

# AquaConnect<sup>TM</sup>

# **Troubleshooting Guide Residential**



# **Safety Precautions**











#### **High Voltage Electrocution Hazard**

Hazardous voltage can shock, burn, cause serious injury and or death. To reduce the risk of electrocution and or electric shock hazards:

- Only qualified technicians should remove the panel
- Replace damaged wiring immediately
- Insure panel is properly grounded and bonded



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### **AquaConnect Home Network: How It Works**

- The AquaConnect Home Network Device (ACHN) acts as a gateway between a network router and compatible Hayward controllers.
- The AquaConnect HN device requires a direct Ethernet connection to the home router (preferably located within 3 feet of the home router).
- Once the AquaConnect is synced to the controller (using an RF pairing method), the device is then connected to the network via an Ethernet connection. This allows the AquaConnect to send/receive commands to and from the controller and translate them in a manner that can be used through a web interface.







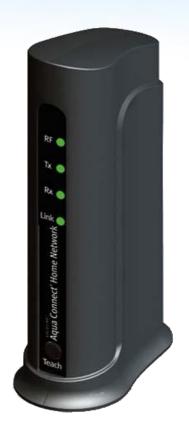
# **AquaConnect (AQHN): Compatibility**

Equipment	Model	Min. Firmware
AquaConnect	AQ-CO-HOMENET	1.10
2 <sup>nd</sup> Generation Antenna	AQL2-BASE-RF	3.00
ProLogic	All models (including PL-P-4)	4.20
AquaPlus	PL-PLUS & PL-PLUS-16V	4.20
AquaLogic	All models	NOT COMPATABLE
E-Command 4	All models	2.90
OnCommand	All models	1.10
AquaRite Pro	All models	1.20 or higher



# **AquaConnect (ACHN): Status LEDs**

LED	Description
RF	Normal Operation: ON Solid Indicates whether or not the ACHN is communicating with the pool controller.
TX	Normal Operation: Flashing Indicates when the ACHN is sending information through the Ethernet cable.
RX	Normal Operation: Flashing Indicates when the ACHN is receiving information from the Ethernet cable.
LINK	Normal Operation: Flashing 4 times per minute Indicates when communication occurs between the ACHN and the Aqua Connect Website.

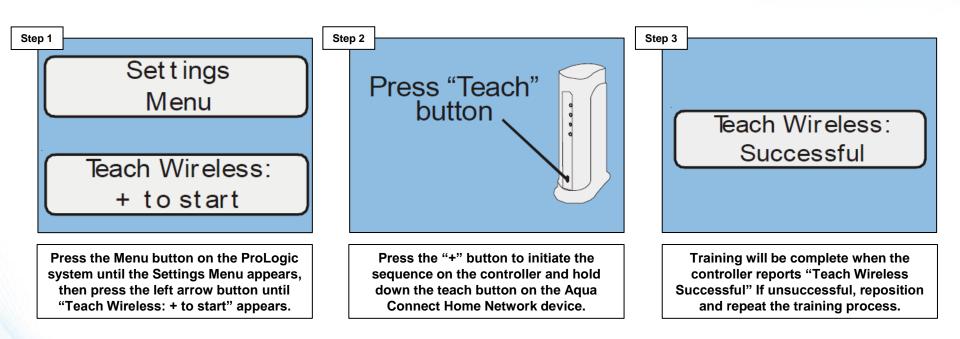






### **How To: Train the AquaConnect Device**

Use the following steps to train the ACHN to the control system. Make sure both units are powered up when conducting this step.

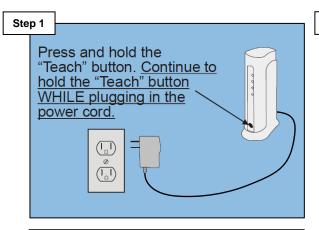


NOTE: If training the wireless device fails verify that the antenna is generation 2 (AQL2-BASE-RF). A GLX-RF-EXTEND is available if the antenna needs to be moved closer to the Aqua Connect.

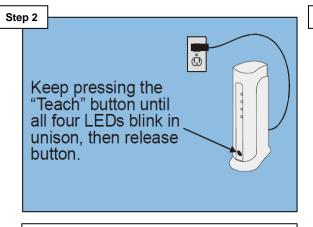


### **How To: Perform a Range Test**

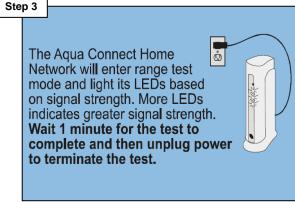
Use the following steps to perform a range test, verifying the RF signal strength between the ACHN device and the control system. Once complete, clear the test by power cycling the ACHN device.



To perform a range test unplug the ACHN and hold down the "Teach" button. While holding down the button plug in the power cable.



Keep holding down the teach button until the LEDs flash in unison; once flashing let go of the teach button and watch the LEDs.



After two minutes the number of LEDs illuminated will indicate signal strength. 3-4 LEDs are desired, if less, reposition the ACHN or antenna and retest.

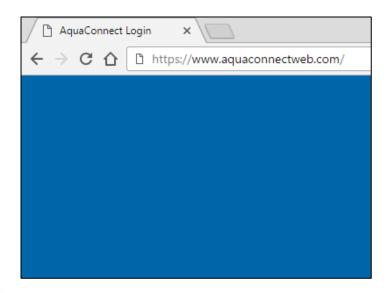
NOTE: If two LEDs or less appear after conducting a range test, relocate the base antenna or the ACHN device to achieve a stronger RF signal strength.



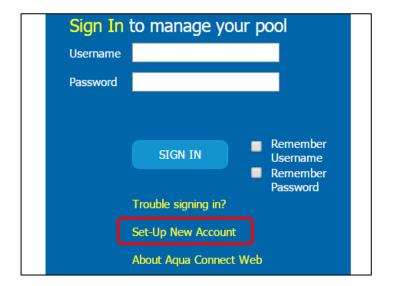
#### **How To: Create Account & Add a Pool**

In order to control the AquaConnect to be controlled remotely an account will need to be created and the device MUST be registered.

