

SKYLINK



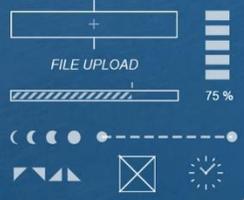
Remote Monitoring



Global Voice



Data Connection



User Guide

Email: support@blueskynetwork.com

Website: www.blueskynetwork.com



Blue Sky Network, LLC
5353 Mission Center Rd, Suite 222
San Diego, CA 92108

SkyLink

User Guide

Version 2.2

Part Number: SL10001

PAGE INTENTIONALLY LEFT BLANK

NOTICE

This guide is published and copyrighted by Blue Sky Network (BSN). All information and specifications in this document are subject to change without notice. Nothing in this document is intended to create additional or separate warranties or guarantees.



Blue Sky Network, 5353 Mission Center Rd. #222, San Diego, CA 92108

Phone: +1 858-551-3894 | Fax: +1 858-225-0794

Email: support@blueskynetwork.com | Website: www.blueskynetwork.com

© 2022 Blue Sky Network, All Rights Reserved

TABLE OF CONTENTS

NOTICE 4

About This User Guide 8

About Skylink 8

 Introduction to SkyLink8

 Compatibility and System Requirements.....8

Getting Started 9

 Connecting to Device WiFi.....9

 Connecting to the Network through Ethernet.....9

SkyLink Web Interface 10

Overview.....11

Status.....12

 System Information 12

 Satellite & Cellular..... 12

General Settings.....13

 SkyLink..... 14

 Satellite..... 14

 WiFi & Cellular 15

Network16

 LAN..... 16

 DHCP..... 16

Firewall.....17

 Firewall Profile..... 18

 Advanced Rules 19

Calls.....20

Voice Extensions	21
<i>Editing A SIP Or POTS Extension</i>	22
Advanced	23
<i>Backup/Restore Configuration</i>	24
<i>System Update</i>	24
Remote Management	27
Serial to IP	28
Diagnostics	29
<i>System Information</i>	29
<i>Satellite & Cellular Information</i>	30
<i>Network Troubleshooting</i>	30
System Log	31
Help	32
SkyLink Capabilities	33
Making Phone Calls	33
<i>Optimizing SIP Phone Apps</i>	34
Connecting to the Internet	35
Using the Serial Port	36
SkyLink Specifications & Installation	38
Technical Specifications	38
Software Specifications	39
Diagram	40
Installation & Cable Diagrams	40

Troubleshooting	40
Product Warranty	41
Product Terms and Conditions	41
Warranty Disclaimer/Limitation of Liability	41
Frequently Asked Questions	43
Connectivity	43
Antennas / Cables / Power Sources	44
Device Management	46
Other	48
Technical Support	49

ABOUT THIS USER GUIDE

Thank you for purchasing the SkyLink device! This easy-to-read User Guide is organized based on the steps needed to log in to and navigate the SkyLink Device Interface for singular device use. To manage a fleet of devices, please see the SkyLink Cloud Services User Guide.

We sincerely hope that SkyLink enhances your ability to monitor and configure your assets anywhere in the world. Please continue to read on or choose a starting point from the list below:

- [Connecting to the SkyLink device WiFi](#)
- [Changing your SkyLink device name and/or WiFi password](#)
- [Updating SkyLink and Iridium modem firmware](#)
- [Using your SkyLink device: making calls, connecting to the internet, and more](#)
- [Troubleshooting](#)
- [Frequently Asked Questions](#)

ABOUT SKYLINK

Introduction to SkyLink

SkyLink by Blue Sky Network is the inaugural Iridium Certus 100 mid-band solution for land mobile, aviation, IoT, and maritime markets. This small-form, multi-stack hardware is designed for any fixed-mount, portable, or mobile application and offers a range of service configurations.

Key features include:

- Remote device management
- Sensor/engine diagnostics
- Network services (VPN, IP, MQTT)
- IP65 Certified
- Health monitoring
- Data analytics/edge computing
- SkyRouter integration
- FCC Part 15 & 25 Certified

Compatibility and System Requirements

To access the SkyLink Device Interface, you will need 1) an internet connection and 2) a recent version of a web browser that supports HTML5.

The SkyLink Device Interface has been tested with the following recommended browsers:

- Google Chrome (Mac/Windows)
- Mozilla Firefox (Mac/Windows)
- Safari (Mac)
- Microsoft Edge (Windows)

GETTING STARTED

Connecting to Device WiFi

A label containing a QR code with a WiFi access point can be found on the back panel of your SkyLink Data Gateway. An extra label can also be found in the device's box. It is recommended that a wide screen device (e.g., laptop, PC, or tablet) be used for the initial configuration.



After properly installing and powering on the device (please see the SkyLink Installation Guide), you can connect to WiFi through one of two ways:

Option 1: Use a mobile device or tablet to scan the QR code. Your phone/tablet will then be automatically connected to the WiFi. **NOTE:** If using a cellular device, it may be helpful to first switch into airplane mode before connecting to the SkyLink WiFi.

Option 2: Use the WiFi SSID and password found on the label.

Connecting to the Network through Ethernet

If using an ethernet cable with your SkyLink device, simply plug the ethernet cable into the appropriate power source (e.g., a wall) and your device will automatically be configured via DHCP.

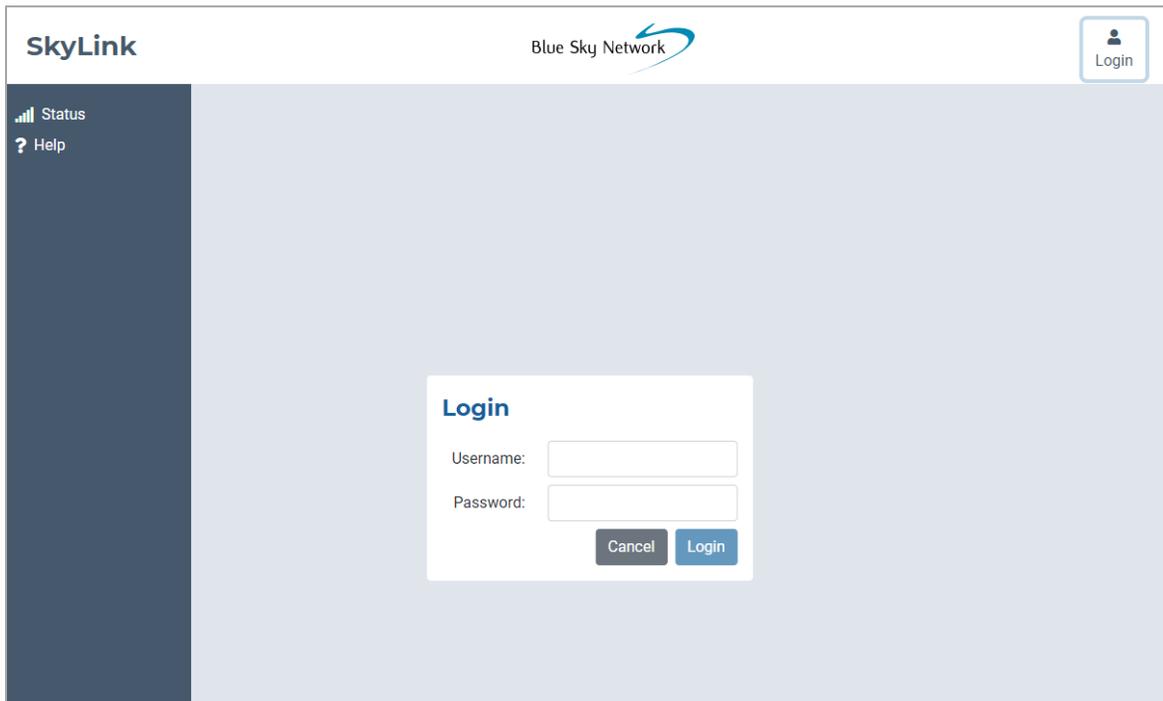
SKYLINK WEB INTERFACE

To connect to the SkyLink Device Interface, open a web browser, type the below IP address into the address bar, then press 'Enter' on your keyboard.

SkyLink IP address: 192.168.111.1

You will then be directed to the SkyLink Device Interface where you can view, configure, and manage your device settings.

The default User ID and Password are both 'admin.'



The screenshot displays the SkyLink web interface. At the top left, the 'SkyLink' logo is visible. In the top center, the 'Blue Sky Network' logo is present. At the top right, there is a 'Login' button with a user icon. On the left side, there is a dark sidebar with 'Status' and 'Help' options. The main content area features a central 'Login' form with two input fields for 'Username' and 'Password', and two buttons: 'Cancel' and 'Login'.

Overview

The SkyLink Device Interface has several tabs displayed on the left-hand side for easy navigation to screens containing important information about your device. In order, the tabs are:

- [Status](#)
- [General Settings](#)
- [Network](#)
- [Firewall](#)
- [Calls](#)
- [Voice Extensions](#)
- [Advanced](#)
- [Remote Management](#)
- [Diagnostics](#)
- [System Log](#)
- [Help](#)

To hide the tabs on the webpage, click on the triple bars above the tab listing. Click the 'Logout' button located on the top right-hand corner when you are ready to exit the SkyLink Device Interface.

The following sections describe the information that can be found on each screen as well as the configurations that can be made.

Status

When accessing the SkyLink Device Interface, you will automatically be directed to the Status screen. Here you will find information about your system as well as your satellite and cellular data usage.

The screenshot shows the SkyLink Status page. On the left is a navigation menu with options: Status, General Settings, Network, Firewall, Calls, Voice Extens, Advanced, and Remote. A blue box highlights the 'Status' option with an arrow pointing to the 'System Information' section. Below this box is a text callout: 'Current SkyLink hardware / firmware versions can be found here. Please see the [Diagnostics](#) screen for the current 9770 Certus modem firmware version.'

The main content area is titled 'System Information' and contains the following data:

Serial Number:	Sat. IMEI:	Cell. IMEI:
0000-0016	300058060001420	861364040178400
Model:	Sat. SIM:	Cell. SIM:
SkyLink 5100	8988169771000113283	89883030000052347330
Versions:	Sat. Temp.:	CPU Temp.:
SYN267 REV F / 2.14-220211-2226	31.0°C	54.0°C
Capabilities:	Location:	WiFi SSID:
Voice & Data Gateway	32.77148, -117.15341	DragonsInc
System Time:	Asset Tag:	
2022/2/14 20:32:19 UTC	4321 tseT	

Below the System Information are two sections: 'Satellite' and 'Cellular'. Each section includes signal strength, on-net percentage, route, and network information. Below these are 'USAGE' tables for 24 hours, 7 days, and a month, showing Bytes Sent and Bytes Received.

