Remote management](#) on page 67

Example: If the IP address of the terminal is 161.30.180.12 and the incoming port number defined in the Remote management page in the web interface is 8080, enter **http://161.30.180.12:8080**.

You should now be connected to the built-in web interface of the terminal.

Remote access with AT commands

After preparing the terminal for remote management as described in the previous sections, access the terminal as described in [To access the terminal using AT commands](#) on page 29.

Using a phone

Call types

Definition

The phone connection can be either a **Standard voice** connection or a **3.1 kHz audio** connection.

- For **outgoing calls**, the call type is **Standard voice** by default. You can change the call type for your call to 3.1 kHz audio by dialling **2*** before the number.
- For incoming calls, you can set up in the web interface which call types you want to receive on the Phone, ISDN or LAN/WLAN interface (IP handset). Only the call types selected for an interface are received on that interface.

When receiving calls, the mobile number determines which call type is used. In your airtime subscription you have one number for 3.1 kHz audio and one number for Standard voice. Remember that the call is only received on an interface if the call type used is selected for that interface.

For information on how to set up the call types in the web interface, see [Configuring the Phone interface](#) on page 53.

To connect a phone using LAN or WLAN

Your smartphone or IP phone can be set up to make and receive calls over the BGAN network, using the terminal's phone number. You can also make local calls to other handsets connected to the EXPLORER 710.

Note

Make sure your phone has an integrated SIP client. Cobham SATCOM offers the **EXPLORER Connect** smartphone app with a SIP client. You can also find other SIP applications available for download on the Internet.

First time SIP setup

If it is the first time you connect your phone to the LAN or WLAN interface for making calls, you must first set up the SIP server details in your smartphone. For information how, see the user documentation for your smartphone and for the SIP application. You may be asked to enter some of the following details:

- SIP server address and port: Default address: 192.168.0.1, Port: 5060
- User name: Local no. in EXPLORER 710 (0501 to 0516)
- Password: Default same as user name
- Codec priority: Highest priority codec type: G.711

Note

The user name and password must match the IP handset settings in the web interface of the EXPLORER 710. See [Managing IP handsets or smartphones](#) on page 55.

To connect your smartphone for making calls

For details on **initial setup** of your smartphone and the EXPLORER 710, see

- The documentation for your handset
- [First time SIP setup](#) on page 31
- [Managing IP handsets or smartphones](#) on page 55

To use your phone to make calls through the EXPLORER 710 using WLAN, do as follows:

1. Start up the EXPLORER 710 terminal.
2. Connect your smartphone to the wireless access point of the EXPLORER 710.
See [To connect to the WLAN interface](#) on page 24.
3. Start your SIP application.

You should now be ready to make and receive calls over BGAN.



To connect a wired IP handset for making calls

Note Make sure your IP handset complies with PoE class 2 (7 W).

For details on **initial setup** of your IP handset and the EXPLORER 710, see

- The documentation for your handset
- [First time SIP setup](#) on page 31
- [Managing IP handsets or smartphones](#) on page 55

To connect a wired IP handset, do as follows:

1. Start up the EXPLORER 710 terminal.

Note Make sure PoE is enabled in the terminal. See [Configuring the LAN interface](#) on page 49.

2. Connect the LAN cable between the IP handset and the connector LAN #1 on the EXPLORER 710.

When the IP handset is powered and ready, you should now be able to make and receive calls over BGAN.

To connect an analogue phone

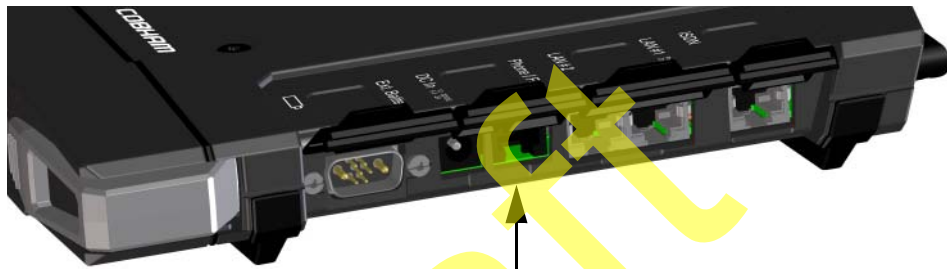
Before connecting to the Phone interface

To connect a phone to the Phone connector, you need an analog telephone cable with an RJ-11 connector. For specifications and pin-out, refer to [Phone interface](#) on page 90.

To connect to the Phone interface

Do as follows:

1. Connect the cable to your phone.
2. Connect the other end of the cable to the Phone connector on the EXPLORER 710.



3. Power up the EXPLORER 710 and point the antenna as described in [To point the antenna](#) on page 16.
4. Check the connection by making a phone call.
See [To make or receive a phone call with EXPLORER 710](#) on page 35.

If connection fails, check that the interface is enabled in the EXPLORER 710.

If the analogue phone icon is crossed out in the display main screen, the interface is disabled.
See [Enabling or disabling an interface](#) on page 22.

To connect an ISDN phone or modem

Before connecting to the ISDN interface

To connect a phone or modem to the ISDN connector, you need an ISDN cable with an ISDN connector. For specifications and pin-out, refer to [ISDN interface](#) on page 91.

To connect to the ISDN interface

The ISDN interface supports connection of up to 4 devices. However, if you are going to connect more than one device, the devices must be self-powered. The ISDN interface can supply maximum 1 W.

The BGAN Core network presently only supports one 64 kbps ISDN channel per subscription.

Do as follows:

1. Connect the ISDN cable to your phone or modem.
2. Connect the other end of the cable to the ISDN connector on the EXPLORER 710.



3. Power up the EXPLORER 710 and point the antenna as described in [To point the antenna](#) on page 16.
4. Check the connection by making a phone call.
See [To make or receive a phone call with EXPLORER 710](#) on page 35.

If connection fails, check that the ISDN interface is enabled in the EXPLORER 710.

If the ISDN icon is crossed out in the display main screen, the interface is disabled. See [Enabling or disabling an interface](#) on page 22.

To make or receive a phone call with EXPLORER 710

Smartphone, analogue phone, ISDN phone or IP handset

First connect your phone to the relevant interface. For further information, see:

- Smartphone: [To connect your smartphone for making calls](#) on page 32
- Analogue phone: [To connect an analogue phone](#) on page 33
- ISDN phone: [To connect an ISDN phone or modem](#) on page 34
- IP handset: [To connect a wired IP handset for making calls](#) on page 32

To make a call from the EXPLORER 710


- To make a call, dial
00 <country code> <phone number> followed by **#** or off-hook key.

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

If there was an error establishing the connection, the web interface and the display of the EXPLORER 710 show an error message.

To receive a call

By default, all devices connected to the EXPLORER 710 will ring when one of the mobile numbers is called. Note however, that this depends on the call type settings. See [Call types](#) on page 31.

Information on missed calls is stored in the call log. You can see the call log in the web interface (Control panel  > Log > Call log).

To make a call to the EXPLORER 710

To make a call to a phone connected to the EXPLORER 710, dial **+ <Mobile 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 number.** The first part of the mobile number is always 870, which is the “country code” for the BGAN system. For information on the mobile numbers, refer to your airtime subscription.

Note

There are two mobile numbers, one for **3.1 kHz audio** and one for **Standard voice**.

Local numbers and special functions

Overview

There are a number of local numbers and dialing functions available in the EXPLORER 710.

The following list shows the allocated local numbers and special-purpose numbers for the EXPLORER 710.

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.
00 followed by one of the numbers 1-199 and # or off-hook key	Short dial phone numbers in phone book.
0300 followed by # or off-hook key	Local call to analog phone.
0400 followed by # or off-hook key	Local call broadcast to all ISDN phones.
0 followed by one of the numbers 401-404 and # or off-hook key	Local call to one ISDN phone.
0 followed by one of the numbers 501-516 and # or off-hook key	Local call to one IP handset.
0900 followed by # or off-hook key	Local call broadcast to all handsets.

Apart from the numbers above, the EXPLORER 710 uses the following dialing prefixes:

- **1*** before the phone number will force the connection to use **Standard voice**.
- **2*** before the phone number will force the connection to use **3.1 kHz audio**.
- **#31#** before the phone number will hide the callers phone number to the recipient.
- ***31#** before the phone number will show the callers phone number to the recipient where it would otherwise be hidden, e.g. because the number is an ex-directory number.

To make local phone calls

You can make local calls between phones connected to the EXPLORER 710. For an overview of the available numbers, see the table in the previous section.


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

To charge your smartphone or tablet

To charge your smartphone or tablet, connect it to the USB interface next to the power button on the EXPLORER 710. The connector is a standard USB A connector.



Viewing event messages

When an event occurs, the display shows a warning icon . To see a list of active events in the display, do as follows:

1. From the display menu, select **EVENTS**.
2. Select an event to see details for the event.

Adjusting the display

To adjust the display brightness and timeout, do as follows:

1. From the display menu, select **SETTINGS > DISPLAY**.
2. Select **BRIGHTNESS** and select the wanted level with **OK**.
3. Select **SETTINGS > DISPLAY > TIMEOUT**.
4. Select the period of time the display light should stay on after the last key is pressed.

Automatic power up

The default behaviour of the EXPLORER 710 is to power up automatically when you connect external power. If you wish, you can change this power up mode, so that the EXPLORER 710 is only powered if the Power button is pressed. To switch between automatic and manual power up of the terminal, do as follows:

1. From the display menu, select **SETTINGS > POWER UP MODE**.
2. Select **Auto** or **Manual**.
 - Auto: The EXPLORER 710 powers up automatically when external power is applied
 - Manual: The EXPLORER 710 powers up only when the power button is pressed

Viewing properties of the EXPLORER 710

Using the display and keypad, you can see properties of the EXPLORER 710. Do as follows:

1. From the display menu, select **PROPERTIES**.
2. To see the local IP address of the EXPLORER 710, Select **IP ADDRESS**.
3. To see serial numbers and MAC addresses for the EXPLORER 710, select **HARDWARE**.
4. To see the software version of the EXPLORER 710, select **SOFTWARE**.
5. To see the IMEI number of the EXPLORER 710, select **IMEI**.

Tracking the terminal

The EXPLORER 710 can be used for tracking purposes. You can set up the terminal to report its position to a server at certain time intervals.

To use the tracking feature you must either set up a tracking server or get a tracking solution from your service provider. The EXPLORER 710 must be set up to match this server. For information how to set up the EXPLORER 710, see [Setting up tracking](#) on page 60. Once set up on both sides, the EXPLORER 710 will send position reports to the server as specified.

Using the web interface

This chapter describes how to use the web interface to operate, set up and configure your system. It has the following sections:

- [*Introduction*](#)
- [*Entering the SIM PIN in the web interface*](#)
- [*Pointing the antenna*](#)
- [*Using the Dashboard*](#)
- [*Viewing status*](#)
- [*The Control panel*](#)
- [*Using the Logs*](#)
- [*Configuring the LAN interface*](#)
- [*Configuring the WLAN interface*](#)
- [*Port forwarding*](#)
- [*User group settings \(LAN and WLAN\)*](#)
- [*Configuring the Phone interface*](#)
- [*Configuring the ISDN interface*](#)
- [*Configuring the USB interface*](#)
- [*Managing IP handsets or smartphones*](#)
- [*Support*](#)
- [*Configuring the terminal settings*](#)
- [*Viewing the battery status*](#)
- [*Setting up tracking*](#)
- [*Advanced settings*](#)

Introduction

The web interface

What is the web interface?

The web interface is built into the terminal and is used for operating, setting up and configuring the system.

You can access the web interface from a computer, tablet or smartphone with a standard Internet browser.