1. Proceed to: www.aquaconnectweb.com



2. Click on "Set-Up New Account" this will open a form

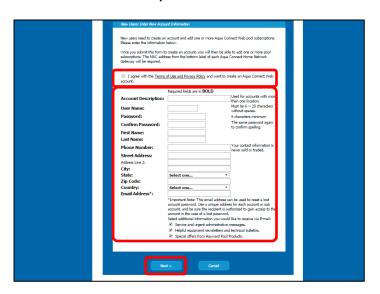




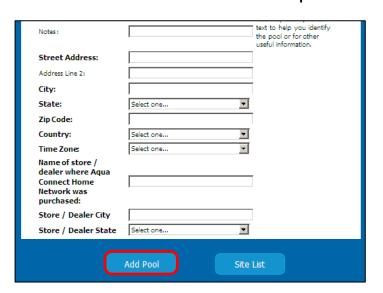
### **How To: Create Account & Add a Pool (cont.)**

Once the account has been created, use the credentials to log into this account, the next step is to "add a pool" which is used to register an AquaConnect.

3. Fill out all the required information, then click "Next"\*



4. Once the account is set up, scroll down & select "add a pool"



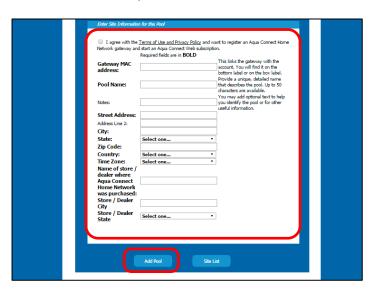
\*NOTE: Be sure to check the box next to "I agree with the <u>Terms of Use and Privacy Policy</u>" and though the User Name is not case sensitive, the Password <u>IS</u>. Finally, <u>DO NOT</u> use special characters either the username or password.



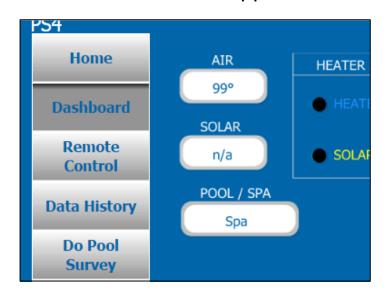
### **How To: Create Account & Add a Pool (cont.)**

In order to control the AquaConnect to be controlled remotely an account will need to be created and the device MUST be registered.

5. Fill out all the required information, then click "Add Pool"\*



6. Once complete the dashboard or site list will appear.



\*NOTE: Be sure to check the box next to "I agree with the <u>Terms of Use and Privacy Policy</u>" and make sure the MAC Address entered is the full number that can be found on the bottom of the AquaConnect device.



### **How To: Find IP Address (Mobile Device)**

In order to control the AquaConnect using the LAN or intranet function, the IP address, issued by the network router, must be obtained.

1. Verify mobile device & ACHN are connected to the same network



- 2. Locate and download the "Fing
- Network Scanner", then launch



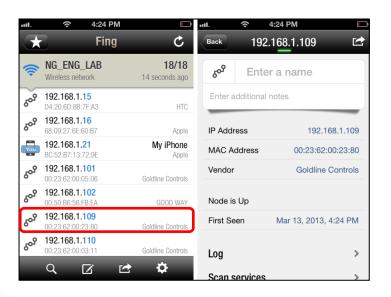
The "Fing – Network Scanner" can be used to locate and generate a report on all devices connected to the same network as the mobile device.



### **How To: Find IP Address (Mobile Device) (cont.)**

TIP: Once the remote control "LAN" page loads, it may be a good idea to bookmark the webpage. NOTE: The IP address is subject to change.

3. Scan the network. Record IP address for "Goldline controls"



4. Type the IP address in the address bar, preceded by http://



NOTE: The IP address is subject to change over time as the router may issue a new address. This process should be repeated if the LAN feature stops working in the future.



### **How To: Find IP Address (PC)**

In order to control the AquaConnect using the LAN or intranet function, the IP address that has been issued by the network router must be obtained.

1. Verify the PC & ACHN are connected to the same network



2. On the bottom of the ACHN, copy the last 3 digits of the MAC

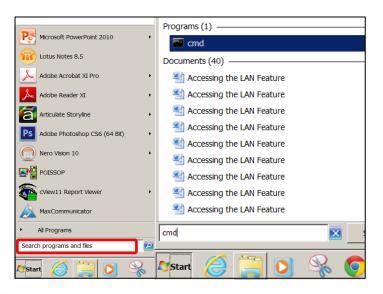




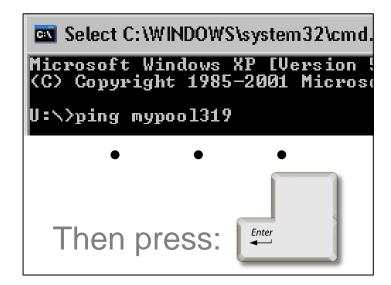
### **How To: Find IP Address (PC) (cont.)**

NOTE: The CMD or Command Prompt should only be used to Ping the friendly name to retrieve the IP Address, close the window once complete.

3. To enter the command prompt, go to "Start" and type "CMD"



4. Type "ping mypoolxxx" (xxx = last three digits of the MAC)





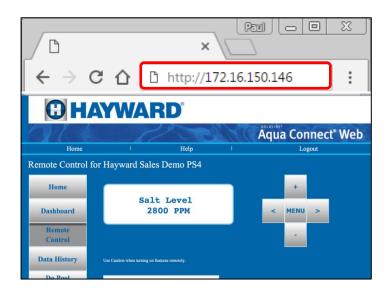
## **How To: Find IP Address (PC) (cont.)**

TIP: Once the remote control "LAN" page loads, it may be a good idea to bookmark the webpage. NOTE: The IP address is subject to change.

