

OCEAN SONICS LAUNCH BOX USER GUIDE



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Introduction

The Ocean Sonics Launch Box is an easy way to deploy icListen Smart Hydrophones. The Launch Box is designed to deploy hydrophones using extension cables supplied by Ocean Sonics. Setup and configure the hydrophones with the Launch Box internal Wi-Fi access point.

The orange Launch Box is small and lightweight, so it can be transported and stowed with ease. This solution combines power, Wi-Fi, GPS positioning and time synchronization with attached hydrophones.

Important Notes

- Launch Box Battery Life will depend on set-up of deployment i.e. deployment settings selected.
- Turn the Launch Box OFF when not in use and recharge battery after each deployment.

Features

- Built-in Rechargeable 24v Li-ion Battery 100 watts
- LED Battery Level Indicator
- GPS Time Synchronization
- Selectable cable lengths
- IP67 waterproof rated case
- Weight: 2.3kg
- Dimensions: 10.6"x7.9"x4.5"
- All Hydrophones Synchronized within 1 μ s
- 6 hours charge from 0-100%
- 2.4G Wi-Fi for Real-time Set Up, Status, and Spectral Display
- GPS Positioning

Ocean Sonics Launch Box Quick Start Guide

Assemble Launch Box Configuration

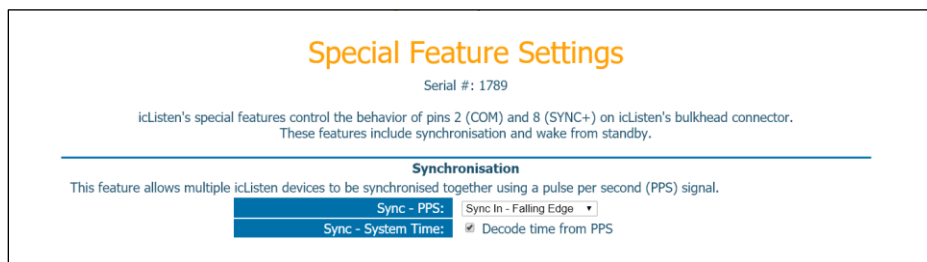
1. Ensure the Launch Box is fully charged and in the OFF position.
2. Attach cable and hydrophone in configuration for deployment.
3. Turn on Ocean Sonics Launch Box along with wifi and GPS if being used.

Connect to Ocean Sonics Launch Box Wi-Fi

4. Use a PC to connect to the Ocean Sonics Launch Box Wi-Fi with the Serial Number of the unit (If you have problems connecting to the set IP address from Launch Box see [Appendix A](#)) This should take approximately 30 seconds to 1 minute.
5. Settings for the Wi-fi can be changed by going to the IP address 192.168.1.1 on a web browser. (See [Appendix B](#) for changing IP address of Wi-Fi, setting Wi-Fi password and resetting Wi-Fi.)

Setup Hydrophone

6. Open Ocean Sonics' Software Program **Marco** to see units connected to the Ocean Sonics Launch Box.
 - a. All units on **Marco** should be set to DHCP (See [Appendix C](#) for **Marco** Help)
7. Open the unit in a Web Browser by double clicking on the hydrophone serial number in **Marco**.
 - a. Under Settings Tab → Data Collection, setup the settings for deployment - Sampling rates of WAV and FFT data
 - b. Under Special Features ensure Sync In – Falling Edge is selected and Decode Time from PPS is checked.



- i. 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)
- ii. 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 synchronization. Ensure the correct date and time are displayed.)

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

8. Open Data → Spectrum Charts to view hydrophone spectrogram data during/post deployment until Wi-Fi range is lost (~100 m).

GPS Position Logging (If Purchased)