To access and navigate the web interface

To access the web interface

To access the web interface, do as follows:

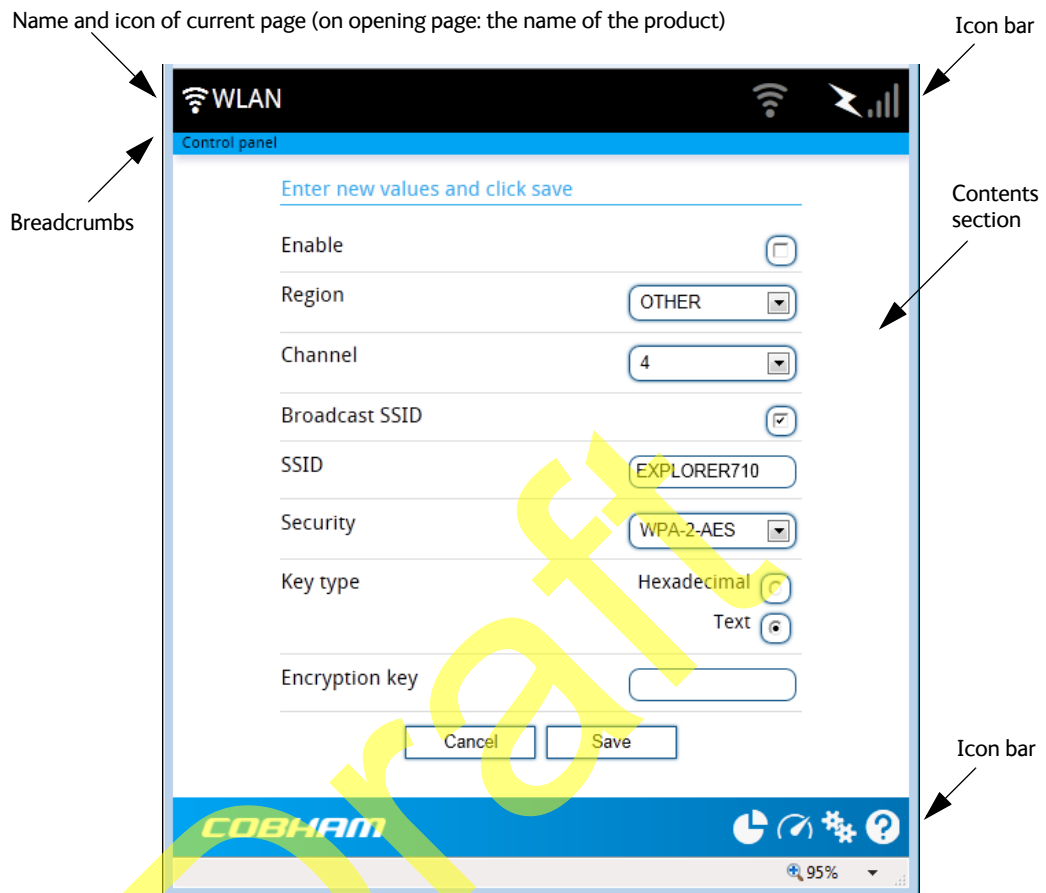
1. Start up the terminal.
For details, see [Starting up the EXPLORER 710](#) on page 15.
2. Connect your computer to the terminal.
3. Open your browser and enter **ut.bgan** in the address bar.
If your connected computer is set up to obtain a DNS server address automatically, this name is translated into the local IP address of the terminal. If not, you can enter the IP address of the terminal instead. The default IP address of the terminal is **192.168.0.1**.

Note

Some parts of the web interface may not be accessible if the user permissions are limited. For information on how to set up user permissions, see [To set up user permissions](#) on page 65.

Overview of the web interface

When the web interface opens, the title bar shows the name of the product.













The web interface consists of the following sections.


- **Name** of current page. Tap or click to refresh the page.
- **Icon bars** at the top and bottom are present on all pages and holds icons that give access to status such as battery level and signal level as well as active events, when relevant. It also holds the main menu. For explanations of the icons, see the next section, *Icons in the icon bars*.
- **Breadcrumbs** right below the icon bar show the current location in the menu system and gives access to the higher levels in the menu.
- **Contents section** shows the contents of the selected page. This section is used for viewing or changing settings, or for performing actions. On the opening page, this section is used to start and stop data connections.

Icons in the icon bars

The icon bars are always available at the top and bottom of the web interface. Some of the icons are permanent while others are temporary.

Icon	Explanation
  	<p>Power status. The icon changes according to status. Click to see detailed battery status.</p> <p>Battery level</p> <p>Battery charging</p> <p>No battery. Running on external power.</p>
	Signal level. Click to point the terminal.
	WLAN interface. Bright when WLAN is enabled, greyed when it is disabled. Click to access WLAN settings.
	Help. Click to get context-sensitive help for the current page.
	Control panel. Click to access the settings.
	Dashboard. Click to go to the Dashboard (startup page).
	Status. If the screen is not large enough to show the status field, this icon appears at the bottom of the page. Click the icon to see status of the terminal and satellite connection. Click again to go exit the status page.
	<p>An event is active.</p> <p>Click the icon to see a list of active events.</p> <p>Note that this icon will remain in the icon bar as long as the event is still active.</p>

To navigate the web interface

- **To access status and settings**, tap or click the relevant icon in the icon bar or select  to access the **Control panel**. The status or settings are displayed in the contents section.
- **To see your current location and to move back through the Control Panel menu**, use the breadcrumbs just below the icon bar.
- **To scroll through longer pages**, use the scroll bar or swipe.
- **To refresh the current page**, click the page's icon in the top left corner.

Entering the SIM PIN in the web interface

Do you need a SIM PIN?

Note

You may not have to enter a SIM PIN to access the terminal. This depends on whether or not the use of a SIM PIN is enabled on your SIM card.

The administrator can enable and disable the use of a SIM PIN. For details, see [To enable or disable the use of a SIM PIN](#) on page 64.

If a smartphone, tablet or computer is connected when you start up the terminal, you can access the web interface and enter the SIM PIN here.

To enter the SIM PIN

If your SIM card requires a PIN and the PIN has not yet been entered, you must enter it before you can make calls or access the Internet. Until you have entered the PIN you cannot access the satellite network, but you can still configure your terminal.

To enter the PIN, do as follows:

1. Access the web interface.
If the terminal needs a PIN, a popup window tells you to enter PIN.


2. Type in your PIN and click **OK**.

When the correct PIN is entered, the terminal is ready for pointing. When pointing is completed and the terminal is registered on the network, you are ready to make calls or access the Internet.

To cancel the SIM PIN

If you select **Cancel** when you are asked for a PIN, you can use the web interface as normal, but you will not be able to access the BGAN network to make calls or data sessions. Only emergency calls will be possible, and only if the network allows it.


To enter the PIN later, after cancelling the first time, do as follows:

1. From the icon bar at the top, click .
The event list opens.
2. Click **Resolve** next to **Enter PIN**.
3. Type in your PIN and click **OK**.

Pointing the antenna

For detailed information on the pointing procedure, see [To point the antenna](#) on page 16.

You can use the web interface to help you with the pointing process. To start the pointing procedure, do as follows:

1. If the pointing process is not automatically started, select  and select **Start**.
The signal strength is shown on the screen.
2. Turn and tilt the antenna slowly until you have obtained the highest possible signal strength.
3. Click **Accept**.

The terminal will now try to register on the BGAN network.



Draft

Using the Dashboard

The Dashboard has two main functions: To start and stop data connections and to view status. For other functions available from the icon bars at the top and the bottom, see [Icons in the icon bars](#) on page 42.

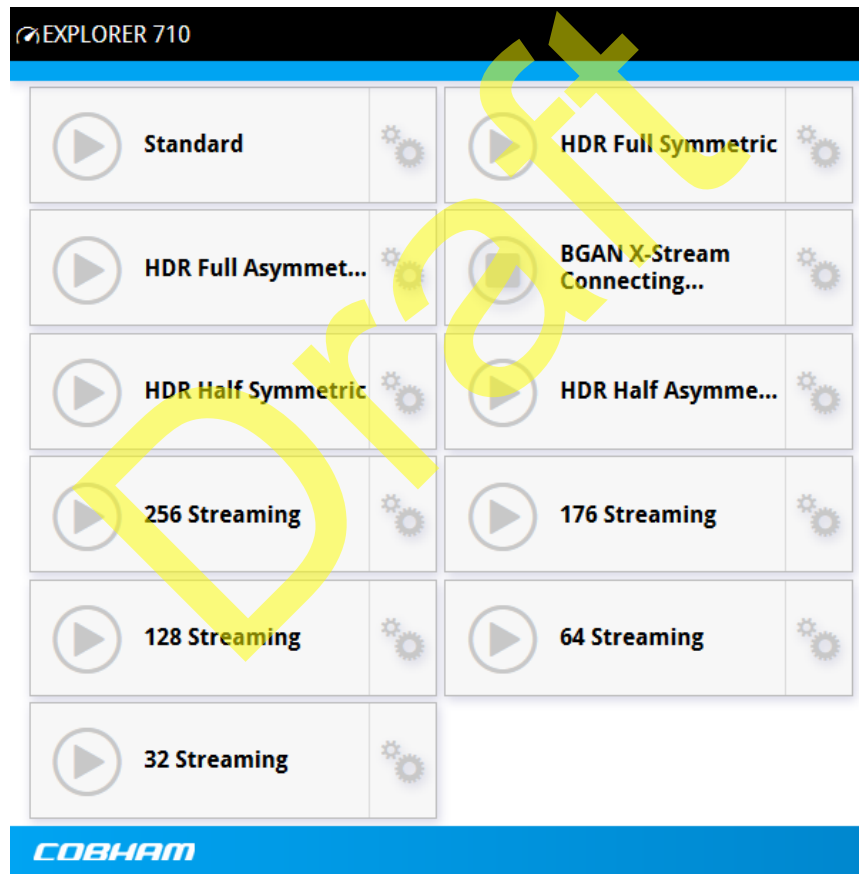
To start and stop data connections

Note

The icons for starting  and stopping  connections are only displayed if the terminal is ready and registered on the BGAN network. Otherwise you cannot start data connections.

To start and stop data connections on your EXPLORER 710, do as follows:

1. In the Dashboard, locate the connection profile you want to start.




2. Click  to start the connection.

Note

Once a Streaming connection is started, the connection will run until you stop it. You will be charged for the time you are connected.

3. Click  to stop the connection.

If there is an error with the connection, the connection tile shows a red exclamation mark  and an error message.

When a connection is active, the icon turns green and the tile for the active connection shows:


- IP address: The IP address that has been assigned by the service provider to this session.
- Transferred data: For Standard data, the tile shows the total amount of transmitted and received data since the connection was established.
- Connection duration: For Streaming data, the tile shows the total time the connection has been active.
- Bit rate: For Streaming connections, the tile shows the currently available bit rate.
 - For the Streaming classes with a **guaranteed bit rate**, the tile shows the guaranteed bit rate.
 - For the Streaming classes with a **dynamic bit rate** (BGAN X-Stream and HDR), the tile shows the currently available bit rate. Note, however, that the bit rate is adjusted according to the traffic on the connection. It takes approximately 15 seconds for the bit rate to be updated after traffic has started on the connection.

By default, the following connections are available:



Name	Type of connection
Standard data	Several users can share the data connection. This type of connection is ideal for TCP/IP traffic such as e-mail, file transfer, and Internet and intranet access. The user pays for the amount of data sent and received.
Streaming data The following Streaming classes are available: 32, 64, 128, 176 or 256 Streaming BGAN X-Stream HDR Full Symmetric HDR Half Symmetric HDR Full Asymmetric (64 kbps download, Full HDR upload) HDR Half Asymmetric (64 kbps download, Half HDR upload)	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).

To change the name of your data connections

To change the name of one of the data connections, do as follows:

1. Click  in the right side of the tile with the connection that you want to change.
2. Click the name of the connection.
3. Type in the new name for the connection.
4. Click **Save**.

