# **Outdoor CPE**

# **Quick Installation Guide**



May, 2016

Thank you for purchasing Enterprise High Gain Outdoor CPE. This manual will instruct you how to configure and manage this CPE, enable you to use it in a perfect status. After installed the CPE, you will be able to enjoy the surfing freely.

Pls check the Package before use it:

- Outdoor CPE \* 1
- POE Adapter\*1
- Metal strap\*1
- Quick Configuration Guide\*1

# **Quick Configuration Guide**

# 1<sup>st</sup> How to connect and charge the outdoor CPE

• CPE's Interface Description



P 1 CPE's Interface

Reset: Press it for 10-15 seconds, the CPE will restore to factory default.

WAN: Connect with internet cable, in WiFi Repeater, bridge, WISP operation mode, it change to LAN port.

LAN: connect the CPE with computer by LAN cable.

DC: for Power supply, the DC's electronic standard is 12V/24V.

- POE: this equipment can be powered over Ethernet, Connect CPE's WAN/LAN Port with PoE adapter's POE port by LAN Cable (CPE's LAN port and WAN port support the 12V/24V PoE.)
- Pls refer to P2 for PoE Power and CPE configure



P2 diagram of PoE Power and CPE configure



Pls make sure our CPE working with included Power adapter or PoE adapter, and under right connection way, or the device will be damaged.

## 2<sup>nd</sup> :CPE Start and Log in

1) Power the CPE as P2 show

2) Set an fixed IP adress for computer: The default operation mode of this outdoor CPE is Wireless AP, end users should set an IP address for computer, then can access into Outdoor CPE's IP : Set the computer's IP address as **192.168.188.X** (X is number between 1-252), make it same as CPE's network segment, then set Subnet mask is **255.255.255.0**, Default gateway leave it blank, then click **OK**.

A.: Pls follow P3 and P4 for wired configuration.



## P3 Configure the computer's IP address by wired

本地连接 Properties	Internet Protocol (TCP/IP) Properties
General Advanced	General
Connect using: Qualcomm Atheros AR8151 PCI-E Gir Configure	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. O Obtain an IP address automatically
Elient for Microsoft Networks     File and Printer Sharing for Microsoft Networks     QoS Packet Scheduler     Imternet Protocol (TCP/IP)	IP address:         192.168.188.10           Subnet mask:         255.255.255.0
Instal Uninstal Properties Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.  Show icon in notification area when connected	Obtain DNS server address automatically  Obtain DNS server addresses:  Preferred DNS server:  Alternate DNS server:
Notify me when this connection has limited or no connectivity OK Cancel	Advanced OK Cancel

P4 configure the computer's IP by wired

B. Pls follow P5 to Configure the computer's IP address by wireless

	Disable	Cable unpugged, Fite	Corruct using.	You or go P cotras assigned	azonekalyi yee relvek sepe
	View Available Wireless Networks	and a start and and a start of	10 802 11 n LSB Wireless L4N Card H2	Pris zapadility. Charwise, your en the appropriate Prostory:	elic arb you newook administrato
5	Ratus	1	The correction uses its following items	C Oblah as P addeir a ros	nicale
R	Repair		HI WAESS Potecol (EEE 80214 v2.75)	Chatterbleurg Patter	
-			E V Nexe Power 10201	P addect	152 166 . 188 100
E	Bridge Connections			Subre week	\$15 20.28 C
	Create Shortout		real. Universit	Defaul generat	
	Jelaha	1	December Castel Date: situles et Pala	C Ottak D 42 sever admir az	arceatoriale
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P	kenane			PeterndDVE sever	Contraction of the
E P	Procenties		Shoty me when this connection has insided of	Aber dis DBS seves:	
	~5	-			- Advant

P5 Configure the computer's IP Address by wireless

If you want to connect our CPE by wireless after IP address configuration, pls right click **Wireless networking Connection**, then **View Available Wireless Networks**, our CPE's default **SSID** is **Wireless AP**, **passwords**: **66666666**, Click **Refresh network list**, double click the correct SSID and input the passwords, if have, then **connect**, **pls refer to P6 and P7** 

X Not connected, Fin	
(o) 802.11n USB Wire	Disable
	View Available Wireless Networks 📐
	Status
	Repair
	Bridge Connections
	Create Shortcut
	Delete
	Rename

## P6 CPE Wireless Connection

Technical data





If your computer with build in 802.11b/g/n wireless adapter, but can't search the available wireless networking after refresh, pls contact with computer supplier or after-sale department after appear following points:

 Right click My Network Places, select Proferties, appear Local Area Connection or Other Connection, No Wireless Network Connection
 There is Wireless Network Connection in My Network Places, Show General and Advanced after right click Wireless Network Connection and select Properties, but no Wireless Network Configuration in Window

3) Log in the CPE: Open your web browser, type in 192.168.188.253 in the address

bar, enter **admin** in white blank bar, then login.



