



## **BGAN High Data Rate (HDR)**

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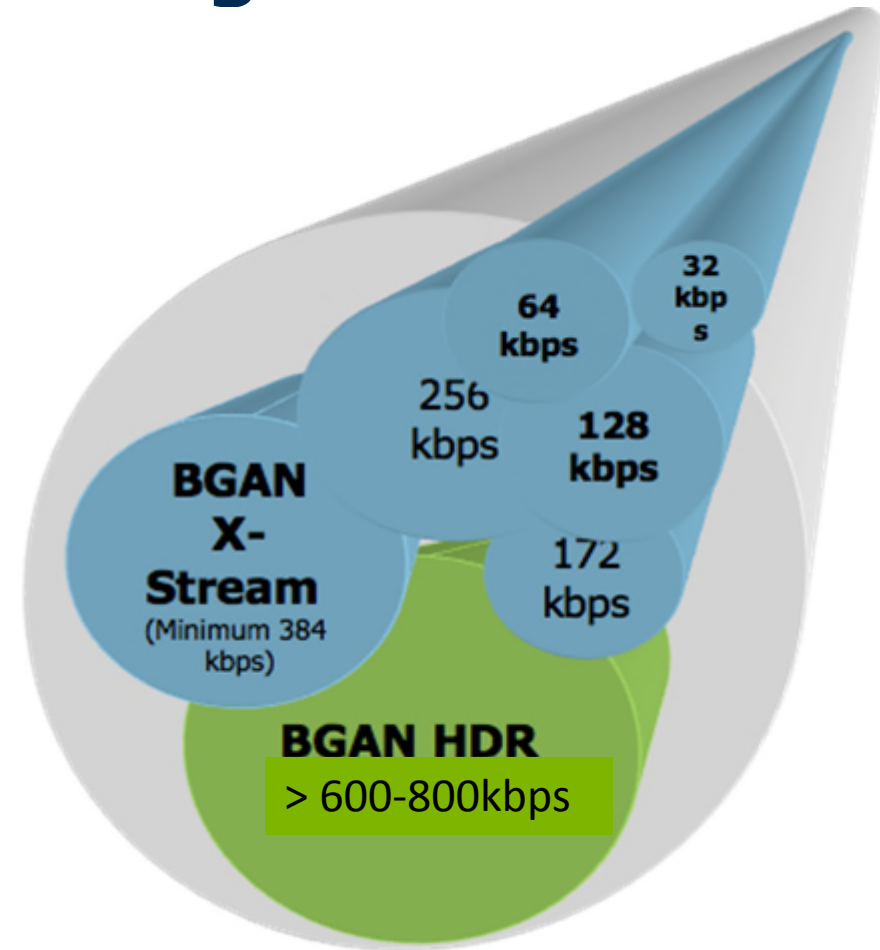
# High data rate streaming

## > Full HDR

- First 20 seconds 440kbps
- Data sent 580kbps
- Average throughput 600-700kbps
- Peak throughput 850kbps

## > Half Channel HDR

- First 20 seconds 220kbps
- Data sent 280kbps
- Average throughput 300-350kbps
- Peak throughput 410kbps



# High data rate streaming

## Key points

- The network calculates the maximum possible throughput for each session
- In order to do this data has to be transmitted from the terminal
- In the current firmware, this has to be done manually
- An automatic capability will be added in the next firmware release (1.03)
- Accurate pointing is essential
- HDR is more prone to interference from other RF sources than legacy streaming services (e.g. 256/Xstream)
- HDR is optimised for UDP traffic and so it may not be possible to use all the available bandwidth when using other protocols

# High data rate streaming

## Overview

- Enabled by new technology available in RAN4.0 (completed at all sites)
- HDR for streaming services only (HDR not applicable to Standard IP)
- Services available under I-4 and Alphasat
- Symmetric and asymmetric options for the services:
  - Full-Channel Symmetric HDR (200kHz channel)
  - Half-Channel Symmetric HDR (100kHz channel)
  - Asymmetric HDR; eg. 64kbps back to terminal, HDR up from terminal
  - Half-Channel Asymmetric; same as asymmetric HDR, but on 100kHz channel