	Bytes Sent	Bytes Received
24 hrs	0	0
7 days	116,329	186,901
Month	192,888	297,429

	Bytes Sent	Bytes Received
24 hrs	104,086	205,094
7 days	2,337,160	101,558,008
Month	2,590,041	102,012,208

SYSTEM INFORMATION

These three columns contain identifying information about your SkyLink device, such as its serial and model number, current hardware and firmware versions, and capabilities. It also includes satellite and cellular IMEI/SIM card numbers and current temperatures.

SATELLITE & CELLULAR

Find the satellite and cellular modem signal strength and data information here. On net percent is the current percentage of data that has crossed the interface. It is calculated by adding satellite and cellular usage totals and dividing that number of bytes by the interface's number of bytes.

Each section shows a table with your device's data usage across a 24 hour, seven day, and first-of-the-month period. Usage tables are an estimate; minimum sessions are rounded to 5,000 bytes.

General Settings

This screen allows you to make setting configurations such as renaming your SkyLink device, changing the password, and turning your satellite, cellular, and WiFi capabilities on and off. Click 'Reboot' at the bottom of the screen to restart your device, if needed.

Remember to click the 'Save' button in the bottom right-hand corner to apply any changes.

The screenshot shows the SkyLink General Settings page. On the left is a dark sidebar with navigation icons and labels: Status, General Settings (highlighted), Network, Firewall, Calls, Voice Extensions, Advanced, Remote Management, Serial to IP, Diagnostics, System Log, and Help. The main content area has a white background with a blue header containing the SkyLink logo and Blue Sky Network branding, along with a Logout button. The settings are organized into several sections:

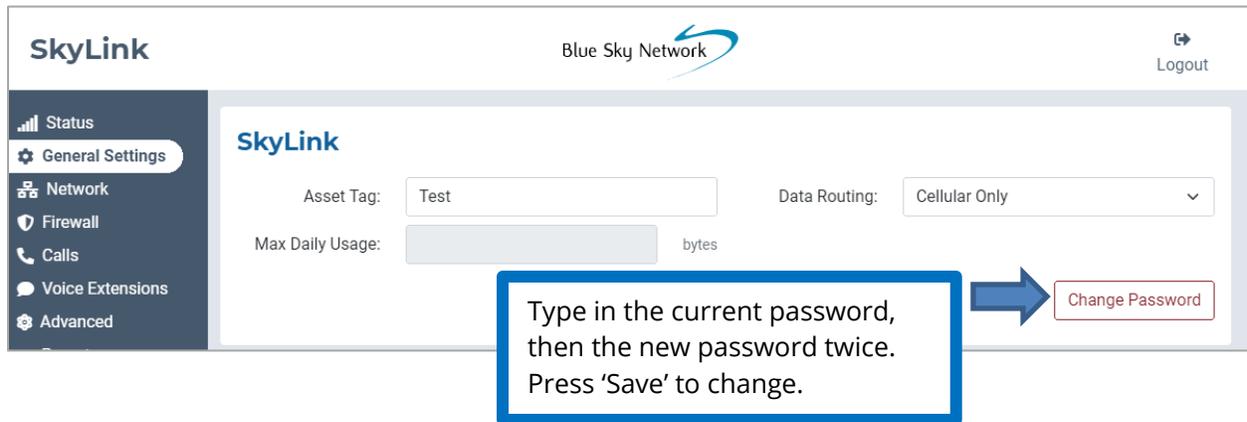
- SkyLink:** Includes an Asset Tag field (Test), a Data Routing dropdown (Cellular Only), a Max Daily Usage field, and a Change Password button.
- Satellite:** Features two toggle switches for Satellite Enabled and Data Enabled, both currently turned on.
- WiFi:** Includes a WiFi toggle switch (turned on), SSID (TestNet), Mode (5 GHz), Country (USA), Channel (161), Security (WPA2-PSK), and a Password field. Below these is a QR code with a 'Scan to Connect' label. A blue callout box points to the QR code with the text: "Use this QR code to connect to the device's WiFi (e.g., in case you are using an ethernet port, need to share it with someone, or have updated the password)."
- Cellular:** Features a Cellular toggle switch (turned on) and fields for APN (em), Username (Optional), Password (Optional), IMEI (861364040178400), SIM (89883030000052347330), and Network (T-Mobile).

 At the bottom of the page, there are buttons for Reboot, Cancel, and Save.

SKYLINK

Edit your device name in the Asset Tag field. Use the Data Routing drop-down menu to prioritize data routing (Satellite Only, Cellular Only, Cellular then Satellite). Changes are applied immediately.

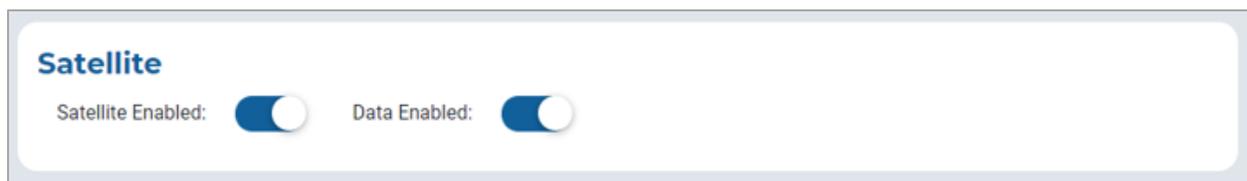
NOTE: Iridium QoS (also called Iridium secondary data flows) are not supported on Certus 100; therefore, BSN cannot offer per-stream priorities or VLANs over the Iridium link.



Set a maximum limit for the SkyLink device's daily data usage in the Max Daily Usage field. The Serial Port toggle button enables or disables the RS232 serial communication channel.

SATELLITE

The toggle button on the left allows you to switch satellite capabilities on and off. Once your satellite and cellular SIM cards are activated, you can freely switch back and forth between the two. The toggle button to the right will enable or disable data transferring.

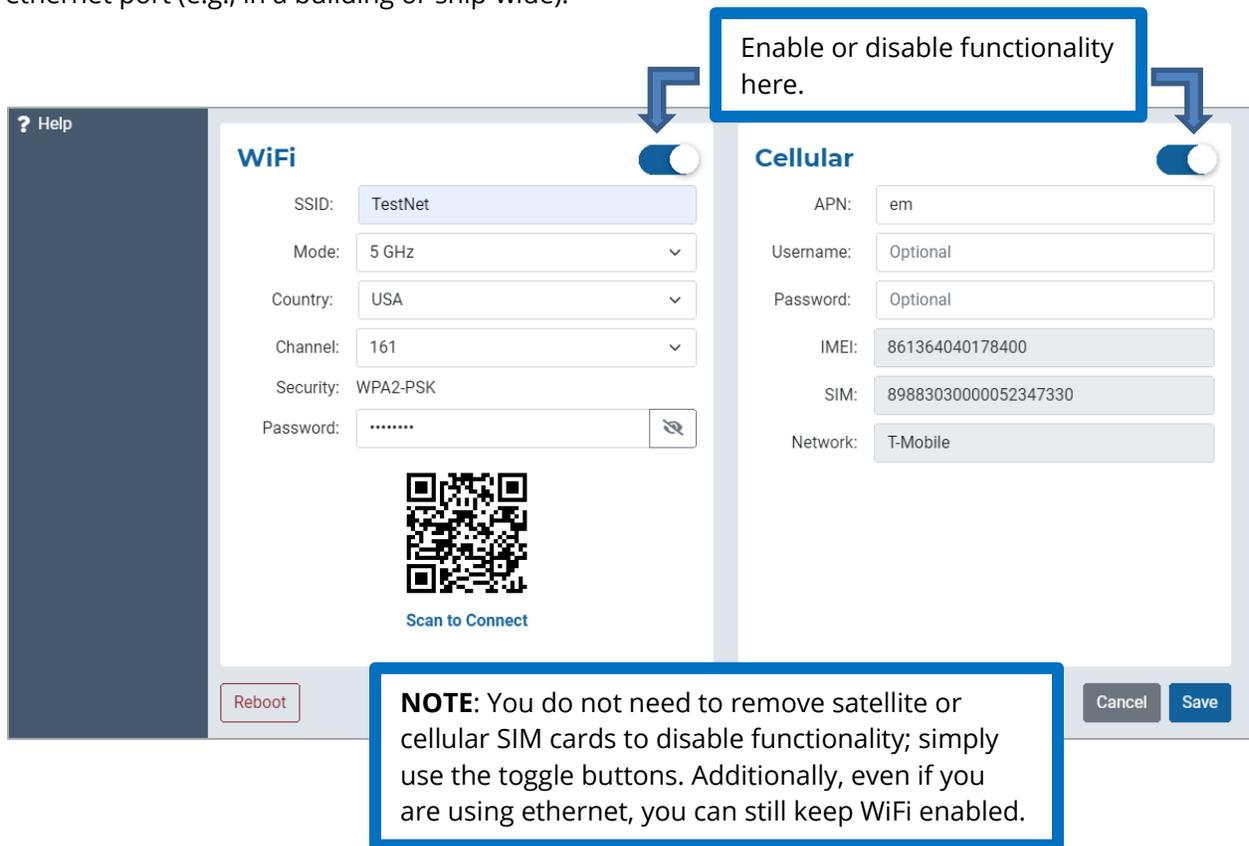


NOTE: Satellite internet connection supports messaging apps, IoT data transfer, and mobile-optimized web surfing (visit Iridium.com/mobile for a list of mobile-optimized sites). It is not intended for general web browsing or high bandwidth applications.

WIFI & CELLULAR

Once you are connected to the SkyLink device's WiFi, and cellular is enabled, you can use your personal device to browse any website and use all of your applications.

The default mode (out-of-box) is 'all internet OFF'—users must explicitly enable internet access. You also have the option to keep the built-in WiFi disabled and connect your own WiFi to an existing ethernet port (e.g., in a building or ship-wide).



The WiFi section allows you to edit the SSID, Mode, Channel, and randomly generated Password fields. It also contains a scannable QR code for automatic connectivity. When set to 2.4GHz, the Mode field will default to the radio channel with the strongest WiFi signal, and you can select among 11 channels. Switching it to 5GHz will provide you with a new set of channels to choose from.

