Qwik Installation Guide

Outdoor Wireless Bridge

TYCON Wireless®

8000112 Rev 1

1 Device Installation

120/240VAC

48V PoE Inserter

POE

LAN

CAT5/6 Indoor Cable

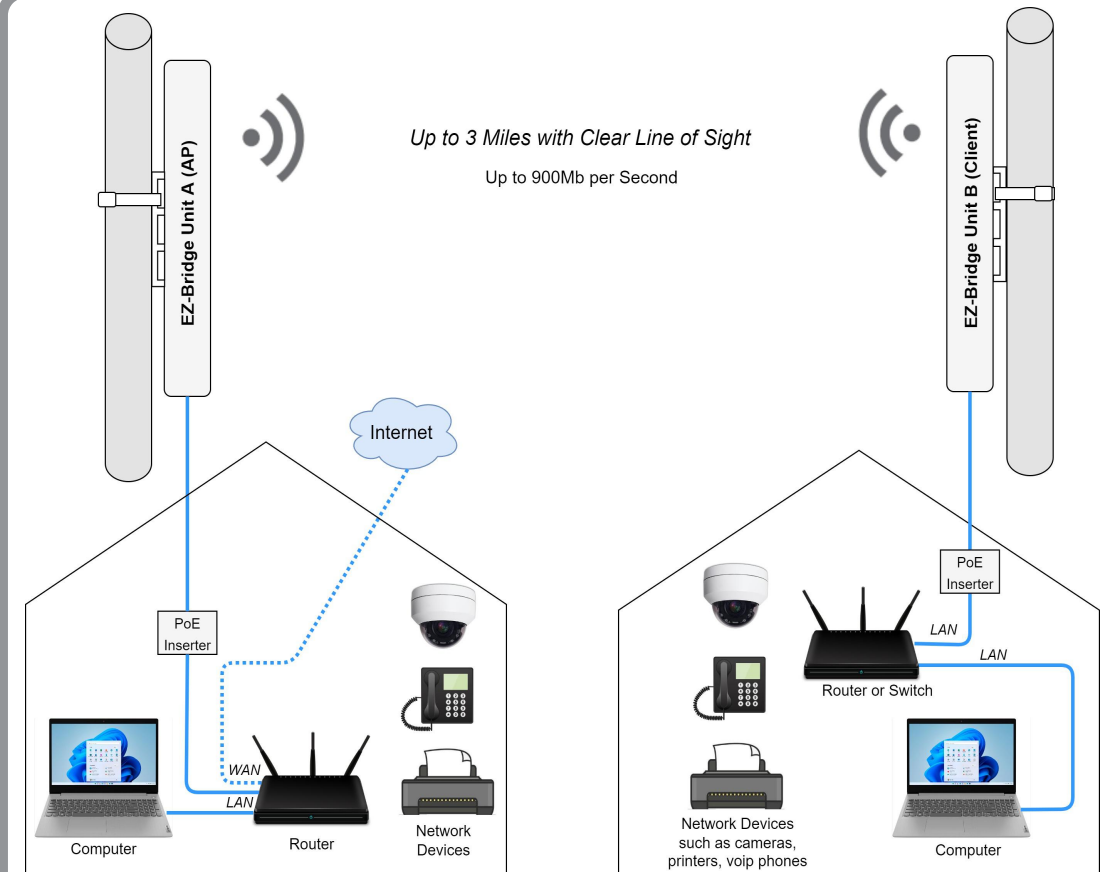Router, Switch or Computer

LAN   WAN   RST   DC

CAT5/6 Outdoor Shielded Cable <100m
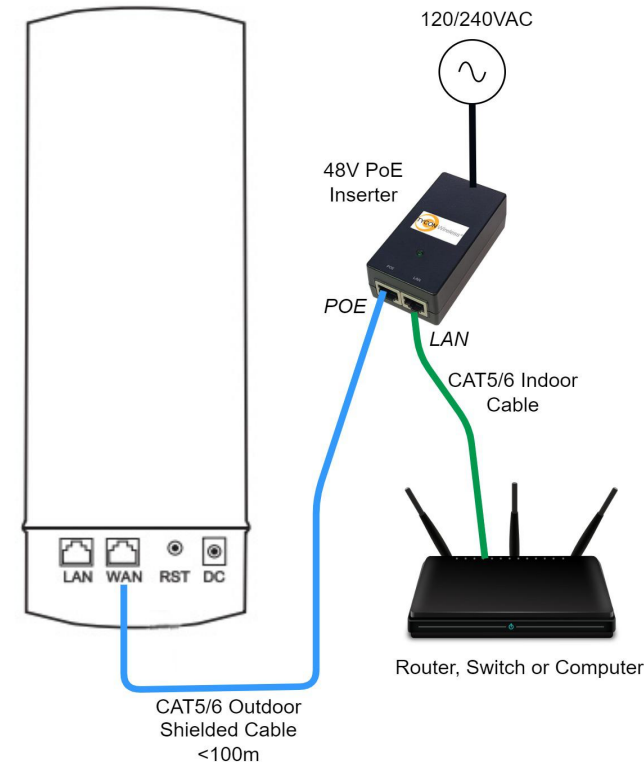
Attach unit to a 1-2" pole with one or two included pole clamps. Can also be wall mounted.

