



www.thuraya.com



Thuraya Satellite
Telecommunications Company
PO BOX 33344, Abu Dhabi
United Arab Emirates
Tel : +9712 642 2222
Fax: +9712 641 7884

Copyright© 2005. All rights reserved.
Thuraya is a registered trademark for
Thuraya Satellite Telecommunications Company

User Manual

ThurayaDSL Satellite IP Modem



Revision C

Copyright 2005 Hughes Network Systems, LLC.

All rights reserved. This publication and its contents are proprietary to Hughes Network Systems, LLC. No part of this publication may be reproduced in any form or by any means without the written permission of Hughes Network Systems, LLC., 11717 Exploration Lane, Germantown, Maryland 20876.

Hughes Network Systems, LLC., has made every effort to ensure the correctness and completeness of the material in this document. Hughes Network Systems, LLC., shall not be liable for errors contained herein. The information in this document is subject to change without notice. Hughes Network Systems, LLC. makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Trademarks

All trademarks, marks, names, or product names referenced in this publication are the property of their respective owners, and Hughes Network Systems, LLC. neither endorses nor otherwise sponsors any such products or services referred to herein.

HUGHES and Hughes Network Systems are trademarks of Hughes Network Systems, LLC.

THURAYA trademark is the sole and exclusive property of Thuraya Satellite Telecommunications Company.

Safety Information

For your safety and protection, read this entire user manual before you attempt to use ThurayaDSL Satellite IP Modem. In particular, read this safety section carefully. Keep this safety information where you can refer to if necessary.

Warning Symbols Used in this Manual

This section introduces the various types of warnings used in this document to alert you to possible safety hazards.



WARNING

Potential radio frequency (RF) hazard. Where you see this alert symbol and WARNING heading, strictly follow the warning instructions to avoid injury to eyes or other personal injury.



WARNING

Where you see this alert symbol and WARNING heading, strictly follow the warning instructions to avoid personal injury.



DANGER

Electric shock hazard: Where you see this alert symbol and DANGER heading, strictly follow the warning instructions to avoid electric shock injury or death.

Warnings for ThurayaDSL



Do not stand in front of the Antenna.

This device emits radio frequency energy when in the transmit mode. To avoid injury, do not place head or other body parts in front of the satellite antenna when system is operational. Maintain a distance of one meter away from the front of ThurayaDSL's antenna.



Properly ground the Antenna

Failure to properly ground the optional external antenna may result in severe personal injury or death. Do not attempt to ground the optional external antenna unless you have the skills to do so in accordance with local electrical codes.



Do not operate during Electrical Storms

Operation of ThurayaDSL during electrical storms may result in severe personal injury or death. Disconnect ThurayaDSL from computer and store unit indoors if lightning is anticipated in the area of operation.



General

Handle your ThurayaDSL with care. The enclosure is weather resistant per IEC 60529 IP 54; however, do not submerge the unit or expose it to severe rainstorms. Avoid exposing your ThurayaDSL to extreme hot or cold temperatures. The operating temperature range of ThurayaDSL is -10°C to +55°C.

Avoid placing your ThurayaDSL close to cigarettes, open flames or any source of heat.

Changes or modifications to ThurayaDSL not expressly approved by Hughes Network Systems could void your authority to operate this equipment.

Use a soft damp cloth only to clean your ThurayaDSL.

To avoid impaired ThurayaDSL performance, please ensure your ThurayaDSL's antenna is not damaged or covered with foreign material like paint or labelling.

When inserting the SIM, do not bend the SIM or damage the contacts in any way. When connecting the interface cables, do not use excessive force.



In the vicinity of blasting work and in explosive environments

Never use ThurayaDSL where blasting work is in progress. Observe all restrictions and follow any regulations or rules. Areas with a potentially explosive environment are often, but not always, clearly marked. Do not use ThurayaDSL while at a petrol filling station. Do not use near fuel or chemicals.



Qualified service

Do not attempt to disassemble your ThurayaDSL. ThurayaDSL does not contain consumer-serviceable components. Only qualified service personnel may install or repair equipment.



Batteries and accessories

Use approved batteries (HNS P/N 3003082-0002) and accessories only. Use of non-approved accessories may result in loss of performance, damage to ThurayaDSL, fire, electric shock or injury.

AC Mains power adapter (HNS P/N 3003612-0001) is for indoor use only. It has an indoor operating temperature range of -10°C to +55°C and provides an output voltage of 12 VDC.

The storage capability of the battery decreases when operated below -10°C. If the battery is charged at too high a temperature, the battery light will flash red.



Connecting devices

Never connect incompatible products. When connecting ThurayaDSL to any other device, read the device's User Manual for detailed safety instructions.



Pacemakers

The various brands and models of cardiac pacemakers available exhibit a wide range of immunity levels to radio signals. Therefore, people who wear a cardiac pacemaker and who want to use a Satellite IP Modem should seek the advice of their cardiologist. If, as a pacemaker user, you are still concerned about interaction with ThurayaDSL, we suggest you follow these guidelines:

- Maintain a distance of 15 cm between ThurayaDSL and your pacemaker;
- Maintain a distance of one meter away from the front of ThurayaDSL's antenna;
- Refer to your pacemaker product literature for information on your particular device.

If you have any reason to suspect that interference is taking place, turn off your ThurayaDSL immediately!



Hearing aids

Most new models of hearing aids are immune to radio frequency interference from Satellite IP Modems that are more than 2 metres away. Many types of older hearing aids may be susceptible to interference, making it very difficult to use them near a Satellite IP Modem. Should interference be experienced, maintain additional separation between you and ThurayaDSL.

Contents

SAFETY INFORMATION	I
WARNING SYMBOLS USED IN THIS MANUAL	I
WARNINGS FOR THURAYADSL	I
CONTENTS.....	V
INTRODUCTION	1
COVERAGE.....	1
FIRST TIME SET-UP	2
UNPACKING	2
MINIMUM SYSTEM REQUIREMENTS AND SOFTWARE INSTALLATION	3
<i>First Time Set-up Overview.....</i>	<i>4</i>
<i>Step 1: Unpack ThurayaDSL</i>	<i>4</i>
<i>Step 2: Unpack ThurayaDSL – Power</i>	<i>5</i>
<i>Step 3: Obtain Initial GPS Fix for ThurayaDSL</i>	<i>6</i>
<i>Step 4: Connect ThurayaDSL Using Ethernet.....</i>	<i>7</i>
<i>Step 5: Rough Pointing to Satellite.....</i>	<i>8</i>
<i>Step 6: Fine Pointing to the Satellite.....</i>	<i>11</i>
<i>Step 7: Exit Pointing Mode.....</i>	<i>13</i>
QUICK REFERENCE	14
GLOBAL POSITIONING SYSTEM OPERATION	14
<i>Stored GPS Location.....</i>	<i>14</i>
ANTENNA POINTING.....	15
CONTROLS AND INDICATORS.....	16
<i>Power Light.....</i>	<i>16</i>
<i>Exit Pointing Button.....</i>	<i>17</i>
<i>Pointing Mode Lights.....</i>	<i>17</i>
<i>Battery Light</i>	<i>17</i>
<i>ThurayaDSL Antenna Protractor.....</i>	<i>18</i>
<i>Compass.....</i>	<i>18</i>
MMI SCREENS.....	19
<i>Pointing Screen.....</i>	<i>19</i>
<i>Home Screen.....</i>	<i>20</i>
<i>Properties Screen.....</i>	<i>22</i>
<i>Restore Factory Defaults.....</i>	<i>22</i>
<i>Statistics Screen.....</i>	<i>22</i>
<i>Status Screen.....</i>	<i>24</i>

<i>Settings Screens</i>	25
<i>Network Settings Screen</i>	25
<i>Security Management Screen</i>	26
<i>Login Settings Screen</i>	28
<i>Advanced Settings Screen</i>	28
UPGRADE THURAYADSL	30
<i>Upgrading Software</i>	30
TROUBLESHOOTING	30
GENERAL TROUBLESHOOTING	31
FAULT CODES.....	36
GLOSSARY	45
INDEX	47

Introduction

Your ThurayaDSL is a Satellite IP Modem that provides portable, high-speed data communications via satellite. Using "Always On" technology, you can remain connected to the Internet while only sending or receiving the data that you need at speeds of up to 144kb/s, just as if you were sitting at your office desk. ThurayaDSL works with your computer using an Ethernet connection. While ThurayaDSL operates very similar to other data modems that you may be familiar with, there are a few important operating differences to note. Please read this user manual carefully to understand all the aspects of operating your ThurayaDSL.

▶▶ Coverage



THURAYA Coverage Area

The coverage map shows THURAYA coverage area and indicates the general direction of the satellite relative to your position on the ground. Note that the actual ability to get ThurayaDSL service in this coverage area is dependent upon a variety of factors, including licensing conditions, and the figure does not represent a guarantee of service in any particular location (contact your Service Provider for the latest information on service coverage).

First Time Set-Up

This section guides you through the process of setting up and configuring your ThurayaDSL for the first time. The steps presented should be followed in the order given. When you are finished, your computer and ThurayaDSL will both be set up and ready to use.



ThurayaDSL Satellite IP Modem

▶▶ | Unpacking

Unpack the ThurayaDSL and accessory box items.

- ThurayaDSL Satellite IP Modem
- AC Mains Power Adapter and cable (100 – 240 VAC)
- Rechargeable Lithium Ion Battery pack
- Ethernet cable (do not use cross-over cable)
- User Manual (this document)
- Tie-down Clips

Your Service Provider will supply a Subscriber Identification Module (SIM) as shown on page 4.

