



TestMate1400

Multi-channel Optical Power Meter

User Guide _ Version 1.0

Ascentac
www.ascentac.com

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If you have any questions or need any assistance, please contact our service center.

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Please prepare the following information before you contact us and describe the problems.

- Product model and S/N
- Warranty information

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1. Safety Information

Read all safety information carefully before using this product to ensure personal safety and proper use.

- Assure the power supply conforming to the specification of this product and qualified for the country of use.
- Use the product based on the instructions in this manual and make sure the product is placed in a well-ventilated area.
- Make sure the product is operated on the permitted ambient conditions.
- Handle the product gently and smoothly to avoid damage of precision components caused by vibration when installing or taking the product.
- Keep the surface clean and dry.

2. Introduction

Ascentac TestMate1400 Series, Multi-channel Optical Power Meter, provides high accuracy for optical power measurement. It has a wide power range from +3 to -70dBm. It features high resolution, high stability and wide wavelength range.

Ascentac TestMate1400 Series supports Ethernet RJ45, RS232 and USB interface. With the Ethernet interface, the multi-channel optical power meter can be controlled remotely over the network. This multi-channel optical power meter also provides dual power supplies (AC & DC) to achieve power redundancy.

The 1U-high chassis design is convenient for mounting in a standard-sized, 19"-wide rack.

2.1 Features

- High resolution 0.01dB
- High accuracy $\pm 5\%$ dB
- High stability ± 0.2 dB
- Wide power range (+3dBm to -70 dBm)
- Wide wavelength range (1260nm to 1650nm)
- RJ45, RS-232 & USB interface

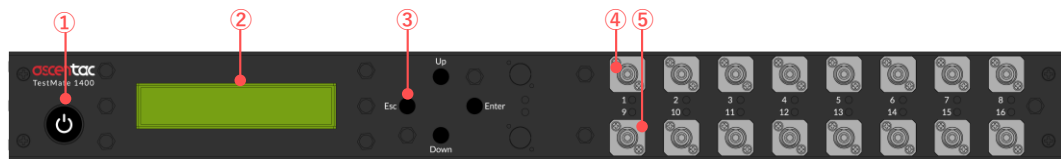
2.2 Application

- Research, production and testing of optical devices

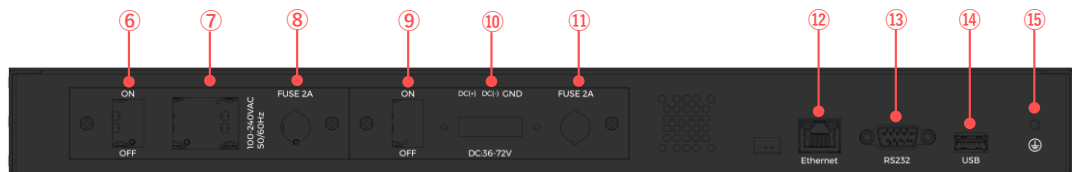
3. Layout

3.1 Appearance

- Front



- Back



3.2 Instruction

Item	Description	Item	Description
1	Power	7	AC power socket
2	LCD display	8	Fuse
3	Up: Up or increment	9	DC power switch
	Down: Down or decrement	10	DC power socket
	Enter: Confirm	11	Fuse
	Esc: Exit or cancel	12	Ethernet port
4	Input port	13	RS232 port
5	Output port	14	USB port
6	AC power switch	15	Grounding

4. Installation

4.1 Accessories Checking

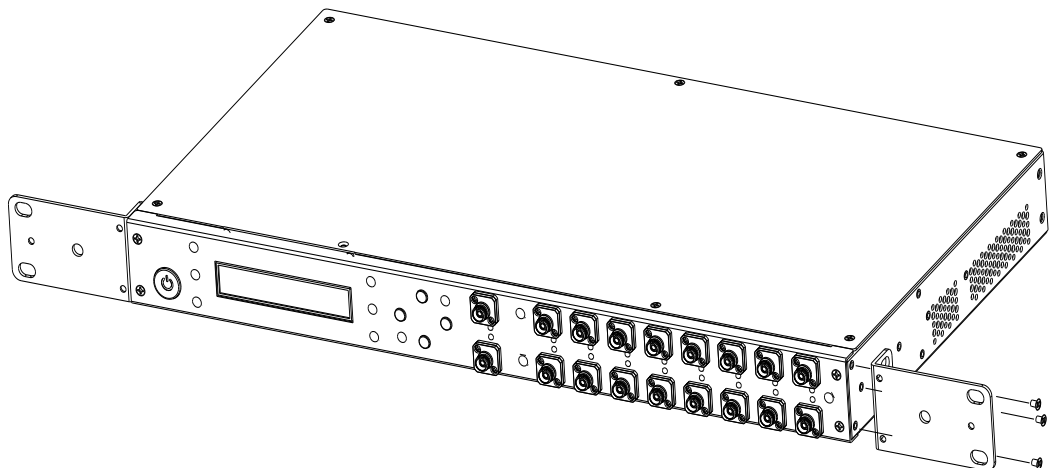
Ensure all accessories are included:

Item	Accessory	Quantity	Unit
1	Mounting ear	1	set
2	Screws (M3x6 white)	8	pc
3	Power cord (Option)	1	pc

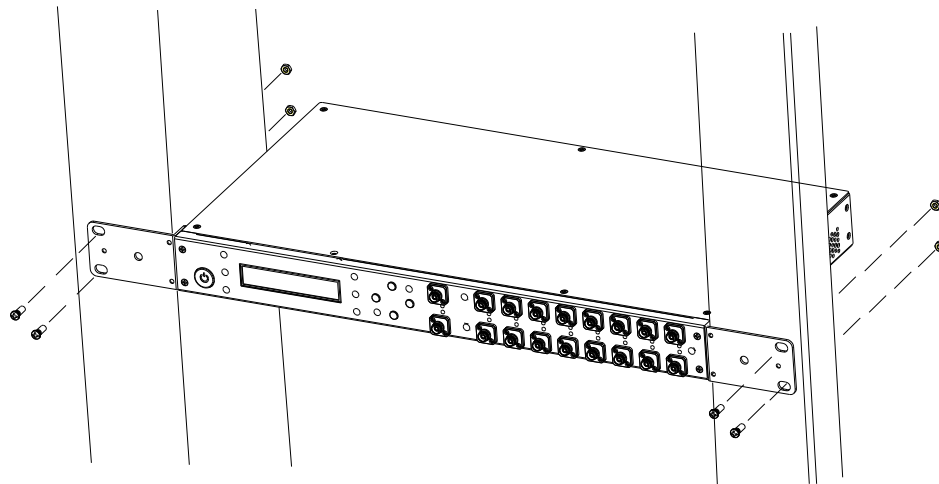
4.2 Equipment Installation

Follow the steps below to install the equipment on the rack with the accessories. The equipment which requires only one set of mounting ear can be mounted in an EIA-310 standard-sized rack, including 19-inch, 21-inch and 23-inch.

1. Align the mounting ear with the hole on the side of the equipment and fasten up with screws.



2. Align the screws on the mounting ear with the holes on the rack to position the equipment and use screws to fix the equipment to the rack.



4.3 Hardware Connection

Please confirm that the power switch of the panel is off before installation.

4.3.1 Connecting to Power Cord

- **AC Power Supply**

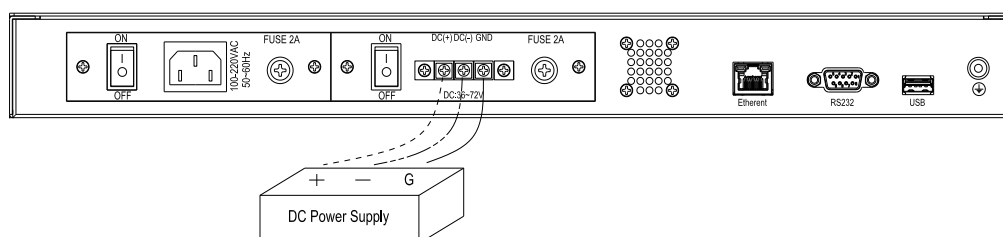
Connect the AC power cord to the power socket of the panel and then connect to the power supply terminal. (100 to 240VAC 50/60HZ)

- **DC Power Supply**

Separately connect the positive and the negative power lines to two DC power supply units to achieve the redundant dual DC power supply scheme.

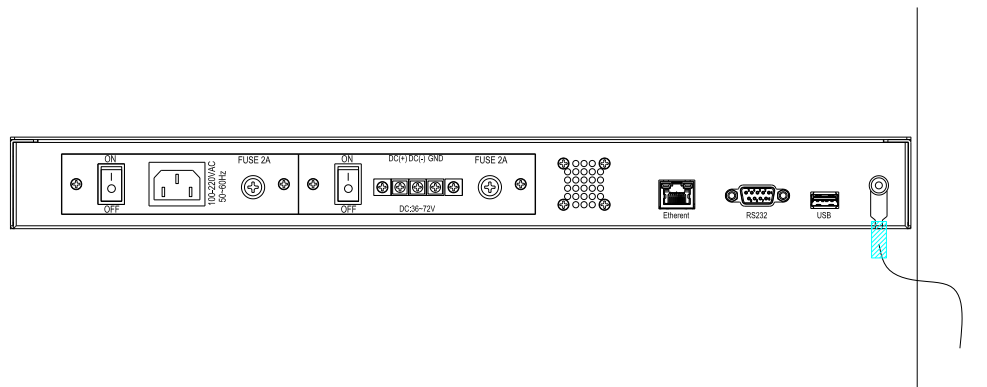
Note

The polarity of the power lines cannot be connected reversely.



4.3.2 Grounding

Connect the grounding point of the equipment to the grounding pin on the rack.



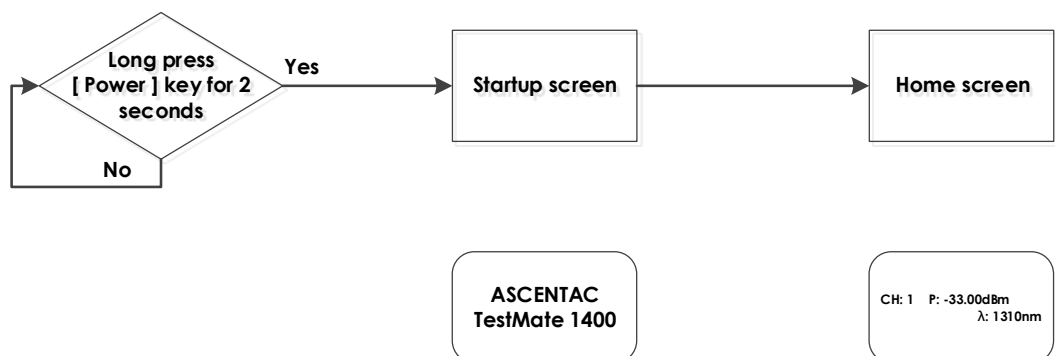
5. Operation

The operation includes general mode and engineering mode. If there is no panel operation for 30 seconds, the screen will automatically return to the home screen.

