

## User Manual

### IPD-WIFI WIFI Kit



Designed and manufactured by Austin Hughes

FC CE  REACH

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## Legal Information

First English printing, December 2021

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

## Safety Instructions

**Please read all of these instructions carefully before you use the device. Save this manual for future reference.**

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40° Celsius (104° Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labelled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

## What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - ☐ Repair or attempted repair by anyone not authorized by us.
  - ☐ Any damage of the product due to shipment.
  - ☐ Removal or installation of the product.
  - ☐ Causes external to the product, such as electric power fluctuation or failure.
  - ☐ Use of supplies or parts not meeting our specifications.
  - ☐ Normal wear and tear.
  - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

## Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class A 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.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. 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:

- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

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Part I. Overview

< 1.1 > Package Content



WIFI Kit ( IPD-WIFI )

- Antenna x 1
- USB wireless adapter x 1
- Magnetic stand with 1M antenna wire x 1

Unpacking

The equipment comes with the standard parts shown on the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

< 1.2 > Technical Specification

IPD-WIFI Wireless Specification	
IEEE Standards	IEEE 802.11a / b / g / n / ac
Operating Frequencies	2.4GHz~2.4835GHz / 5.15GHz~5.85GHz
Modulation	<ul style="list-style-type: none"><li>• 802.11b : CCK, DQPSK, DBPSK</li><li>• 802.11a/g : 64-QAM, 16-QAM, QPSK, BPSKz</li><li>• 802.11n : 64-QAM, 16-QAM, QPSK, BPSK</li><li>• 802.11ac : 256-QAM, 64-QAM, 16-QAM, QPSK, BPSK BT, 8DPSK, <math>\pi/4</math>DQPSK, GFSK</li></ul>
Wireless Date Rate	<ul style="list-style-type: none"><li>• 802.11b : 1, 2, 5.5, 11 Mbps</li><li>• 802.11a/g : 6, 9, 12, 18, 24, 36, 48, 54 Mbps</li><li>• 802.11n : HT20 reach up to 72.2Mbps, HT40 reach up to 150Mbps</li><li>• 802.11ac : VHT20 reach up to 86.7Mbps, VHT40 reach up to 200Mbps, VHT80 reach up to 433.3Mbps</li></ul>
Security	<ul style="list-style-type: none"><li>• WPA2 - Personal</li><li>• WPA2 - Enterprise</li></ul>

## Part II. Hardware Connection

### < 2.1 > Antenna + USB Wireless Adaptor

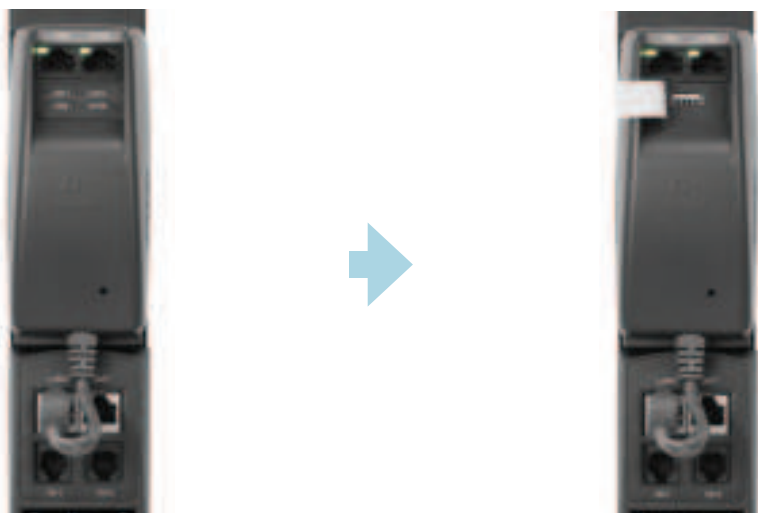
#### Step < 1 >

- Inset and screw the antenna to the USB wireless adaptor. Fix the antenna in place & lift it up.



#### Step < 2 >

- Take out the membrane from the PDU dongle, and the WIFI USB port will be found.