In the Cellular section, you can fill in the optional Username and Password fields. **NOTE:** Some carriers require a Username and Password. Please contact your carrier if you have questions.

Network

This screen provides multiple options to configure your network settings.

SkyLink Blue Sky Network Logout

LAN

IP Address: 192.168.111.1

Network Mask: 255.255.255.0

Primary DNS: 8.8.8.8 Secondary DNS: 8.8.8.4

DHCP

DHCP Range Start: 192.168.111.50 DHCP Range End: 192.168.111.245

Lease Validity: 1 day

Use this drop-down menu to choose from 5 minutes up to 1 year.

Cancel Save

LAN

Here you can change the gateway or internal IP address on your network and also set primary and secondary DNS addresses.

DHCP

In addition to choosing your lease validity, this section also allows you to configure a range of IP addresses that you would like to use. Use the toggle button to enable or disable DHCP.

Firewall

Here you can enable or disable applications from connecting to the internet by choosing from a compiled list of predefined rules (shown on the screen as “Firewall Profile”) or by creating your own set. We recommend contacting Blue Sky Network support for assistance with custom rule creation.

NOTE: When using the Firewall Profile, complete functionality may not be available on all apps (e.g., WhatsApp messaging will be unblocked, but not WhatsApp voice calling). These restrictions can be unblocked by creating a rule in the Advanced Rules section. You can also try making configurations in the app itself or reach out to your corporate MDM platform.

SkyLink
Blue Sky Network
Logout

- Status
- General Settings
- Network
- Firewall
- Calls
- Voice Extensions
- Advanced
- Remote Management
- Serial to IP
- Diagnostics
- System Log
- Help

Firewall Profile

SkyLink by default blocks most outside (Internet) network traffic, and needs to be told what traffic it should allow. Firewall Profiles are sets of predefined rules that allow common network traffic. These profiles are an easy way to setup your SkyLink. Select a profile to learn more about what traffic it allows. The profile won't be applied until you click Save.

Profile: Unrestricted ?

Description

Allows all outgoing (and response) network traffic to the Internet. This is the least restrictive option and is not recommended as it could incur high data usage fees.

Cancel Save

Advanced Rules

You can define your own set of Firewall rules here. Be careful with creating these rules as they could open your network to malicious actors or cause you to lose connectivity. We recommend contacting our support team for assistance with defining custom rules.

Note: We currently only support port forwarding.

Action	Source	Destination	Source Port	Dest. Port	Protocol(s)	Comment
Forward	Internet	192.168.111.222	8080	8080	tcp,udp	Portal Test ✎ 🗑

+ Add

FIREWALL PROFILE

View the current firewall profile, including its description and list of affiliated apps, here. Use the drop-down menu to choose between profile options and click 'Save' to apply its rules.

The screenshot shows the SkyLink interface for configuring a Firewall Profile. The main page has a sidebar with navigation options: Status, General Settings, Network, Firewall (selected), Calls, Voice Extensions, Advanced, Remote Management, Serial to IP, Diagnostics, and System Log. The main content area is titled "Firewall Profile" and includes a description: "SkyLink by default blocks most outside (Internet) network traffic, and needs to be told what traffic it should allow. Firewall Profiles are sets of predefined rules that allow common network traffic. These profiles are an easy way to setup your SkyLink. Select a profile to learn more about what traffic it allows. The profile won't be applied until you click Save." Below this is a dropdown menu for "Profile:" currently set to "Unrestricted". A blue box highlights a question mark icon next to the dropdown, with an arrow pointing to a callout box that says "Click to see all profiles and their details." At the bottom right of the main page are "Cancel" and "Save" buttons.

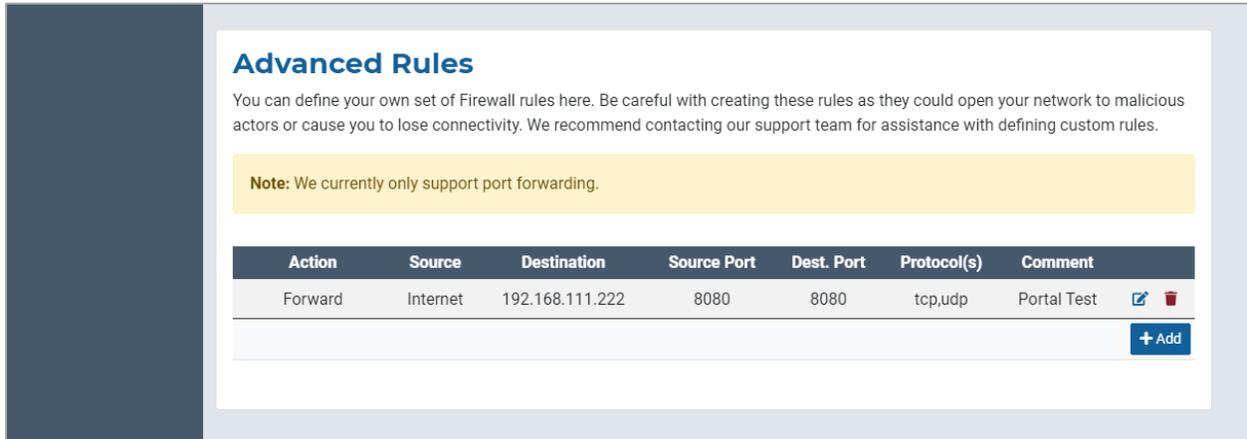
The "Profile Descriptions" modal window lists the following profiles:

- Blocked**: Blocks all network traffic to the Internet.
- Unrestricted**: Allows all outgoing (and response) network traffic to the Internet. This is the least restrictive option and is not recommended as it could incur high data usage fees.
- Email**: Allows email (POP/IMAP/SMTP) network traffic to reach the Internet.
- Chatty**: Allows network traffic for the following chat apps:
 - ESChat, Signal, Telegram, WeChat, WhatsApp, Wire, Zoom
- Social**: Allows network traffic for the following social networks and chat apps:
 - Facebook, Instagram, LinkedIn, TikTok, Twitter, ESChat, Signal, Telegram, WeChat, WhatsApp, Wire, Zoom

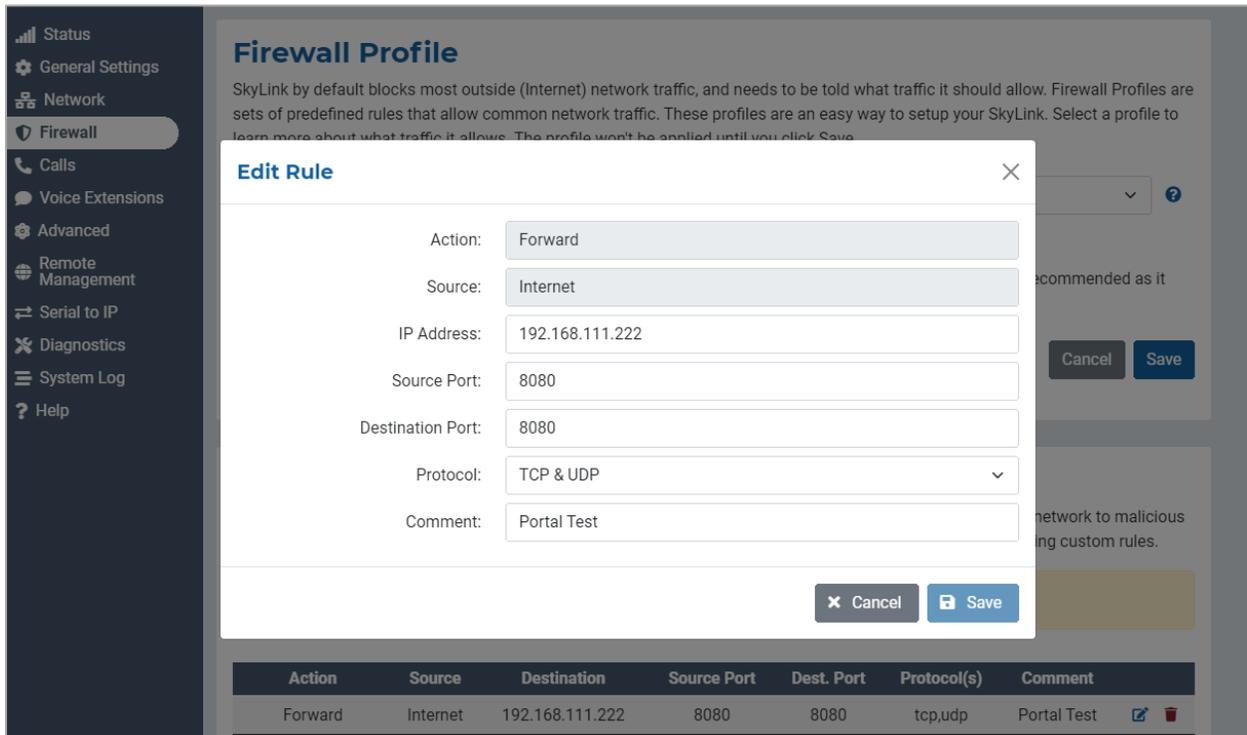
ADVANCED RULES

The SkyLink Device Interface allows you to create custom rules and block all network traffic from an app affiliated with a certain profile. This section shows all custom rules currently in the system.

NOTE: Use the SkyLink Cloud Services portal to apply custom rules to a fleet of SkyLink devices.



Press 'Add' to create a new rule or the  icon to edit an existing one. Fill out the open fields, then press 'Save.' If successful, it will appear in the table. Select the red trashcan icon to delete a rule.



Calls

A list of incoming and outgoing calls by line and extension number can be found on this screen. It also includes the day and time that the call was placed, its total vs. expected billable duration, and whether or not it was answered. **NOTE:** Internal calls will not generate an Iridium bill.

Each call is assigned a unique ID number that can be provided to the Blue Sky Network support team for troubleshooting purposes in the event that there is a call issue.

