

Kessil

LED Aquarium Lighting

AP9 XR



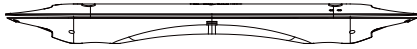
USER MANUAL



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INSIDE THE BOX



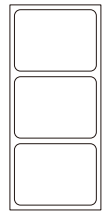
AP9X



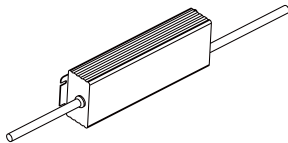
Kessil Sticker



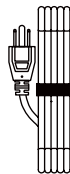
Warranty Card



QR Code Stickers
(This code is used in the fixture link process.
SAVE THESE STICKERS)



Power Adapter

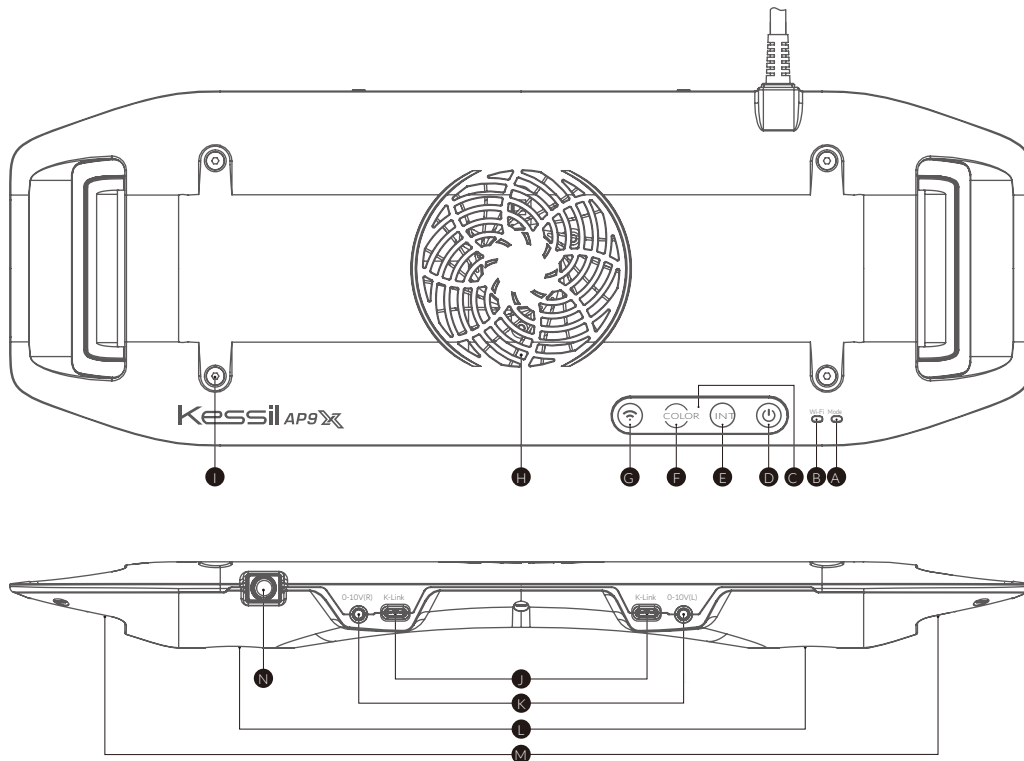


AC Adapter Cable
(Plug type varies from country to country)



