



OCEAN SONICS

Launch Box User Guide



BL-B4-GPS-B

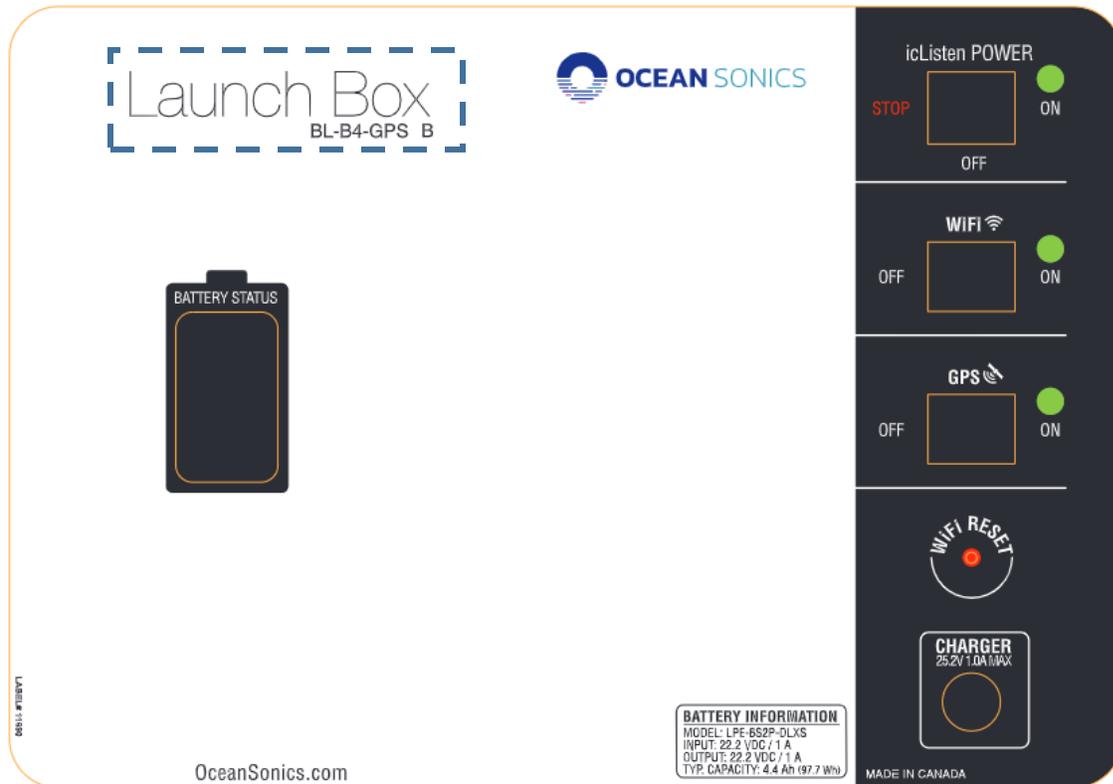
July 2022

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THIS USER GUIDE IS FOR THE LAUNCH BOX BL-B4-GPS B.
Please check your Launch Box to ensure this is the correct guide for your unit.
If you have a Launch Box without the last "B",
you can find the Launch Box User Guide for BL-B4-GPS [HERE](#).



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, 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 operations, extremely useful for vessel deployments.

Important Notes

- Water resistant when Launch Box case is closed and sealed.
 - The Launch Box is not waterproof when the lid is open, leaving the case open during deployment increases your risk of water damage to internal components.
- 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

See Technical Drawing ([Appendix E](#))

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 & 5G Wi-Fi Settings | • Real-time Set Up, Status, and Display Data |
| • Water Resistant when lid is closed & sealed | • IP67 rated case |
| • Selectable cable lengths | • Deploy multiple icListens on a Smart Cable |

Ocean Sonics Launch Box Instructions



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

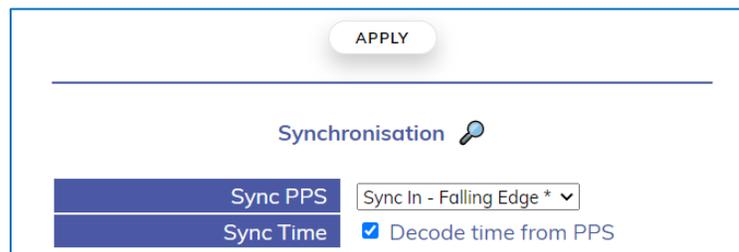
1. Turn Wi-Fi switch to ON position and wait 2 minutes to allow Wi-Fi to stabilize.
2. Turn remaining switches to ON position.
3. Attach cable(s) and hydrophone(s) in configuration for deployment.