▶▶ Minimum System Requirements and Software Installation

☒ You must have a desktop or laptop Personal Computer (PC) running one of the following supported operating systems:

- Windows® NT 4.0 (service pack 3)
- Windows 98 second edition
- Windows 2000
- Windows ME
- Windows XP
- Macintosh OS X v10.1 or later

☒ The computer must have one of the following supported Internet browsers.

- **Microsoft Internet Explorer version 5.5 or later.** Java Runtime Environment (JRE) 1.3.1 or later must be installed
- **Netscape Communicator version 7.0 or later.** Java must be active.
- **Macintosh Safari 1.0 or later.**
- **Mozilla Firefox 1.0 or later.**

☒ Your PC must support an Ethernet interface.



Note

You must verify that the proxy server settings in your browser are disabled. For **Microsoft Internet Explorer**, select Tools / Internet Options / Connections / LAN Settings and uncheck the box labeled 'Use a proxy server for your LAN'. For **Netscape** or **Firefox**, go to Advanced Preferences and select 'Direct connection to the Internet'. For **Safari**, select System Preferences / Network / Built-in Ethernet / Proxies and uncheck the box labelled 'Web Proxy (HTTP)'. When complete please close your browser.

DO NOT FORGET YOU MAY NEED TO RECHECK THIS BOX ON RETURN TO YOUR OTHER INTERNET CONNECTION.

First Time Set-up Overview

There are 7 basic steps to getting your ThurayaDSL up and running:

- Step 1: Unpack ThurayaDSL
- Step 2: Unpack ThurayaDSL – Power
- Step 3: Obtain Initial GPS Fix for ThurayaDSL
- Step 4: Connect Using Ethernet
- Step 5: Rough Pointing to Satellite
- Step 6: Fine Pointing to the Satellite
- Step 7: Exit Pointing Mode

Step 1: Unpack ThurayaDSL

Unpack the ThurayaDSL and accessories. Battery, AC mains power adapter, and Ethernet cable are included with the ThurayaDSL.

Your service provider will have provided you with a SIM card.

Insert SIM provided by your Service Provider in SIM holder and then insert the SIM holder as shown below.



Step 2: Unpack ThurayaDSL – Power

1. Insert Battery after the SIM has been installed.



2. Plug in Power cable and charge the battery for 3 hours.



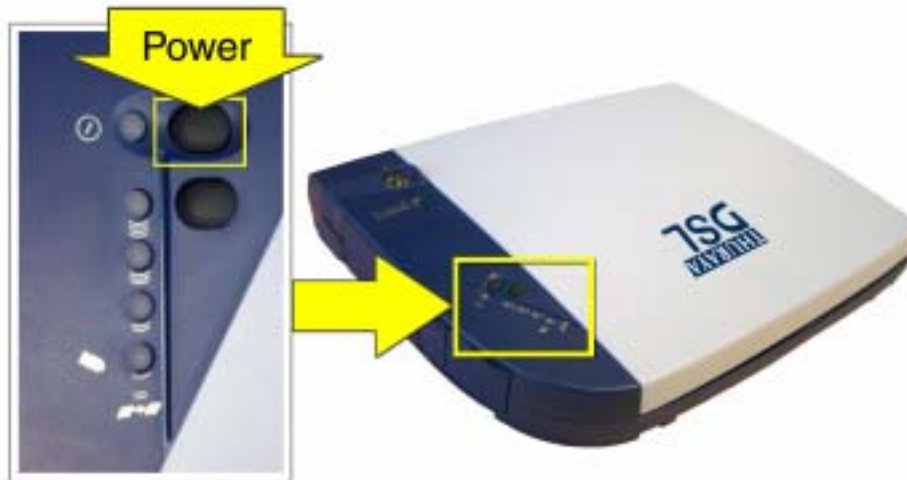
Step 3: Obtain Initial GPS Fix for ThurayaDSL



Note

The rest of the First Time Set-up section assumes that Antenna Pointing is enabled. See the section titled Advanced Settings Screen to configure the terminal to point at powerup.

1. Place ThurayaDSL outside on a flat surface with a clear view of the sky.
2. Power up ThurayaDSL by pressing the Power button.



3. ThurayaDSL is now attempting to locate itself using GPS. This may take up to five minutes. It is important that ThurayaDSL is placed away from buildings, trees and other obstacles that might block a clear view of the sky.

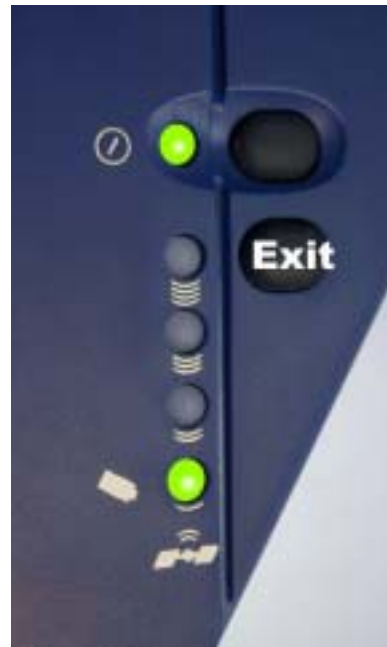


Note

For optimum GPS signal reception, make sure ThurayaDSL is positioned in a roughly horizontal placement with the lid closed. Since GPS receivers must “see” a large part of the sky without obstructions from buildings, mountains or trees, it may be necessary to take your ThurayaDSL out to a clear space to obtain a new GPS location. It may be possible to obtain a new GPS location in a less favorable circumstance, but the time to completion may be longer.



Wait – Power light alternating red / amber



Proceed – Power light alternating green / amber

When the power light changes from a red/amber flash to an amber/green flash, proceed to the next step. If the power light is solid green or flashing green, ThurayaDSL is not in antenna pointing mode. Turn ThurayaDSL off and then turn it back on.

Step 4: Connect ThurayaDSL Using Ethernet

1. Connect the Ethernet cable to your laptop's network interface and insert the other end of the connector into the ThurayaDSL. **Note:** Any CAT 5 Ethernet cable can be used to connect the laptop and ThurayaDSL as long as it is less than 100 meters in length.



Step 5: Rough Pointing to Satellite

1. ThurayaDSL is controlled through a web browser interface. To activate the MMI (ThurayaDSL's user interface), open the 'Internet Explorer or Netscape browser on your laptop. Enter <http://192.168.128.100> in the browser URL address field.



You may want to store this URL in your "Favorites" folder in your browser.

Note



IMPORTANT: Before accessing the MMI, you must verify that the proxy server settings in your browser are disabled. For Microsoft Internet Explorer, go to LAN Settings under the Connections tab and uncheck the box next to 'Use a proxy server for your LAN'. For Netscape, go to Advanced Preferences and select 'Direct connection to the Internet.'

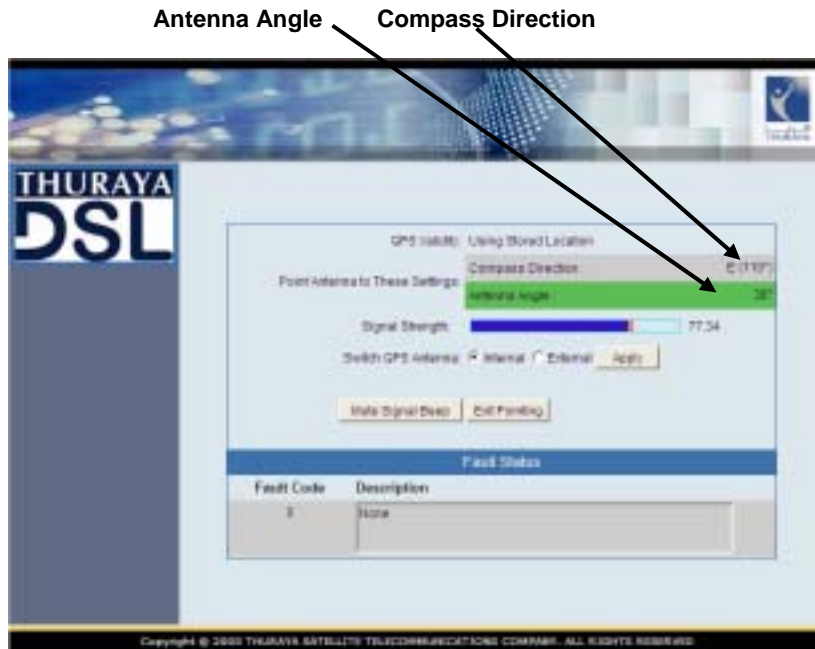
DO NOT FORGET YOU MAY NEED TO RECHECK THIS BOX ON RETURN TO YOUR OTHER INTERNET CONNECTION.

2. If you have PIN security enabled on your SIM, you will be prompted to enter your PIN before proceeding.



You must have a valid GPS location for the compass direction and Antenna Angle to be displayed. If the GPS is not valid, go back to step 3 and allow ThurayaDSL to obtain a GPS fix.

Note



3. Note the Compass Direction and Antenna Angle from the MMI as shown above; these will be used to assist you in roughly pointing the ThurayaDSL antenna towards the satellite. Rough pointing consists of determining the rough direction and elevation angle that the antenna needs to "see" the THURAYA Satellite.
4. Look at the MMI Pointing display and determine the Compass Direction needed for the antenna. Rotate ThurayaDSL left or right to the correct compass direction. The three LEDs on the left hand side of the terminal will sequentially turn to "Green", as the signal strength gets stronger.



Rotate left and right

Following are sample compass directions.



