MimioClarity™ Technical User Guide

(Designed for IT and Technical Support Teams)

The MimioClarity is a standalone or networked classroom audio distribution system that shares teacher and student voices, and lesson media throughout the classroom. MimioClarity is a multiroom, multi-microphone system that will work with up to four (4) microphones in any combination of teacher or student microphones.

Key Terms

- **Paired** – when the microphone is paired with the amplifier, the two devices have been "introduced" and have agreed to pass data sound between them
- **Connected** – once the microphone has been paired it must be connected to the amplifier in the room where the sound is to be distributed, otherwise the microphone will broadcast audio to each room it is paired
- **Press** – press the button and release
- **Press and Hold** – press the button and hold the button down

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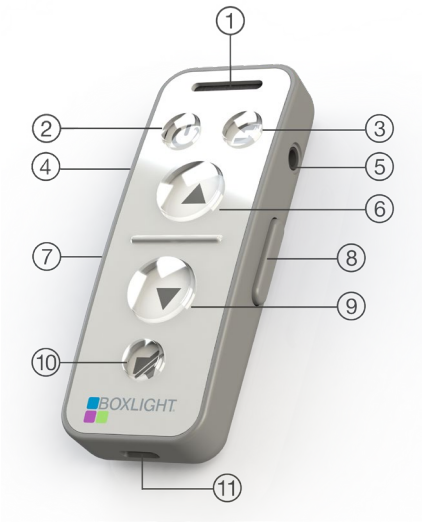
Overview: MimioClarity Teacher Microphone

Easy to use and lightweight, the microphone has 10 hours of battery life and is held on a break-away lanyard (to be worn around the neck). Teacher microphone can be used as a clicker to easily navigate between slides when connected from AMP USB-C to computer via USB-A. The teacher mic has a simple two button volume control to ensure that every word is heard by every student. Best of all, Boxlight technology does not rely upon a line of sight, like IR receivers. MimioClarity RF will not interfere with Wi-Fi or Bluetooth frequencies.

Teacher Microphone	
Frequency	DECT 1.9GHz (Does not interfere with Bluetooth or Wi-Fi)
Wireless Range	Up to 100 feet
Microphone Type	Omnidirectional
Frequency Response	100 hz – 8khz
Auxiliary Mic Input	1 x 3.5 mm mic level input
Auxiliary Line Input	1 x 3.5 mm line level input
Battery	Lithium-ion (rechargeable)
Talk Time	10 hours
Charge Time	2 hours
Charging Method	USB C (can be used while charging)

Controls and Integration	
Controls	• On/Off button • Teacher mic mute button is red when muted and blue while charging • Teacher mic volume up and down buttons are easily distinguished between up and down arrows • Pairing button: Single button to connect mic with amp in the room • Programmable left/right button when connected to amp via USB-A (Default: Page up/page down)

Inputs, Output, and Buttons



①	Omnidirectional Mic	Picks up sound with equal gain from all sides or directions
②	On/Off Button	Power the microphone on and off; Buttons are backlit when on
③	Pairing/Connecting	Uses near field handshake to simply pair the microphones with a single button for connecting
④	Mic Input	Side Button: 1 x 3.5 mm mic input
⑤	Audio Line In	Side Button: 1 x 3.5 mm stereo line input
⑥	Volume Up	Turns the volume of the microphone up to next of six presets, 2 up and 3 down

⑦	Page Up/Alert	Side Button: Page up when connected to a PC (like a presenter clicker)
⑧	Page Down/Alert	Side Button: Page down when connected to a PC (like a presenter clicker)
⑨	Volume Down	Turns the volume of the microphone down to next of six presets 2 up and 3 down
⑩	Mute Button	Mutes the teacher microphone
⑪	USB-C	Charges the microphone in approximately 2 hours. The microphone can be used while charging.

Dimensions and Weight

Overall Dimensions (W x H x D)	3.5” x 1.754” x .75” (99mm x 46mm x 19mm)
Net Weight	2.2 oz. (62g)

Environmental

Storage Temperature	Storage: -40 to 158°F (-40 to +70°C)/10–90% non-condensing
Storage Humidity	Storage: -40 to 158°F (-40 to +70°C)/10–90% non-condensing
Battery	Lithium-ion (rechargeable). Battery is replaceable by a trained technician.
Certification	FCC, CE, UL Material safety data available on request

Accessories

Replacement batteries
6ft USB C cable
Replacement Lanyards

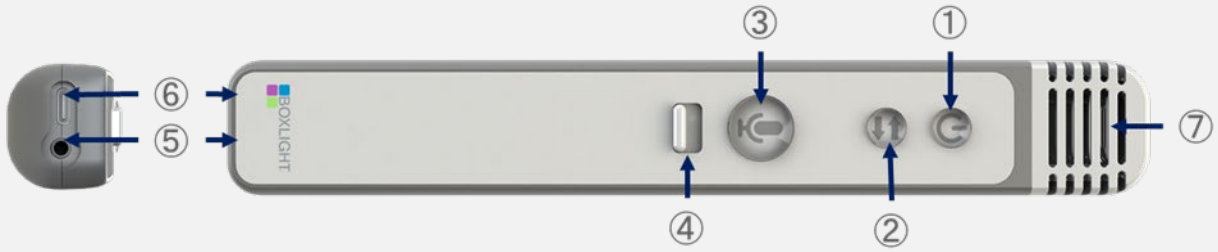
Overview: MimioClarity Student Microphone

Every student's voice should heard. It's critical for student engagement that they too have a microphone to participate in lessons. The mic is designed to withstand the rigors of a classroom and is simple to use. Student microphone can also be used to distribute media through the 3.5 Audio Line Input as well as capture group conversations when toggled on.

Student Microphone	
Frequency	DECT 1.9 GHz (Does not interfere with Bluetooth or Wi-Fi)
Wireless Range	Up to 200 feet
Microphone Type	Omnidirectional
Frequency Response	100 hz – 8 khz
Auxiliary Line Input	1 x 3.5 mm line level input
Battery	Lithium-ion (rechargeable)
Talk Time	10 hours
Charge Time	2 hours
Charging Method	USB C (can be used while charging)

Controls and Integration	
Controls	• On/off button • Toggle-to-talk switch • Push-to-talk button • Pairing button: Single button to connect mic with amp in the room

Inputs, Output, and Buttons



①	On/Off Button	Power the microphone on and off; Buttons are backlit when on
②	Pair/Connect	Uses near field handshake to simply pair the microphones
③	Push-to-Talk Button	Push down to turn on microphone to capture voice like a CB radio; Button is blue while charging
④	Toggle-to-Talk Switch	Switch to activate the microphone being continuously on
⑤	Audio Line In	1 x 3.5 mm stereo line input
⑥	USB-C	Charges the microphone in approximately 2 hours; The microphone can be used while charging.
⑦	Omnidirectional Mic	Picks up sound with equal gain from all sides or directions

Dimensions and Weight

Overall Dimensions (W x H x D)	1.25” x 8.5” x 1.25” (31.75mm x 216mm x 32mm)
Net Weight	3.9 oz. (110g.)

Environmental	
Storage Temperature	Storage: -40 to 158°F / 10–90% non-condensing
Storage Humidity	Storage: -40 to 158°F / 10–90% non-condensing
Battery	Lithium-ion (rechargeable)
Certification	FCC, CE, UL Material safety data available on request
Accessories	
Replacement batteries	

Pairing and Connecting the Teacher Microphone

When you receive your AMP kit, the microphones in the kit are paired to the amplifier. You DO NOT need to repair the microphones with the AMP.

Definitions

- **Pairing**: introducing the two devices so they can pass sound between them. *Pairing only needs to be done one time unless the microphone becomes unpaired, or the amplifier is cleared. Each AMP-KIT comes with the microphones paired to the amplifier.*

- **Connecting**: turning on the microphone so the audio can be heard in the classroom. *You will need to connect/turn on your mic whenever you want to use it in the classroom.*

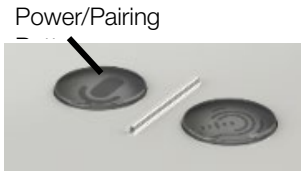
The User Interface allows for the amplifier to have the High Frequency ON or OFF. By default when shipped, the amplifier's high frequency is turned OFF. To turn the High Frequency ON, you will need to log into the UI of the amplifier using the "IT" username and change from High Frequency OFF to ON. See Accessing the Clarity Amplifier IT Account for login details.

The difference with pairing microphones with the High Frequency ON is that you do not have to touch the amplifier to pair the microphones. Stand within 5-10 feet of the amplifier and you can pair using the microphone only (one button pairing). See Diagnostics for details on turning this setting on and off.

Pairing the Teacher Microphone

High Frequency OFF: (default setting when shipped)

1. Press the Power/Pairing button on the Clarity amplifier. It will start blinking green.
2. Press the Power button on the teacher microphone. The button will turn green.
3. Press the Pair/Connect button and the mute button on the teacher microphone at the same time then release. The teacher microphone Pair/Connect button will start blinking green and the Power button on the amplifier will start blinking green.
4. Once the Pair/Connect button on the teacher microphone is solid red,



High Frequency ON

1. Make sure the amplifier has power; the microphone button on the amplifier will be red.
2. Press the Power button on the teacher microphone; it will turn green.

4. Once the Pair/Connect button on the teacher microphone is solid red, press and release the Pair/Connect; it will turn green. The teacher microphone is now paired and connected to the amplifier and ready to use.

Connecting the Teacher Microphone

1. Press the Power button placing the microphone in the ON position. The Power button will be green.
2. Wait a moment for the Pair/Connect button to turn red.
3. Press the Pair/Connect button. The button will turn green when the teacher microphone is ready to use.
   NOTE: The Microphone will need to be connected each time it is powered on.

Resetting Amplifier & Clearing All Paired Mics

If you are using multiple microphones with an amplifier, you may want to clear the amplifier of all microphones to be sure you haven't paired too many microphones with the amplifier. It is highly recommended that you only pair 6 microphones. There can be 4 active microphones on 1 amplifier at a time. If more than 6 microphones are paired, you will see the first microphone paired is the first microphone that drops.

There are several options when resetting or clearing the AMP of all paired microphones.

Please Note: When you unplug and re-plug the amplifier in, this is a power cycle.

- When you press and hold the Power button on the amplifier for approx. 4 seconds, it will turn red and clear all of the microphones that are paired to the amplifier.

- When you push the Reset button (next to the ETH port) this is considered a soft reset. This resets the processor but doesn't change the audio path or the mic status.

- When you press and hold the Factory Reset button it will reset everything "back" to the default settings, thus erasing any changes you may have made. It will keep the current firmware but will reset all the settings in the Clarity Amplifier Interface UI. See page 20 for details.

Once you have reset the amplifier, all microphones will have to be paired again with the amplifier. See page 10 for instructions on Pairing the Teacher Microphone and page 13 for instructions on pairing student microphones.

Using the Teacher Microphone

1. Adjust the lanyard so the microphone is 3-4 inches below your chin.
2. Turn the microphone on.
3. Once the pair button turns red, press and release. The button will turn green, the microphone is on and ready to use. Talk in a normal tone.
4. When finished, turn the microphone off by holding down the On/Off button until turns red, then charge.

Adjusting the Volume on the Teacher Microphone

- To increase the volume, press the up-volume button ; the volume can be adjusted upward two (2) positions from the base level.
- To decrease the volume, press the down-volume button ; the volume can be adjusted down three (3) positions from the base level.

Muting the Teacher Microphone

To have a private conversation with a student or group, press the Mute button. Once pressed, it will illuminate red and stay red until it is pressed again to unmute. The mute button will also be illuminated blue while charging.

- To mute the microphone, press the mute button one time.
- To unmute the microphone, press the mute button one time.

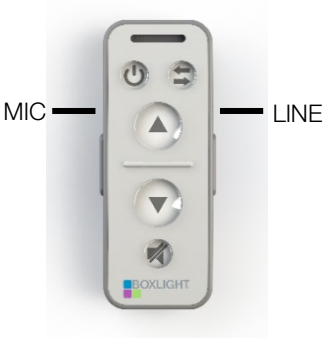
NOTE: Covering the microphone will not mute the microphone, and neither will stepping outside of your room!

External Microphone

An external microphone may be desired. Most non-powered microphones with a 3.5 connector may be utilized.

NOTE: When an external microphone is plugged into the teacher microphone, the on-board microphone will be disabled.

External Device Line Input



An MP3 player or other type of audio device may be plugged into the line input on the teacher microphone. The audio from the external device will broadcast through the MimioClarity amplifier.