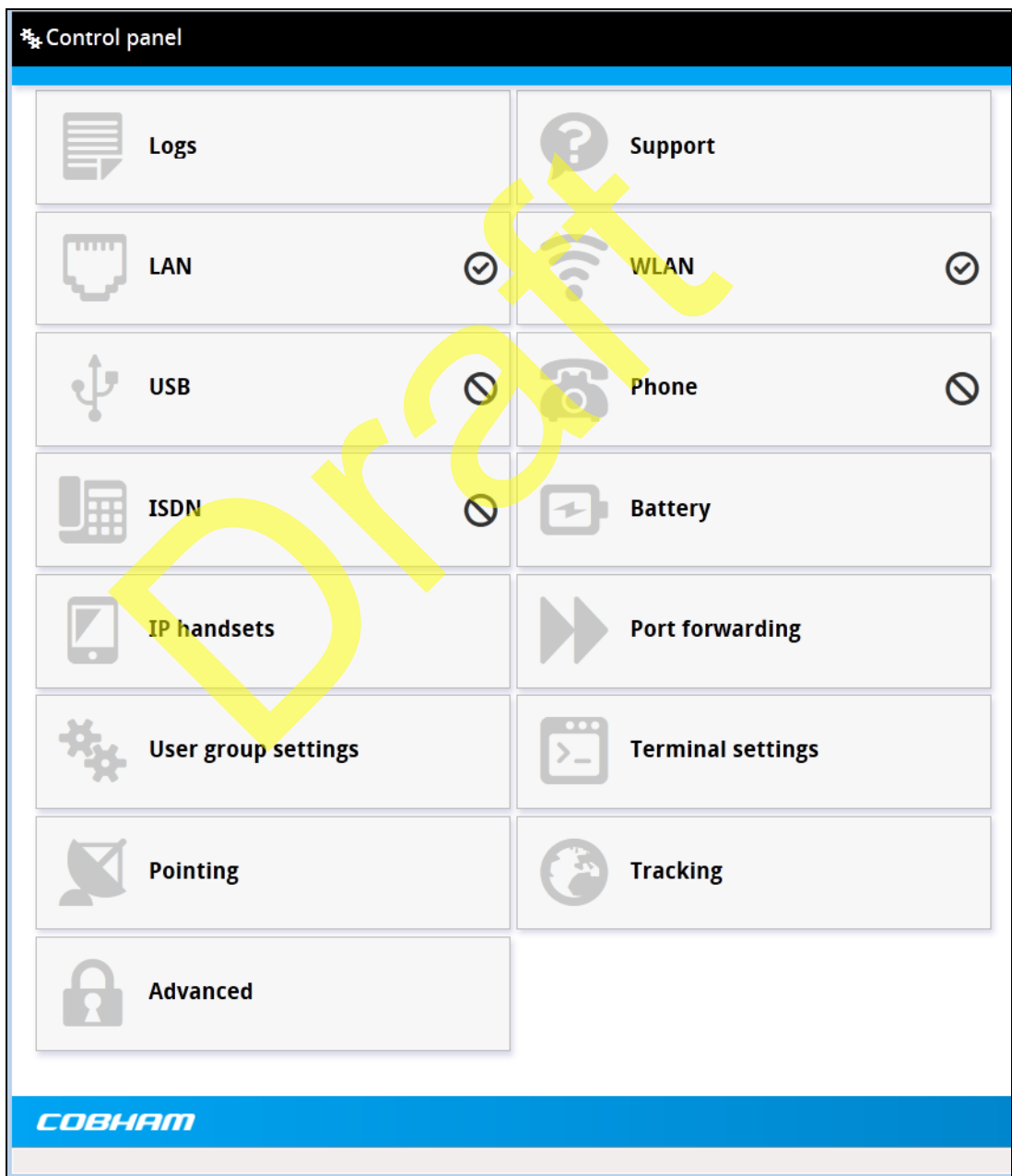
Viewing status

If the window is large enough, it shows a status field at the bottom of the page or in the right side of the page. If not, click  to show the status page. Click  again to return to the previous page.

The Control panel

The control panel is used for accessing the settings and functions of your EXPLORER 710.

To open the control panel, click  from the bottom right corner of the web interface.



Using the Logs

To access the Logs

To access the Logs, select  and select **Logs** from the menu. The Logs page contains:

- **Call log:** A list of all incoming, outgoing and missed calls since the log was last cleared.
- **Data log:** A list of all data sessions since the log was last cleared.
- **Total counters:** Totals for each type of service since the log was last cleared.

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

Call log

The Call log shows:



- **Outgoing calls** shows the start time, receiving end phone number, duration, type (Standard voice or 3.1 kHz audio) and, if Call charges have been entered, estimated charge of each outgoing call.
- **Received calls** shows the start time, calling phone number, duration and type (Standard voice or 3.1 kHz audio) of each incoming call.
- **Missed calls** shows the start time, calling phone number and type (Standard voice or 3.1 kHz audio) of each incoming call that was not received.

If a call fails, the call log shows the cause of the error.

You can clear the Call log under **Control Panel**  > **Advanced** > **Clear logs** (requires Administrator password).

Data log

The Data log shows:


- **Standard data** shows bytes uploaded , bytes downloaded , date and time and estimated charge of each Standard data session (if Call charges have been entered).
- **Streaming data** shows the duration and type (such as 64 kbps, 256 kbps), date and time and estimated charge of each Standard data session (if Call charges have been entered).

You can clear the Data log under **Control Panel**  > **Advanced** > **Clear logs** (requires Administrator password).

Total counters

The total counters show:

- **Call session totals** shows the total duration (hh:mm:ss) for each call type since the log was last cleared.
- **Data session totals** shows totals for each data connection type since the log was last cleared. For Standard data the totals are shown as amount of data transferred (kB) and for Streaming connections the totals are shown in duration (hh:mm:ss).

You can clear the Total counters under **Control Panel**  > **Advanced** > **Clear total counters** (requires Administrator password).



Configuring the LAN interface

The terminal has two LAN connectors. LAN#1 is with PoE (Power over Ethernet).

To configure the LAN interface, do as follows:

1. In the **Control panel** , click the **LAN** tile.
2. To enable the LAN interface, select **Enable**.

Note | It may take some seconds to enable the interface.

-  on the LAN tile means the interface is **disabled**.
 -  on the LAN tile means the interface is **enabled**.
3. To enable Power over Ethernet (PoE) on LAN#1, select **Enable** next to **Power over Ethernet**.
PoE is used e.g. for powering IP handsets. If you are not using PoE, you can save power by disabling PoE.

For a description of how to set up the **LAN network parameters**, see [User group settings \(LAN and WLAN\)](#) on page 52.



Configuring the WLAN interface

Note The LAN network settings entered in the User group settings page also apply for the WLAN interface.

To configure the WLAN interface, do as follows:

1. In the **Control panel** , click the **WLAN** tile.
2. To enable the WLAN interface, select **Enable**.

Note It may take some seconds to enable the interface.

-  on the WLAN tile means the interface is **disabled**.
-  on the WLAN tile means the interface is **enabled**.

3. Next to **Region**, select the region you are located in.

Note In some countries, the use of WLAN is not allowed. Before continuing, make sure WLAN is allowed and licensed in the country where you intend to use it.

4. Select the **Channel** number used for communication on the WLAN interface.
5. Select **Broadcast SSID** to show your WLAN access point to other users.
If you **clear** the box, your WLAN access point is hidden.
6. Type in the **SSID**.
The SSID is a max. 32 character text identifying the wireless local area network. All wireless devices on a WLAN must use the same SSID in order to communicate with each other. The default SSID is **EXPLORER710**.
7. Select the **Security** standard. You may select one of the following encryption standards:
 - None (no encryption is applied)
 - WEP-40/64
 - WEP-104/128
 - WPA-TKIP
 - WPA2-AES (selected by default)
8. Next to **Key type**, select **Hexadecimal** or **Text**.
The encryption key must normally be a hexadecimal code. However, if you are using WPA or WPA2 encryption (default) you can choose to use a text string, which may be easier to memorize.
9. Type in the **Encryption key** for the selected Security standard (not applicable if security mode = None). The default encryption key is the **serial number** of the EXPLORER 710.
10. Click **Save**.

Port forwarding

Note


Make the port forwarding configuration before starting the data session.

Port forwarding enables you to set up a server connected to the terminal while the terminal is in Router mode. Without port forwarding it would not be possible to contact the server from the Internet.

We recommend using a static public IP address for the terminal in order to provide easy access to the terminal. To use the static IP address, it must be included in your subscription and you must set the APN source to SIM default. For details, see [User group settings \(LAN and WLAN\)](#) on page 52.

The following example shows how to allow Internet access to a mail server (smtp) connected to the terminal.


The mail server in this example has the IP address 192.168.0.100.

1. From the **Control panel** , select **Port forwarding**.
2. Select **Forward port** to add a new port forwarding.
3. Select **Active** to activate the port forwarding.
4. Type in the **Incoming port start** and the **Incoming port end**.
This is the range of port numbers on the EXPLORER 710 for which incoming traffic to the EXPLORER 710 will be forwarded.
5. Type in the **Destination IP** address, which in this example is the IP address of the mail server: 192.168.0.100.
This is the IP address to which the incoming traffic is forwarded.
6. Type in the **Destination port start** and the **Destination port end**.
This is the range of port numbers, in this example on the mail server, to which the incoming traffic will be forwarded.
7. Click **Save**.

When you have activated a data connection, you can now access the mail server from the Internet, using the external IP address of the terminal. You can see the external IP address on the Dashboard, in the tile with the data connection you have started.

User group settings (LAN and WLAN)

To set up your LAN or WLAN network settings, do as follows:

1. From the **Control panel** , select **User group settings**.



2. At **Internet connection mode**, select **Modem mode** or **Router mode**. Router mode is the default setting and is recommended for most purposes.
 - Select **Router mode** if one or more computers are connected using the LAN or WLAN interface, and the EXPLORER 710 should act as a router. When Router mode is selected, the EXPLORER 710 uses the built-in NAT module for making the necessary address translations.
 - Select **Modem mode** if only one computer is connected to the LAN or WLAN interface, and the EXPLORER 710 should act as a modem, or more than one computer is connected to the LAN or WLAN interface using an external router.

Note

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

3. To enable automatic activation of your data connection, select **Automatic activation**.
 - When you **select** automatic activation (default) and connect to the LAN or WLAN interface, the data connection is automatically established as soon as the EXPLORER 710 and its BGAN connection are ready.

Note

You are charged for the data transferred. You may want to disable automatic updates in your LAN or WLAN device to avoid unnecessary charges.

- When you **disable** automatic activation, you can control the data connection manually from the dashboard.
4. To enable IP Header compression, select **IP Header compression**.
IP Header compression means the bandwidth is used more efficiently, whereas no compression means the data packets take up more bandwidth but are transmitted more reliably with less data loss.
 5. Next to **APN**, select the source of the APN.
 - **SIM default** (default and recommended setting): The APN is taken from the SIM card.
 - **Network assigned**: The APN is assigned from the network.
 - **User defined**: APNs are provided from the Airtime Provider. Type in the APN next to **User defined name**.
 6. If your APN uses a password, type in the **User name** and **Password** provided from the Airtime Provider.
 7. Click **Save**.



Configuring the Phone interface

To configure the Phone interface, do as follows:

1. In the **Control panel** , click the **Phone** tile.
2. To enable the Phone interface, select **Enable**.


Note

It may take some seconds to enable the interface.



-  on the Phone tile means the interface is **disabled**.
 -  on the Phone tile means the interface is **enabled**.
3. Set the call type for incoming calls.
You can select **Standard voice** or **3.1 kHz audio** or both.
 - If you select both, any device connected to the Phone interface will react (ring) on incoming calls.
 - If you select e.g. Standard voice, the Phone interface will only react on calls made to the Standard voice phone number.
 4. Click **Save**.

Configuring the ISDN interface

To configure the ISDN interface, do as follows:

1. In the **Control panel** , click the **ISDN** tile.
2. Click the ISDN number you want to change settings for.
3. To enable the ISDN interface, select **Enable** (applies to all ISDN numbers).

Note | It may take some seconds to enable the interface.

-  on the **ISDN** tile means the interface is **disabled**.
 -  on the **ISDN** tile means the interface is **enabled**.
4. Set the call type for incoming calls.
You can select **Standard voice**, **3.1 kHz audio**, **UDI** and/or **RDI**.
An incoming call to the ISDN interface will only make the connected device ring if the call type used for the call is selected here.
 5. Click **Save**.



Configuring the USB interface

Note that the USB interface is a **Host interface**, primarily used for charging devices such as tablets or smartphones and for recovery software upload.

To configure the USB interface, do as follows:

1. In the **Control panel** , click the **USB** tile.
2. To enable the USB interface, select **Enable**.

Note | It may take some seconds to enable the interface.

-  on the **USB** tile means the interface is **disabled**.
 -  on the **USB** tile means the interface is **enabled**.
3. Select the **Charge current**.
Select **0.5 A** or **2.0 A**, depending on the specifications for the device you are going to connect.
 4. Click **Save**.

Managing IP handsets or smartphones

Overview


This section describes how to manage smartphones and IP handsets connected to the EXPLORER 710.

The terminal supports connection of up to 16 handsets through the LAN or WLAN interface. Each handset must have a local number in the range 0501 to 0516 as well as a unique password. For details, see the next section.