5.1 Power-on

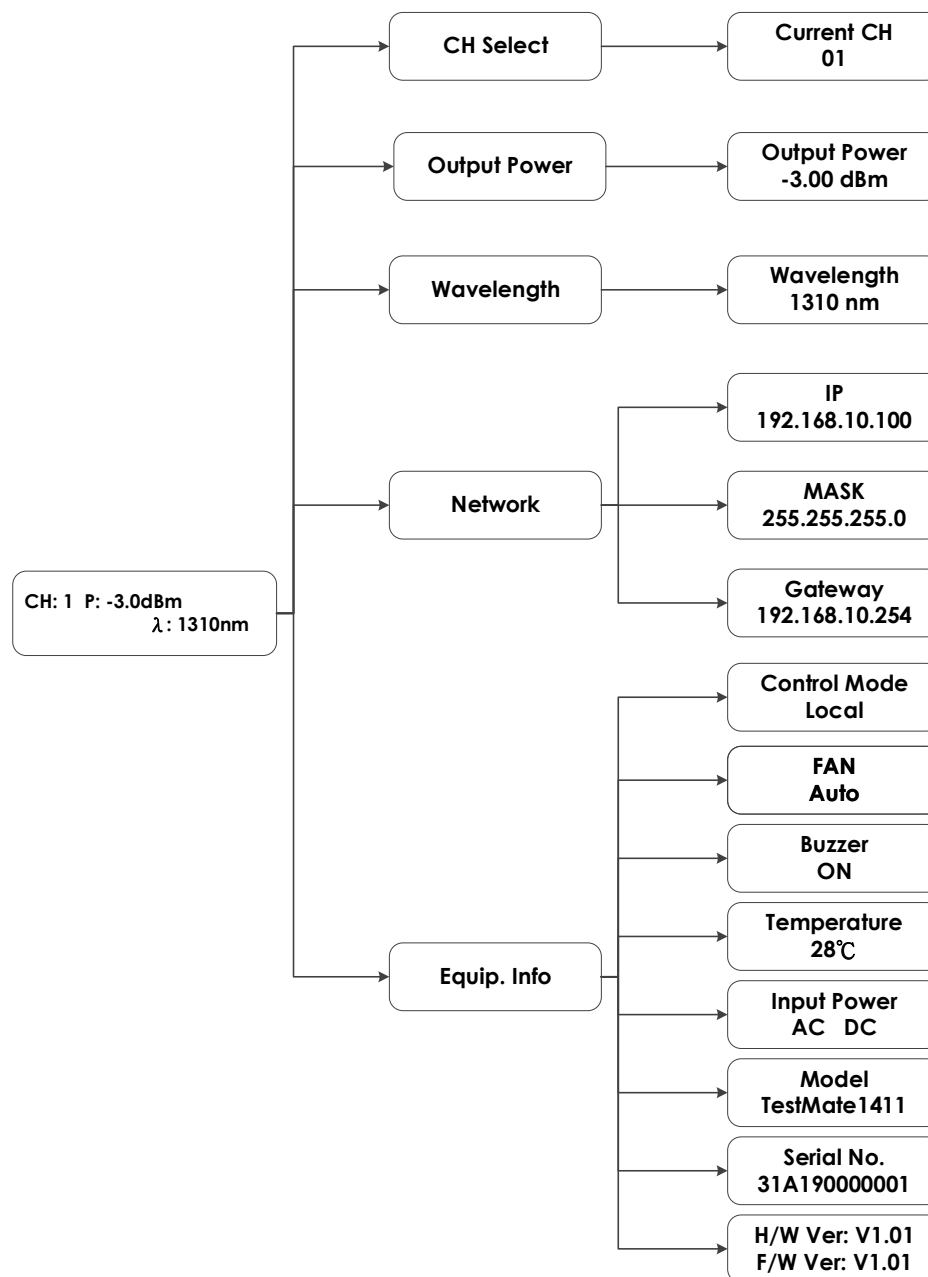
When [] key is light, press it for two seconds to turn on the equipment.

Startup screen → Enter into the home screen.



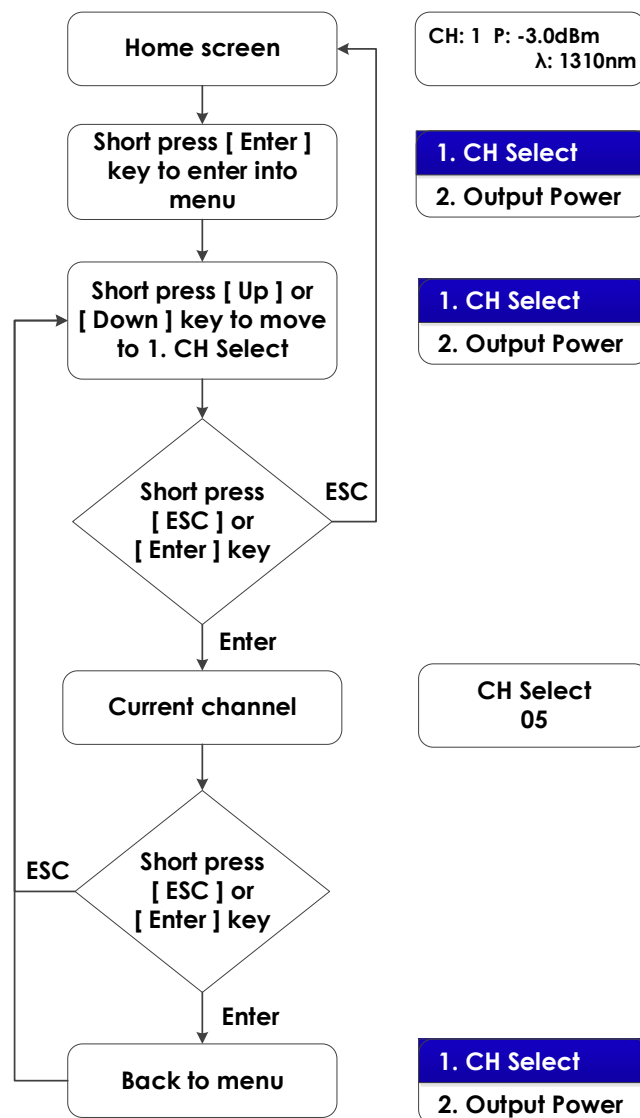
5.2 General Mode

In the general mode, the equipment is only allowed to use for checking the status and parameters.



5.2.1 Channel Select

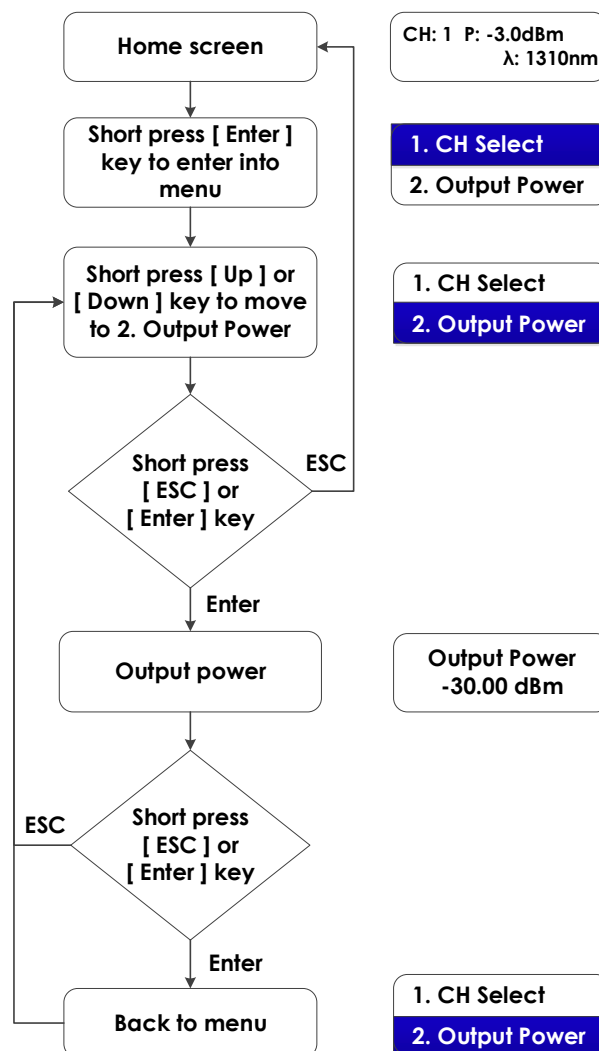
1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **1. CH Select** and then short press [**Enter**] key to see the current channel. Short press [**ESC**] or [**Enter**] key to return to the menu.



5.2.2 Output Power

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **2.**

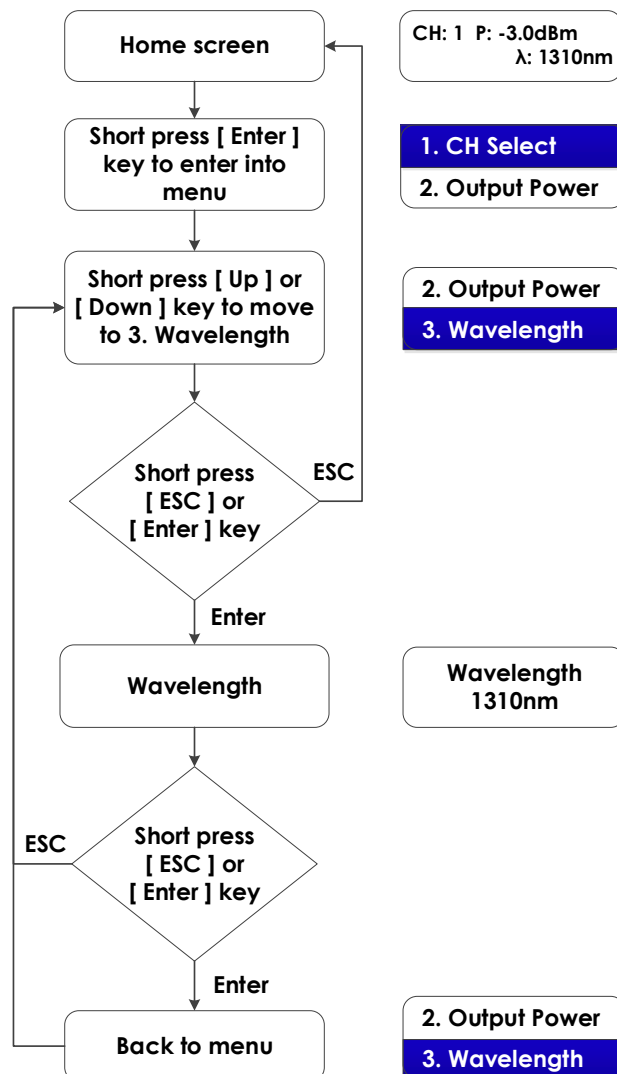
Output Power and then short press [**Enter**] key to see the output power. Short press [**ESC**] or [**Enter**] key to return to the menu.



5.2.3 Wavelength

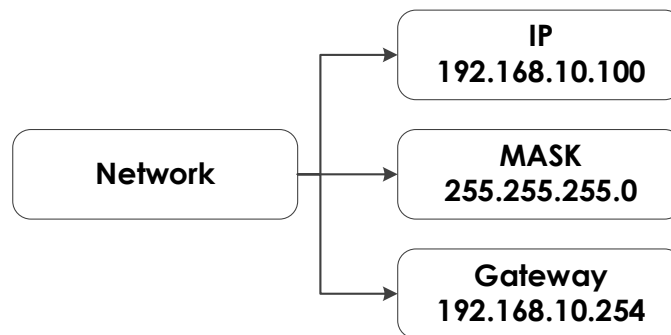
1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **3.**

Wavelength and then short press [**Enter**] key to see the wavelength. Short press [**ESC**] or [**Enter**] key to return to the menu.



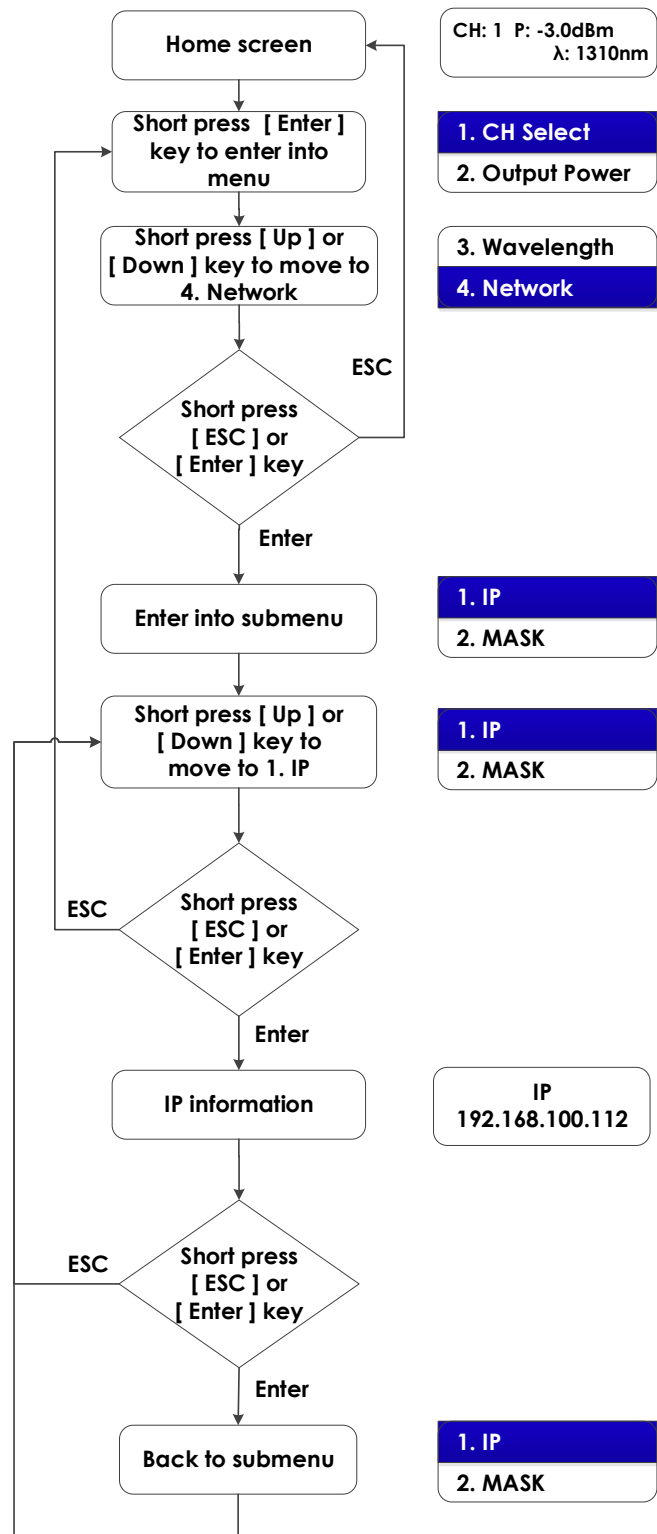
5.2.4 Network

For remote control network parameters, "Port" is fixed as 7777.



