



OCEAN SONICS

Launch Box User Guide



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Version 2.4

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Introduction

The **Ocean Sonics Launch Box** is an easy way to deploy **icListen Smart Hydrophones** in the field. The Launch Box gives users the ability to deploy one or more synchronised hydrophones for up to 48 hours, with a Wi-Fi connection to your computer or tablet.

The Launch Box is small and lightweight, so it can be transported and stowed with ease. Never let your hydrophone die after 8 hours again with the ability to keep a hydrophone charged for 48 hours! This all-in-one solution combines power, Wi-Fi, GPS positioning and time synchronisation for all your deployment needs. Whether you are streaming your data to your laptop for real-time processing or checking deployment settings, the Wi-Fi signal will give you a reliable connection to make you feel confident that you are collecting the highest quality data for the best underwater sound measurements.

The Launch Box provides recording of NMEA data from the GPS signal used to synchronise hydrophones. This gives users the ability to track the coordinates of the Launch Box during their deployments, extremely useful for vessel deployments.

Important Notes

- Water resistant when Launch Box case is closed and sealed.
- Launch Box Battery Life will depend on set-up of deployment [Number of hydrophones powered, Wi-Fi, GPS]
- The distance of the Wi-Fi connection is based on obstructions, interference & devices.
- Turn the Launch Box OFF when not in use and recharge battery after each deployment. Ensure the Launch Box is fully charged and in the OFF position before each use.

Specifications

WEIGHT	2.3 kg
DIMENSIONS	259 mm x 201 mm x 114 mm

Features

- | | |
|--|---|
| • Built-in Rechargeable Battery | • 24v Li-ion 100 watts |
| • LED Battery Level Indicator | • 6 hours to charge from 0-100% |
| • GPS Time Synchronisation | • Hydrophone Synchronisation within 1 μ s |
| • Recorded GPS Positioning | • NMEA messages logged in Launch Box memory |
| • 2.4G Wi-Fi | • Real-time Set Up, Status, and Display Data |
| • Water Resistant when lid is closed and sealed | • IP67 rated case |
| • Selectable cable lengths | • Deploy multiple hydrophones with Smart Cable |

Ocean Sonics Launch Box Quick Start



OSL Tip

For a quick setup install **Ocean Sonics'** Software Programs [Marco](#) and [Lucy](#) on your PC prior to setting up your **Launch Box**

Assemble Launch Box Configuration

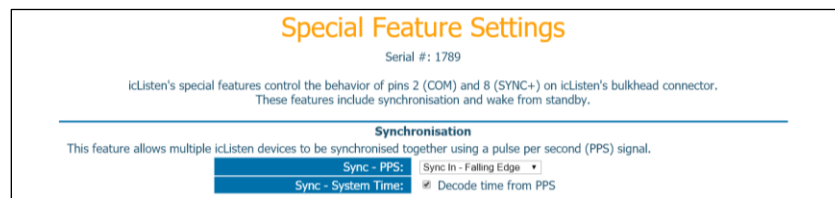
1. Turn Wi-Fi switch to ON position and wait 2 minutes to allow Wi-Fi to stabilize.
2. Turn remaining switches to ON position.
3. Attach cable(s) and hydrophone(s) in configuration for deployment.

Connect to Launch Box Wi-Fi

4. Use a PC to connect to the Launch Box Wi-Fi (for troubleshooting Wi-Fi see [Appendix A](#)).
 - a. Go to Wi-Fi settings on computer.
 - b. Ensure Wi-Fi is turned on.
 - c. Show available networks.
 - d. Select **Launch_Box_[SerialNumber]** to connect.
For Launch Box Wi-Fi settings see [Appendix B](#).

Setup Hydrophone

5. Open **Marco** on PC [Ocean Sonics' Software Program found on icListen USB drive].
 - a. Click Refresh to view hydrophone(s) connected to the Launch Box.
 - b. All units on **Marco** should be set to DHCP (See [Appendix C](#) for **Marco** Help).
 - c. Using Marco open the icListen in a Web Browser (double click on serial #).
6. Configure hydrophone for deployment.
 - a. Set icListen to Synchronise to GPS.
 - i. Under Special Features ensure **Sync In – Falling Edge** is selected and **Decode Time from PPS** is checked.