For details on SIP settings and how to connect your handset to the LAN or WLAN interface, see [To connect a phone using LAN or WLAN](#) on page 31.

To manage IP handsets or smartphones in your EXPLORER 710

Do as follows:

1. Connect your smartphone to the WLAN interface or your IP handset to the LAN#1 port of the terminal.
for details, see [To connect a phone using LAN or WLAN](#) on page 31.
2. In the web interface, select  (Control panel) > **IP handsets**.
3. Click the tile for the handset number you want to manage.
4. Select **Enable** to enable the handset.

Note | It may take some seconds to enable the handset.

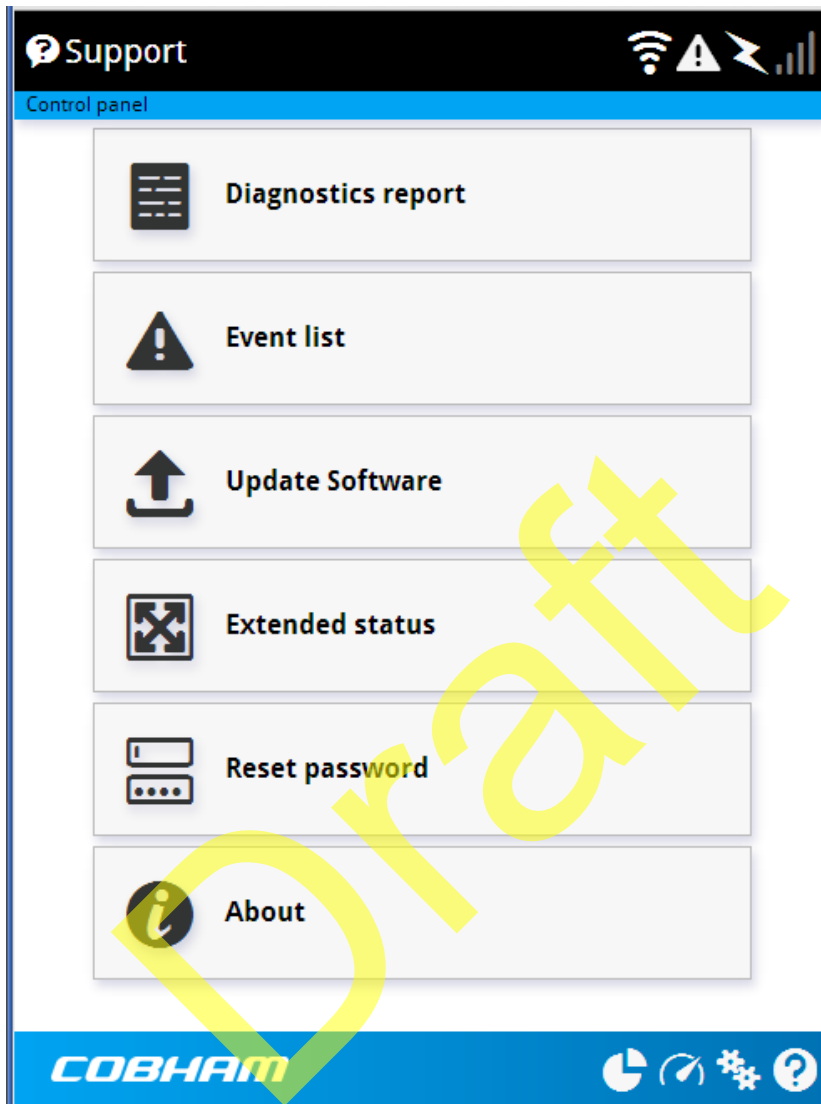
-  on the tile for your handset means the handset is **disabled**.
 -  on the tile for your handset means the handset is **enabled**.
5. To change the **Password**, simply type in the new number.
 6. Set the call type for incoming calls.
You can select **Standard voice** or **3.1 kHz audio** or both.
 - If you select both, the handset will react (ring) on incoming calls.
 - If you select e.g. Standard voice, the handset will only react on calls made to the Standard voice phone number.
 7. Click **Save**.
 8. In the smartphone or IP handset, enter the local number and the password you just entered in the web interface. See the documentation for your handset for details.

Note | The user name is also the local number for the handset.

The handset remains in the list after disconnecting. When the handset is connected again, it is automatically recognized and ready for use, if enabled.

Support

To open the Support page, select  (Control panel) > **Support**.



To create a diagnostics report


The diagnostic report contains relevant information for troubleshooting. When contacting your distributor for support, please enclose this file. To generate a diagnostic report, do as follows:


1. From the **Support** page, click **Diagnostics report**.
2. Click **Generate report**.

Note | It may take a few minutes to generate the report.

3. Select **Download report**.
4. Choose a location for the file and save it.


To view the event list

When an event is registered, the web interface shows a warning icon  in the icon bar as long as the event is active. The **Event list** only shows events that are currently active.

To view the event list, click  from the icon bar at the top of the web interface, or select **Event list** from the **Support** page.

To update software

To update the software in the EXPLORER 710, do as follows:

1. Download the new software or acquire the software from Cobham SATCOM and save it on your computer.
2. Open the web interface and enter the Control panel .
3. Click **Support > Update software**.
4. Click **Update software**.
5. Browse to the new software version and click **Open**. The software file has the extension ".tiff".

Note

The update procedure takes a couple of minutes.

When the EXPLORER 710 has finished updating the software, you get a message that the software installation was successful.

6. Click **OK**.

The EXPLORER 710 now reboots and starts up with the new software version.

You can check the software version under **Control panel > Support > About**.

If, for some reason, you cannot upload software using the web interface, you can also use the USB interface. For details, see [To upload software with USB](#) on page 72.

To view extended status

To see the Extended status page, select **Support > Extended status**.

To view updated information on the **Extended status page**, click the icon in the top left corner to refresh the page.

The Extended Status page shows information such as IAI-2 status, IMSI number and IMEI number.

To reset the administrator password

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

1. Contact your supplier for a reset code.
Report the serial number and IMEI number of the terminal.
You can find the serial number and IMEI number in the display on the terminal by selecting the menu ****** and then **PROPERTIES**.
2. After receiving the reset code from your supplier, select **Reset password** from the **Support** page.
3. Type in the reset code obtained from your supplier and click **Reset**.
4. The password is disabled.

You now have access to all settings. If you want to use a password, enable the password as described in [To enable the administrator password](#) on page 62.

About

The **About** page shows the **software version** of your EXPLORER 710 and legal information. To access the page, select **Support > About**.

Configuring the terminal settings

To configure the terminal settings, select **** (Control panel) > Terminal settings**.

To set up power-up mode with external power

You can set the terminal to automatically power up when external power is applied as follows:

1. In the **Terminal settings** page, locate **Power-up mode when using external power**.
2. Select **Automatic or Manual**.
 - Automatic means the terminal powers up automatically when external power is applied
 - Manual means you must use the power switch to turn on the terminal

To set up pointing at power up

1. In the **Terminal settings** page, locate **Pointing mode at start-up**.
2. Select **Automatic or Manual**.
 - If the EXPLORER 710 is moved around between each power up, select **Manual** from the drop-down list. With this setting, the terminal will go through the pointing procedure every time the terminal is powered.
 - If the EXPLORER 710 antenna is placed in a fixed position and the signal strength is sufficient, select **Automatic** to make the EXPLORER 710 automatically register on the satellite network when the terminal is powered.

3. Click **Save**.

To enable or disable the pointing sound

The EXPLORER 710 can make a sound to guide you through the pointing procedure. To enable or disable the pointing sound, do as follows:

1. In the **Terminal settings** page, locate the **Audio indication** section.
2. Select **Audio assisted pointing** if you want to use a pointing sound to assist your pointing process.
3. Click **Save**.

To select the GNSS type


To select which navigation system to use with your EXPLORER 710, do as follows:

1. In the **Terminal settings** page, locate the **GNSS** section.
2. Select **GPS** or **GLONASS**.
3. Click **Save**.

Note It may take some minutes for the EXPLORER 710 to change the navigation system.

Viewing the battery status

To view the **status** of the **internal** and **external** (if any) battery, do one of the following:

- Click the **battery** symbol from the icon bar at the top of the page, or
- from the **Control panel** , select **Battery**.

The Battery page shows the **charging status** (Charging or Not charging), the **charge level** in percent and the **estimated remaining usage time**.

Note The estimated remaining usage time can vary significantly, depending on usage. The remaining time will be shorter if the terminal is used a heavily (more interfaces in use and more calls and data sessions active).

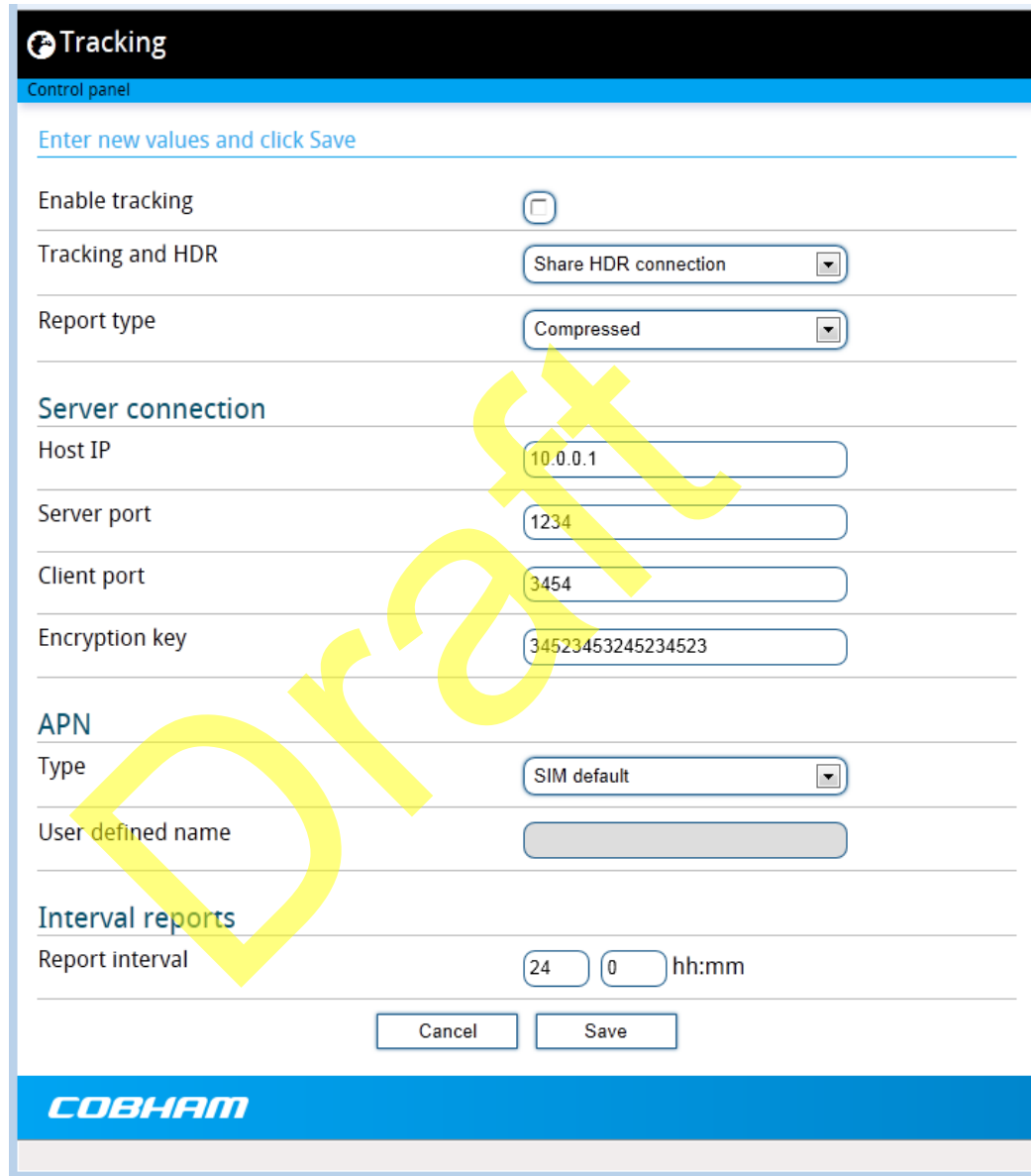
For more information on the EXPLORER 710 batteries, see

- [To insert the battery](#) on page 11
- [Normal use of the battery](#) on page 74
- [To recharge batteries](#) on page 74
- [To connect an extra, external EXPLORER 710 battery](#) on page 75
- [Accurate display of the battery capacity](#) on page 75

Setting up tracking

You can set up the EXPLORER 710 to report to a server at certain time intervals. To set up tracking, do as follows:

1. From the Control panel , select **Tracking**.



Tracking

Control panel

Enter new values and click Save

Enable tracking ☐

Tracking and HDR Share HDR connection ▼

Report type Compressed ▼

Server connection

Host IP

Server port

Client port

Encryption key

APN

Type SIM default ▼

User defined name

Interval reports


Report interval hh:mm

COBHAM

2. To enable tracking of the EXPLORER 710, select **Enable tracking**.
3. At **Tracking and HDR**, select **Share HDR connection** or **Disable HDR connection**. When tracking is enabled, you cannot use a full HDR or BGAN X-Stream connection, so you must select one of these two options:
 - **Share HDR connection:** When Tracking is enabled and a HDR connection is started, the terminal will use part of the HDR bandwidth for tracking.
 - **Disable HDR connection:** As long as Tracking is enabled, you cannot start a HDR connection.

