HawkEye 7200

User Guide

Version 2.4

Part# 200605

NOTICE

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INTRODUCTION

This user guide covers the features of the HawkEye 7200 Tracking Device. Separate user guides detail the features of the Blue Sky Network SkyRouter systems.

HAWKEYE 7200

Blue Sky Network's powerful HawkEye 7200 is packed with advanced features that enable improved resource management and operational efficiency. The HawkEye 7200 features a Bluetooth interface that connects Tablets and Smartphones to the Iridium network using Blue Sky Network's mobile app (available for Apple iOS and Android.) It is the perfect choice for those looking for an ultraportable, on-the-go global satellite solution. The HawkEye 7200 fits into small spaces and can be moved between assets.

The HawkEye 7200 is Blue Sky Network's first product to incorporate a multi-national GNSS receiver. It combines support the major GNSS providers in a single location-based chip that can be used in other parts of the world including GLONASS for Russia, it allows utilization of GPS and GLONASS simultaneously. This multi-national GNSS receiver feature enables fleet operators with globally dispersed assets to obtain position reports with increased accuracy and performance.

CONTROL PANEL DESCRIPTION

The control panel contains several LED indicators for various purposes, and several buttons to control the devices operation.

1. Signal LED
2. Message LED
3. Power Button
4. Charging Indicator LED
5. Bluetooth Button/LED
6. QPOS Button/LED

SKYROUTER

The SkyRouter portal ties together Blue Sky Networks data solutions in an integrated and user-friendly way. By accessing the SkyRouter Web-site users can do the following:

- ✓ Advanced device tracking on a global, layered map including satellite imagery and standard street maps.
- ✓ Event notification for emergency, take-off, landing, inactive unit, speeding, moving and not-moving and more.
- ✓ Playback past trips and view detailed reports.
- ✓ 2-way email messaging to and from devices in the field.
- ✓ Update and request the current state of parameters on devices in the field.
- ✓ Manage alert settings.
- ✓ Management of a device fleet, including assignment of units to groups and creation of additional user accounts.
- ✓ Manage naming of the units and many other visual characteristics.

TECHNICAL SPECIFICATIONS

Input Voltage:	6 – 28VDC operating voltage 10 – 28VDC operating/charging voltage
Internal Battery:	7.4V, 2200mah Li-ion
Power Consumption:	Standard power profile Peak: 10W (during transmit pulse) Avg Transmit: 2W Avg Idle: 1W Avg Idle + charging: 5W
Power Consumption:	Low power profile Sleeping: 1.2mW
DC Inputs: **Operating Range:**	6 –28VDC < 800mV = LOGIC LOW > 2.5V = LOGIC HIGH
DC Outputs:	Open Collector (requires 10K external pull-ups) Absolute Max: 35VDC Operating Range: 0 – 30VDC
Analog Input:	Input Impedance: 1M ohm Absolute Max: 40VDC Operating Range: 0 – 30VDC Resolution: 12-bit

SYSTEM REQUIREMENTS

The only requirement to use the HE7200 system is that the device must have visibility to the sky to make contact with the Iridium & GNSS satellites.

FCC DECLARATION OF CONFORMITY

DECLARATION OF CONFORMITY

TRADE NAME:	Portable Iridium Based Asset Tracker/Messenger
MODEL NUMBER:	HE7200
COMPLIANCE TEST REPORT NUMBER:	EMCU41219-FCC
COMPLIANCE TEST REPORT DATE:	March 12, 2014
RESPONSIBLE PARTY (IN USA):	Blue Sky Network
ADDRESS :	1298 Prospect St, Suite 1D, La Jolla, CA 92037
TELEPHONE:	858-551-3894

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If the unit does cause harmful interference to radio or television reception, please refer to your user's manual for instructions on correcting the problem.

I the undersigned, hereby declare that the equipment specified above conforms to the above requirements.

Place: San Diego

Date: 9/25/2014

Signature:

Full Name: Jon S Gilbert

Position: President

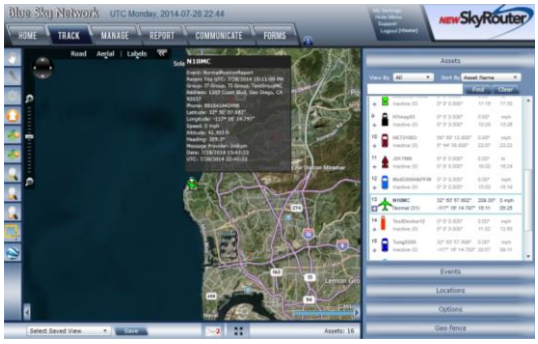
CERTIFICATION

The HawkEye 7200 has been tested by an independent laboratory on emission of radio frequency energy (radiated and conducted) and was found to comply with the relevant requirements of the RTCA/DO-160G, Category M, Section 21 specifications.