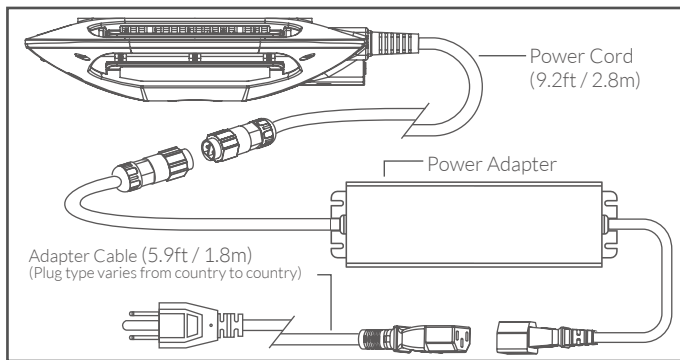
Screw Hook &
Hanging Bracket x4

PARTS DIAGRAM



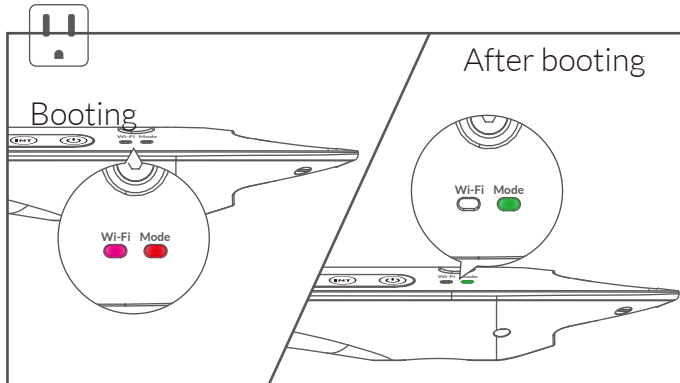
- A Mode Indicator
- B Wi-Fi Indicator
- C Touch Panel - Touch once to activate
- D Power - Turn the AP9X on or off.
- E Intensity - Adjust the intensity of the light.
- F Color - Adjust the color of the light.
- G Wi-Fi - Turn on/off the Wi-Fi signal.
- H Fan (Air Inlet)
- I Screw Holes - For AP9X Mounting Arm / Hanging Kit / Brackets
- J K-Link Ports
- K 0-10V Output Ports
- L LED Arrays + Reflectors
- M Vents (Air Outlet)
- N Power Cord

INSTALLATION



Step 1 Power

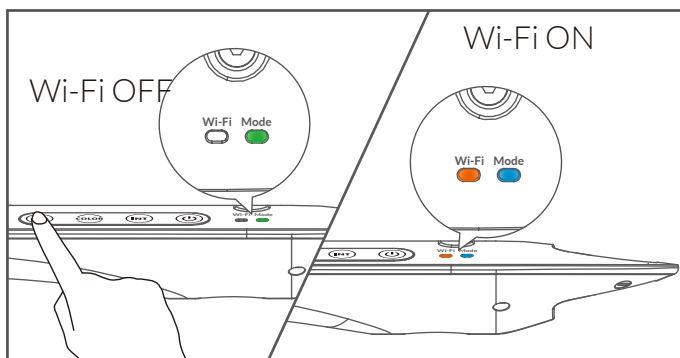
Connect the AP9X to the Power Adapter and plug it into a wall outlet. The Wi-Fi Indicator (B) will be solid purple to indicate booting mode (it may take up to 40 seconds).



Step 2 Booting

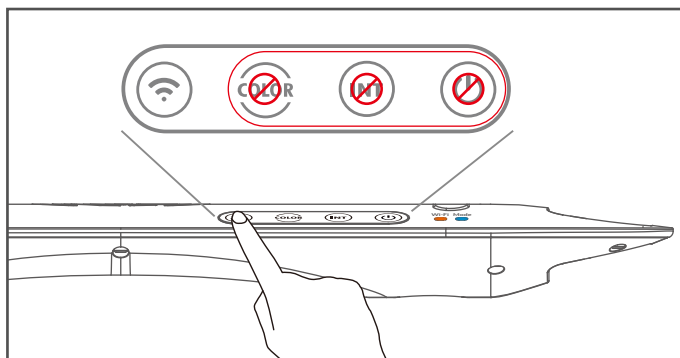
The AP9X requires up to 40 seconds to boot. The Wi-Fi Indicator (B) will first show solid purple light, and then disappear. The Mode Indicator (A) will then show solid green light.

* The light will be turned on automatically. DO NOT place the AP9X on any object.