4. Select the **Report type**.
 - **Compressed**. Only latitude and longitude are reported.
 - **Extended**. Apart from latitude and longitude, heading and altitude are also included.
 - **ECEF**. The same information as Extended, but position and speed data are 3D (ECEF coordinates).
5. Under **Server connection**, type in the following details:
 - **Host**: The IP address of the server that the EXPLORER 710 will report to.
 - **Server port**: Port number on the server. Default number is 7474.
 - **Client port**: Port number on the EXPLORER 710. Default number is 7475.
 - **Encryption key**: A supplied 128 bit key which must match on both the client and server side.
6. Under **APN**, select the source of the APN.
 - **SIM default** (recommended): The APN is taken from the SIM card.
 - **Network assigned**: The APN is assigned from the network.
 - **User defined**: APNs are provided from the Airtime Provider. Type in the APN next to **User defined name**.
7. Type in the **Report interval** in hours (h) and minutes (m).

Example: If you type in 1 h 30 m, the EXPLORER 710 will send a report for every 1½ hour.
8. Click **Save**.

If you have disabled HDR in step 3., you can see the status of the tracking link in the status area of the web interface. If the status area is not shown, click  to see it.

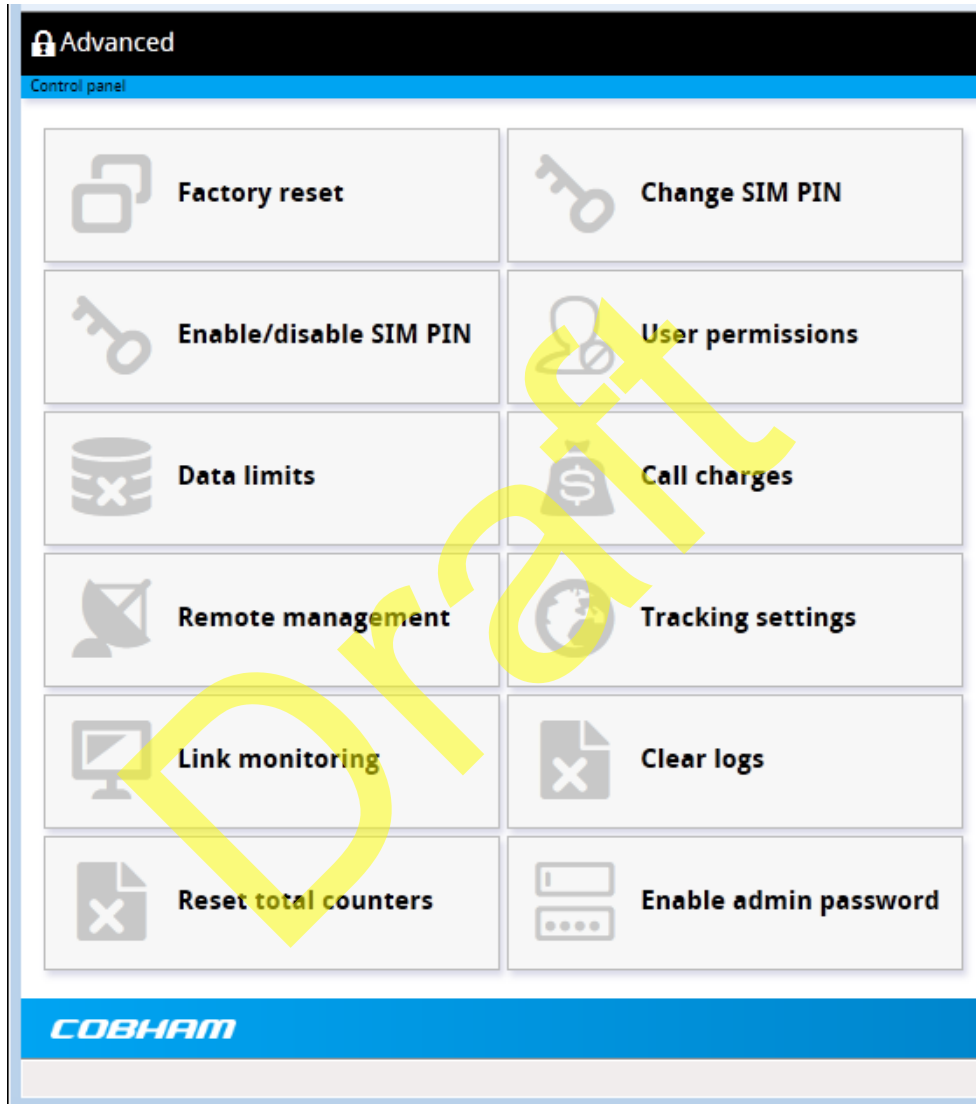
Note

You can set up whether or not you want to allow the tracking server to control these settings. See [Remote control of tracking](#) on page 70.

Advanced settings

First time use

The first time you access the EXPLORER 710 web interface the administrator password is disabled, so you have access to all settings. If you want to use an administrator password, you can enable it as described in the next section.



Administrator password

To enable the administrator password


If the administrator password is disabled and you want to protect the advanced settings with a password, do as follows:

1. From the Control panel , select **Advanced**.

2. Select **Enable admin password**.
3. Type in the administrator password you want to use.
4. Repeat the new password on the next line.
5. Click **Save**.


To disable the administrator password

If you want to disable the administrator password, do as follows:

1. From the Control panel , select **Advanced**.
2. If you are not already logged in as administrator, enter the administrator password and click **Login**.
3. Select **Disable admin password**.
All settings are now available without password protection.

To log in

If the administrator password is enabled, the Advanced settings require an administrator password. To log in as administrator, do as follows:

1. From the Control panel , select **Advanced**.
If you are not logged in as administrator you are now prompted to log in.
2. Enter the Administrator password.
If you have forgotten the administrator password, you can reset the password. For details, see [To reset the administrator password](#) on page 58. The old user name and password will apply until you have finished the reset procedure.
3. Click **Login**.
You now have access to the advanced settings of your EXPLORER 710.

To change the administrator password

To change the administrator password, do as follows:

1. Log in as administrator
2. Under **Advanced**, select **Change admin password**.
3. Type in the **Old password**.
4. Type in the **New password** and retype it on the next line.
5. Click **Save**.
At the next login the new password is required.

To log out as administrator

If you have not entered anything for 30 minutes under Advanced, you are logged out automatically. To log out manually, click **Logout admin** in the **Advanced** page.

Call charges

Note

Cobham SATCOM does not take responsibility for the correctness of the estimated charges. This calculation is only a rough estimate of the charge, based on the tariff entered by the user. Also, the Airtime Provider may have different methods of measuring the airtime used.

If you know the tariff for your subscribed services, you can enter these tariffs in the web interface and automatically calculate the estimated charges for your calls and data sessions. To enter the call tariffs, do as follows:

1. Under **Advanced**, select **Call Charges**.
2. Select the currency from the **Displayed currency** drop-down list.
3. Enter the tariff for each of the services.
4. Click **Save**.
The entered tariffs are used for estimating the charges for calls and data sessions. For further information, see [Call log](#) on page 48.

To restore factory settings

To restore the factory settings of the EXPLORER 710, do as follows:

1. Under **Advanced**, select **Factory reset**.

Important

All configuration will be lost and the EXPLORER 710 will return to the default configuration.

2. Click **OK**.
The terminal will now reboot and start up with the factory settings.

To enable or disable the use of a SIM PIN

To enable or disable the use of a PIN to access the terminal, do as follows:

1. Under **Advanced**, select **Enable/disable SIM PIN**.
2. Under **Enable/Disable PIN** select or clear the box next to **Require PIN on startup**.
 - If you clear the box, you can access and use the terminal without entering a PIN
 - If you select the box, you must enter a PIN on startup before you can make calls or data sessions
3. If you selected Require PIN on startup, type in the PIN next to **Current PIN**.

4. Click **Save**.
The new PIN settings will take effect at next power on.

To change the SIM PIN

To change the PIN used to access the BGAN network, do as follows:

1. Under **Advanced**, select **Change SIM PIN**.
2. Under **Change SIM PIN** type in the **Current PIN**.
3. Type in the **New PIN** and retype it on the next line.
4. Click **Save**. The new PIN settings will take effect at next power on.

To set up user permissions

You can allow or deny users access to certain functions and make these pages read-only. This is useful if you want to protect the system against unintended changes. Study this screen thoroughly and decide to which areas of the system you want to give non-administrator users access. To set up the user permissions, do as follows:

1. Under **Advanced**, select **User permissions**.
2. Under **Allow users to:**, select the settings you want to **allow** users to access.
3. Click **Save**.

The settings without a check mark can only be viewed but not changed by the non-administrator user.

Link monitoring

You can monitor the external IP connection of the EXPLORER 710 system using the link monitoring feature. With this feature activated, the terminal will send out ping commands (ICMP Echo Requests) to a server of your choice.

Note | The data connection must be activated before link monitoring can start. See [To start and stop data connections](#) on page 45.

To set up link monitoring, do as follows:

1. Under **Advanced**, select **Link monitoring**.
2. Select **Enable Link monitoring**.
3. At **Ping interval (minutes)** select the Interval in minutes between the ping commands.
4. Select the **Number of retries** before the terminal reboots.
5. Type in the Primary and optionally the Secondary IP address.
This is the IP address of the server(s) to which the terminal will send ping commands.

Note | Use a server that is reliable and that responds to ICMP Echo Requests.

6. Click **Save**.

When a data session is started with the Default network user group, the terminal will start sending ping commands to the Primary IP address the number of times specified at Number of retries. If no response is received, it will send the same number of ping commands to the Secondary IP address, if available. If no response is received here, the terminal will reboot.

Data limits

You can set a limit for the use of data services with the EXPLORER 710 system.

Once the entered limit is reached, the connection is automatically stopped. This is recorded in the data log. To continue using the data service you must start a new connection by clicking on the desired connection on the Dashboard.

Note | If you set a data limit for the Standard data connection, automatic activation of the Standard data connections is disabled.

To set data limits, do as follows:

1. Under **Advanced**, select **Data limits**.
2. Select the type of connection you want to limit.
3. Type in the number of kilobytes (kB) or the time (number of minutes) allowed.
4. Select **Enable**.
5. Click **Save** to save the settings.

Remote management

You can set up the terminal so that it can be controlled from a remote location.

To set up the terminal for remote management, select **Advanced** > **Remote management** from the **Control panel**.

The screenshot displays the 'Remote management' configuration page. At the top, a black header bar contains the title 'Remote management' and status icons for Wi-Fi, alarm, and signal strength. Below this is a blue navigation bar with 'Control panel > Advanced'. A light blue instruction bar reads 'Enter new values and click Save'. The main content area is divided into two sections: 'Remote access with IP' and 'Remote access with SMS'. The IP section includes checkboxes for enabling web server and AT command access, input fields for their respective ports (4567 and 5667), a field for trusted IP addresses (10.0.0.1), and an 'Add IP address' button. The SMS section includes checkboxes for enabling data session activation, SMS confirmation, and AT command access, a password field (2343), a field for trusted phone numbers (765476576576), and an 'Add phone number' button. At the bottom of the form are 'Cancel' and 'Save' buttons. The footer features the 'COBHAM' logo, navigation icons, and a zoom level indicator set to 100%.