- ii. If the Launch Box is in a location where it can receive a GPS signal, the Home Page should indicate the hydrophone is synchronising or is Synchronised to PPS (see below).

PPS Sync: Synchronised to PPS (Offset = 0.00 μ s)

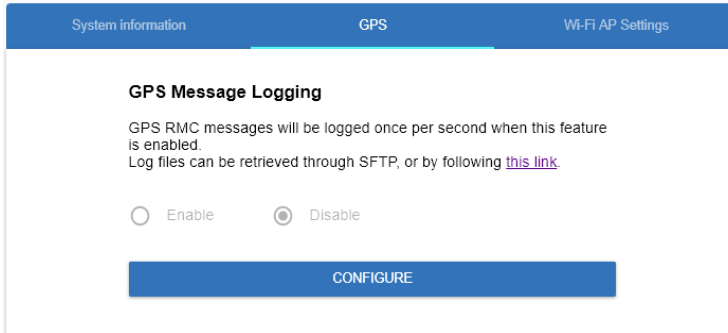
- iii. When it has a GPS sync, the time will indicate it was set by PPS. (This can take up to 5 minutes for a hydrophone to obtain GPS synchronisation. Ensure the correct date and time are displayed.)

icListen Time: Thu, 22 Mar 2018 14:13:19 GMT (Set by PPS)

- b. Set up Sampling Rates for icListen.
 - i. Under Settings Tab \rightarrow Data Collection, select the settings for deployment - Sampling rates of WAV and FFT data.

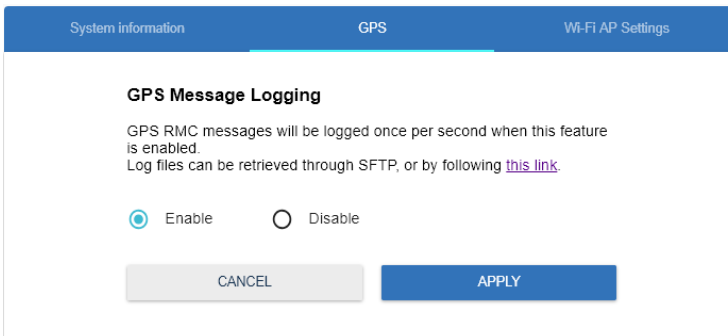
GPS Position Logging

1. Enter the IP address: **192.168.1.1** into a web browser.
2. Select the **GPS** Tab and click **CONFIGURE**.



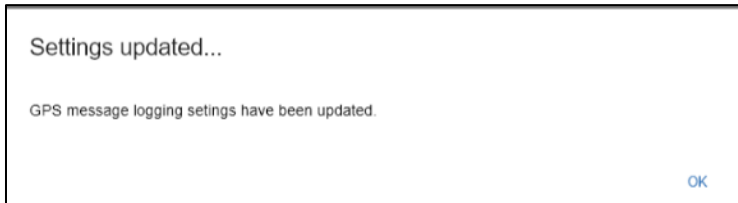
The screenshot shows the 'GPS' tab selected in a navigation bar with 'System information' and 'Wi-Fi AP Settings'. The main heading is 'GPS Message Logging'. Below it, a text block states: 'GPS RMC messages will be logged once per second when this feature is enabled. Log files can be retrieved through SFTP, or by following [this link](#).' There are two radio buttons: 'Enable' (unselected) and 'Disable' (selected). A blue 'CONFIGURE' button is at the bottom.

3. Click **Enable**.



The screenshot shows the 'GPS' tab selected. The main heading is 'GPS Message Logging'. Below it, a text block states: 'GPS RMC messages will be logged once per second when this feature is enabled. Log files can be retrieved through SFTP, or by following [this link](#).' There are two radio buttons: 'Enable' (selected) and 'Disable' (unselected). At the bottom, there are two buttons: a grey 'CANCEL' button and a blue 'APPLY' button.

4. Click **APPLY**.



The screenshot shows a confirmation dialog box with the title 'Settings updated...'. The text inside reads: 'GPS message logging settings have been updated.' There is an 'OK' button in the bottom right corner.

