UP POE HAT

Maker Board
UP-POE01

User's Manual 1st Ed

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Packing List

Before setting up your product, please make sure the following items have been shipped:

Item	Quantity
● UP-POE01 POE HAT Board	1

If any of these items are missing or damaged, please contact your distributor or sales

representative immediately.

About this Document

This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the product page on AAEON.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1.   All cautions and warnings on the device should be noted.

2.   Make sure the power source matches the power rating of the device.

3.   Position the power cord so that people cannot step on it. Do not place anything over the power cord.

4.   Always completely disconnect the power before working on the system's hardware.

5.   No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.

6.   If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.

7.   Always disconnect this device from any AC supply before cleaning.

8.   While cleaning, use a damp cloth instead of liquid or spray detergents.

9.   Make sure the device is installed near a power outlet and is easily accessible.

10.   Keep this device away from humidity.

11.   Place the device on a solid surface during installation to prevent falls

12.   Do not cover the openings on the device to ensure optimal heat dissipation.

13.   Watch out for high temperatures when the system is running.

14.   Do not touch the heat sink or heat spreader when the system is running

15.   Never pour any liquid into the openings. This could cause fire or electric shock.

16.   As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

17.   If any of the following situations arises, please the contact our service personnel:

    i.   Damaged power cord or plug

    ii.   Liquid intrusion to the device

    iii.   Exposure to moisture

    iv.   Device is not working as expected or in a manner as described in this manual

    v.   The device is dropped or damaged

    vi.   Any obvious signs of damage displayed on the device

18.   DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.

FCC Statement

Warning!

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte.
Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur.
Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量

AAEON Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板 及其电子组件	○	○	○	○	○	○
外部信号 连接器及线材	○	○	○	○	○	○
O：表示该有毒有害物质在该部件所有均质材料中的含量均在 　 SJ/T 11363-2006 标准规定的限量要求以下。 X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 　 SJ/T 11363-2006 标准规定的限量要求。 备注：此产品所标示之环保使用期限，系指在一般正常使用状况下。						

China RoHS Requirement (EN)

Poisonous or Hazardous Substances or Elements in Products
AAEON Main Board/ Daughter Board/ Backplane

Component	Poisonous or Hazardous Substances or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
PCB & Other Components	O	O	O	O	O	O
Wires & Connectors for External Connections	O	O	O	O	O	O
O：The quantity of poisonous or hazardous substances or elements found in each of the component's parts is below the SJ/T 11363-2006-stipulated requirement. X: The quantity of poisonous or hazardous substances or elements found in at least one of the component's parts is beyond the SJ/T 11363-2006-stipulated requirement. **Note: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only**						

Table of Contents

Chapter 1

Product Specifications

1.1   Specifications

System	
IC	LT4321I (PoE Ideal Diode Bridge Controller) x 1
	LT4276B (PD Forward / Flyback Controller) x 1

I/O Placements	
External Ports	RJ45 input x 1
	RJ45 output x 1
Internal connector	HAT 40 GPIO male (5V, GND) x 1

| Miscellaneous	
Form Factor	3.37" x 2.22" x 0.98" (85.6 mm x 56.5 mm x 25 mm)
Certification	CE / FCC Class A
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
OS Support	No OS limitation

Chapter 2

Hardware Information

2.1   Dimensions
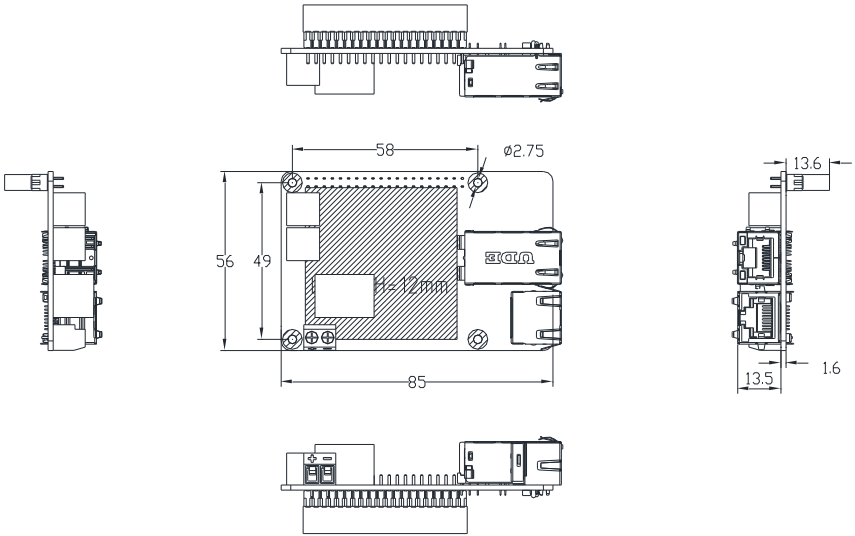
2.2 Jumpers and Connectors
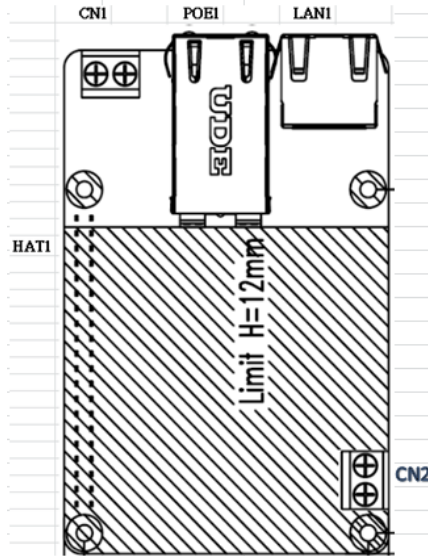
2.3 List of Switches and Connectors