Step 3 Turn On Wi-Fi for App Connection

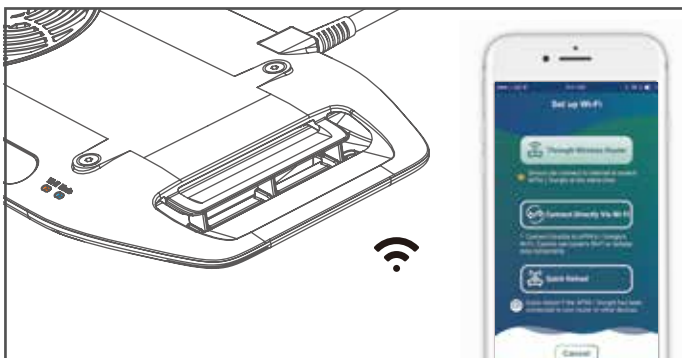
Touch and hold the Wi-Fi (G) button for 3 seconds to turn on Wi-Fi signal. Do the same to turn off Wi-Fi signal.



NOTE Control Buttons Disabled

When the Wi-Fi of AP9X is turned on (Wi-Fi indicator is ON), control buttons are disabled. Turn off Wi-Fi (press "Wi-Fi" (G) button for 3 seconds) for manual control on touch panel.

CONNECTION



Step 1 Download "Kessil WiFi" App

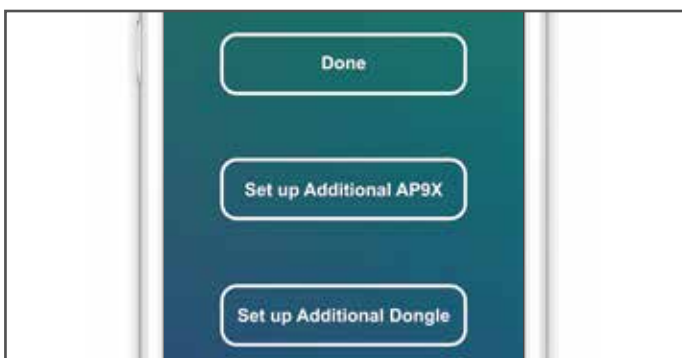
Download the "Kessil WiFi" app* in App Store or Google Play Store.

* Only supports iOS 10.0 or above and Android 5.0 or above



Step 2 Connection

Open the "Kessil WiFi" app and follow the instructions in the app to connect to AP9X. You will need the QR Code Sticker provided in the package. If you wish to enter the password manually, the password is reverse of the S/N of the AP9X (capital letter matters).

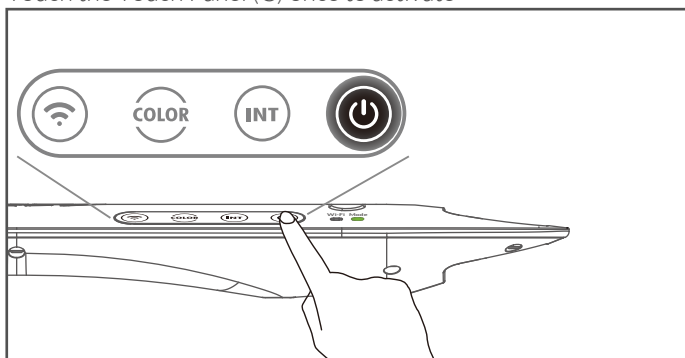


Step 3 Set up More AP9X

If you have more AP9Xs, choose "Set up Additional AP9X". Choose "Done" if you complete the setup.

