# BITMAIN



# **HS3 Server Manual**

# **Document Version 2.0**

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# 1. Overview

The HS3 server is BITMAIN's newest version in this series. Power supply APW12 is part of HS3 server. All HS3 servers are tested and configured prior to shipping to ensure easy set up.





### **Front View**



# Caution:

1. Please refer to the layout above to place your goods in usage in case of any damage.

2. The equipment must be connected to an earthed mains socket-outlet. The socket-outlet shall be installed near the equipment and shall be easily accessible.

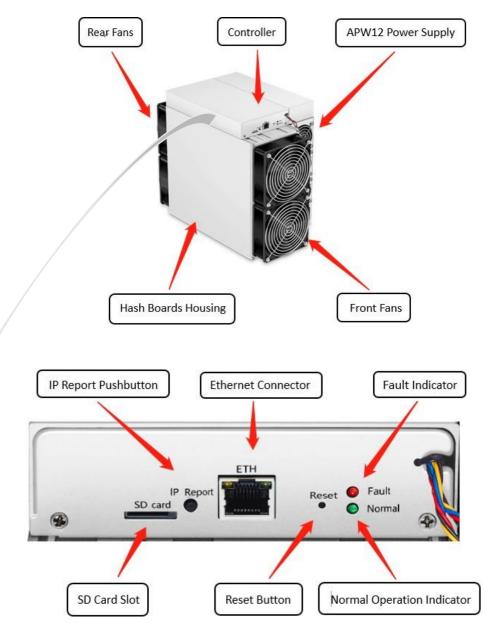
3. The equipment has two power inputs. Only by connecting those two power supply sockets simultaneously can the equipment run normally. When the equipment is powered off, be sure to power off all power inputs.

- 4. DO NOT remove any screws and cables tied on the product.
- 5. DO NOT PRESS the metal button on the cover.
- 6. Please note that the actual server shall prevail.



# **1.1 HS3 Server Components**

The main components and controller front panel of HS3 servers are shown in the following figure:





# **APW12** Power Supply:





## Note:

- 1. Power supply APW12 is part of HS3 server. For detailed parameters, please refer to the specifications below.
- 2. Additional two power cords are needed.



# **1.2 Specifications**

Model: HS3-9T

# Hashrate: 9 TH/s

Product Glance	Value
Version	240-HS
Model	HS3-9T
Crypto Algorithm/Coins	blake2b+sha3
Hashrate, <b>GH/s</b>	9000 ±3%
power on wall@25°C <b>, Watt</b>	2079 ±10%
power efficiency on wall @25°C, J/TH	231 ±10%

Detailed Characteristics	Value							
Po	ower Supply							
Power supply AC input voltage, Volt <sup>(1-1)</sup>	200~240							
Power supply AC Input Frequency Range, <b>Hz</b>	47~63							
Power supply AC Input current, <b>Amp</b> <sup>(1-2)</sup>	20 <sup>(1-3)</sup>							
Hardwa	Hardware Configuration							
Network connection mode	RJ45 Ethernet 10/100M							
Server Size (Length*Width*Height, w/o package), <b>mm<sup>(2-1)</sup></b>	430*195.5*290							
Server Size (Length*Width*Height, with package), <b>mm</b>	570*316*430							
Net weight, <b>kg</b> <sup>(2-2)</sup>	16.1							
Gross weight, <b>kg</b>	17.7							
Environm	nent Requirements							
Operation temperature, °C	0~40							
Storage temperature, °C	-20~70							
Operation humidity(non-condensing), RH	10~90%							
Operation altitude, <b>m</b> <sup>(3-1)</sup>	≤2000							



Model: HS3-8.55T

## Hashrate: 8.55 TH/s

Product Glance	Value			
Version	240-HS			
Model	HS3-8.55T			
Crypto Algorithm/Coins	blake2b+sha3			
Hashrate, GH/s	8550 ±3%			
power on wall@25°C <b>, Watt</b>	1975 ±10%			
power efficiency on wall @25°C, J/TH	231 ±10%			