1. In your web browser enter the ip address 192.168.1.1
2. Select the GPS Tab and click configure

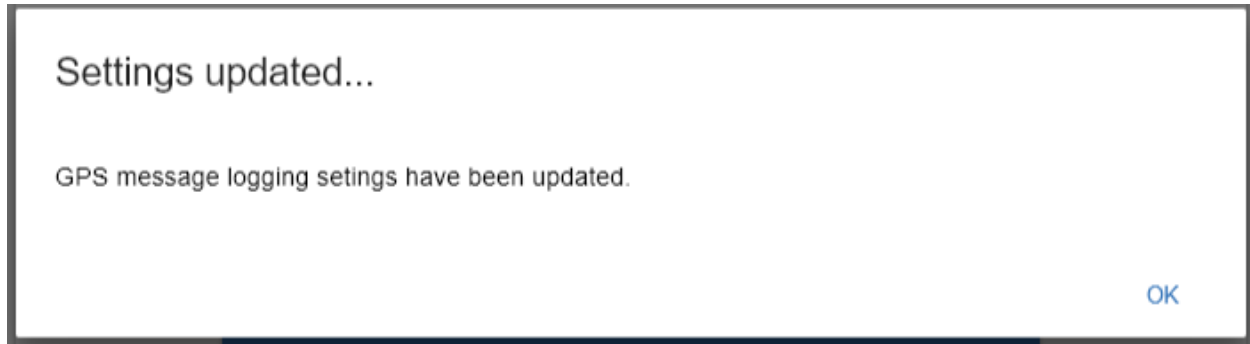


Sign out

The screenshot shows a web interface with three tabs: 'System information', 'GPS', and 'Wi-Fi AP Settings'. The 'GPS' tab is active. Below the tabs, the heading 'GPS Message Logging' is displayed. A paragraph explains that GPS RMC messages will be logged once per second when the feature is enabled, and that log files can be retrieved through SFTP or by following a link. Two radio buttons are present: 'Enable' (unselected) and 'Disable' (selected). A blue 'CONFIGURE' button is located at the bottom of the section.

3. Click Enable and Apply

This screenshot shows the same 'GPS Message Logging' configuration page, but now the 'Enable' radio button is selected. The 'CONFIGURE' button has been replaced by two buttons: a grey 'CANCEL' button and a blue 'APPLY' button.



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

Charging the Battery

1. Ensure the Launch Box is in a secure, dry location for charging.
2. Insert power cord into wall plug.
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.

Deployment

1. Set-up Launch Box using Ocean Sonics Guidelines for Deployment and the [Quick Start](#) above.
2. 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. The Wi-Fi connection will continue streaming to the PC while the Launch Box is within range (up to 100 m).

Recovery

1. Retrieve hydrophone and cable from water.
2. Connect to Wi-Fi on Launch Box.
 - a. Launch Box may shut off Wi-Fi link if battery is low power.
 - i. Use test cable instead of Launch Box Wi-Fi
(See: [Array Data Manager: To Retrieve.](#))
3. Turn off recording on hydrophones using Web Browser or Lucy.
4. Turn off Ocean Sonics Launch Box.
5. Rinse hydrophone and cable with fresh water.
6. Hydrophone internal batteries can be disconnected using the hardware reset tool to retain battery at 100%:
 - a. Attach test cable
 - b. Put hydrophone in standby mode
 - c. Insert -9v battery hardware reset tool into the power barrel connector on the test cable

Or by switching the icListen power switch to the STOP position.

Hydrophone Data Retrieval

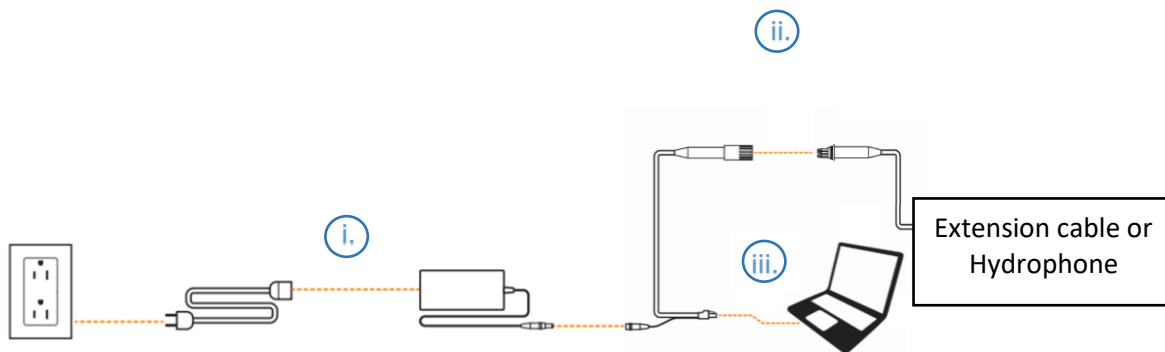
Ocean Sonics **Array Data Manager** software can be used to retrieve large amounts of data from hydrophones and merge single WAV files into multi-channel WAV files.

- Data can also be retrieved using an FTP Client (i.e. [FileZilla: See below](#))
- For smaller amounts of data, the hydrophone web browser and Lucy software can be used (See Ocean Sonics iCListen HF User Guide).

