

# STAR-3: Community WiFi Internet kit

STAR-3 pre-configured point-to-point wireless bridge to extend the range of a network.



The view between the WiFi antennas must be line of sight. Any obstruction will block the wireless signal.

#### **Kit Contents:**

Two CPE120 pre-configured wireless units Two PoE Power supplies Ethernet cables Pole mount ties Installation instructions You provide the ISP service for the Internet access, and use Guest Internet products to share the service with your community.

## STAR-3 is a pre-configured point-topoint wireless bridge to extend the range of other STAR kits.

- Extend the range of any STAR kit using the STAR-3 point to point wireless bridge.
- Share or sell an Internet service to a community using a Guest Internet controller to manage the Internet service.
- Easy self-install and management of the Internet service, you do not depend on others.
- Full installation instructions included.
- Multi-language: English and Spanish.
- Print vouchers with access codes to give people access: duration, data speed and data limits.
- Monitor users of the Internet service.
- Monitor the service for failures: get alerts.
- Protection from abuse of the Internet service; prevents unauthorized Internet access.
- No other fees, maintenance, license, software, services or contracts.
- Free support, free upgrades.
- Free cloud service; manage the Internet from anywhere.
- Branding is easy to customize your Internet service.

### The ISP Internet service is not included with the kit.

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## **STAR-3** Kit Configuration

Point-to-point wireless bridge installation and configuration guide



The STAR-3 kit contains <u>two</u> wireless units, pre-configured as the HOST and CLIENT, see the diagram. A label on each product shows which is the HOST and which is the CLIENT. The products do not require configuration to install and operate them.

This document explains how the two CPE120 products should be installed, and also shows how to change the product configuration if this becomes necessary.



### **STAR-3 kit Installation**

Each CPE120 wireless unit is powered over the Ethernet cable using the power supply provided. This is called the PoE supply and plugs into a 12-volt outlet.

The customer has to provide the Ethernet cable that connects the PoE supply to the CPE120 wireless product. The maximum length of this Ethernet cable is 100m (300ft).

The next diagram shows the product connections with the PoE supplies.



The CPE120 HOST connects to the Internet service using the Ethernet cable provided to connect the PoE supply to the ISP router.

The CPE120 CLIENT connects to a computer. The CPE120 CLIENT can also connect to a wireless access point, or to a Guest Internet STAR kit when a number of people will connect to the Internet.



The CPE120 wireless units must be installed on towers so that there is a clear line of sight between the two antennas. For a 1Km link there must also be a minimum clearance of 5.6m (18ft) between the centerline of the antennas and any obstacle on the ground. This is shown in the diagram.



If the clearance is not provided the antennas will not communicate.

The CPE120 wireless antennas are directional. Each antenna must be adjusted so that it points in the direction of the other antenna. The directional antenna characteristic is shown in the diagram.





The CPE120 products are preconfigured for a point-to-point link, no further configuration is required.

It is necessary to login to the configuration page of each unit and change the password from **admin** to a password of the users choice.

Each CPE120 is mounted to a pole using the plastic zip-ties provided with the products. This is shown in the diagram.



The Ethernet cable is connected to each CPE120 WAN port as shown in the diagram.

Connect the WAN PoE to the PoE supply.

The LAN port is not used. This port can be used for other applications.





### **CPE120** procedure when a configuration change is required

Each CPE120 wireless unit is configured as a Host (H) or a Client (C). The Host configuration is a point-to-multipoint wireless access point. The Client configuration is a client premise equipment (CPE).



The Host or Client mode is selected using the switch shown in the diagram. When the mode has been selected then the configuration has to be made by selecting the parameters for that mode.

Connect the computer LAN port to the PoE supply LAN port with an Ethernet cable. The computer LAN port default configuration will be DHCP client.

Using the operating system utility, change the LAN port setting to a static IP address:

#### 192.168.188.10

Verify that the WAN LED is lit on the CPE120.

Both Host and Client configurations use this setup configuration.



## How to set a Windows computer to a static IP address

It is necessary to set the computer LAN port for a static IP address to configure each CPE120 wireless unit. Open the settings page, select network and Internet.



Select Ethernet then change adapter options.

Right click on Ethernet then select properties.

2 items 1 item selected

HH 📼



## Select Internet protocol version 4 then click properties.

Internet Protocol Version 4 (TCP/IPv4)	Properties X
General	
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator
O Obtain an IP address automatical	у
• Use the following IP address:	
IP address:	192 . 168 . 188 . 10
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	
Obtain DNS server address autom	natically
• Use the following DNS server add	resses:
Preferred DNS server:	
Alternate DNS server:	
Ualidate settings upon exit	Ad <u>v</u> anced
	OK Cancel

Finally click close. The LAN port can now be connected to the CPE120 products to configure them as a HOST or as a CLIENT.