Detailed Characteristics	Value						
P	ower Supply						
Power supply AC input voltage, Volt (1-1)	200~240						
Power supply AC Input Frequency Range, <b>Hz</b>	47~63						
Power supply AC Input current, <b>Amp</b> <sup>(1-2)</sup>	20 <sup>(1-3)</sup>						
Hardware Configuration							
Network connection mode	RJ45 Ethernet 10/100M						
Server Size (Length*Width*Height, w/o package), <b>mm</b> <sup>(2-1)</sup>	430*195.5*290						
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Gross weight, <b>kg</b>	17.7						
Environn	nent Requirements						
Operation temperature, °C	0~40						
Storage temperature, °C	-20~70						
Operation humidity(non-condensing), <b>RH</b>	10~90%						
Operation altitude, <b>m</b> <sup>(3-1)</sup>	≤2000						



#### Notes:

- (1-1) Caution: Wrong input voltage may probably cause Server damaged
- (1-2) Max condition: temperature 40°C, altitude 0m
- (1-3) Two AC input wires, 10A per wire
- (2-1) Including PSU size
- (2-2) Including PSU weight
- (3-1) When the Server is used at an altitude from 900m to 2000m, the highest operating temperature decreases by 1°C for every increase of 300m



2.Setting up the Server

# 2. Setting up the Server

### To set up the server:



i

The file IPReporter.zip is supported by Microsoft Windows only.

- 1. Go to the following site: <u>https://service.bitmain.com/support</u>
- 2. Download the following file: IPReporter.zip.
- 3. Extract the file.

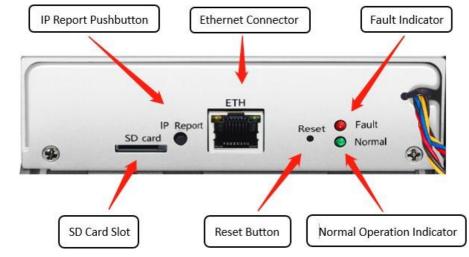
The default DHCP network protocol distributes IP addresses automatically.

- 4. Right-click **IPReporter.exe** and run it as Administrator.
- 5. Select one of the following options:
  - Shelf, Step, Position suitable for farm servers to mark the location of the servers.
  - Default suitable for home servers.
- 6. Click Start.

NO.	IP	MAC	POSITION



2. Setting up the Server



7. On the controller board, click the IP Report button. Hold it down until it beeps (about 5 seconds).

The IP address will be displayed in a window on your computer screen.

		P Reporter		
helf 1	Step 1	Position	1	Start
	C	onfirmation		×
	IP 1010.70.1	23		
	MAC 6C:EC:EB:	62:39:F2		
POS	SITION 1-1			
FUC				
	ок	Skip	Stop	
	1		-	
Skip	Stop	E	xport	Quit

- 8. In your web browser, enter the IP address provided.
- 9. Proceed to login using root for both the username and password.
- 10. In the Protocol section, you can assign a Static IP address (optional).
- 11. Enter the IP address, Subnet mask, gateway and DNS Server.
- 12. Click "Save".
- 13. Click <u>https://support.BITMAIN.com/hc/en-us/articles/360018950053</u> to learn more about gateway and DNS Server.



2. Setting up the Server

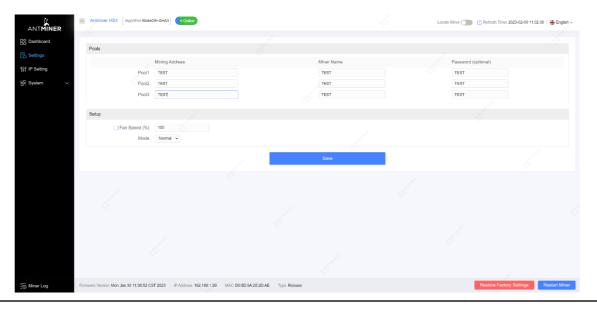
	Antminer HS3 {Algorithm Blake2B+SHA3}	• Online		Locate Miner C Refresh Timer 2023-02-09 11:00:	16   🖶 English 🗸
B Dashboard					
Settings			IP Setting		
\$å∮ IP Setting	1				
문 System ~	4	Made and the former of the	eth0 MAC-Adress:D0:5D:9A:25:2D:AE IP Address:192.168.1.99 Subnet Mask:255.255.255.0		
		HostNname	Antminer		
		Protocol	DHCP ~		
			Save		
C Miner Log	Firmware Version Mon Jan 30 11:36:52 CST 2023	P Address 192.168.1.99 MAC D0:5D:9	A:25:2D:AE Type Release	Restore Factory Settings	Restart Miner

# **3.** Configuring the Server

# Setting up the Pool

To configure the server:

1. Click Settings marked below.



# Note:

1. Fan speed percentage can be adjusted, but we recommend to keep the default setting. The server will adjust the fan speed automatically if the fan speed percentage has yet been selected.