Version CPE150-AP-V2.0-B20160409135409

P8 Log in

# 3<sup>rd</sup> : WEB GUI interface Setting:

#### 1) Status

After login, then P9 Device Status will be showed:

In this page, will show the outdoor CPE's default operation mode, channel, connection status, CPU usage, Wireless

settings, LAN Setting, CPE's Location, CPE's hardware/firmware version.



P9 Status

In this Outdoor CPE, the default operation mode is AP mode.

Then in 2.4G Wireless Setting, GUI configuration page showed as below:

User can configure the SSID, password, band width, channel here, then Apply to finish.

		Status Wizard		简体中文 English
Mode AP Mode	↓†† Wireless setting		×	🕐 Reboot
User	Wireless Status on SSID Wireless 2.4G Broadcast SSID O Disable O Enable WMM O Disable O Enable Band Width 20MHz Channel * 2.442 GHz (Cf Encryption WPA2PSK_TKIP	e e hannel 7)	S	witch
Running time 13M37S	Key 66666666		re Version CPE150	-AP-V2.0-B20160506191550
CPU usage	Wire Apply		AP posi	tion setting
CPU Frequency:550MHz	Wireless 2.4G 78:D3:8D:E8:5E:3F	192.168.188.2 78:D3:8D:E8:5E	53 :3D	

P10 Wireless Setting



LAN Setting to configure the DHCP or Fix IP for local LAN.

Access Type	Static IP DHCP	
IP	192.168.188.253	
Subnet Mask	255.255.254.0	
Manage server IP	192.168.188.1	
	Apply	

P11 LAN Setting



P12 AP Position setting

#### 2) Wizard Configuration:

Click Wizard in Status page, will pop up following page to configure the operation mode:

There are four operation mode of this ceiling wireless AP, and there are explanation for each operation mode for better

application.

Choose Operation Mode	Choose the mode yo	u want to configure	Return to Status page
	((0))	((((A))))	()) 
Gateway Mode	Repeater Mode	WISP Mode	AP Mode
		Explanation on each operation mode	In this mode, the AP wireless interface and cable interface bridging together. Without NAT, firewall and all network related functions.

P13 Operation mode

#### 1. Gateway Mode:

Click Gateway mode, will pop up following pictures:

Pls choose the right WAN setting mode, then click next to continue.

st. WAIY Settings	Second: Wireless	Third: Complete	1st	
	Static IP	PPPOE(ADSL)	DHCP 2nd	
	The current	access mode is DHCP,Please click ne	ext to configure.	
			)	

#### P14. WAN setting in Gateway Mode

	Second. Wireless	Iniid. Coi	npiete		
ireless Settings					
Wireles	ss Settings				
SSID Wireless	wireless analyzer		Channel	* 2.442 GHz (Channel 7)	
Encryption WPA2F	PSK_TKIPAES	~	Key	66666666	



When click Next, then will complete the Gateway mode setting and show following picture:

irst: WAN Settings	Second: Wireless	Third: Complete	
		Equipment is restarting please wait	
	Congr	atulate. Settings is completed	

P16 Complete the setting in Gateway Mode





P17 Status in Gateway Mode

#### 2. WiFi Repeater mode

Click WiFi Repeater operation mode in Wizard, then following page will pop up, and choose the right SSID to bridge, then next to finish it.

Repeater Mode		
First: Repeater	Second: Complete	
Wireless Repeater		
	Repeater SSID Scan AP	
	Authentication none	
	Band Width 20MHz	
	WDS Passthrough	
	Back Next	
Scan AP		×
Wireless 2.4G		~
78:D3:8D:D7:23:FB	Channel: 7 Choice	
📶 RSS: -75 dBm	Encryption: WPA2PSK_TKIPAES	
Wireless 2.4G		_
78:D3:8D:D7:23:E9	Channel: 7 Choice	
الله RSS: -80 dBm	Encryption: WPA2PSK_TKIPAES	
Wireless 2.4G		-
78:D3:8D:D7:25:42	Channel: 7 Choice	
الله RSS: -80 dBm	Encryption: WPA2PSK_TKIPAES	
TEST-002		~
	Refresh	7

#### P18 Repeater Mode

Click Return button, will back to Status, show Repeater mode data, show fail or success, and user can configure this data in this page if required.