#### Step < 3 >

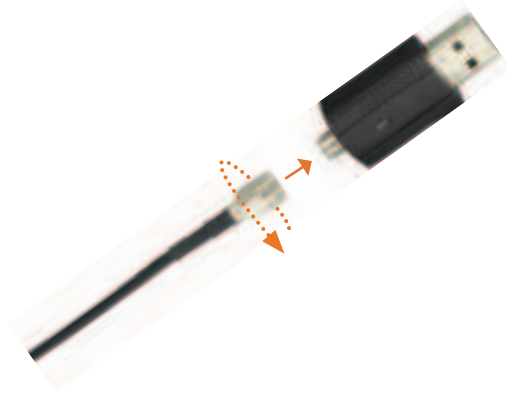
- Connect the USB wireless adapter (with antenna) to PDU dongle



## < 2.2 > Antenna + USB Wireless Adaptor + Magnetic Stand with Antenna Wire

### Step < 1 >

- Inset and screw the antenna to the magnetic stand, and fix the antenna in place.
- Inset and screw the 1M antenna wire to USB wireless adaptor, and fix the adapter in place.



### Step < 2 >

- Take out the membrane from the PDU dongle, and the WIFI USB port will be found.



### Step < 3 >

- Connect USB wireless adapter to PDU dongle.
- Affix the magnetic stand (with antenna) to the desirable area of rack.



## Part III. WIFI Network Configuration

### < Preparation >

- Make sure the network meet the security WPA2 - Personal or WPA2 - Enterprise.
- PDU dongle IPD-03-S is well connected to the iPDU and powered on.
- Login IPD-03-S web UI via LAN 1/ LAN 2 to configure the WIFI network.



**3rd party WIFI kit is not compatible to InfraPower.**

**Make sure IPD-WIFI has been used for the WIFI network connection.**

### < 3.1 > Wifi Static IP setting

**Step 1.** Click “ Scan Wifi “ to search the available WiFi network

**Network**

**LAN 1 settings**

DHCP: OFF

IPv4 address: 192.168.11.1

IPv6 address: fe80::301:120

Subnet mask: 255.255.255.0

Gateway: 192.168.11.254

**LAN 2 settings**

DHCP: OFF

IPv4 address: 192.168.0.2

IPv6 address: fe80::1:120

Subnet mask: 255.255.255.0

Gateway: 192.168.0.254

Enable automatic network: ☐

**Wifi settings**

SSID: InfraPower

Security: None

DHCP: On

IPv4 address: not available

IPv6 address: not available

Subnet mask: not available

Gateway: not available

**Static IP**

Manually configure IP address: ☒

Primary IP: 8.8.8.8

Secondary IP: 0.0.0.0

Apply Cancel



**Step 2.** Select the appropriate network from the pull down menu of “ ESSID “

The screenshot shows the 'Network' configuration page. It has two columns for 'LAN 1 settings' and 'LAN 2 settings'. Both columns have fields for DHCP (set to OFF), IPv4 address, IPv6 address (set to ::ffff:0a0b:1:120), Subnet mask (set to 255.255.255.0), and Gateway (set to 192.168.0.254). Below these is a checkbox for 'Enable automatic failover' which is unchecked. The 'WiFi settings' section is highlighted with a red oval. It contains a dropdown menu for 'ESSID' which is currently set to 'NONE'. The dropdown menu is open, showing a list of available networks including 'Auto-Hughes ADServer', 'Auto-Hughes User', 'Auto-Hughes Guest', 'JTP3048HT1', 'Cable', 'Cable\_SG', 'RnDTell\_S 4G', 'RnDTell\_SG', 'TP-LINK\_FA204E', 'TP-LINK\_POCKET\_339C\_4D804A', 'Teetong\_SG', 'Teetong\_Guest', 'Wondex\_2\_4G', 'Wondex\_SG', 'wondex\_SG', and 'woguest'. There is also a 'Scan WiFi' button next to the dropdown.

**Step 3.** Select the security type ( NONE / WPA2-Personal / WPA2-Enterprise )

This screenshot shows the same 'Network' configuration page, but with the 'WiFi settings' section expanded. The 'ESSID' dropdown is now set to 'Auto-Hughes ADServer'. The 'Security' dropdown menu is open, showing three options: 'None', 'WPA2 Personal', and 'WPA2 Enterprise'. The 'None' option is currently selected. The 'DHCP' checkbox is checked. The 'IPv4 address' field is empty. The 'IPv6 address' field is set to 'not available'. The 'Subnet mask' and 'Gateway' fields are also set to 'not available'. The 'DNS' section is visible at the bottom, with 'Manually configure DNS server' checked, 'Primary DNS' set to '8.8.8.8', and 'Secondary DNS' set to '0.0.0.0'.