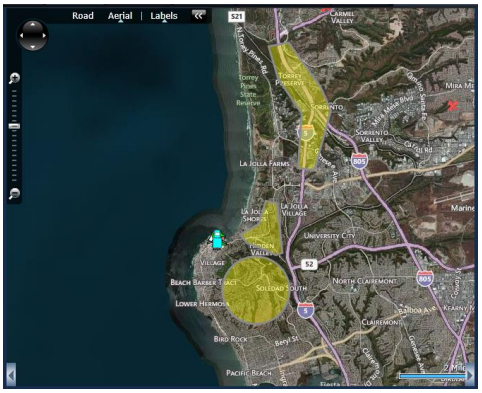
Category M is defined for equipment and interconnected wiring located in areas where apertures are electro-magnetically significant and not directly in view of radio receivers antenna. This category may be suitable for equipment and associated interconnecting wiring located in the passenger cabin or in the cockpit of a transport aircraft.

HAWKEYE 7200 FEATURES

TRACKING



Harnessing the power of SkyRouter – Blue Sky Network's proprietary cloud-based tracking solution – the HawkEye 7200 provides truly global Iridium based tracking and communication. The HawkEye 7200 provides ultra-accurate positioning via multi-national GNSS and SBAS systems. With a single press of the built-in Quick Position Button, you can quickly send an emergency alert and position report to your emergency contact list through SkyRouter. The built-in battery and Iridium/GNSS internal antenna arrays prevent the need for external power sources and antennas, making the HawkEye 7200 a portable, self-contained, grab-and-go device; it's ready for any application.

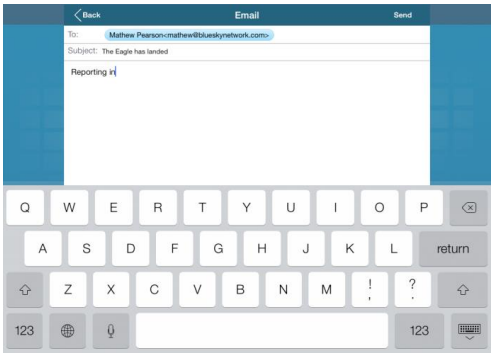


GEOFENCING

The HawkEye 7200 supports Blue Sky Network's proprietary device side Advanced Variable Response (AVR) GeoFences. AVR GeoFences deliver functionality and utility one level beyond traditional geo-fencing alarms or alerts, they allow the asset manager or Geo-Fence designer to set a conditional response for what happens or does not happen when an aircraft, vehicle, vessel or person is in, or out of a Geo-Fence area.

TWO-WAY MESSAGING

The HawkEye 7200 in conjunction with the HawkEye Link application enables users to send and receive messages via Apple iOS and Android platforms over its embedded Bluetooth adapter. Two way messaging capabilities include pre-customizable 'ShortCode Messages' and free-text email messages, so you can stay in constant contact with your operations center – even in the most remote locations.



DYNAMIC FORMS

The HawkEye 7200 enables sending and receiving of dynamic Forms over the Iridium network.

Forms are often the most efficient way to communicate, save time, or fulfill safety/procedural requirements, once a custom form has been set up in SkyRouter; you can fill out Forms directly from your Apple iOS or Android device and send them to SkyRouter.

GETTING STARTED

CHARGE

IMPORTANT: the battery should only be charged in environments between 0ºC (32ºF) to 45ºC (113ºF).

When the HawkEye 7200 battery is depleted; all LEDs will flash on/off simultaneously and the unit will power off, the device must be charged.

To charge the HawkEye 7200:

1. Attach the circular 12 pin connector end of the charging cable or auto accessory adapter into the HawkEye 7200 Power Port, the connector is a screw down type and must be screwed down all the way to ensure proper contact.
2. Plug the charging cable or auto accessory adapter into the appropriate power source (supplying 10 – 28VDC operating/charging voltage.) The Charging LED is RED when the HawkEye 7200 is charging.
3. To completely charge the internal battery the device will need to be charged for at least 4.5 hours, once the battery is fully charged the Charging Indicator LED will be GREEN.
4. When the Hawkeye 7200 is completely charged; remove the charging cable or auto accessory adapter from its power source and then disconnect the connector from the back of the Hawkeye 7200 Power Port.