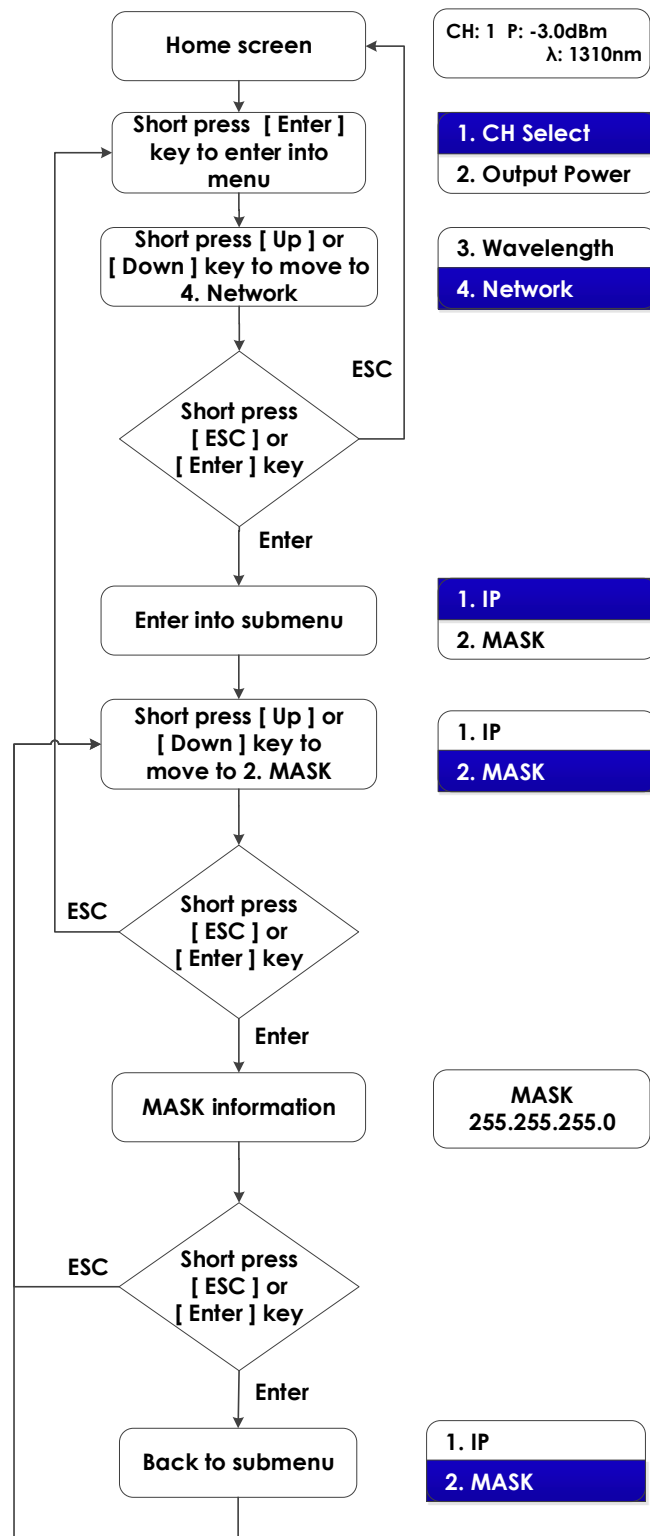
5.2.4.1 IP

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **4. Network** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **1. IP** and then short press [**Enter**] key to see the IP. Short press [**ESC**] or [**Enter**] key to return to the submenu.



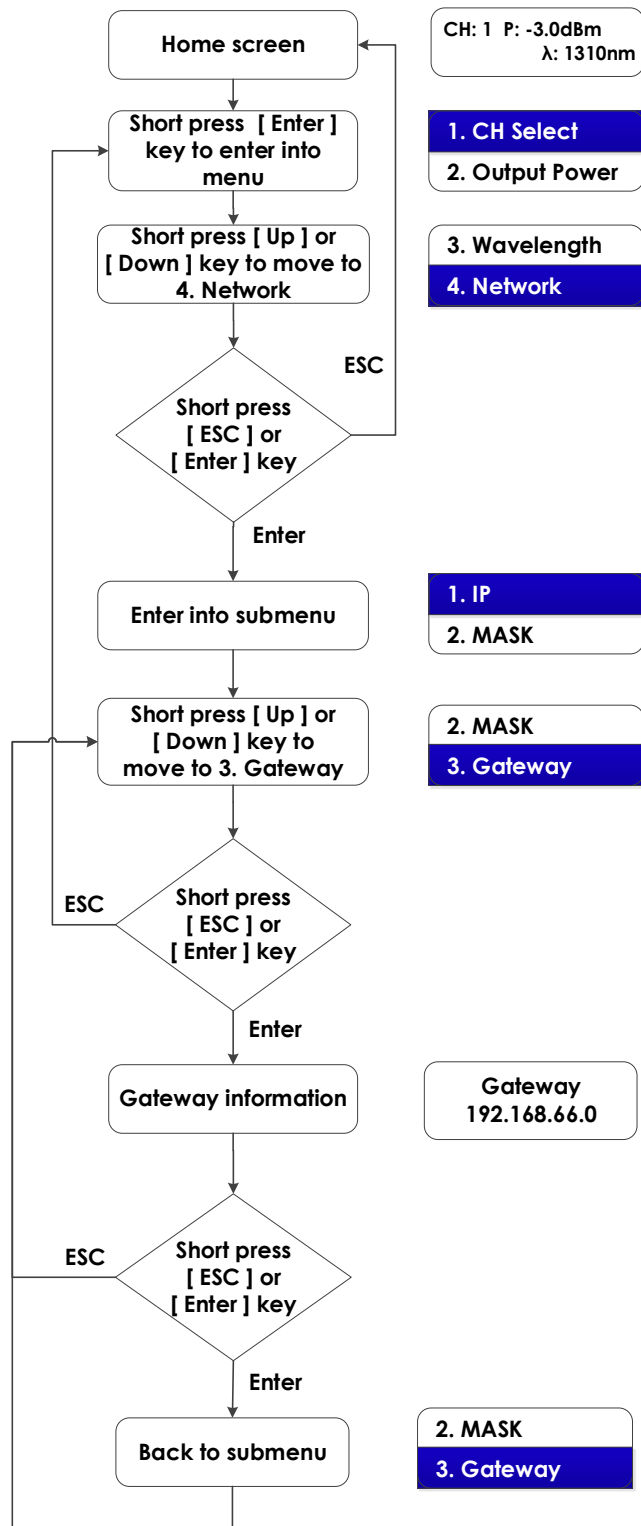
5.2.4.2 MASK

1. From home screen, short press [**Enter**] key to enter into the menu.
2. Short press [**Up**] or [**Down**] key to move to **4. Network**, and then short press [**Enter**] key to enter into the submenu.
3. From the screen of the submenu, short press [**Up**] or [**Down**] key to move to **2. MASK** and then short press [**Enter**] key to see the mask. Short press [**ESC**] or [**Enter**] key to return to the submenu.

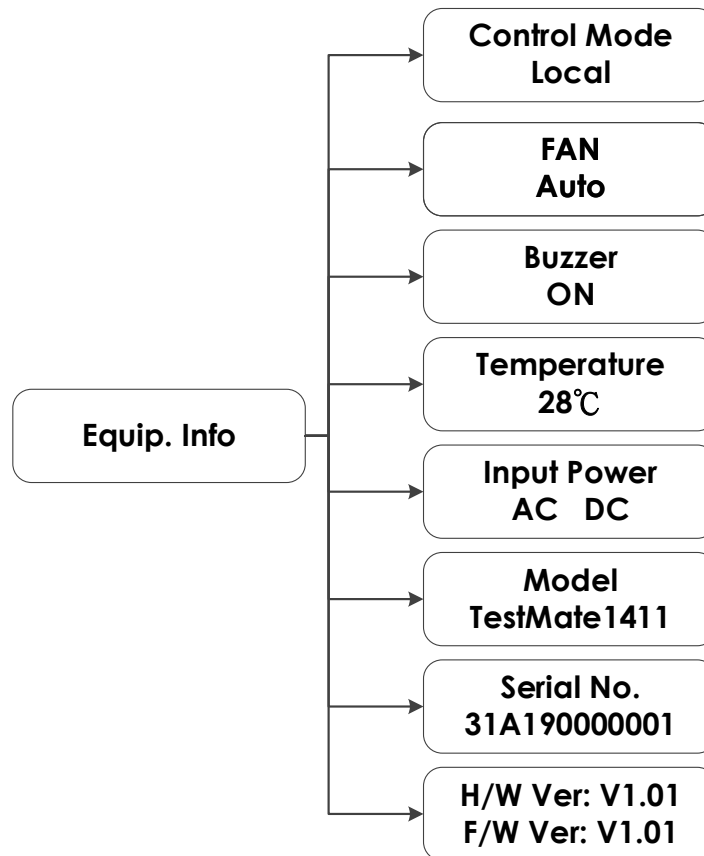


5.2.4.3 Gateway

1. From home screen, short press [**Enter**] key to enter into the menu.
2. Short press [**Up**] or [**Down**] key to move to **4. Network**, and then short press [**Enter**] key to enter into the submenu.
3. From the screen of the submenu, short press [**Up**] or [**Down**] key to move to **3. Gateway** and then short press [**Enter**] key to see the gateway. Short press [**ESC**] or [**Enter**] key to return to the submenu.