5. Copy the IP Address that appears, this will be used next

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
U:\>ping mypool319
Pinging mypool319 [172.16.150.146] with 32 bytes
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 172.16.150.146:
Packets: Sent = 4, Received = 0, Lost = 4 (1)
U:\>
```

6. Type the IP address in the address bar, preceded by http://



NOTE: The IP address is subject to change over time as the router may issue a new address. This process should be repeated if the LAN feature stops working in the future.



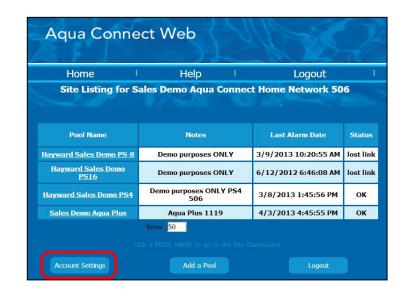
## **How To: Set Up a Sub Account**

Subaccounts are useful if multiple users require access to site information. Sub Accounts may be assigned: full access, read only access, or can be suspended as needed.

1. Log into the MAIN ACCOUNT (www.aquaconnectweb.com)



2. Click on Account Settings to create the Sub Account



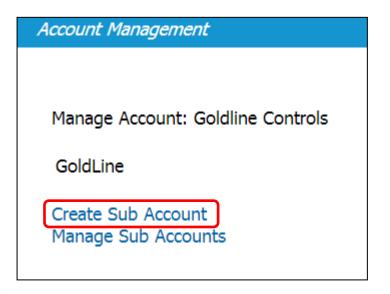
NOTE: If accessing from a tablet or mobile device be sure to select the classic option at the bottom of the page, this will show all the options that would appear when accessing from a desktop computer.\*



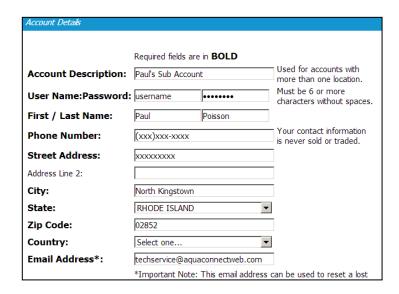
# How To: Set Up a Sub Account (cont.)

NOTE: although the username is NOT case sensitive, the password <u>IS</u>. Be sure to record the username and password after creating the subaccount.

3. Scroll to the bottom and click on "Create Sub Account"



4. Populate all required info. including username and password

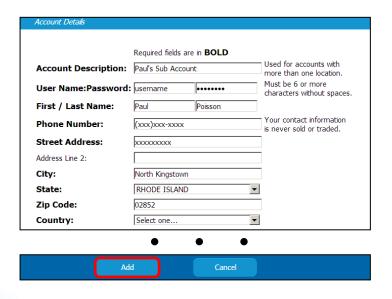




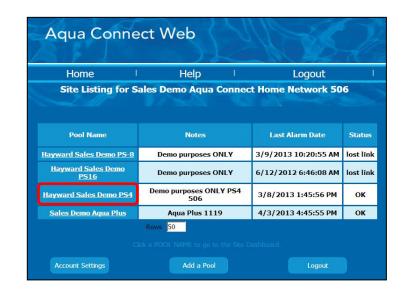
## How To: Set Up a Sub Account (cont.)

Sub accounts can be created for both service employees AND for individual customers. How permission is assigned with affect what appears after logging into a sub account.

5. Once Populated, scroll to the bottom and select "Add"



6. Select the pool you wish to have access to via the site list

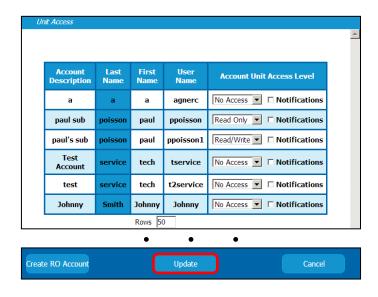


NOTE: Repeat steps 6 & 7 for every pool that should appear within the sub account. Sub accounts can be set up for individual customers so only their pool is visible after logging in.



## How To: Set Up a Sub Account (cont.)

7. Go to Pool Settings > Manage Access, then change access level for each sub account created, select "Update" to finalize



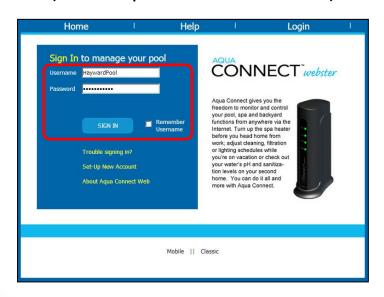
NOTE: Repeat steps 6 & 7 for every pool that should appear within the sub account. Sub accounts can be set up for individual customers so only their pool is visible after logging in.



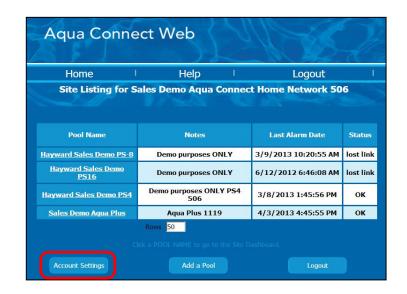
## **How To: Suspend a Sub Account**

Suspending a sub account may be necessary if service or equipment ownership changes hands.

1. Log into the MAIN ACCOUNT (www.aquaconnectweb.com)



2. Click on Account Settings to create the Sub Account



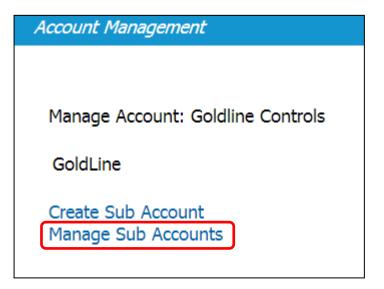
NOTE: If accessing from a tablet or mobile device be sure to select the classic option at the bottom of the page, this will show all the options that would appear when accessing from a desktop computer.\*