A. 12-pin HawkEye 7200 Power Port

BATTERY NOTICE:

Your HawkEye 7200 is equipped with a rechargeable battery. The care of this battery is important for both extending the utilization time of the unit in portable mode as well as extending the life of the battery.

Here are some simple rules to follow:

- **Never deplete the battery to exhaustion.**
- **Turn the unit off when not in use.**
- **Only activate Bluetooth when intending to use the feature.**
- **In portable mode, set your reporting frequency with consideration for the mission.**
- **Recharge the battery after each use.**

- **Ensure the battery is more than 50 percent charged if you plan to store it for more than 30 days.**

These simple acts will allow the battery to provide you with maximum charge & discharge cycles. Under normal conditions, the battery should be at peak performance for the first year and charge cycles up to 1,000 are not uncommon when used properly. If you deplete the battery, you will significantly reduce the likelihood of achieving this number of cycles.

If you do deplete the battery, you should do the following:

1. **Charge the battery to green LED "charged" state.**
2. **Unplug the charger.**
3. **Use the device or store for a short period.**
4. **Plug in the charger and charge again to the green LED "charged" state.**

When the depth of discharge is high, the system may be required to be charged for two separate cycles to regain the new maximum capacity.

ACTIVATE

Your HawkEye 7200 device must be activated prior to use. Unless otherwise agreed upon at the time of purchase, all Blue Sky Network equipment is activated on the date of shipment. For Blue Sky Network equipment shipped in an un-active state, activation requests must be submitted by the Blue Sky Network administrator on file.

An activation request can be submitted through our website, the link is shown below. You should receive an immediate email confirmation that your request has been submitted and another email once the requested services have been activated. Please make sure your contact details are accurate, this is how we contact you if there are any problems processing your request.

https://support.skyrouter.com/activation-form

POWER ON

When powering on the Hawkeye 7200 it is important to have the device in a position to acquire good signal strength to speed up the time it will take for the device to acquire its first satellite lock.

While all the LED indicators on the front of the device are off press down the Power button firmly and then release it; all the lights will turn on for 2 seconds before turning off again, the Signal LED will turn on and begin to flash rapidly.

After a few seconds the blinking patter will change to match the conditions described in the blink patterns mentioned in the LED behavior section below. You will want to ensure that the device maintains its ability to see the sky per the requirements.

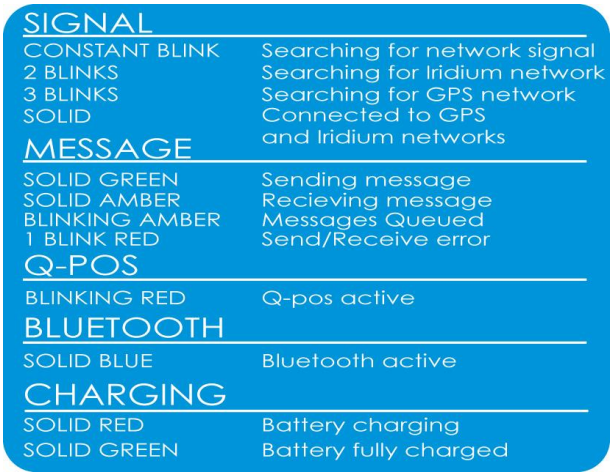
NOTE: in circumstances where the HawkEye 7200 has travelled considerable distances while powered off it may take up to 30 minutes for the device to acquire a GNSS fix.

When you want to turn off the device, press the power button again; the device will attempt to send a Power Off event (if configured) and then all the lights will turn off.

LED BEHAVIOR

The legend (right) describes behavior patterns of the various LEDs that appear on the HawkEye 7200 unit.

When the HawkEye 7200 battery is depleted; all LEDs will flash on/off simultaneously and the unit will power off, the device must be charged.



CONNECT

On the front of the Hawkeye 7200 there is a button to activate the embedded Bluetooth module.

Press the Bluetooth button on the HawkEye 7200 Control panel to power on the Bluetooth module, the Bluetooth LED should come on indicating that you can now connect your mobile device (Apple iOS or Android) to your Hawkeye 7200.

The HawkEye 7200 device broadcast name is “Hawkeye Link v1.1”, there is no password required to connect/pair with the device. Once connected to the HawkEye Link Bluetooth you can use the HawkEye Link Application to access Messaging, Forms and other features.