Note: Can attach to larger poles using larger pole clamps

2 Typical EZ-Bridge Application

EZ-Bridge Unit A (AP)

Up to 3 Miles with Clear Line of Sight

Up to 900Mb per Second

EZ-Bridge Unit B (Client)

Internet

PoE Inserter

WAN

LAN

Computer   Router   Network Devices

PoE Inserter

LAN

LAN

Router or Switch

Network Devices such as cameras, printers, voip phones

Computer

3 Operation

1. The EZ-Bridge® is preconfigured for Plug and Play Operation. No additional configuration is necessary.

2. We suggest setting up the units indoors to become familiar with the operation before mounting outside.

3. Connect Unit A (AP) WAN port to the PoE inserter PoE Port and power it up.

4. Connect Unit B (Client) WAN port to the PoE Inserter PoE Port and power it up.

5. Wait 2-3 minutes for the units to boot.

6. After boot up is completed (5AC Only) the Unit A (AP) will display an "H" and the wireless channel number. The Unit B (Client) will display a "C" and the wireless channel.

   Note: *The 5AC units have two buttons on either side of the display labeled "F" and "S". Press the "F" button to cycle through the display. See troubleshooting section for more info.*

7. There is a Reset button next to the RJ45 connector. Press this button momentarily to reboot the unit. Press this button for >15 seconds to reset to factory defaults.

8. Connect Unit A (AP) PoE Inserter LAN port to your network. **Do not** connect Unit B (Client) to the network.

9. When Unit A is connected to your network and Unit B is connected wirelessly to Unit A, both units should get an IP Address from your router. If they can't get an IP address they will revert to their default address. Unit A: 192.168.1.139 Unit B: 192.168.1.239.

   Note: There is a discovery tool available at **tyconsystems.com** that will help you find the units IP Address so you can access the web control panel. Navigate to **Support | Firmware and Discovery** and then select the model. When the units are connected wirelessly, both units will show in the discovery tool.

10. To open the web control panel your computer's IP address must be on the same subnet as the Unit's IP address. A subnet is defined by the first 3 numbers starting from the left end of the IP address. ie; for 192.168.1.139, the subnet is 192.168.1. You may need to adjust your computer's network properties to change the IP Address if you can't open the unit's web control panel.

11. Open the units web control panel in a browser by entering the IP address. Select English or Spanish Language. Provide the password. Default = **link4me**

12. The Unit A (AP) Home page displays information about the unit and the connection status. Starting from the left:
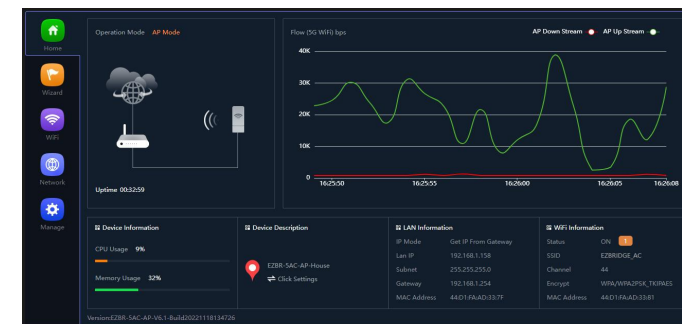
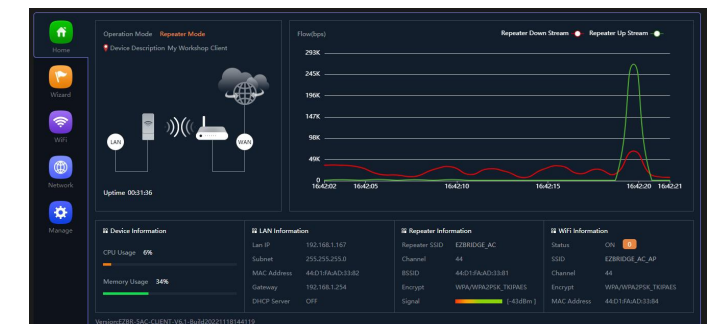   Device Information: shows CPU and Memory Usage.