Ethernet Properties	×						
Networking Sharing							
Connect using:							
🛃 Realtek PCIe GBE Family Controller							
<u>C</u> onfigure This c <u>o</u> nnection uses the following items:							
Image: Client for Microsoft Networks   Image: Client for Microsoft Network Adapter Multiplexor Protocol   Image: Client for Mi							
Install Uninstall Properties							
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.							
OK Cancel							

Select use the following IP address Enter the IP address: **192.168.188.10** Enter the subnet mask: 255.255.255.0 Click the OK button.

Ethernet Properties	$\times$
Networking Sharing	
Connect using:	
🛃 Realtek PCIe GBE Family Controller	
<u>C</u> onfigure	
This connection uses the following items:	
Install Uninstall Properties	
Description Allows your computer to access resources on a Microsoft network. Close Cancel	





Open a new browser tab on the configuration computer.

Type the following IP address in the browser tab then press enter.

#### 192.168.188.253

A box will open for the username and password, the default password is '**admin**', enter the password and click login.

The home page is displayed.

	NT 300M Wireless Brid	lge					
Home	Operation Mode AP Mode		Flow (2G WiFi) bps			— AP Down Strea	m — AP Up Stream
Wizard	(Let						
WiFi		(()	o				,
Network	Untime 00-03-17						
*			12:00:50 1.	2:00:55 12:0	1:00 12:01:05	12:01:10 1	2:01:15 12:01:20
Manage	⊞ Device Information	B Device Descrip	otion	B LAN Inform	ation	🕮 WiFi Inform	nation
	CPU Usage 13%			IP Mode			on 🧕
			Settings		192.168.188.253		Wireless 2.4G_A34D74
	Memory Usage 25%						
							WPA/WPA2PSK_TKIPAES
				MAC Address	44:D1:FA:A3:4D:74	MAC Address	44:D1:FA:A3:4D:74
	Version:CPE120M-CPE-V2.3-Build202003						



Click the WiFi page icon, see the next figure. Click the 2G WiFi tab.

Set the desired SSID (broadcast name). Note the name.

Set the wireless password (WPA key), the default is 666666666. Click apply.

INTELLIGENT	300M Wireless Bridge		
	2G WiFi MAC ACL WiFi Timer Of	f Advanced	
Home	Basic VAP 1 VAP 2 VAP 3		
	WiFi Status		WiFi Analyzer
Wizard		Wireless 2.4G_A34	4D74
		Hide your SSID?	
	BandWidth	20M	
WiFi	Channel	Auto	
	Encrypt	Encryption	
	WiFi Password	66666666	
Network	VLAN ID		Vlan-id range must be 3~4094, 0 means not enabled
			Apply
*			
Manage			

Continue on the WiFi page, click the advanced tab, see the next figure.

Set the country region. Click apply.

INTELLIGE	NT 300M Wireless Bridge			
	2G WiFi MAC ACI WiFi Timer Off	f Advanced		
Home	Advanced			
<b>1</b>	Country Region 2G Mode	China 11N/G	<ul> <li>✓ 2G Channel (1-13);</li> <li>✓</li> </ul>	
Wizard	Maximum for per AP		(Range 1-64)	
	WLAN Partition Short Gl	OFF ON		
	Coverage Threshold TX Power	-90 Max	(-95dBm~-65dBm)	
Network	Dial switch			
				Apply
Manage				

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Click the manage icon, see the next figure.

Click the modify password tab.

Enter the new password, make a note of the password. Click apply.

INTELLIGE	NT 300M Wireless Bridge
	Colour Relat Not Record Hands Tors In
Home	Modify Password Opyrade Time Log
	- Old Password
Wizard	New Password
<b></b>	Confirm Password
WiFi	Apply
Network	
Manage	

Configuration of the Host is complete.







Open a new browser tab on the configuration computer.

Type the following IP address in the browser tab then press enter.

#### 192.168.188.100

A box will open for the username and password, the default password is '**admin**', enter the password and click login.

The home page is displayed. This is shown below.