### **How To: Suspend a Sub Account (cont.)**

Subaccount management can only be accomplished by logging into the main account, it <u>CAN NOT</u> be suspended by logging in through that sub account.

3. Scroll to the bottom and click on "Manage Sub Accounts"



4. Click on the Sub Account requiring suspension

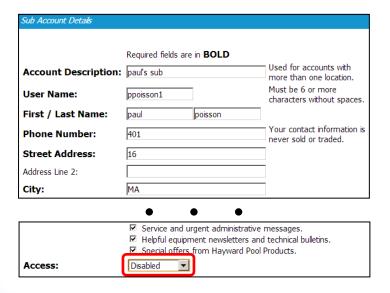
Account E	escription)		Last Name	First Name	User Name
	<u>a</u>		a	a	agnerc
pau	<u>l sub</u>		poisson	paul	ppoisson
paul	<u>'s sub</u>		poisson	paul	ppoisson1
<u>all ı</u>	ools		poisson	paul	allpools
Test A	ccount		service	tech	tservice
<u>te</u>	<u>est</u>		service	tech	t2service
<u>Jol</u>	nny		Smith	Johnny	Johnny
<u>John</u>	's sub		Sub	John	johnsub
Rows 50					



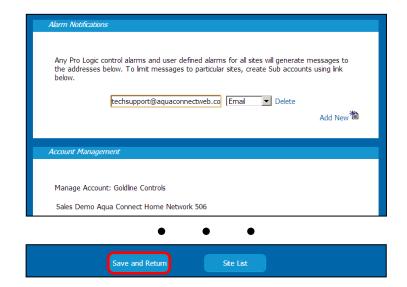
### **How To: Suspend a Sub Account (cont.)**

To ensure successful suspension of a sub account, make sure access is changed to "Disabled" prior to exiting.

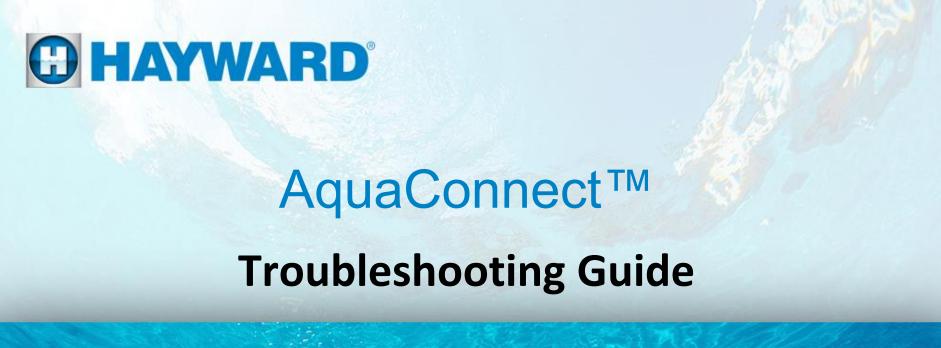
# 5. Scroll to the bottom and change access to "Disabled"



# 6. Scroll to the bottom and click "Save and Return" to finalize

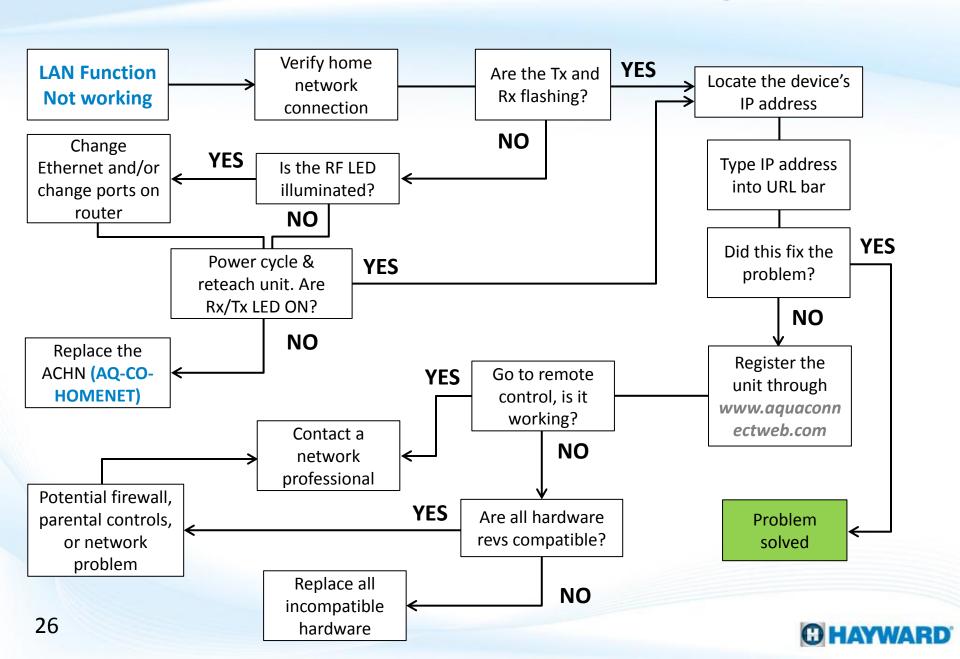








#### 1. LAN Function Not Working

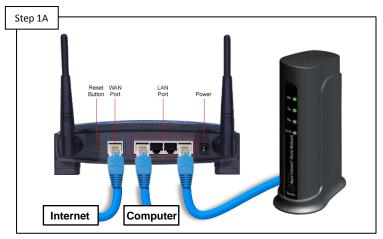


## 1. LAN Function Not Working

On a router the WAN port should be used for the internet feed, LAN ports are used for devices like the AquaConnect as well as desktop computers and other similar devices.

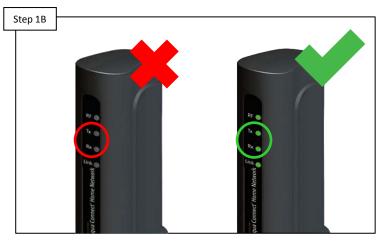
PoE ports <u>SHOULD NOT</u> be used as these deliver Power over the Ethernet cable.

#### **Verify Network Connections**



Verify the ACHN has power and its Ethernet cable is plugged into the same router as the computer. Once network connections have been confirmed proceed to step 1B. IF incorrect, correct the problem and retest.

#### Are the Tx and Rx LED ON/Flashing



Inspect the ACHN, the Tx and Rx LED should be ON or flashing. These LEDs record data transfer between the AquaConnect and the router. IF they are, go to step 1F.

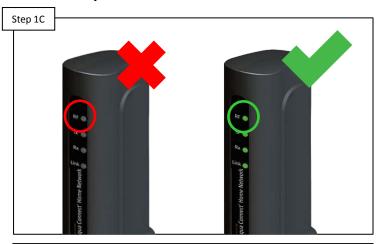
IF not, go to step 1C.



### 1. LAN Function Not Working (cont.)

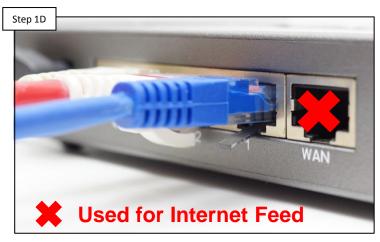
The RF LED has a Normally ON state when the AquaConnect has established a connection with the pool controller.

#### Verify the Status of the RF LED



The RF LED should remain ON solid, when the AquaConnect has established a connection with the controller. IF the RF LED is illuminated go to step 1D. IF not, proceed to step 1E.

#### Change Ethernet & Router Port



Swap the Ethernet cable and plug into a different port on the router. This will resolve cable issues or a port problem that may exist within the network router.

Once complete go to step 1E.

NOTE: The RF LED is typically appear even if there is a weak connection between the controller and the AquaConnect. It is recommended to conduct a range test to confirm at least 3 LEDs appear.



### 1. LAN Function Not Working (cont.)

In addition to teaching the unit, it is recommended to conduct a range test to verify the RF signal strength between the AquaConnect and the pool controller.