    Device Description: This field can be edited. We recommend putting a description like the unit location.

    LAN Information: Shows IP Address Information and MAC.

    WiFi Information: Click on the number in the orange box to show details of the connected device(s).

    Other areas of the home screen show the operating mode if AP or Repeater, Uptime and a realtime performance graph.

13. The Unit B (Client) Home page displays similar information.

    Device Information: shows CPU and Memory Usage.

    Device Description: This field is editable. We recommend putting a description like the unit location.

    LAN Information: Shows IP Information and MAC.

    Repeater Information: Details of the connection to Unit A
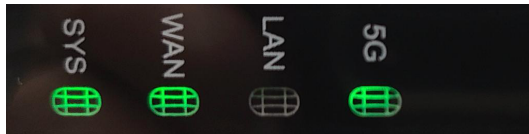
    WiFi Information: When the WiFi Status is enabled in WiFi settings, this section shows the information about any current WiFi connections to the unit.

4. Recommendations

1. **Always make changes to the remote unit first and then to the local unit.**

2. **Static IP:** After you become familiar with the operation of the units you should set the units on a static IP so that you always know the units IP Address. **Network | LAN Settings | IP Mode = Static IP**

3. **Main password:** Suggest you set your own password that is used to access the unit. Default: link4me **Manage | Modify Password**

4. **Wifi Passwords:** Suggest you set your own Wifi passwords. These can be set on the WiFi tab. Note: the repeater password must match the Unit A (AP) WiFi password.

5. **Change SSID:** Change default SSID to your own. **WiFi | Repeater Settings | Repeater SSID** **WiFi | 5G WiFi | SSID** After changing SSID on both units it may take 2-3 minutes for the units to connect.

6. **Lock BSSID on Client:** In order to make sure the Unit B (Client) can only associate with Unit A (AP) you can lock the BSSID. **WiFi | Repeater Settings | Lock BSSID=ON** then Scan and find the AP, select it, then Apply.

7. **Hide SSID:** You can hide the SSID of the WiFi so the name will not be displayed if somebody does a wireless scan. **WiFi | 5G WiFi | Hide SSID**

8. **MAC Access Control:** Both A & B units have the ability to lock out all devices except those you allow. This is done by adding the MAC Address of client units to the MAC ACL. **WiFi | MAC ACL | Add | Scan** and select unit. You can add text in the Mark field to identify the unit. Set status on the bottom of the page to Allow, then Apply.

9. **Timezone Setting:** The default time zone is Mountain Standard Time (MST). Set to your time zone. **Manage | Time | Time Zone Select**

10. **Timed Reboot:** Set a time to reboot the unit daily in order to clear memory and keep running at peak performance. **Manage | Reboot | Timed Reboot** select Reboot Time and set the day of the week and the time to reboot. Pick a time when the wireless connection is not needed. Set Unit A (AP) to reboot first and Unit B (Client) next.

11. **Setup Wizard:** Here you can change the various modes of the unit. The EZ-Bridge ships as a plug and play configuration and changing modes can have unexpected results. We recommend not to change the mode.

5. Tech Tips

1. **Note:** The web control panel times out after a few minutes and requires a password to continue. The timeout duration cannot be changed.

2. In addition to it's function as a point to point repeater, the Unit B (Client) can also be used as an Access Point to provide 5GHz WiFi at the remote site. **WiFi | 5G WiFi | WiFi Status = ON** You should change the SSID and the WiFi Password.

3. **Information LEDs:** On the side of the unit there are LEDs which show the status of the connections. SYS is the system Power. All LED's will blink to save power.

4. **LAN Port:** The units include an unpowered Gigabit LAN port, if needed, to connect another device.

5. **Antenna Tilt:** The antenna has a 60deg vertical beamwidth so there should be no need to tilt the antenna. If your situation requires tilt, use a spacer between the antenna and the pole to create tilt.

6. We highly recommend connecting the EZ-Bridge PoE inserter to a surge protected outlet to avoid damage caused by electrical surges.