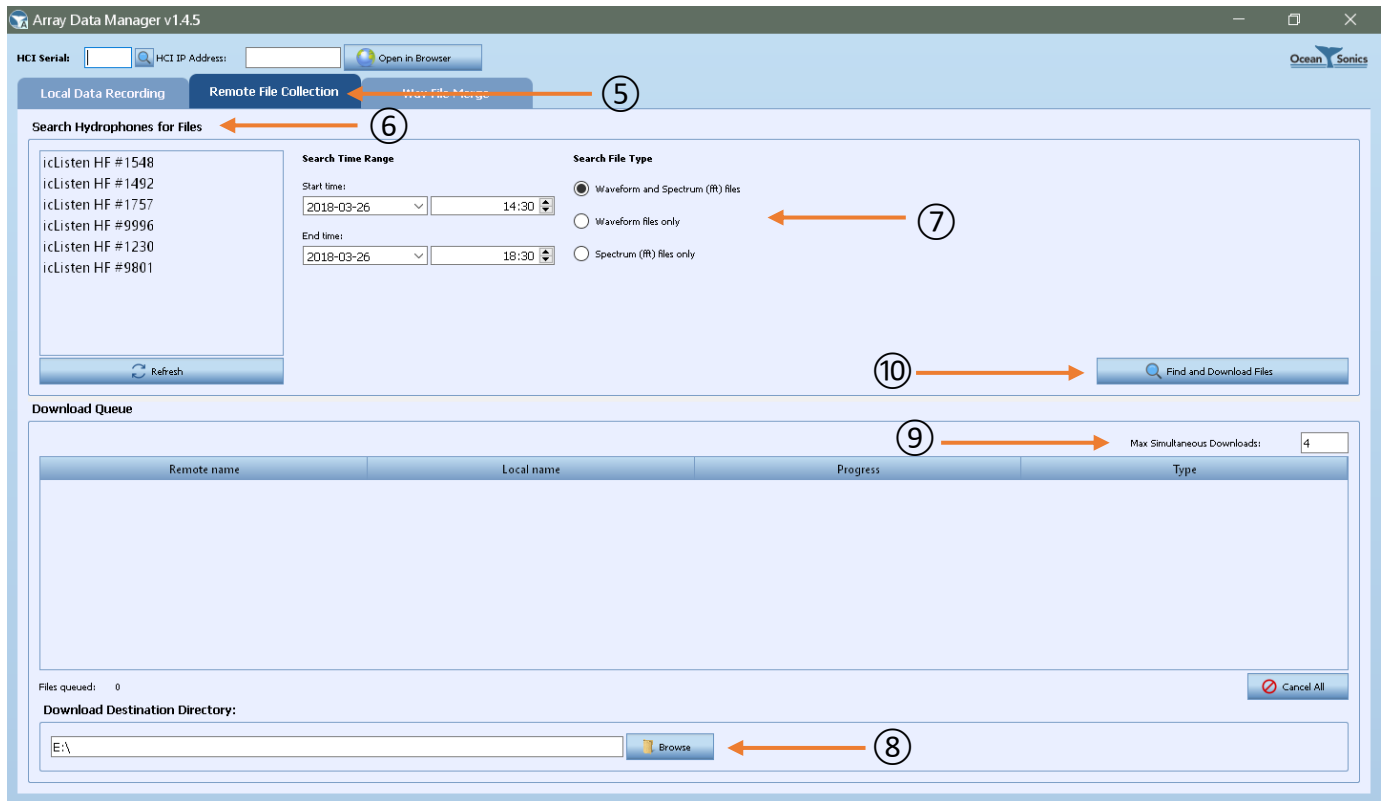
Array Data Manager

To Retrieve

1. Download **Array Data Manager** from USB stick provided with your hydrophone.
2. Data can be retrieved using two different methods.
 - a. Data retrieval can be done over Launch Box Wi-Fi. (Not recommended for large data sets or when Launch Box battery power is low).
 - i. Connect to Ocean Sonics Launch Box Wi-Fi on PC.
 - OR**
 - b. Connect using a test cable.



- i. Plug power cord into wall and plug power into test cable.
 - ii. Plug test cable into end of test cable (end that was connected to Launch Box) or directly into the hydrophone.
 - iii. Insert ethernet jack into PC or router and connect to hydrophone.
3. The hydrophone should show up on **Marco**.
 4. Open **Array Data Manager**.

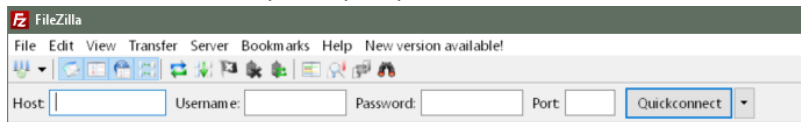


5. Select **Remote File Collection** Tab
6. Select Hydrophone from list by clicking on serial number for data retrieval.
7. Select Start Time and End Time of deployment and choose file types collected (Waveform and Spectrum (FFT) files, Waveform files only or Spectrum (FFT) files only).
8. Choose **Download Destination Directory** by clicking on Browse Button (suggested to download large data sets to hard drive).
9. Choose Max Simultaneous Downloads (suggested: 4).
10. Click Find and Download Files and wait until Downloads are complete.