Pls note, in WiFi Repeater operation mode, the wireless is disable in default, will not broadcast the wireless SSID.

If need to enable SSID, pls do based on following picture:



P20 Wireless on/off

Pls note, when click wireless relay setting, will back to P18 wifi repeater setting directly.

#### 3. WISP Operation mode:

Click WISP operation mode in Wizard, then will pop up the configure page, pls set the WISP operation mode based on

the stepes showed in picture:

WISP Mode			
First: Repeater	Second: WAN	Third: Comp	olete
Wireless Repeater			
	Repeater SSID	Wireless 2.4G	Scan AP
	Authentication	WPA2PSK_TKIPAES	
	Кеу	66666666	
	L		1
		Back	Next

P21 WISP Mode

Configure the right WAN setting in WISP operation mode, then next to restart the outdoor CPE.

👆 WISP Mode				5
First: Repeater	Second: WAN	Third: Complete		
	Static IP	PPPOE(ADSL)	DHCP	_
	The currer	nt access mode is DHCP,Please click next t	o configure.	
		Back Next	I	

#### P22 WAN setting in WISP mode

Then complete and back to status, will show the connection fail or success, then can configure the data based on



Remark: When click WAN Setting, will pop up following picture:

WAN setting		
PPPOE(ADSL)		
Static IP		
Apply		
Apply		
	PPPOE(ADSL) DHCP Static IP Apply	

P24 WAN setting in WISP mode

#### 4. AP Operation mode:

Set the wireless data, AP Location info as required, then click next to continue and enter into LAN setting.

After LAN setting, complete the AP mode configuration and back to Status:

TISL WITCHESS	Second : LAN	Third:Complete		
eless Settings				
	Wireless Settings			
WLAN Status	ON wireless analyzer			
SSID	Wireless 2.4G	Channel	* 2.442 GHz (Channel 7)	~
Encryption	WPA2PSK_TKIPAES	Key	66666666	
ation Informatio	n			
			Name	

P25 Wireless setting in AP Mode

In this part, there is Wireless Analyzer, to analysis the Wireless AP/ Router's channel to avoid wifi interface.



Picture show as P26.

P26 WiFi Channel analysis



👆 AP Mode			€
First: Wireless	Second - LAN	Third:Complete	
	Second . Dan	Tindeompiete	
LAN setting			
		Access Type DHCP	
	-		
		Back	

P27 LAN Setting in AP Mode



P28 Status in AP Mode

#### 3) Advanced Setting:

In advanced setting, user can check the ceiling AP's firmware version, working status, 2.4G wireless, LAN Status,

upgrade firmware, Reset...

Let's Click Advanced Setting in status page, will show return home, Setup Wizard which we showed before.

Let's shown Device Status, Wireless, Network and Management.

III Advanced	Settings	×
🔗 Return home	Status Wireless Status LAN Status	
💮 Setup Wizard	Status	
Mevice Status	Software Version CPE150-AP-V2.0-B20160506191550	
all Wireless	Hardware Version CPE150	
Network	Uptime 8M1S	
💾 Management		



Device Status: In this page, mainly to check the ceiling AP's status in firmware version, Wireless status, LAN status:

	ttings	×
🔗 Return home	Status Wireless Status LAN Status	
🚱 Setup Wizard	Wireless Status	
Device Status	Wireless Status Enable	
zıl <mark>ı</mark> Wireless	SSID Wireless 2.4G	
Network	MAC 78:D3:8D:E8:5E:3F	
💾 Management	Encryption WPA2PSK_TKIPAES	
	Connected Users 0 Client list	



Advan	ed Settings	X
🔗 Return I	me Status Wireless Status LAN Status	
😧 Setup W	ard LAN Status	
Device S	LAN IP 192.168.188	253
zıll Wireless	Subnet Mask 255.255.255	0
Network	MAC 78:D3:8D:E8	583D
💾 Manage	Anage server IP 192.168.188	1
	DHCP Status Disable	
	DHCP address range 192.168.188.2	- 192.168.188.252
	Assigned IP 0 DHC	list

P31 LAN Status

#### 2.4G Wireless Setting:

In this part, will show the Wireless Basic Setting, Virtual AP, Access control and Advanced Setting:

내 Advanced Set	ttings	×
ሸ Return home	Basic Settings Virtual AP Access Control Andvanced Settings	
🚱 Setup Wizard	Wireless Basic Settings	
🕂 Device Status	Wireless Status ON Wireless analyzer	
ail Wireless	SSID Wireless 2.4G	
Network	Broadcast SSID O Disable ) Enable	
🎒 Management	WMM O Disable  Enable	
	Band Width 40MHz	
	Channel * 2.442 GHz (Channel 7)	
	Authentication	
	Encryption WPA2PSK_TKIPAES	
	Key 66666666	
	Apply	