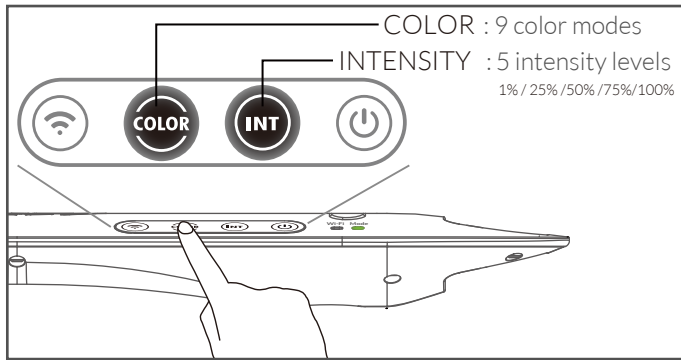
TOUCH PANEL

Touch the Touch Panel (C) once to activate



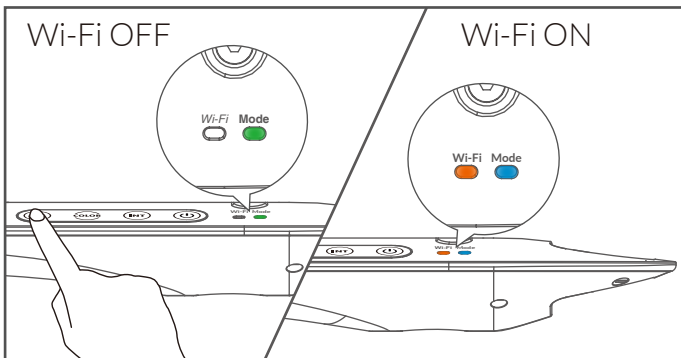
• Turn On/Off the AP9X

Touch the Power (D) button to turn on/off the AP9X. When the AP9X is off, the Power (D), Intensity (E), or Color (F) buttons can be used to turn on the AP9X.



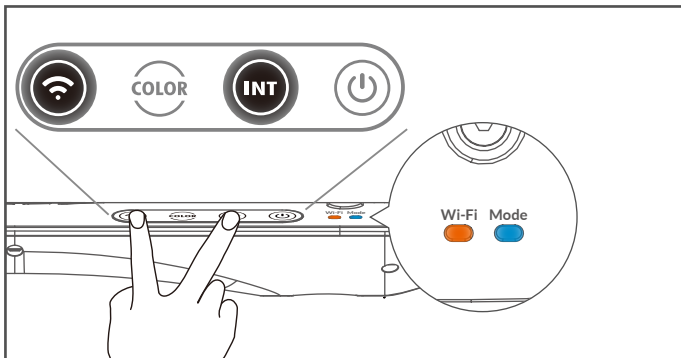
• Manual Control

Touch the Intensity (E) button and Color (F) button to adjust the intensity and color of the AP9X. Intensity levels and color modes are in cycles.



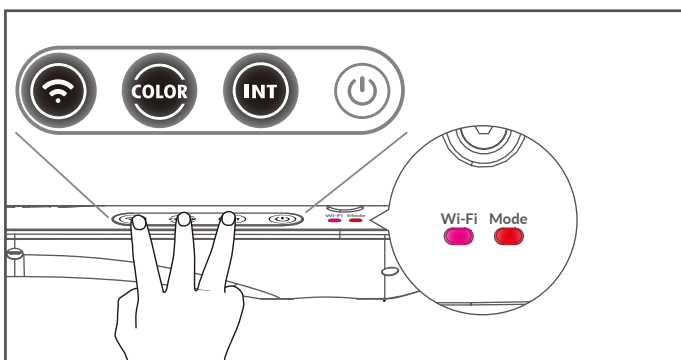
• Turn On Wi-Fi for App Connection

Touch and hold the Wi-Fi (G) button for 3 seconds to turn on Wi-Fi signal. Do the same to turn off Wi-Fi signal.



• Reset the AP9X Wi-Fi Configuration

Touch and hold the Intensity (E) & Wi-Fi (G) buttons simultaneously for 3 seconds to reset the Wi-Fi configuration (i.e. to reconnect). The Mode indicator (A) will first disappear and then blink red at 3 seconds. User's settings will not be deleted. The Wi-Fi Indicator (B) will change to solid orange.



• Factory Reset the AP9X

Touch and hold the Intensity (E), Color (F) & Wi-Fi (G) buttons simultaneously for more than 10 seconds to reset the AP9X. The Mode indicator (A) will first disappear and then blink red at 10 seconds. User's settings will be deleted. The Wi-Fi indicator (B) will be solid purple to indicate booting mode (may take up to 40 seconds) - See INSTALLATION Step 2.

WI-FI INDICATOR STATES

		Wi-Fi_AP Mode (Allow other Wi-Fi devices to connect to itself)	Wi-Fi_STA Mode (To connect to a wireless router or master Kessil Wi-Fi enabled products)
Wi-Fi ON	Booting	Solid Purple	Solid Purple
	Standby / No Connection	Solid Orange	Solid Red
	Connected	Solid Blue	Solid Green
Wi-Fi OFF		No Light	No Light



Solid Purple

The AP9X requires up to 40 seconds to boot. The AP9X Wi-Fi Indicator (B) will show solid purple light.



Solid Orange

Standby mode, ready to be connected.