Alternative Data Retrieval

FTP Client (FileZilla)

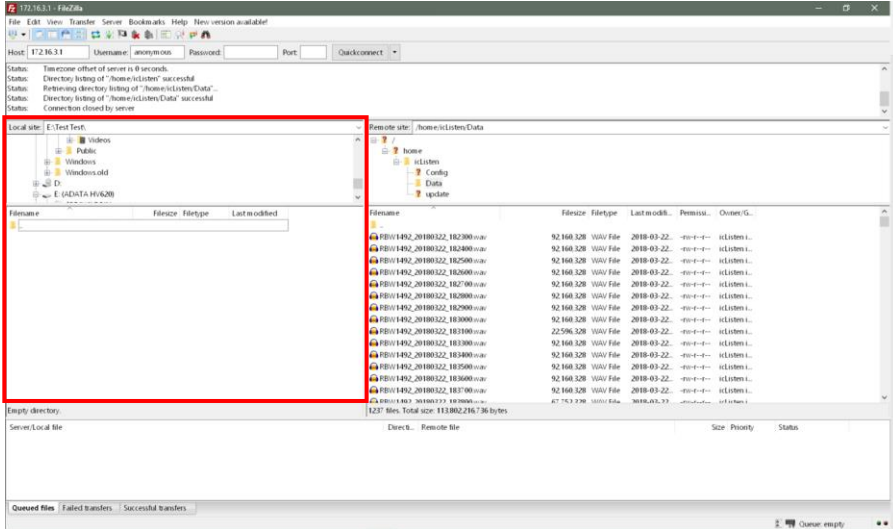
1. Follow the steps above for connecting to hydrophone.
2. Use the IP address of your hydrophone from Marco and enter it in the Host field.



3. Leave the remaining spots blank and click Quickconnect.
4. FileZilla will connect to the hydrophone and open folders in the right window below in Remote Site location.

Filename	Filesize	Filetype	Last modifi...	Permissi...	Owner/G...
Config		File folder	2018-03-22	drwxr-xr-x	iclisten i...
Data		File folder	2018-03-23	drwxrwx...	iclisten i...
update		File folder	2017-09-22	drwxr-xr-x	iclisten i...
History.txt	75,899	Text Doc...	2018-03-22	-rw-r--r--	iclisten i...

5. Double click on Data (this will open all data saved on hydrophone)
6. Choose On left side (Local site) where data will be saved (computer folder or hard drive folder)



7. Select Files from hydrophone to download:
 - a. Drag and drop into folder location on left
 - OR**
 - b. Right click selected files and choose download

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.

FTP Client (FileZilla)

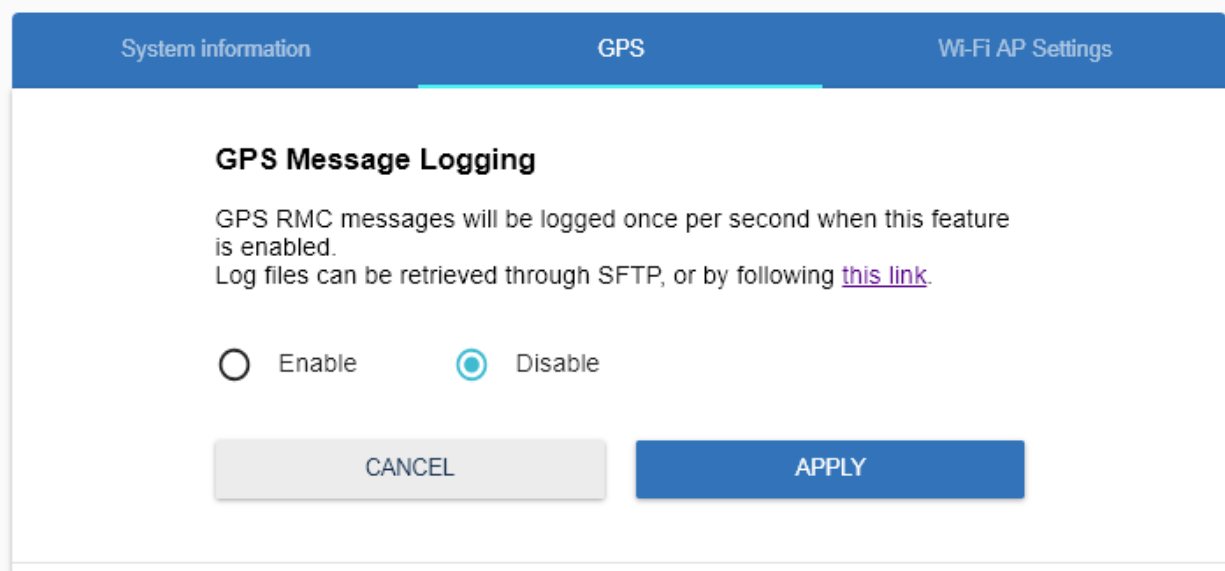
1. Fill out the fields as shown below with the password being root