5. Click **OK**.

Each time Logs are turned on and off (enabled / disabled) a new log file will be created.

Deployment

1. Secure Launch Box to vessel or dock prior to deploying hydrophone(s) on the cable attached, so the Launch Box can not be pulled into the water.
2. If deploying on a vessel, the vessel should be stopped during deployment.
3. Use Launch Box Wi-Fi to ensure the hydrophone is recording and streaming.
4. Slowly feed the hydrophone and cable into the water.
5. Collect Data.
 - a. While collecting data the Wi-Fi connection can continue streaming hydrophone data to the PC while the Launch Box is within range.

Recovery

1. Retrieve hydrophone and cable from water.

If the Launch Box has power:

2. Connect to Wi-Fi on Launch Box.
3. Turn off hydrophone recording.
4. Place Hydrophones into Standby Mode.
5. Turn off Power to hydrophones
6. Toggle icListen Power switch to STOP position.
7. Turn off remaining switches on Launch Box.
8. Rinse hydrophone and cable with fresh water.

If the Launch Box does not have power use the test cable instead of the Launch Box for shutting off hydrophone.

Hydrophone internal batteries can be disconnected using the power down / hardware reset tool to retain battery at 100%:

- a. Attach test cable.
- b. Put hydrophone is standby mode.
- c. Insert -9v battery hardware reset tool into the power barrel connector on the test cable.

Charging the Battery

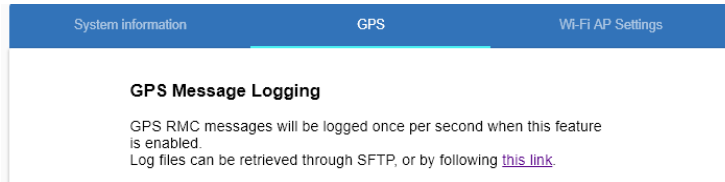
1. Ensure the Launch Box is in a secure, dry location for charging.
2. Insert the power cord into a wall outlet.
3. Mate the charger cable to charging socket on the Launch Box.
4. Charging should take approximately 6 hours, depending on the discharge state of the battery.

GPS Position Data Retrieval

Position data can be retrieved either by following the link provided in the GPS tab or using an FTP client such as FileZilla.

From Web Browser [IP: 192.168.1.1]

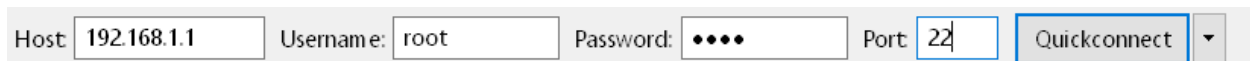
1. On GPS Tab follow the hyperlink “[this link](#)”



2. Find File with date logged and download.

FTP Client (FileZilla)

1. Fill out the fields as shown below with the password being root.

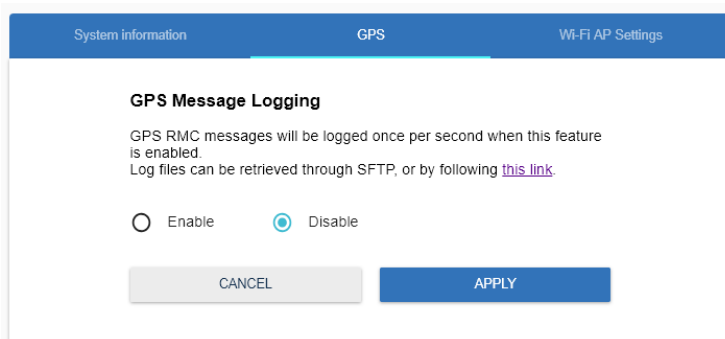


2. Choose a destination folder on your computer and copy over the log files in the log folder following the steps outlined for downloading hydrophone data.

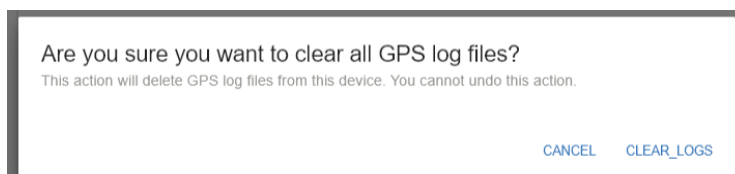
Clearing Log Files

To delete all logged GPS files.