Student Microphone

Pairing the Student Microphone

Pairing/Power Button

High Frequency OFF: (default setting when shipped)

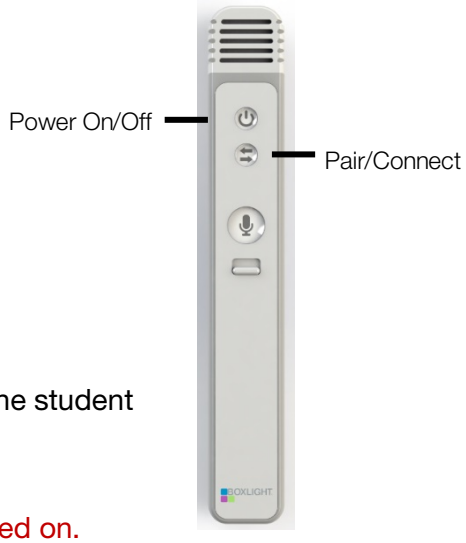
1. Press the Pairing/Power button on the MimioClarity amplifier. It will start blinking green.
2. Press the Power button and the Push to Talk button on the student microphone at the same time, then release. The student microphone Pair/Connect button will start blinking green and the power button on the amplifier will start blinking green.

High Frequency ON:

1. Make sure the amplifier has power; the microphone button on the amplifier will be red.
2. Press the Power button on the student microphone. The button will turn green.
3. Press the Pair/Connect button and the Push to Talk button on the student microphone at the same time, then release. The student microphone Pair/Connect button will start blinking green, and the Power button on the amplifier will start blinking green.

4. Once the Pair/Connect Button on the student microphone is solid red, press and release the Pair/Connect button. It will turn green and the student microphone is now paired and connected to the amplifier and ready to use.

NOTE: Pairing is required only once.



Connecting the Student Microphone

1. Press the Power Button placing the microphone in the "On" position. This button will illuminate green.
2. Wait a moment for the Pair/Connect Button to turn red.
3. Press the Pair/Connect button. The button will turn green once the student mic is now ready to use.

NOTE: The microphone will need to be connected each time it is powered on.

Using the Student Microphone

The MimioClarity Student Microphone is simple to operate and is powered by two methods:

- Press the power button to turn the microphone on and press the pair button to connect.
  - Press and hold the "Push to talk" button
  - Slide the "Toggle to Talk" button upward. The mic is now on constantly.

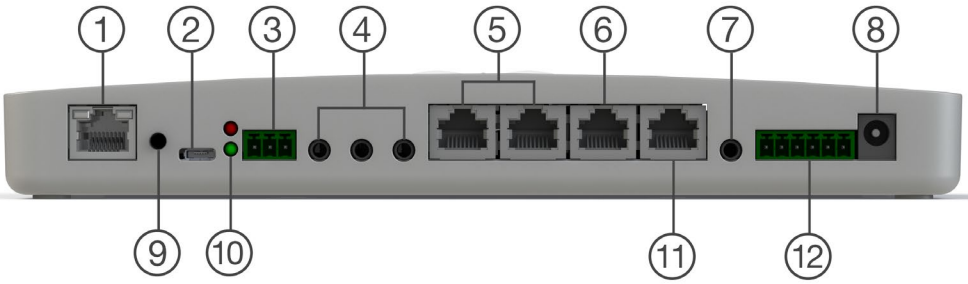
Student Microphone Care

- Charge the microphone at the end of each day by inserting the USB charging cable into the microphone USB charging port.
- While durable, the microphone is not designed to be dropped, kicked, tossed, thrown, etc. The microphone is designed to be set gently down when not in use.
- The microphone may be cleaned with a damp cotton cloth. Do not use harsh chemicals or abrasives on the microphone.

Clarity Amplifier

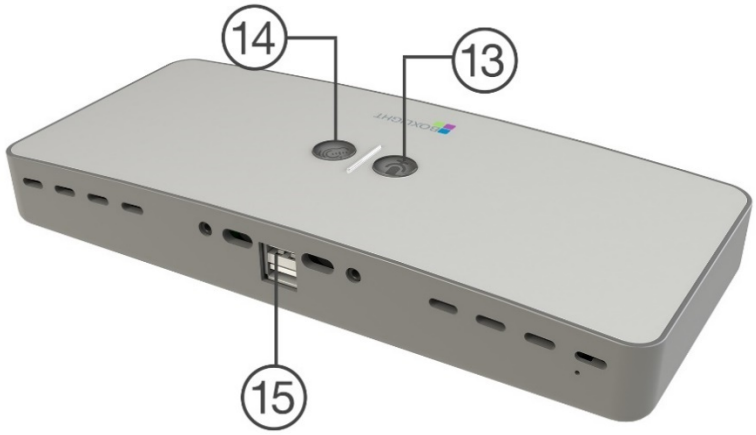
The Clarity amplifier has been designed as a “Set and Forget” headless device. In other words, once the device has been installed and audio levels set by a qualified installer the device never needs adjustments.

Amplifier Labeled



①	Ethernet	10/100 Mbps POE
②	USB C Interface	1 x USB C (Bottom side: Interface with local computer)
③	Control I/O	1 x 3 Pin Phoenix Connector, RS 232
④	Audio Line In	3 - Line In 3.5
⑤	Audio Line In With Control	2 x RJ 45-line level audio input, RS 232, Power 5/24 DC output option
⑥	Audio Line In With Control	1 x RJ 45-line level audio output, RS 232, Power 5/24 DC output option
⑦	Audio Line Out	1 x 3.5 mm line level output
⑧	Power Input	External 24 VDC
⑨	Reset Button	Reset to factory settings
⑩	Status Lights	Green = working; red = fault

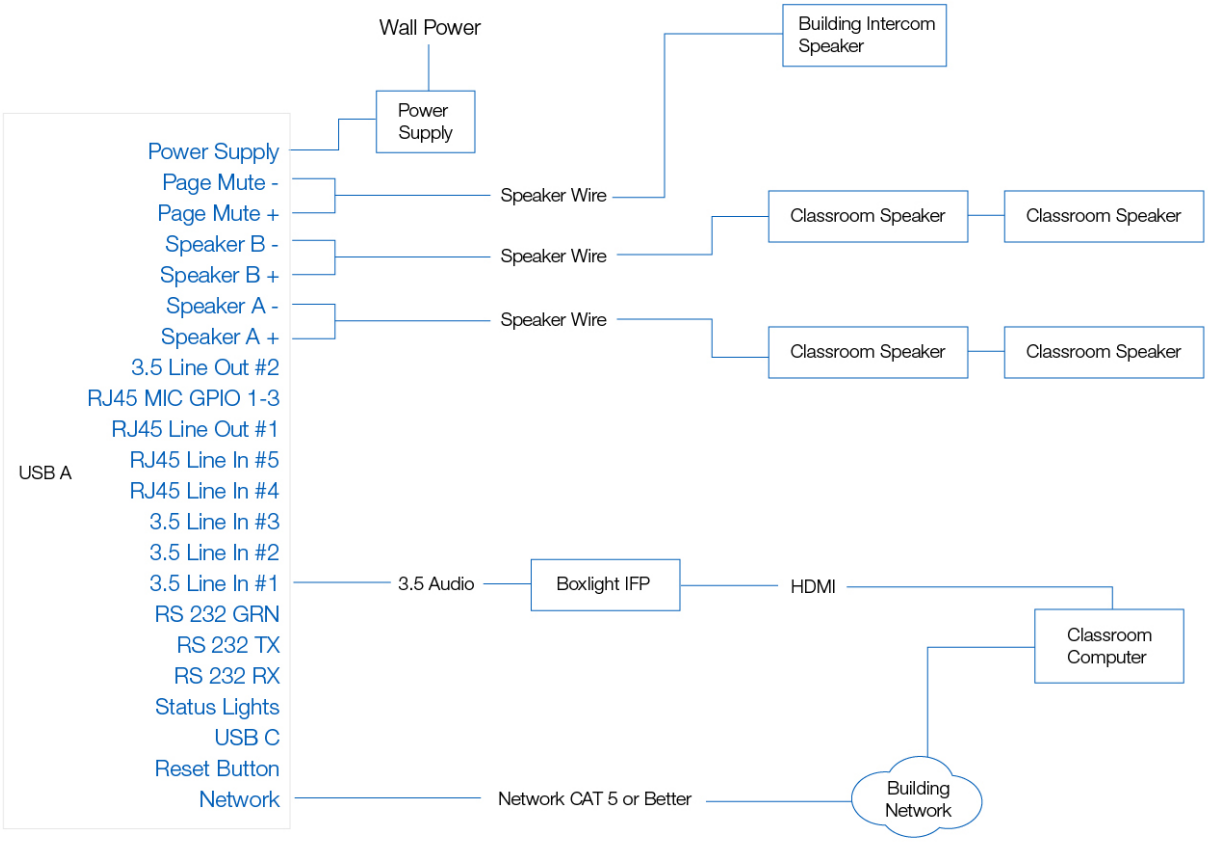
⑪	GPIO Microphone Input	1 x RJ 45 GPIO 1, GPIO 2, GPIO 3
⑫	Speaker Output and PA Connector	Phoenix connector speaker A, B. Connect to building paging system mutes all amplifier inputs in the event of a building page.



⑬	Power/Pairing Button	Turning on/off and pairing the microphones
⑭	ALD Button	Uses near field handshake (future Product development available 2021)
⑮	Bluetooth & Wifi Dongle Slot	USB for BT and Wifi Accessories

Wiring Clarity

Wiring Diagrams



Speakers – Connect the Clarity speakers (two speakers per channel), parallel to speaker ports A and B. Note: Clarity does not broadcast audio in Stereo.

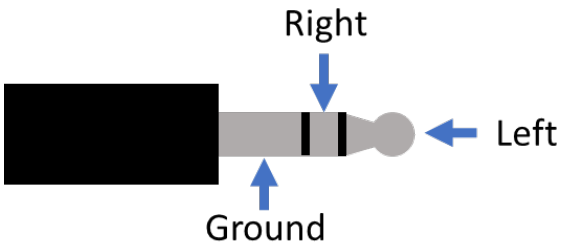
Page Mute – Connect the building's paging speaker to the Page Mute connector on the Clarity amplifier. (When the building's paging speakers receive audio, the Clarity amplifier will mute all audio. When the building's paging speakers no longer receive audio, the Clarity amplifier will no longer mute audio.)

3.5 Input(s) – Connect the Boxlight Interactive Flat Panel to Input 1 on the Clarity amplifier. Connect other audio devices to inputs 2 and 3.

Network - For network control of the Clarity amplifier connect the network port to the building's IP network.

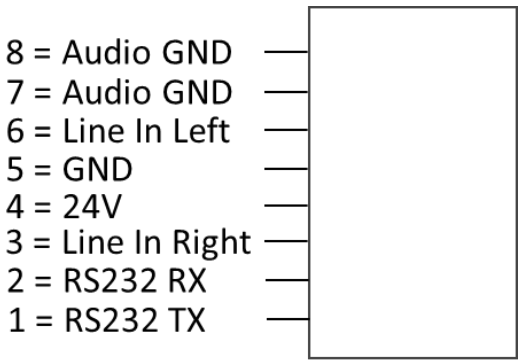
3.5mm Stereo Wiring Diagram

This diagram applies to Inputs 1,2 and 3
as well as Output 2.



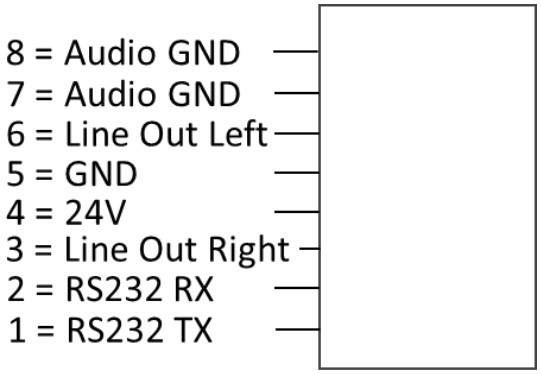
RJ45 Input Wiring Diagram (Inputs 4, 5)

This diagram applies to Inputs 4 and 5.



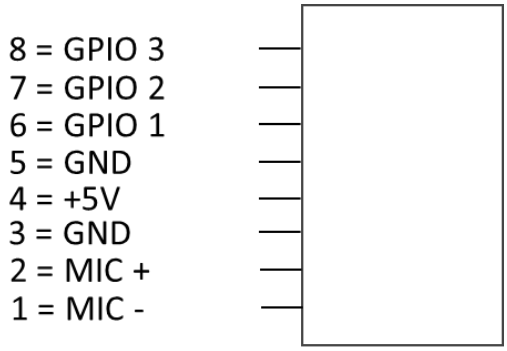
RJ45 Output Wiring Diagram (Output 1)

This diagram applies to Output 1.