Host: Username: Password: Port:

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

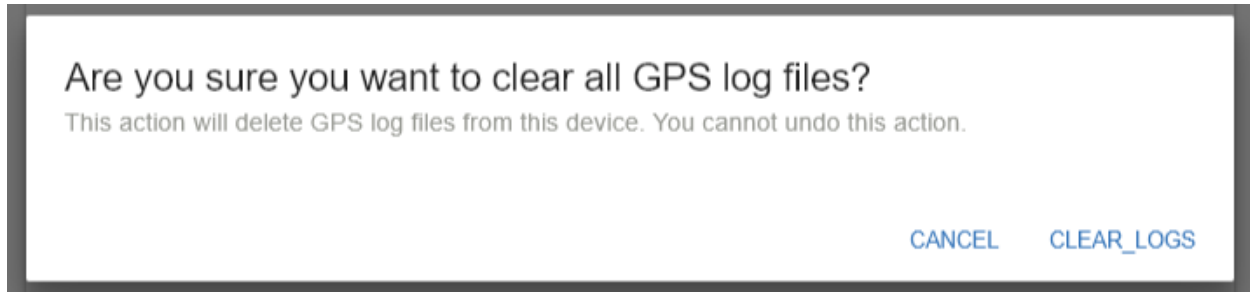
Clearing Log Files

1. Disable GPS logging in the launch box web browser



The screenshot shows a web browser interface with a blue header bar containing three tabs: "System information", "GPS", and "Wi-Fi AP Settings". The "GPS" tab is selected. Below the header, the page title is "GPS Message Logging". The text below the title reads: "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](#)." Below this text are two radio buttons: "Enable" (unselected) and "Disable" (selected). At the bottom of the form are two buttons: "CANCEL" (grey) and "APPLY" (blue).

2. Click CLEAR_LOGS



The screenshot shows a confirmation dialog box with a dark grey border. The text inside reads: "Are you sure you want to clear all GPS log files?" followed by "This action will delete GPS log files from this device. You cannot undo this action." At the bottom right of the dialog are two buttons: "CANCEL" and "CLEAR_LOGS".

Appendix A

Troubleshooting Wi-Fi Connection

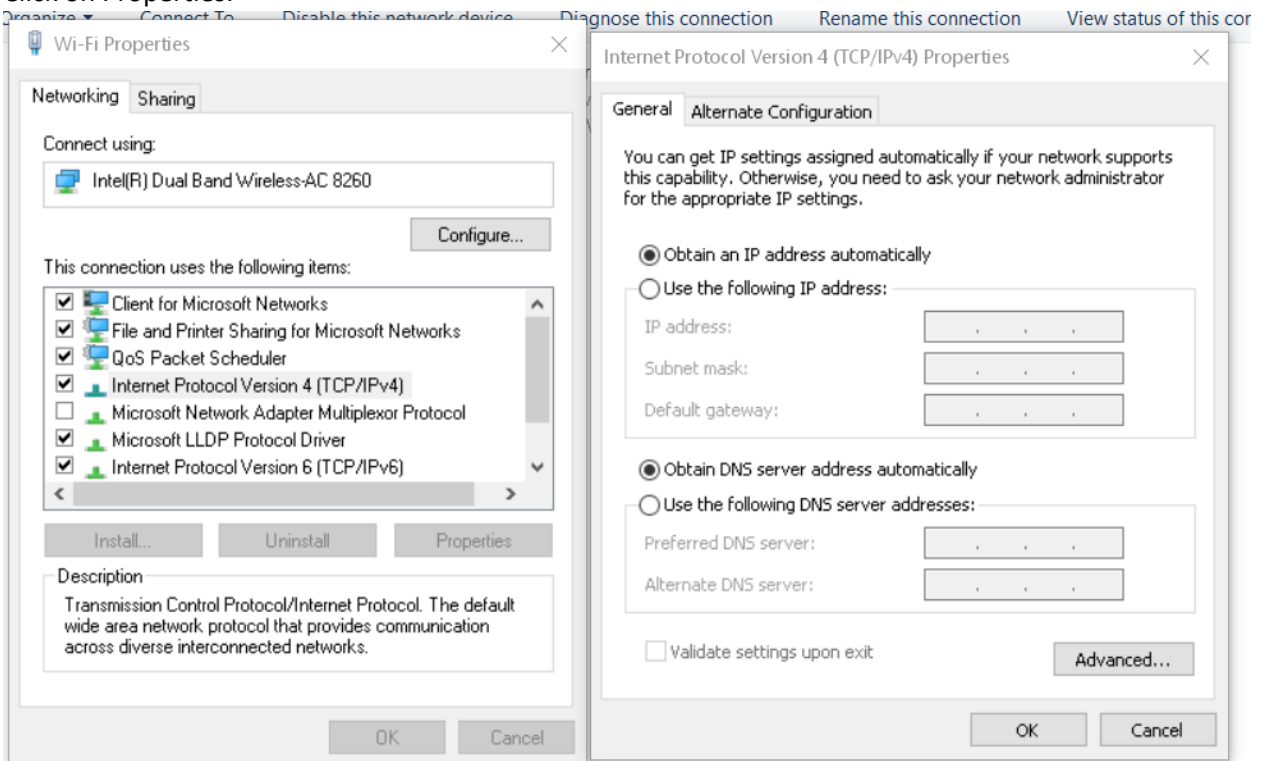
If advanced Network Settings have been changed in a computer, it may be necessary to turn on Automatic DHCP.