Date	Source	Destination	Line	Total Duration	Billable Duration	Disposition	Call ID
2/11/22 9:43 PM	520	510	SIP/510-00000019	00:00:04	00:00:01	ANSWERED	1644615837.72
2/11/22 9:43 PM	520	777		00:00:01	00:00:01	ANSWERED	1644615824.67
2/11/22 9:43 PM	520	777		00:00:01	00:00:01	ANSWERED	1644615819.63
2/11/22 9:43 PM	520	777		00:00:01	00:00:01	ANSWERED	1644615816.59
2/11/22 9:43 PM	520	777		00:00:01	00:00:01	ANSWERED	1644615811.55
2/11/22 9:15 PM	510	777		00:00:02	00:00:01	ANSWERED	1644614151.48
2/11/22 9:15 PM	520	777		00:00:02	00:00:02	ANSWERED	1644614150.47
2/11/22 9:15 PM	520	510	SIP/510-00000010	00:00:06	00:00:02	ANSWERED	1644614139.42
2/11/22 9:15 PM	510	520	SIP/520-0000000e	00:00:07	00:00:04	ANSWERED	1644614126.37
2/11/22 9:14 PM	520	520	SIP/520-0000000b	00:00:02		BUSY	1644614099.31
2/11/22 8:57 PM	510	777		00:00:08	00:00:08	ANSWERED	1644613026.24
2/11/22 8:57 PM	520	777		00:00:08	00:00:08	ANSWERED	1644613025.23
2/11/22 8:56 PM	510	777		00:00:07	00:00:06	ANSWERED	1644613012.16
2/11/22 8:56 PM	520	777		00:00:09	00:00:09	ANSWERED	1644613010.15
2/11/22 8:56 PM	520	510	SIP/510-00000005	00:00:05	00:00:02	ANSWERED	1644613001.10
2/11/22 8:56 PM	520	510	SIP/510-00000003	00:00:02		BUSY	1644612995.5
2/11/22 8:56 PM	510	520	SIP/520-00000001	00:00:06	00:00:02	ANSWERED	1644612986.0
2/11/22 4:40 PM	510	520	SIP/520-00000009	00:00:02		BUSY	1644597603.23
2/11/22 4:39 PM	520	510	SIP/510-00000007	00:00:02		BUSY	1644597597.18
2/11/22 4:39 PM	520	717		00:00:04	00:00:04	ANSWERED	1644597588.14
2/11/22 4:39 PM	510	777		00:00:03	00:00:02	ANSWERED	1644597581.10
2/11/22 4:39 PM	510	520	SIP/520-00000003	00:00:06	00:00:02	ANSWERED	1644597570.5
2/11/22 4:39 PM	520	510	SIP/510-00000001	00:00:09	00:00:03	ANSWERED	1644597559.0

Voice Extensions

Find mobile and landline phone information and configuration settings here. The username and password are the respective extension number; these can be changed on this screen.

The Inbound Line(s) column shows the order in which line numbers ring when a call comes in. By default, the first extension (shown below as 510) allows calls to both Line 1 and Line 2, the next 10 extensions allow calls to Line 1 only, and the following 10 to Line 2 only. The Outbound Line column is set to Any Available by default.

SkyLink Blue Sky Network Logout

- Status
- General Settings
- Network
- Firewall
- Calls
- Voice Extensions**
- Advanced
- Remote Management
- Serial to IP
- Diagnostics
- System Log
- Help

SIP Extensions

Extension	Description	Inbound Line(s)	Outbound Line	Username	Password	
510		Line 1 Line 2	Any Available	510	510	✎
511		Line 1 Line 2	Any Available	511	511	✎
512		Line 1 Line 2	Any Available	512	512	✎
513		Line 1 Line 2	Any Available	513	513	✎
514		Line 1 Line 2	Any Available	514	514	✎
515		Line 1 Line 2	Any Available	515	515	✎
516		Line 1 Line 2	Any Available	516	516	✎
517		Line 1 Line 2	Any Available	517	517	✎

POTS Extensions

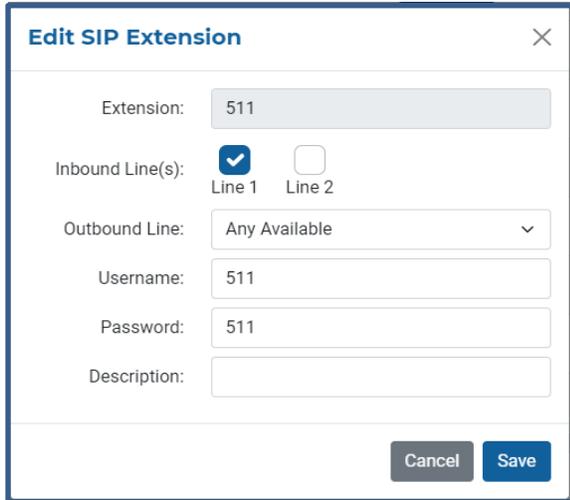
Region:

Line	Extension	Type	Description	Inbound Line(s)	Outbound Line	
1	500	N/A	POTS #1	Line 1 Line 2	Line 1	✎
2	501	N/A	POTS #2	Line 1 Line 2	Line 2	✎

Use this field's drop-down menu to select region-specific dial tones, ringing tones, etc.

EDITING A SIP OR POTS EXTENSION

Click the  icon next to the SIP or POTS extension that you would like to edit. In the pop-up window, complete the fields and add a description if desired, then press 'Save.'



Edit SIP Extension

Extension: 511

Inbound Line(s): Line 1 Line 2

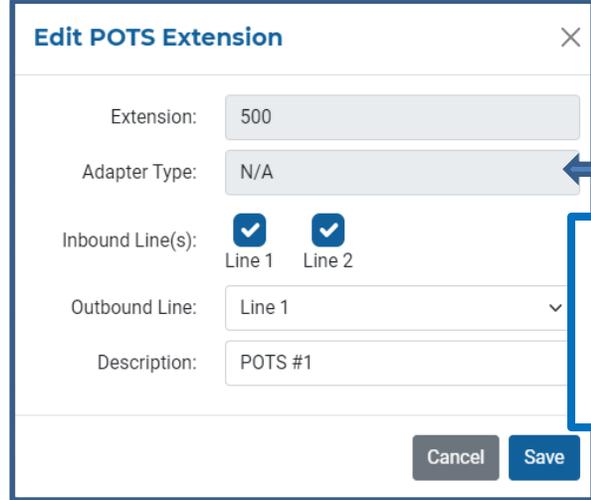
Outbound Line: Any Available

Username: 511

Password: 511

Description:

Cancel Save



Edit POTS Extension

Extension: 500

Adapter Type: N/A

Inbound Line(s): Line 1 Line 2

Outbound Line: Line 1

Description: POTS #1

Cancel Save

The SkyLink device will detect if an FXS or FXO adapter is being used.

Under the Inbound Line(s) field, tick each box to allow calls to both Line 1 and Line 2. Deselect both lines to block calls from ringing to an extension. **NOTE:** If you are not receiving calls to your extension, ensure one or both lines are selected here.

Use the drop-down menu in the Outbound Line field to choose whether Line 1, Line 2, or Any Available line can be used when making a phone call from this extension. A scenario for only selecting one line would be a ship captain who has Line 1 reserved, and the crew uses Line 2.

NOTE: Selecting only Line 1 or Line 2 in the Inbound Line(s) field along with the Any Available option in the Outbound Line field may cause issues when returning calls. For example, if only Inbound Line 1 is selected and you dial on Any Available Outbound Line, you may dial out on Line 2; this would leave someone unable to return your call.

Advanced

Use this screen to backup or restore a system configuration, or when the system is ready to be updated. SkyLink firmware includes the 9770 Certus modem firmware; appropriate versions will be upgraded or downgraded as needed. **NOTE:** Blue Sky Network will not downgrade the Certus 9770 modem firmware unless specifically required by Iridium.

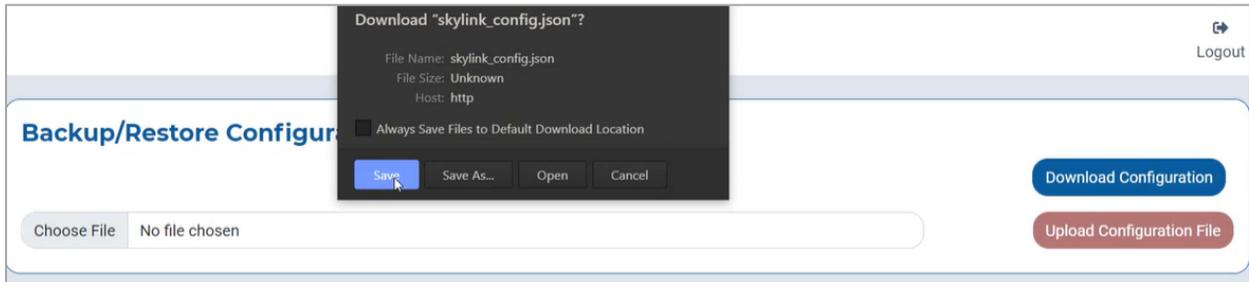
NOTE: The [Status](#) screen will display the SkyLink's current firmware version, and the [Diagnostics](#) screen will display the current 9770 Certus modem firmware version.

The screenshot displays the SkyLink Advanced Configuration interface. The left sidebar contains navigation options: Status, General Settings, Network, Firewall, Calls, Voice Extensions, **Advanced**, Remote Management, Serial to IP, Diagnostics, System Log, and Help. The main content area is divided into three sections: **Backup/Restore Configuration** with 'Download Configuration' and 'Upload Configuration File' buttons; **System Update** with a 'Check for Updates' button; and **Manual Upload** with a 'Select Update File:' field and an 'Upload Firmware' button. A 'Factory Reset' button is located at the bottom left of the main content area. A blue arrow points from this button to a 'Factory Reset?' dialog box. The dialog box features a warning: 'Warning! All changes will be lost!' and states: 'Factory Reset will reset all parameters back to factory defaults. Enter the word reset below to continue.' Below this text is an input field and two buttons: 'Cancel' and 'Reset'.

Click here if you would like to reset all settings to factory defaults. Type "reset" in the pop-up box. Your device will then reboot.

BACKUP/RESTORE CONFIGURATION

To back up a configuration, press 'Download Configuration' and wait for the device to reboot. To restore, click 'Choose File,' then select the appropriate .tpz file from your computer/personal device. Click 'Save' then 'Upload Configuration File.' Your SkyLink device will reboot.