#### Power Cycle the Unit & Reteach



Power cycle the ACHN, then reteach it (page 8). IF the Tx and Rx LEDs appear then go to step 1F. IF the LED still do not appear then replace the AquaConnect device (AQ-CO-HOMENET).

#### Locate & Use the IP Address



Identify the IP address assigned by the router to the ACHN. Follow steps on pages 13-17 for more information. IF LAN control still does not work, then proceed to step 1G.

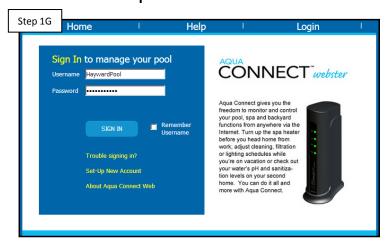
NOTE: The IP address assigned to the AquaConnect is subject to change. Because the router is assigning the IP address it may change due to the Dynamic network set up. Learning the process to locating the IP address is beneficial if LAN control is desired.



### 1. LAN Function Not Working (cont.)

Information pertaining to revisions can be found by navigating through the "Diagnostic Menu" (all controllers) or through the "Info" menu (AquaRite Pro). The software revision for the AquaConnect should be located on the label under the unit.

#### www.aquaconnectweb.com



Proceed to the above webpage & register the unit (firsttime only) OR login to the account. Navigate to "Remote Control". IF control works through the web, contact a network professional\*. IF NOT, go to step 1H.

#### **Check Hardware for Compatibility**

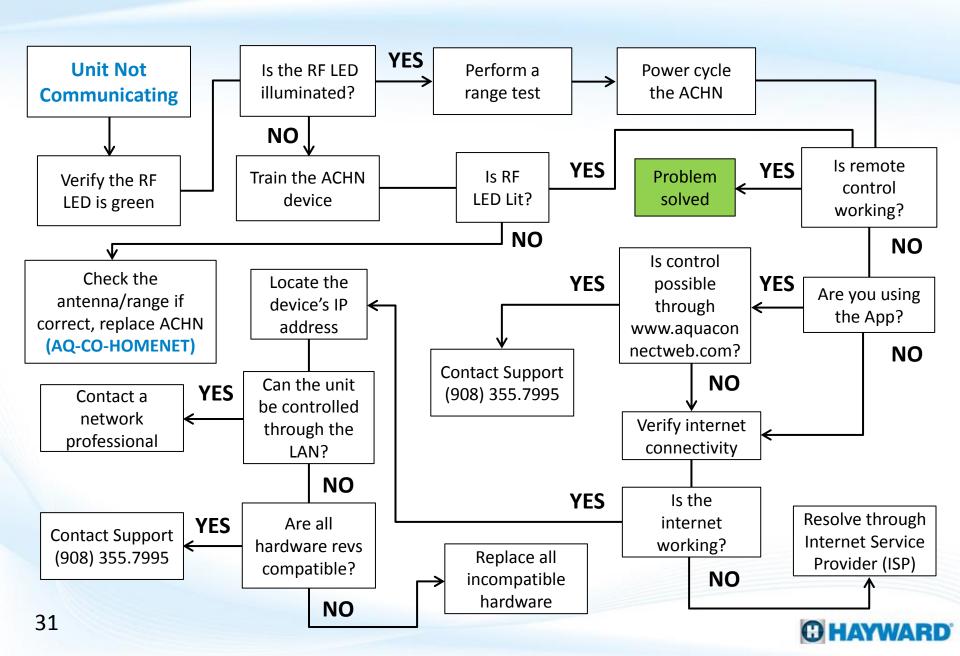
Stor	Step 1H			
ster	ent	Model	Min. Firmware	
Aq	uaConnect	AQ-CO-HOMENET	1.10	
2 <sup>nd</sup>	Generation Antenna	AQL2-BASE-RF	3.00	
Pro	oLogic	All models (including PL-P-4)	4.20	
Aq	uaPlus	PL-PLUS & PL-PLUS-16V	4.20	
Aq	uaLogic	All models	NOT COMPATABLE	
E-C	Command 4	All models	2.90	
On	Command	All models	1.10	
Aq	uaRite Pro	All models	1.20 or higher	

Verify all hardware compatibility. IF any hardware is incompatible, replace it with current versions. IF hardware is compatible and LAN control is still not working, contact a network professional\*.

\*NOTE: Something within the network setup is likely causing the problem. It is advised to contact a Network Professional for more comprehensive assistance. Potential network problems may include restrictions related to a firewall, parental control settings, or too many gateways.



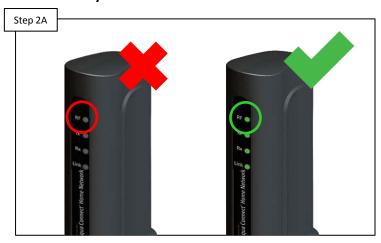
## 2. Unit Not Communicating



### 2. Unit Not Communicating

Messages	Description & Duration
ON	ERROR: Unit not communicating for 30 minutes for 9 days, 9 hours, 32 minutes.

#### Verify the Status of the RF LED



Verify the status of the RF LED. IF the RF LED is not lit, train the ACHN (p.8). IF illuminated, perform a range test (p.9). IF the RF LED is still OFF go to 2B. Otherwise proceed to step 2C.

#### Check Antenna / Range



After performing a range test (p. 9), verify the AQHN is reporting at least 3 LEDs. IF correct, replace the AquaConnect (AQ-CO-HOMENET). IF incorrect install an RF Extend Kit (GLX-RF-EXTEND).



## 2. Unit Not Communicating (cont.)

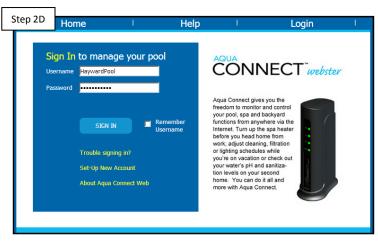