2. There are two working modes of HS3 server: Normal mode and Sleep mode. The server enters the sleep mode under the condition that the control board is powered while hashboards are not powered.

2. Set the options according to the following table:

Option	Description
Mining address	Enter the address of your desired pool. The HS3 servers can be set up with three mining pools, with decreasing priority from the first pool (pool 1) to the third pool (pool 3). The pools with low priority will only be used if all higher priority pools are offline.
Name	Your worker ID on the selected pool.
Password (optional)	The password for your selected worker.

3. Click Save after the configuration.

4. Monitoring Your Server

# 4. Monitoring Your Server

#### To check the operating status of your server:

1. Click dashboard marked below to check the server status (taking HS3-9T as an example).

erd Real Tim	ie Hashrate	$\cap$	Network Status		Fan Speed				finer Tempera	ture			0
								Normal					- Normal
19													
~				Chair	ns' Rato								
	Real Time Hashrate 9510.77 GHz		Average Tetal Hashrate 9201.26 CH45	Chain 3.56	rate (GH(s) 0								
	9310.77 GHS		9201.20GHs	3,00							•	(	
	Pool Rejection Rate (1)		More Rooting Time	2,00									
	0.00%	3	17h12m41s	1,00									
					o Smin 45min 75min		imin 165min	195min 225	min 255n	nin 285min	n 315	inte 3	45min
				-O- the	ini -O- chaini -O- chaini								
Pool													
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1													
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	stratum (tcp://10.76.6.33/5000	D hs1	qyz/832t6thx;mtxeee0w22333v3dq	qQizdn/jk	_								
2	stratum (tcp://10.76.6.33/5000	i hat	qyz /632tl6thqmbæee0w22338v3dq	10,2dn/R	Ažmunist	0.0000	1.2	0 0	0	0	0	0	
	stratum=10p://10.76.6.33/5000	) hs1	qyz 7632505humhees0w22338v3dq	Qizdn/jk	_		1.2						
2		) hs1	qyz 7832t6msymtxeee0w22333v3dq	10,2dn/Ø	Ažmunist	0.0000	1.2	0 0	0	0	0	0	
2 3	r H53	D hs1	qyg 7632805hgmtxee40w22339v3dq Hardware Enor	10jadn/jk Emguency	Ažmunist	0.0000	1.2	0 0	0	0	0	0	
2 3 Antmine	r H53				Abaans	0.0000	1	0 0 0 0	0	0	0	0	Chip state
2 3 Antmine Hosh Roth	r H53	Number of Chips 92	Hardware Reser 42509	Prinquency 500	Annina Annina Real Time Hastante 3000.19 OHs	0.0000	1 2 Theoretical Hashin 3063.6 C	0 0 0 0 His	0 0 et Tomp 6/	0	0 0 Temp 70	0	Chip state Normal
2 3 Antmine Hach Box	r H53	Number of Chips	Hardware Firor	Finquency	Aborena Aborena Real Time Hasherin	0.0000	1 2 Theoretical Hashi	0 0 0 0 His	0 0 nt Tomp	0	0 0 Tomp	0	Chip state Normal
2 3 Antmine Hosh Roth	r H53	Number of Chips 92	Hardware Reser 42509	Prinquency 500	Annina Annina Real Time Hastante 3000.19 OHs	0.0000	1 2 Theoretical Hashin 3063.6 C	0 0 0 0 http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://w	0 0 et Tomp 6/	0	0 0 Temp 70	0	Chip state Normal (
2 3 Antriine Hoon Roo 1 2	r H53	Number et Chips 92 92	Hardwain Rese 42809 29827	Реприетку 600 505	Aurorate Anerate Beart The Hustwee 2006, 14 Citris	0.0000	1 2 Theoretical Hauhi 3063.6 (0 3063.6 (0 3063.6 (0 3063.6 (0	0 0 0 0 http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://www.initeduction.com/ http://w	0 0 et Tomp 6/ 58	0	0 0 Tomp 70 09	0	0:0:7 0 0 Chip state Normal