Windows 10:

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

Access type: Internet
Connections: WiFi (Launch_Box_4601)

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

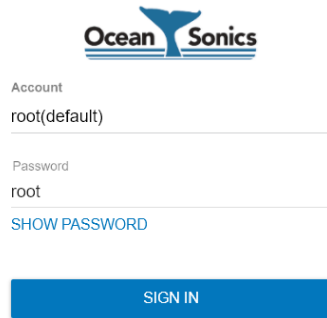


5. Ensure **Obtain an IP address automatically** and **Obtain DNS server address automatically** are chosen.

Appendix B

Checking Wi-Fi Network Configuration

- a. Open your web browser of choice and type in IP Address of Ocean Sonics Launch Box. [192.168.1.1]
- b. Type in default user name and password on the web page and click SIGN IN.
User Name: root
Password: root



Ocean Sonics

Account
root(default)

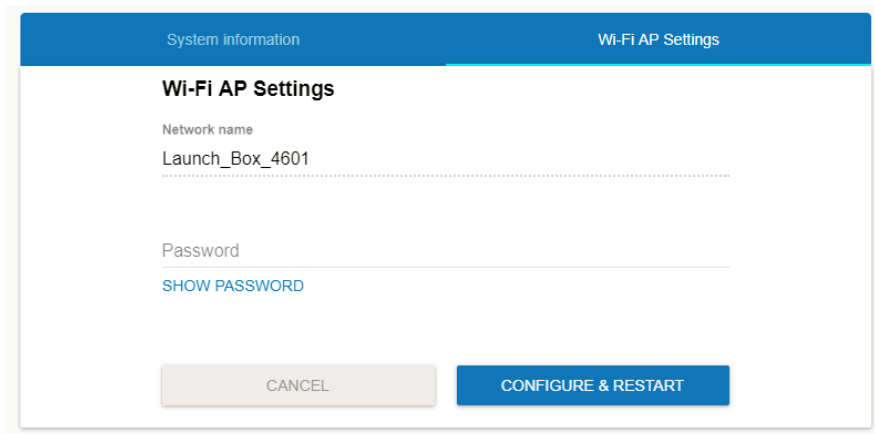
Password
root

[SHOW PASSWORD](#)

SIGN IN

Setting Up Wi-Fi Password

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



System information Wi-Fi AP Settings

Wi-Fi AP Settings

Network name
Launch_Box_4601

Password
[SHOW PASSWORD](#)

CANCEL **CONFIGURE & RESTART**

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

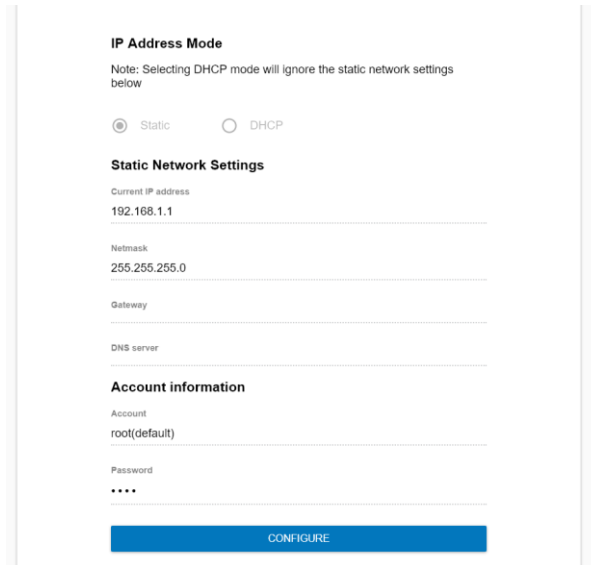
Note: Clicking **CONFIGURE & RESTART** will cause the connection to be lost. User must reconnect and sign in to Wi-Fi with new password.