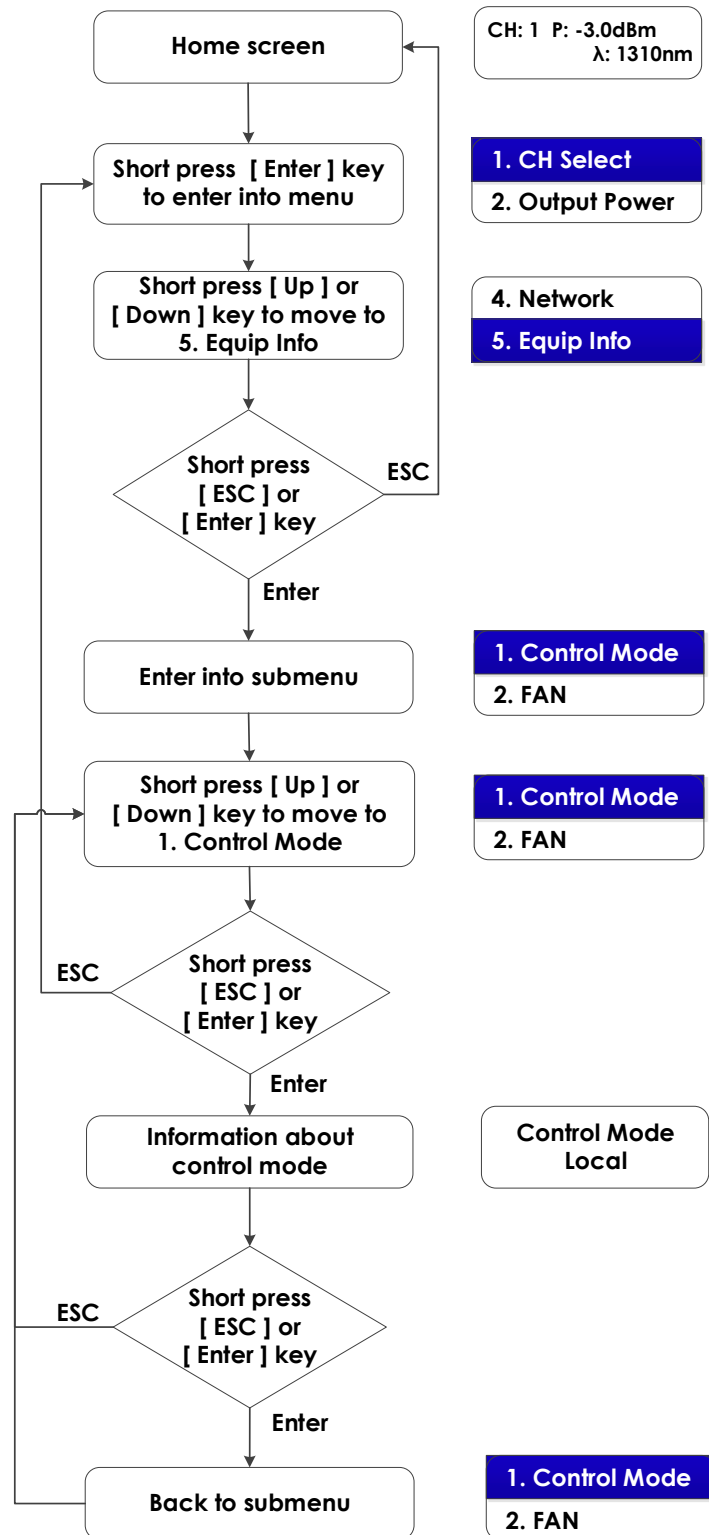


5.2.5 Equipment Information



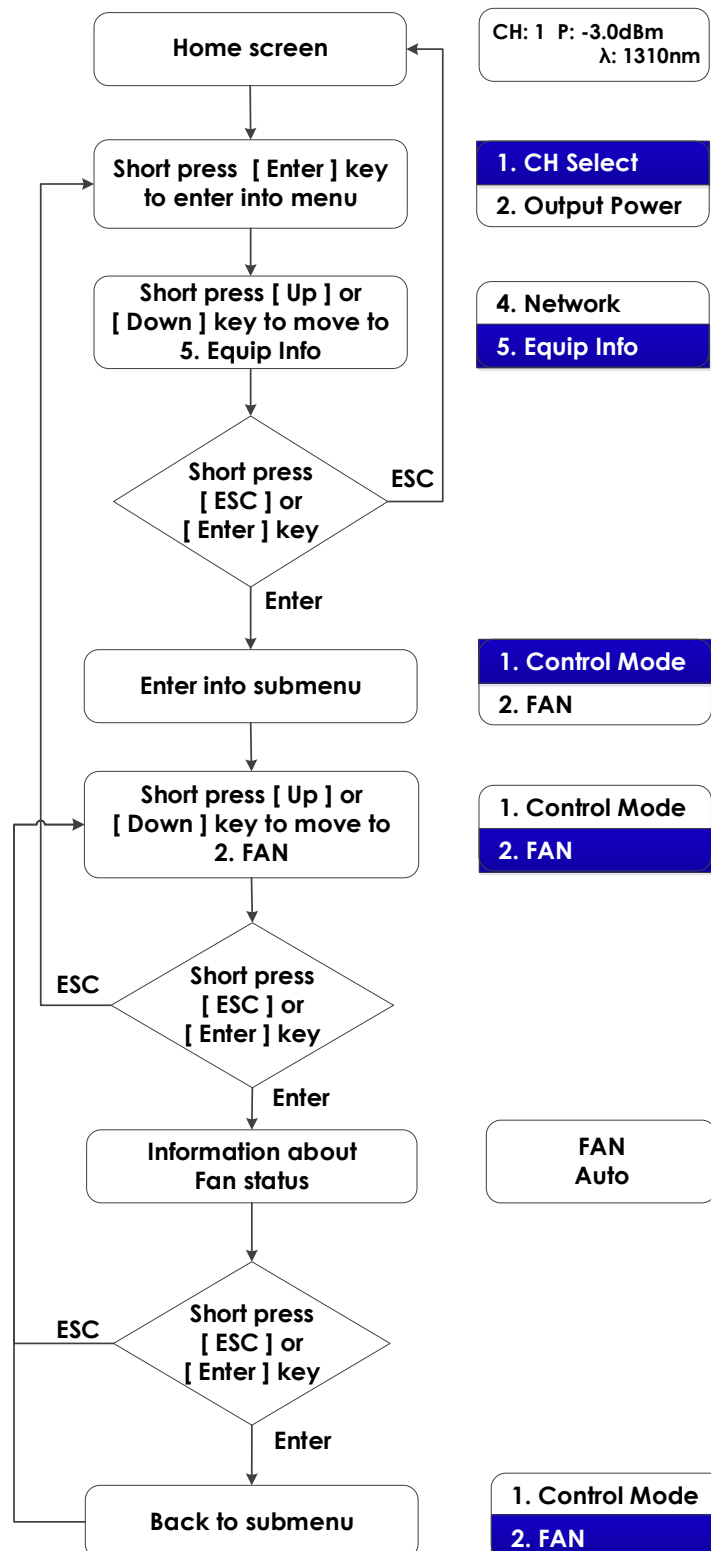
5.2.5.1 Control Mode

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **1. Control Mode** and then short press [**Enter**] key to see the control mode. Short press [**ESC**] or [**Enter**] key to return to the submenu.



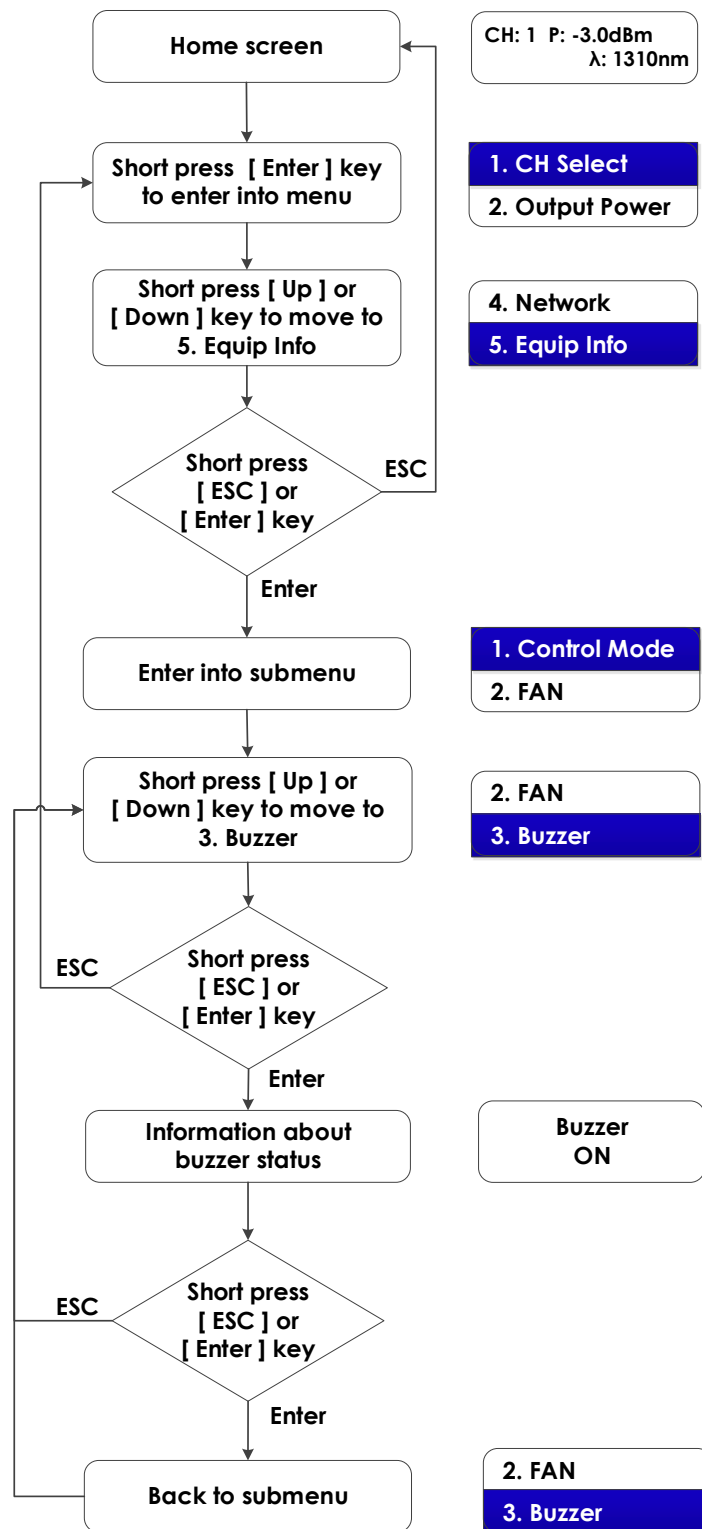
5.2.5.2 Fan

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **2. Fan** and then short press [**Enter**] key to see the status. Short press [**ESC**] or [**Enter**] key to return to the submenu.



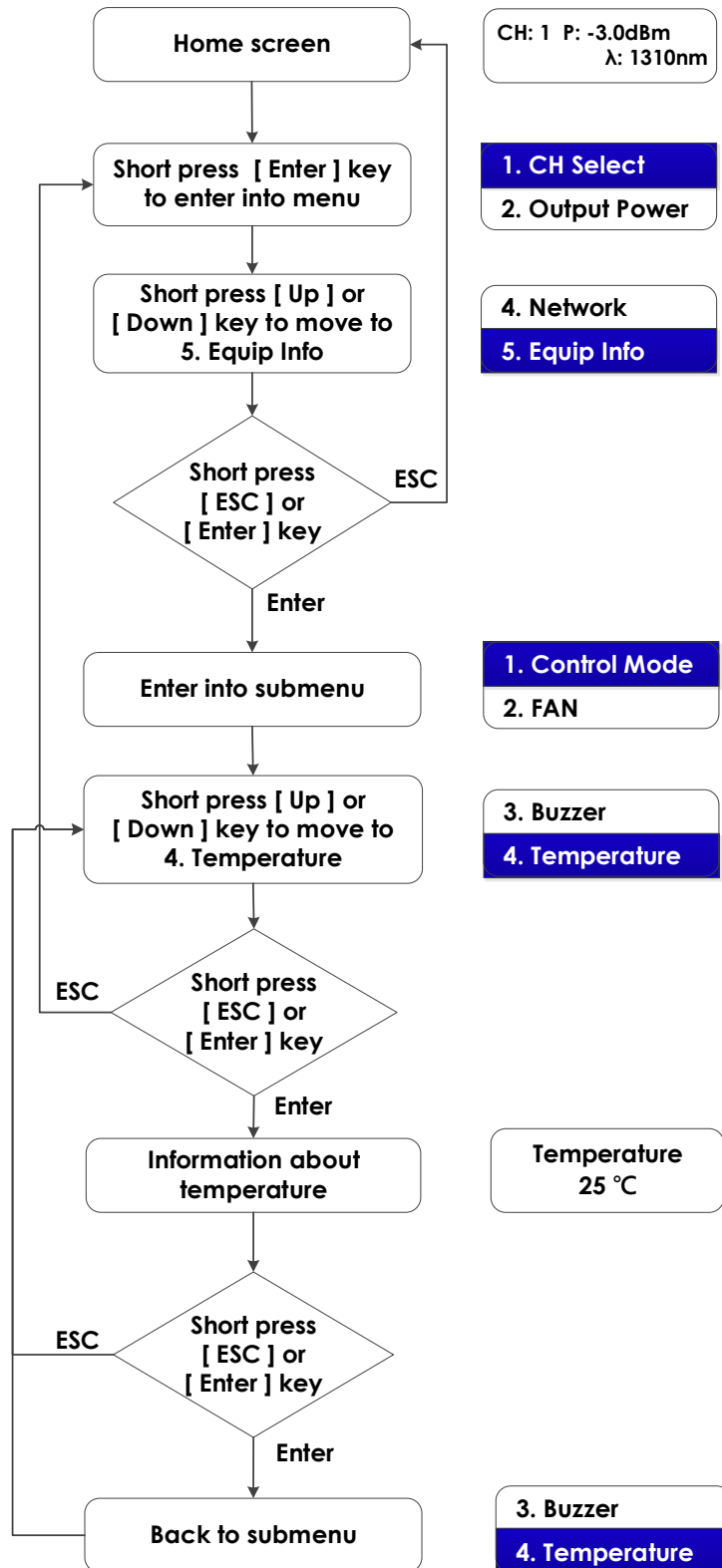
5.2.5.3 Buzzer

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **3. Buzzer** and then short press [**Enter**] key to see the status. Short press [**ESC**] or [**Enter**] key to return to the submenu.