To power off the Bluetooth module press the Bluetooth button again, the Bluetooth LED will turn off.

For further information on how to pair your mobile device with a Bluetooth device please consult your mobile devices User Guide.

SKYROUTER

Once you have your device powered on and have Iridium signals you will want to login to your SkyRouter account and check that your device is reporting.

MESSAGE QUEUEING

In situations where Iridium signal is weak or not available; the HawkEye 7200 will queue up to 20 messages for later delivery, this number includes Position Reports, Events and Messages/Forms.

When the message queue reaches 20 the oldest message will be dropped in order to make room for the new message. The message queue is stored in non-volatile memory; unsent messages will still be in the queue even after a power cycle.

POSITIONING

SIGNAL STRENGTH

The HawkEye 7200 antenna is positioned on the top of the device where the plastic housing is raised; this should be considered when positioning the device for use.

The Iridium satellite constellation is comprised of 66 low-earth orbit (LEO) satellites that traverse the sky every 8 to 10 minutes. At any given time, there may be from 1 to 3 satellites in view with varying locations in the sky, at times as low as the horizon

For optimum performance, the device must be placed in a position where the antenna is facing upwards with an unrestricted view of the sky down to eight degrees above the horizon (see graphic below).

Unobstructed sky view for optimal performance.

NOTE: Transmission from the antenna may be affected by and can affect the operation of other systems; it is the operator's responsibility to evaluate the location for any possible RF interference. In particular the Iridium frequency is near the allocated GNSS band. The device should be positioned at least 39 inches (1 meter) from any L-band antennas, particularly GPS, TCAS and Transponder antennas.

MOUNTING

In situations where you are not able to position your device with optimal view of the sky (e.g. helicopter or aircraft), we recommend mounting the device to the window for better line of sight with Iridium and GNSS satellites.

The HawkEye 7200 mount (available for purchase from Blue Sky Network Sales), with adjustable arm and rotating head provides a sturdy, robust way to mount your HawkEye 7200 device to a windshield or window.

Example mounting position:

NOTE: Thermal glass or similar technologies may inhibit the functionality of GNSS and Iridium systems (blocking the signals); in this scenario an external antenna is recommended (see HawkEye 7200X).

INSPECTION

Blue Sky Network recommends that the following checks are performed before each use:

1. Visually inspect the antenna installation for loose fasteners or corrosion.
2. Perform a functional check of the system.

HE7200X MODEL

The HawkEye 7200X incorporates all of the features of the HawkEye 7200 with the added benefit of external antenna capabilities (external antenna only, no internal antenna.)

An external antenna (when installed correctly) provides the best possible signal in scenarios where you may not be able to position the HawkEye 7200 with an unrestricted view of the sky.

The HawkEye 7200X provides SMA Female antenna connections for both Iridium and GNSS. When connecting an external antenna cable, be sure to tighten the connectors securely by hand, do not over torque the connectors (this could cause internal damage to the device.)

EXTERNAL ANTENNA REQUIREMENTS

Iridium antenna

- Passive antenna
- Frequency: 1616 – 1626.5 MHz
- Impedance: 50 ohm
- Polarization: RHCP
- Operating temperature: -40 to +85°C
- SMA male connector

GNSS antenna

- Active antenna: 3V-5V
- Frequency: 1575-1609MHz
- Impedance: 50 ohm
- Polarization: RHCP
- Operating temperature: -40 to +85°C
- SMA male connector

NOTE: Blue Sky Network recommends that the maximum attenuation requirements for the coax cable and connectors that link the Antenna to the HawkEye 7200X device are observed. The signal loss budget, including the antenna cable and all connector, from the antenna to the HE7200X unit is < 2dB @1626MHz. BSN Installation Kits include an FAA approved low loss coax antenna cable sized to meet this requirement.

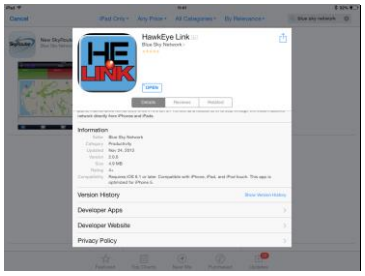
HAWKEYE LINK APPLICATION

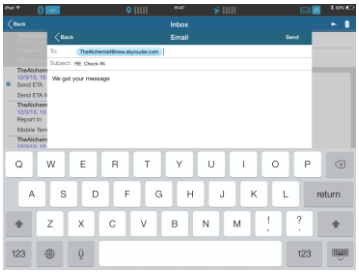
In order to access additional features of your HawkEye 7200 device you will need to download and install the Blue Sky Network HawkEye Link application on your Apple iOS or Android mobile device.