Remote management

Control panel > Advanced

Enter new values and click Save

Remote access with IP

Enable access to web server ☐

Incoming port for web server 4567

Enable access to AT commands ☒

Incoming port for AT commands 5667

Trusted IP addresses 10.0.0.1

Add IP address

Remote access with SMS

Enable remote activation of data sessions ☐

Send SMS confirmation ☐

Enable access to AT commands ☒

Password 2343

Trusted phone numbers 765476576576

Add phone number

Cancel Save

COBHAM

100%

Remote access with IP

1. From the **Remote management** page, select **Enable access to web server** and/or **Enable access to AT commands**.
2. Type in the **Incoming port** numbers to use for the web server and for AT commands. The default port numbers are:
 - web server: 80
 - AT commands: 5454

Note | The port number must be available at your service provider.

3. Under **Trusted IP addresses**, click **Add IP address** and type in the IP address of the device you want to give access to the terminal.
4. To add more IP addresses, click **Add IP address** again.

Note | To be able to access the terminal you must have an active data connection.

After preparing the terminal and activating the connection you can access the terminal from one of the trusted IP addresses, using the incoming port defined in the Incoming port field.

- For information on how to prepare the terminal for remote activation of a data connection, see the next section [Remote access with SMS](#).
- For information on how to access the terminal, see [To access the terminal from a remote location](#) on page 29.

If Static IP is included in your airtime subscription, we recommend using this static public IP address for the terminal in order to provide easy access to the terminal. To use the static IP address, it must be included in your airtime subscription and you must set the APN source to SIM default. For details, see [User group settings \(LAN and WLAN\)](#) on page 52.

Remote access with SMS

Note | The terminal must be logged on to the satellite services to receive and accept an SMS. If the SMS is considered too old or sent before the terminal has been switched on and has logged on, the SMS will be ignored.

1. From the **Remote management** page, select whether you want to **Enable remote activation of data sessions**.
2. Select whether you want an **SMS confirmation** for your data activation SMS.

Important | If you want to receive an SMS with the IP address of the terminal after sending an activation SMS, you must select **Send SMS confirmation**.

3. Select **Enable access to AT commands**, if you want to enable the EXPLORER 710 to receive AT commands via SMS for remote management.

4. Enter the password. It can be up to 32 characters long. The characters 0-9, a-z and A-Z are allowed. **The password is mandatory** and must match the password in the SMS. See [To activate a data connection with an SMS](#) on page 30.
5. Enter at least one trusted mobile number from which the terminal accepts an SMS. If no numbers are entered the feature is disabled automatically. Use the wild card * to accept a range of trusted numbers.

Mobile number with wild card	Mobile numbers accepted
00453955880*	004539558800 to 004539558809
0045395588*	004539558800 to 004539558899

6. To add more phone numbers, click **Add phone number** again.
7. Click **Save**.

For information on how to send an activation SMS, see [To activate a data connection with an SMS](#) on page 30.

Draft

Remote control of tracking

When you are using the tracking function of the EXPLORER 710, you can set up the terminal so that the tracking server can access the EXPLORER 710 e.g. to start or stop tracking or to change reporting intervals.

To allow the tracking server to control the tracking settings, do as follows:

1. Under **Advanced**, select **Tracking settings**.
2. Select **Allow remote control of tracking**.
3. Click **Save**.

The EXPLORER terminal will now accept commands from the specified tracking server, for example to change reporting intervals or start/stop reporting.

To clear the logs

To clear the logs of the terminal, do as follows:

1. Under **Advanced**, click **Clear logs**.
2. Click **OK**.
This will clear the call log and the data log.

To reset the total counters

To reset the counters for the time connected, do as follows:

1. Under **Advanced**, click **Reset total counters**.
2. Click **OK**.
This will reset the counters under Control panel > Log > Total counters.

Maintenance and troubleshooting

Getting support

Contact information

Should your Cobham SATCOM product fail, please contact your dealer or installer, or the nearest Cobham SATCOM partner. You will find the partner details on www.cobham.com/satcom where you also find the Cobham SATCOM Self Service Center web-portal, which may help you solve the problem.

Your dealer, installer or Cobham SATCOM partner will assist you whether the need is user training, technical support, arranging on-site repair or sending the product for repair.

Your dealer, installer or Cobham SATCOM partner will also take care of any warranty issue.

Repacking for shipment

Should you need to send the product for repair, please read the below information before packing the product.

The shipping carton has been carefully designed to protect the EXPLORER 710 and its accessories during shipment. This carton and its associated packing material should be used when repacking for shipment. Attach a tag indicating the type of service required, return address, part number and full serial number. Mark the carton FRAGILE to ensure careful handling.

Note

Correct shipment is the customer's own responsibility.

If the original shipping carton is not available, the following general instructions should be used for repacking with commercially available material.

1. Wrap the defective unit in heavy paper or plastic. Attach a tag indicating the type of service required, return address, part number and full serial number.
2. Use a strong shipping container, e.g. a double walled carton.
3. Protect the front- and rear panel with cardboard and insert a layer of shock-absorbing material between all surfaces of the equipment and the sides of the container.
4. Seal the shipping container securely.
5. Mark the shipping container FRAGILE to ensure careful handling.

Failure to do so may invalidate the warranty.

Software update

To upload software using the web interface

For information on how to update software using the web interface, see [To update software](#) on page 57.

To upload software with USB

If the web interface is not available, you may also use the USB interface to upload the software from a USB memory stick.

To prepare the USB stick

Do as follows:

1. Download the EXPLORER 710 software image from the Cobham SATCOM support server to your computer.
2. Insert the USB memory stick into your computer and copy the EXPLORER 710 software image file to the drive.
3. Rename the file name to "tt3720b.tiif".
4. Remove the USB memory stick from the computer.

To upload the software to the EXPLORER 710

5. On the EXPLORER 710, check in the display that the USB interface is enabled.
6. Insert the USB memory stick with the new software into the EXPLORER 710 USB connector on the front.
The EXPLORER 710 reads the software image from the USB memory stick and starts the software update process. The Status LED flashes blue to indicate that the software update process is ongoing. When the software upload is completed, the EXPLORER 710 reboots.
7. Wait for the status LED to become green to indicate the software update process is completed.
8. Remove the USB memory stick.
9. Power-cycle the EXPLORER 710.

Recovery software upload

If the EXPLORER 710 becomes inoperative, a recovery software upload may bring it back into an operational state.

Important

The recovery software upload will reset your EXPLORER 710 configuration to factory default!

To make a recovery software upload, do as follows:

1. Prepare the USB stick as described in [To prepare the USB stick](#) on page 72.
2. In the display keypad, hold down the "<" and ">" keys while powering on the EXPLORER 710. The EXPLORER 710 powers up and the display shows: SAFE MODE.
3. Insert the USB memory stick with the new software into the EXPLORER 710 USB connector on the front.
The EXPLORER 710 reads the software image from the USB memory stick and starts the software update process. The Status LED flashes blue to indicate that the software update process is ongoing. When the software upload is completed, the EXPLORER 710 reboots.
4. Wait for the status LED to become steady green to indicate the boot up is completed.
5. Remove the USB memory stick.

Maintenance

Normal use of the battery

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 710. If the Battery is stored for more than a month, see [Storage](#) at the end of this section.

To recharge batteries

One battery inserted

To recharge the battery, connect external power to the DC input of the EXPLORER 710 while the battery is inserted. For details on how to [apply external power](#), see [DC input](#) on page 14.

Two batteries connected

You may connect an extra, external EXPLORER 710 battery for extra capacity. When external power is applied to the EXPLORER 710, both batteries are charged as follows:

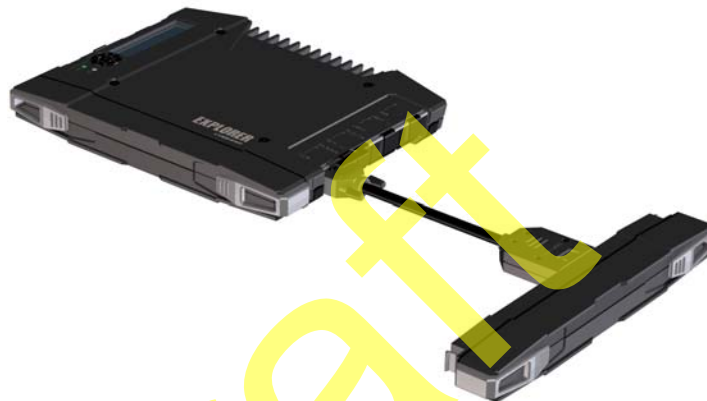
One battery is charged to 80%. Then the other battery is charged to 80%, and finally they are both charged the last bit up to 100%. This way both batteries are charged in the shortest possible time.

The display and the web interface of the EXPLORER 710 show battery status such as which battery is [currently charging](#) and the [battery level](#).

To connect an extra, external EXPLORER 710 battery

If you are not close to a power source, you may want to use an extra EXPLORER 710 battery as backup. Do as follows:

1. Acquire an extra EXPLORER 710 battery with a dedicated EXPLORER 710 Hot Swap Cable (part number 403720B-010).
2. Connect the dedicated cable between the external EXPLORER 710 battery and the **Ext. Battery** connector on the EXPLORER 710.
The EXPLORER 710 continues normal operation on the inserted battery until it runs out of power.



3. When the inserted battery runs out of power, the EXPLORER 710 switches to the external battery and continues normal operation.

Important

Before removing the empty battery, click/select the battery symbol in the web interface or the display and make sure that the EXPLORER 710 is actually running on the external battery.

4. If you have a third charged battery ready, you can now take out the inserted battery and replace it with the new one, without interrupting the operation of the EXPLORER 710.

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. Remove external power and fully discharge the battery:
Use the EXPLORER 710 and/or leave it on until it turns off automatically. This way the EXPLORER 710 “learns” the complete capacity of the battery. Note that it may take several hours to discharge the battery if it is not in use.
3. Recharge the battery.

Storage

Do not leave the battery inserted in the EXPLORER 710 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. Remove external power. Then use the EXPLORER 710 or leave it on until the display shows a battery capacity of approximately 50%.
3. Switch off the EXPLORER 710.

Important

Switch off the EXPLORER 710 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 to 30°C. After 1 year you must recharge the battery. For further information on storage temperature, see [Battery specifications](#) on page 88.

Disposal of the EXPLORER 710

Old electrical and electronic equipment marked with this symbol can contain substances hazardous to human beings and the environment. Never dispose these items together with unsorted municipal waste (household waste).




In order to protect the environment and ensure the correct recycling of old equipment as well as the re-utilization of individual components, use either public collection or private collection by the local distributor of old electrical and electronic equipment marked with this symbol.

Contact the local distributor for information about what type of return system to use.