RJ45 MIC / GPIO 1-3

This diagram applies to wired MIC and GPIO's 1 – 3.



Clarity Accounts

The Clarity amplifier contains two account types:

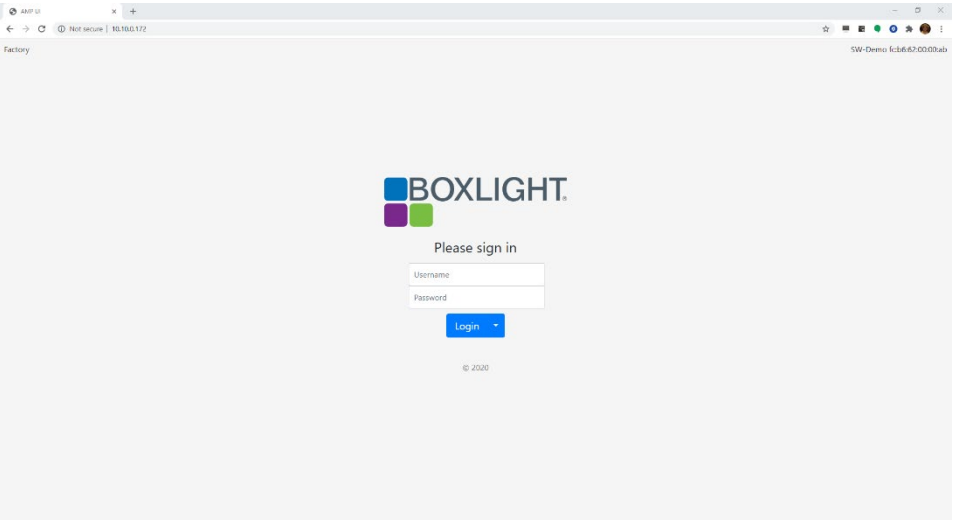
1. **“user” account** – This account is designed for the “End User” who would like to make minor adjustments to the audio input, output, or digital equalizer settings as well as connect a bluetooth device as a source audio input.
2. **“IT” account** – This account is designed for the staff members responsible for the setup and maintenance operations related to the Clarity amplifier.

Accessing the Clarity Amplifier Interface

The Clarity Amplifier is accessed via your favorite web browser (Chrome recommended) using the USB-C port or via the network. However, to access the amplifier you must know the IP address of the device. By default, the USB IP address is pre-set. Accessing the amplifier over the network will require the use of the speakers or a network scanner, e.g. Advanced IP Scanner.

From the factory, the Clarity Amplifier is set to announce (through the speakers and/or 3.5 audio output) the IP address of the wired, wireless, and USB connections when the device is booted.

Note: If you’re having trouble accessing the User Interface of the amp, see Installing Amplifier USB Drivers.



Accessing via the Network

These instructions assume you are in the same room as the amplifier with speakers, and/or the headphones are connected to the amplifier.

1. Press the reset button. (See Clarity Connections)
2. Listen for the amplifier to announce the IP address of the wired network.
3. Type the IP address in your favorite web browser and press enter.

NOTE: This can also be done by unplugging and replugging the amplifier to it.

Accessing via the USB cable

These instructions assume you are in the same room as the amplifier with the USB cable connected to the amplifier and your computer.

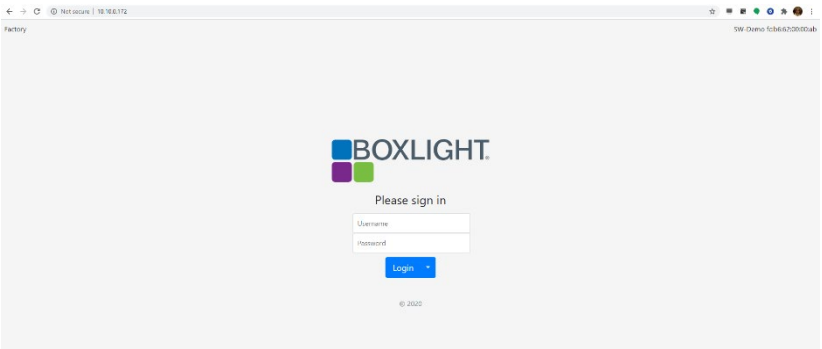
1. Using a USB C cable, connect the amplifier to your computer.
2. Open your favorite web browser and type, 192.168.123.1 and press enter.

You are now ready to login. See Logging into the Clarity User Interface.

Logging into the Clarity "User" Account

The Clarity Amplifier is accessed via your favorite web browser (Chrome Recommended) using the USB-C port or via the network.

The following instructions will walk the user through accessing the amplifier using both methods.



USB-C

1. Using the USB-C port adjacent to the Network port, connect the amplifier to the computer.
2. Open your favorite web browser and type the following IP address: 192.168.123.1

Network

3. To obtain the IP address of the amplifier. (See options for obtaining the IP address)
4. Open your favorite web browser and type the network IP address.
5. In the username field type (lowercase) "user".
6. In the password field type "12345".
7. Click the Login button.
8. The page will load the Input page.
   From this page, the user may adjust inputs, outputs, and digital "EQ".

BOXLIGHT
SW-Demo
user
Input
Bluetooth
DIAGNOSTICS
Samd
Input
Input: 1 2 3 4 5 6=MICs
Output: 4=ALD 5 3 2 1
Volume Input 1: 50
Volume Input 2: 50
Volume Input 3: 50
Volume Input 4: 50
Volume Input 5: 50
Volume Input 6: 35
Volume Output 1: 50
Volume Output 2: 50
Volume Output 3: 50
Volume Output 4: 50
Volume Output 5: 50
Volume IDM: 50
OFF
CUSTOM
FLAT
FULL
LOW
MID
HIGH
100Hz 250Hz 1kHz 2.5kHz 10kHz
0 0 0 0 0
Input Level 1: 0
Input Level 2: 0
Input Level 3: 0
Input Level 4: 0
Input Level 5: 0
Input Level 6: 0
PRERELEASE-1.0
Factory fc:b6:62:00:00:ab

Accessing the Clarity Amplifier “IT” Account

The Clarity Amplifier is accessed via your favorite web browser (Chrome Recommended) using the USB-C port or via the network.

The following instructions will walk the user through accessing the amplifier using both methods.

USB-C

1. Using the USB-C port adjacent to the Network port, connect the amplifier to the computer.
2. Open your favorite web browser and type the following IP address: 192.168.123.1

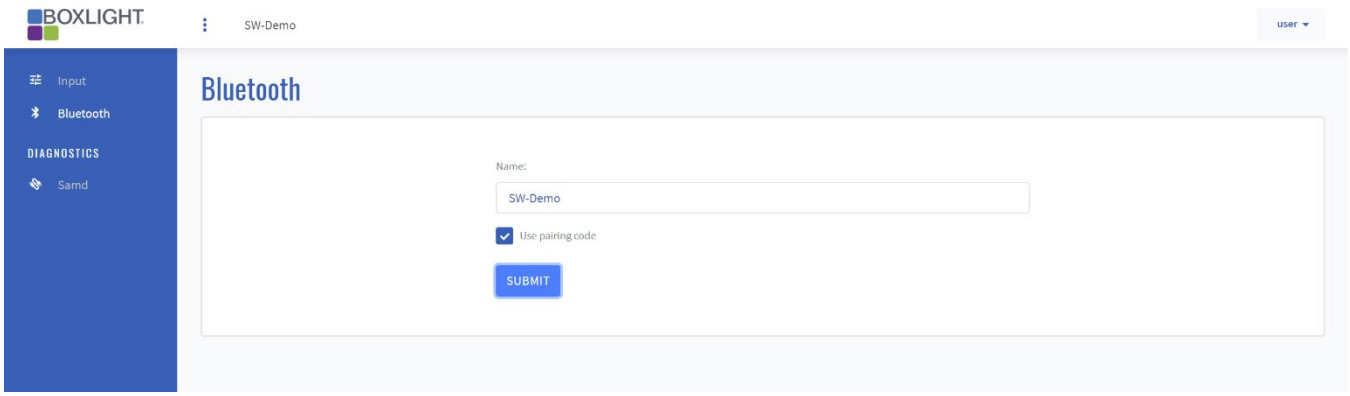
Network

3. Obtain the IP address of the amplifier. (See options for obtaining the IP address)
4. Open your favorite web browser and type the network IP address.
5. In the username field type (lowercase) “it”.
6. In the password field type “12345”.
7. Click the Login button.

Bluetooth

Using the optional Clarity Bluetooth dongle, your Clarity amplifier may pair with your IOS or Android device allowing audio from your device to broadcast to the Clarity amplifier. By default, the Clarity amplifier requires the use of a pairing code. This feature may be disabled by removing the check in the “Use pairing code” check box.

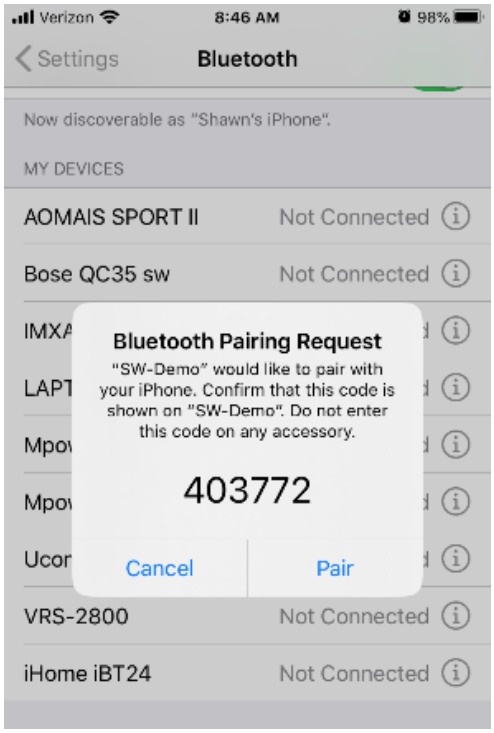
The following instructions demonstrate pairing a Bluetooth device with the pairing code required.