South



Southwest

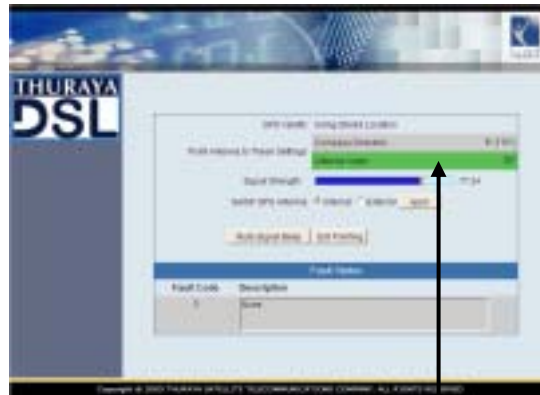


Southeast

The Protractor should match the number on the MMI screen as shown in the sample to the right.



5. Look at the MMI pointing screen and determine the elevation angle needed for the antenna. Tilt antenna up and down to the correct antenna angle.

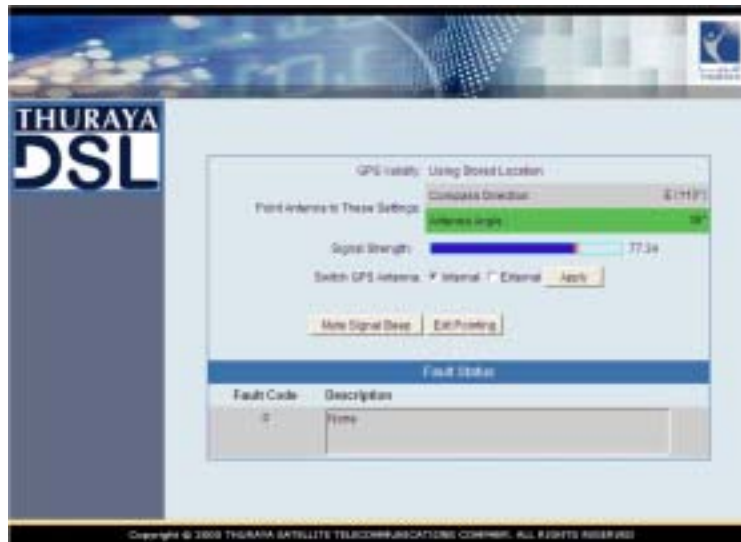


Antenna Angle

6. The small arrow on ThurayaDSL Protractor should point to the number that was read off the MMI pointing screen.

Step 6: Fine Pointing to the Satellite

➔ **IMPORTANT:** The reliability and speed of your connection to the network will be adversely impacted unless the antenna is correctly pointed towards the satellite. Please follow these directions closely so that your ThurayaDSL is optimally pointed.



Pointing Screen - Signal Strength

1. Use the MMI pointing screen to optimally fine point the antenna. The pointing screen has a signal strength bar graph and numeric value to assist in accurate antenna pointing. The orange peak-hold bar at the end of the blue bar identifies the highest signal strength measured during antenna pointing and will help you optimise the pointing direction. **Note:** Obtaining the highest signal strength possible will ensure that you have an optimum connection to the network.



Note

The power light must be flashing red/amber or amber/green. If this is not the case, turn the ThurayaDSL off and then back on to re-enter the pointing display.

To find the optimal antenna pointing direction, rotate ThurayaDSL slowly left or right a small amount. Find the centre peak of the signal strength using one of the methods described on the prior pages. Once a peak signal has been found, keep ThurayaDSL pointing in that direction.



Rotate left or right slowly

To find the optimal antenna pointing elevation, tilt the antenna slowly up and down a small amount. Find the centre peak of the signal strength using one of the methods described on the prior page. Once a peak has been found keep ThurayaDSL antenna at that angle.



Tilt antenna up and down

Step 7: Exit Pointing Mode

1. Your antenna is now optimally pointed. Exit the pointing mode by either of the following exit options:

Select the "Exit pointing" option on your MMI screen.



Or, press the Exit Pointing button on the terminal.



2. **Congratulations! Your ThurayaDSL is successfully connected.**

Note: If you are unable to successfully connect to the Internet, please see the troubleshooting section of the **ThurayaDSL Satellite IP Modem User Manual**.

Quick Reference

This section serves as a reference guide, identifying the key operational aspects of using the ThurayaDSL system and the **Controls and Indicators** on ThurayaDSL and their functions.

▶▶ Global Positioning System Operation

ThurayaDSL Satellite IP Modem contains an integrated Global Positioning System (GPS) receiver that is used to provide location information. GPS location information is required for system access, and the reception of a new GPS location is attempted automatically every time ThurayaDSL is powered on.

For optimum GPS signal reception, make sure ThurayaDSL is positioned in a roughly horizontal placement with the lid closed. Since GPS receivers must “see” a large part of the sky without obstructions from buildings, mountains or trees, it may be necessary to take your ThurayaDSL out to a clear space to obtain a new GPS location. It may be possible to obtain a new GPS location in a less favourable circumstance, but the time to completion may be longer.

Once updated, ThurayaDSL remembers your location so the unit can be relocated to a more convenient working area, such as inside a building by a window facing toward the satellite.

Once you have established a session on ThurayaDSL you will not need another GPS location while you remain connected in the “Always On” condition. This is convenient if you intend to operate from one location for an extended period of time since there is no need to move ThurayaDSL to refresh the GPS receiver. Also, your stored GPS location remains good for a period of time even if you power down and move a short distance between sessions. When you believe this is the case, simply skip the GPS location step and complete the ThurayaDSL satellite pointing operation prior to going directly onto the network. Be sure to carefully point your unit every time it is moved.

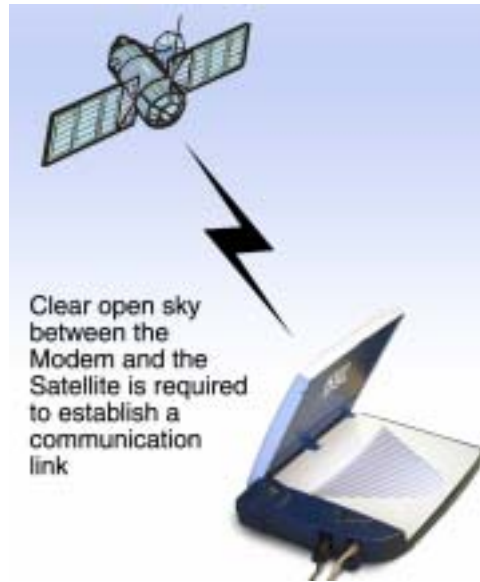
Stored GPS Location

The most recent GPS location is stored in ThurayaDSL even when powered down. Upon power up, if this stored GPS location is available the display indicates “Using Stored Location.” Even so, ThurayaDSL will attempt to update this GPS location since the Thuraya system will only allow access if your GPS location is not too old. If ThurayaDSL is able to update the GPS location, the status changes from “Stored” to “Valid.” GPS location is shown as “Invalid” only under special circumstances when the stored information has been erased. In any case, you may wish to attempt network access to see if service will be granted.

▶▶ Antenna Pointing

Establishing a new connection requires the careful orientation of ThurayaDSL towards the ThurayaDSL Satellite. The more precise this alignment, the faster your data will be able to travel over the network. To ensure precise alignment, the pointing operation is divided into a rough pointing operation followed by a fine pointing operation.

To assist in rough ThurayaDSL orientation, the stored GPS location is used to obtain your location relative to the satellite. Through use of this geographic location data, direction and elevation angle information is supplied to you on your computer's display. You can use this information in conjunction with ThurayaDSL compass and elevation angle scale to obtain an initial orientation towards the satellite.



Next, station yourself with your ThurayaDSL's "lid" (the antenna) opened away from you (like the display screen of a laptop computer) ensuring that nothing but open sky is between the ThurayaDSL's lid and the Thuraya Satellite. If the view is blocked by trees, mountains, buildings or similar objects then you must relocate ThurayaDSL. This manipulation is called the Rough Pointing procedure.



Do not stand in front of the Antenna

ThurayaDSL emits radio frequency energy when in the transmit mode. To avoid injury, do not place head or other body parts in front of the antenna when system is operational.

Once you have completed rough pointing, the connection can be "tuned" using the fine pointing procedure. The tuning consists of small changes in direction (rotation of the ThurayaDSL) and small changes in elevation angle (small up and down movement of the ThurayaDSL's lid). Signal meters are located on the ThurayaDSL and computer display; you can use either one to maximize your signal strength. Finding the maximum for both the direction and elevation angle settings ensures the best performance from your ThurayaDSL.

▶▶ Controls and Indicators

The figures below illustrate where the Control Buttons and Lights are located on ThurayaDSL and the functions of each.

Power Button

The Power Button turns ThurayaDSL power on and off. To turn on the ThurayaDSL Satellite IP Modem, push the Power button down until the Power Light illuminates. To turn off ThurayaDSL, push the Power button down until the Power Light darkens (at least two seconds). The ThurayaDSL will shut off a few seconds later.

Once ThurayaDSL is connected to the AC Mains power, the ThurayaDSL will power up immediately. Note that when ThurayaDSL is attached to AC Mains power, the ThurayaDSL still supports battery charging while the ThurayaDSL is turned off.



Power Light

When ThurayaDSL is powered down, the Power Light is off.

Normal Operational Mode: The Power Light is **on solid** if the ThurayaDSL is running on AC Mains power and **flashing** if the ThurayaDSL is on battery power. The colour of the Power light will be **amber** if the terminal is not yet connected to the network and **green** if the network is available for use.

Pointing Mode: The Power Light changes colour in order to indicate the status of the GPS acquisition. If the Light is switching between **red** and **amber**, then the GPS location **has not** been updated since power up. If the Light is switching between **amber** and **green**, then the GPS location **has been updated** since power up.