7. It's best not to plug or unplug a powered CAT5/6 cable to the unit. It's always better to power the cable after it's already connected to the unit to avoid damage.

8. **Trees:** Shooting a signal through trees reduces the signal strength. You will get best performance with a direct line of site.

9. **Rain, Snow, Ice:** On long distance links you may see degraded signal levels with adverse weather. If snow or ice collects on the units you may have to clear it in order to correct the problem.

10. **Indoor Mounting:** If mounting a unit inside a building, be aware that tinted windows have a metallized layer that can block the signal. Concrete is also a problem. If your distance is short you may be able to mount one or both units indoors. You need to experiment.

11. **Lightning:** The Enemy of outdoor electronics! You can minimize the chance of damage by using shielded and grounded CAT5/6 cable to connect to the antenna to the PoE Inserter. You can use a UPS to power the PoE Inserter. You can ground the mounting pole.

6. Troubleshooting

Trouble	Reason	Solution
Poor Performance	1. Low Signal Level (>70dBm)	1. Adjust Antenna angle, Move units closer, Improve Line of Sight, Power=Max?
	2. Interference	2. Wifi Page: Use WiFi Analyzer to find clear channel and select new channel. Reduce AP channel bandwidth. Change antenna angle.
	3. Hi Signal Level (<-30dBm)	3. Reduce Transmit power on WiFi Advanced Page
Link Down	1. No Power	1. Check PoE Inserter has AC power and Power Led is on. Check all cables.
	2. Low Signal Level (>-70dBm)	2. Check Antenna Angle, Remove obstruction between antennas
	3. Cannot Discover units	3. If the Tycon Discovery Tool cannot find the units. Check LEDs on antennas.
Wrong Password	1. Forgot password	1. Press reset button for 30 seconds to reset to factory defaults. Default password = link4me
Can't login to web control panel	1. Computer IP and Antenna IP are on different subnets	1. Set computer IP manually to match the subnet of the antenna.
	2. CAT5/6 cable is loose or defective	2. Replace/Repair the cable
WiFi Device can't connect to AP	1. WiFi device bandwidth mismatch	1. Reduce the AP antenna channel bandwidth on the WiFi page

1. **Performance:** The best way to troubleshoot performance issues is to look at the Tx/Rx rates and Signal Strength. You can find these readings in WiFi Information on the Home page. Click on the number in the small orange box to bring up a Client List screen.

2. **Discovery Tool not working:** The Discovery tool is a java file and sometimes windows doesn't recognize it or you have windows security set to refuse jar files.

See our Support FAQs at tyconsystems.com for Help

3. **Signal Strength:** If a signal is too low or too high it can affect link performance. A good link is typically between -35dBm and -75dBm

     TX Power Settings: (5AC)   Dual = 500mW Max
       Max = 316mW 100%
       Efficient =237mW 75%
       Enhanced = 158mW 50%
       Standard = 79mW 25%
       Min = 38mW 12%

4. **Tx/Rx Rates:** The rates shown in the Client List are the raw rates that have been negotiated between the two antennas. Typically a good link will provide rates >100Mbps and the Tx and Rx rates will be similar. If the rates are grossly imbalanced or too low, there are many factors that could be the cause: Interference, multipath reflections, low signal strength, low channel bandwidth setting.

     Note: Internet Speed test results are typically less than 1/2 of the lowest Tx/Rx rate.

5. For those units with an integrated display:
     H = AP+ Wireless Channel
     C = Client + Wireless Channel
     A = IP Address
     P = Signal Strength

For support email: support@tyconsystems.com

7. Specifications

Wireless Standards:	802.11a/n/ac (5AC) or 802.11a/b/g/n/ac (Dual)
Data Rate:	up to 900Mbps
PTP Distance:	up to 3 miles
Ethernet Speed:	Gigabit
Certifications:	FCC/CE
Tx Power:	316mW (5AC) or 500mW (Dual)
PoE Standard:	802.3af or Passive 48V 5W
Aux DC Input:	12VDC 1A Max
WAN Port:	RJ45 Shielded, Gigabit
LAN Port:	RJ45 Shielded, Gigabit
Antenna:	5GHz 14dBi MIMO, 60deg BW or 2.4GHz 12dBi (Dual)
Housing:	UV Polycarbonate
Mounting:	Pole or Wall
Security:	64/128Bit WEP/WPA
Lightning:	Common Mode +/-6KV Differential Mode +/-2KV
Weatherproof:	IP63
Warranty:	2 Years

For warranty email: rma@tyconsystems.com