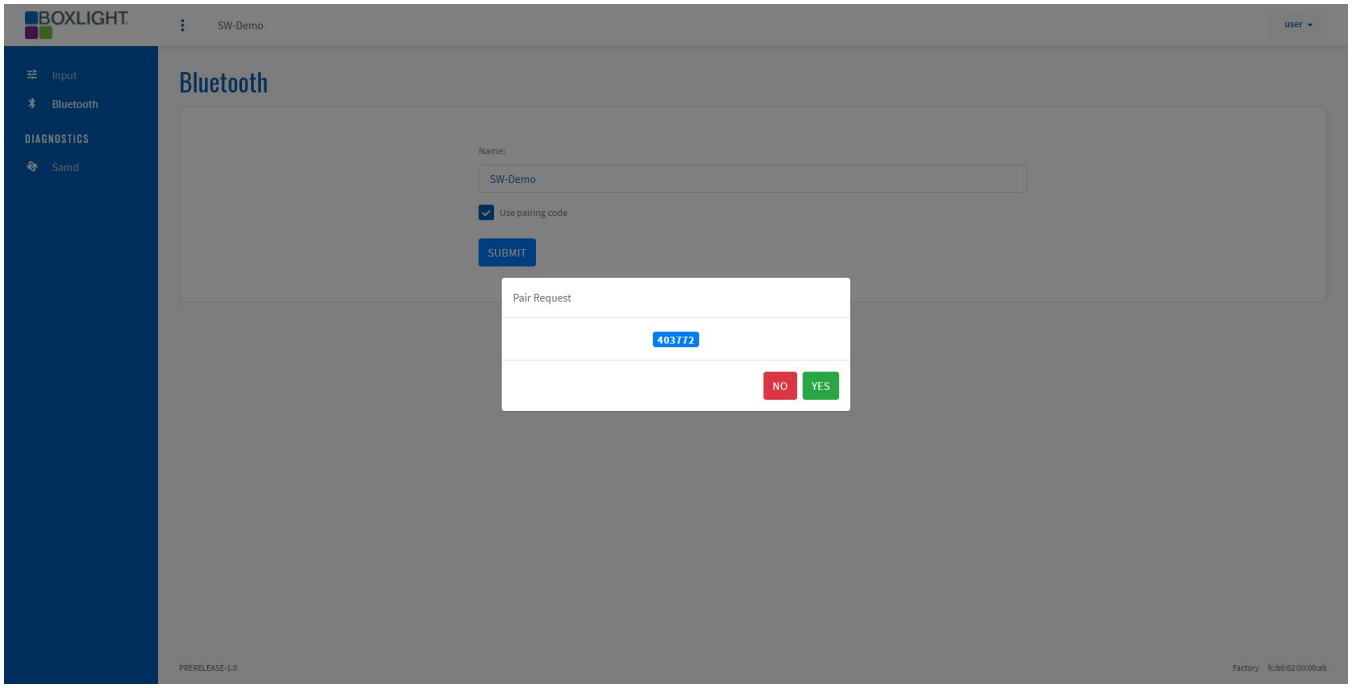


2. From your IOS (shown) or Android device, search for the Clarity amplifier.

3. Verify the pairing code matches the pairing code on the Clarity Bluetooth page.

4. Press the pair link on your device.



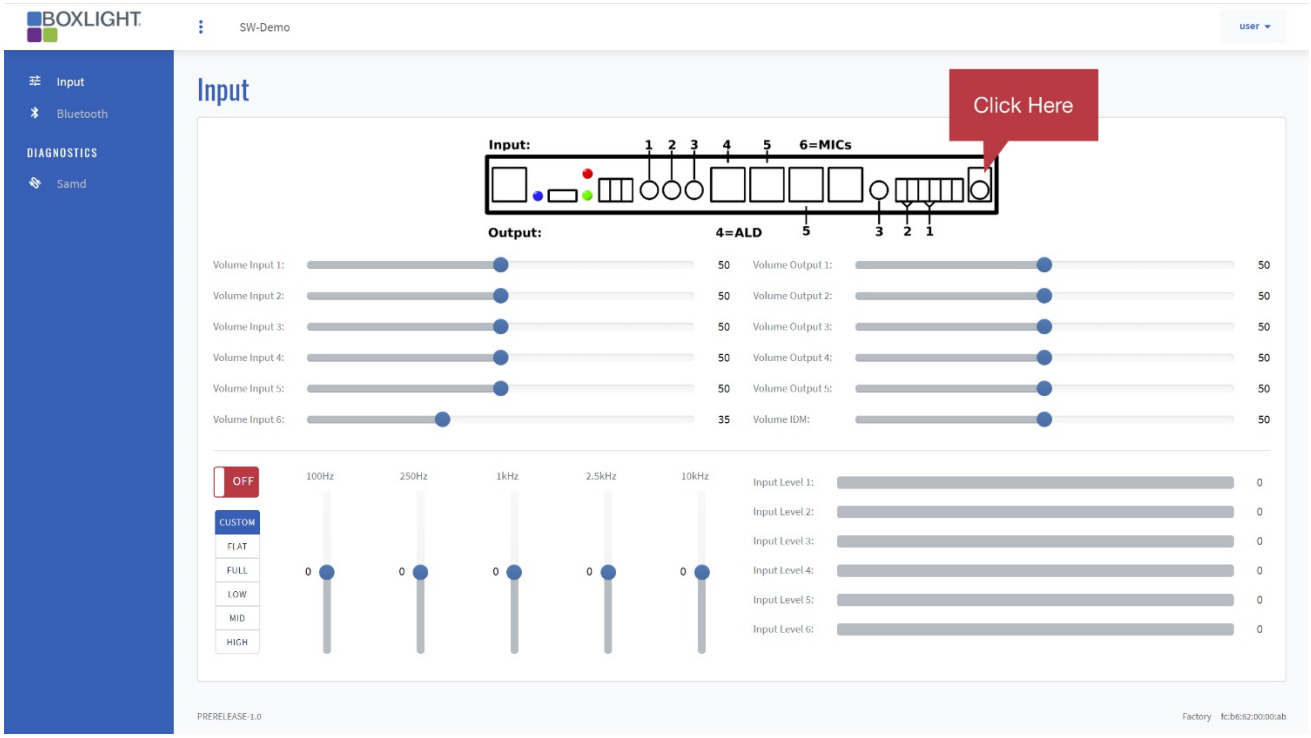


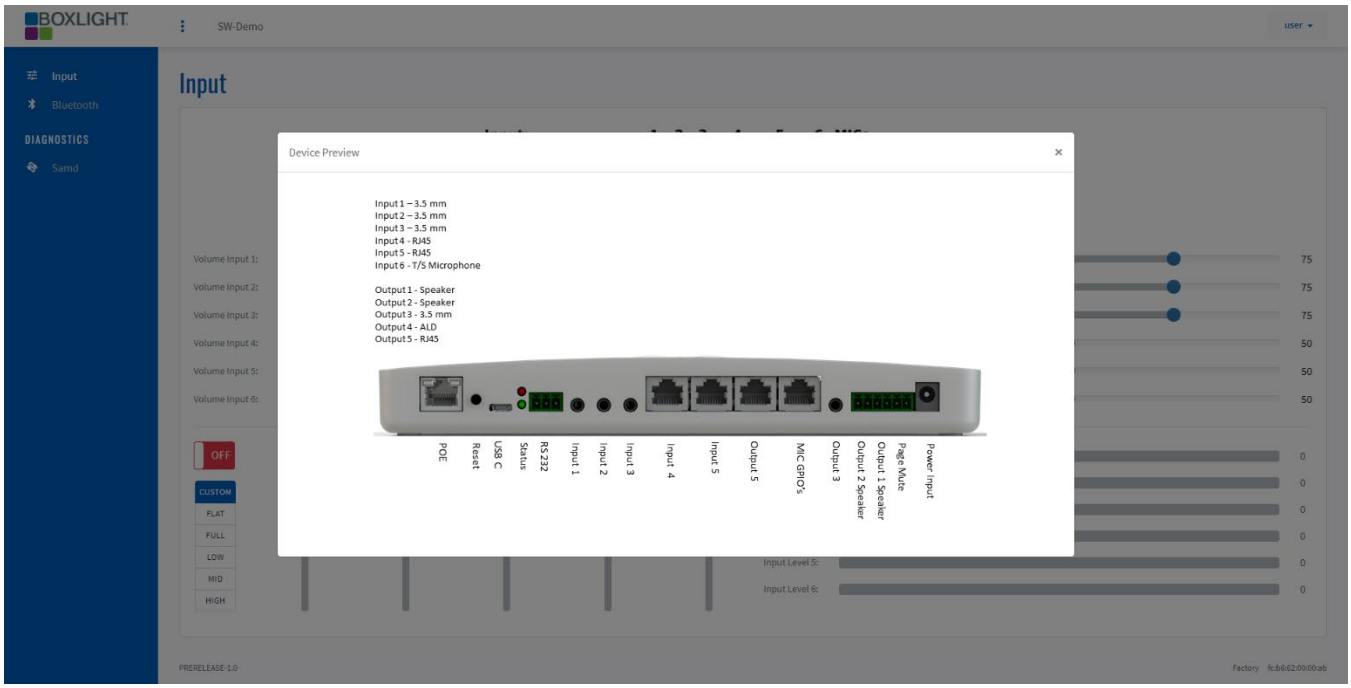
5. Press the “Yes” button on the Clarity Bluetooth page.
6. The Clarity amplifier will announce the Bluetooth device is connected.
7. You may now broadcast audio from your Bluetooth device through the Clarity amplifier.

Note: Volume is ultimately controlled by the input level of Bluetooth device.

Input Page (User and IT Accounts)

The input looks the same for both the “user” and “IT” accounts.
The input page provides the user access to modify the audio settings of the amplifier. In addition, the user may view the line version or an image of the amplifier.


BOXLIGHT
SW-Demo
user
Input
Bluetooth
DIAGNOSTICS
Samd
Input
Click Here
Input: 1 2 3 4 5 6=MICs
Output: 4=ALD 5 3 2 1
Volume Input 1: 50
Volume Input 2: 50
Volume Input 3: 50
Volume Input 4: 50
Volume Input 5: 50
Volume Input 6: 35
Volume Output 1: 50
Volume Output 2: 50
Volume Output 3: 50
Volume Output 4: 50
Volume Output 5: 50
Volume IDM: 50
OFF
CUSTOM
FLAT
FULL
LOW
MID
HIGH
100Hz
250Hz
1kHz
2.5kHz
10kHz
0
Input Level 1: 0
Input Level 2: 0
Input Level 3: 0
Input Level 4: 0
Input Level 5: 0
Input Level 6: 0
PRERELEASE-1.0
Factory fc:b6:62:00:00:ab


BOXLIGHT
SW-Demo
user
Input
Bluetooth
DIAGNOSTICS
Samd
Input
Device Preview
Input 1 – 3.5 mm
Input 2 – 3.5 mm
Input 3 – 3.5 mm
Input 4 - RJ45
Input 5 - RJ45
Input 6 - T/S Microphone
Output 1 - Speaker
Output 2 - Speaker
Output 3 - 3.5 mm
Output 4 - ALD
Output 5 - RJ45
POE
Reset
USB C
Status
RS 232
Input 1
Input 2
Input 3
Input 4
Input 5
Output 5
MIC GPIO's
Output 3
Output 2 Speaker
Output 1 Speaker
Page Mute
Power Input
Volume Input 1:
Volume Input 2:
Volume Input 3:
Volume Input 4:
Volume Input 5:
Volume Input 6:
75
75
75
50
50
50
OFF
CUSTOM
FLAT
FULL
LOW
MID
HIGH
Input Level 5:
Input Level 6:
0
PRERELEASE-1.0
Factory

Volume Inputs

1. Volume inputs 1,2 and 3 (3.5 mm audio inputs) will be most commonly used. Inputs 4 and 5 are specialty applications and will not be addressed in this manual.

   Input 3 – Typically connect to the Boxlight IFP.
   Inputs 4 & 5 are open for other audio inputs e.g. MP3 player, computer audio etc.

   Note: Input settings are typically set between 50 and 80 with final adjustments made with the input device.

2. Input 6 adjusts the volume of the teacher and student microphones.

Volume Outputs

Volume outputs 1,2 and 3 will be most commonly used. Outputs 4,5 and 6 are specialty applications and will not be addressed in this manual.

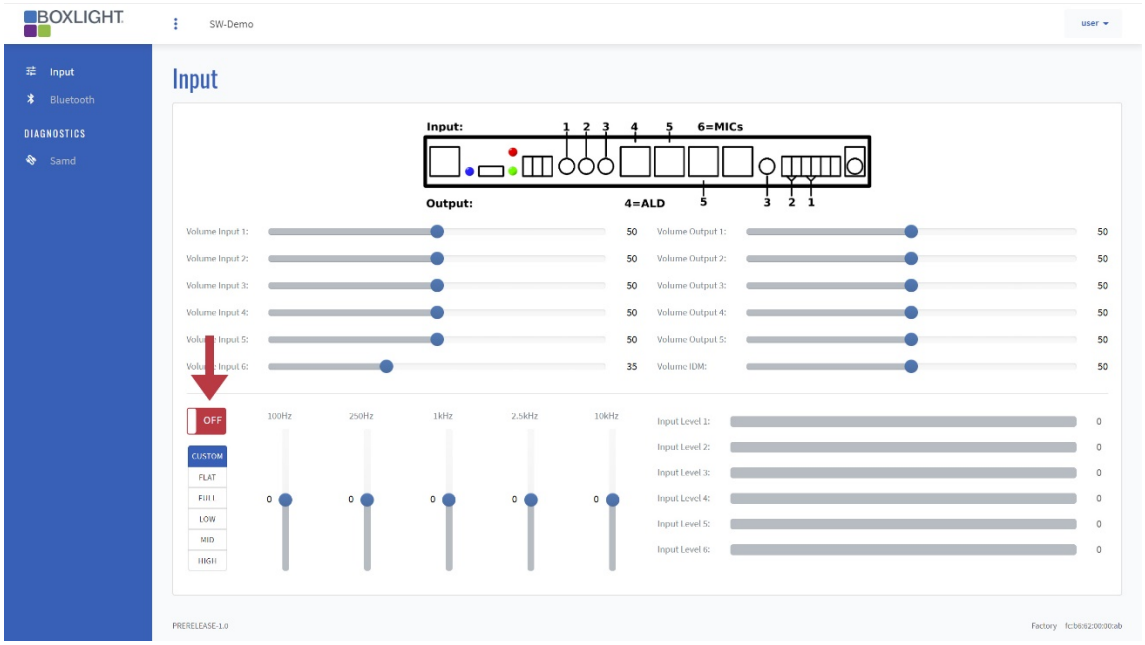
Outputs 1 and 2 (phoenix connectors) are typically connected to the speakers in the classroom. Recommended setting for these two outputs is 90 to 100. Final audio level will be adjusted through the input devices.