If the Power Light is **flashing red at anytime**, there is a fault or error condition in ThurayaDSL.

Exit Pointing Button

Exit Pointing Mode: Pressing this button down for two seconds will cause the terminal to exit pointing mode. If there is no response, you must check the MMI to determine why (may require SIM PIN entry or other action).



Pointing Mode Lights

The Pointing Mode Lights are lit and used as a bar graph to indicate relative signal strength. The Lights turn from **red** (poor signal strength) to **amber** (better signal strength) to **green** (best signal strength) as the antenna is manipulated to get the optimum signal.

Battery Light

The Battery Light is **off** when ThurayaDSL is powered down.

Normal Operational Mode: If the Battery Light is **flashing amber**, ThurayaDSL is powered on and not connected to AC mains power. If the Light is **flashing green**, the ThurayaDSL is connected to AC mains power and the battery is charging. If the Light is **green**, the ThurayaDSL is connected to AC mains power and the battery is fully charged. If the Light is **flashing red**, the battery is low and is not charging.

Pointing Mode: In this mode, the Battery Light is used as part of the bar graph to indicate relative signal strength. The Light turns from **red** (poor signal strength) to **amber** (better signal strength) to **green** (best signal strength) as the antenna is manipulated to get the optimum signal.



Note

When ThurayaDSL is on battery power (no AC Mains), the Power, and Battery Lights will flash to conserve power.

ThurayaDSL Antenna Protractor



When you are positioning the antenna during the Antenna Pointing process, the protractor provides the current angle of the antenna so that you can adjust it to the Antenna Angle specified on the pointing screen.

Compass



Reference the compass during the Antenna Pointing process to get the correct Compass Direction needed for the antenna. The illustration shows an example of a South-West orientation.



Note

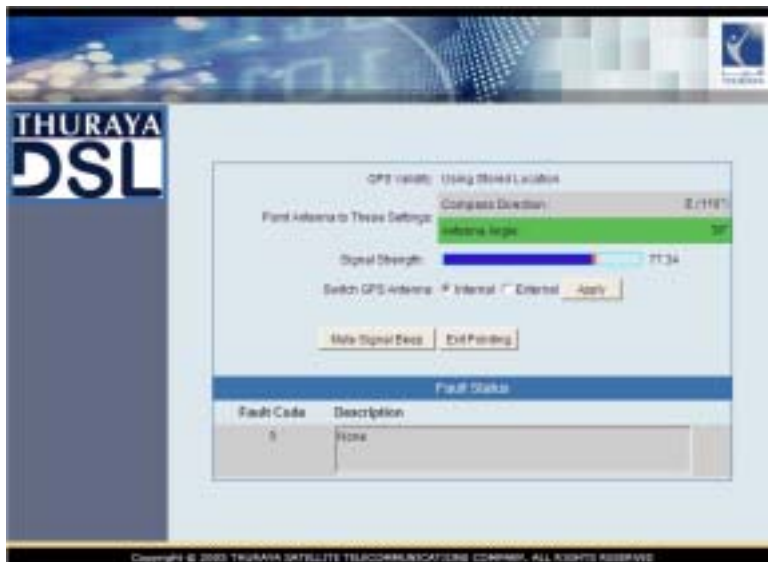
The compass can be affected when close to magnetic fields or metallic objects.

▶▶ MMI Screens

Pointing Screen

The **Pointing Screen** provides the best way to orient ThurayaDSL towards the satellite. Once ThurayaDSL is powered up, open your browser and enter <http://192.168.128.100> into the browser Address field

If you enable a **SIM Personal Identification Number (PIN)** and a **Security Code**, you are prompted to enter these values before advancing to other ThurayaDSL Administration pages in the MMI.



Pointing Screen



Note

If Antenna Pointing is disabled, the Pointing Screen will be bypassed. See the **Advanced Settings** section for additional information.

Follow the directions in **First Time Set-up** for using this screen while going through the Pointing process.

GPS Validity: Invalid, Stored or Valid. See the Global Positioning System Operation section for more details on GPS.

Point Antenna to These Settings: Compass Direction and Antenna Angle to help orient ThurayaDSL toward the satellite. Once this rough pointing is accomplished, use the Signal Strength meter below to optimise the pointing direction.

Signal Strength: This blue bar moves to the right as the signal received from the satellite gets stronger. The numeric display to the right of the bar is simply a digital representation of the bar. The orange peak-hold bar at the end of the blue bar identifies the highest signal strength measured during antenna pointing and will help you optimise the pointing direction. Use this display when fine tuning ThurayaDSL's orientation to the satellite. Signal strength is only a relative measure of the satellite signal strength and may vary from location to location.

Switch GPS Antenna: You can switch between an **Internal** and **External** GPS Antenna by selecting one of these two radio buttons. Once you have made the change, select the **Apply** button to implement the change. The **External** option should only be selected when using the optional external GPS antenna accessory. Instructions on how to connect the optional external GPS antenna accessory are included with the accessory package.

Mute/Unmute Signal Beep: An audible beep to provide a relative indicator of signal status (faster beep = higher signal quality) can be emitted from your computer speaker during the Pointing Process. Select this button to Mute or Unmute the sound.

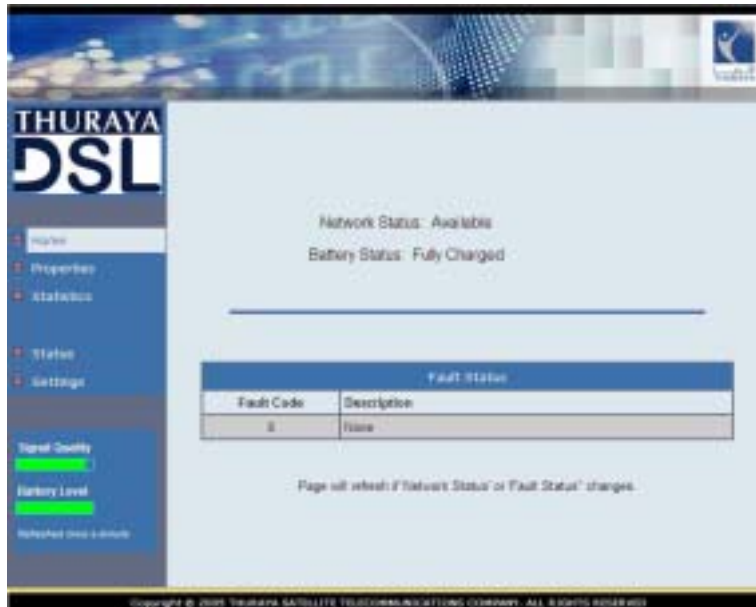
Exit Pointing: Select this button to leave the screen after optimum signal strength has been achieved. This action will take you to the home screen on the MMI.

Home Screen

The **Home** screen displays summary status information about ThurayaDSL.

You can navigate among all the various MMI functions by selecting one of the Main functions from the menu on the left side of the screen. Sub-menus will appear after selecting one of these Main functions:

- **Properties**
- **Statistics**
- **Status**
- **Settings**



Home Screen

Signal Quality: Displayed on all MMI screens, this bar graph provides an indication of satellite signal quality. To save power, this indication updates slowly over time. To ensure you have fresh information, press the reload button on your browser to update the page display.



Note

The Signal Quality status is a different measure of the received satellite signal than the Signal Strength status shown on the pointing screen. Seeing differences between these two levels is normal and not an indication of a problem with your ThurayaDSL.

Battery Level: Displayed on all MMI screens, this bar graph provides an indication of remaining battery capacity.

- **Green:** normal indication of battery level
- **Red:** almost fully discharged
- **Amber:** charging under external power

To save power, this indication updates slowly over time. To ensure you have fresh information, press the reload button on your browser to update the page display.

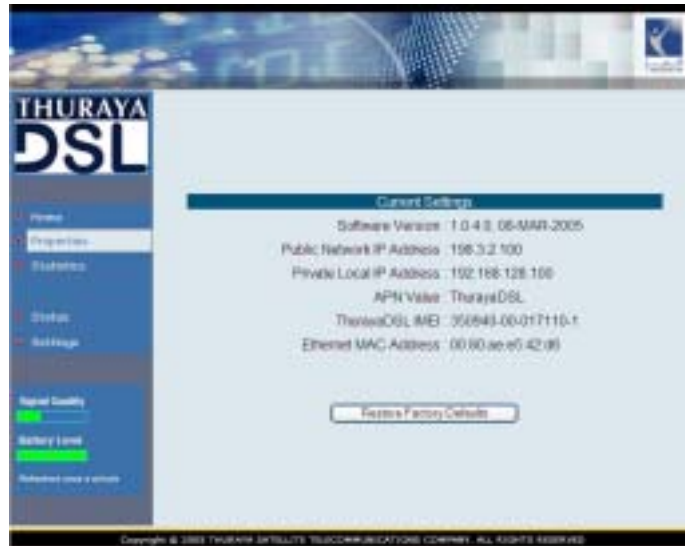
Battery Status: This displays either Charging, Not Charging or Fully Charged.

Network Status: Available, Acquiring, or Unavailable. If the status is Available then ThurayaDSL is ready to send and receive your data over the network. If the status is Unavailable then see the Fault Status for an indication of why a network connection is not available.

Fault Status: Any faults or errors detected by MMI are displayed near the bottom of the screen

Properties Screen

The **Properties** screen displays a summary of current communications parameter settings.



Properties

Current Settings: Software Version, Interface Mode, Public Network IP Address, Private Satellite Modem IP Address, Satellite Modem International Mobile Equipment Identity (IMEI), and Satellite Modem Media Access Control (MAC) Address.