P32 Basic Setting in 2.4G Wireless

#### Virtural AP:

There are 3 virtural AP in this outdoor CPE, if need virtural SSID, then users can configure it showed in following

picture:

	tings	×
🔗 Return home	Basic Settings Virtual AP Access Control Andvanced Settings	
🚱 Setup Wizard	Virtual AP	
🔤 Device Status	Virtual AP1 Virtual AP2 Virtual AP3	
zıtl Wireless	Wireless Status NN	
Network	SSID VAP0	
💾 Management	Broadcast SSID O Disable    Enable	
	WMM O Disable   Enable	
	Encryption WPAPSK_TKIP WPAPSK_AES WPAPSK_TKIP WPAPSK_TKIP WPAPSK_KES WPAPSK_KES WPAPSK_KES WPAPSK_KES WPAPAPSK_TKIP WPAVPAPSK_TKIP WPAWPAPSK_TKIPAES WPAWPAPSK_TKIPAES	

P33 Virtual AP



#### Access Control: Mainly show MAC allow or deny:

III Advanced Set	tings	$\times$
🔗 Return home	Basic Settings Virtual AP Access Control Andvanced Settings	
🚯 Setup Wizard	Wireless Access Control	
🔤 Device Status	Access Control Allow Listed Apply	
zil Wireless	MAC Add	
Network	Access Control List Clear Association STA list Refresh	
💾 Management		
	Import	



#### **Advanced Settings:**

In this page, will show the regional, RF Power, Max user access...

	tings		X
🔗 Return home	Basic Settings Virtual AP Access Control	Andvanced Settings	
😥 Setup Wizard	Advanced Settings		
🔤 Device Status	Regional	China	Channel(1-13)
zill Wireless	MODE	802.11N/G	
Network	RF Output Power	100%	
	Packet Threshold	2346	(256-2346)
	RTS Threshold	2346	(0-2347)
	Ack Timeout control	64	(0-255)us
	Beacon interval	100	(100-1000)ms
	MAX User	64	(Range 0-64 0 not limited)
	Coverage Threshold	-90	(-65dBm~-90dBm)
	Aggregation ON	Short GI ON	User isolation
		Apply	·

P35 Advanced Setting

#### Network setting:

In this page, mainly to show the LAN setting and VLAN as follow:

H Advanced Set	tings						×
🕱 Return home	LAN Settings VLAN						
🚱 Setup Wizard	LAN Settings						
🔤 Device Status		Access Type	Static IP				
<b>aul</b> Wireless		IP	DHCP 192.168.188	.253			
Network		Subnet Mask	255.255.255	.0			
Metwork		Manage server IP	192.168.188	.1			
🂾 Management							
		P36	Network	Setting			
II Advanced Set	tings						×
😚 Return home	LAN Settings VLAN						
🚯 Setup Wizard	VLAN						
🔤 Device Status		VLAN-ID(3-4094)	AP	VAP1	VAP2	VAP3	
zıl Wireless		VLAN ID from Switch					
Network							
MINEWORK							
💾 Management							
			A	pply			

P37 Tag VLAN Setting

#### Management:

In this part, show the system time, Logs, upgrade firmware, system, user info.

And we show System time, how to upgrade firmware and system page to users:



P38 System Time

🔗 Return home	System Time Logs Upgrade Firmware System User
🚯 Setup Wizard	System Logs
🔤 Device Status	Remote Log Server
zıll Wireless	IP Apply
Network	Oct 30 10:37:08 CPE150 kern.warn kernel: [ 14.440000] band steering initialized for direct
💾 Management	Oct 30 10:37:08 CPEISO kern.warn kernel: [ 14.450000] ieee80211_bsteering_attach: Band steering initialized Oct 30 10:37:08 CPEISO kern.warn kernel: [ 14.460000] ath attach dfs[12691] dfsdomain 1
	Oct 30 10:37:08 CPEI50 kern.warn kernel: [ 14.470000] SPECTRAL : module already attached Oct 30 10:37:08 CPEI50 kern.info kernel: [ 14.470000] osif_wrap_attach:296 osif wrap attached
	Oct 30 10:37:08 CPE150 kern.info kernel: [ 14.480000] osif_wrap_devt_init:916 osif wrap dev table init done
	Oct 30 10:37:08 CPEI50 kern.warn kernel: [ 14.490000] ath_tx_paprd_init sc 871e0000 PAFRD disabled in HAL
	Oct 30 10:37:08 CPE150 kern.info kernel: [ 14.500000] wifi0: Atheros ???: mem=0xb8100000, irg=47
	Oct 30 10:37:08 CPE150 kern.info kernel: [ 14.500000] ath_pci: SmartAntenna-DRT-0.1
	Oct 30 10:37:08 CPEI50 kern.info kernel: [ 14.610000] bonding: Ethernet Channel Bonding Driver: v3.7.1 (April 27. 2011)
	Oct 30 10:37:08 CPE150 kern.info kernel: [ 15.330000] xt_time: kernel timezone is -0000
	Oct 30 10:37:08 CPE150 kern.warn kernel: [ 16.070000] nf_conntrack_rtsp v0.6.21 loading Oct 30 10:37:08 CPE150 kern.warn kernel: [ 16.140000] nf nat rtsp v0.6.21 loading
	Refresh Clear