1. Disable GPS logging in the Launch Box web browser.



2. Click **CLEAR_LOGS**.



Contact Ocean Sonics Ltd.

To download Ocean Sonics Software please visit:

<https://sites.google.com/a/oceansonics.com/ocean-sonics-resource-site/>

Service

To request an RMA or technical support

Email: support@oceansonics.com

Phone: 1-902-655-3000

Sales

For general sales inquiries

Email: sales@oceansonics.com

Phone: 1-902-655-3000

Website

<https://OceanSonics.com>

Mailing and Shipping Address

Ocean Sonics

110 Parkway Dr.

Truro Heights, NS Canada

B6L 1N8

Appendix A. Troubleshooting the Wi-Fi Connection

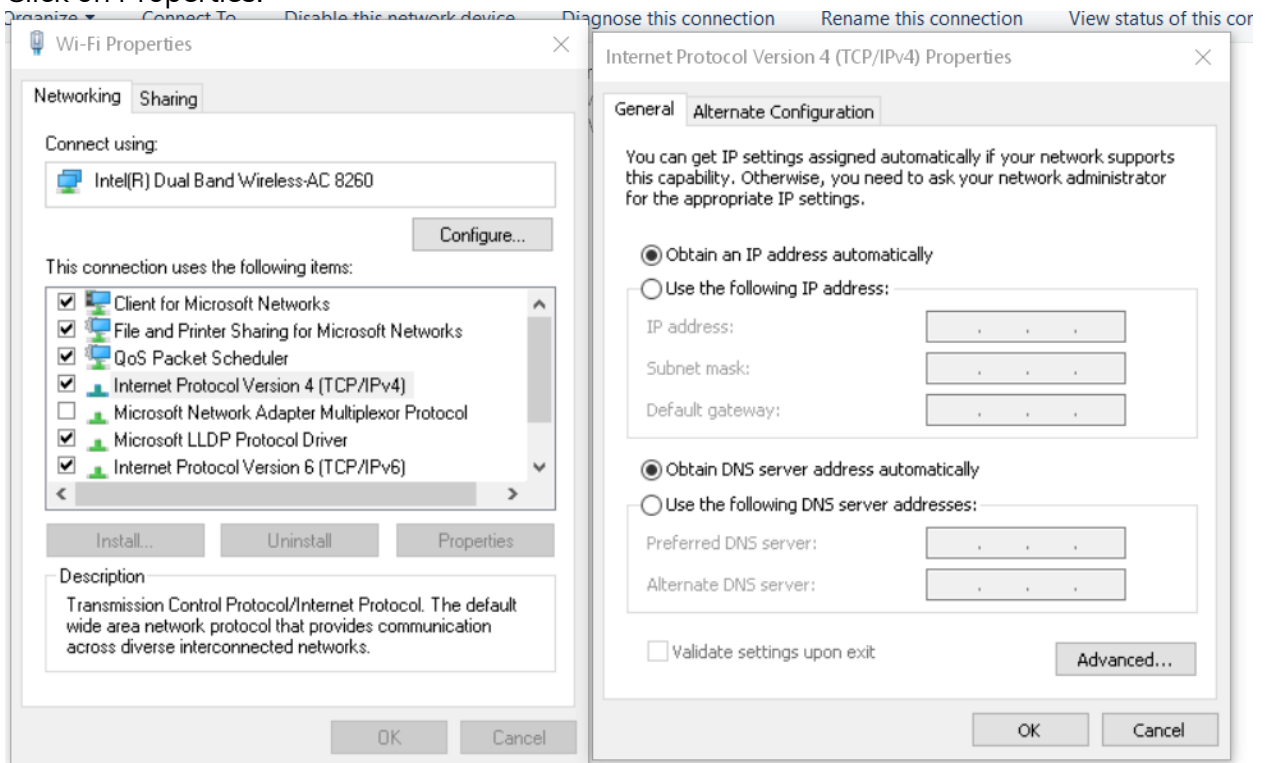
If advanced Network Settings have been changed in a computer, it may be necessary to turn on Automatic DHCP.