Operation Mode <b>Repeat</b>	er Mode	Flow(bps)		— Repeater D	Down Stream —	- Repeater Up Stream
Uptime 00:08:10		0	12:19:16 12:19:1	8 12:19:20 12:19:22 1	12:19:24 12:19:2	26 12:19:28 12:19:30
Uptime 00.08:10	WAN Bit LAN Informatic	0	12:19:16 12:19:1	8 12:19:20 12:19:22 1	12:19:24 12:19:2	26 12:19:28 12:19:30 ation
Uptime 00:08:10	El LAN Information Lan IP 1	0 12:19:14 92.168.188.100	12:19:16 12:19:1 Repeater Info Repeater SSID	8 12:19:20 12:19:22 1 mmation WirelessRepeater	12:19:24 12:19:2 # WiFi Informa Status	26 12:19:28 12:19:30 ation OFF 0
Uptime 00:08:10	RE LAN Information Lan IP 1 Subnet 2	0 12;19:14 92.168.188.100 55.255.255.0	12:19:16 12:19:11 Repeater Info Repeater SSID BSSID	8 12:19:20 12:19:22 1 ormation WirelessRepeater	12:19:24 12:19:2 # WiFi Informa Status SSID	26 12:19:28 12:19:30 ation OFF 0 Wireless 2.4G_A34D74
Uptime 00:08:10	El LAN Informatic Lan IP 1 Subnet 2 MAC Address 4	0 12:19:14 92.168.188.100 55.255.255.0 4:D1:FA:A3:4D:74	12:19:16 12:19:1 Repeater Info Repeater SSID BSSID Encrypt	8 12:19:20 12:19:22 1 mation WirelessRepeater WPA/WPA2PSK_TKIPAES	12:19:24 12:19:2 # WiFi Informa Status SSID Channel	26 12:19:28 12:19:30 ation OFF 0 Wireless 2.4G_A34D74
Uptime 00:08:10	El LAN Informatic Lan IP 1 Subnet 2 MAC Address 4 Gateway 0	0 12:19:14 92.168.188.100 55.255.255.0 4:D1:FA:A3:4D:74 .00.0	12:19:16 12:19:14 Repeater Info Repeater SSID BSSID Encrypt Signal	8 12:19:20 12:19:22 T mation WirelessReposter WPA/WPA2PSK_TKIPAES (0dBm )	12:19:24 12:19:2 Status SSID Channel Encrypt	26 12:19:28 12:19:30 ation OFF 0 Wireless 2.4G_A34D74 WPA/WPA2PSK_TKIPAE



Click the WiFi page icon, the display is shown in the next figure

INTELLI	T 300M Wireless Bridge
<u>^</u>	2G WiFi Repeater Settings MAC ACL WiFi Timer Off Advanced
Home	Repeater Settings
	Repeater Status 🛛 🌔
Wizer	Repeater SSID WirelessAP Scan
Viizar	Lock BSSID 44:D1:FA:38:72:32
	Encryption WPA2PSK_AES
WiEi	Password 66666666
	BandWidth 20M
	P2P
Netwo	
*	
Manag	

Click the tab repeater settings. Click the scan button, select the SSID of the Host from the list by clicking it.

Got to the password box, enter the WPA key that is configured in the Host. Click apply.

INTELLIGE	ENT 300M Wireless Bridge	
Home		
Wizard	Repeater Status     Image: Constraint of the status       Repeater SSID     WirelessRepeater	
WiFi	Hot Spot     Channel[1] MAC[80:3F:5D:54:BC:E0]       Signal[-22dBm] Open	
Network	WirelessAP           Channel[7]         MAC[44:D1:FA:3B:72:32]           Signal[-24dBm]         WPA2PSK_AES           WORK         Apply	
*	Channel[11] MAC[04:18:D6:C1:1D:00] Signal[-47dBm] WPA2PSK_AES	
Manage	Channel[11] MAC[0A:18:D6:C1:1D:00] Signal[-47dBm] Open	
	AT&T Channel[11] MAC[00:02:6F:CC:94:40] Signal[-49dBm] WPA2PSK_AES	
	CWT 2.4	



Continue with the WiFi page, click the advanced tab. Set the country region. Click apply.

INTELLIGE	NT 300M Wireless Bridge			
	2G WiFi Repeater Settings MAC	ACL WiFi Timer Off	Advanced	
Home	Advanced			
	Country Region	China	Y 2G Channel (1-13);	
Wizard	2G Mode	11N/G		
	Maximum for per AP		(Range 1-64)	
	WLAN Partition			
WiFi	Short Gl			
	Coverage Threshold		(-95dBm~-65dBm)	
	TX Power	Max		
Network	Dial switch			
				Apply
<b>*</b>				
Manage				

Click the manage icon, click the modify password tab. Enter the new password, make a note of the password. Click apply.

INTELLIGE	NT 300M W	/ireless	Bridge					
	Configure	Reboot	Modify Password	Upgrade	Time			
Home	Modify Password							
<b>()</b>			Old Password					
Wizard			New Password					
<b>R</b>			Confirm Password					
WiFi							Apply	
Network								
Manage								

Configuration of the Client is complete.