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

Configuring Network Settings

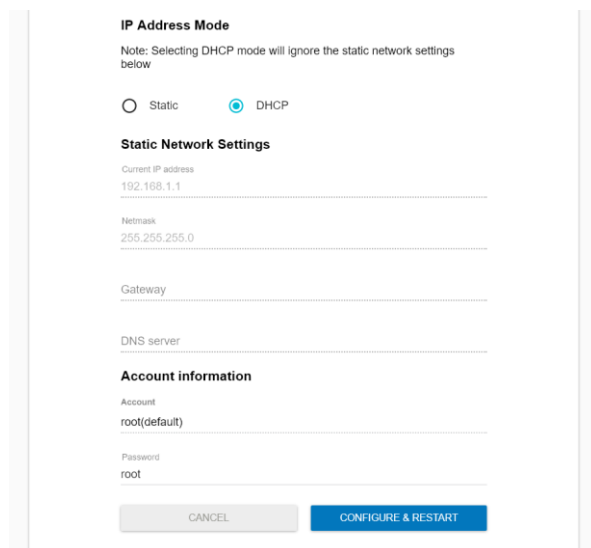
To change IP Address Mode to DHCP

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



The screenshot shows a web interface for configuring network settings. At the top, it is titled "IP Address Mode" with a note: "Note: Selecting DHCP mode will ignore the static network settings below". There are two radio buttons: "Static" (which is selected) and "DHCP". Below this is a section for "Static Network Settings" with fields for "Current IP address" (192.168.1.1), "Netmask" (255.255.255.0), "Gateway", and "DNS server". Underneath is "Account information" with fields for "Account" (root(default)) and "Password" (masked with dots). At the bottom, there is a blue button labeled "CONFIGURE".

4. Select DHCP



The screenshot shows the same web interface as above, but now the "DHCP" radio button is selected. The "Static Network Settings" fields are still present but are not active. The "Account information" fields remain the same. At the bottom, there are two buttons: a grey "CANCEL" button and a blue "CONFIGURE & RESTART" button.

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

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. 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

If there are problems with the Wi-Fi settings a Factory reset can be applied. This will reset to default IP address and password.

Factory reset

Reset the device to its default settings.
Important: This action will remove all your data and settings from the device.

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 Ocean Sonics Launch Box.

A Reset would be necessary in the following states:

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

All Wi-Fi settings will be lost and restored to default.

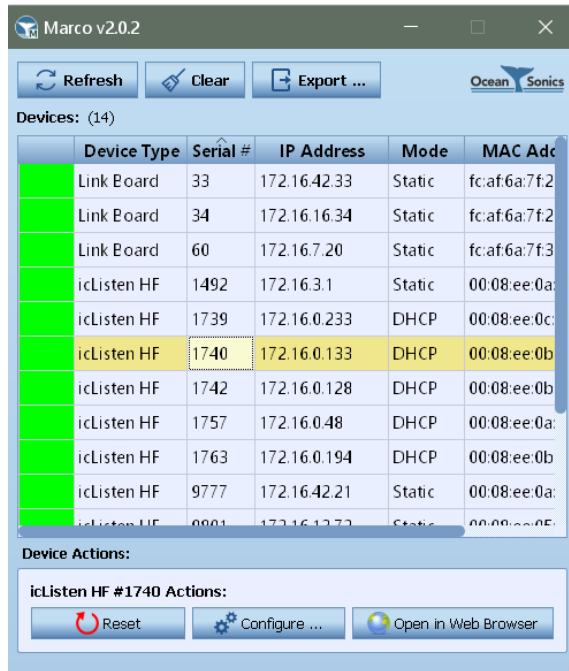
1. Press and hold the Reset button for at least 4 seconds (see below).