If using the AquaConnect App and this problem is showing up, try to control the AquaConnect through the webpage (<u>www.aquaconnectweb.com</u>); this is to determine whether the problem is specific to the App.

#### Power Cycle the Unit



Unplug power to the AquaConnect for at least 2 minutes then plug it back in. Once the RF, Tx, and Rx LEDs appear reattempt control through the web account. IF unsuccessful, go to step 2D.

#### Using the AquaConnect App?



If problem occurs through the AquaConnect App, log in to <a href="https://www.aquaconnectweb.com">www.aquaconnectweb.com</a>. IF no control through web, go to 2E. IF control works through web, please contact Tech Support (908.355.7995).

NOTE: The Password is case sensitive and no special characters should be used in either the Username or Password.



## 2. Unit Not Communicating (cont.)

When searching for the IP address through the Fing Application, match the MAC listed in the table to the one found on the bottom of the AquaConnect, this will ensure the IP address assigned to this item is accurate.

#### **Verify Internet Connectivity**



Verify the customer's internet is working by launching a web browser and navigating to a website. If the internet is working, go to step 2F. IF the internet is down please contact the Internet Service Provider (ISP).

#### Locate & Use the IP Address



Identify the IP address assigned by the router to the ACHN (p. 13-17). IF LAN control still does not work, then proceed to step 2G. IF it works, contact a network professional\*.

\*NOTE: Something within the network setup is likely causing the problem. It is advised to contact a Network Professional for more comprehensive assistance. Potential network problems may include restrictions related to a firewall, parental control settings, or too many gateways.



### 2. Unit Not Communicating (cont.)

Information pertaining to revisions can be found by navigating through the "Diagnostic Menu" (all controllers) or through the "Info" menu (AquaRite Pro). The software revision for the AquaConnect should be located on the label under the unit.

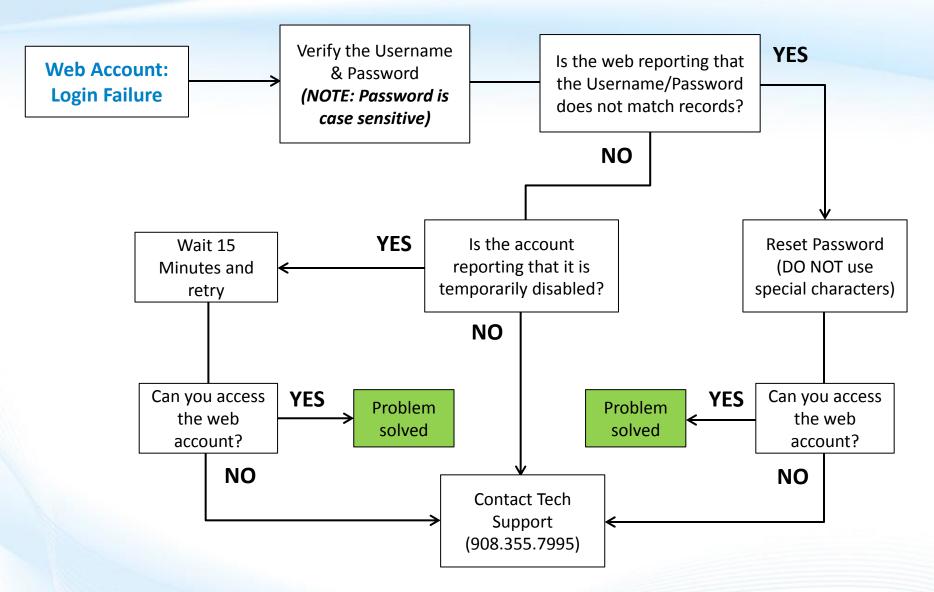
**Check Hardware for Compatibility** 

Step 2G	Model	Min. Firmware
	Wiodei	IVIIII. I IIIIIWai C
AquaConnect	AQ-CO-HOMENET	1.10
2 <sup>nd</sup> Generation Antenna	AQL2-BASE-RF	3.00
ProLogic	All models (including PL-P-4)	4.20
AquaPlus	PL-PLUS & PL-PLUS-16V	4.20
AquaLogic	All models	NOT COMPATABLE
E-Command 4	All models	2.90
OnCommand	All models	1.10
AquaRite Pro	All models	1.20 or higher

Verify all hardware compatibility. IF any hardware is incompatible, replace it with current versions. IF hardware is compatible and web/LAN control is still not working, contact Tech Support (908.355.7995).



## 3. Web/App Account: Login Failure



## 3. Web/App Account: Login Failure

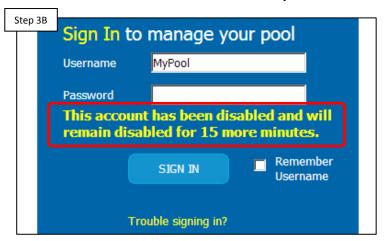
The AquaConnect web account and AquaConnect App require a Username and Password. During login, after three "failed attempts" the account will be temporarily disabled for 15 minutes.