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.
 - Type in the **Password: *oceansonics***
- 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 the hydrophone for deployment.
 - a. Set the icListen to Synchronise to the GPS.
 - i. Under Special Features ensure **Sync In – Falling Edge** is selected and **Decode Time from PPS** is checked.



- ii.
- iii. 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 µs)

- iv. 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 → Data Collection,
 - ii. select the settings for deployment - Sampling rates of WAV and FFT data.
 - iii. Click Apply.

GPS Position Logging

On the Launch Box **BL-B4-GPS B**, the GPS automatically starts logging when the GPS switch is turned on. This is different from the previous BL-B4-GPS versions of the Launch Box where GPS needed to be turned on and off through the Launch Box web browser.

Access GPS Files

1. To start GPS logging turn the GPS switch on the Launch Box to the ON position.
2. To see and access the logged GPS data, go to the IP address of the Launch Box and type /log at the end of the address.
 - a. **192.168.1.1/log**

Note: Every time the GPS is turned on a new folder will be created.

Download Log Files through FileZilla

3. The data can also be accessed by using an FTP Program such as FileZilla.
 - a. Type in the IP address of the Launch Box (192.168.1.1).
 - b. Click Quick Connect.
 - c. Go to the Logs Folder.
 - d. Download Data

Delete Logged Files Through FileZilla

4. To delete the log files, use an FTP Program such as FileZilla.
 - a. Go to the Logs folder
 - b. Right click on the file and click Delete.

Deployment

1. Secure the 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. Ensure the Launch Box case is closed prior to deployment, so no water will get inside the case.
3. If deploying on a vessel, the vessel should be stopped during deployment for best sound quality.
4. Use Launch Box Wi-Fi to ensure the hydrophone is recording and streaming.
5. Slowly feed the hydrophone and cable into the water.
6. 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.

Contact Ocean Sonics Ltd.

To download Ocean Sonics Software please visit: <https://iclisten.com/users-software/>

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

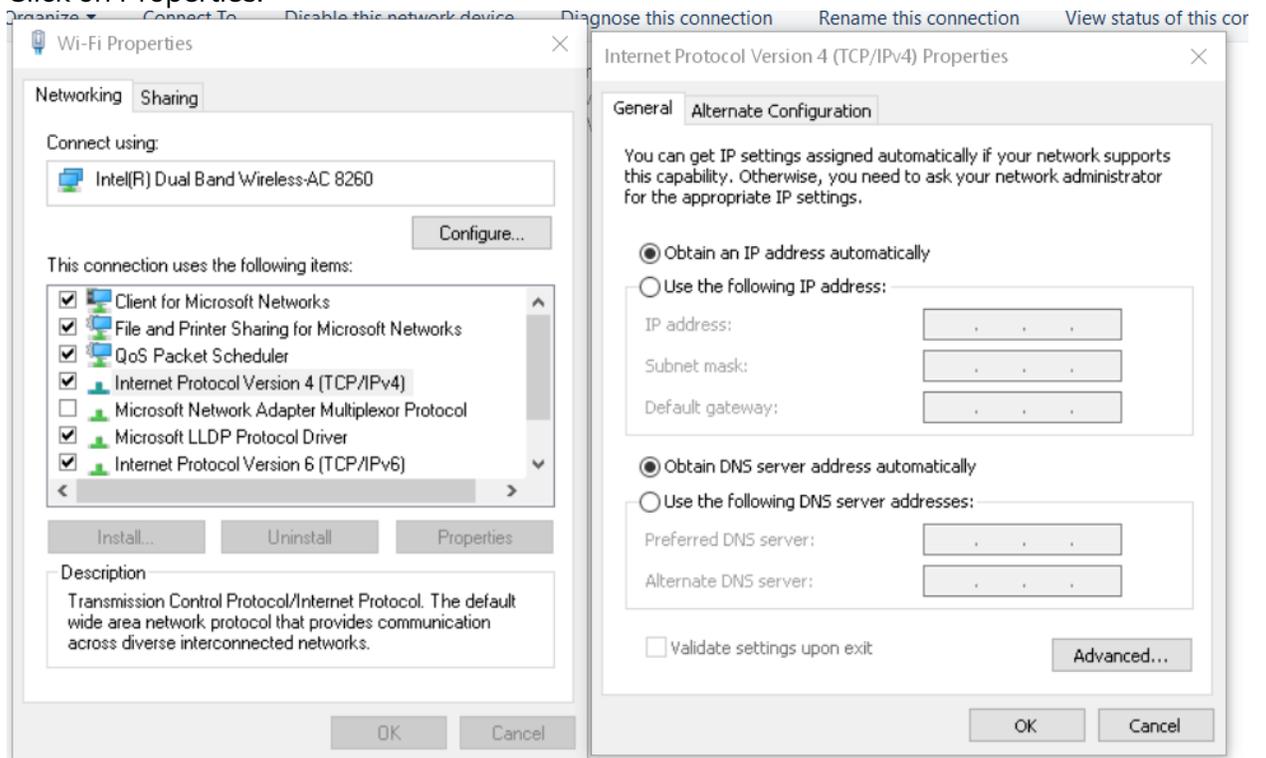
If advanced Network Settings have been changed in a computer, it may be necessary to turn on Automatic DHCP.