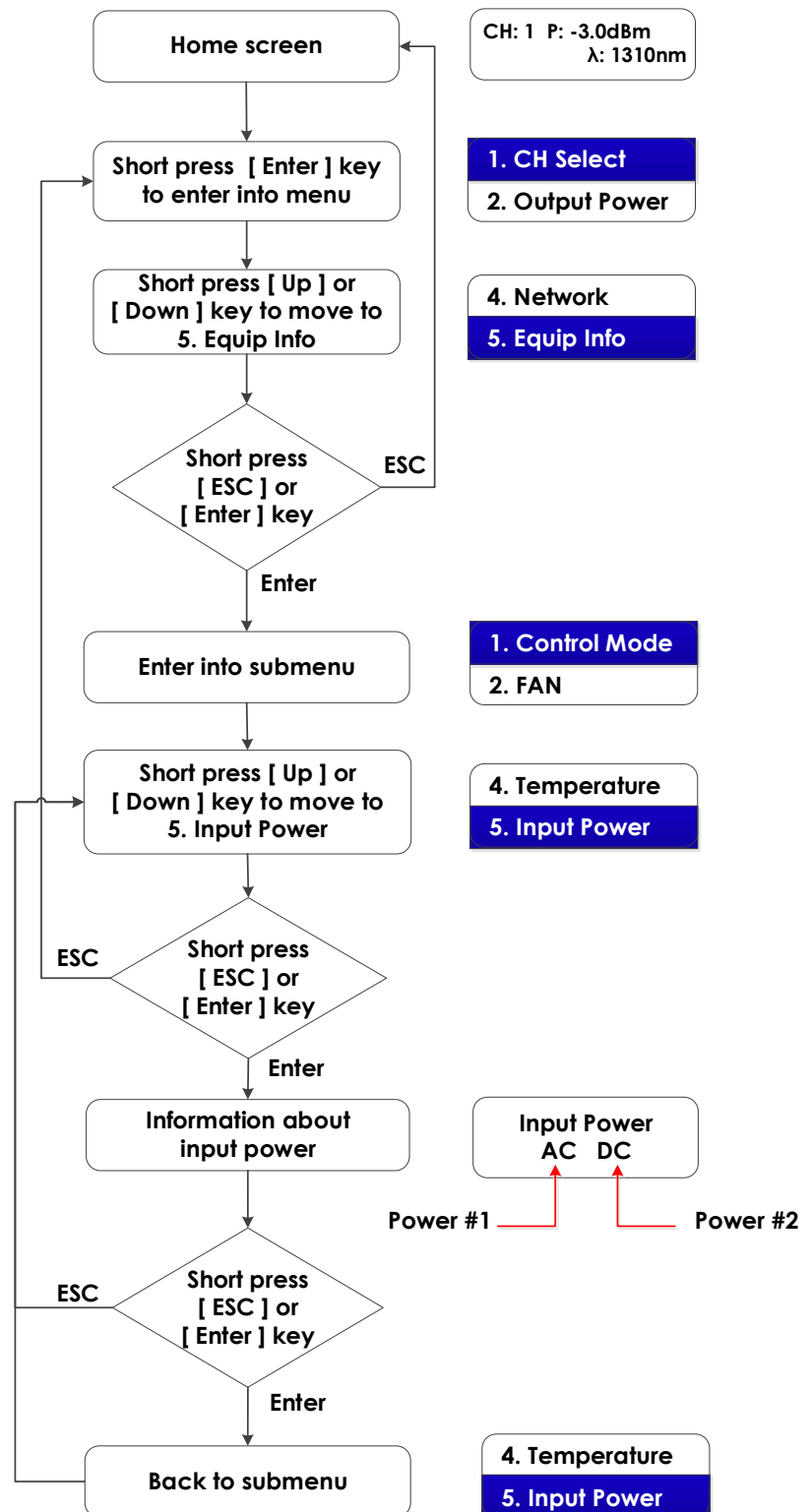
5.2.5.4 Temperature

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **4. Temperature** and then short press [**Enter**] key to see the temperature. Short press [**ESC**] or [**Enter**] key to return to the submenu.



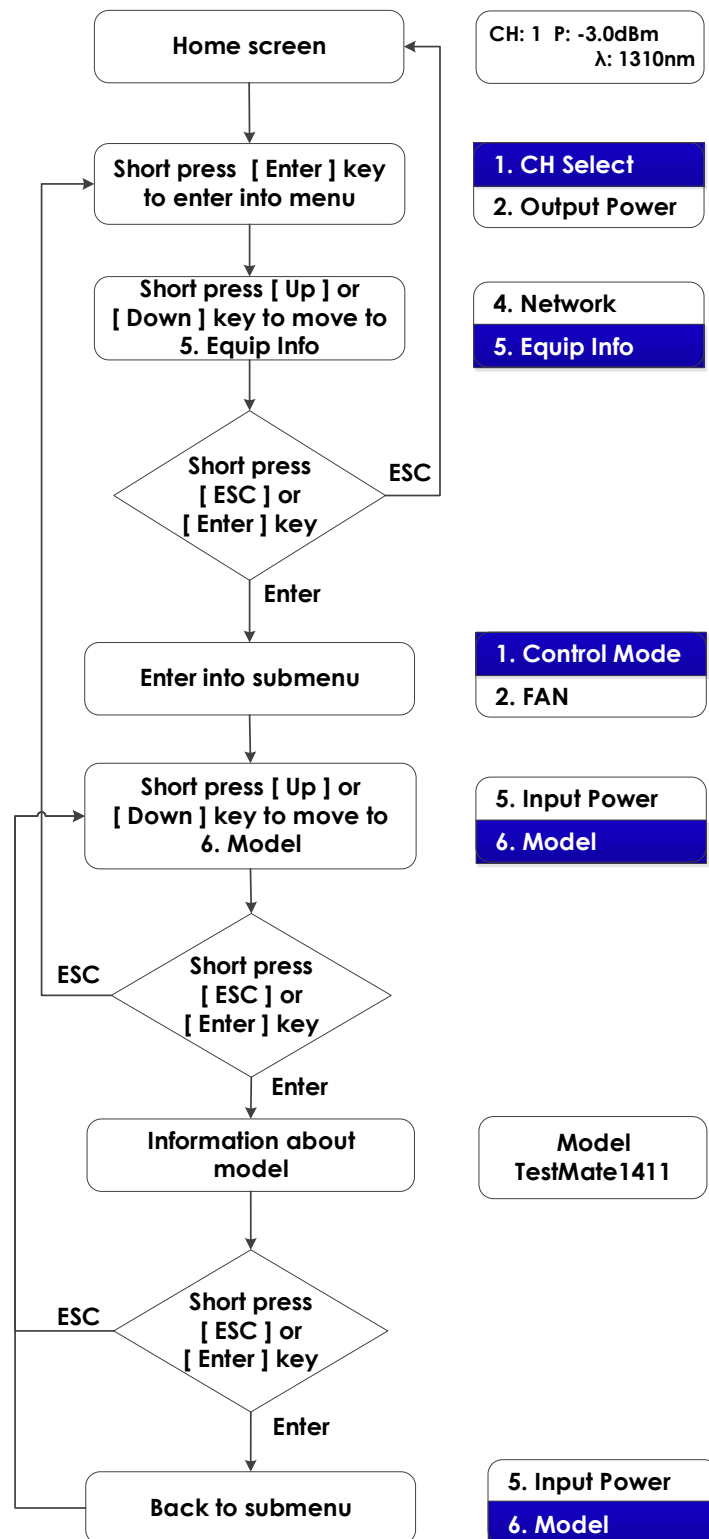
5.2.5.5 Input Power

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **5. Input Power** and then short press [**Enter**] key to see the input power. Short press [**ESC**] or [**Enter**] key to return to the submenu.



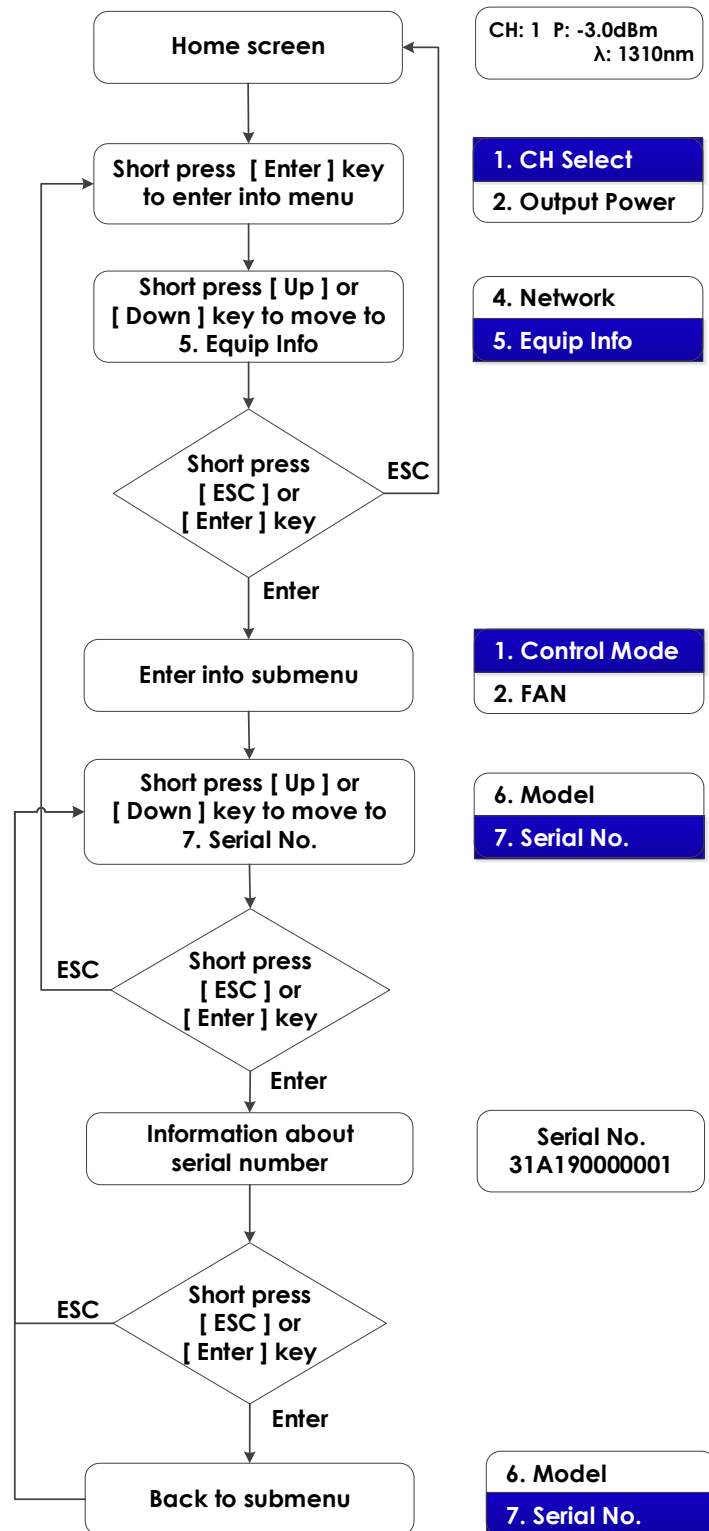
5.2.5.6 Model

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **6. Model** and then short press [**Enter**] key to see the model. Short press [**ESC**] or [**Enter**] key to return to the submenu.