The Blue Sky Network HawkEye Link application is available for download in the iTunes store (Apple iOS) and the Google Play store (Android.).

The HawkEye Link Application uses your mobile devices Bluetooth module to connect to the HawkEye 7200. Once connected you gain access to the following features of the HawkEye 7200 device:

- Signal Strength Indicators
  - Iridium
  - GNSS
- Device Firmware versions
  - HawkEye 7200 and HawkEye Link
- Bluetooth connection status
- Two-way Messaging
  - ShortCode Messages
  - Free Text Messages/Emails
- Forms
  - Send/Receive dynamic forms to/from SkyRouter





For further information on the HawkEye Link application see the “HawkEye Link User Guide”. The HawkEye Link User Guide is available for download at the Support section of New SkyRouter or the Documentation section of SkyRouter Classic (you will need access to a New SkyRouter or SkyRouter Classic account in order to access Blue Sky Network documentation and firmware downloads.)

DATA USAGE WARNING:

Using some of the features available in the Hawkeye Link App such as sending/receiving email, Forms and ShortCodes will use Service Plan data when sent or received from the Hawkeye 7200.

CONFIGURE

PARAMETERS

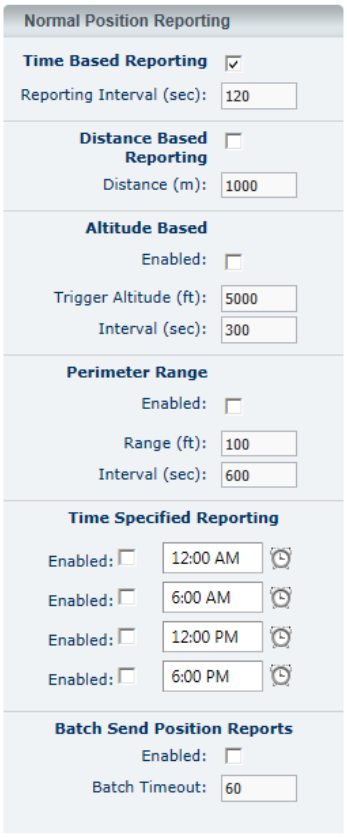
Before using your HawkEye 7200 it is recommended that you take time to check and update the parameters on the device to prevent unexpected data usage. By default Blue Sky Network configures the HawkEye 7200 at the factory default setting of 3600 second reporting (reports once every hour.)

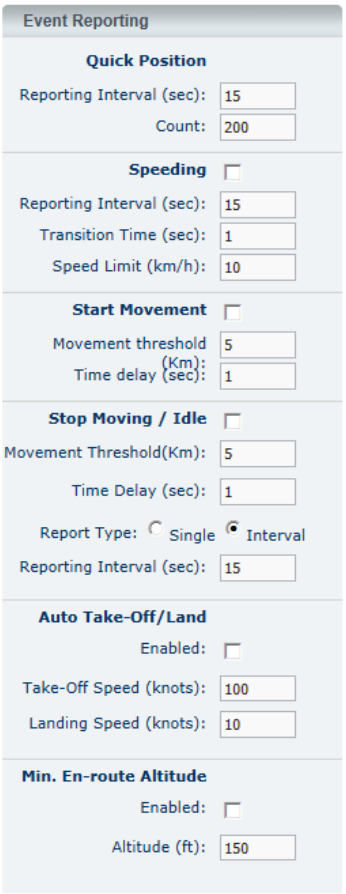
The HawkEye 7200 system parameters are all managed using the SkyRouter system. Administrators of SkyRouter can customize the parameters from the SkyRouter interface and update devices remotely (device must be powered on and have sufficient signals to receive the update.) Please consult your SkyRouter user manual for more specific information about sending parameter updates.