Please refer to the table below for all of the board's jumpers that you can configure for your application

Label	Function	Connector Type
HAT1	5V Out Header	22N8562-40SA2B-01G
POE1	Ethernet Input Connector	RT5-1640K22A
LAN1	Ethernet Output Connector	415CE41AS2A214A3
CN2	DC Out Connector	DT-126VP-S2016002P

2.3.1   5V Out Header (HAT1)

Pin	Signal Description	Pin	Signal Description
1	NC	2	+5V
3	NC	4	+5V
5	NC	6	GND
7	NC	8	NC
9	GND	10	NC
11	NC	12	NC
13	NC	14	GND
15	NC	16	NC
17	NC	18	NC
19	NC	20	GND
21	NC	22	NC
23	NC	24	NC
25	GND	26	NC
27	NC	28	NC
29	NC	30	GND
31	NC	32	NC
33	NC	34	GND
35	NC	36	NC
37	NC	38	NC
39	GND	40	NC

2.3.2   Ethernet Input Connector (POE1)

Pin	Signal	Pin	Signal
1	TRP1+	5	TRP3+
2	TRP1-	6	TRP3-
3	TRP2+	7	TRP4+
4	TRP2-	8	TRP4-

2.3.3   Ethernet Output Connector (LAN1)

Pin	Signal	Pin	Signal
1	TRP1+	5	TRP3+
2	TRP1-	6	TRP3-
3	TRP2+	7	TRP4+
4	TRP2-	8	TRP4-

2.3.4   DC Out Connector (CN2)

Pin	Signal
1	AUX+
2	GND_POWER

Chapter 3

Quick Installation Guide

3.1   Block Diagram
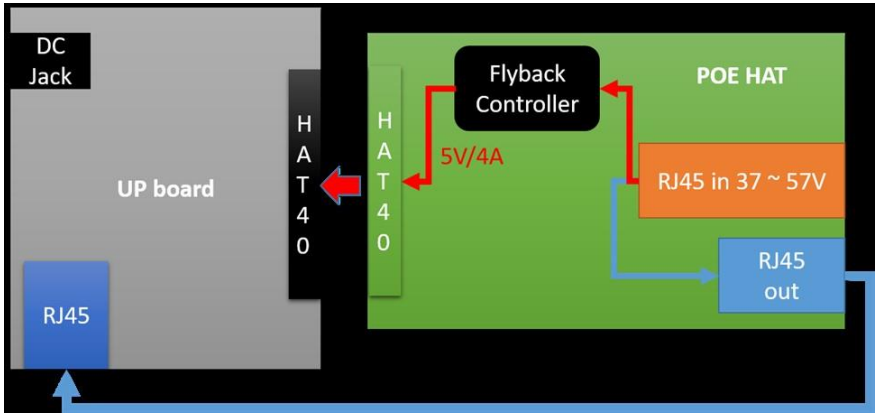
3.2   Installation Guide

This section details how to connect the UP POE HAT Board with your UP Main Board.

UP POE HAT can be used with UP Board or UP Squared.

1.   Connect Main Board (MB) and POE board through 40-pin HAT connector.

2.   Use standoffs and screws in accessory kit to secure the boards together.

3.   Connect LAN1 on PoE to LAN port on MB with LAN cable in accessory kit.

4.   To power the system with PoE, connect a 37~65W PoE power supply to the RJ45

PoE Port (LAN Input POE1) circled in the following picture.

5.   The POE HAT will power your MB through the 40PIN header and transmit the LAN signal to your MB via the LAN cable.

To power other devices while using the POE HAT, connect devices to the 5V DC Out port instead of the 40-pin header.

Note: Do not connect the UP Board or UP Squared 5V DC PSU while using the PoE HAT!