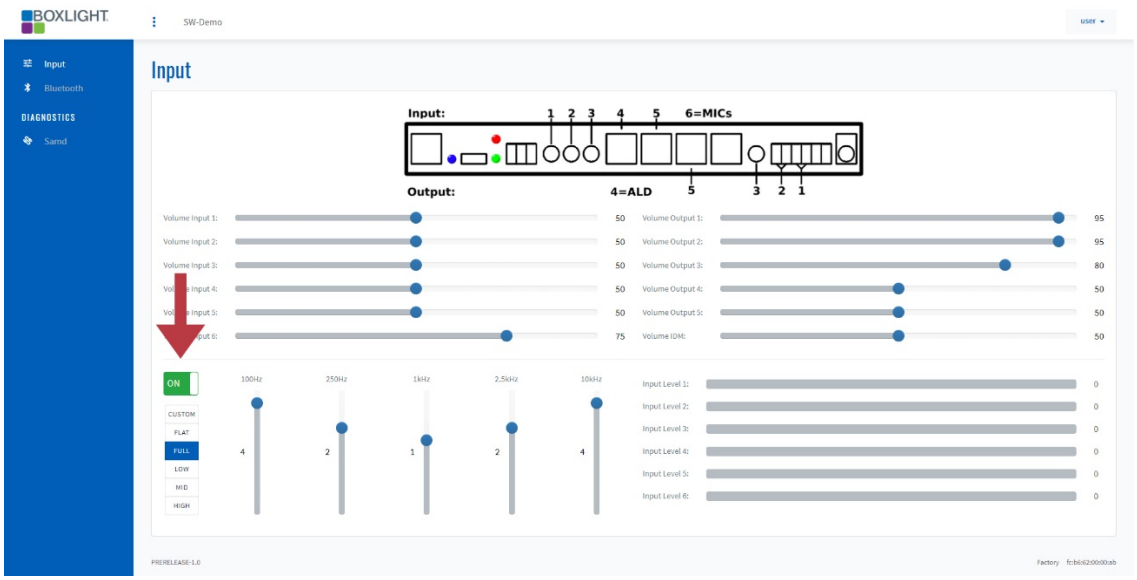
Output 3 (3.5 audio) is typically reserved for assistive listening devices. Recommended level is 50 to 75.

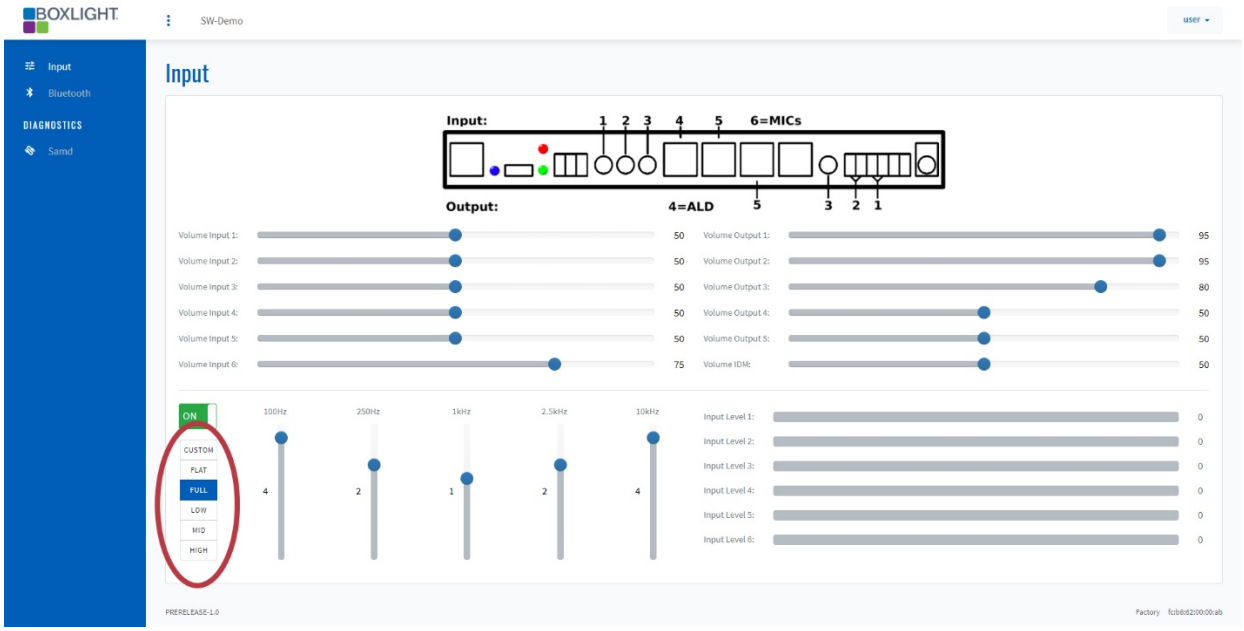
Digital Equalizer

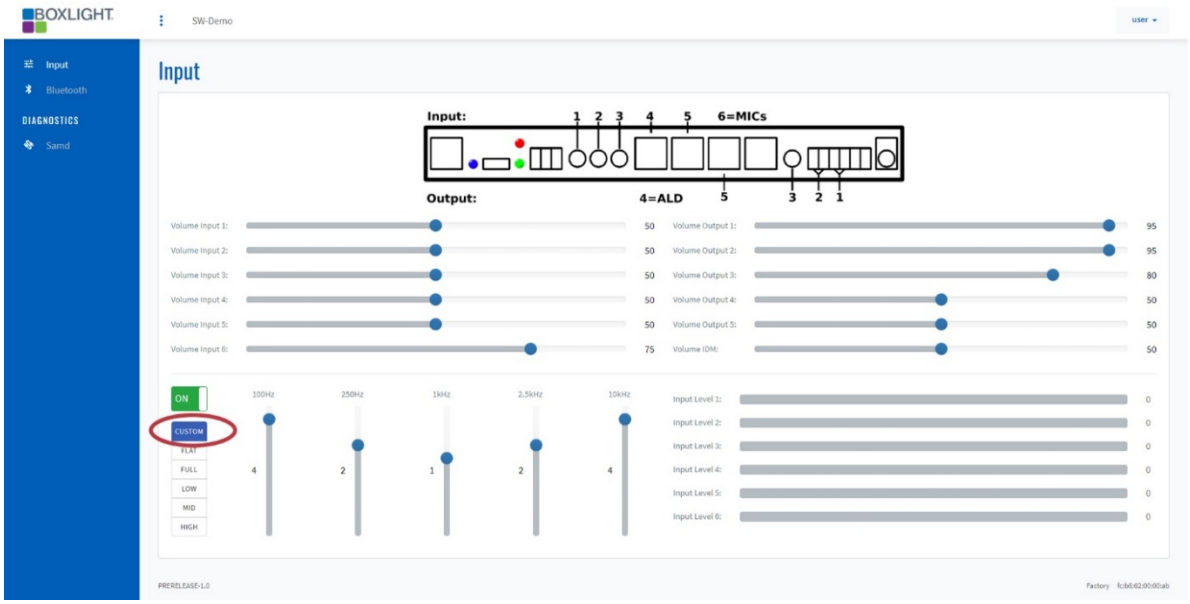
The Clarity amplifier has a 5-band digital equalizer with 5 presets. By default, the digital equalizer (EQ) is set to the OFF position. In the OFF position, the amplifier will play the source audio as it is received.

1. To use the EQ, it must first be set to the ON position. Click the OFF/ON toggle.





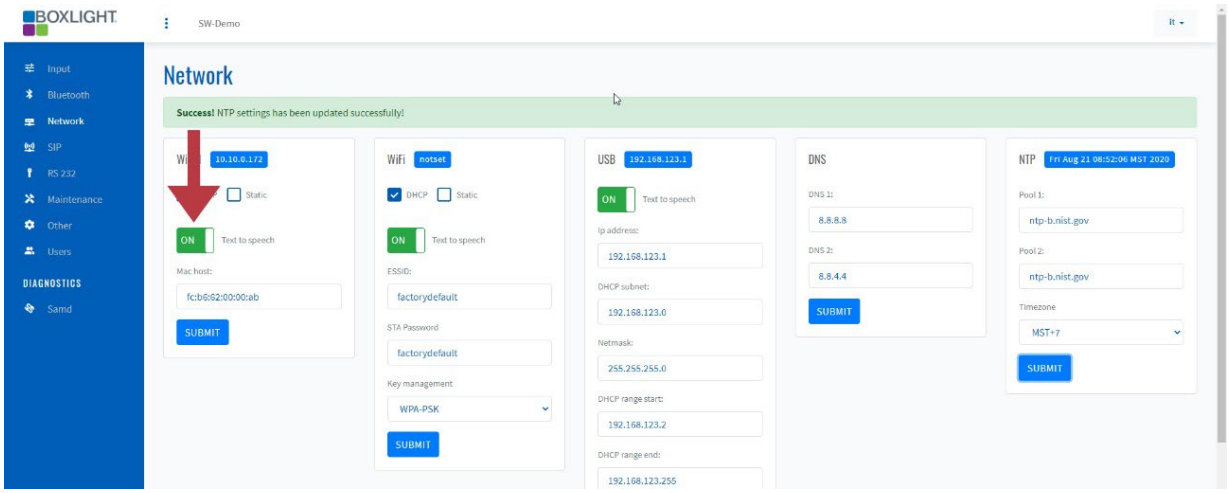

BOXLIGHT
SW-Demo
user
Input
Bluetooth
DIAGNOSTICS
Samd
Input
Input: 1 2 3 4 5 6=MICs
Output: 4=ALD 5 3 2 1
Volume Input 1: 50
Volume Input 2: 50
Volume Input 3: 50
Volume Input 4: 50
Volume Input 5: 50
Volume Input 6: 75
Volume Output 1: 95
Volume Output 2: 95
Volume Output 3: 80
Volume Output 4: 50
Volume Output 5: 50
Volume IDM: 50
ON
CUSTOM
FLAT
FULL
LOW
MID
HIGH
100Hz 250Hz 1kHz 2.5kHz 10kHz
4 2 1 2 4
Input Level 1: 0
Input Level 2: 0
Input Level 3: 0
Input Level 4: 0
Input Level 5: 0
Input Level 6: 0
PRERELEASE-1.0
Factory


BOXLIGHT
SW-Demo
user
Input
Bluetooth
DIAGNOSTICS
Samd
Input
Input: 1 2 3 4 5 6=MICs
Output: 4=ALD 5 3 2 1
Volume Input 1: 50
Volume Input 2: 50
Volume Input 3: 50
Volume Input 4: 50
Volume Input 5: 50
Volume Input 6: 75
Volume Output 1: 95
Volume Output 2: 95
Volume Output 3: 80
Volume Output 4: 50
Volume Output 5: 50
Volume IDM: 50
ON
CUSTOM
FLAT
FULL
LOW
MID
HIGH
100Hz 250Hz 1kHz 2.5kHz 10kHz
4 2 1 2 4
Input Level 1: 0
Input Level 2: 0
Input Level 3: 0
Input Level 4: 0
Input Level 5: 0
Input Level 6: 0
PRERELEASE-1.0
Factory

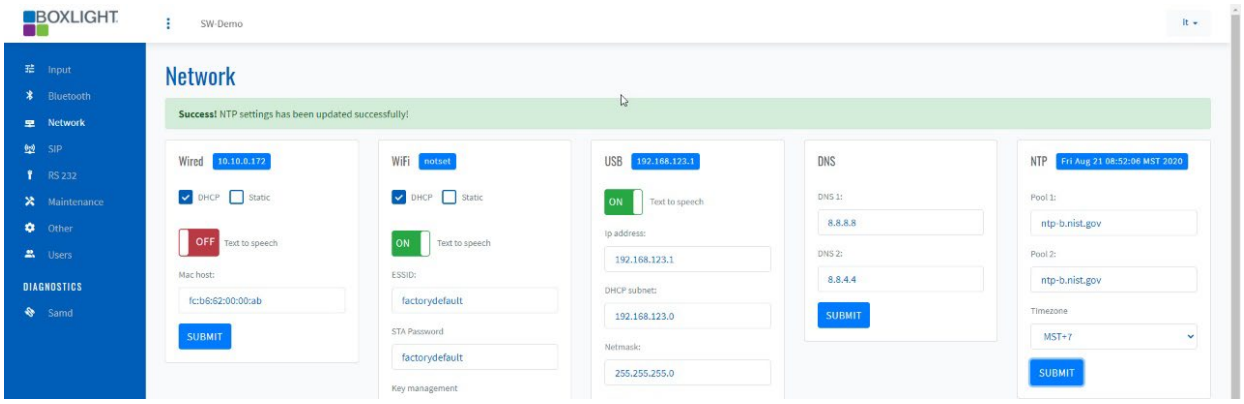
Text to Speech

The Clarity amplifier can announce its IP address for wired, WiFi, and USB connection. By default, this feature is set to the “ON” position.
The following instructions will walk you through the process of setting this feature to the OFF position.
Note, the process is the same for all three connections.