Solid Blue

AP mode. Successfully connected to mobile device and act as the master (through "Connect Directly Via Wi-Fi").



Solid Red

Attempting to connect. If it stays for more than 3 minutes, reset AP9X's WiFi configuration (Touch and hold the Intensity (E) & Wi-Fi (G) buttons simultaneously for 3 seconds) and add the AP9X in the app again.



Solid Green

STA mode. Successfully connected to wireless router or to a master Kessil Wi-Fi enabled product as slave.



Blinking Green

When updating the AP9X's firmware through Kessil WiFi app, the Wi-Fi Indicator (B) will blink green light.

MODE INDICATOR STATES

	Mode
Booting	Solid Red
Control buttons enabled	Solid Green
Control buttons disabled	Solid Blue
Connected to APEX & Control buttons disabled	Solid Orange



Solid Green

Control buttons enabled. Able to control other K-Link daisy-chained fixtures.



Solid Blue

Control buttons disabled when the Wi-Fi of AP9X is turned on or when there is a K-Link signal input (e.g. Spectral Controller X).



Solid Red

The AP9X requires up to 40 seconds to boot. The AP9X Mode Indicator (A) will show solid red light.



Solid Orange

Successfully connected to APEX

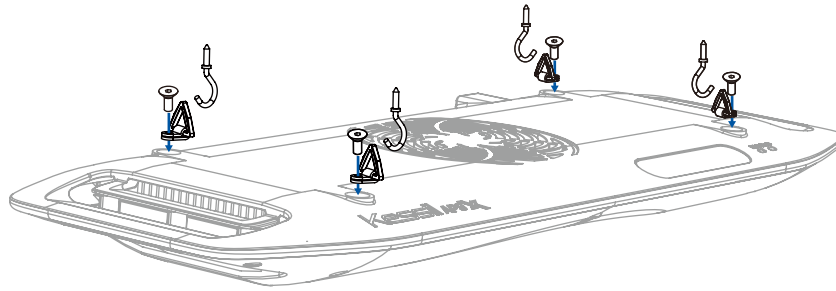
If the indicators do not change, please touch & hold the Intensity & Wi-Fi buttons simultaneously for 3 seconds to reset the Wi-Fi configuration (i.e. to reconnect). The Mode indicator will first disappear and then blink red at 3 seconds. The Wi-Fi indicator will change to solid orange. When reconnecting, make sure to enter the correct wireless router password and make sure the APEX controller is functioning properly.



Blinking Red

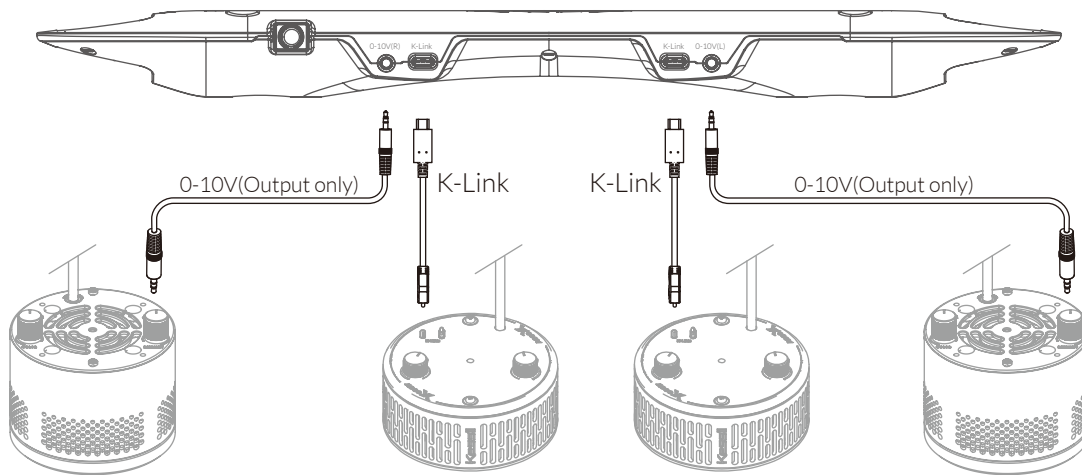
Error mode. One of the main causes is signal collision, touch and hold the Wi-Fi (G) button for 3 seconds to turn off Wi-Fi signal.