# High data rate streaming

## Overview (continued)

- A channel (200kHz or 100kHz) is dedicated to the terminal to achieve the maximum throughput possible based on terminal specification, pointing and link conditions (spectrum availability).
- 3.1KHz voice or fax (uncompressed) is supported but cannot run concurrently with a HDR session
- AMBE Voice can be used concurrently with HDR session
- QoS guaranteed to the receiving MMP
- Provisioning a SIM for asymmetric services only will cause other streaming classes to fail. Fix is to provision for HDR symmetric.



# **BGAN HDR Terminal Overview**

# What's in the box?

- When you unpack the Satellite Terminal package, you will find the following:
  - Explorer 710 Transceiver and antenna
  - Rechargeable lithium ion battery
  - 0.1m antenna cable
  - 2m ISDN/LAN cable
  - 115/230VAC power supply
  - Quick start guide, CD with manuals.

# BGAN HDR terminal

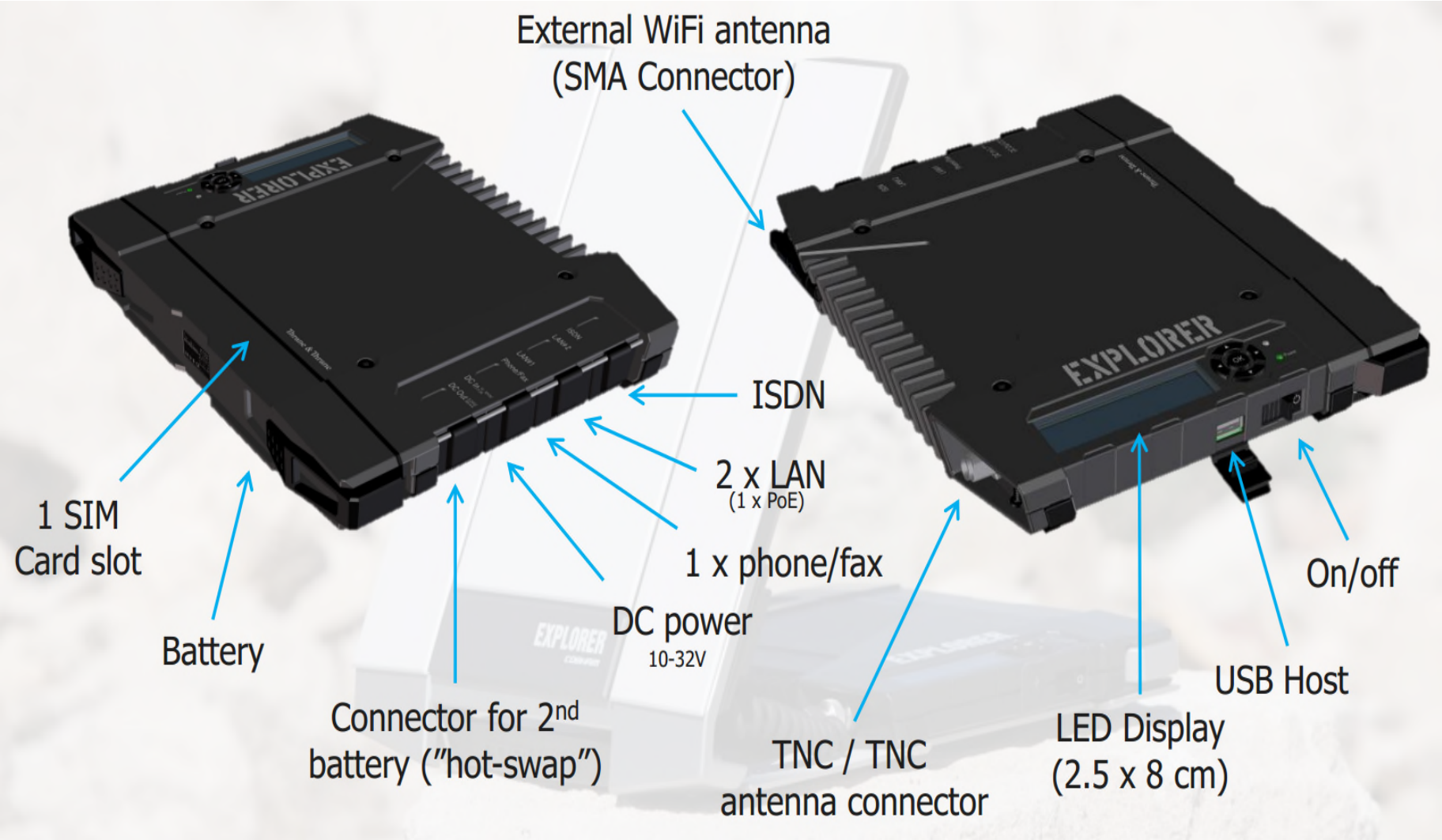
## Cobham EXPLORER 710 BGAN terminal

- New Class 1 spec terminal
- Ultra-portable and smaller than E700
- 3.5kg; 332 x 279 x 54 mm
- Rechargeable, hot-swappable battery, 36h stand-by
- Plug and play bonding (Ethernet cable). Expected in next firmware release at end of May
- Wireless Access Point
- Built-in SIP server
- USB Host interface.





# BGAN E710 Ports/Connections





# Terminal Setup

# Terminal Setup

- Configuration via MMI or LED display
- Online in less than 5 Minutes
- Audible pointing aid
- Automatic data connection
- Multiple data throughput options
- Bring your own device.

# Cobham E710 Tech Note

## > Not supported features:

- IP Header compression (referring to "Action after successful software" update below)