1. Click the ON/OFF toggle setting to toggle OFF.
2. Click the Submit button.

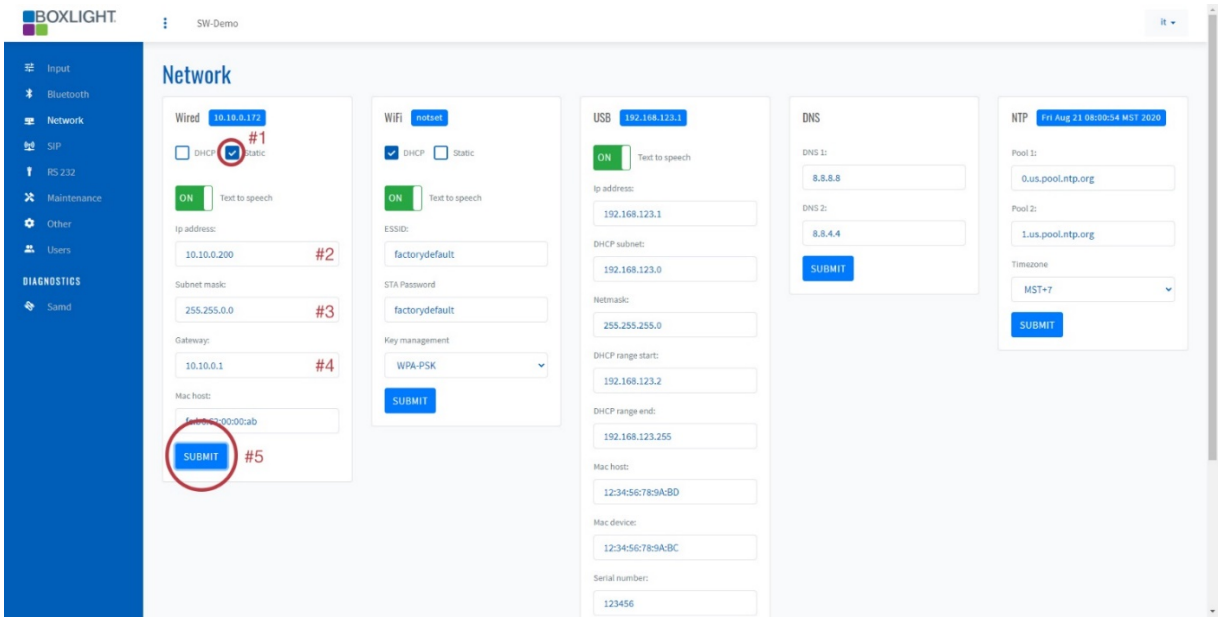


3. The image shown below displays the “Text to speech” toggle set to the OFF position.



4. Reverse the process to toggle the setting to the ON position.

Network Page – Wired & DHCP



1. Click the “Static” check box.
2. In the IP Address field, type the static IP address to be used.
3. In the Subnet Mask field, type the network’s Subnet Mask.
4. In the Gateway field, type the network’s Gateway address.
5. Click the Submit button.

Note: Type the new static IP address in the web browser to access the Clarity amplifier.

Network Page – USB

By default, the Clarity amplifier USB connection is set to 192.168.123.1. Use of this connection will always be local to the computer connected to the amplifier via a USB cable.

Boxlight recommends these settings are not changed from the factory defaults.

Network Page – DNS

By default, the Clarity amplifier DNS settings are set to Googles primary and secondary DNS servers: 8.8.8.8 & 8.8.4.4.

The following instructions will walk you through the process of setting or changing the DNS server's IP address.

1. In the DNS 1: field, type the new DNS address.
2. In the DNS 2: field, type the new DNS address.
3. Click the Submit button.

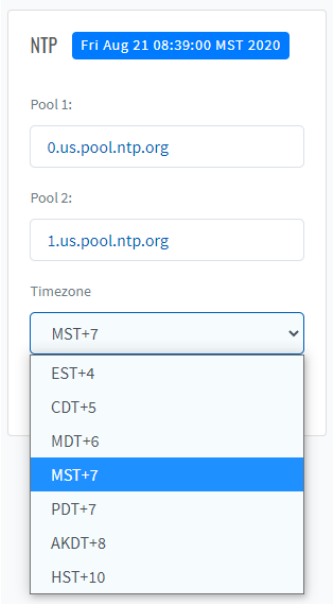
Network Page – NTP

The Clarity amplifier contains an internal clock. To ensure the internal clock is set to the local time zone, the time zone must be set. In addition, should the owner of the system choose to use an alternate time server, the Clarity amplifier allows for the time server to be changed.

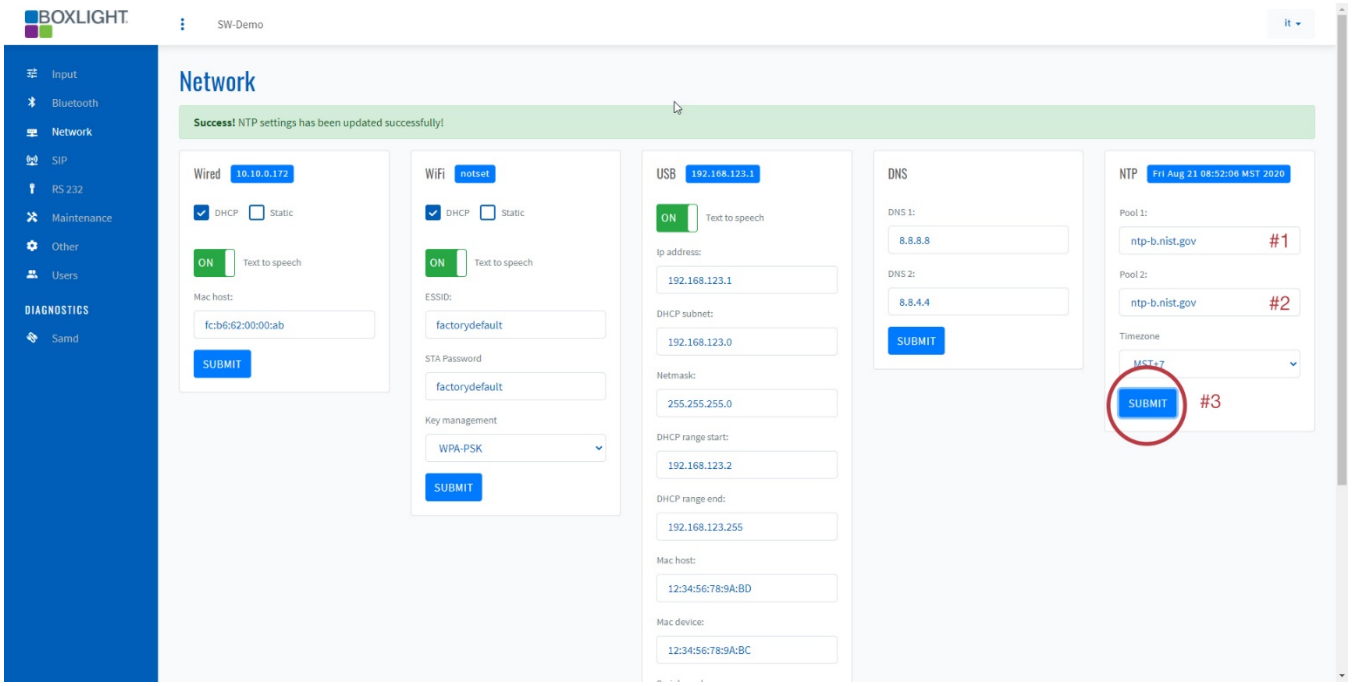
The following instructions will walk you through the process of setting or changing the time zone or new time server.

Setting the Time Zone

1. Click the drop arrow in the Time zone field.
2. Select the appropriate Time Zone
    a. EST+4 = Eastern Standard Time
    b. CDT+5 = Central Daylight Time
    c. MDT+6 = Mountain Daylight Time
    d. MST+7 = Mountain Standard Time
    e. PDT+7 = Pacific Daylight Time
    f. AkDT+8= Alaska Daylight Time
    g. HST+10= Hawaii Standard Time



Setting a Time Server Pool Address

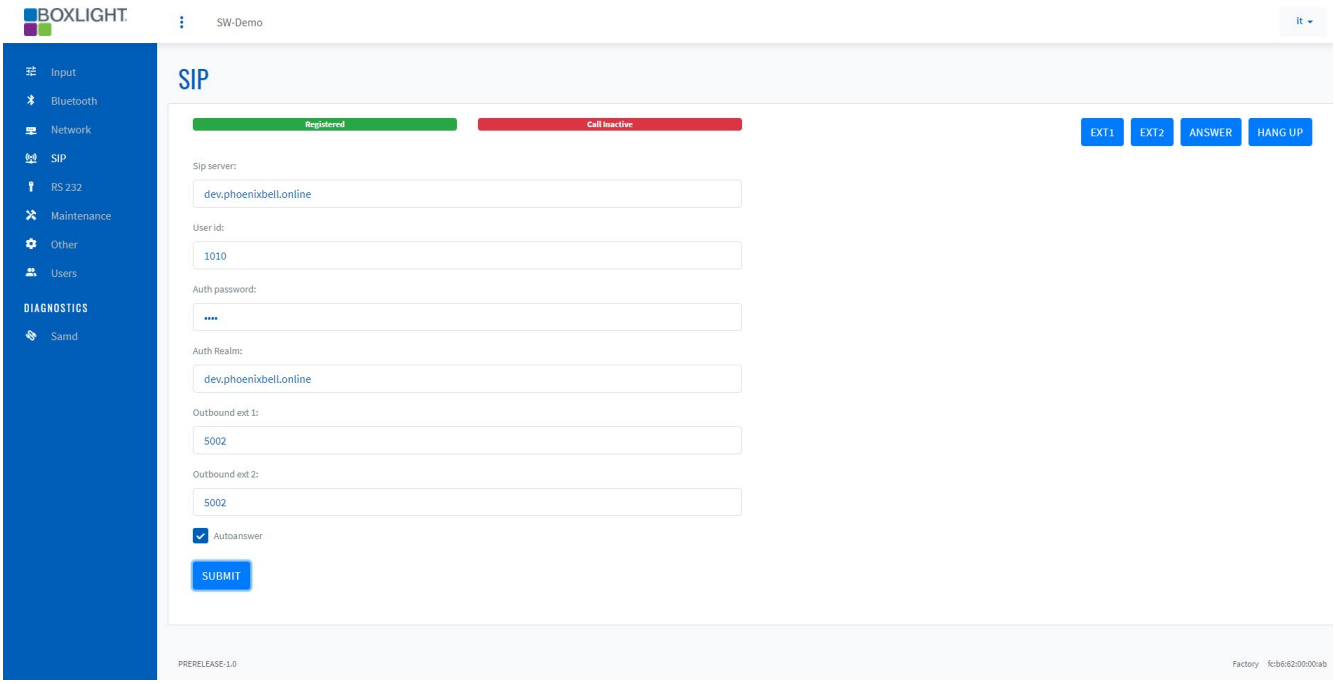


1. Setting a Time Server Pool Address Type the new time server address in the Pool 1 field.
2. Type the new time server address in the Pool 2 field.
3. Click the Submit button.

SIP Page (Registering)

The Clarity amplifier has the ability to register with a SIP server to receive incoming, and make outgoing, calls to two user-defined extensions.

The following instructions will walk the user through registering the amplifier with a Clarity-certified SIP server.



1. Type the SIP server URL or IP address in the SIP server field.
2. Type the User ID in the User ID field.
3. Type the Authorization password in the Auth password field.
4. Type the Authorization Realm URL or IP address in the Auth Realm field.
5. Check the box next to Auto answer.
6. Click the Submit button.

Note: If all data is correct, the Clarity amplifier will show as registered.