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

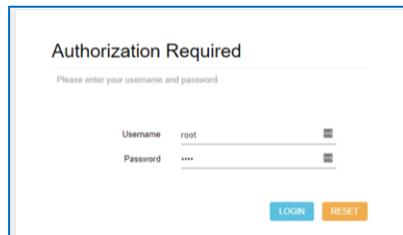
Notes

1. We do not suggest changing the Network Settings unless required.
2. After applying new Wi-Fi settings, you must reconnect to the Launch Box Wi-Fi before the settings will be configured.

A popup will count down (90 seconds) to re-configuring the settings. A reconnection must be made during these 90 seconds to ensure that the settings are applied correctly. To ensure the settings will be applied, the Wi-Fi connection should be set to Connect Automatically. If this is not checked, the settings will not be configured and will roll back after 90 seconds. Alternatively, you can re-connect manually within the 90 seconds, after new settings are applied.

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**



Authorization Required

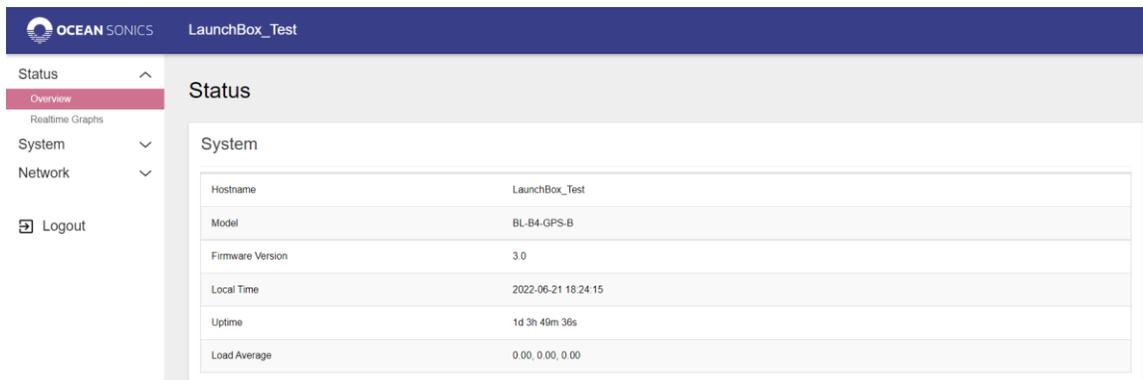
Please enter your username and password

Username root

Password ****

LOGIN RESET

- c. Under Status – Overview: System



System	
Hostname	LaunchBox_Test
Model	BL-B4-GPS-B
Firmware Version	3.0
Local Time	2022-06-21 18:24:15
Uptime	1d 3h 49m 36s
Load Average	0.00, 0.00, 0.00

Checking Wi-Fi Load, Traffic, Connections

1. Under side menu **Status** drop-down.
2. Click on **Realtime Graphs**.
3. Click on **Wireless** Tab.
 - a. This will show the connection strength between the computer and launch box.

Wi-Fi Frequency Settings [2.4 / 5 GHz]

The Launch Box BL-B4-GPS B can switch from 2.4 GHz to 5 GHz Wi-Fi.

- **2.4 GHz** provides a better range.
 - Useful if you are farther away and having trouble connecting you can use this setting. Useful if there are objects blocking the signal to the laptop.
- **5 GHz** provides a faster speed.
 - Useful if you are closer and require higher sampling rates or faster data transfer (download) speed. Also useful if there is interference from other signals.