- Launchpad is not supported (implementation TBC)

## > Known issues:

- Some audio distortion might occur in voice calls if a user speaks too loud
- The terminal might hang if left in pointing mode for too long time – this can be recovered by a reboot

## > System Requirements:

- Web browser : IE 9.0 or above, Google Chrome, Safari or Firefox

## > Features planned for later software releases:

- SMS service
- Plug & Play bonding.

# Explorer V9 Display/limited functionality

The screenshot shows a web browser window with the URL <http://ut.bgan/>. The page title is "EXPLORER 710". The main content area displays a grid of service options:

<b>Standard</b> 322.0 kB 161.30.181.177 83.0 kB	<b>32 Streaming</b>
<b>64 Streaming</b>	<b>128 Streaming</b>
<b>176 Streaming</b>	<b>256 Streaming</b>
<b>HDR Half Asymmetric</b>	<b>HDR Half Symmetric</b>
<b>BGAN X-Stream</b>	<b>HDR Full Asymmetric</b>
<b>HDR Full Symmetric</b>	

On the right side, there is a sidebar with the following information:

Terminal status	
Status	Ready
Logged in as	Admin
Satellite info	
Current satellite	EMEA
Airtime Provider	Inmarsat
Call info	
Status	Offline












The bottom of the browser window shows the Windows taskbar with the COBHAM logo on the left and system tray icons on the right, including the date and time: 09:01 29/12/2013.

# Google Chrome

192.168.0.1/#main x http://www.speedtest.net x

192.168.0.1/#main

EXPLORER 710

 <b>Standard</b> 161.30.181.217	 <b>32 Streaming</b>
 <b>64 Streaming</b>	 <b>128 Streaming</b>
 <b>176 Streaming</b>	 <b>256 Streaming</b>
 <b>HDR Half Asymmetric</b>	 <b>HDR Half Symmetric</b>
 <b>BGAN X-Stream</b>	 <b>HDR Full Asymmetric</b>
 <b>HDR Full Symmetric</b>	