P39 LOG info

↓† Advanced Settings		
\land Return home	System Time Logs Upgrade Firmware System User	
🚱 Setup Wizard	Upgrade Firmware	
🔤 Device Status	Software Version CPE150-AP-V2.0-B20160506191550	
zıll Wireless	Choose File 浏览 Upgrade	
Network		
💾 Management	Note of the device during the upload because it may crash the system!	

#### P40 Firmware Upgrade

l∤i Advanced Settings		
\land Return home	System Time Logs Upgrade Firmware System User	
🚱 Setup Wizard	Save/Reload Settings	
🔤 Device Status	Backup Backup	
zıl <mark>i</mark> Wireless	Restore 浏览 Restore	
Network	Deset Default Reset Default	
💾 Management	Réboot Reboot	

P41 System info

H Advanced Settings ×				
🔗 Return home	System Time Logs Upgrade Firmware System User			
🚱 Setup Wizard	User			
Device Status	Old Password			
zıll Wireless	Password			
Network	Confirm Password			
💾 Management				

P42 User Info

# 4<sup>th</sup> Share Internet and Obtain IP address automatically

Set computer's TPC/IP as Obtain an IP address automatically, Obtain DNS server address automatically as

#### following picture showed.

the computer will obtain the IP address from router or base station to get Internet.

# Quickly Guider for Outdoor CPE

上本地连接 Status	上本地连接 Properties ? 🔀	Internet Protocol (TCP/IP) Properties
General Support	General Advanced	General Alternate Configuration
Connection Status:	Connect using: Qualcomm Atheros AR8151 PCI-E Gig Configure	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Speed:	This connection uses the following items:	Obtain an IP address automatically
		Use the following IP address:
Activity	Install Uninstall Properties	Obtain DNS server address automatically
Packets:	Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.	O Use the following DNS server addresses: Preferred DNS server:
Properties Disat	<ul> <li>Show icon in notification area when connected</li> <li>Notify me when this connection has limited or no connectivity</li> </ul>	Alternate DNS server:
	OK Cancel	OK Cancel

#### Trouble Shooting:

#### F 1 The Failure phenomenon and solution

Failure phenomenon	Solution
SYS Indicator off	Pls make sure the PoE module connection is right. POE Port connect with AP, LAN port connect with computer
Can't land to Wireless AP through Web page	Pls check the IP address of computer and Wireless AP to see whether they are in same networking segment, The method is click "start"-"Run" input"cmd", ping 192.168.188.253 to test the Wireless AP connectivity. Reset Wireless AP and load it again; Pls make sure the IP address 192.168.188.253 is not occupied by other device in Wireless AP's networking; Check computer and cable problem, recommend to use 10/100M UTP unshielded cable; Clean up Arp binding from "Start"-"Run" input"cmd" arp –d Clean the IE Brower's temporary files and Cache file.
Wireless AP can't connect with AP (the status display unconnected)	Try to scan the avaliable wireless networking again; Make sure the Wireless AP's wireless standard (11b/g/n, 2.4G) is correct; The Security and passwords are matched between Wireless AP and AP; The signal strength of AP is too weak to connect, should be more than -75dBm;
Can't scan the wireless AP	Scan it several times more; Make sure there are 5G signal existed. Reset the Wireless AP, scan it again after Wireless AP restart;
The connection of Wireless AP and AP is success, but the computer can't share internet	Pls Check the computer's IP address and DNS setting. If it is dynamin, set the network card as automatically obtain. If it is static IP, pls contact with ISP for correct IP address and DNS address.
How to Reset Wireless AP	Press the "Reset" button more than 15 seconds after power on. The Wireless AP will restore factory default after the Wireless AP restart.