To set the Wi-Fi frequency

1. On the side Menu Network drop down
2. Click Wireless
3. Click the EDIT Button

4. Choose your Band 2.4 or 5 GHz.

5. Click **SAVE**
6. Click **SAVE & APPLY**.
7. Reconnect to Wi-Fi to apply the configuration.

Setting Up Web Browser Login Password

1. Type in IP Address of Launch Box in web browser.

2. Click on the side menu **System** drop-down.
 - a. Under **Administration**
3. Type in password (must be 8 or more characters) into Password bar.
 - a. The default password is: **root**
4. Click **SAVE**.

Configuring Network Settings

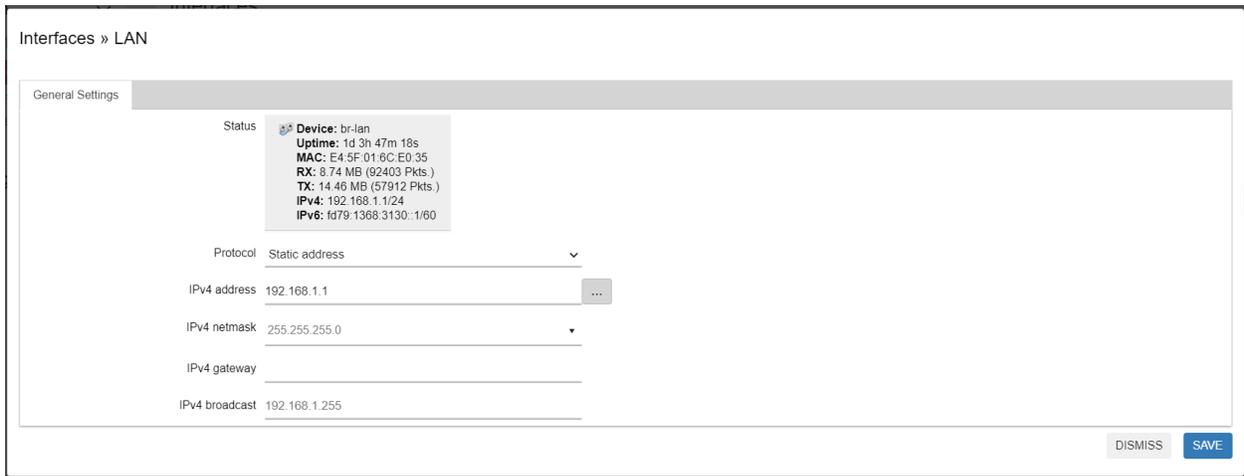
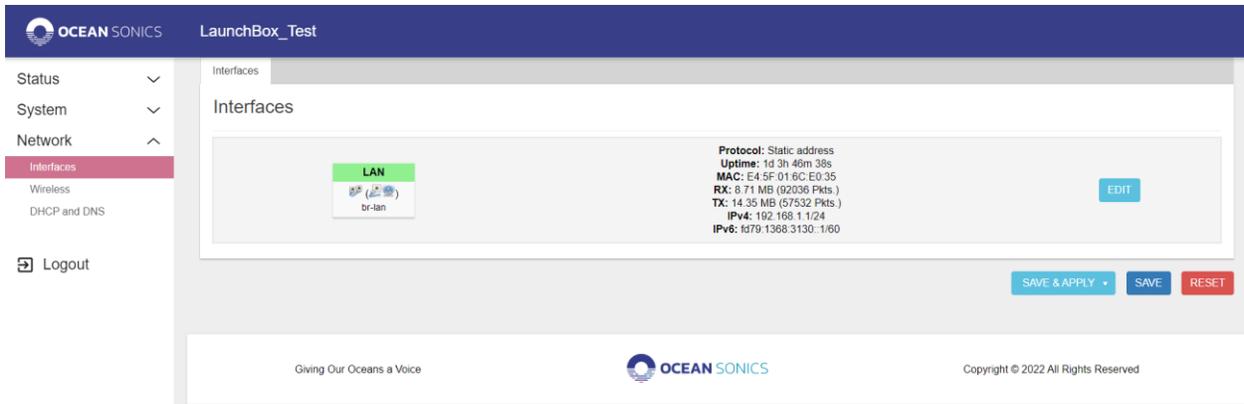
Note

We do not suggest changing the Network Settings unless required.

Marco should be used to change the IP address of the icListen to connect to the Launch Box (See [Appendix C](#) below).

To change IP Address Mode or Static Address

1. Open Web Browser with IP address of Launch Box.
2. Sign In.
3. Click side menu **Network** drop-down.
 - a. Click **Interfaces**
 - b. Click **EDIT**



4. Click **SAVE**.
5. Click **SAVE & APPLY**.

Note

The Wi-Fi must be reconnected once the settings are applied. The new IP address will be required to view the web browser, the address can be found by viewing the Network Connection Settings for the Wi-Fi.