Terminal status	
Status	Ready
Logged in as	Admin

Satellite info	
Current satellite	EMEA
Airtime Provider	Inmarsat

Call info	
Status	Offline

COBHAM

09:45  
29/12/2013

# Terminal Pointing

192.168.0.1/#pointing

## Pointing

Control panel

**Pointing mode**  
Point the antenna towards the satellite and adjust until a good signal is reached. Accept the signal strength by pressing accept button, or press cancel to cancel pointing

**Status**  
Pointed

**Signal strength**  
58.9 dBHz

**Signal quality**  
100 %

Cancel Start Accept

Terminal status	
Status	Ready
Logged in as	Admin

Satellite info	
Current satellite	EMEA
Airtime Provider	Inmarsat

Call info	
Status	Offline

COBHAM

09:30  
29/12/2013

# Initial Data Connection

The screenshot shows the Explorer 710 web interface. The browser address bar shows the URL `http://www.speedtest.net` and the IP address `192.168.0.1/#main`. The interface features a grid of speed test profiles, with the 'Standard' profile highlighted by a red box. To the right, there are status panels for 'Terminal status', 'Satellite info', and 'Call info'. The 'Terminal status' panel shows 'Status: Ready' and 'Logged In as: Admin'. The 'Satellite info' panel shows 'Current satellite: EMEA' and 'Airtime Provider: Inmarsat'. The 'Call info' panel shows 'Status: Offline'. The bottom of the interface includes the 'COBHAM' logo and a Windows taskbar with various application icons and system tray icons.

Terminal status	
Status	Ready
Logged In as	Admin

Satellite info	
Current satellite	EMEA
Airtime Provider	Inmarsat

Call info	
Status	Offline



# Changing Data connection

The screenshot shows the Explorer 710 web interface. The browser address bar shows '192.168.0.1/#main'. The page title is 'EXPLORER 710'. The interface features a grid of data connection options, each with a play button icon:

- Standard
- 32 Streaming
- 64 Streaming
- 128 Streaming
- 176 Streaming
- 256 Streaming
- HDR Half Asymmetric
- HDR Half Symmetric
- BGAN X-Stream
- HDR Full Asymmetric
- HDR Full Symmetric

On the right side, there are three information panels:

- Terminal status**

Status	Ready
Logged in as	Admin
- Satellite info**

Current satellite	EMEA
Airtime Provider	Inmarsat
- Call info**

Status	Offline
--------	---------

The bottom of the interface shows the 'COBHAM' logo and a Windows taskbar with various application icons and system tray icons. The system tray shows the time '09:17' and date '29/12/2013'.

# HDR Full Symmetric

The screenshot shows the Explorer 710 web interface. The browser address bar displays '192.168.0.1/#main'. The interface features a grid of streaming mode buttons, each with a gauge icon. The 'HDR Full Symmetric' mode is highlighted with a green checkmark and shows a duration of 0:00:05 and IP address 161.30.181.192. On the right, there are three status tables: Terminal status, Satellite info, and Call info. The bottom of the screen shows a Windows taskbar with the COBHAM logo and system tray icons.

Status	Ready
Logged in as	Admin

Current satellite	EMEA
Airtime Provider	Inmarsat

Status	Offline
--------	---------

# Settings

Control panel

Log	Support
LAN <input checked="" type="checkbox"/>	WLAN <input checked="" type="checkbox"/>
USB <input checked="" type="checkbox"/>	Phone <input checked="" type="checkbox"/>
ISDN <input checked="" type="checkbox"/>	Battery
IP handsets	Port forwarding
User group settings	Terminal settings