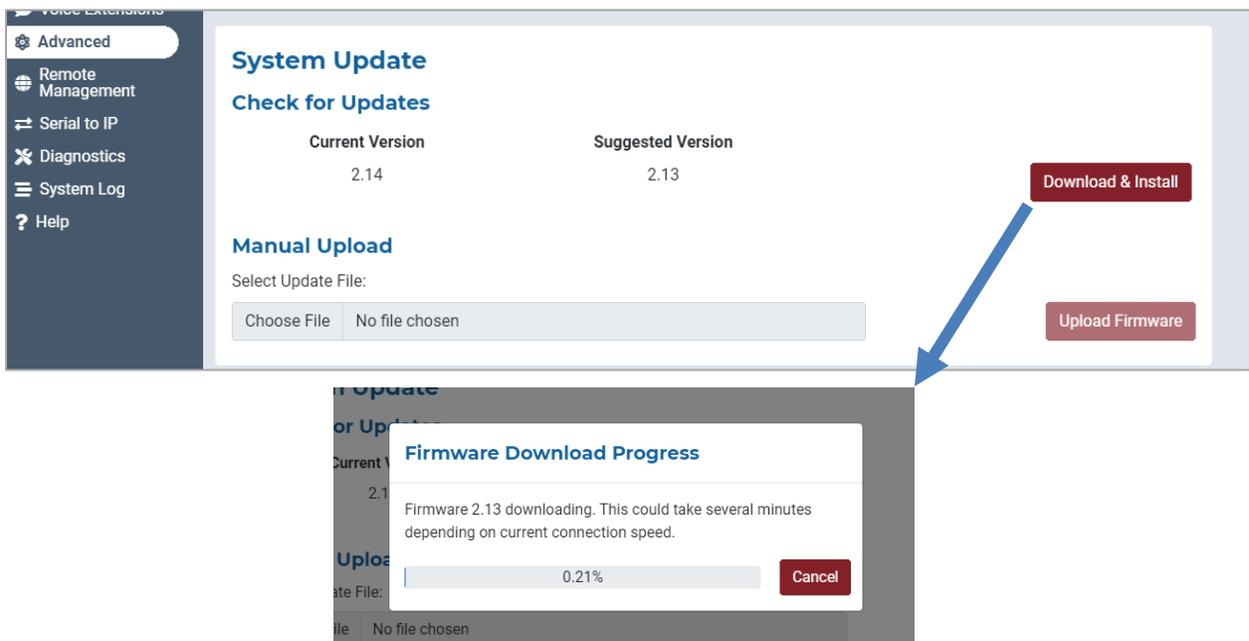


SYSTEM UPDATE

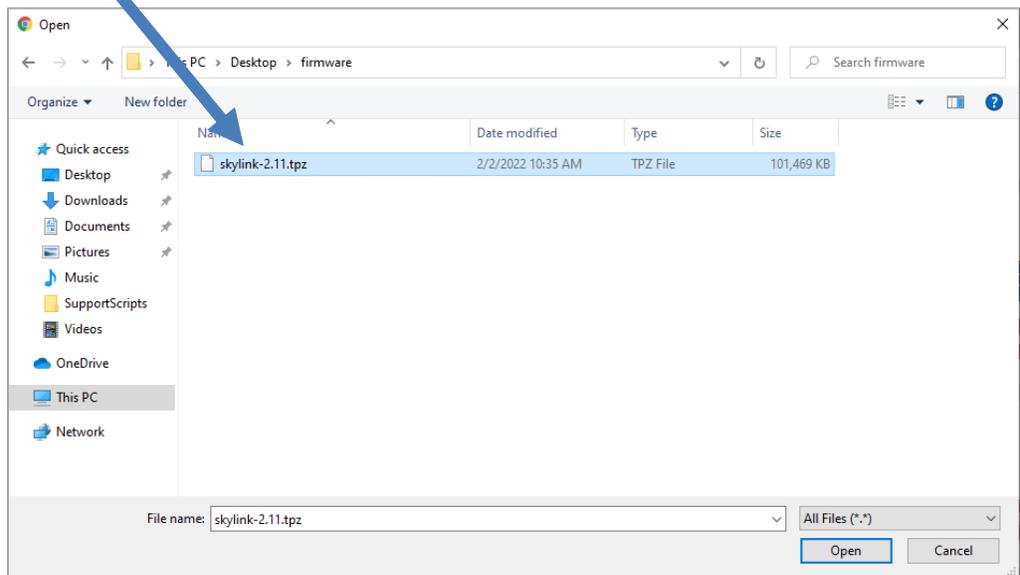
NOTE: We recommend updating firmware using an ethernet cable.

NOTE: If updating a fleet of devices, save time by using the SkyLink Cloud Services portal.

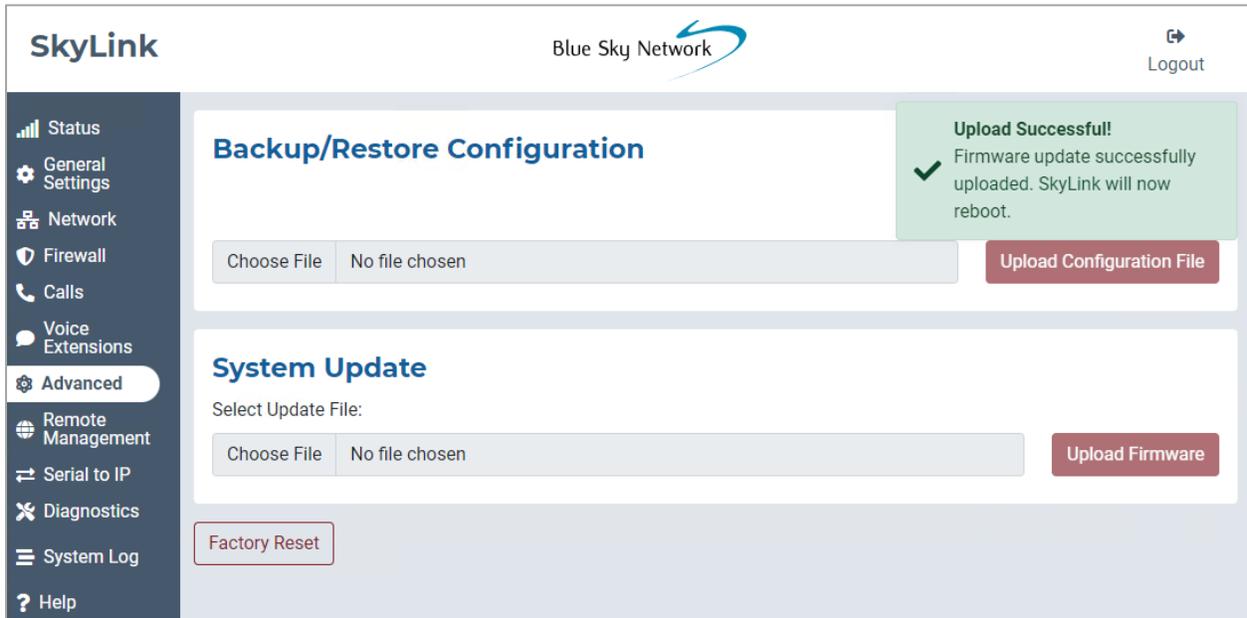
When the system is ready to be updated, you'll see the new version listed under the Check for Updates section. There are two ways to perform an update. First, you can simply click 'Download & Install.' A download progress bar will show you the percent to completion.



Alternatively, click the 'Choose File' button under the Manual Upload section. Locate and select the appropriate .tpz file, then press 'Upload Firmware' to start the firmware upgrade process.

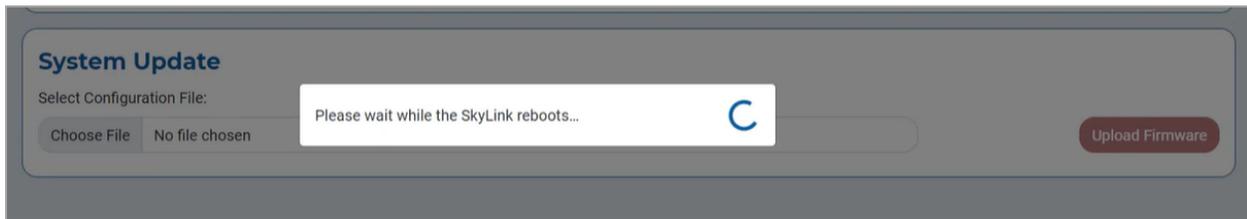


Once the firmware upload is complete, a green success message will appear in the right corner.



You will then be prompted to wait while the SkyLink device reboots. This may take several minutes.

As it updates, the power LED indicator located on the top panel of the device will blink blue. A red blink indicates an Iridium firmware upgrade or downgrade. ***The SkyLink device should not be powered off while the power LED indicator is blinking blue or red.***



Once the web browser refreshes and the power LED indicator shows a steady blue light, the update has finished, and your device is ready to use.

Remote Management

This screen provides configuration options for IoT management via the SkyLink Cloud Services online portal, including enabling and disabling position reports, remote device management, and status reports. Use the drop-down menus to set reporting, syncing, and check-in frequencies.

These fields are set to 24 hours by default and can be adjusted to different intervals ranging from 1 minute to 7 days, depending on the menu. Some allow for custom frequencies as well.

Below is a description of each interval category and their meaning:

- *Position Report* – How often the device sends a position report to the portal and SkyRouter.
- *Remote Management* – How often the device checks with the portal to see if it needs to complete any tasks, such as a firmware update, factory reset, or reboot.
- *Status Report* – How often the device sends the portal operational information such as health and data usage.
- *Call History Upload* – How often the device sends the unit's call log information to the portal.
- *Configuration Sync* – How often the device checks if the portal has requested a configuration change.

Serial to IP

The SkyLink device supports modem dialing to IP addresses. Enable or disable the serial port on this screen. Click 'Save' to apply the changes.

The screenshot displays the 'Serial Port' configuration interface. On the left is a navigation sidebar with options: Status, General Settings, Network, Firewall, Calls, Voice Extensions, Advanced, Remote Management, **Serial to IP**, Diagnostics, System Log, and Help. The main content area shows the 'Serial Port' settings. The 'Enabled' toggle is turned on. The 'Baud Rate' dropdown menu is currently set to '115,200'. A blue arrow points from a callout box to this dropdown menu. The callout box contains the following text: 'Use this menu to choose from the following options:' followed by a list of baud rate options: 1200, 2400, 4800, 9600, 19200, 38400, 57600, 11520, and 230400. 'Cancel' and 'Save' buttons are located in the bottom right corner of the settings area.

Diagnostics

Information to help you diagnose and resolve satellite and cellular issues can be found here.

SYSTEM INFORMATION

At the top of the screen, the System Information section provides diagnostics that you may be asked for in the event that you report a technical issue to the Blue Sky Network support team. Data points may be shown for POE only, EXT (external 12V power) only, or both.