#### Verify Username and Password



IF the account reports "username or password was not recognized", select reset password & follow the instructions; if resetting did not work, call tech support (908.355.7995). IF message is different, go to 3B.

#### Is Account Locked Up?

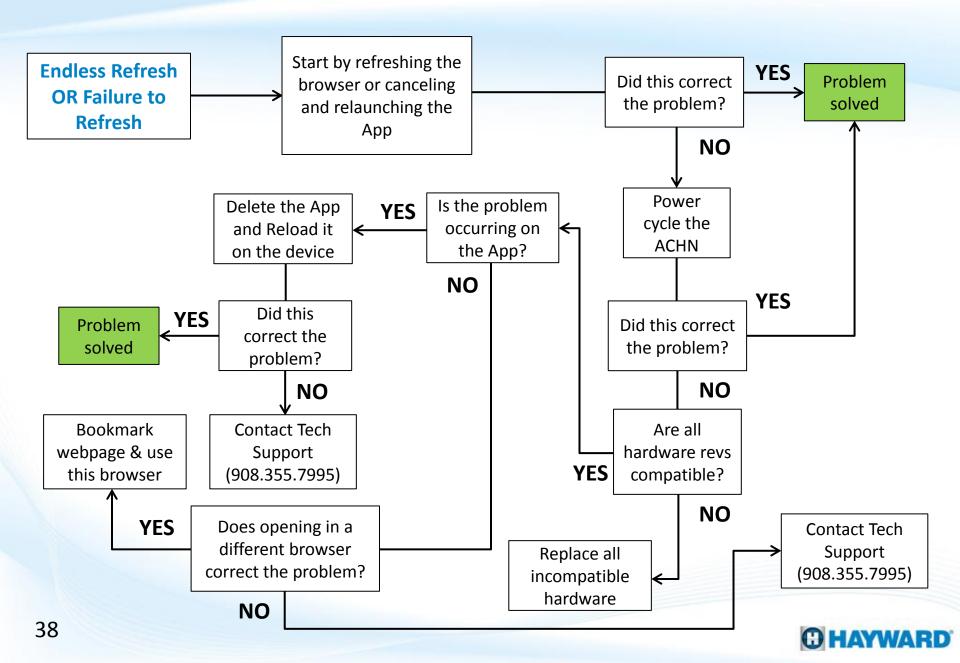


IF the account has been temporarily disabled, then wait 15 minutes and retry, reset the password if necessary. IF the problem still persists, please contact tech support for further assistance (908.355.7995).

NOTE: The Password is case sensitive. Also, the Username and Password should <u>NOT</u> contain special characters. Prior to contacting tech support please have the suspected Username, Password, and MAC address of the unit.



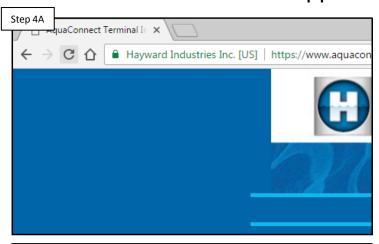
#### 4. Endless Refresh or Failure to Refresh



#### 4. Endless Refresh or Failure to Refresh

An endless refresh may be due to either a problem in loading the information, a browser or application compatibility problem, or hardware incompatibility.

#### Refresh the Browser / App



IF using the App, terminate the application and reload.
IF using a web browser, refresh the browser. IF
terminating the App or refreshing the browser does not
correct the problem, go to 4B.

#### Power Cycle the Unit



Unplug power to the AquaConnect for at least 2 minutes then plug it back in. This will power cycle the ACHN. Test the App/web functionality again. IF problem still persists, proceed to step 4C.



### 4. Endless Refresh or Failure to Refresh (cont.)

Information pertaining to revisions can be found by navigating through the "Diagnostic Menu" (all controllers) or through the "Info" menu (AquaRite Pro). The software revision for the AquaConnect should be located on the label under the unit.

#### **Check Hardware for Compatibility**

Step 4C			
ent	Model	Min. Firmware	
AquaConnect	AQ-CO-HOMENET	1.10	
2 <sup>nd</sup> Generation Antenna	AQL2-BASE-RF	3.00	
ProLogic	All models (including PL-P-4)	4.20	
AquaPlus	PL-PLUS & PL-PLUS-16V	4.20	
AquaLogic	All models	NOT COMPATABLE	
E-Command 4	All models	2.90	
OnCommand	All models	1.10	
AquaRite Pro	All models	1.20 or higher	

Verify all hardware compatibility. IF any hardware is incompatible, replace it with current versions. IF hardware is compatible, then proceed to step 4D to determine if the problem is App or web specific.

#### App or Webpage Specific?



Verify what platform is creating the problem. IF the problem is occurring through the website (<a href="https://www.aquaconnectweb.com">www.aquaconnectweb.com</a>), proceed to step 4E. IF occurring through the App, proceed to step 4F.



### 4. Endless Refresh or Failure to Refresh (cont.)

Updates to web browsers can sometime cause problems with the web functionality.

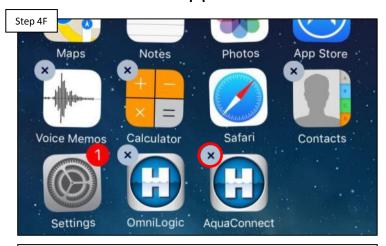
Updates to the web server occur periodically in response to changes.

#### Launch in a Different Browser



Open a different browser and test the web functionality. IF the problem goes away, bookmark the page and use this browser going forward. IF the problem persists, contact tech support (908.355.7995).