Restore Factory Defaults

The **Restore Factory Defaults** screen is a subset of Properties.

Restoring the factory defaults returns ThurayaDSL's settings to their original, just out-of-the-box state. This does not change the security code or SIM parameters. Please exercise caution when proceeding. If you Restore Factory Defaults, you will need to re-enter any configuration information supplied by your Service Provider.

Statistics Screen

Statistics: Click this link if you would like to view estimates of your data usage. Data usage figures are obtained by counting the bytes in the IP packets received by and sent from the **ThurayaDSL** terminal. You can view both “since power on” (per session) and “Cumulative” (lifetime) data usage counts. To reset the data counters of a session, simply select the **reset** button for either transmit or receive and click the **Apply** button.



Statistics



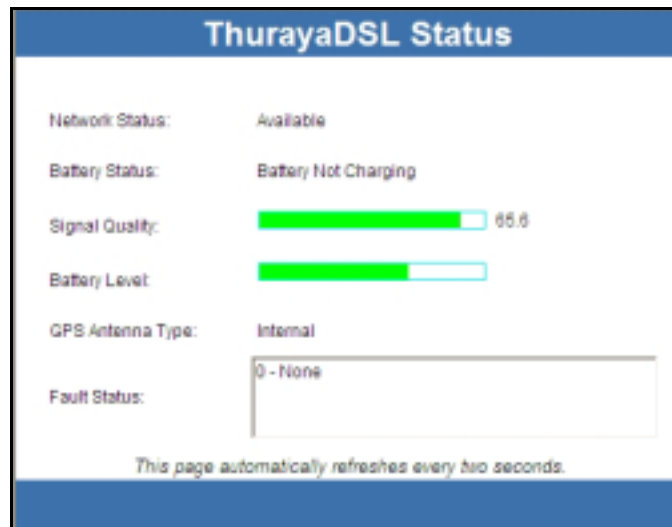
Note

The data usage figures provided on the screen are estimates only. This feature is not tied into the actual billing system. HNS assumes no liability if differences are found between data usage figures and your actual bill.

If ThurayaDSL is shutdown improperly, user data values on the lifetime session may be lost and not recorded.

Status Screen

The **Status Screen** is displayed as a separate window to provide a concise summary of the ThurayaDSL status.



Status Window

This window gives you a summary of current ThurayaDSL system configuration and performance. When the Status Window is open, its information is updated every minute. If you are running on battery power, this will reduce your available operating time.

Network Status: Available or Unavailable. If the status is Available then ThurayaDSL is ready to send and receive your data over the network. If the status is Unavailable then see the Fault Status for an indication as to why a network connection is not available.

Battery Status: Battery, charging on AC Mains, or charged on AC Mains.

Signal Quality: This bar graph provides an indication of satellite signal quality.



Note: The Signal Quality status is a different measure of the received satellite signal than the Signal Strength status shown on the pointing screen. Seeing differences between these two levels is normal and not an indication of a problem with your ThurayaDSL.

Battery Level: This bar graph provides an indication of remaining battery capacity.

- **Green:** normal indication of battery level
- **Red:** almost fully discharged
- **Amber:** charging under external power

GPS Antenna: Internal or External.

Fault Status: Any current system faults or errors.

Settings Screens

From the Main menu you can select **Settings** which allows you to navigate among all the various Settings functions from the menu on the left side of the screen:

- **Network Settings**
- **Security Management Settings**
- **Login Settings**
- **Advanced Settings**
- **Status**
- **Home**

Network Settings Screen

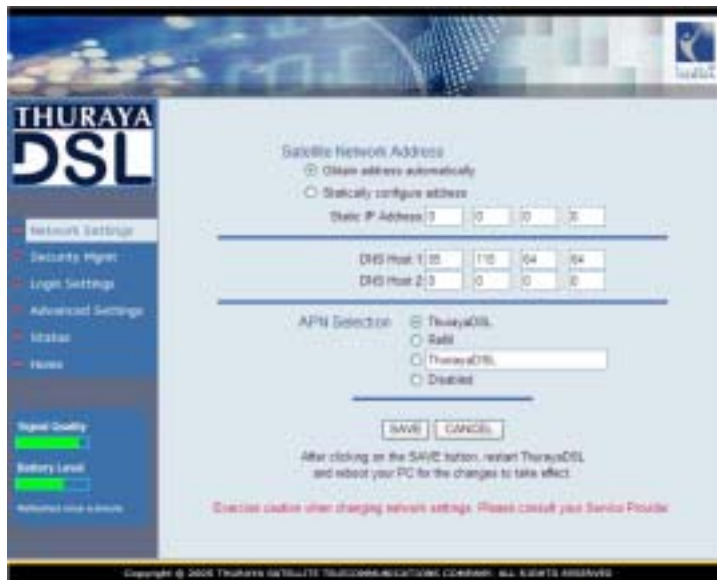
After executing the necessary First Time Set-up steps to configure ThurayaDSL, you may want to select the **Network Settings** screen to check your network configuration. On this screen, you should find the appropriate Domain Name Service (DNS) and the Access Point Name (APN) information configured by your Service Provider.



By default your Service Provider has already performed this configuration step for you.

Note

Whenever you modify the DNS addresses on the Network Settings screen, you must exit the MMI, reboot your computer, and power the ThurayaDSL off and then back on so that the new settings can take effect.



Network Settings

Use Static Public Network IP Address: If this radio button is **not selected**, ThurayaDSL uses an IP address automatically assigned by the network during the period when the ThurayaDSL connects to the network. By default this button is not selected. If this box is **selected**, the ThurayaDSL uses the IP address you enter in the Static Public Network IP Address field that follows. You should only check this box and enter an IP address if directed to do so by your Service Provider.

DNS Host 1: Primary Host Domain Name Service (DNS) Address. An IP address is required in this field and will be supplied by your Service Provider.

DNS Host 2: Secondary Host DNS Address.

APN Enable: If use of multiple Internet Service Providers is required, you can **check** this box and enter the appropriate **Access Point Name (APN) value**. You should modify these fields only if directed to do so by your Service Provider.

SAVE/ CANCEL: If you want the values you have entered to be processed, click the **SAVE** button, **exit** the MMI, and **reboot** your computer. You will also need to turn ThurayaDSL off and then on again so that the new settings can take effect. If you want the values you have entered to be ignored because of error or uncertainty, click the **CANCEL** button and the Network Settings remain as they were with no reboot required.

Security Management Screen

The **Security Management** screen allows you to impose a tighter level of security on your ThurayaDSL.



Security Management

SIM PIN Enable: If this box is **not checked**, there is no prompt for a SIM PIN after you invoke the MMI. If this box is **checked**, a prompt requests you to enter the SIM PIN each time you run the MMI. This helps prevent unauthorized use of your SIM. To change the setting, simply modify the check box as desired, enter the current SIM PIN, and click the **SAVE**. **Note:** If the SIM PIN code is entered wrong three times, the ThurayaDSL will be locked until the PUK (Pin Unlock Key) number is entered. Consult your Service Provider if you do not remember your PUK number.

Change SIM PIN: If the SIM PIN Enable box is **checked**, and you would like to change the existing PIN, click this link or choose the **CHANGE SIM PIN** option on the menu. You will be required to enter the Old PIN, the New PIN, and the New PIN again for confirmation.

Security Code Enable: If this box is not checked, there is no prompt for a Security Code after you invoke MMI. If this box is checked, a prompt asks for the Security Code entry each time you run the MMI with a different SIM than the one that was in the ThurayaDSL when the Security Code was enabled. By default, the Security Code is not enabled. **Note:** By default, the security code is eight (8) characters long.

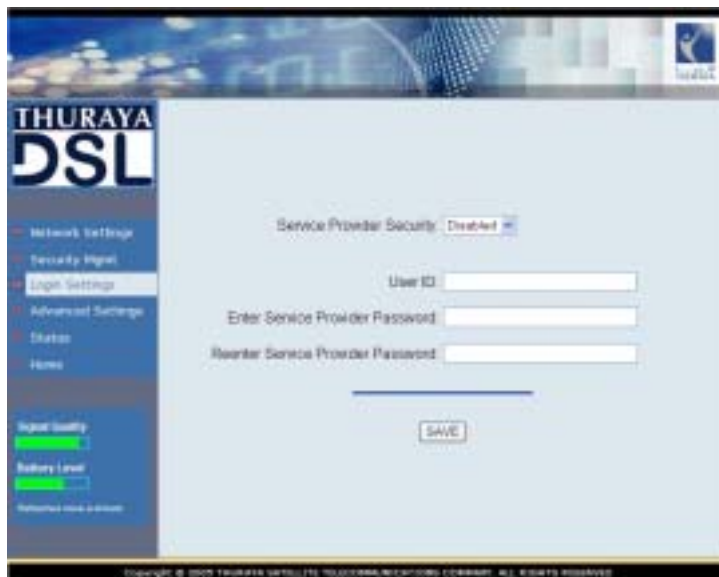
Change Security Code: If the Security Code Enable box is checked, and you would like to enter the Code for the first time or change an existing Code, click this option. You will be required to enter the Old Code, the New Code, and the New Code again for confirmation. Click **SAVE** to store the changes.

- ☒ If you forget the security code you will not be able to use ThurayaDSL with a different SIM.

Note When you enter the Security Code for the first time, no old Security Code entry is required. Whenever you enter or modify the Security Code, you must exit the MMI, and turn ThurayaDSL off and then on again so that the new settings can take effect.

Login Settings Screen

The **Login Settings** screen is a subset of the **Settings** button.