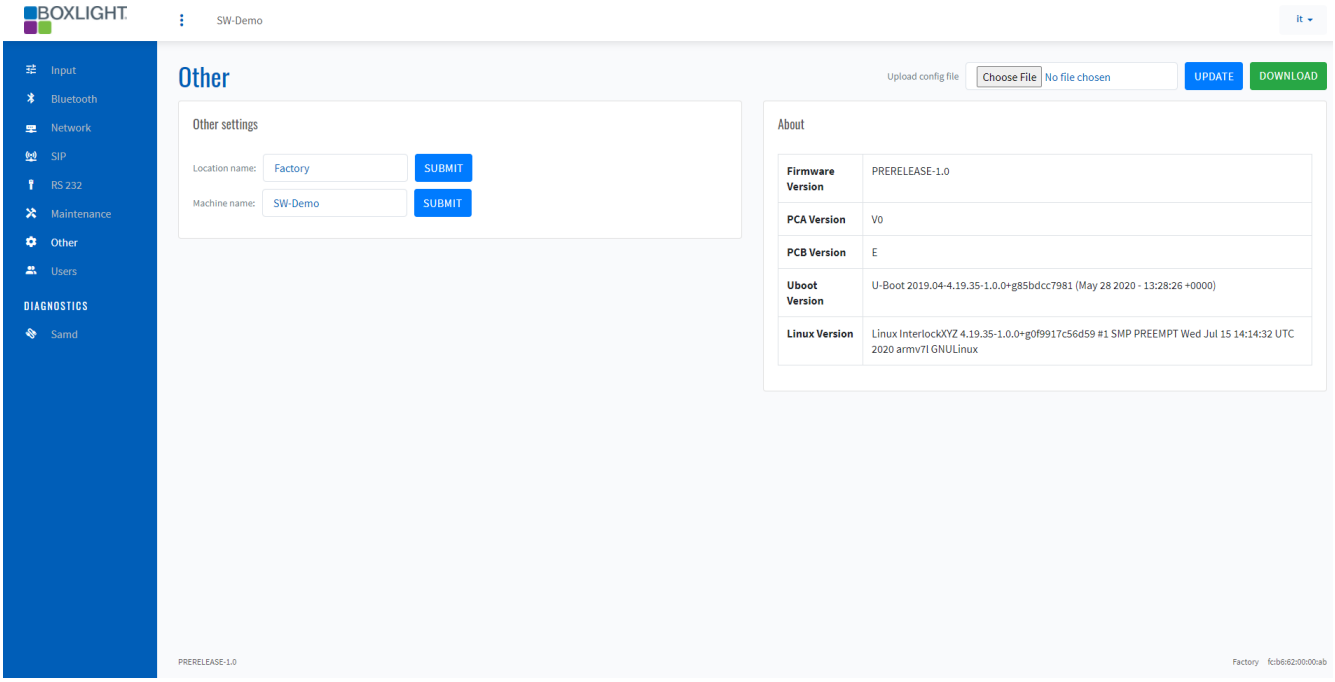
Maintenance Page

The Clarity amplifier allows the Firmware to be field upgraded over the network or the USB cable. Should a field upgrade be required, the upgrade will be completed by a Clarity-certified technician.

Other Page

The Other page contains two user-definable fields which will be related to the installation location and “About” information concerning the device’s Firmware.

The instruction below will walk the reader through setting the two definable fields.



Location Name

The Location name appears in the lower right corner of all Clarity pages. This field should be populated with the actual physical location of the device. For example, if the device is located in “Johnson Elementary” the field could be populated as such.

Machine Name

The Machine Name appears in the upper left corner of the screen adjacent to the logo of all Clarity pages and is the name that will be displayed on a network scan. This name is to help identify an individual amplifier when there are more than one unit in a building. For example, if the amplifier is located in Room 142, the machine name could be listed as RM 142.

Location Name

1. Type the Location Name in the Location name field.
2. Click the Submit button.

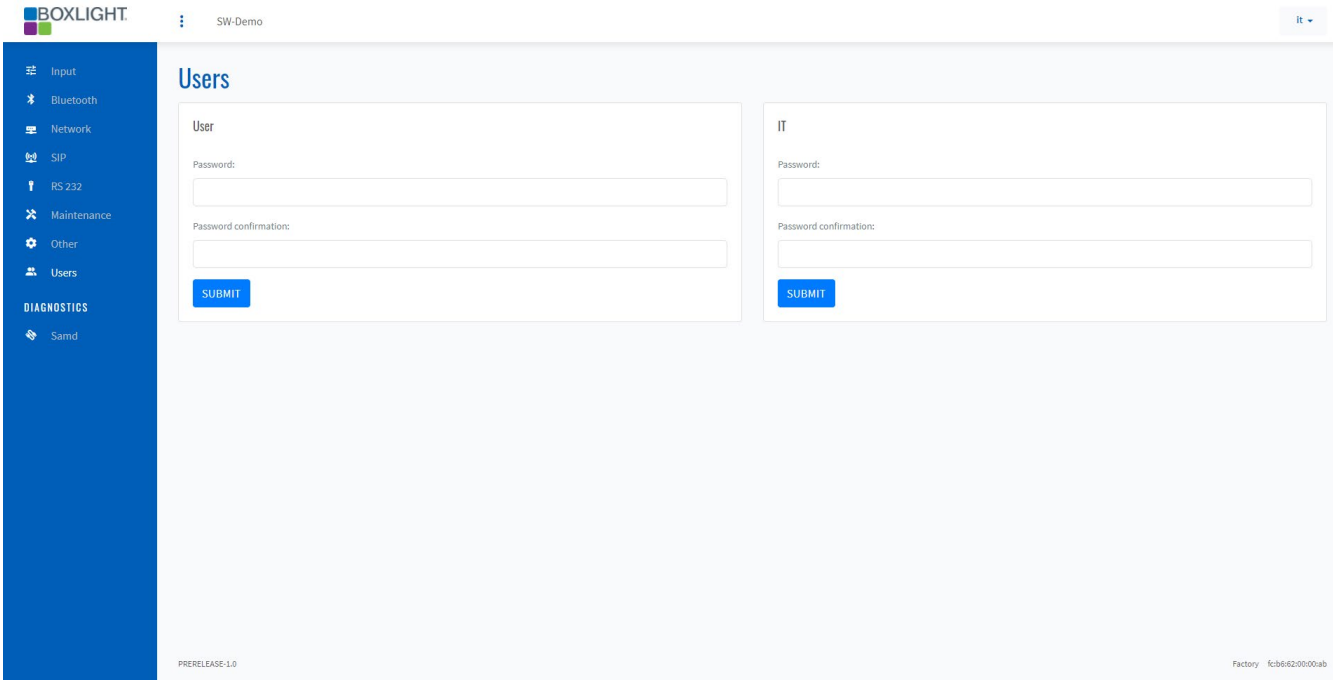
Machine Name

1. Type the Machine Name in the Machine name field.
2. Click the Submit button.

Users Page

The Users page allows the “IT” user to change the password of both the “user” and “IT” accounts.

The following instructions will demonstrate how to change the password for the “user” account.

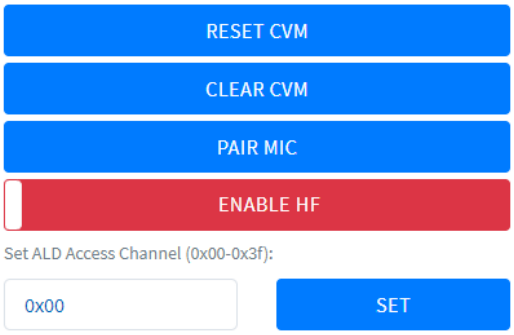


1. In the appropriate field (user or IT), type the new password in the Password field.
2. Type the new password in the Password confirmation field.
3. Click the Submit button.

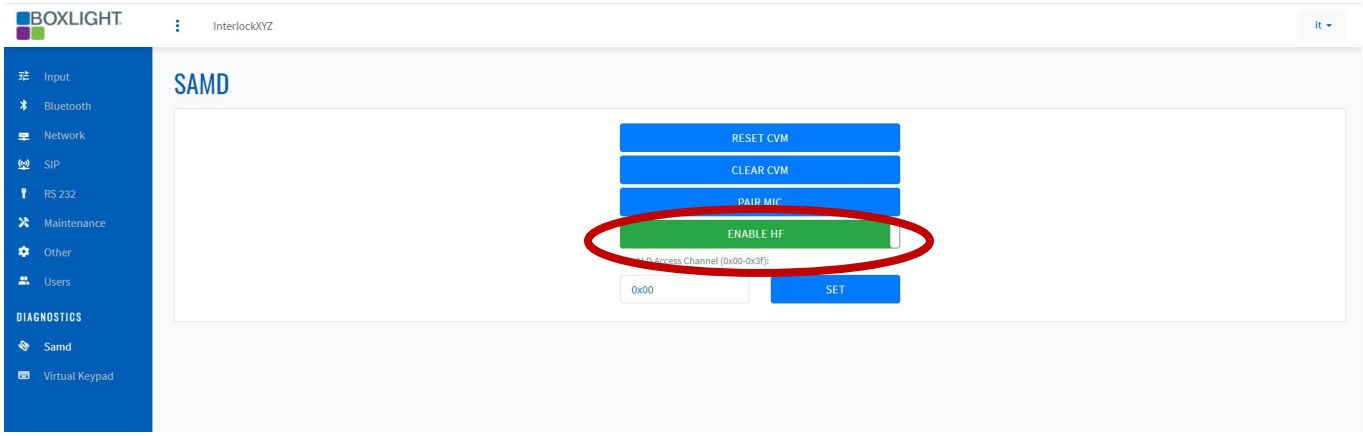
Note: The instruction for changing the “IT” user is the same.

Diagnostics (High Frequency Setting)

By default, then High Frequency (HF) setting is off and appears red. The HF setting allows you to pair microphones without having to touch the amplifier. You need to be within 5-10 feet of the amplifier, and you can pair just using the microphone.



- To turn High Frequency on, click the HF button. The button will turn green.
- Click the SET button to save.



Troubleshooting

Installing Amplifier USB Driver(s) to access the MimioClarity User Interface

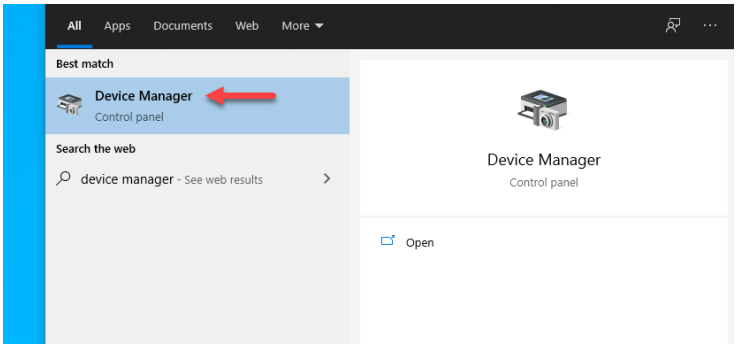
This section will walk you through the process of installing the USB driver(s) allowing the Clarity Amplifier to communicate with a fully patched Windows 10 computer via the USB cable and the computers web browser.

NOTE: It is best that the target computer is fully patched with all available updates. Contact your computer's manufacturer or IT department to ensure the computer is fully patched. Also, the reader screens may appear different than what is shown in the directions below. The images are shown as an example only.

Steps for installing on Windows Desktop

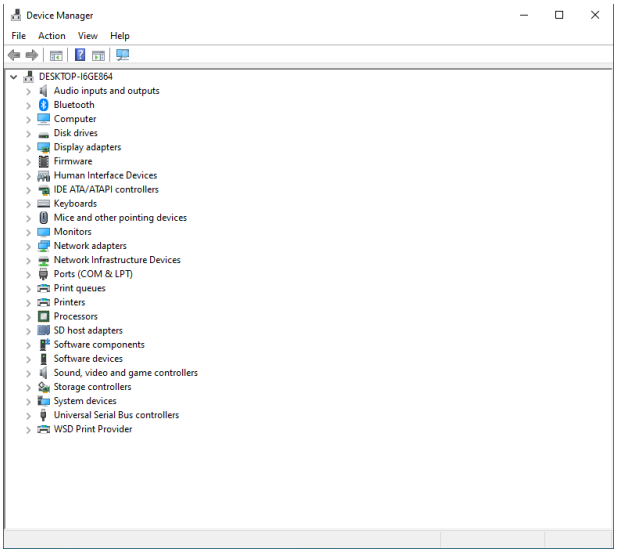
1. Type **Device Manager** in the Windows Search field.