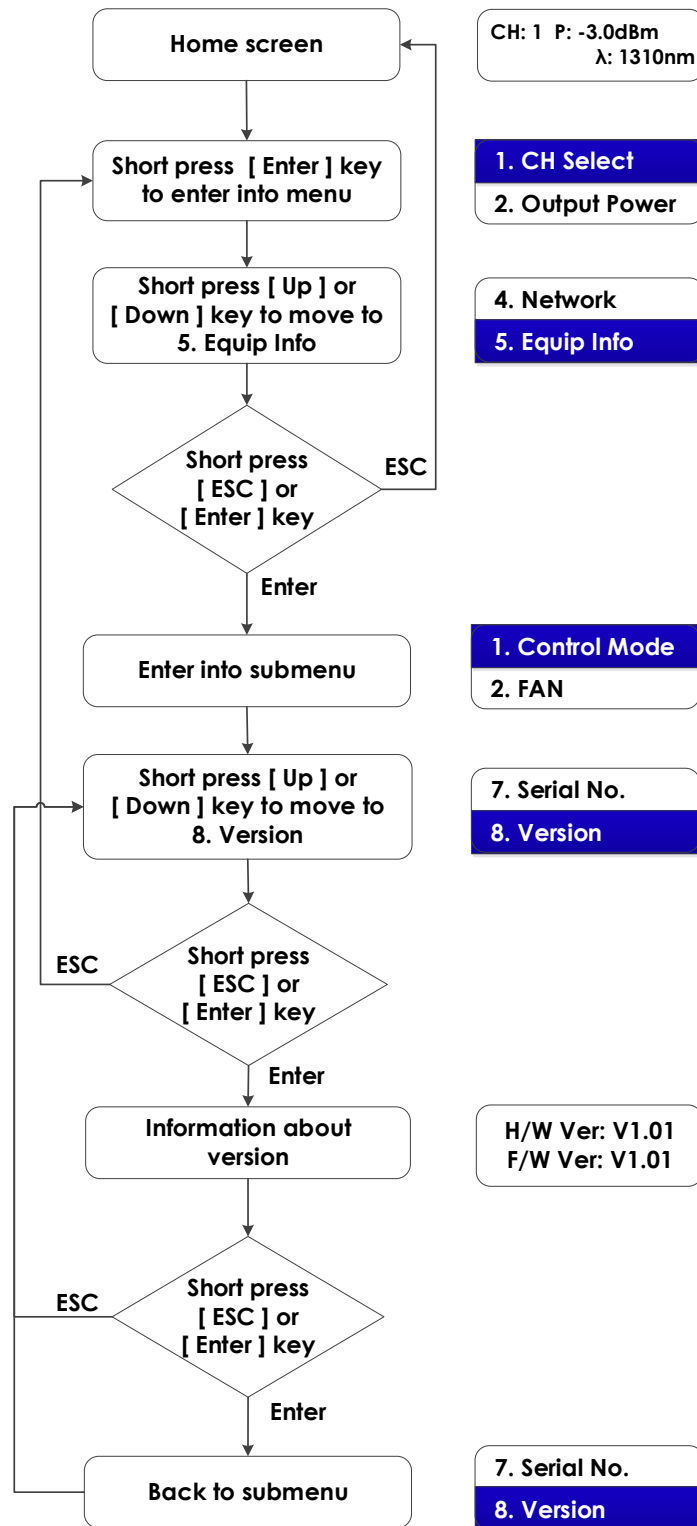
5.2.5.7 Serial Number

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **7. Serial Number** and then short press [**Enter**] key to see the serial number. Short press [**ESC**] or [**Enter**] key to return to the submenu.



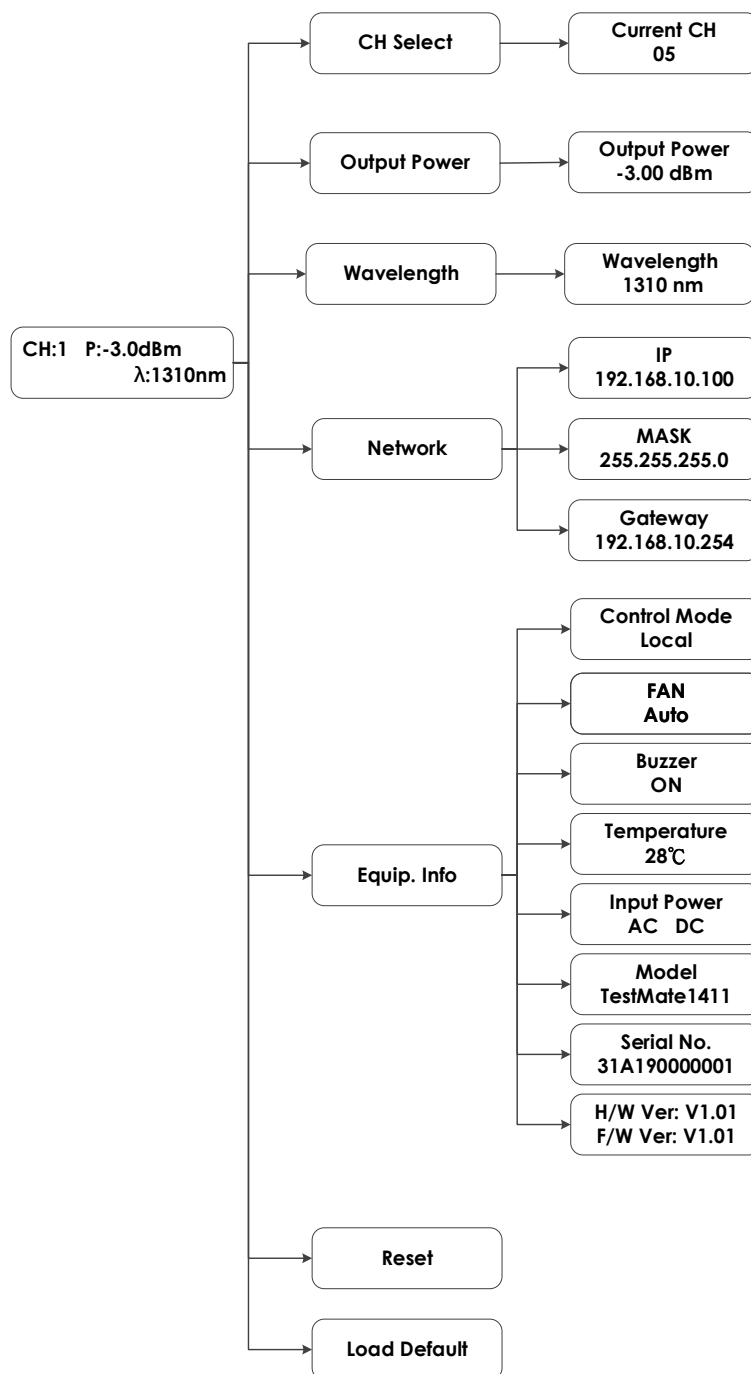
5.2.5.8 Version

1. From home screen, short press [**Enter**] key to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **8. Version** and then short press [**Enter**] key to see the version. Short press [**ESC**] or [**Enter**] key to return to the submenu.



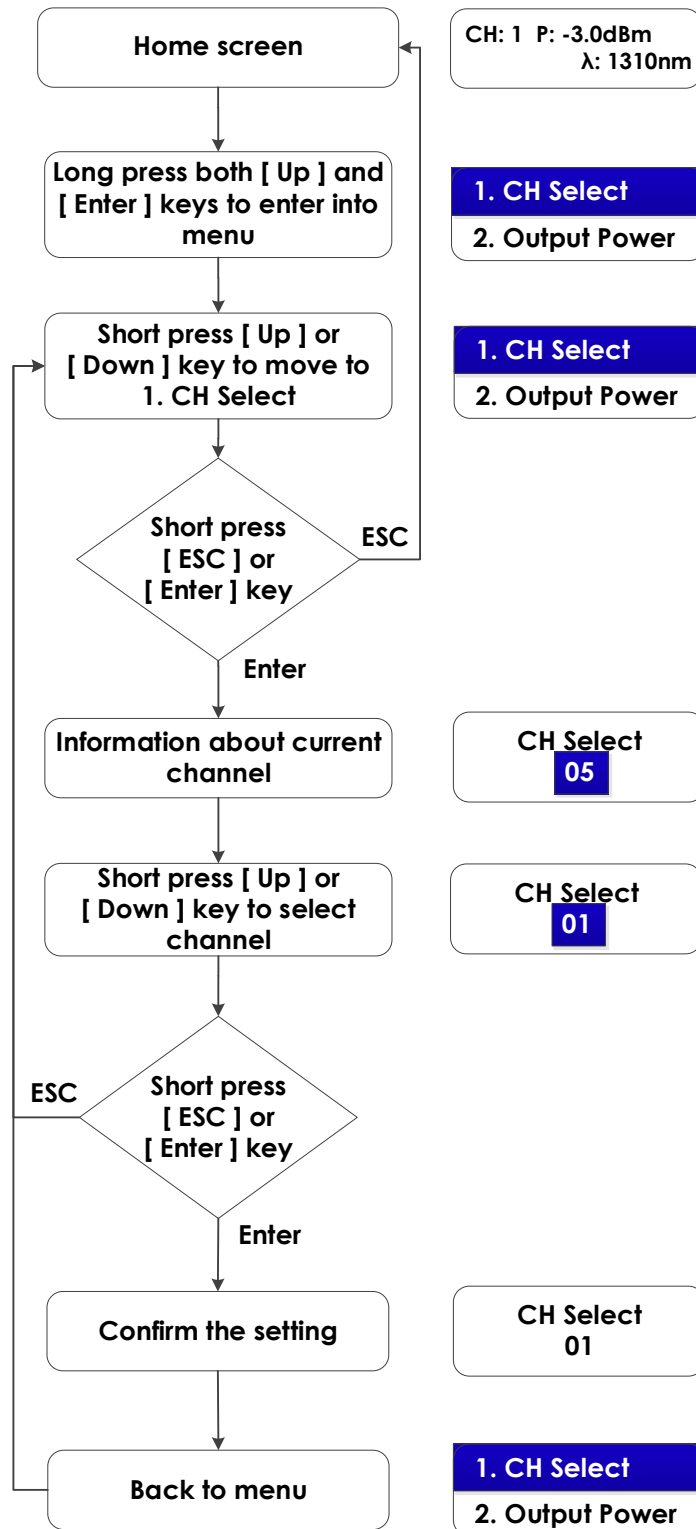
5.3 Engineering Mode

In the engineering mode, the equipment is allowed to use for checking and setting the status and parameters.



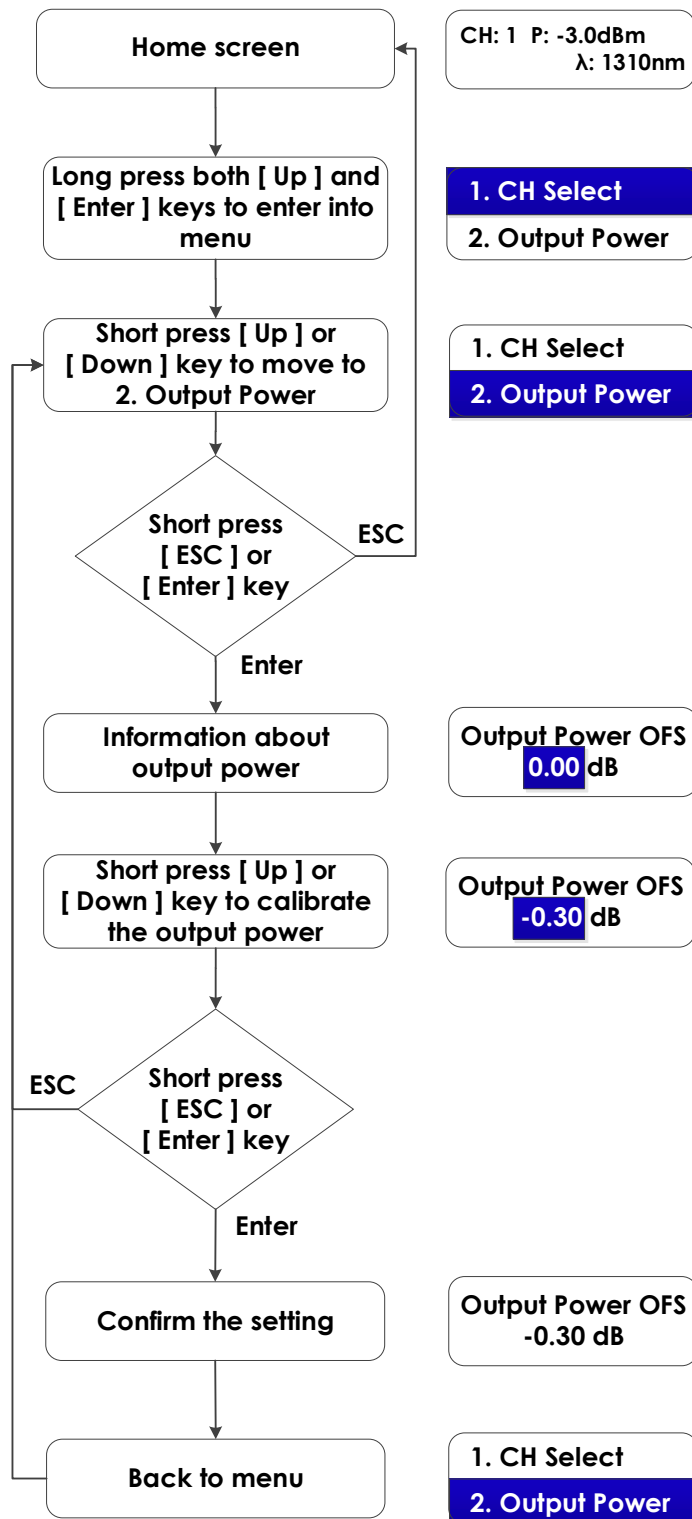
5.3.1 Channel Select

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **1. CH Select** and then short press [**Enter**] key to see the information about the current channel.
3. Short press [**Up**] or [**Down**] key to select the channel and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the menu.