MOUNTING



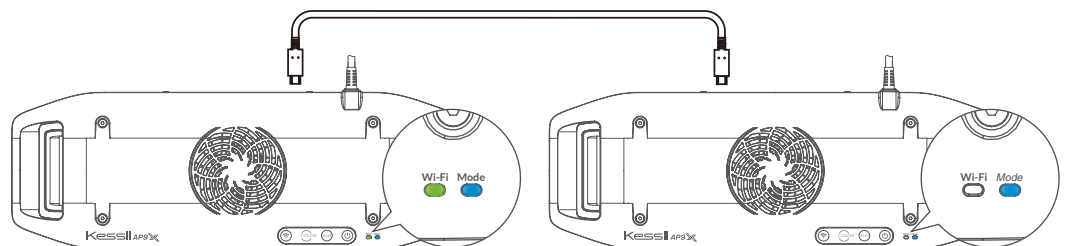
- Hang the light with the four Screw Hooks and the four Hanging Brackets.
- To install the Hanging Brackets, remove the screws on the AP9X, use the same screws to secure the fasteners with triangular rings (Hanging Brackets) onto the light fixture.

CONTROLLING MULTIPLE K-LINK & 0-10V FIXTURES



- Two K-Link ports (J): Connect and control multiple X-series K-Link fixtures using "Kessil IoT Web" and K-Link Cables. When connecting Kessil Wi-Fi enabled products, make sure to turn off the Wi-Fi signal of the slave fixtures. When controlling them (Tuna Blue only) manually, tuning controls on any light control all other lights in chain.
- Two 0-10V Output ports (K): Connect and control multiple 0-10V fixtures using "Kessil IoT Web"

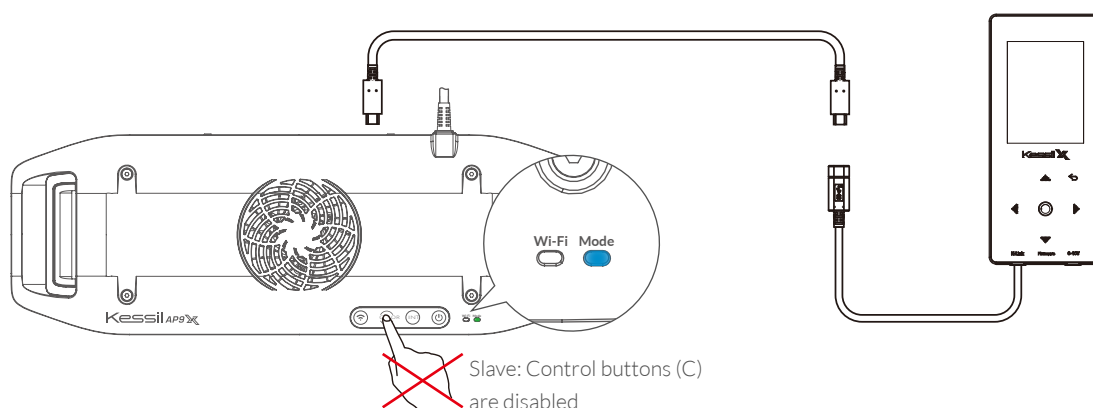
AP9X DAISY-CHAIN SCENARIO



Multiple AP9X (up to 32 K-Link fixtures) can be connected using "Kessil WiFi" app and K-Link Cables. Only the master AP9X should have Wi-Fi signal turned on (Wi-Fi indicator (B) is ON), Wi-Fi signal on the other fixtures should be OFF.

Mode Indicator (A) will be solid blue and control buttons are disabled.

CONTROLLED BY SPECTRAL CONTROLLER X



- AP9X can be connected and controlled through Kessil Spectral Controller X with a K-Link Cable.
- The AP9X control buttons will be disabled.