Login Settings

Utilize this screen only if you have been given the necessary information from your Service Provider.

Service Provider Security: If this box is **checked**, you can enter a **User ID** and **Password** for authentication between ThurayaDSL and your Service Provider. Your Service Provider will let you know if this step is required and give you the necessary information.

To change the Service Provider Password, you are required to enter the **Old Service Provider Password**, the **New Password**, and the **New Password again** for confirmation. Click the **Save** button to store the changes.

Advanced Settings Screen

The **Advanced Settings** screen is a subset of Network Settings.

Satellite Search Method: These are two radio buttons which determine the method of locking onto the satellite. The default method is **normal**. ***This is the method to use unless your Service Provider specifies the full method.*** The **full method** takes longer and utilizes more resources since it will search all possible frequencies for ThurayaDSL service. This full search can take up to 20 minutes.

Advanced Settings

Antenna Pointing: This dropdown menu determines whether the Pointing Display comes up each time ThurayaDSL is booted. If the ThurayaDSL is not moved between sessions, this option can be **disabled** to **bypass** the pointing state upon power up. However, if ThurayaDSL is moved, antenna pointing must be enabled to ensure optimum data throughput and performance.

Antenna Pointing Audio Signal: This dropdown menu allows you to enable or disable (mute) audio through your computer speakers during pointing.

GPS Antenna Input: This dropdown menu allows you to select which kind of GPS antenna that you are using; either **Internal** or **External**. The External option should be selected only when using the optional external GPS antenna accessory.

Select the **SAVE** button to implement your modifications.



Note

Whenever you modify any settings on the Advanced Network Settings screen, you must exit the MMI, and power ThurayaDSL off and then back on so that the new settings can take effect.

▶▶ Upgrade ThurayaDSL

Occasionally, ThurayaDSL software upgrades are made available to you. These upgrades may add new features or fix minor problems. The software can be downloaded directly from the Internet using any available access method, including ThurayaDSL.

Upgrading Software

In order to upgrade software **you must first connect to the Internet** and follow the steps listed below:

- Connect your PC/Notebook to the Internet using ThurayaDSL (satellite service), LAN, or dial up connection.
- Go to www.thuraya.com.
- Go to the section for ThurayaDSL updates.
- To download, select the latest upgrade package (if available). The browser proceeds to retrieve the package.
- Once the package is downloaded, you are prompted to execute the package. Select "Yes."
- The package is a self-extracting set of files that will upgrade the terminal.
- Once the package is installed, it puts a shortcut on the desktop and prompts you to upgrade now. Select this option and the program will allow you to upgrade the terminal.
- The upgrader will query the current software version of the terminal. You should choose whether you want to upgrade to the newer version of software.
- If you choose to upgrade the terminal, the process automatically downloads the new release of software and forces a terminal reboot.
- When the terminal returns from reboot, you can verify that the download was successful via the *Properties* page in the MMI.

Troubleshooting



This section details the following:

- Some general hardware and software problems you may encounter in the installation and operation of ThurayaDSL along with the possible source of these problems and how to correct them.
- System fault codes and descriptions reported to you by ThurayaDSL on the MMI screens, along with their possible causes and solutions.

General Troubleshooting

Problem	Possible Cause	Action
ThurayaDSL will not switch on, or will not stay on when under battery power.	Battery needs recharging.	Charge the battery. Check Battery Light or MMI screen for battery charging indication.
	The battery is not inserted properly.	Remove and reinsert the battery. Make sure the battery latch is in its farthest right hand position after the battery is inserted.
	The battery contacts are dirty or damaged.	Check the battery contacts. Clean them if necessary. If you find any damage, replace battery.
	The ThurayaDSL was reset while under battery power	When the ThurayaDSL is reset while under battery power (no AC Mains connected), you must turn it back on manually. This is a normal operation for the ThurayaDSL.
SIM card error.	SIM card or SIM card contacts may be damaged.	Visually inspect the SIM card and SIM card contacts and return SIM card to your Service Provider if it is damaged.
	SIM card may not be present.	Remove the SIM boot according to the instructions in User Manual and verify that the SIM card is present.
	SIM card may be inserted incorrectly.	Remove the SIM card and make sure that it is inserted according to the instructions in the User Manual.
	SIM card contacts may be dirty.	Clean the SIM card contacts with a dry cloth.

Problem	Possible Cause	Action
The MMI does not work from browser.	The browser may not be correctly configured.	For Netscape, go to Advanced Preferences and select 'Direct connection to the Internet.' For Microsoft Internet Explorer, select Tools / Internet Options / Connections / LAN Settings and uncheck the box labelled 'Use a proxy server for your LAN.' For Safari, select System Preferences/ Network / Built-in Ethernet / Proxies and uncheck the box labelled 'Web Proxy (HTTP).' You May Need To Recheck This Box Upon Returning To Your Other Internet Connection.
Primary LAN connection to the ThurayaDSL does not function.	The interface cable is not plugged in correctly.	Remove and reinsert the interface cable from both the PC and the ThurayaDSL.
	The PC Windows network settings may not be configured correctly.	Make sure the Windows network settings in the PC are set to choose IP settings automatically (DHCP). Then reboot the PC.
	The PC can only have one active LAN connection. When connected to the PC, the ThurayaDSL must be the only active LAN connection.	Disconnect all other LAN connections. Make sure the ThurayaDSL is the only active LAN connection. Windows limits the number of network bindings to six. If you have more than six, you must remove one in order for the PC to communicate with the ThurayaDSL.
The compass does not appear to work correctly.	The compass is not level or is near metal.	Place ThurayaDSL on a flat and level surface away from metallic objects.
The Security Code appears to be invalid.	The code may have been changed.	After three failed attempts to enter the Security Code, you must switch the ThurayaDSL off and on again. If you forgot the Security Code, contact your Service Provider.
The SIM PIN code appears to be invalid.	The code may have been changed.	If the SIM PIN is blocked, contact your Service Provider to obtain the PUK (PIN Unlock Key) code. Enter the PUK when prompted.

Problem	Possible Cause	Action
ThurayaDSL cannot locate itself using GPS.	No signal or weak signal.	Make sure no obstruction is blocking the GPS antenna and that the ThurayaDSL has a clear view of at least 3/4 of the sky. Make sure that you do not place your hand or another object over the GPS antenna.
	Determining GPS position can take up to 5 minutes.	Wait for 5 minutes. Switch the ThurayaDSL off and on again.
	The ThurayaDSL is configured to use an external GPS antenna.	Go to the Advanced Network Settings page on the MMI and set 'Switch GPS Antenna' to 'internal.'
The Signal Strength meter on the pointing screen does not change when moving the antenna.	Java not enabled on the browser.	Enable Java applications on the browser.
	Rough pointing not completed correctly.	Follow the instructions in the User Manual to correctly complete rough pointing.
ThurayaDSL cannot find the satellite.	No signal or weak signal.	<p>Make sure no obstruction is blocking the satellite signal. Make sure that the ThurayaDSL has a clear view of the sky in the direction of the satellite. Be aware that window glass may reduce the signal level.</p> <p>Check that the antenna is pointed using the correct compass direction and antenna angle from the MMI Pointing screen.</p> <p>Check the antenna switch to make sure that 'L' is selected for ThurayaDSL service.</p>
ThurayaDSL cannot access the internet after successful pointing.	You did not exit antenna pointing mode.	Click the 'Exit Pointing' button from the Pointing page or press the "exit Pointing button on the face of the terminal.
	The antenna may not be pointed properly.	Turn ThurayaDSL off and then back on again, and attempt antenna pointing again to improve the signal strength. You may need to reposition ThurayaDSL, verifying that there are no obstructions blocking the satellite signal and that the ThurayaDSL has a clear view of the sky in the direction of the satellite.
	The ThurayaDSL network settings may not be correctly configured.	Refer to the network settings supplied by your Service Provider. If the DNS Host settings are changed, the PC must be rebooted.

Problem	Possible Cause	Action
	The browser may not be correctly configured.	For Netscape, go to Advanced Preferences and select 'Direct connection to the Internet.' For Microsoft Internet Explorer, select Tools / Internet Options / Connections / LAN Settings and uncheck the box labelled 'Use a proxy server for your LAN.' For Safari, select System Preferences/ Network / Built-in Ethernet / Proxies and uncheck the box labelled 'Web Proxy (HTTP).' YOU MAY NEED TO RECHECK THIS BOX UPON RETURNING TO YOUR OTHER INTERNET CONNECTION.
No network access or poor network performance.	Interference from other satellite mobile terminals.	If you are near another satellite mobile terminal, switch the other satellite mobile terminal off or move as far away as possible to avoid interference.
The battery will not charge.	The battery is defective.	Replace the battery. After several years of average use, a gradual decline may be expected.
	The battery contacts are dirty or damaged.	Check the battery contacts. Clean them if necessary. If the battery is damaged, replace it.
ThurayaDSL stops sending data even with good network connection and sufficiently charged battery. The indicator lights blink red.	ThurayaDSL/battery is overheated.	Let the ThurayaDSL/battery cool down. Wait until the Indicator Lights stop blinking red to continue.
ThurayaDSL cannot enter antenna pointing mode while you are trying to reposition the antenna.	Antenna pointing mode cannot be accessed without power cycling the ThurayaDSL.	Turn the ThurayaDSL off and on again to enter antenna pointing mode.
	The ThurayaDSL is configured to skip antenna pointing.	Go to the Advanced Network Settings page on the MMI and check 'Enable Antenna Pointing Display.'