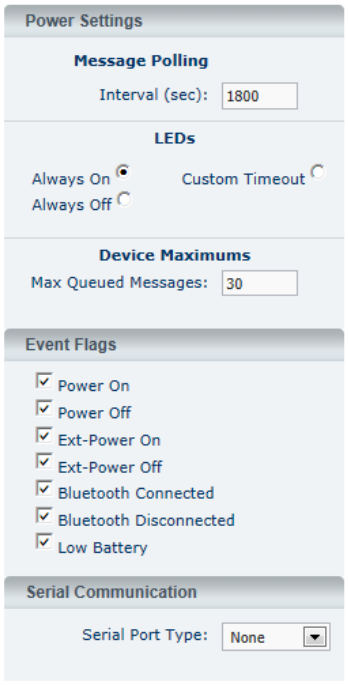
Adjusting the parameters on your device will change the behavior of your device. Some parameters control the frequency at which normal position reports are sent, and other will generate events that will be sent in addition to your normal position reports.

SKYROUTER PARAMETER UPDATE SCREEN

The following images show all available HawkEye 7200 parameters as seen in the SkyRouter user interface. For further information on updating and sending parameters to devices please see the SkyRouter User Guide.







HAWKEYE 7200 PARAMETER EXPLANATION

Normal Position Reports	
Time Based Reporting	
Time Based Status	This option will enable or disable normal position reports to be generated based upon a timer.
Time Based Interval	Normal position reports will be generated at this interval.
Distance Based Reporting	
Distance Based Status	This option will enable or disable normal position reports to be generated based upon a distance that has been displaced.
Distance Based Interval	Normal position reports will be generated when the device has displaced this distance.
Altitude Based Reporting	
Altitude Based Status	Turn Altitude based reporting ON/OFF
Trigger Altitude (ft.)	Determine the altitude above which a different GPS reporting interval should be in effect.
Interval (sec)	GPS reporting interval above trigger altitude.
Perimeter Range Reporting	
Perimeter Range Status	Turn Perimeter Range GPS reporting ON/OFF
Range (ft.)	Determine the range within which the unit will start reporting at the perimeter range interval. The unit will check every "regular GPS reporting interval" to determine whether the unit has moved more than the Perimeter Range distance from the previous measurement. If it has not, the perimeter range interval will be in effect.
Interval (sec)	Perimeter range mode reporting interval.
Time Specified Reporting (4 options)	
Time Specified Reporting Status	This option will enable or disable a normal position report being sent with the associated time specified reporting time.
Time Specified Reporting Time	If the time specified reporting status is enabled a report will be sent at this time.
Batch Send Position Reports	
Batch Send Position Status	This option will enable or disable an option that will queue messages in a device until either a timeout condition is true or a count of messages expires.
Batch Count	If the modem has this number of messages queued it should attempt to transmit them.
Batch Timeout	If the device has queued messages that haven't been sent for this amount of time the messages should be sent immediately.
Event Reporting	
Quick Position Events - Quick Position is always ON.	
Reporting Interval (sec):	Reporting interval when Quick Position is activated.
Count	Number of Quick Position messages to be sent.
Speeding Event	
Speeding Event Report Status	This option will enable or disable the transmission of a speeding report when an asset is travelling at a rate of speed that is greater than its known max speed limit.
Speeding Event Report Interval	Speeding events will be generated at this frequency when the asset speeding condition is active.
Speeding Event speed Limit	This is the max speed limit for the asset.
Speeding Event Transition Time	The device will activate the speeding event when the asset is travelling faster its known max speed limit for this period of time.
Start Movement	
Start Movement Report Status	This option will enable or disable the transmission of a moving report when the device was not moving and then begins to move again.
Movement Threshold (kph)	The device will use this speed to determine if it should begin monitoring the activation of a start movement.
Time Delay(sec)	When the starting speed threshold is detected the device will need to maintain a greater speed for this amount of time before we decide the device should send a start movement event.