2. Monitor your server according to the descriptions in the following table:

Note: The HS3-9T server is with fixed frequency 555 MHz. Firmware will stop running when the Temp (Outlet) reaches to  $95^{\circ}C$ , there will be an error message "high temp exceed limit (Overtemperature duration/s), max\_chip\_temp = (chip-real-temprature), max\_pcb\_temp = (board-real-temprature)!" shown on the bottom of kernel log page. Meanwhile, the server temperature on the dashboard interface turns to abnormal and shows "Temp is too high".

Option	Description		
Number of chips	Number of chips detected in the chain.		
Frequency	ASIC frequency setting.		
Real Hashrate	Real-time Hashrate of each hash board (GH/s).		
Inlet Temp	Temperature of the inlet (°C).		
Outlet Temp	Temperature of the outlet (°C).		
Chip state	One of the following statuses will appear:		
	• The Green Icon - indicates normal		
	The Red Icon- indicates abnormal		



5. Administering Your Server

# 5. Administering Your Server

## **5.1 Checking Your Firmware Version**

#### To check your firmware version:

- 1. Enter the backstage of your server, find the firmware version on the bottom.
- 2. **Firmware Version** displays the date of the firmware your server uses. In the examples below, the server is using firmware version 20230130.

	Antrniner HS3 {Algorithm Biske28+SHA3}			Locate Miner 🕥 (§ Refresh Timer 2023-02-09 11:07:21   🔮 English ~
Dashboard				
E Settings		IP Setting		
†≬† IP Setting		ethO		
₩ System ∨	Ne	work Information IP Address:192.168.1.99 Subnet Maek:255.255.0		
e <sup>re e</sup>		HostNname Antminer		
		Protocol DHCP	×	
		Save		
To Miner Log	Firmware Version Mon Jan 30 11:36:52 CST 2023 IP Address 192.168.1	99 MAC D0:5D:9A:25:2D:AE Type Release		Restore Factory Settings Restart Miner

# 5.2 Upgrading Your System

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Make sure that the HS3 server remains powered during the upgrade process. If power fails before the upgrade is completed, you will need to return it to BITMAIN for repair.

#### To upgrade the server's firmware:

#### 1. In System, click Firmware Upgrade.

ANTMINER	Antminer HS3 { Algorithm Blake2B+SHA3	Online				Locate Miner	C Refresh Timer 2023-02-09 11:08:06	i 🔮 English 🗸
음암 Dashboard 문급 Settings				Firmware Upgrade				
tilf IP Setting 님유 System ∧			Firmware File		۵.			
Password			<b>∠</b> Ko	ep the Same Settings Update				
To Miner Log	Firmware Version Non Jan 30 11:36:52 CST 2023	IP Address 192.168.1.99	MAC D0:5D:9A:25:21	DAE Type Release			Restore Factory Settings	Restart Miner



5. Administering Your Server

#### 2. For Keep Settings:

3. Click the

- Select "keep settings" to keep your current settings (default).
- Unselect "keep settings" to reset the server to default settings.
  - <sup>d</sup> button and navigate to the upgrade file. Select the upgrade file, then click **Update**.
- 4. When the upgrade is completed, restart the server and it will turn to the setting page.

	Antminer HS3 (Algorithm Biolog28+SH48)		Locate Miner 🌑 👌 Refresh Thr	127 2023-02-05 11.02.35 🔮 English 🗸
B <sup>0</sup> Dashboard				
E Sottings	Pools			
Ŷ IP Setting	Mining Address Pool1 TEST	Miner Name TEST	Password (optional) TEST	
₩ System v	Pool2 TEST	TEST	TEST	
	Pool3 TUST	TEST	TEST	
	Setup			
	Ean Speed (%) 100			
	Mode Nerral -			
		Save		
50 Miner Log	Firmware Venion Mon Jan 30 11:38:52 CST 2023 IP Address 192.168.1.39 MAC D06D:8A26:	200AE Type Release	Restorn Fac	tory Settings Restart Misor

# 5.3 Modifying Your Password

#### To change your login password:

- 1. In System, click the Password tab.
- 2. Set your new password, then click **Save**.