Problem	Possible Cause	Action
After ThurayaDSL exits antenna pointing mode, the Signal Quality meter on the MMI changes from time to time.	Normal behaviour.	There are several types of channels used by the ThurayaDSL, each with different signal strengths. Because the Signal Quality meter measures the channel currently in use, there may be slight differences in what the meter shows as channels are changed from one type to another.
Antenna moves after pointing.	ThurayaDSL was moved by the wind.	Use tie-down clips provided with the ThurayaDSL to fix the unit in place.

Fault Codes

Number and Description	Cause	Solution
1 SIM card is not installed. Power down, install SIM card properly and try again.	Absence or incorrect installation of the SIM card.	<p>SIM card may not be present. Remove the SIM boot according to the instructions in the User Manual and verify that the SIM card is present.</p> <p>SIM card may be inserted incorrectly. Remove SIM card and make sure it is inserted according to the instructions in the User Manual.</p> <p>SIM card may be damaged. Visually inspect the SIM card and return it to your Service Provider if damaged.</p> <p>SIM card contacts may be dirty. Clean the SIM card contacts with a dry cloth.</p> <p>If problem continues, replace SIM card with a known good SIM card. If problem persists, return the unit to your Service Provider for service.</p>
2 SIM card read/write error. Power down and try again.	Failure to read from or write to the SIM card.	<p>Power down ThurayaDSL and try again.</p> <p>SIM card may be damaged. Visually inspect the SIM card and return it to your Service Provider if damaged.</p> <p>SIM card contacts may be dirty. Clean the SIM card contacts with a dry cloth.</p> <p>If the problem continues, replace SIM card with a known good SIM card. If the problem persists, return the unit to your Service Provider for service.</p>
3 SIM card access has been blocked. Please contact your Service Provider.	Failure to access the SIM card due to too many failed attempts with an invalid PIN.	This occurs after 3 failed attempts to enter the PIN. The SIM card is locked. Enter the PUK to unlock the SIM card.
4 SIM card has been improperly changed during an active session. Power down and try	You replaced a SIM card with another after the ThurayaDSL was turned on.	The SIM card must be replaced when the unit is turned off. Make sure the unit is turned off before replacing the SIM.

Number and Description	Cause	Solution
again.		
5 SIM card is not responding. Power down and try again.	Hardware failure to access the SIM card.	Power down ThurayaDSL and try again. SIM card may be damaged. Visually inspect the SIM card and return it to your Service Provider if damaged. SIM card contacts may be dirty. Clean the SIM card contacts with a dry cloth. If problem continues, replace SIM card with a known good SIM card. If problem persists, return the unit to your Service Provider for service.
6 A required data field could not be accessed from the SIM card. Please contact your Service Provider.	Absence of a required data field on the SIM card.	SIM card was incorrectly programmed and is missing one or more required fields. The SIM card must be replaced by another from your Service Provider.
7 You are not allowed to connect to the network. Please contact your Service Provider.	Network connection failure because the user is not allowed to connect to the Network.	Your authorisation has been removed by your Service Provider (SIM card IMSI is not authorised). Contact your Service Provider to regain service.
8 Your ThurayaDSL terminal is not allowed to connect to the network. Please contact your Service Provider.	Network connection failure because the ThurayaDSL is not allowed to connect to the Network.	The ThurayaDSL authorisation has been removed by your Service Provider (ThurayaDSL IMEI is not authorised). Contact your Service Provider to regain authorised service.
9 You have no subscription, service is not allowed. Please contact your Service Provider.	Network connection failure because you are not identified as a subscriber to the service.	Contact your Service Provider to receive authorised service. Your Service Provider should check the subscription entries in the Home Location Registry.
10 This ThurayaDSL terminal was detached by the network. Cause unknown. Power down and try again.	Network connection broken with an unknown cause.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
11 Network connection failure – Invalid	Network connection failure due to use of	Contact your Service Provider.

Number and Description	Cause	Solution
parameters used for network attach procedure. Please contact your Service Provider.	invalid parameters.	
12 Network connection failure - LLC or SMDCP failure. Power down and try again.	Network connection failure caused by LLC or SMDCP failure.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
13 Network connection failure – Unknown PDP type. Please contact your Service Provider.	Network connection failure.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
14 Network connection failure - User authorisation failed. Please contact your Service Provider.	Network connection failure because the user is not authorised for service.	Contact your Service Provider to regain authorised service. Your Service Provider should check the subscription entries in the Home Location Registry.
15 Network connection failure – Service option not supported. Please contact your Service Provider.	Network connection failure because the service option is not supported.	Contact your Service Provider to regain authorised service. The Service Provider should check the subscription entries in the Home Location Registry.
16 Network connection failure - Service option not subscribed. Please contact your Service Provider.	Network connection failure because user was not subscribed to the service option.	Contact your Service Provider to regain authorised service. The Service Provider should check the subscription entries in the Home Location Registry.
17 Network connection failure - N-SAPI has already been used. Power down and try again.	Network connection failure because network assigned an N-SAPI that is already being used.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
18 Network connection failure – Regular PDP deactivation by network. Power down and try again.	The connection was deactivated by the Network.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
19 Network connection	Connection failure due	Power down ThurayaDSL and try

Number and Description	Cause	Solution
failure - SM network failure. Power down and try again.	to SM network failure.	again. If the problem continues, contact your Service Provider.
20 Network connection failure – Too many failures to activate PDP context. Power down and try again.	Too many failed attempts (4) to connect to the Network.	This failure may occur because of a weak signal due to obstructions or geographic position (such as extreme latitude or longitude). Contact your Service Provider to verify coverage for your location.
21 Network connection failure - Network assigned an invalid IP address. Power down and try again.	Assignment of an invalid IP address by the network during connection.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider. The Service Provider should verify that you have the correct network settings.
22 Network connection failure – No response from network. Power down and try again.	Network connection failure due to lack of a response from the network.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
23 Network connection failure – Protocol error received from network. Power down and try again.	Network connection failure due to a protocol error.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
24 Network connection failure – GPRS stack could not attach to MUX interface. Power down and try again.	Internal software error.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
25 Network connection failure - GPRS stack could not detach from MUX interface. Power down and try again.	Internal software error.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
26 SIM card error - IMSI field is longer than 8 bytes and is invalid. Please contact your Service Provider.	SIM card may have been programmed incorrectly.	SIM card was incorrectly programmed. The SIM card must be replaced by another from your Service Provider.

Number and Description	Cause	Solution
27 GPRS software internal failure - GPRS stack message subscription failure. Please contact your Service Provider.	Internal software error.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
28 Your PC has been disconnected from the ThurayaDSL terminal. Please reconnect your PC if you desire service	The connection between PC and ThurayaDSL has been removed, or The interface cable between PC and ThurayaDSL is not plugged in properly.	Remove and reinsert the interface cable from both the PC and the ThurayaDSL. When done reboot the ThurayaDSL.
41 Your PC is opening large numbers of TCP connections (may be a virus generating connections). The ThurayaDSL terminal is running out of resources.	Applications (and possibly viruses) on your PC are generating excessive Internet connections.	Check your PC for applications that may open large numbers of connections and disable these applications. If the problem continues, contact your Service Provider.
42 TCP connection resources are depleted due to your PC opening excessive connections. You must restart your terminal to regain service to the network.	Excessive TCP connections by the PC have consumed all available connection resources in the terminal. The terminal cannot recover from this error.	Clean up PC applications that are consuming excessive TCP connections. Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
101 You were detached by the network. The ThurayaDSL terminal is attempting to reattach...	Connection broken by the Network.	Power down ThurayaDSL and try again. If the problem continues, contact your Service Provider.
102 No network connection – User initiated detach from network.	The ThurayaDSL terminal has received detach confirmation from the network.	If the problem continues, contact your Service Provider.
103 Network connection failure – PLMN is not allowed. Reacquiring connection.	Network connection failure due to PLMN not allowed.	If the problem continues, contact your Service Provider.

Number and Description	Cause	Solution
104 Network connection failure - LA is not allowed. Reacquiring connection...	Network connection failure because ThurayaDSL is in a service not allowed Location Area (LA) .	If the problem continues in other areas where service is allowed, contact your Service Provider.
105 Network connection failure – Roaming is not allowed. Reacquiring connection.	You are using a SIM card from a carrier that does not have a roaming agreement with your Service Provider.	If the problem continues with an authorised SIM card, contact your Service Provider.
106 Network connection failure - ThurayaDSL terminal implicitly detached by the network. Reacquiring connection...	Network connection failure because the ThurayaDSL was implicitly detached by the Network.	If the problem continues, contact your Service Provider.
107 Network service is not available – Network resources not available. Reacquiring connection...	Network service not available due to lack of network resources.	The spot beam is dark and cannot be illuminated for ThurayaDSL service. If the problem continues, contact your Service Provider.
108 Network service is not available. Reacquiring connection...	Network service not available.	The spot beam is dark and cannot be illuminated for ThurayaDSL service. If the problem continues, contact your Service Provider.
109 Network service is not available – No network. Reacquiring connection...	Network service not available.	If the problem continues, contact your Service Provider.
110 Access to network is not available at the moment, ThurayaDSL terminal acquiring network...	Network service not available because cell access is barred.	If the problem continues, contact your Service Provider.
111 Network service is not available – Limited network service. Reacquiring connection...	Network service not available due to limited service.	If the problem continues, contact your Service Provider.
112 Network service is not available - Invalid	Network service not available because the	You should verify that the ThurayaDSL has an open view of the

Number and Description	Cause	Solution
position. Reacquiring connection...	GPS position is not valid.	sky to get a GPS fix. If the problem continues, contact your Service Provider.
113 Network service is not available – Invalid position for the selected Service Provider. Reacquiring connection...	Network connection failure because the of an invalid GPS position.	Verify that the ThurayaDSL has an open view of the sky to get a GPS fix. If the problem continues, contact your Service Provider.
114 Network service is not available - Invalid position for selected RAI. Reacquiring connection...	The GPS fix does not match the selected Routing Area Information (RAI).	You should verify that the terminal has an open view of the sky to get a current GPS fix. If the problem continues, contact your Service Provider.
115 Network service is not available – Unknown cause. Reacquiring connection...	Network service not available – cause unknown.	If the problem continues, contact your Service Provider.
116 Network connection failure - Insufficient resources. Reacquiring connection...	Network connection failure due to insufficient resources.	If the problem continues, contact your Service Provider. Network may be down.
117 Network connection failure – PDP rejected for unspecified reason. Reacquiring connection...	Network connection failure – unknown cause.	If the problem continues, contact your Service Provider. Network may be down.
118 Network connection failure - Service option temporarily out of order. Reacquiring connection...	Network connection failure because service option is temporarily out of order.	If the problem continues, contact your Service Provider. Network may be down.
119 Network connection failure - PDP deactivated by network. Reacquiring connection...	Network connection failure.	If the problem continues, contact your Service Provider. Network may be down.