Windows 10:

1. Go to Network Connections: Control Panel→Network and Sharing Centre and click on the Launch Box Wi-Fi.

Access type: **Internet**
Connections:  **WiFi (Launch_Box_4601)**

2. Choose Properties.
3. Click on Internet Protocol Version 4 (TCP/IPv4).
4. Click on Properties.

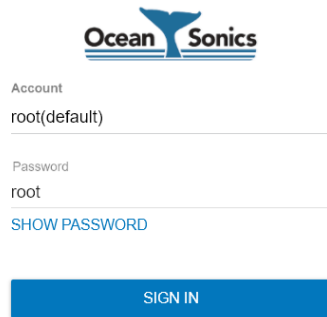


5. Ensure **Obtain an IP address automatically** and **Obtain DNS server address automatically** are chosen.

Appendix B. Wi-fi Network Settings

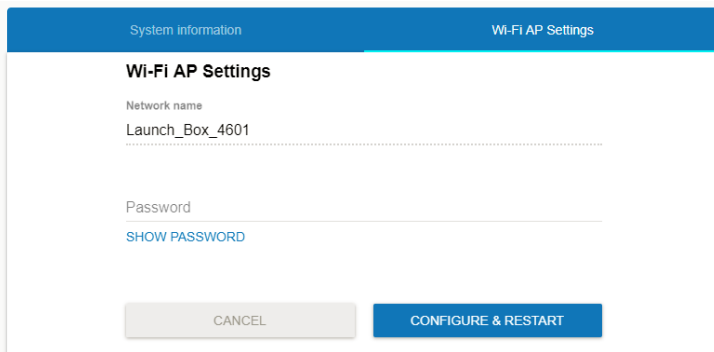
Checking Wi-Fi Network Configuration

- a. Open your web browser of choice and type in IP Address of Launch Box. [192.168.1.1]
- b. Type in default username and password on the web page and click **SIGN IN**.
Username: root
Password: root



Setting Up Wi-Fi Password

1. Type in IP Address of Launch Box in web browser.
2. Choose Wi-Fi AP Settings Tab.



3. Type in password (must be 8 or more characters) into Password bar.
4. Click **CONFIGURE & RESTART**.

Note

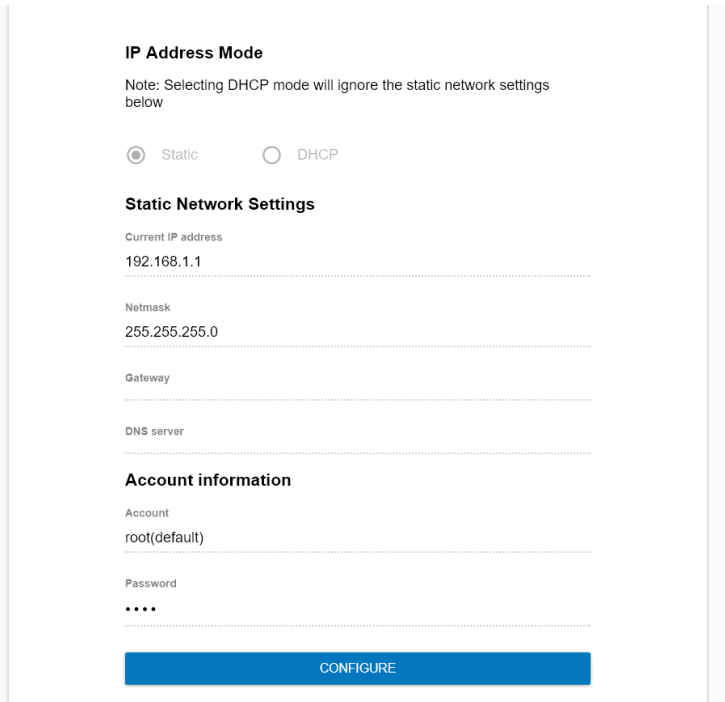
Clicking **CONFIGURE & RESTART** will cause the connection to be lost. User must reconnect and sign-in to Wi-Fi with new password.