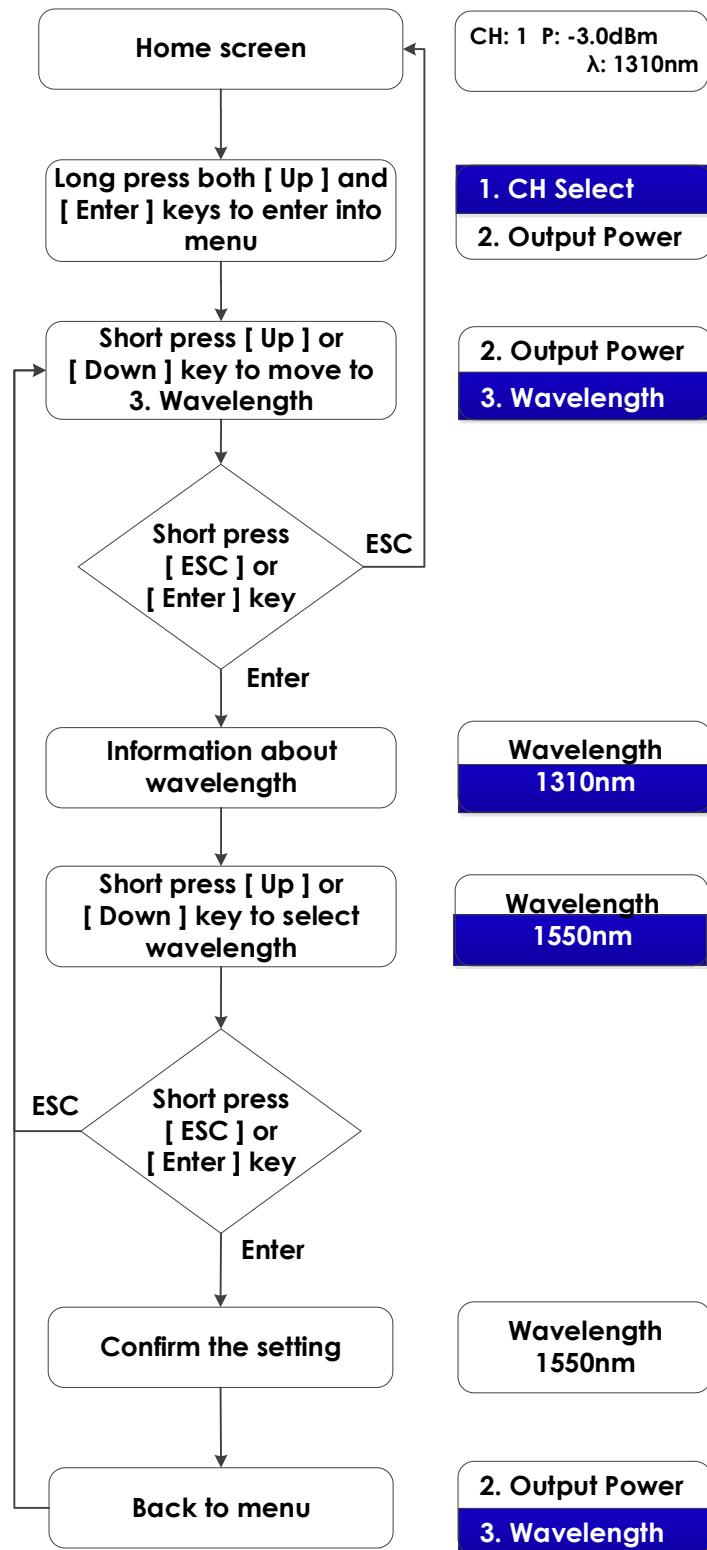
5.3.2 Output Power

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **2. Output Power** and then short press [**Enter**] key to see the output power.
3. Short press [**Up**] or [**Down**] key to calibrate the output power and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the menu.



5.3.3 Wavelength

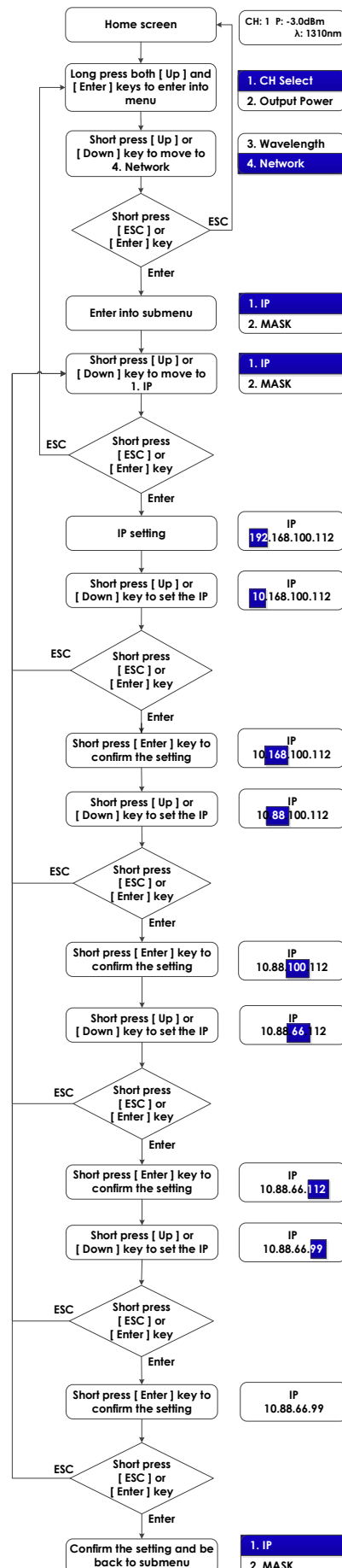
1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **3. Wavelength** and then short press [**Enter**] key to see the wavelength.
3. Short press [**Up**] or [**Down**] key to select the wavelength and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the menu.



5.3.4 Network

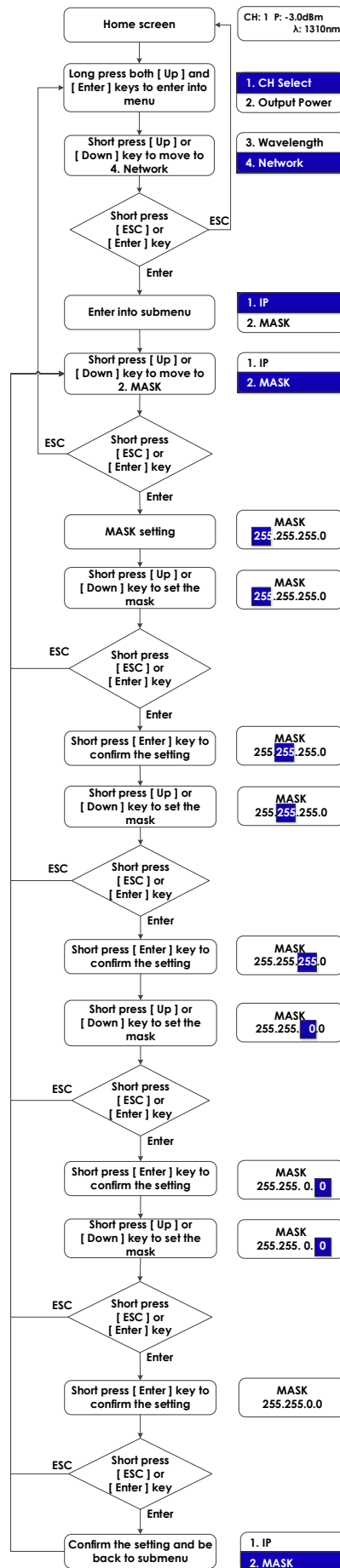
5.3.4.1 IP

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **4. Network** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **1. IP** and then short press [**Enter**] key.
4. Short press [**Up**] or [**Down**] key to set the IP and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the submenu.



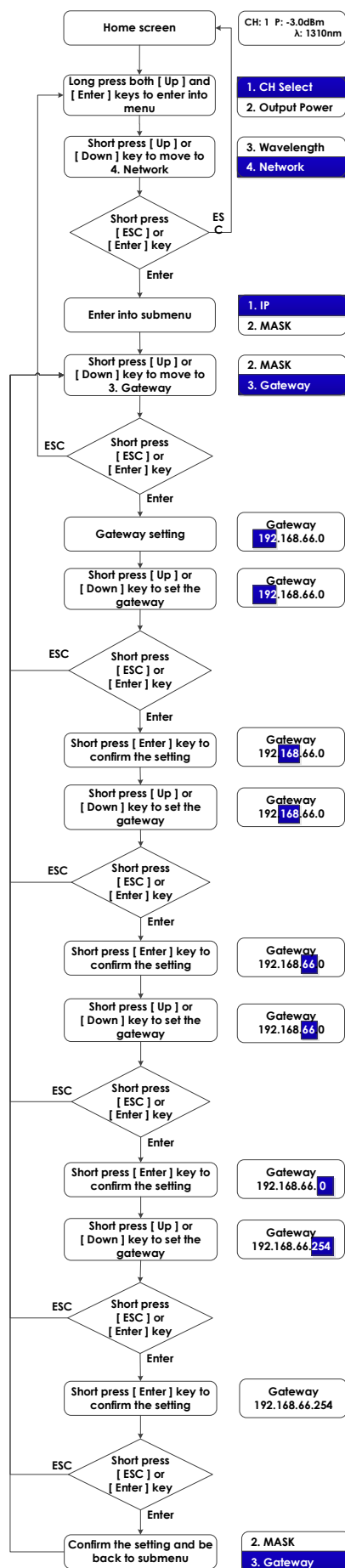
5.3.4.2 MASK

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **4. Network** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **2. MASK** and then short press [**Enter**] key.
4. Short press [**Up**] or [**Down**] key to set the mask and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the submenu.

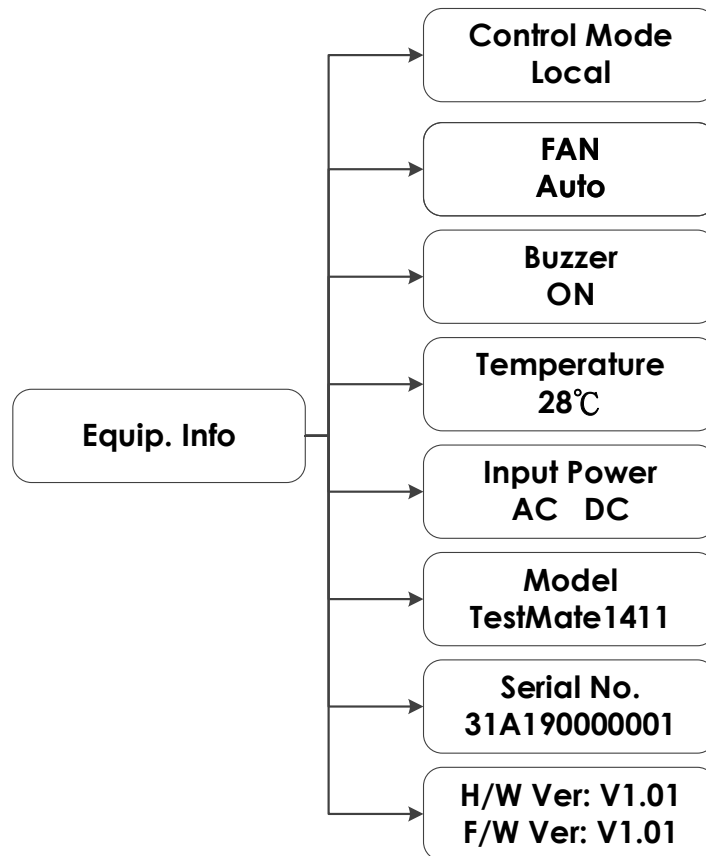


5.3.4.3 Gateway

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **4. Network** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **3. Gateway** and then short press [**Enter**] key.
4. Short press [**Up**] or [**Down**] key to set the gateway and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the submenu.