Troubleshooting

Troubleshooting guide

Problem	Possible cause	Remedy
The EXPLORER 710 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 latches are 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 710 is switched on.	The EXPLORER 710 may be in Stealth Mode (all lights and sounds are off).	Press ◀ and ▶ simultaneously on the display keypad. This will toggle Stealth Mode on/off.
The EXPLORER 710 cannot be switched off.	The Power button was not held long enough.	When you switch off the EXPLORER 710, hold the power button until the light indicator flashes rapidly yellow. In rare cases, it may take up to 10 seconds to switch off the EXPLORER 710.
Charging error	The temperature is below 0°C or above 40°C.	Only charge the battery when the temperature is within the range 0°C to 40°C.
	The charging voltage is lower than the specified minimum voltage.	Wait until charging begins (the Status indicator flashes yellow). 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 EXPLORER 710 is not operational.	Software error	Restart the terminal. If the problem persists, you can make a recovery software upload as described in Recovery software upload on page 73. Note: This will reset the configuration of your terminal to factory default!
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 To insert 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 To insert the SIM card on page 11.
The display shows No GPS fix.	The EXPLORER 710 is unable to register on the network, because the GPS position is unknown.	Make sure the view to the GPS satellites is not blocked. To obtain GPS fix, the EXPLORER 710 should be placed flat on an even surface pointing straight upwards, with a clear view to as much of the sky as possible. When the EXPLORER 710 has obtained GPS fix, you can point the antenna towards the BGAN satellite. To see the GPS status, select  in the display.
The display shows Emergency calls only.	The BGAN network is only available for emergency calls. The reason may be one of the following: 1) Your Airtime subscription has expired. 2) You are using the wrong SIM card. 3) No SIM card is inserted. 4) You have cancelled the PIN	1) Check your subscription with the Airtime Provider. 2) Check that your SIM card is valid for communication on the BGAN network. 3) Insert the SIM card 4) Enter the PIN

Problem	Possible cause	Remedy
The display shows Not registered.	The EXPLORER 710 cannot register on the BGAN network.	Check that your SIM card is valid for communication on the BGAN network. Check your subscription with the Airtime Provider.
The display shows External control	The EXPLORER 710 is currently controlled by an external application, e.g. LaunchPad or an AT command interface.	If you want to use the built-in web interface or the display, stop the external application and restart the EXPLORER 710. Then open your browser and access the web interface.
The EXPLORER 710 cannot obtain its position using GPS.	There is no GPS signal, or the signal is weak. If the EXPLORER 710 has not been used recently within the same location, it can take up to 10 minutes to obtain the GPS position.	Check the GPS status in the display or the web interface. To help the EXPLORER 710 obtain GPS fix, it should be placed flat on an even surface pointing straight upwards, with a clear view to as much of the sky as possible. When the EXPLORER 710 has obtained GPS fix, you can point the antenna towards the BGAN satellite.
No signal or weak signal from the BGAN satellite.	The view to the satellite is blocked.	Make sure the EXPLORER 710 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 signal strength of 45 dBHz or more to be able to make a call or data session.

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. The default IP address is 192.168.0.1
A Phone connection cannot be established.	The interface is disabled in the EXPLORER 710.	Enable the interface by selecting the Phone interface icon in the display, or by accessing the web interface and selecting Control panel > Phone > Enable .
	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, refer to Phone interface on page 90.
	Incoming calls: The call type used for the call is not selected in the web interface.	Make sure the call type used for calls to the EXPLORER 710 is selected in the web interface. Access the web interface and select Control panel > Phone . Then select the call type for incoming calls.

Problem	Possible cause	Remedy
An ISDN connection cannot be established	The ISDN interface is disabled in the EXPLORER 710	Enable the interface by selecting the ISDN interface icon in the display, or by accessing the web interface and selecting Control panel > ISDN > Enable .
	The cable is not properly connected.	Connect the cable.
	You have connected to the LAN interface.	Connect the cable to the interface marked ISDN.
	The cable type or connector type is not correct.	For information on the correct type of connector and cable, refer to ISDN interface on page 91.
	Incoming phone calls: The call type used for the call is not selected in the web interface.	Make sure the call type used for calls to the EXPLORER 710 is selected in the web interface. Access the web interface and select Control panel > ISDN . Then select the call type for incoming calls.
A LAN connection cannot be established.	The interface is off in the EXPLORER 710.	Enable the interface by selecting the LAN interface icon in the display, or by accessing the web interface and selecting Control panel > LAN > Enable .
	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, 2-port on page 92.
	You have connected to the ISDN interface.	Connect the cable to the interface marked LAN#1 or LAN#2.

Problem	Possible cause	Remedy
A WLAN connection cannot be established	The WLAN interface is disabled in the EXPLORER 710	Enable the interface by selecting the WLAN interface icon in the display, or by accessing the web interface and selecting Control panel > WLAN > Enable .
	Your computer or is placed too far away from the EXPLORER 710.	Bring the computer closer to the EXPLORER 710. Note that the specified maximum distance is only valid under ideal conditions.
The USB (Host) interface does not work.	The interface is off in the EXPLORER 710.	Enable the interface by selecting the USB interface icon in the display, or by accessing the web interface and selecting Control panel > USB > Enable .

Status signalling

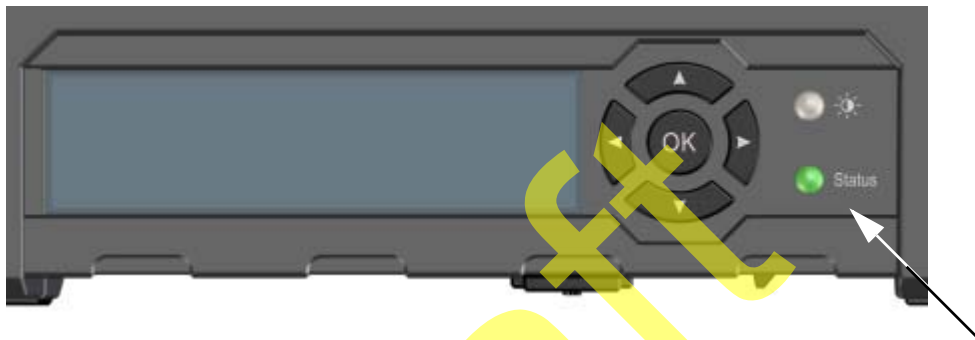
Means of signalling

The EXPLORER 710 system provides two methods for signalling the status of the system.

- **Status indicator** next to the display keypad
- **Messages** shown in the display and in the web interface.

Status indicator


The EXPLORER 710 has one light indicator showing status.



Indicator pattern		Meaning
●	Green flashing rapidly	Starting up
●	Green flashing slowly	Power on (ready)
●	Green constant	Power on with DC input
●	Yellow flashing slowly	Battery charging
●	Yellow flashing rapidly	Closing down
●	Yellow constant	Warning (user recoverable)
●	Red constant	Error. See the display or the web interface.
●	Blue flashing	Uploading software to the terminal
○	Off	Power off or Stealth mode

Event messages and status messages

In the display of the EXPLORER 710 you can see status messages and events that are currently active.

When a warning or error event is active, the display shows a warning symbol . Select it to see a list of currently active events.

List of messages

The following list explains some of the messages that may show in the display of the EXPLORER 710.

Displayed text	Explanation	Remedy
Warning: Ciphering is OFF	The network has turned ciphering off.	Do not transmit data that requires ciphering.
Connection closed. Data or time limit exceeded.	The data connection is closed because a data limit defined in the web interface is exceeded. The data limit may be set to avoid unintentional use of bandwidth, e.g. if you forget to close a connection after use.	Restart the connection e.g. from the Dashboard in the web interface. See To start and stop data connections on page 45. You can change the data limits in the web interface under Advanced > Data limits.
Automatic activation failed. Reconnecting...	The terminal failed to automatically activate a Standard data connection at start-up, even though it was configured to do so.	Wait for the terminal to reconnect.
Connection failed.	The terminal failed to establish a connection.	Restart the connection e.g. from the Dashboard in the web interface. See To start and stop data connections on page 45.
Connection lost.	The data connection was lost.	Restart the connection e.g. from the Dashboard in the web interface. See To start and stop data connections on page 45.
Network failure.	There is a problem, with the network, e.g. congestion.	Try again later. If the problem persists, contact your airtime provider.
Network failure. Reconnecting...	There is a problem, with the network, e.g. congestion. The terminal tries to reconnect because it is set up for automatic activation.	Wait for the terminal to reconnect. If the problem persists, contact your airtime provider.

Displayed text	Explanation	Remedy
Unknown connection problem.	There is an unknown problem with the connection.	Restart the connection e.g. from the Dashboard in the web interface. See To start and stop data connections on page 45. If the problem persists, contact your airtime provider.
Not registered to the network	The terminal is not registered on the satellite network.	You can only make a connection if the terminal is registered on the satellite network. Make sure that: <ul style="list-style-type: none">• The SIM card is present.• The PIN has been entered (if used).• The terminal is pointed. See Getting Started on page 8 for details.

Log files

Diagnostics report

When contacting Cobham SATCOM 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 **Control panel > Support > Diagnostics report**. Then click **Generate report**.

Call log and data log

The log holds detailed information on each call or data session to and from the EXPLORER 710, including date and time, phone numbers, duration, amount of data transferred etc.

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

For information on how to view the log in the web interface, see [Using the Logs](#) on page 48.

Draft

Technical specifications

General specifications

Item	Specification
Type	EXPLORER 710, BGAN Class 1 terminal
Max. IP data rate, Rx/Tx ^a Streaming data	492 kbps/492 kbps (simultaneously) 32, 64, 128, 176 and 256 kbps, BGAN X-Stream, HDR Full asymmetric and symmetric, HDR Half asymmetric and symmetric
Physical dimensions	332 x 279 x 54 mm 13.07 x 10.98 x 2.13 inches
Weight	3.2 kg / 7 lbs (incl. battery)
Operating temperature Powered by external DC (no battery or fully charged battery) DC operated and charging the battery Powered from battery (discharging) Storage temperature Without battery With battery	-25 to 55°C 0 to 45°C -20 to 55°C -40 to 85°C 1 year at -20 to 25°C 3 months at -20 to 45°C 1 month at -20 to 60°C
Water & Dust Transceiver Antenna	IP52 IP66
Supported web browsers (Others may be supported, these have been tested.)	Safari 5.1.7 and above Internet Explorer 9.0 and above Google Chrome 23 and above Mozilla Firefox 16 and above

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

Battery specifications

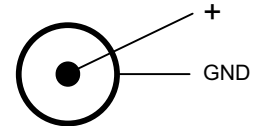
Item	Specification
Battery type	Lithium Ion
Voltage	10.95 Volt
Capacity	Typ. 5700 mAh
Time between recharging	
Tx time, max	2h30m @ 144 kbps 1h30m @ 492 kbps
Rx time, max	3h30m @ 492 kbps
Charge time	2h. 30 min. charge time
Charge temperature	0 to 45°C (in Japan: 10 to 45°C)
Min. charge cycles	300 (typically up to 500)
Storage temperature	
1 Month	-20 to 60°C
3 Months	-20 to 45°C
1 Year	-20 to 25°C

Interfaces specifications

Power input

Connector pin-out

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



Specifications

Item	Specification
DC input range	+10 to +32 VDC
Power consumption	up to 65 W depending on usage
Connector type	Power Jack - 2,5 mm Center

AC/DC adapter

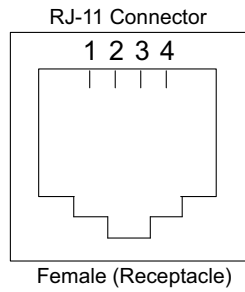
Item	Specification
AC input range	100 to 240 VAC, 1.5 A, 47 to 63 Hz
DC output	19 VDC, 65 W

External battery connector

The external battery connector is a custom connector strictly for connecting a Cobham SAT-COM EXPLORER 710 battery with a dedicated EXPLORER 710 Hot Swap Cable (part number 403720B-010).

Phone interface

Connector pin-out



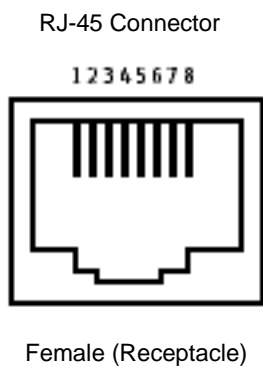
Pin	Function
1	NC
2	Tip
3	Ring
4	NC

Specifications

Item	Specification
Connector type	RJ-11, female
Impedance	180 Ohm + 750 Ohm / 150 nF
Max. cable length	100 m / 80 Ohm

ISDN interface

Connector pin-out



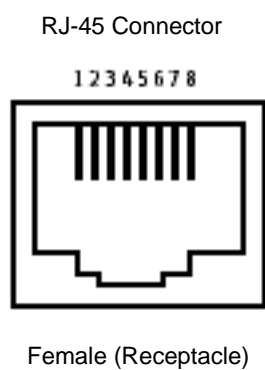
Pin	Function
1	NC
2	NC
3	Rx+
4	Tx+
5	Tx-
6	Rx-
7	NC
8	NC

Specifications

Item	Specification
Connector type	RJ-45, female
Data rate	
Voice	4 kbps
Data	64 kbps
Audio	3.1 kHz
Max. cable length	100 m

LAN interface, 2-port

Connector pin-out



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

Specifications

Item	Specification
Number of connectors	2
Connector type	RJ-45, female, Auto cross-over MDI/MDI-X (IEEE 802.3 10/100BaseT)
Standard	ISO/IEC 8877:1992 and IEEE 802.3 1998 Edition
Max. data rate	10/100 Mbps
Max. cable length	100 m / 328 ft with Cat5 UTP

WLAN access point

Specifications

Item	Specification
Standard	IEEE 802.11 b/g
Antenna	External rotatable antenna for increased coverage
Frequencies	2.4 GHz ISM band
Max. coverage outdoor	100 m / 328 ft

USB (Host) interface

Connector pin-out

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

Specifications

Item	Specification
Version	USB v2.0 Host
Connector type	Type A
Charge current available	0.5 A or 2.0 A, user selectable
Max. cable length	5 m / 16.4 ft

Antenna interface on transceiver

Specifications

Item	Specification
Connector type	TNC, female
Max. cable length	Typically up to 100 m depending on the cable type
Max. cable loss	Max 20 dB cable loss at 1.5 to 1.7 GHz Max 3 dB cable loss at 50 to 60 MHz
Max. DC impedance for cables	Max. 1.8 Ohm DC resistance.