MAINTENANCE

1. Keep the Fan (Air Inlet) (H) and Vents (Air Outlet) (M) clear of dust. To clean the fan, unplug the unit and insert the tip of a CO2 dust blower (or similar dust blower) in one of the venting holes for the Fan (Air Inlet) (H). Hold and spray. You can also gently vacuum out the dusts through the venting holes.
2. Keep the LED Arrays + Reflectors (L) clean. If the array lenses and reflectors become contaminated with water, dust, or other particles, unplug the unit and clean them with isopropyl alcohol. Wet a cotton swab or a napkin in isopropyl alcohol, gently wipe the surface, and let it dry.
3. Keep plastic covers for K-Link Ports (J) and 0-10V Output Ports (K) plugged in when the ports are not in use. Keep the ports clean all-time.

TROUBLESHOOTING GUIDE

Please make sure to perform maintenance before doing any troubleshooting.

Problem	Cause / Solution
Light doesn't turn ON	Make sure the unit is connected to the power adapter and the power adapter is plugged into an outlet with the correct specifications.
	Make sure the power adapter has the right specifications.
	Make sure electrical power is available to the AC outlet being used.
	Make sure the device is operating within the specified operating temperature range. If unit overheats, it will automatically shut down.
Unit is flickering	Make sure the power adapter has the right specifications.
	Make sure the unit has not overheated by operating at a room temperature above 104°F/40°C.
	Make sure the fan is operating properly.

SAFETY INSTRUCTIONS

- DO NOT SHIELD THE UNIT OR COVER WITH ANY OBJECT FOR OPTIMAL PERFORMANCE.
- DO NOT USE OUTDOORS. THIS UNIT IS INTENDED FOR INDOOR USE ONLY.
- DO NOT EXPOSE UNIT TO AN EXTREMELY HUMID ENVIRONMENT OR SUBMERSE UNIT IN WATER. THIS MAY LEAD TO UNIT FAILURE.
- DO NOT USE THE UNIT NEAR FUEL OR CHEMICALS OR IN ANY PROSCRIBED AREA SUCH AS SERVICE STATIONS, REFINERIES, HOSPITALS AND AIRCRAFT.
- DO NOT USE THE UNIT FOR OTHER THAN INTENDED USE.

CONSIGNES DE SÉCURITÉ

- NE PROTÉGEZ PAS L'APPAREIL ET NE LE RECOUVREZ D'AUCUN OBJET POUR OBTENIR DES PERFORMANCES OPTIMALES.
- NE PAS UTILISER À L'EXTÉRIEUR. CET APPAREIL EST CONÇU POUR UNE UTILISATION EN INTÉRIEUR UNIQUEMENT.
- NE PAS EXPOSER L'APPAREIL À UN ENVIRONNEMENT EXTRÊMEMENT HUMIDE NI L'IMMERGER DANS L'EAU. CELA PEUT ENTRAÎNER UNE PANNE DE L'UNITÉ.
- N'UTILISEZ PAS L'APPAREIL À PROXIMITÉ DE CARBURANT, DE PRODUITS CHIMIQUES OU DANS DES ZONES RÉGLEMENTÉES TELLES QUE LES STATIONS-SERVICE, LES RAFFINERIES, LES HÔPITAUX ET LES AÉRONEFS.
- NE PAS UTILISER L'APPAREIL POUR UN USAGE AUTRE QUE CELUI PRÉVU.

FCC STATEMENT

AP9X | Compliance Information

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Class B Digital Device Notice

This equipment has been tested and found to comply with the limits for a **Class B digital device**, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment off and on), the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

Modifications: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Transmitter Positioning: This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To ensure safety, this equipment should be installed and operated with a minimum distance of 20cm (8 inches) between the radiator and your body.

SPECIFICATIONS

Dimensions	16.46" x 5.71" x 1.42" (418mm x 145mm x 36mm)
Weight	2.29 lbs (1.04 kg)
Spectrum	Tuna Blue + Red + Green + Purple (Violet + Indigo)
Coverage	Up to 48" x 24" Mixed Reef / 36" x 24" for SPS Dominant Systems
Operating Frequency	IEEE 802.11b/g/n(2.4GHz) & IEEE 802.11a/ac(5GHz)
Network Encryption Type	WPA-PSK / WPA2-PSK (Does not support WEP, WPA-Enterprise, WPA2-Enterprise, and Monitor Mode.)
Power Adapter	100-240V AC 50-60Hz (Input), 48V DC (Output)
Power Consumption	185W max AC

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