2. Click **Device Manager** in the Best Match area.



Device Manager Window

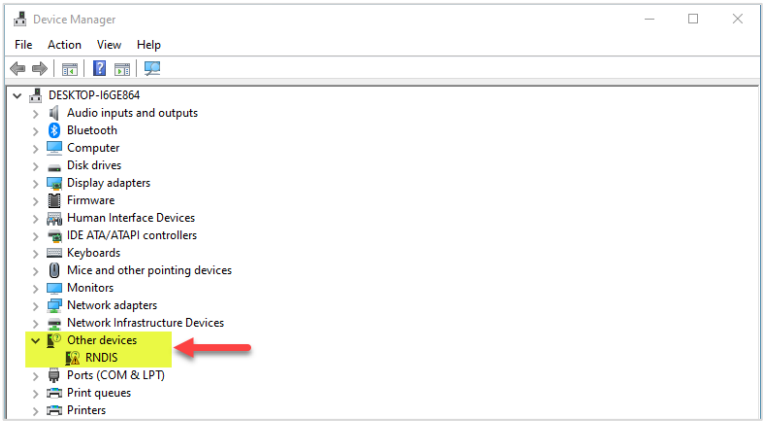
3. Note the status of the Device Manager Window when it loads on the screen.



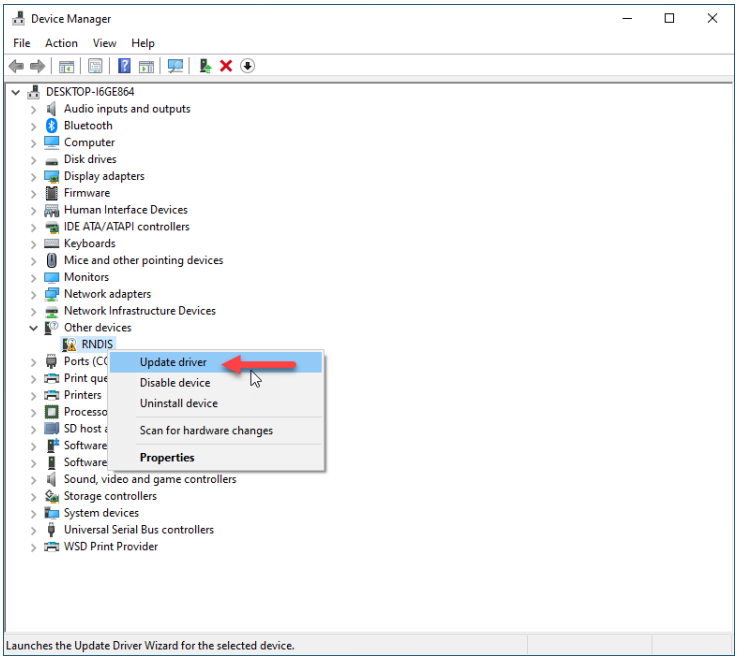
Device Manager Window

4. Plug the USB C cable into the Clarity Amplifier and the computer.

5. Notice the New Device displayed in the Device Manager Window.



Device Manager Window

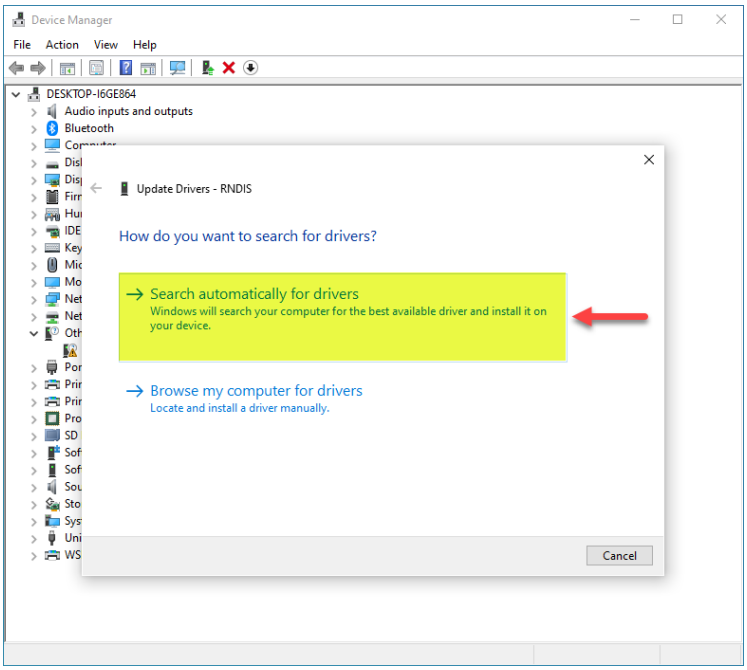


6. Place the mouse over the text reading RNDIS.

7. Right-click and select **Update Driver**.

8. A new window will appear.

Update Drivers – RNDIS Window



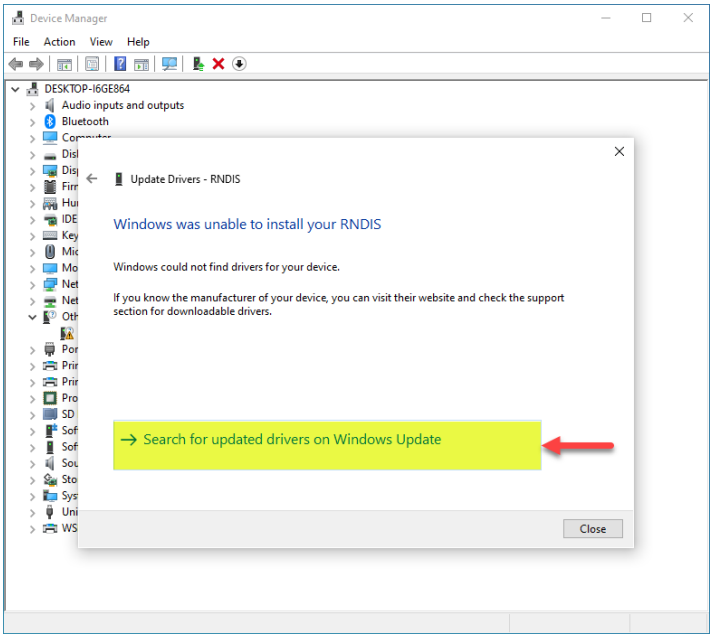
9. Click on **Search automatically for drivers**.

10. A new window will appear.

Update Drivers – RNDIS Window

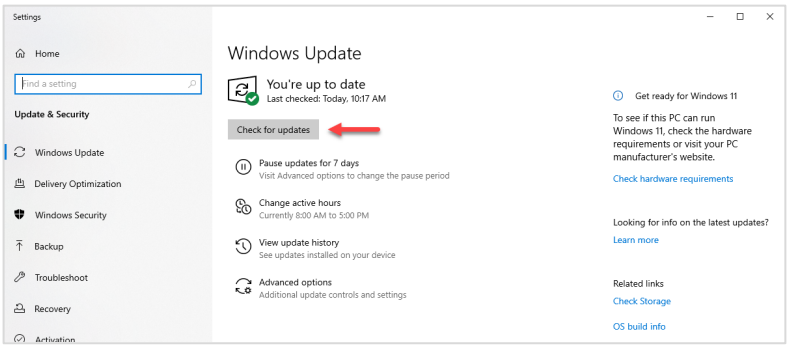
11. Click on **Search for updated drivers on Windows Update**.

12. The window will change.



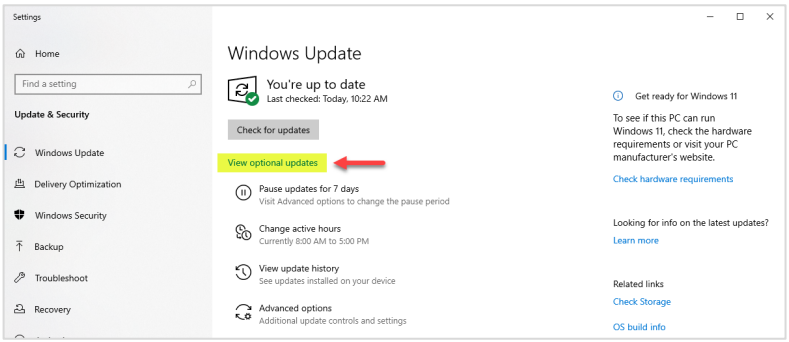
Settings – Windows Update Window

13. Click the **Check for Update** box.



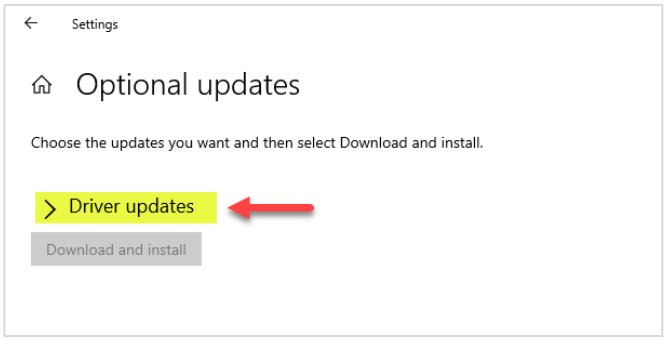
Settings – Windows Update Window

14. Click on **View optional updates**.



Settings – Optional Updates Windows

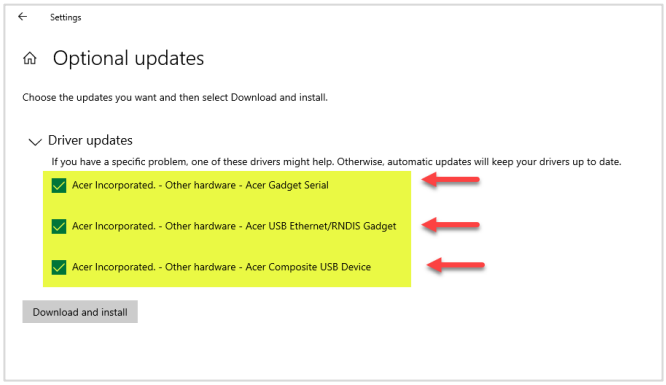
15. Click the carrot to the left of **Driver updates** to expand the list.



Settings – Optional Updates Windows

16. Place a check in each of the following drivers:
    a. Acer Incorporated – Other hardware - Acer Gadget Serial
    b. Acer Incorporated – Other hardware – Acer USB Ethernet/RNDIS Gadget
    c. Acer Incorporated – Other hardware – Acer Composite USB Device

17. Click the **Download and install** button.

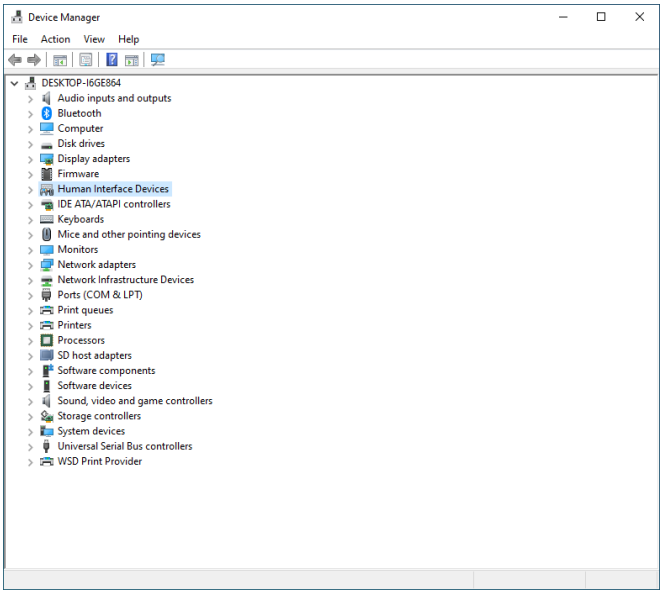


Device Manager Window

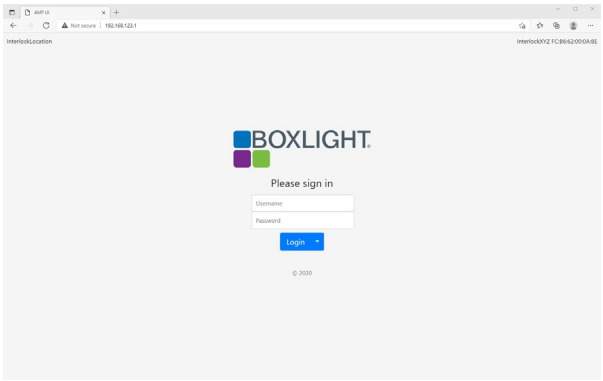
18. The Screen will return to the Device Manager window.

    Note: The Other Devices heading is no longer displayed.

19. You may ping the IMX in the command window by its default IP address. The amplifier will respond to the ping. (not shown)



Device Manager Window



20. Open the computer's web browser.

21. Type the default IP address of the amplifier in the web browser.

22. The user interface of the amplifier will display.