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](#)).

1. Open Web Browser with IP address of Launch Box.
2. Sign In.
3. Click side menu **System** drop-down.
 - a. Click **Backup/Flash Firmware**
 - b. **Restore**
 - c. **PERFORM RESET**

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:

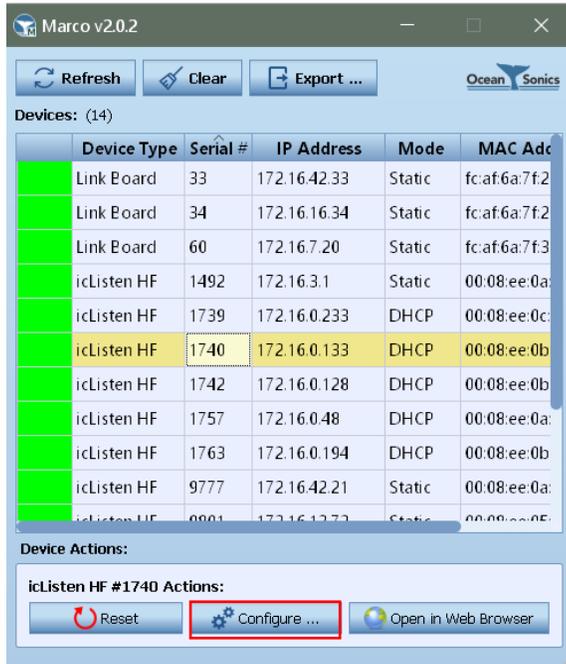
- The Wi-Fi network on the Launch Box was configured and caused the Wi-Fi to stop working and communications were lost.
- The Wi-Fi password for a Launch Box was set and forgotten.

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

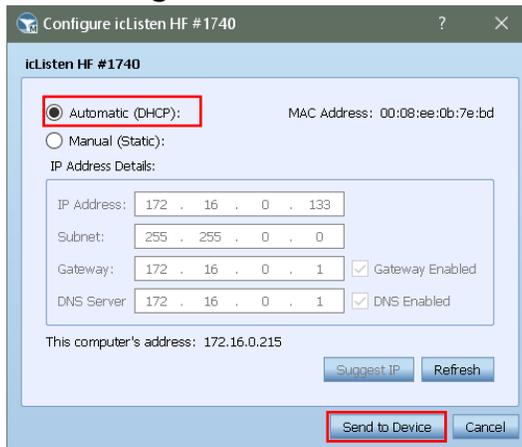


Appendix C. Marco Settings - DHCP

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. 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 E. 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:
1 DIMS IN MILLIMETRES
2 X, ± 0.75
3 X, ± 0.075
4 X, ± 0.075
5 ANGLES ± 1/2°
6 SURFACE FINISH: 125
7 EXTERNAL DIMS
8 SURFACE FINISH: 125

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

LAUNCH BOX

DRAWING NUMBER: PUB-BL-B4-X
REV: A
SCALE: 1:1
SHEET: 1 OF 1

Appendix F. GPS Logs

The GPS logs are recorded in text files. The GPS is recorded in NMEA message structure.

Example String:

\$GNRMC,173939.00,A,4520.72561,N,06318.54342,W,3.246,327.24,170722,,,A*6A

Example	\$GNRMC	173939.00	A	4520.72561	N	06318.54342	W	3.246	327.24	170722			A	*6A
Field	1	2	3	4	5	6	7	8	9	10	11	12	13	14

GN	Global Navigation Satellite System (GNSS)
RMC	Recommended Minimum specific GPS data
123654.00	Fix taken at 12:36:54 UTC
A	Status A=active or V=Void.
4520.72561	Latitude (DDmm.mm)
N	Latitude direction: (N = North, S = South)
06318.54342	Longitude (DDmm.mm)
W	Longitude direction: (E = East, W = West)
3.246	Speed over ground, knots
327.24	Track made good; degrees True
170722	Date – 17 th of July 2022 dd/mm/yy
(empty field)	Magnetic variation, degrees (field not provided in this setup)
(empty field)	Magnetic variation direction (Field not provided in this setup)
A	Positioning System Mode Indicator: A=Autonomous, D=Differential, E=Estimated, F=Float RTK, M=Manual input, N=No fix, P=Precise, R=Real time kinematic, S=Simulator
*6A	Checksum data, always begins with *