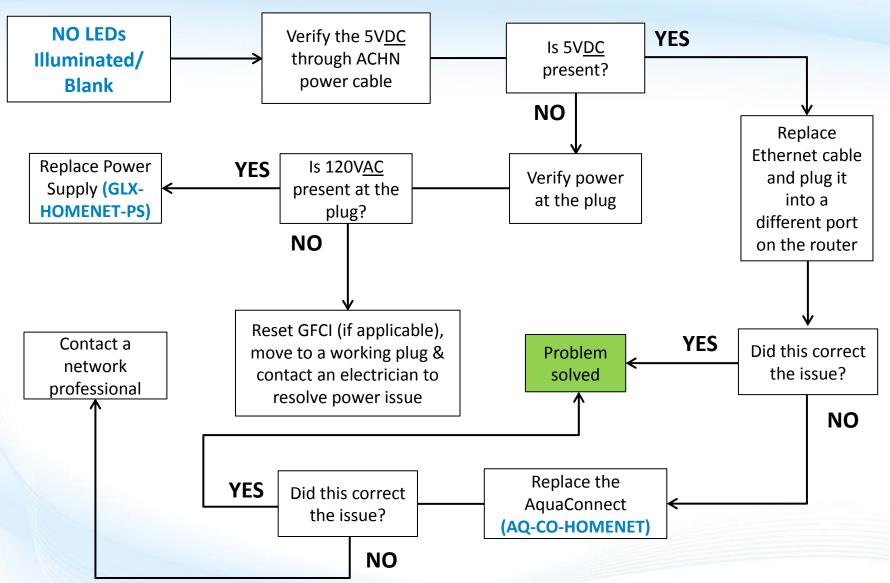
#### Delete the App and Reload



Delete the App through the mobile device and reload it. IF the problem still persists, than please contact tech support (908.355.7995) and use the remote function available at <a href="https://www.aguaconnectweb.com">www.aguaconnectweb.com</a> until resolved.



## 5. NO LEDs Illuminated/Blank



## 5. NO LEDs Illuminated/Blank

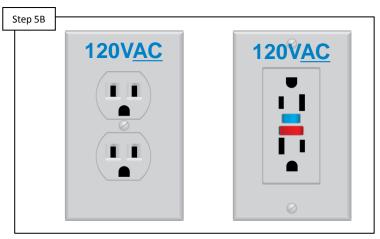
IF the AquaConnect is plugged into a GFCI outlet, verify the outlet has not tripped.

#### Verify 5V<u>DC</u> at Power Supply



Unplug the power cable from the back of the AquaConnect and test for 5V<u>DC</u>. IF 5VDC is NOT present, proceed to step 5B. IF 5VDC is present, go to step 5C.

#### Verify Receptacle Power



Verify the plug is supplying 120VAC to the Power Supply. IF power is not present, move to a different plug and consult an electrician. IF present, replace power supply (GLX-HOMENET-PS).



### 5. NO LEDs Illuminated/Blank

On a router the WAN port should be used for the internet feed, LAN ports are used for devices like the AquaConnect as well as desktop computers and other similar devices.

PoE ports <u>SHOULD NOT</u> be used as these deliver Power over the Ethernet cable.

#### Move/Replace Ethernet Cable



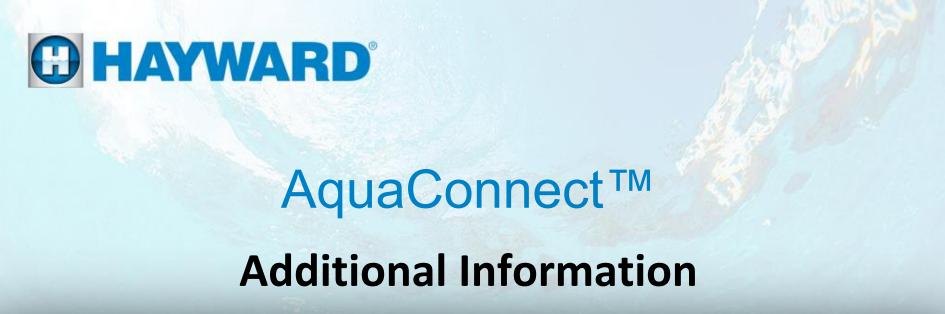
Plug the Ethernet into another router port. IF the Tx and Rx do not appear replace the Ethernet cable and if LEDs still do not appear go to Step 5D. IF LEDs appear, teach the AquaConnect (p. 8).

#### Verify Receptacle Power



IF connections have been verified and the Tx and Rx LEDs do not appear, replace the AquaConnect (AQ-CO-HOMENET). IF this does not correct the problem consult a network professional.







#### **A Note on Frequent Power Outages**

If the AquaConnect is installed in a market where frequent power outages are prevalent <u>AND</u> the AquaConnect frequently reports Communication Losses, then review the information below.

- When a power outage in the home occurs, both the Network Router and AquaConnect lose power/connection:
  - The AquaConnect will attempt to reestablish connection with the network router.
  - IF the Network router does not reboot in time, a communication error may occur and both LAN control and Web/App control will not be possible until the AquaConnect is power cycled.
  - If this occurs frequently the following solutions may help:
    - 1. Consider putting both the Network Router and AquaConnect on a battery backup system (this is helpful when blimps in power are frequent but temporary).
    - 2. Installing the AquaConnect through a timer plug, that is set to power cycle the AquaConnect for no more than 10 minutes each day. This will ensure that communication will be restored within 24 hours of the outage.



#### **Reading Serial Numbers**

1R11284- 123456

**1R11284** = **Standard Warranty Term** 

**1R11284** = **Product Family** 

**1R11284** = Year of Manufacture

**1R11284** = **Day of Manufacture** 

**123456** = Manufacturing ID