5. To delete password protection on Wi-Fi, leave Password field blank and click **CONFIGURE & RESTART**.

Configuring Network Settings

To change IP Address Mode to DHCP

1. Open Web Browser with IP address of Launch Box.
2. Sign In.
3. Click **CONFIGURE**.



IP Address Mode

Note: Selecting DHCP mode will ignore the static network settings below

Static DHCP

Static Network Settings

Current IP address
192.168.1.1

Netmask
255.255.255.0

Gateway

DNS server

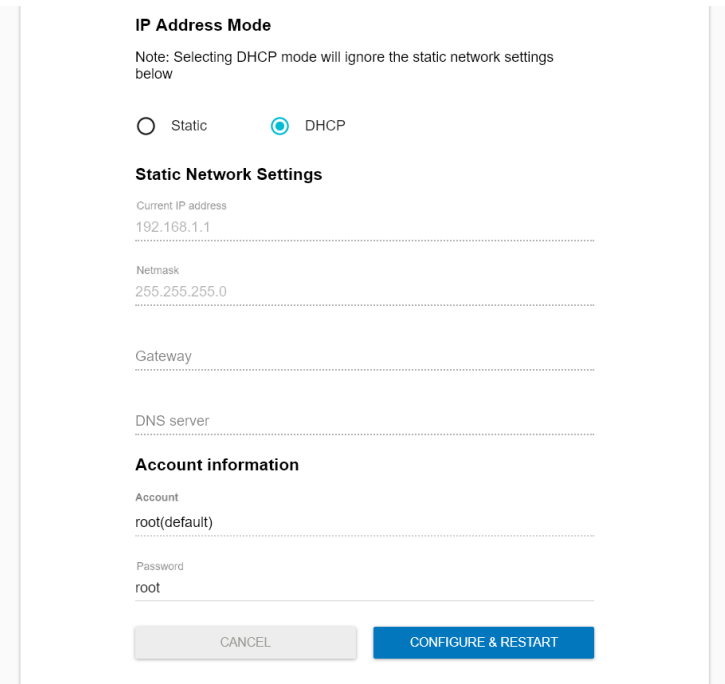
Account information

Account
root(default)

Password
••••

CONFIGURE

4. Select **DHCP**.



IP Address Mode

Note: Selecting DHCP mode will ignore the static network settings below

Static DHCP

Static Network Settings

Current IP address
192.168.1.1

Netmask
255.255.255.0

Gateway

DNS server

Account information

Account
root(default)

Password
root

CANCEL **CONFIGURE & RESTART**

5. Click **CONFIGURE & RESTART**.

Note

Launch Box will restart, and communications will be lost. IP address provided will no longer be the static address, the address can be found by viewing the Network Connection Settings for the Wi-Fi.

Changing Static IP Address

1. Open Web Browser with IP address of Launch Box.
2. Sign In
3. Click **CONFIGURE**

The screenshot displays a configuration page with the following sections:

- IP Address Mode**: A note states "Note: Selecting DHCP mode will ignore the static network settings below". There are two radio buttons: "Static" (selected) and "DHCP".
- Static Network Settings**:
 - Current IP address: 192.168.1.1
 - Netmask: 255.255.255.0
 - Gateway: (blank)
 - DNS server: (blank)
- Account information**:
 - Account: root(default)
 - Password: (masked with four dots)

A blue button labeled "CONFIGURE" is located at the bottom of the form.

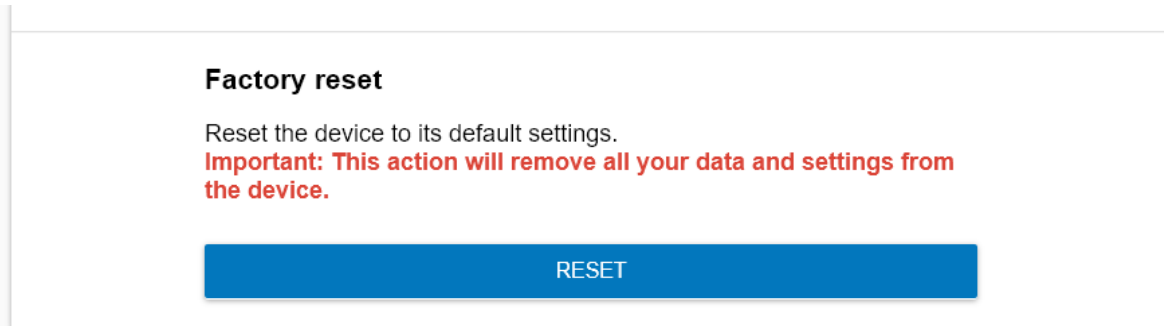
4. Type in New IP address and Netmask
(Gateway and DNS server can be left blank and will not be changed)
5. Click **CONFIGURE & RESTART**