Data points about the supercapacitor (Super Cap.) can be found here. A check mark under Power Good means good power is detected to charge the Super Cap. A red 'x' under Fault indicates a power fault in the unit.

The screenshot shows the SkyLink web interface. The top navigation bar includes the SkyLink logo, Blue Sky Network logo, and a Logout button. A left sidebar contains menu items: Status, General Settings, Network, Firewall, Calls, Voice Extensions, Advanced, Remote Management, and Serial to IP. The main content area is titled 'System Information' and contains a table with the following data:

Serial Number	Model	Hardware	Firmware	Capabilities	System Time
0000-0016	SkyLink 5100	SYN267 REV F	2.11-211202-0701	land,voice	2021/12/3 23:30:40 UTC

Current Reading	Voltages									
	3.3V	4.1V	5V	12V	EXT.	POE	POE+	Super Cap.		
3.358	4.045	4.968	12.19	11.566	12.015	×	✓			

SATELLITE & CELLULAR INFORMATION

Satellite Information

Serial Number	Firmware Version	API Version	Enabled	Data Enabled	IMEI
y000dp	1.0.10	1.0.1	✓	✓	300058060001420

SIM

Present	Connected	ICCID
✓	✓	8988169771000113283

Provisioning

Valid	Fully Compatible	Messaging	Data	Voice
✓	✓	✗	✓	✓

Cellular Information

Enabled	Manufacturer	Model	IMEI
✓	Quectel	EM06-A	861364040178400

SIM

SIM Present	SIM ICCID	APN	IMSI	MCC	MNC	SPN
✓	89883030000052347330	em	295050900810292	295	05	EMnify

Signal

Connected	Network	Network Name	Strength	Quality	Technology
✓	310,260	T-Mobile	-98 dBm	-9 dB	lte

Use the check marks in these sections to verify that your satellite and cellular capabilities are enabled. Data related to the satellite and cellular modems, SIM cards, satellite provisioning, and cellular signal are available here as well.

NETWORK TROUBLESHOOTING

Here you can use the Operation drop-down menu to perform pings and trace routing. Press the 'Execute' button to apply the configurations. The results will be displayed in the section below.

Network Troubleshooting

Operation: Ping | Network Interface: Cellular | Number of Pings: 5 | Network Address: | Execute

Results:

System Log

The information displayed on the System Log screen can be used by the BSN support team for diagnostic purposes. Use the toggle button to enable or disable automatic updates.

SkyLink Blue Sky Network Logout

System Log Auto-Update

```

35 RES=0x00 SYN URGP=0 MARK=0x900ad
Feb 14 20:39:02 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:02 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:02 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:02 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:02 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:02 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:02 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:03 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:03 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:03 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:04 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:04 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:04 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:04 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:05 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:05 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:05 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:05 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=lan0 MAC=ca:7b:7b:d9:a4:c3:f0:18:9
Feb 14 20:39:06 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
Feb 14 20:39:07 tpb kern.info kernel: Shorewall:loc-net:DROP:IN=br0 OUT=ppp0 PHYSIN=wifi_ap MAC=ca:7b:7b:d9:a4:c3:2e:7
    
```

Help

This screen contains multiple resources, including the SkyLink User Guide and contact information for BSN Support, to help you troubleshoot hardware and firmware issues. A full list of FAQs can also be found at the end of this User Guide.

The screenshot displays the SkyLink web interface. At the top left is the 'SkyLink' logo, and at the top right is the 'Blue Sky Network' logo with a 'Logout' button. A dark sidebar on the left contains a navigation menu with items: Status, General Settings, Network, Firewall, Calls, Voice Extensions, Advanced, Remote Management, Serial to IP, Diagnostics, System Log, and Help (highlighted). The main content area is titled 'Frequently Asked Questions' and includes a general introduction: 'We have compiled answers to FAQs listed under their respective categories. If you are still unable to resolve your issue, please contact the Blue Sky Network Support team and we will be happy to help!'. Below this are three sections: 'Connectivity' with a sub-heading 'Why can I not connect to the SkyLink WiFi?' and a list of troubleshooting steps; 'What are the cellular modem options? Can they be exchanged?' with a list of supported modems; and 'Which WiFi frequencies are used for the SkyLink Data Gateway and Communications Companion?'. A fourth section, 'I am not receiving incoming call notifications on SIP extensions.', includes a list of three steps. At the bottom is another section titled 'Antennas / Cables / Power Sources' with a sub-heading 'Why did my device not power on after I connected the power cable?'. On the right side of the interface, there is a 'Resources' panel containing links for 'User Manual', 'Contact Support' (with phone number +1 858-551-3894, email support@blueskynetwork.com, and a 'Help Center' link).

SKYLINK CAPABILITIES

Now that you are familiar with the SkyLink Web Interface, you are ready to use your device! The following describes the most common device capabilities.

Making Phone Calls

The SkyLink device supports 2 phone lines and a network connection that accepts SIP, providing users with multiple voice options. Each option offers 2 Iridium inbound and outbound lines. POTS customers also have FXS and FXO options to choose from.

Before making a phone call, ensure the following is completed:

- You have properly installed your activated Iridium SIM card.
- You have connected one of the following Iridium-approved antennas to the SkyLink device:
 - MARUWA (MHL-1621C)
 - High-Profile Maxtena (M1621HCT-HP)
 - Sensor Systems (S67-1575-414)
 - SCAN (65020-000)

NOTE: Please see the SkyLink Installation Guide for detailed information on installing the SIM card and antennas.

- You have enabled satellite capability by navigating to the General Settings screen on the SkyLink Web Interface and sliding the left-hand toggle button.

You are now able to make inbound/outbound calls via your landline phone or personal device, including third-party apps on computers, smart phones, or tablets. Use the Voice Extensions screen on the SkyLink Web Interface to configure line extensions and the Calls screen to view call details.

OPTIMIZING SIP PHONE APPS

Below are a few setup pointers for SIP phone apps (e.g., GS Wave, Linphone).

iPhone/Android settings:

- Airplane mode
- Smartphone Settings > Wave Lite App > Enable 'Local Network' access
- Smartphone Settings > Wave Lite App > Disable 'Cellular Data'

GS Wave settings:

- 'WiFi only' mode enabled
- Account Name: 510 (510-516 available default)
- SIP Server: 192.168.111.1 (unless SkyLink Web Interface IP has been changed)
- SIP User ID: 510
- Authentication ID: 510
- Password: 510

Additional settings for other SIP phone apps (Linphone, etc.):

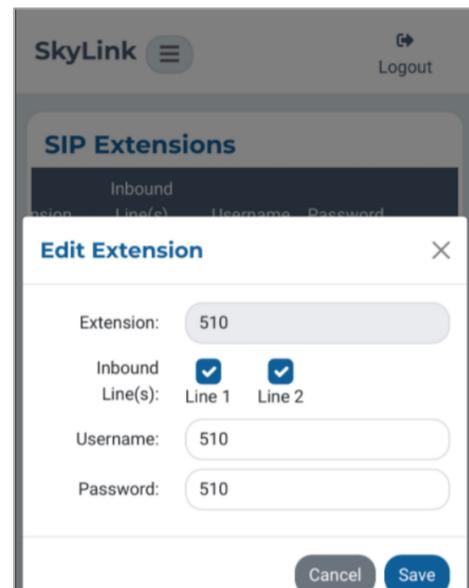
- Codecs (if setting is available): Enable – A-LAW, 722. Disable – U-LAW

NOTE: If using a physical SIP phone (not a SIP phone app), please see your SIP phone manufacturer's documentation for information on configuring the phone with your SkyLink device.

If you are not receiving incoming call notifications on SIP extensions, it may be that the SIP extension you are using is not configured to receive incoming calls from the Iridium line you are calling.

To configure both lines:

- 1) Navigate to the [Voice Extensions](#) screen.
- 2) Click the  icon next to the SIP or POTS extension that you would like to edit.
- 3) Ensure that both boxes in the Inbound Line(s) field are ticked, then click 'Save.'



Connecting to the Internet

To connect to the internet, first ensure that:

- You have properly installed your activated Iridium and cellular SIM cards.
- You have connected the LTE antenna or an Iridium-approved antenna to the SkyLink device (full list included in above section on Making Phone Calls).
- You are connected to the SkyLink device WiFi or are using an ethernet cable.
- Satellite or cellular capabilities have been enabled via the toggle buttons on the General Settings screen of the SkyLink Web Interface.

You are now able to use your personal device to browse the internet and use mobile applications.

NOTE: Satellite internet connection supports messaging apps, mobile-optimized web surfing, and IoT data transfers. It is not intended for general web browsing or high bandwidth applications and may cause slow connection speed if used for these purposes. Please visit [Iridium.com/mobile](https://www.iridium.com/mobile) for a list of mobile-optimized sites.

Using the Serial Port

The SkyLink device supports AT Command Set emulation via the serial port, enabling legacy sensor connection to the cloud. Default port settings are 230400 8N1 (Baud: 230400; Data bits: 8; Parity: none; Stop bits: 1).

- You can dial an IP address by using one of the following formats:

Format:	Will Dial:
ATD1.2.3.4:777	IP 1.2.3.4 tcp port 777
ATD0100000000005068	IP 10.0.0.5 tcp port 68
ATD192168111003#777	IP 192.168.111.3 tcp port 777

- SSL/TLS are also supported (using ! operator), as shown below:

Format:	Will Dial:
ATD!1921681110003#777	IP 192.168.111.3 TLS port 777

NOTE: Separator for 'port' can be ':' or '#'

- Other AT commands implemented include:
A, D, E, H, I, L, M, N, O, P, Q, T, V, X, Z, &C, &D, and &F
And S registers.
Default s registers are:
S0 = 0 S7 = 60
S1 = 0 S12 = 50
S2 = 43 S25 = 5
S3 = 13 S30 = 0
S4 = 10 S38 = 0
S5 = 8
- To run a custom test command: +MARCO - returns "POLO"

Basic command functionality is available to query signal strength, connection strength, and model number. An unsupported command will return ERROR but can be implemented upon request.