Stop Moving/Idle Event	
Stop Movement Status	This option will enable or disable the transmission of a not moving report when the device was not moving.
Movement Threshold (kph)	The device will use this speed to determine if should begin monitoring the activation of a stop movement.
Time Delay(sec)	When the speed threshold is detected the device will need to maintain a lower speed for this amount of time before we decide the device should send a not moving event.
Report type	The device can continue to send not moving events or it can notify only once.
Reporting Interval	If the device is supposed to continue to report not moving events it will do so at this rate.
Auto. Take-Off/Landing	
Auto. Take-Off/Landing Status	Turn Automatic Take-Off/Landing ON/OFF
Take-Off Speed (knots)	When accelerating through this speed the unit will send a Take-Off message.
Landing Speed (knots)	When decelerating through this speed the unit will send a Landing message.
Min. En-route Altitude	
Min. En-Router Altitude Status	Turn MEA alert ON/OFF
Altitude	At this set altitude the unit will report a special type GPS report to SkyRouter to identify that the aircraft has broken through the MEA.
Power Settings	
Message Polling	
Interval	The rate at which the device will check the Iridium gateway for new messages, this is a backup mailbox check to the new mail ring indicator that will alert the device that a new message is waiting.
LED Power Settings	
LED Timeout	LED's are either always on or always off to save power.
Maximum Queue Length	
Max Queued Messages	The maximum number of messages that the device will hold on to before determining them obsolete and removing them from memory. Memory limits apply as well.
Event Flags	
Power on	This option determines if a power on event is sent when the power button is pressed.
Power off	This option determines if a power off event is sent when the power button is pressed.
Ext-Power on	This option determines if an external power on event is sent when the external power is applied.
Ext-Power off	This option determines if an external power off event is sent when the external power is removed.
Bluetooth Connected	This option determines if a Bluetooth connected event is sent when the Bluetooth mode is activated.
Bluetooth Disconnected	This option determines if a Bluetooth disconnected event is sent when the Bluetooth mode is deactivated.
Low Battery	This option will enable the device to send a low battery event when the internal battery power drops near an unsafe level.
Serial Communications	
Serial Port	Turn serial ports ON/OFF
Data Bits	Set data bits
Parity	Set parity
Baud	Set baud rate
Interval	Set transmission interval
Command	Set command to be sent through the serial port to alert the attached equipment that the unit is ready to receive.

SHORTCODE PROFILES

Your devices profile is managed from within SkyRouter. Administrators of SkyRouter can customize a device profile and then remotely update devices in the field.

Hawkeye 7200 profiles are used to configure the ShortCode functionality that is available through the Bluetooth connection and a smartphone enabled with the Hawkeye Link app. ShortCodes are special types of events that users can manually send to add additional attributes to their trip.

There are 10 different ShortCodes that can be configured. Some events are preconfigured to send special types of location enabled events, including {Take-off, Landing, Off-gate, In-gate, Minimum En-route Altitude, Start, Stop, Available, Picking Up, Dropping off}. The other option is titled Text, which basically means you can customize how you want to present this event inside SkyRouter.

Please consult the SkyRouter user manual for more information about configuring profiles, assigning profiles to devices, sending profiles to devices, and checking that a device has acknowledged receipt of a profile update.

FIRMWARE UPGRADE

It is possible for customers to update the firmware on the HawkEye 7200 device if required, occasionally firmware updates are released which may include new features and/or improvements to the device.

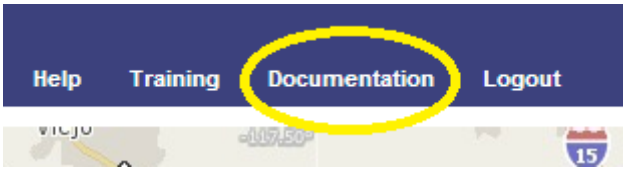
The firmware upgrade requires a firmware upgrade cable and available serial port on your Windows based computer, it is possible to use a USB/serial converter where a serial port is not available. For more information on the firmware upgrade process please see the documents included with the 'Firmware Upgrade Kit'.

Both the firmware upgrade cable and USB-to-serial converter are available for purchase from Blue Sky Network Sales (sales@blueskynetwork.com.) If you wish to make your own firmware upgrade cable the cable schematic is also available by request from support@blueskynetwork.com.

FIRMWARE UPGRADE KIT

The "HawkEye 7200 Firmware Upgrade Kit" is available for download to all users; the firmware kit includes the following: HawkEye 7200 firmware, HawkEye 7200 Firmware Updater application, HawkEye 7200 Firmware Upgrade Manual.

You can find download links for the HawkEye 7200 Firmware Upgrade Kit at the Support section of New SkyRouter or the Documentation section of SkyRouter Classic (you will need access to a New SkyRouter or SkyRouter Classic account in order to access Blue Sky Network documentation and firmware downloads):



You can also access support resources with your SkyRouter UserID and Password directly at https://support.skyrouter.com.

APPENDIX A – REVISION HISTORY

Date	Revision	By	Description
2014-08-05	1.0	MP	Initial version Beta HawkEye 7200 User Guide – Part #200604
2014-10-07	2.0	MP	Release version HawkEye 7200 User Guide – Part #200605
2014-12-15	2.1	MP	Added HE7200X supplemental page(s), message queuing features, mounting, positioning & signal strength sections
2015-04-10	2.2	MP	Added low power LED sequence, minor layout updates
2016-01-14	2.3	MP	Added RTCA/DO-160G information, Troubleshooting Power-On procedure, updated FAQ.
2017-03-21	2.4	AN	Updated address and activation policy

APPENDIX B - FAQ

We've put together a list of our most frequently asked questions and answers, if you still can't resolve your issue please contact Blue Sky Network Technical Support and we'll be happy to help!