Note

Launch Box will restart, and communications will be lost. User must reconnect to Wi-Fi and can open web browser with new IP address.

Factory Reset – Reset Button

If there are problems with the Wi-Fi settings a Factory reset can be applied. This will reset to default IP address and password. This is the same function as the Reset Button on the Launch Box (see [Resetting Wi-Fi](#)).



Resetting Wi-Fi

A Wi-Fi reset can be done to recover the Wi-Fi network settings to the original configuration that was provided for the Launch Box. **All Wi-Fi settings will be lost and restored to default.**

A Reset would be necessary in the following states:

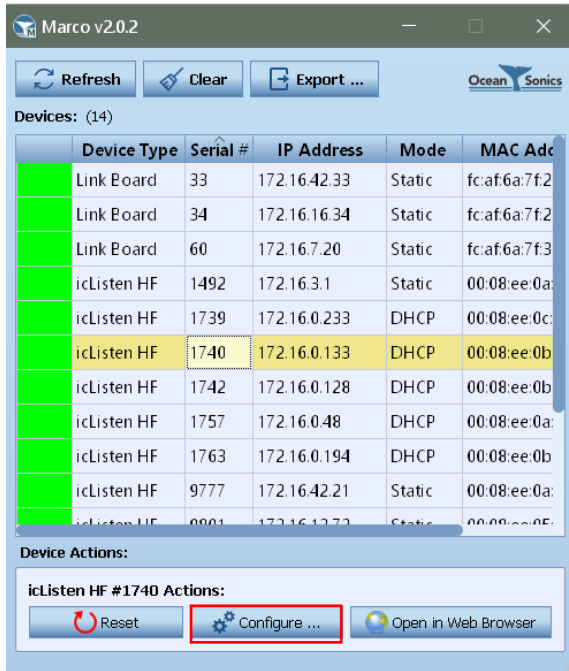
- The Wi-Fi network on the Launch Box was configured and caused the Wi-Fi to stop working and communications were lost.
- The Wi-Fi password for a Launch Box was set and forgotten.

To Reset - Use a pen or paper clip to press and hold the Reset button for at least 4 seconds.

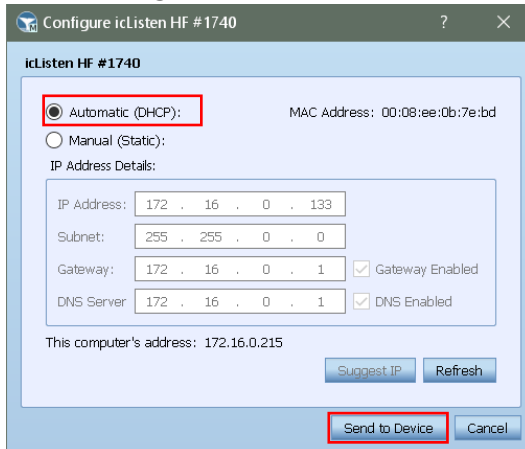


Appendix C. Marco Settings - DHCP

1. Click on the hydrophone serial number



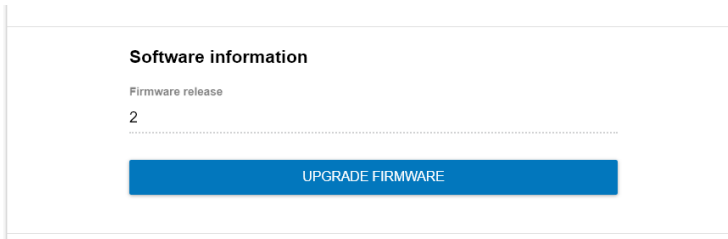
2. Click **Configure ...**



3. Choose **Automatic (DHCP)**.
4. Click **Send to Device** and wait for settings to be successfully sent to the unit.
5. Continue this for each unit so they are all set to DHCP IP addresses.
6. Units should all show up green indicating they are ready.