Terminal status	
Status	Ready
Logged in as	Admin

Satellite info	
Current satellite	EMEA
Airtime Provider	Inmarsat

Call info	
Status	Offline

COBHAM

18:11 09/01/2014

# WiFi LAN Setup

192.168.0.1/#wlan

192.168.0.1/#wlan

## WLAN

Control panel

Please enter new values and press save

Enable

Region OTHER

Channel 4

Broadcast SSID

SSID EXPLORER710

Security WPA-2-AES

Key type Hexadecimal

Encryption key 13480447

Save

Terminal status	
Status	Ready
Logged in as	Admin

Satellite info	
Current satellite	EMEA
Airtime Provider	Inmarsat

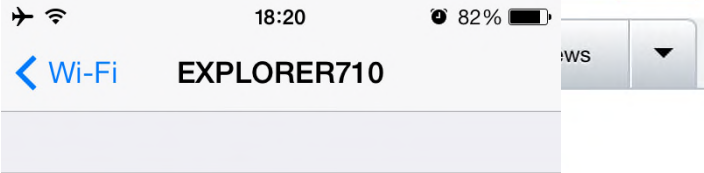
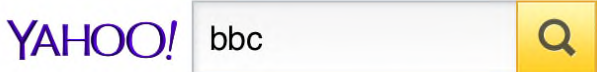
Call info	
Status	Offline

COBHAM

09:19  
29/12/2013

# Smart phone/Tablet setup

## > WiFi settings



Forget this Network

[Sport rebel ci...](#)

[e al...](#)

[club man...](#)

IP ADDRESS

**DHCP**    BootP    Static

IP Address                    192.168.0.22

Subnet Mask                    255.255.255.0

Router                            192.168.0.1

[t whole lot](#)

DNS                                192.168.0.1

[d](#)

[/er your](#)

Search Domains

[: iPlayer](#)

Client ID














Renew Lease



192.168.0.1/#main x http://www.speedtest.net: x

192.168.0.1/#main

EXPLORER 710

 <b>Standard</b> 161.30.181.217	 <b>32 Streaming</b>	<b>Terminal status</b> Status Ready Logged in as Admin	<b>Satellite info</b> Current satellite EMEA Airtime Provider Inmarsat
 <b>64 Streaming</b>	 <b>128 Streaming</b>	<b>Call info</b> Status Offline	
 <b>176 Streaming</b>	 <b>256 Streaming</b>		
 <b>HDR Half Asymmetric</b>	 <b>HDR Half Symmetric</b>		
 <b>BGAN X-Stream</b>	 <b>HDR Full Asymmetric</b>		
 <b>HDR Full Symmetric</b>			

COBHAM

Windows taskbar: 09:29 29/12/2013



# Help (User Manual)


The screenshot shows a web browser window with the address bar containing the URL `192.168.0.1/help/e710-manual.pdf#nameddest=G6.1023323`. The page content is titled "Chapter 4: Using the web interface" and "Using the Dashboard".

**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 38.

**To start and stop data connections**

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

1. In the middle of 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.

By default, the following connections are available:

Name	Type of connection
<b>Standard data</b>	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.
<b>Streaming data</b> The following Streaming classes are available: 32, 64, 128, 176 or 256 Streaming BGAN X-Stream Full HDR symmetric Half HDR symmetric Full HDR asymmetric (64 kbps download, Full	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).

The browser's taskbar at the bottom shows various application icons and a system tray with the date and time: 09:24 29/12/2013.

# Trouble shooting

## > Support

- Training
- Technical Support
- On site repair
- Returns

## > Software Update

- Web Interface
- USB ("tt3720b.tif").



# Trouble shooting

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.

# Trouble shooting

<p>The display cannot be read, it is dimmed or dark.</p>	<p>The brightness setting is too low.</p>	<p>In the web interface set <b>Brightness</b> to a higher level. (<b>Control panel &gt; Terminal settings &gt; Terminal display</b>)</p>
<p>The EXPLORER 710 cannot be switched off.</p>	<p>The Power button was not held long enough.</p>	<p>When you switch off the EXPLORER 710, hold the power button until the light indicator flashes rapidly yellow.</p> <p>In rare cases, it may take up to 10 seconds to switch off the EXPLORER 710.</p>

# Trouble shooting

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.

# Trouble shooting

Problem	Possible cause	Remedy
The display shows Insert SIM.	The SIM card is not present.	Remove the battery and insert the SIM card in the SIM slot according to the instructions
	The SIM card is not inserted properly.	Remove the SIM card and re-insert it according to the instructions


# Trouble shooting

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.