	Antminer HS3 {Algorithm Blake28+SHA3}     Online			Locate N	iner 🕕 🕙 Refresh Timer 2023-02-28 11:12:51 🛛 🌞 English 🗸
B Dashboard					
E Settings			Reset Password		
ţţţ IP Setting	1				
법위 System ^	6	Current Password			
Password		Confirm Password			
💮 Firmware Upgrade					
	6		Save		
	1 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (				
	1				
	6				
To Miner Log	Firmware Version Mon Jan 30 11:38:62 CST 2023 IP Address	192.188.1.89 MAC 00:50:8A:25:2D:AE	Type Refeate		Restore Factory Settings Restart Minor

# **5.4 Restoring Initial Settings**

#### To restore your initial settings

- 1. Turn on the server and let it run for 5 minutes.
- 2. On the controller front panel, press and hold the **Reset** button for 10 seconds.



Resetting your server will reboot it and restore its default settings. The red LED will automatically flash once every 15 seconds if the reset is operated successfully.



# **Environmental Requirements**

#### Please run your server in accordance with the following requirements

#### **1. Basic Environmental Requirements:**

#### **1.1. Climatic Conditions:**

Description	Requirement
Operating Temperature	0-40°C
Operating Humidity	10-90%RH (non-condensing)
Storage Temperature	-20-70℃
Storage Humidity	5-95%RH (non-condensing)
Altitude	<2000m

#### 1.2. Site Requirements of the Server Running Room:

Please keep the server running room away from industrial pollution sources:

For heavy pollution sources such as smelters and coal mines, the distance should be more than 5km.

For moderate pollution sources such as chemical industries, rubber and electroplating industries, the distance should be more than 3.7km.

For light pollution sources such as food factories and leather processing factories, the distance should be more than 2km.

If unavoidable, the site should be chosen in the perennial upwind direction of the pollution source.

Please do not set your location within 3.7km from the seaside or the salt lake. If unavoidable, it should be built as airtight as possible, equipped with air conditioning for cooling.

#### **1.3. Electromagnetic Environmental Conditions:**

Please keep your site away from transformers, high-voltage cables, transmission lines and high-current equipment, for example, there should be no high-power AC transformers (>10KA) within 20 meters, and no high-voltage power lines within 50 meters. Please keep your site away from high-power radio transmitters, for example, there should be no high-power radio transmitters (>1500W) within 100 meters.

#### 2. Other Environmental Requirements:

The server running room shall be free of explosive, conductive, magnetically conductive and corrosive dust. The requirements of mechanical active substances are shown below:

#### 2.1 Requirements of Mechanical Active Substances

Mechanical Active Substance	Requirement
Sand	<= 30mg/m <sup>3</sup>
Dust (suspended)	<= 0.2mg/m <sup>3</sup>
Dust (deposited)	<=1.5mg/m <sup>2</sup> h



## 2.2 Requirements of Corrosive Gas

Corrosive Gas	Unit	Concentration		
H <sub>2</sub> S	ррb	< 3		
SO <sub>2</sub>	ррb	< 10		
Cl <sub>2</sub>	ррb	<1		
NO <sub>2</sub>	ррb	< 50		
HF	ррb	<1		
NH <sub>3</sub>	ррb	< 500		
O <sub>3</sub>	ррb	< 2		
Note: ppb (part per billion) refers to the unit of concentration, 1ppb stands for the volume ratio of				
part per billion.				



# **Regulations:**

#### FCC Notice (FOR FCC CERTIFIED MODELS):

This device complies with part 15 of the 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.

#### Note:

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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### EU WEEE: Disposal of Waste Equipment by Users in Private Household in the European Union



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handling it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste

disposal service or the shop where you purchased the product.

#### 台湾 ROHS:

	設備名稱: HS3 有害物質						
單元	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr+6)	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)	
外殼	0	0	0	0	0	0	
電路板組件	—	0	0	0	0	0	
其他線材	_	0	0	0	0	0	
備考 1. "超出 0.1 wt %"及"超出 0.01 wt %"係指限用物質之百分比含量超出百分比含量基準 值。 備考 2. "〇"係指該項限用物質之百分比含量未超出百分比含量基準值。 備考 3. "一"係指該項限用物質為排除項目。							

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