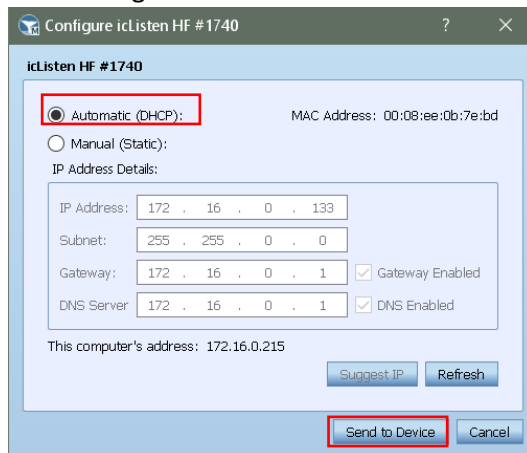
Appendix C

Marco - Settings DHCP

1. Click on the hydrophone serial number



2. Click Configure ...

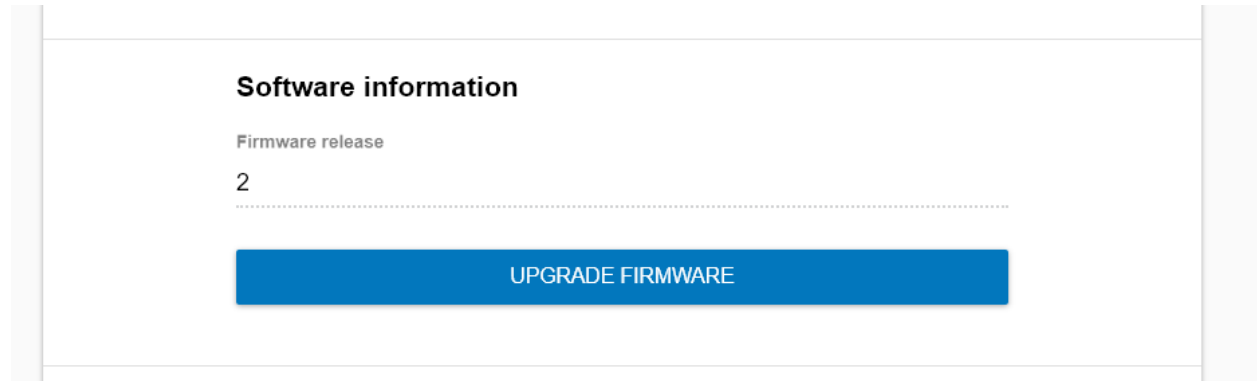


3. Choose Automatic (DHCP).
4. Click Send to Device and wait for settings to be successfully sent to the unit.
5. Continue this for each unit so they are all set to DHCP IP addresses.
6. Units should all show up green indicating they are ready.

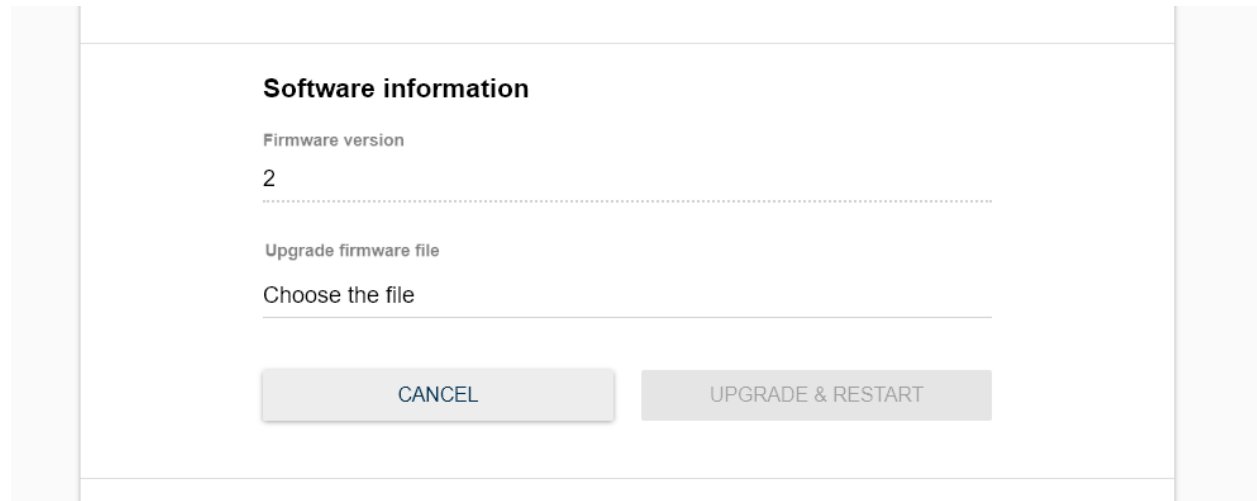
Appendix D

Launch Box Firmware Update

1. Open web browser with IP address of launch box.
2. Click on upgrade firmware.



3. Click on choose the file.



4. Choose the software update file provided by Ocean Sonics.
5. Click on upgrade and restart.