SkyLink AT Command	Expected Response
D	Dial a number
+++	End your session
BREAK	Issue a new command
H	End a current call
#FACTORYRESET	Perform a factory reset of entire device configuration and reboot device
i0	Model
i1	"0000"
i2	"PASSED"
i3	"iridium"
i4	Make
i5	Software_version
i6	Hw_revision
"+CGMI"	"Iridium"
"+CGMM"	Make
"+CGMR"	"Software_version hardware_revision"
"+GMI"	"Iridium"
"+GMM"	Make
"+GMR"	"Software_version hardware_revision"
+GSN	Serial number
+CGSN	Serial number
+CGSN=n	See GSM docs, gives variously IMEI, software version, etc.
+CGDCONT	Ignored
+CSQ	Signal
+CSQF	Roughly same as signal

SKYLINK SPECIFICATIONS & INSTALLATION

Technical Specifications

CONNECTIVITY

Cellular

- LTE-A CAT 6 module with M.2 form factor
- Supports LTE-A carrier aggregation
- Worldwide LTE-A and 3G UMTS / HSPA(+) coverage
- 300 Mbps receive (DL) / 50 Mbps transmit (UL)
- User-accessible SIM

Iridium Certus® 100

- Simultaneous voice and IP data
- 88 Kbps receive (DL) / 22 Kbps transmit (UL)
- Frequency: 1616 MHz – 1626.5 MHz
- 2 high-quality voice channels
- User-accessible SIM

Positioning

- Multi-constellation GNSS receiver in cellular module:
 - GPS
 - GLONASS
 - BeiDou
 - Galileo
- 33 tracking channels
- 99 acquisition channels
- 210 PRN channels
- Anti-jamming and multi-tone active interference canceller
- < 2.5 m CEP horizontal position accuracy

WiFi

- 2.4 / 5 GHz
- IEEE 802.11 ac / a / b / g / n
- Certifications with multiple antennas:
 - FCC (USA)

MECHANICALS

Size & Weight

- Dimensions: 8.0 x 5.0 x 1.5 in. (12.7 x 20.3 x 3.2 cm)
- Weight: 1.6 lbs. (0.7 kg)

LEDs

- Single multi-purpose, multi-color LED:
 - Green = Initial Power On
 - Red = Unit in Bootloader Mode
 - Blue Blink = OS is Booting
 - Blue Steady = Device is Ready
 - Red Blink = Iridium Firmware Upgrade
 - Blue Blink = SkyLink Firmware Upgrade

Connectors

- 1x cellular SMA female connector
- 1x Iridium SMA female connector
- 2x M12 connectors (1x Ethernet & Power, 1x USB & RS232)

OPERATING PARAMETERS

Electrical

- External power:
 - 10 – 34 VDC
 - POE
- Power consumption:
 - 7W nominal power
 - 18W peak power

Environmental

- Operating temperature range: -40°C to +70°C
- Storage temperature range: -40°C to +85°C
- Operating humidity range: ≤ 75% RH
- Storage humidity range: ≤ 93% RH

Regulatory Standards and Compliance

- US (FCC)
- EU (CE MARK)
- Canada (IC)
- IP65 rating

Software Specifications

CONFIGURATION

- Local configuration of SkyLink devices using Wi-Fi or Ethernet
- Remote configuration of SkyLink devices, features, and settings
- Bulk device configuration
- DHCP server, client, or static IP address
- Wi-Fi SSID and password
- POTS and SIP voice extensions

Internet

- Cellular internet
- Satellite internet
- Ability to fail-over
- Ability to disable satellite data but not voice communication

Firewall

- Firewall Profiles for quick and easy firewall setup
- Ability to apply different profiles per interface (satellite vs. cellular)
- Advanced Rules that allow customers

Voice

- Support for up to 2 FXS / FXO USB adapters
- Support for up to 20 SIP clients
- Call logs

REPORTING

- Position and event reporting
- Device data usage
- Network-wide data usage
- Data usage by transmission type
- Data usage by device type
- Device health monitoring
- Network-wide health monitoring
- Device diagnostics
- Customizable report rate

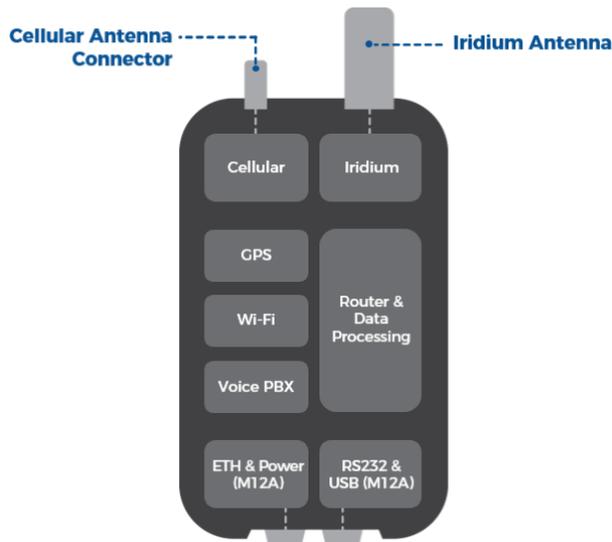
MONITORING

- Device CPU and modem temperatures in real time
- Modem signal strengths in real time
- Modem data usage
- Least-cost routing status
- Voice call logs
- Device location monitoring
- Device health monitoring

Device Management

- View status and customize settings in a Web UI
- Firmware upgrade
- Factory reset
- Customizable schedule

Diagram



Installation & Cable Diagrams

It is important that the Iridium-approved antennas be mounted with an unobstructed, full view of the sky and away from other radiating antennas that may cause interference. Please see the SkyLink Installation Guide for suggested device/antenna mounting locations, detailed steps on equipment installation, and a comprehensive list of cable diagrams.

Troubleshooting

The power LED indicator located on the top panel of the unit will cycle through multiple colors as it loads:

- Green = Initial Power On
- Red = Unit in Bootloader Mode
- Blue Blink = OS is Booting
- Blue Steady = Device is Ready
- Red Blink = Iridium Firmware Upgrade
- Blue Blink = SkyLink Firmware Upgrade

If the power LED indicator becomes stuck on red, remove the power cable from the power port and wait approximately 60 seconds, until the light fades from green to dark. Once the unit has completely shut down, reapply power. If the device continues to display red, please contact us for technical support.

PRODUCT WARRANTY

PLEASE READ -- THIS DOCUMENT CONTAINS IMPORTANT NOTICES, WARRANTY INFORMATION, AND LIMITATIONS ON YOUR RIGHTS.

Upon the signed verification of the attached Quotation (see Equipment Purchase & Service Agreement Terms & Conditions) by the Customer (“**Customer**”), the Quotation and these Terms and Conditions shall constitute a binding contract (“**Contract**”) between Customer and Blue Sky Network, LLC, a Delaware limited liability company (“**Blue Sky**”) for the purchase of the products and services described in the Quotation.

Product Terms and Conditions

Blue Sky Network, LLC (“Blue Sky”) warrants that the Products it manufactured shall be free from defects in materials and workmanship. This warranty (i) shall apply to Customer (as named in the Quotation) only and no other and (ii) shall not apply to any Product which is not stored, handled, installed, or used in strict accordance with Blue Sky’s specifications and instruction manuals, or which is altered without Blue Sky’s express consent, or which has been subject to misuse, negligence, or accident.

Blue Sky’s sole obligation shall be to replace or repair defective Products covered by this warranty provided that Customer returns such defective Product within two (2) years of the date of the Quotation. Customer hereby agrees that the replacement or repair of defective Products shall be Customer’s sole remedy in the event of a breach of warranty and shall be in lieu of any other remedy. Except as provided above with respect to Products only, **Blue Sky makes no warranties relating to the Products (see section on Warranty Disclaimer/Limitation of Liability).**

Warranty Disclaimer/Limitation of Liability

EXCEPT AS EXPRESSLY SET FORTH HEREIN WITH RESPECT TO THE BLUE SKY PRODUCTS, NO WARRANTIES APPLY (AND BLUE SKY SPECIFICALLY DISCLAIMS ALL WARRANTIES), WHETHER EXPRESS, IMPLIED OR ARISING BY OPERATION OF LAW (INCLUDING, WITHOUT LIMITATION, THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE). IN NO EVENT, WHETHER DUE TO BREACH OF WARRANTY HEREUNDER OR ANY OTHER CAUSE WHATSOEVER, SHALL BLUE SKY BE LIABLE FOR OR OBLIGATED IN ANY MANNER TO PAY CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, COST OF SUBSTITUTE PRODUCTS AND PERSONAL INJURY OR PROPERTY DAMAGE, WHETHER SUCH CLAIM IS BASED ON CONTRACT OR TORT OR ANY OTHER THEORY OF LAW.

Blue Sky’s only duties in connection with the sale of the Products shall be to honor the limited warranty for the Products as set forth herein. To the extent assignable, any manufacturer warranty for Products other than the Products shall be assigned by Blue Sky and passed through to the Customer. Blue Sky’s sole liability, if any, for loss or damage arising out of mistakes, omissions, interruptions, errors, or any other causes relating to the services, INCLUDING THE NEGLIGENCE OF

BLUE SKY, shall be limited to the credit for service interruption for each separate period of interruption as described in the section on Availability of Service.

EXCEPT FOR THE FOREGOING, CUSTOMER WAIVES ANY RIGHT OF RECOVERY AGAINST BLUE SKY FOR ANY CLAIMS, DEMANDS, ACTIONS, LIABILITIES, LOSSES, COSTS OR EXPENSES (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES OR COSTS) ("**CLAIMS**") BY OR DUE TO THIRD PARTIES AND SUFFERED BY CUSTOMER, DIRECTLY OR INDIRECTLY RELATING TO OR ARISING FROM THE NEGLIGENCE OF BLUE SKY OR THE MANUFACTURE, DISTRIBUTION, SALE, USE OR INSTALLATION OF ANY PRODUCT OR THE PROVISION OF THE SERVICES. CUSTOMER SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS BLUESKY AGAINST ANY AND ALL CLAIMS BY THIRD PARTIES RELATED TO OR ARISING FROM THE SALE OF THE PRODUCTS OR PROVISION OF THE SERVICES DESCRIBED HEREIN. The provisions of this section shall survive termination of services.

SOME STATES DO NOT ALLOW DISCLAIMERS OF IMPLIED WARRANTIES OR LIMITS ON REMEDIES FOR BREACH; THEREFORE, THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY. THIS CONTRACT SETS FORTH SPECIFIC LEGAL RIGHTS AND CUSTOMER MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

FREQUENTLY ASKED QUESTIONS

The following questions pertain only to the SkyLink device and Web Interface. Please see the SkyLink Cloud Services User Guide for questions related to the secure online portal.