## Part III. WIFI Network Configuration

**Step 4.** Enter “ Username “ ( For security type : WPA2-Enterprise ONLY )

The screenshot shows a network configuration interface with the following sections:

- Network** (header)
- LAN1 settings**: DHCP: OFF, IPv4 address: 192.168.1.1, IPv6 address: 2001:0000:0000:0000:0000:0000:0000:0000, Subnet mask: 255.255.255.0, Gateway: 192.168.1.254
- LAN2 settings**: DHCP: OFF, IPv4 address: 192.168.2.1, IPv6 address: 2001:0000:0000:0000:0000:0000:0000:0000, Subnet mask: 255.255.255.0, Gateway: 192.168.2.254
- Enable automatic firmware update**: ☐
- WLAN settings**: SSID: Austin Hughes AC Center, Security: WPA2-Enterprise, Username: admin, Password: (empty), DHCP: OFF, IPv4 address: 192.168.1.1, IPv6 address: 2001:0000:0000:0000:0000:0000:0000:0000, Subnet mask: 255.255.255.0, Gateway: 192.168.1.254
- DNS**: Manually configure DNS server: ☒, Primary DNS: 8.8.8.8, Secondary DNS: 8.8.4.4

Buttons: Apply, Cancel

**Step 5.** Enter “ Password “

**Step 6.** Select “ DHCP “ to “ OFF “. Default is “ ON “

**Step 7.** Enter “ IPv4 address “ , “ IPv6 address “ , “ Subnet mask “ , “ Gateway “ & Click “ Apply “ to finish the above settings.

## < 3.2 > Wifi DHCP setting

**Step 1.** Click “ Scan Wifi “ to search the available Wifi network

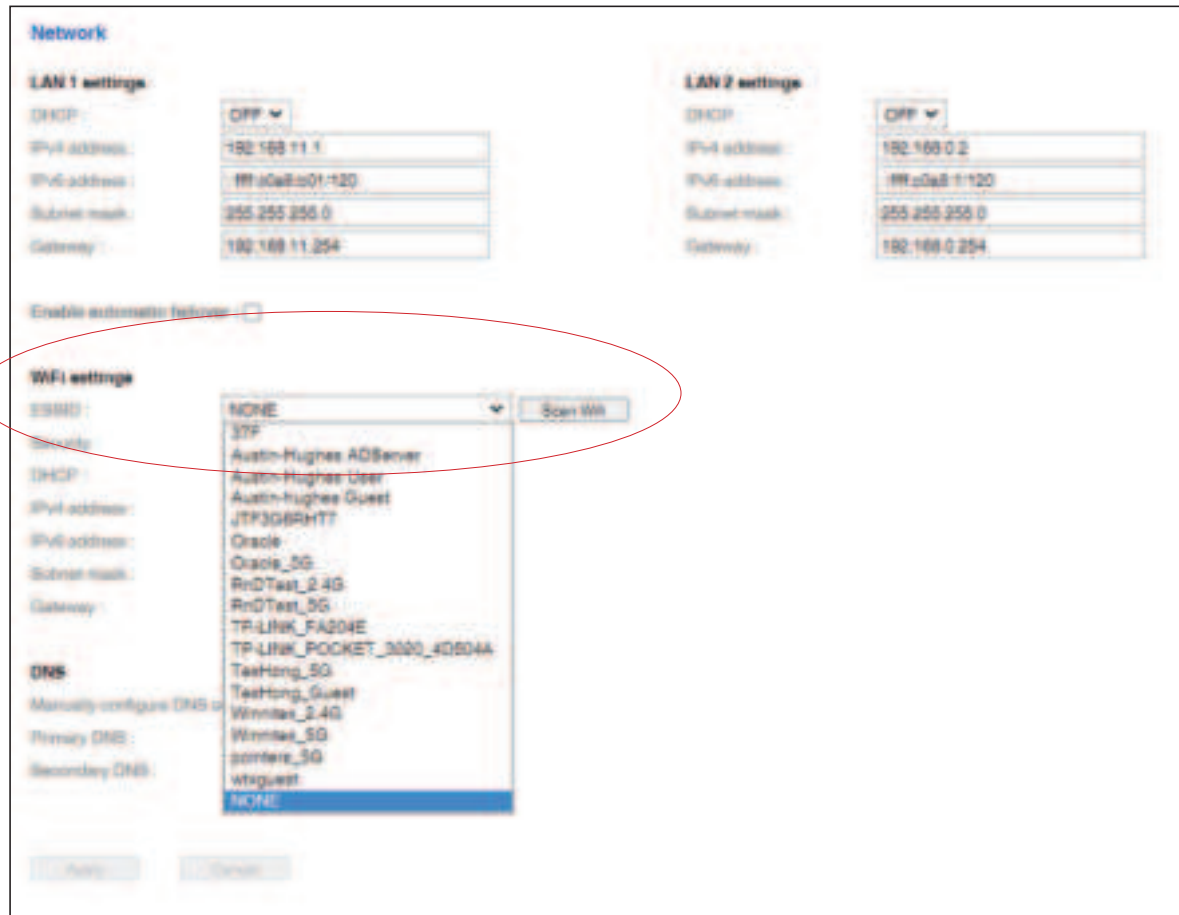
The screenshot displays a network configuration page with the following sections:

- Network**
  - LAN 1 settings**
    - DHCP: OFF
    - IPv4 address: 192.168.11.1
    - IPv6 address: ff::c0a8:601:120
    - Subnet mask: 255.255.255.0
    - Gateway: 192.168.11.254
  - LAN 2 settings**
    - DHCP: OFF
    - IPv4 address: 192.168.0.2
    - IPv6 address: ff::c0a8:1::20
    - Subnet mask: 255.255.255.0
    - Gateway: 192.168.0.254
  - Enable automatic failover: ☐
- WiFi settings**
  - ESSID: NONE (dropdown menu with a downward arrow)
  - Security: None (dropdown menu with a downward arrow)
  - DHCP: ON (dropdown menu with a downward arrow)
  - IPv4 address: not available
  - IPv6 address: not available
  - Subnet mask: not available
  - Gateway: not available
- DNS**
  - Manually configure DNS server: ☒
  - Primary DNS: 8.8.8.8
  - Secondary DNS: 0.0.0.0

At the bottom of the WiFi settings section, there are two buttons: "Apply" and "Cancel". The "Scan Wifi" button, located next to the ESSID dropdown, is circled in red.

## Part III. WIFI Network Configuration

**Step 2.** Select the appropriate network from the pull down menu of “ESSID “



The screenshot shows the Network configuration page. The LAN 1 settings are as follows:

Setting	Value
DHCP	OFF
IPv4 address	192.168.11.1
IPv6 address	FE80::501:120
Subnet mask	255.255.255.0
Gateway	192.168.11.254

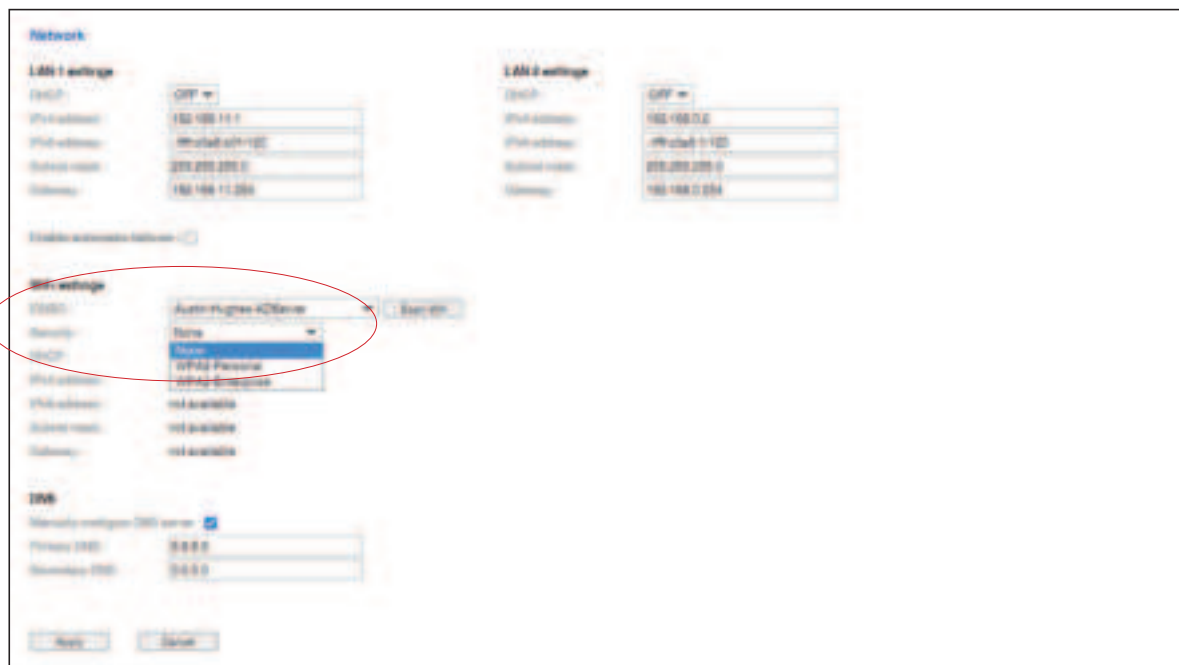
The LAN 2 settings are as follows:

Setting	Value
DHCP	OFF
IPv4 address	192.168.0.2
IPv6 address	FE80::1:120
Subnet mask	255.255.255.0
Gateway	192.168.0.254

The WiFi settings section is circled in red. The ESSID dropdown menu is open, showing a list of available networks. The list includes:

- NONE
- 37F
- Austin-Hughes ADServer
- Austin-Hughes User
- Austin-Hughes Guest
- JTF306RHT7
- Oracle
- Oracle\_5G
- RnDTest\_2.4G
- RnDTest\_5G
- TP-LINK\_FA004E
- TP-LINK\_POCKET\_3000\_40604A
- TestHong\_5G
- TestHong\_Guest
- Winter\_2.4G
- Winter\_5G
- comcast\_5G
- wtsguest
- NONE

**Step 3.** Select the security type ( NONE / WPA2-Personal / WPA2-Enterprise )



The screenshot shows the Network configuration page. The LAN 1 settings are as follows:

Setting	Value
DHCP	OFF
IPv4 address	192.168.11.1
IPv6 address	FE80::501:120
Subnet mask	255.255.255.0
Gateway	192.168.11.254

The LAN 2 settings are as follows:

Setting	Value
DHCP	OFF
IPv4 address	192.168.0.2
IPv6 address	FE80::1:120
Subnet mask	255.255.255.0
Gateway	192.168.0.254

The WiFi settings section is circled in red. The Security dropdown menu is open, showing a list of available security types. The list includes:

- Austin-Hughes ADServer
- None
- WPA2-Personal
- WPA2-Enterprise

**Step 4.** Enter “ Username “ ( For security type : WPA2-Enterprise ONLY )

Network

Left Panel

SSID: [WPA2-Enterprise]

Security: [WPA2-Enterprise]

Authentication: [WPA2-Enterprise]

Encryption: [WPA2-Enterprise]

Key Management: [WPA2-Enterprise]

Right Panel

SSID: [WPA2-Enterprise]

Security: [WPA2-Enterprise]

Authentication: [WPA2-Enterprise]

Encryption: [WPA2-Enterprise]

Key Management: [WPA2-Enterprise]

WPA2-Enterprise

Authentication: [Radius] [Radius]

WPA3

Security: [WPA3-SAE] [WPA3]

Apply

**Step 5.** Enter “ Password “

**Step 6.** Select “ DHCP “ to “ ON “. Default is “ ON “

**Step 7.** Click “ Apply “ to finish the above settings.

**Step 8.** Select “ Firmware “ from the left navigation pane



## Part III. WIFI Network Configuration

**Step 9.** Record the “ MAC address “ of the Wifi kit

**Firmware**

**Device Information**

Device :

IP Dongle FH8-08s

Firmware version:

FH8-08-HW-v2.0

Hardware revision:

2.0

**LAN 1 Information**

IPv4 address

: 192.168.1.67

IPv6 address

: ::ffff:a0a8:b01:120

MAC address

: 20:0A:00:00:01:9F

**LAN 2 information**

IPv4 address

: 192.168.0.1

IPv6 address

: ::ffff:a0a0:1:120

MAC address

: 20:0A:00:00:01:9E

**Wifi information**

IPv4 address

: 192.168.1.210

IPv6 address

: ::ffff:a0a8:2:120

MAC address

: 20:0A:00:00:01:F0

**Upgrade firmware**

File path :

Browse

**Warning :** Upgrading firmware may take a few minutes,  
please don't turn off the power or press the reset button.

Upgrade

Cancel

**Step 10.** Assign an IP address of the Wifi kit from your DHCP server.

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