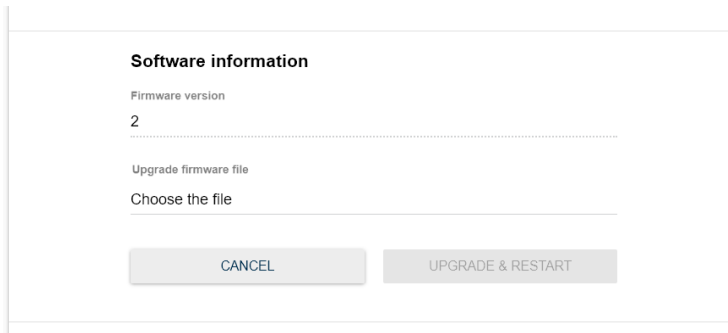
Appendix D. Launch Box Firmware Update

1. Open web browser with IP address of Launch Box (default IP: 192.168.1.1).
2. Click on **UPGRADE FIRMWARE**.



The screenshot shows a web interface titled "Software information". Under the heading "Firmware release", the number "2" is displayed. Below this, there is a prominent blue button labeled "UPGRADE FIRMWARE".

3. Click on **Choose the file**.



The screenshot shows the "Software information" page with "Firmware version" set to "2". Below this, there is a section for "Upgrade firmware file" with a "Choose the file" input field. At the bottom, there are two buttons: a grey "CANCEL" button and a grey "UPGRADE & RESTART" button.

4. Choose the software update file provided by Ocean Sonics.
5. Click on **UPGRADE & RESTART**.



The screenshot shows the bottom portion of the web interface, featuring a grey "CANCEL" button and a blue "UPGRADE & RESTART" button.

Appendix E. Using a Smart Phone or Tablet

1. Download an App on your device that will allow the discovery of IP addresses on your Network. Suggested App: [Fing](#)
2. Connect to Launch Box Wi-Fi on device
3. Open the Fing App to find the IP address of the hydrophone(s) connected
4. Type the hydrophone IP Address of your hydrophone(s) found into a web browser
5. Use the web browser to configure settings for deployment as shown in Quick Start
6. Web Browser can also be used to configure Launch Box Settings and set up GPS logging by going to IP Address: **192.168.1.1** (using the same instructions as above for the computer)

Appendix F. Technical Drawing

PIN ASSIGNMENT	
PIN	SIGNAL
1	DC RTN
2	GND
3	TX-
4	TX+
5	RX-
6	RX+
7	DC PWR
8	SYNC

BATTERY DATA	
BATTERY TYPE	Li-Ion(18650)
CAPACITY (Wh)	100
OUTPUT VOLTAGE (V)	18.0 - 25.2
RATED CURRENT (A)	1.5 MAX
CHARGING CURRENT (A)	1.0 MAX
CHARGING VOLTAGE (V)	25.5

FEMALE SOCKETS
FACE VIEW

NOTES:

- CONNECTOR: SUBCONN MCBH-8F
- MATERIAL, CASE: COPO PP
- IP RATING: 67
- BUOYANCY: 2.4 kg (5.2 lb)

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UNLESS OTHERWISE NOTED:

- DIMENSIONS IN MILLIMETRES
- X, ± 0.75
- XX, ± 0.25
- XXX, ± 0.125
- ANGLES ± 1/2°
- FINISHES TO DISCRETE DIMENSIONS
- EXTENSIONS TO DISCRETE DIMENSIONS
- SURFACE FINISH: 125

Ocean Sonics Limited
NOVA SCOTIA, CANADA
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LAUNCH BOX

PUB-BL-B4-X

Ocean Sonics Limited
NOVA SCOTIA, CANADA
WWW.OCEANSONICS.COM

SIZE: A

DRAWING NUMBER: PUB-BL-B4-X

REV: A

SCALE: 1:1

SHEET: 1 OF 1

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