If you are still unable to resolve your issue, please contact Blue Sky Network Technical Support and we will be happy to help!

Connectivity

1. Why is my SkyLink device not connecting to its WiFi?

- Verify that the WiFi SSID (located on the box or back panel of the device) matches the WiFi network shown on your personal device. If they match, try one (or all) of the following:
 - If typing in the WiFi password, use the number zero instead of the letter "O".
 - If you did not previously, use a phone or tablet to scan the QR code found on the label to automatically connect to the WiFi.
 - Switch your mobile device into airplane mode before connecting to the SkyLink WiFi.
 - If you used a mobile device, try using a tablet (or vice versa) to log on.

If you are still unable to connect to the SkyLink device's WiFi, please contact our support team for further assistance.

2. What are the cellular modem options? Can they be exchanged?

- Currently, the cellular modem options are:
 - Quectel EM06-A (North America / Mexico)
 - Quectel EM06-B (Europe / Middle East / Africa / Asia Pacific / Brazil)
 - Quectel EM12G (Brazil)

Yes, Blue Sky Network can support any Key B M.2 cellular card with advanced notice.

3. What frequencies does the WiFi use for the SkyLink Data Gateway and Communications Companion?

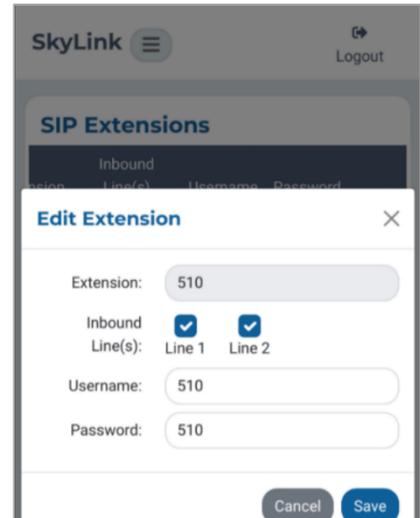
- The WiFi uses 2.4Ghz and 5Ghz, and the channels depend on the regulatory domain selected. More information can be found in the User Guide under the WiFi & Cellular section. If using a more capable Companion WiFi option, you will want to disable the Gateway WiFi.

4. I am not receiving incoming call notifications on SIP extensions.

- The SkyLink device has 2 incoming Iridium phone lines. It is possible that you are not receiving call notifications because the SIP extension you are using is not configured to receive incoming calls from the Iridium line you are calling.

In the SkyLink Web Interface:

- 1) Navigate to the [Voice Extensions](#) screen.
- 2) Click 'Edit' on your extension.
- 3) Ensure that both boxes in the Inbound Line(s) fields are ticked, then click 'Save.'



Antennas / Cables / Power Sources

5. Why did my device not power on after I connected the power cable?

- Confirm that the correct cable is attached to the power port located on the left-hand side of the device's bottom panel. Your SkyLink kit comes with one of the following power adapters:
 - 12V Cigarette Lighter Adapter
 - SkyLink DC Pigtail Harness
 - POE Injector (self-assembly kit)
 - AC/DC Power Supply (self-assembly kit)

After verifying the correct cable and port, disconnect and then re-apply the power cable into the port. Connect the adapter into the appropriate power source (e.g., a wall or vehicle outlet).

The power LED indicator located on the top panel of the device will show a steady blue light when the device is ready to use. For additional information, please see the SkyLink Installation Guide.

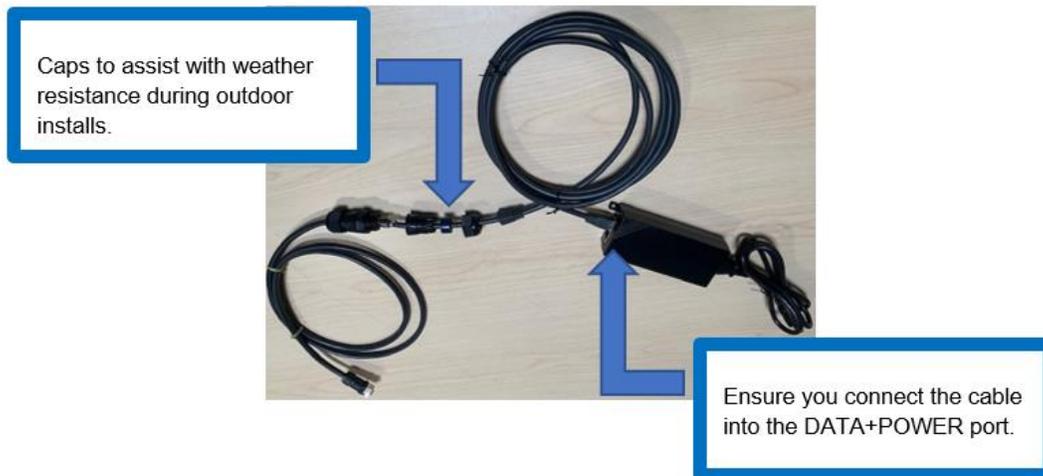
NOTE: If self-installing cellular and Iridium SIM cards, verify that they are in the correct holders. Additionally, ensure they are not placed in the micro SD slot also present in the connectivity port.

6. My kit came with a Power Over Ethernet (POE) power source. What is it and how do I use it?

- Power over Ethernet (POE) is a technology that passes electric power to your device over an Ethernet cable, powering it without the need for a traditional AC power supply.

To use this technology, you will need the POE Injector (which adds power to a non-powered ethernet connection) included in your kit or a POE enabled switch (which is a network switch that provides power to connected devices).

We support both common standards: regular POE (sometimes referred to as 802.3at) and POE+ (sometimes referred to as 802.3af).



7. Can I use an alternative cellular antenna?

- Yes. The SkyLink device has 3 antennas:
 - 1 internal GPS
 - 1 internal LTE diversity
 - 1 external LTE main

The LTE main antenna can be replaced with any proper LTE antenna that you wish to use.

8. Can I use the existing Iridium antenna installed in my building with my Data Gateway device?

- No, Certus antennas for SkyLink are required. The following are acceptable to use:
 - MARUWA (MHL-1621C)
 - High-Profile Maxtena (M1621HCT-HP)
 - Sensor Systems (S67-1575-414)
 - SCAN (65020-000)

9. What is included in an RS232 cable kit?

- The SkyLink RS232 cable kit comes with a DB9F connector and conforms to the RS232 standard pinout for a DB9. **Note:** RS232 cables for SkyLink are proprietary and available only from Blue Sky Network. Contact sales@blueskynetwork.com or your reseller to purchase.

10. I received a SkyLink DC Pigtail Harness. What are its specs?

- This is the cable you receive if you request the currently labeled 'SL100-IS, SkyLink 10' Power Interface Cable with QuickPosition (QPos).' The specs are as follows:

OPERATING PARAMETERS

Electrical

- External power:
 - 10-34 VDC (12V nominal power)
 - POE
- Power consumption

Function	Color
+Vin	Brown
GND	Green
SOS	White

Device Management

11. How do I prioritize data routing to use GSM or SAT first?

- Navigate to the General Settings screen on the SkyLink Web Interface. Choose your desired configuration from the Data Routing drop-down menu and save your selection. Settings are applied immediately.

NOTE: Iridium QoS (also called Iridium secondary data flows) are not supported on Certus100, therefore, BSN cannot offer per-stream priorities or VLANs over the Iridium link.

12. Where can I find the current SkyLink and satellite firmware versions?

- The Status screen on the SkyLink Web Interface has the device's current hardware and software versions. 'SYN267 REV F' refers to the chipsets/hardware revision and '2.02-210627-0009' refers to the firmware revision/date/time. The Diagnostics screen contains the Certus 9770 modem's current version.

13. How can I manage a fleet of SkyLink devices?

- The SkyLink Cloud Services portal allows you to configure, monitor, and manage fleets of devices. Use the SkyLink Web Interface for local management of a particular device.

14. How do I set up my apps to low bandwidth?

- Navigate to the Settings page in the app and select the option to use less data. Please note that not all apps have this capability. On iPhone, 'Low Data Mode' is available on the WiFi Config screen for each WiFi network.

15. How can I optimize the use of my SIP phone apps (e.g., GS Wave, Linphone)?

- Below are a few setup pointers for SIP phone apps:

iPhone/Android settings:

- Airplane mode
- Smartphone Settings > Wave Lite App > Enable 'Local Network' access
- Smartphone Settings > Wave Lite App > Disable 'Cellular Data'

GS Wave settings:

- 'WiFi only' mode enabled
- Account Name: 510 (510-516 available default)
- SIP Server: 192.168.111.1 (unless SkyLink Web Interface IP has been changed)
- SIP User ID: 510
- Authentication ID: 510
- Password: 510

Additional settings for other SIP phone apps (Linphone, etc.):

- Codecs (if setting is available): Enable – A-LAW, 722. Disable – U-LAW

TOC BOX & Battery Pack

16. What is the battery performance of the SkyLink Battery Pack?

- The Standard Battery Pack has a run-time of up to 24 hours, and the Extended Battery Pack up to 48 hours based on a typical 80 stand-by/20 transmitting duty cycle.

17. What is the battery performance of the SkyLink TOC BOX?

- The 2 batteries attached to the system provide up to 24 hours of operation in normal mode and up to 10 hours of operation in peak mode.

18. Is the SkyLink Battery Pack safe/approved for aviation carry-on luggage?

- Yes, the Battery Pack meets current [TSA requirements](#) for carry-on luggage.

Other

19. What is the safety distance between the Data Gateway and human interaction?

- To avoid exposure to antenna radiation, personnel should maintain a safe distance of 30 cm. (11.8 in.) minimum from the unit while it is in operation.

20. Will my device overheat if left outside for too long?

- The SkyLink device will operate normally in temperatures between -40°C - +70°C. Prolonged exposure to temperatures outside of this range may cause the device to lose functionality.

TECHNICAL SUPPORT

Blue Sky Network is committed to providing the highest level of service and support. If you have any questions or concerns, please feel free to contact us by email or phone; contact information is available at the bottom of this page. For self-help, please visit <https://blueskynetwork.com/support>.

Thank you for choosing Blue Sky Network!



Blue Sky Network, 5353 Mission Center Rd, Suite 222, San Diego, CA 92108

Phone: +1 858-551-3894

Email: support@blueskynetwork.com | Website: www.blueskynetwork.com