Detachable BGAN antenna

Specifications

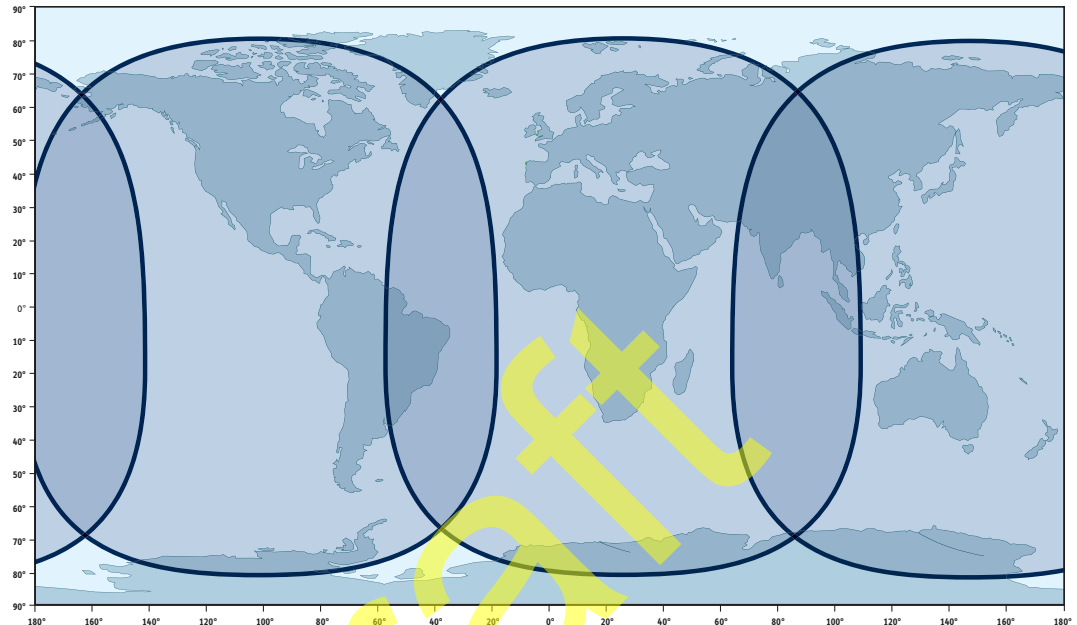
Item	Specification
Type	Directional patch array, manually adjustable
Polarization	RHCP, Right-hand circular polarization for both tx and rx
Connector type	TNC
Frequencies	
Inmarsat I-4	
Transmit	1626,5 MHz - 1660,5 MHz
Receive	1525 MHz - 1559 MHz
Inmarsat Alphasat	
Transmit	Extended L-band (XL) ^a : 1626,5 MHz - 1660,5 MHz and 1668 MHz - 1675 MHz
Receive	1518 MHz - 1559 MHz
GNSS	GPS and Glonass
EIRP	Nominal: 20.0 dBW (EIRP), Class 1

a. Only available within Alphasat coverage. See [Inmarsat Alphasat coverage](#) on page 95.

Satellite coverage

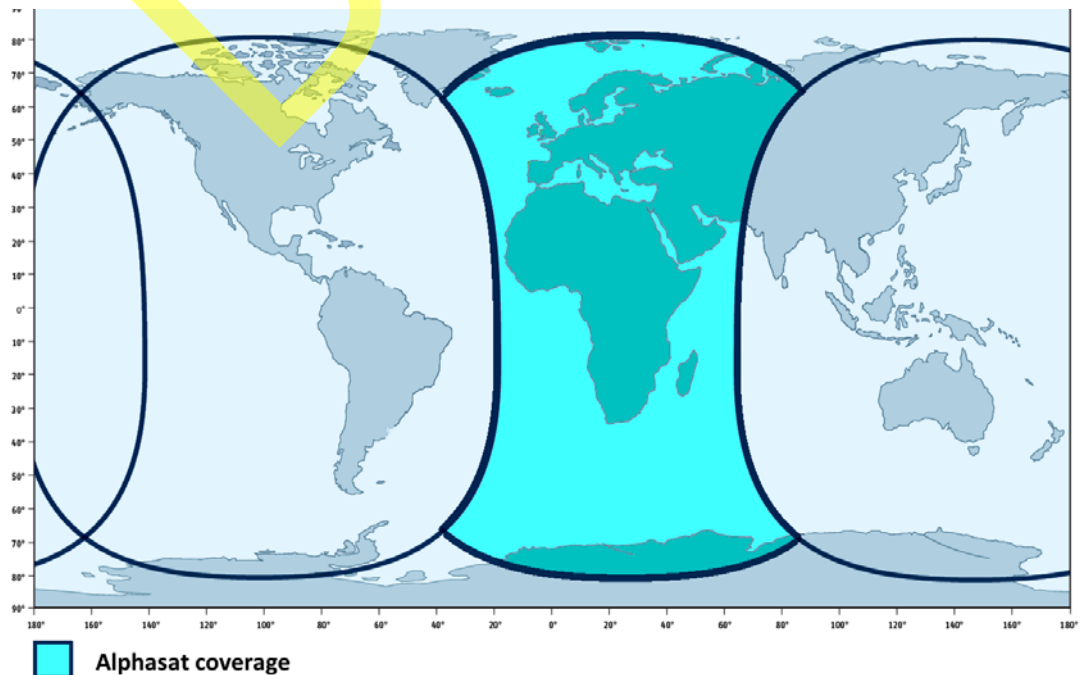
The EXPLORER 710 uses the Inmarsat I-4 satellites and the Alphasat satellite for satellite communication. The drawings below show the coverage areas for these satellites.

Inmarsat I-4 coverage



Inmarsat Alphasat coverage

Alphasat uses [extended L-band](#). For frequency range, see [Detachable BGAN antenna](#) on page 94.



Conformity

General

Approvals for the EXPLORER 710 are listed in the display menu of the EXPLORER 710 terminal. Select ****** and then **Properties > Conformity**.

CE (R&TTE)

The EXPLORER 710 is CE certified (R&TTE directive) as stated in “Declaration of Conformity with R&TTE Directive”, enclosed in electronic copy on the next page. The WLAN interface is CE certified through the manufacturer of the WLAN card.

Use of WLAN:

The WLAN interface requires that the user enters the current country of operation. See [Configuring the WLAN interface](#) on page 50.

For use in the EU, the following restrictions apply:

- France: Outdoor use must be limited to 10 mW EIRP within the frequency band 2454 MHz to 2483.5 MHz.
- Italy: Outdoor use outside own premises require general authorization.

IC

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class [B] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.

WLAN:

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This radio transmitter (certification number 3913A-APPN551 (Single)) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Le présent émetteur radio (no. de certification 3913A-APPN551 (Single)) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

WLAN antenna types approved for use with the EXPLORER 710:

WLAN antenna for EXPLORER 710, part number 88-139591. Max gain: 1.89 dBi / 50 Ohm.

FCC

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

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.

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-3720B	EXPLORER 710 Terminal	PN = 403720B
Consisting of:	TT-3732B EXPLORER 710 Transceiver	PN = 403732B
	TT-3703B EXPLORER 710 Antenna	PN = 403703B

Accessories also included in this declaration

TT-3686G	EXPLORER 710 Battery	PN = 403686G
TT-3682P	AC/DC Adapter	PN = 403682P (FSP065-RAC)

Equipment Applicability

The TT-3720B EXPLORER 710 is a mobile terminal that provides voice, fax or high-speed data communication through the Inmarsat satellite service. The use of WLAN is controlled by a country code loaded in the terminal. The Inmarsat interface to a satellite has no restriction in use. See the User manual for further information.

Declaration

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

Manufacturer

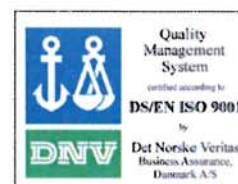
Thrane & Thrane A/S, Lundtoftegårdsvej 93D, DK-2800 Kgs. Lyngby, Denmark
Porsvej 2, DK-9200 Aalborg SV, Denmark

Place and Date

Kgs. Lyngby, 28. January 2014



Svend Åge Lundgaard Jensen, CFO
Thrane & Thrane A/S



B

BGAN Broadband Global Area Network. A satellite network based on geostationary satellites, delivering broadband data and telephony to virtually any part of the earth, with full UMTS (3G) compatibility. BGAN enables users to access e-mail, corporate networks and the Internet, transfer files and make telephone calls.

D

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

DNS Domain Name System. A system translating server names (URLs) to server addresses.

F

FCC Federal Communications Commission. An independent agency of the United States government. The FCC works towards six goals in the areas of broadband, competition, the spectrum, the media, public safety and homeland security.

G

GMPCS Global Mobile Personal Communications Services

GNSS Global Navigation Satellite System. A navigation satellite system using the GPS, GLONASS, Galileo or Beidou system.

H

HDR High Data Rate. A BGAN service supporting a portfolio of four new streaming rates, including asymmetric services.

I

IC Industry Canada (French: Industrie Canada) is the department of the Government of Canada with a mandate of fostering a growing, competitive, knowledge-based Canadian economy.

ICMP	Internet Control Message Protocol. An Internet protocol mostly used for diagnostics.
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.
IP	Ingress Protection. An international classification system for the sealing effectiveness of enclosures of electrical equipment against the intrusion into the equipment of foreign bodies (i.e. tools, dust, fingers) and moisture. This classification system uses the letters "IP"
IP	Internet Protocol. The method or protocol by which data is sent from one computer to another on the Internet.
ISDN	Integrated Services Digital Network. A circuit-switched telephone network system, designed to allow digital transmission of voice and data over ordinary telephone copper wires, resulting in higher quality and speed than are available with analog.
L	
LAN	Local Area Network. A computer network covering a small physical area, like a home, office, school or airport. The defining characteristics of LANs, in contrast to wide-area networks (WANs), include their usually higher data-transfer rates, smaller geographic area, and lack of a need for leased telecommunication lines.
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	
PBX	Private Branch Exchange, telephone exchange that serves a particular business or office.
PIN	Personal Identification Number. A code number used to provide access to a system that has restricted access.
PoE	Power over Ethernet. A standard for combining power supply with transmission of data over the Ethernet. The source unit "injects" power into the Ethernet cable and the power is "picked up" at the connected device.
PPPoE	Point-to-Point Protocol over Ethernet. A network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. By using PPPoE, users can virtually "dial" from one machine to another over an Ethernet network, establish a point to point connection between them and then securely transport data packets over the connection.

R

RF Radio Frequency. Electromagnetic wave frequencies between about 3 kHz and about 300 GHz including the frequencies used for communications signals (radio, television, cell-phone and satellite transmissions) or radar signals.

S

SIM Subscriber Identity Module. The SIM provides secure storing of the key identifying a mobile phone service subscriber but also subscription information, preferences and storage of text messages.

SIP Session Initiation Protocol. An application-layer control (signaling) protocol for creating, modifying, and terminating sessions with one or more participants. Used e.g. for Internet telephony.

U

USB Universal Serial Bus. A specification to establish communication between devices and a host controller (usually personal computers). USB is intended to replace many varieties of serial and parallel ports. USB can connect computer peripherals such as mice, keyboards, digital cameras, printers, personal media players, flash drives, and external hard drives.

UTC Coordinated Universal Time. The International Atomic Time (TAI) with leap seconds added at irregular intervals to compensate for the Earth's slowing rotation. Leap seconds are used to allow UTC to closely track UT1, which is mean solar time at the Royal Observatory, Greenwich.

W

WLAN Wireless Local Area Network.

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