Q The HawkEye 7200 won't turn on.
- A Try fully charging your HawkEye 7200 (at least 4.5 hours) and then attempt to Power On again. When charging you will want to make sure that the power cable is securely connected and screwed down, the Charging LED is RED when charging and GREEN when fully charged..

Q The HawkEye 7200 turns on, all LEDs flash at the same time then it turns off.
- A Try charging your HawkEye 7200 device. When the HawkEye 7200 battery is too low it will turn itself off automatically.

Q The HawkEye 7200 doesn't get signals.
- A For optimal performance the HawkEye 7200 should be placed with the antenna facing upward and with an unrestricted view of the sky down to eight degrees above the horizon.
- A When a GNSS device has travelled a significant distance when powered off (shipping etc) it will usually take up to 30 minutes to acquire a GNSS fix.

Q The HawkEye 7200 battery is draining quicker than I expected.
- A Using the HawkEye Link Application and the Bluetooth feature of the HawkEye 7200 device will affect the amount of time that your HawkEye 7200 will last after a full charge. We recommend disabling Bluetooth features of the HawkEye 7200 when you are not using them.

Q I can't see the HawkEye 7200 Bluetooth from my smart phone.
- A Check that Bluetooth is enabled on the HawkEye 7200 and that the blue Bluetooth LED on the Control Panel is ON, the Bluetooth feature must be enabled in order to connect.

Q Quick Position mode is disabled but we still see Quick Position events in SkyRouter.
- A In order to disable Quick Position at SkyRouter the HawkEye 7200 must send a Normal Position Report to SkyRouter. Power on your device, make sure that the QuickPosition LED is NOT on and allow the device to send a Normal Position Report to SkyRouter.

APPENDIX C – TROUBLESHOOTING

POWER UP TEST

These procedures are intended for diagnosing a HE7200 portable device which is not reporting to the SkyRouter servers.

Once the troubleshooting procedures below have been performed please do not hesitate to forward your test results to support@blueskynetwork.com for review.

PERFORM A POWER-UP TEST

Ensure that the HE7200 device has been activated, this can be verified on the Manage Devices page in SkyRouter.

Ensure that the HE7200 device has been fully charged using the supplied DC power adapter.

We recommend that the device is placed in a location where it will have a completely unrestricted view of the sky; the device should maintain a clear line of sight to the horizon and directly above throughout the tests.

1. While all the LED indicators on the front of the device are off; press down the Power button firmly and then release it. Immediately observe the LEDs on the unit; all LEDs will turn ON for 2 seconds, all LEDs will then turn OFF.
2. After a few seconds the Signal LED will turn on and begin to flash rapidly.
3. Allow a couple of minutes to acquire both GNSS and Iridium signals, when the device has both signals the signal LED will remain ON SOLID.

If the unit fails on step 1 or step 2; it is recommended to fully charge the battery. If the battery is fully charged; you may be able to resolve the issue by reloading the firmware, the firmware upgrade kit is available at https://support.skyrouter.com. After reloading the firmware; if the device fails again on step 1 or step 2 you may need to return it to Blue Sky Network for evaluation at our facilities.

If the unit fails on step 3; No Iridium Signal: revise the positioning of the device, move it to a location where it has a more open view of the sky and wait a few minutes to see if it get signal there. NO GNSS Signal; revise the positioning of the device, move it to a location where it has a more open view of the sky and wait a few minutes to see if it get signal there. Please also not that in circumstances where the HawkEye 7200 has travelled considerable distances while powered off it may take up to 30 minutes for the device to acquire a GNSS fix.

If the device continues to fail on step 3 then you may need to return it to Blue Sky Network for evaluation at our facilities.

If the device passes steps 1-3 and you do not see any reports appear at SkyRouter after a period of 30 minutes, or you have any other questions or concerns; please contact Blue Sky Network support at support@blueskynetwork.com.

If the device passes all tests and you are able to see position reports at SkyRouter you should assume that the device is functioning as expected.

SUPPORT

Please do not hesitate to contact us either via email, phone or, for self-help, see https://support.skyrouter.com. Thank you for choosing Blue Sky Network!

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