# Trouble shooting

<p>The display shows Emergency calls only.</p>	<p>The BGAN network is only available for emergency calls. The reason may be one of the following:</p> <ol style="list-style-type: none"> <li>1) Your Airtime subscription has expired.</li> <li>2) You are using the wrong SIM card.</li> <li>3) No SIM card is inserted.</li> <li>4) You have cancelled the PIN code</li> </ol>	<ol style="list-style-type: none"> <li>1) Check your subscription with the Airtime Provider.</li> <li>2) Check that your SIM card is valid for communication on the BGAN network.</li> <li>3) Insert the SIM card</li> <li>4) Enter the PIN code</li> </ol>
<p>The display shows Not registered.</p>	<p>The EXPLORER 710 cannot register on the BGAN network.</p>	<p>Check that your SIM card is valid for communication on the BGAN network. Check your subscription with the Airtime Provider.</p>

# Trouble shooting

Problem	Possible cause	Remedy
The EXPLORER 710 cannot obtain its position using GPS.	<p>There is no GPS signal, or the signal is weak.</p> <p>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.</p>	<p>Check the GPS status in the display or the web interface.</p> <p>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.</p> <p>When the EXPLORER 710 has obtained GPS fix, you can point the antenna towards the BGAN satellite.</p>

# Trouble shooting

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 a signal strength of 45 dBHz or more to be able to make a call or data session.



# Trouble shooting

The web interface cannot be accessed.	The browser is configured to use a proxy server.	For Microsoft Internet Explorer, select <b>Tools &gt; Internet Options &gt; Connections &gt; LAN Settings</b> and uncheck <b>Use a proxy server for your LAN</b> .
	You have entered a wrong IP address.	Check the IP address and re-enter it. The default IP address is <b>192.168.0.1</b>

# Trouble shooting

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 <b>Control panel</b> , and clicking the icon in the right side of the <b>Phone</b> field.
	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 <i>Phone/Fax interface</i> on page 71.
	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 <b>Control panel &gt; Phone</b> . Then select the call type for incoming calls.

# Trouble shooting

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 <b>Control panel</b> , and clicking the icon in the right side of the <b>ISDN</b> field.
	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 <i>ISDN interface</i> on page 72.
	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 <b>Control panel &gt; ISDN</b> . Then select the call type for incoming calls.

# Trouble shooting

Problem	Possible cause	Remedy
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 <b>Control panel</b> , and clicking the icon in the right side of the <b>LAN</b> field.
	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 <i>LAN interface, 2-port</i> on page 73.
	You have connected to the ISDN interface.	Connect the cable to the interface marked LAN#1 or LAN#2.



# Trouble shooting

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 <b>Control panel</b> , and clicking the icon in the right side of the <b>WLAN</b> field.
	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 <b>Control panel</b> , and clicking the icon in the right side of the <b>USB</b> field.

# Status Indicator



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

# Log files

## > Call and data log

- The log holds detailed information on each call or data session to and from the EXPLORER 710
- Information includes date and time, phone numbers, duration, amount of data transferred etc.
- Date and time is UTC time, received from the satellite.

# Data log

192.168.0.1/#datalog

192.168.0.1/#datalog

## 10 Data log

Control panel - Log

HDR Full Symmetric 00:09:30	12/29 09:46
Standard data ↓ 85.0 kB ↑ 26.0 kB	12/29 09:45
HDR Full Symmetric 00:00:03	12/29 09:42
HDR Full Symmetric 00:09:18	12/29 09:30
BGAN X-Stream 00:03:34	12/29 09:24
HDR Full Symmetric 00:06:06	12/29 09:18
HDR Full Symmetric 00:04:27	12/29 09:13
Standard data ↓ 4.3 MB ↑ 292.0 kB	12/29 09:00
HDR Full Symmetric 00:11:47	12/19 12:03
HDR Full Symmetric 00:16:23	12/19 11:46
HDR Full Symmetric 00:00:50	12/19 11:27
Standard data ↓ 27.0 kB ↑ 11.0 kB	12/19 11:24
Standard data ↓ 14.0 kB ↑ 20.0 kB	12/19 11:18
Standard data ↓ ↑	11/12 08:29