Number and Description	Cause	Solution
120 No network connection - User initiated PDP deactivation.	The ThurayaDSL was powered down while connected to the network.	You will generally not see this code. In order for you to deactivate the PDP, you must power down the terminal. If the problem continues, contact your Service Provider.
121 Network connection failure - Missing or invalid APN. Please provide correct information and try again.	Network connection failure because the APN is missing or invalid.	Contact your Service Provider to get the correct network settings.
122 Network connection failure - Rejected by GGSN. Please re-enter User ID/Password and try again.	Network connection failure due to rejection by the GGSN.	Verify that your Service Provider User ID and password are correctly set on the Network Settings screen. If they are correct and the problem continues, contact your Service Provider.
123 Network connection failure - Subscribed QoS rejected by network. Please modify parameters and try again.	Network connection failure because the requested QoS was rejected by the Network.	Modify the QoS settings and try again. If the problem continues, set all QoS settings to the default values and try again. If the problem continues with the default values, contact your Service Provider.
124 Network connection failure - Invalid transaction id. Reacquiring connection...	Network connection failure due to invalid transaction ID.	If the problem continues, contact your Service Provider.
125 Network connection failure – Unknown Session Manager error. Reacquiring connection...	Network connection failure due to unknown session manager error.	If the problem continues, contact your Service Provider.
126 Network access temporarily unavailable - please wait, the ThurayaDSL terminal should automatically	Network connection failure because network access is blocked.	Network access is blocked. The network will send the ThurayaDSL a timer value, and the ThurayaDSL will attempt to connect again when the timer is complete. If the problem

Number and Description	Cause	Solution
reacquire a connection within 1-2 minutes.		continues, contact your Service Provider.
127 Network access blocked – Radio priority is less than threshold. ThurayaDSL terminal waiting to be unblocked by the network...	Network access is blocked due to the user's priority.	You are blocked from Network access due to your network priority. If the problem continues, contact your Service Provider.
128 Network Blocked - GPS fix is too old. ThurayaDSL terminal will attempt to reacquire connection after receiving a new GPS fix.	Notification of a GPS fix during or after Network connection procedure.	A new GPS fix is sent to the network that is more current than the one sent when the connection was acquired. The ThurayaDSL will reacquire the connection. If the problem continues and a new connection cannot be made, contact your Service Provider.
129 Network access blocked - GPS location may be too old. If condition does not clear, please obtain a new GPS location.	GPS fix may be too old.	Verify that the ThurayaDSL has an open view of the sky to get a GPS fix. If the problem continues, contact your Service Provider.

Glossary

APN: Access Point Name. APNs can be assigned to each external network interface to allow communications among multiple Internet Service Providers (ISPs). If use of multiple ISPs is required in your network, on ThurayaDSL MMI Network Settings screen you can enable APN and enter the value supplied by your Service Provider.

Compass: When going through the antenna Pointing Process, you reference the compass on ThurayaDSL to get the correct direction needed for the antenna.

DHCP: Dynamic Host Configuration Protocol. DHCP is a communications protocol that lets network administrators manage centrally and automate the assignment of IP addresses in an organization's network. With use of the Internet Protocol, each machine that can connect to the Internet needs a unique IP address. You must make sure that the Windows network settings on your PC are set to allow the network to choose IP settings automatically.

DNS: Domain Name Service, a static, hierarchical name service for TCP/IP hosts. The network administrator configures the DNS with a list of host names and IP addresses, allowing users of workstations configured to query the DNS to specify remote systems by host names rather than IP addresses. On ThurayaDSL MMI Network Settings screen, a primary and possibly a secondary DNS address supplied by your Service Provider must be assigned.

Ethernet: Ethernet is a local area networking method used widely throughout the computer industry. It is the only communication interface supported by ThurayaDSL.

Fault Code: A number which uniquely references an error in a hardware or software system. In ThurayaDSL, if there is a fault detected, the fault code and a description are displayed at the bottom of the ThurayaDSL MMI Home and Status screens.

GPS: Global Positioning System. When the GPS receiver in ThurayaDSL gets a bearing on a GPS satellite, the receiver computes and stores the ThurayaDSL's location on earth. That location is used in the Pointing Process to obtain your location relative to the ThurayaDSL Satellite.

Normal Operational Mode: In this mode, ThurayaDSL is connected to your network, allowing you to perform standard system activities such as Internet browsing. The other mode of ThurayaDSL operation is **Pointing Mode**.

Pointing Lights: The pointing lights on the ThurayaDSL panel serve as a bar graph to indicate relative signal strength during Pointing Mode.

Pointing Mode: In this mode, using ThurayaDSL Protractor and Compass, and referencing the Pointing Screen for indications of signal strength, you manipulate the ThurayaDSL antenna to get the optimum GPS location and Thuraya Satellite signal strength for your network connection. Pointing is required during ThurayaDSL set-up or if the ThurayaDSL has been moved from its previous location. Once you have obtained the best antenna position, you can enter Normal Operational Mode and be ready to perform standard activities.

Protractor: An instrument that measures angles, ThurayaDSL protractor provides the current angle of the antenna so that you can adjust it to the antenna angle specified on the Pointing Screen.

SIM: Subscriber Identification Module. Your Service Provider issues you a SIM, containing your SIM Personal Identification Number (PIN) and other security-related information. You insert the SIM into ThurayaDSL SIM holder as part of ThurayaDSL hardware setup. If you configure the ThurayaDSL to enable SIM PIN security, each time you invoke the ThurayaDSL MMI after turning on the ThurayaDSL, PIN authorisation is required in order to use the system.

SIM PIN: A Subscriber Identification Module (SIM) Personal Identification Number (PIN) may be supplied by your Service Provider. If SIM PIN entry is enabled on ThurayaDSL MMI Security Management screen, a prompt requests you to enter the SIM PIN each time you run the MMI. This helps prevent unauthorised use of your SIM.

Static IP Address: A static Internet Protocol (IP) address is a number that is assigned to a computer by an Internet Service Provider (ISP) to be its permanent address on the Internet. Computers use IP addresses to locate and talk to each other on the Internet. If Static IP addressing is enabled on ThurayaDSL MMI Network Settings screen, you must enter an IP address supplied by your Service Provider in the Static Public Network IP Address field that follows.

ThurayaDSL: Satellite IP Modem referenced throughout this document as ThurayaDSL.

Index

- ANTENNA POINTING, 15
- CONTROLS AND INDICATORS, 17
 - Battery light, 18
 - Compass, 19
 - Exit Pointing button, 18
 - Pointing mode lights, 18
 - Power button, 17
 - Power light, 17
 - ThurayaDSL antenna protractor, 19
- COVERAGE AREA, 1
- FIRST TIME SET-UP, 2
 - Step 1: Unpack THURAYADSL, 4
 - Step 2: Unpack THURAYADSL – Power, 5
 - Step 3: Obtain initial GPS fix, 6
 - Step 4: Connect THURAYADSL using Ethernet, 7
 - Step 5: Rough Pointing to Satellite, 8
 - Step 6: Fine Pointing to Satellite, 11
 - Step 7: Exit Pointing Mode, 13
- GLOBAL POSITIONING SYSTEM OPERATION, 14
 - Stored GPS Location, 14
- Glossary, 49
- MINIMUM SYSTEM REQUIREMENTS AND SOFTWARE INSTALLATION, 3
- MMI Screens, 20
 - Advanced Settings screen, 30
 - Home screen, 21
 - Login Settings screen, 29
 - Network Settings screen, 26
 - Pointing screen, 20
 - Properties screen, 23
 - Restore Factory Defaults, 23
 - Security Management screen, 28
 - Settings screen, 26
 - Statistics screen, 24
 - Status screen, 25
- QUICK REFERENCE, 14
- SAFETY INFORMATION, i
 - Warning Symbols Used in this Manual, i
 - Warnings for Thuraya, i
 - Batteries and accessories, iii

- Connecting devices, iii
- Do not operate during electrical storms, ii
- Do not stand in front of antenna, i
- General, ii
- Hearing aids, iv
- In vicinity of blasting work or explosive environments, ii
- Pacemakers, iii
- Properly ground antenna, ii
- Qualified service, iii
- Troubleshooting, 32
 - Fault Codes, 38
 - General, 33
- Unpacking ThurayaDSL, 2
- Upgrade ThurayaDSL, 31
 - Upgrading Software, 31



www.thuraya.com

MCN 3004070
MADE IN THE USA