### Terminal status

Status	Ready
Logged In as	Admin

### Satellite info

Current satellite	EMEA
Airtime Provider	Inmarsat

### Call info

Status	Offline
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**COBHAM**

18:33 09/01/2014



# Call log

192.168.0.1/#callog

192.168.0.1/#callog

## Call log

Control panel - Log

0301 to 00447887 ** Outgoing standard call	01/09 18:32 00:00:09	<b>Terminal status</b>	<b>Satellite info</b>
0301 to 00447877 ** Outgoing standard call	01/09 18:27 00:01:00	Status Ready Logged in as Admin	Current satellite EMEA Airtime Provider Inmarsat
0301 to 00447428 ** Outgoing standard call	01/09 18:16 00:00:59		<b>Call info</b>
0301 to 00447972 ** Outgoing standard call	01/09 18:15 00:00:27		Status Offline

COBHAM

18:32  
09/01/2014

# Total counters

192.168.0.1/#totalcounters

192.168.0.1/#totalcounters

## 10 Total counters

Control panel - Log

Call session totals	
Standard voice outgoing	00:02:35
3.1 kHz audio outgoing	N/A
ISDN RDI outgoing	N/A
ISDN UDI outgoing	N/A

Data session totals	
Standard data	6304 kB
Streaming 32 kbps	00:00:00
Streaming 64 kbps	00:00:00
Streaming 128 kbps	00:00:00
Streaming 176 kbps	00:00:00
Streaming 256 kbps	00:06:21
Streaming 384 kbps	00:00:00
HDR Half Symmetric	00:07:41
HDR Half Asymmetric	00:00:00
BGAN X-Stream	00:03:44
HDR Full Symmetric	01:01:33
HDR Full Asymmetric	00:00:00

Terminal status	
Status	Ready
Logged In as	Admin

Satellite info	
Current satellite	EMEA
Airtime Provider	Inmarsat

Call info	
Status	Offline

COBHAM

18:33 09/01/2014



# Solutions

# Solutions

## Maximising the benefit of applications

- Continuous programme of testing to ensure compatibility
- All leading solutions tested at symmetric and asymmetric rates
- Introduction of Certified Application Programme
- Updates via Inmarsat website



# Collateral

## > Examples of on air use

- First use on air by TV2 Denmark in Manila. Test terminal used without telling Inmarsat. Quicklink at 650kbps --  
<https://www.dropbox.com/s/dh6aecfd7yxpk0u/TV2%20Manila%20HDR%20Screen%202.mov>
- BBC/S.Africa. Side by side comparison with VSAT (Avanti). First shot is Avanti. Note similar quality  
<https://www.dropbox.com/s/hec3lmn8zpshoi3/BBC%20Vsat%20HDR%20side%20by%20side%20Screen%202.ts>
- Zambia/Livewire --  
<https://www.dropbox.com/s/qlx4uj8u0i8smjz/Zambia%20Livewire%20screen%202.mov>
- BBC/beta testing --  
<https://www.dropbox.com/s/8jkzyimpbfq1gy2/test%20stadium%20test%20keith%201129%202%2010.wmv>
- BBC One Show/Niue. Use of HDR for non-news output. One Show is high production value prime time daily show on main BBC channel. Previously they would only use BGAN when bonded. Now using HDR regularly;  
<https://www.dropbox.com/s/e4u6pxmks6a278/One%20Show%20with%20intro.mp4>

## > Case study

- <http://www.youtube.com/watch?v=BdGynkm6vc4&feature=youtu.be>

## > Quickstart video (thanks to Guru)

- <https://www.dropbox.com/s/zcsiqh4sdks6a3x/E710setup.mp4>

## > Training presentation (to be updated with 1.02 release)

- <https://www.dropbox.com/s/c2jg12o7f98vkaj/BGAN%20HDR%20March%202014.pptx>



**Thank You**