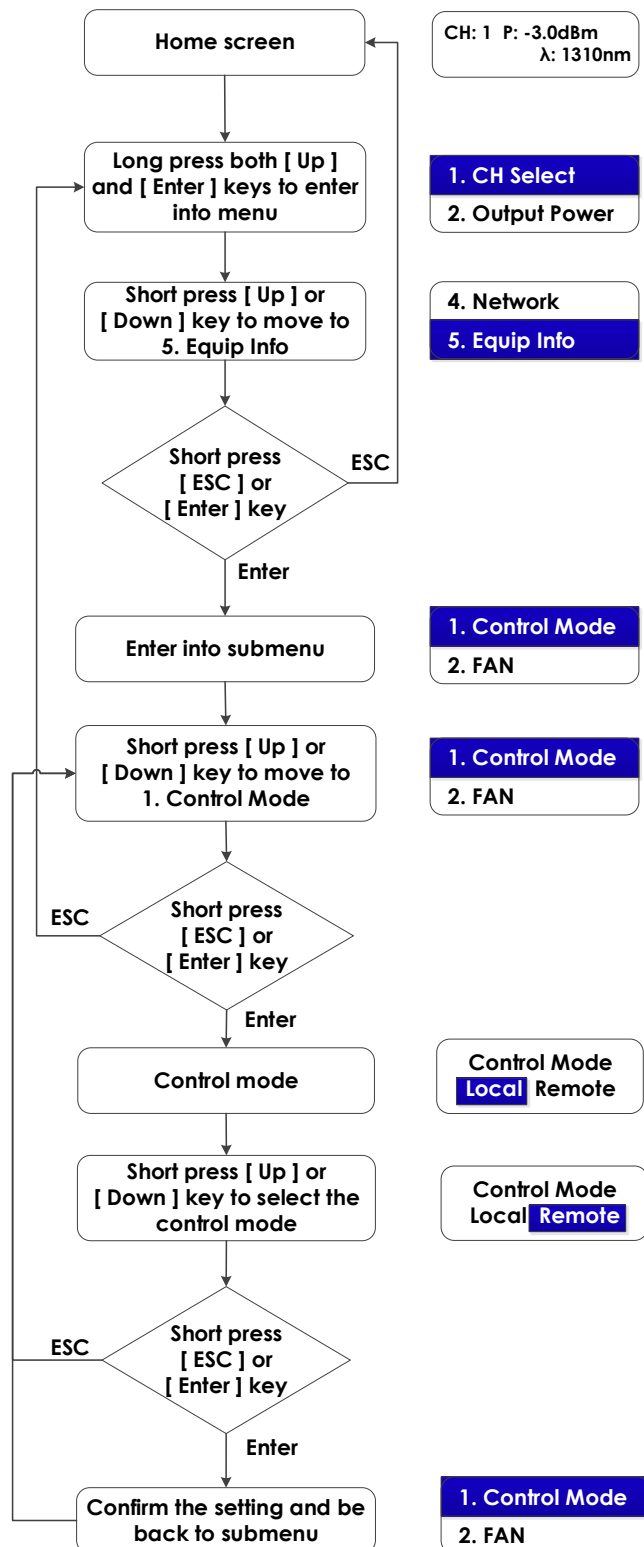


5.3.5 Equipment Information



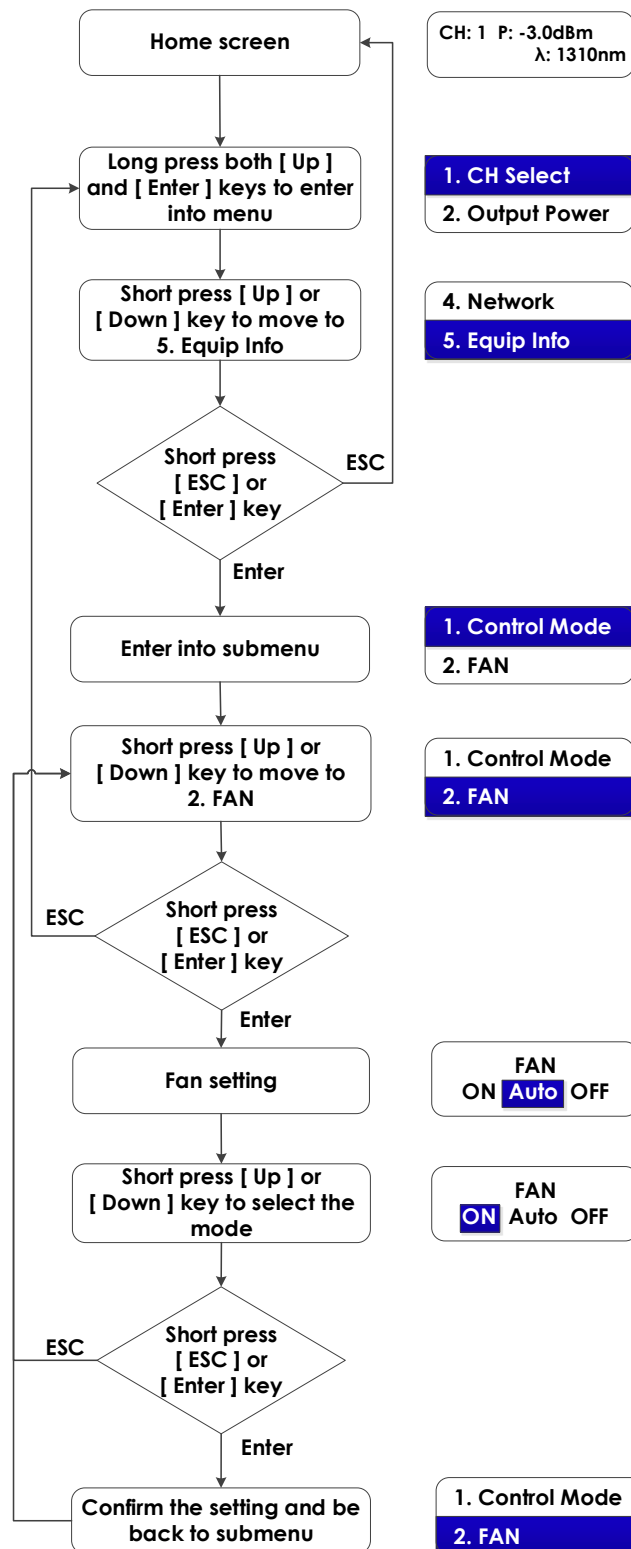
5.3.5.1 Control Mode

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **1. Control Mode** and then short press [**Enter**] key.
4. Short press [**Up**] or [**Down**] key to select the control mode and then short press [**Enter**] key to confirm the setting.
Short press [**ESC**] or [**Enter**] key to return to the submenu.



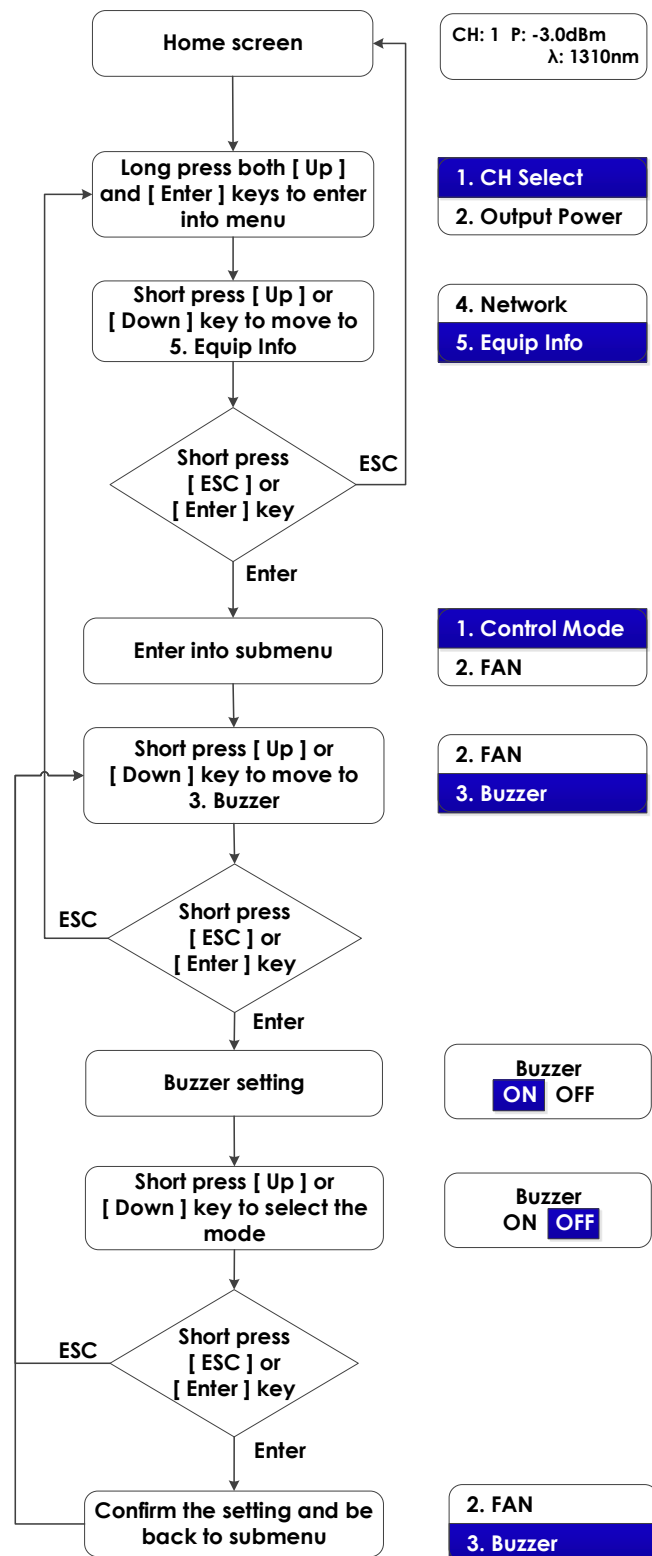
5.3.5.2 Fan

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **2. Fan** and then short press [**Enter**] key.
4. Short press [**Up**] or [**Down**] key to select the mode and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the submenu.



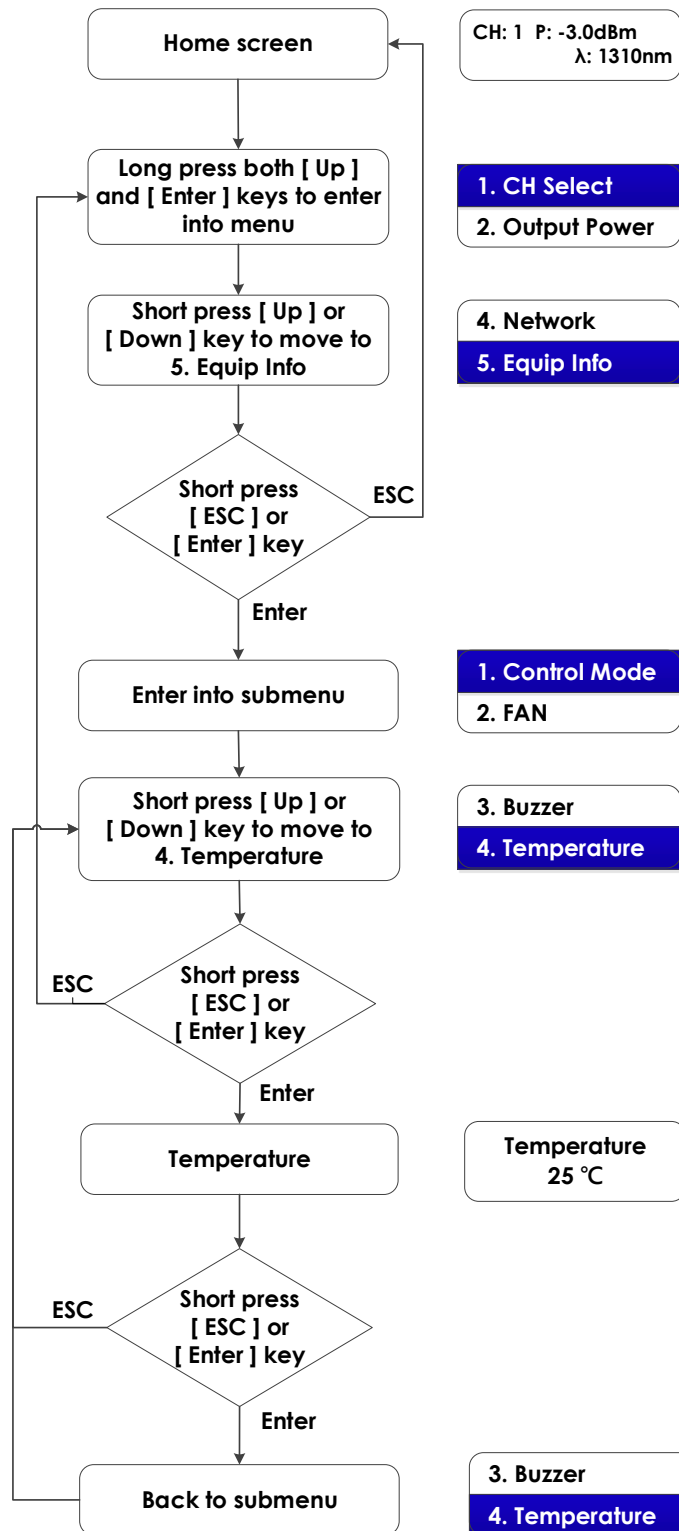
5.3.5.3 Buzzer

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **3. Buzzer** and then short press [**Enter**] key.
4. Short press [**Up**] or [**Down**] key to select the mode and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the submenu.



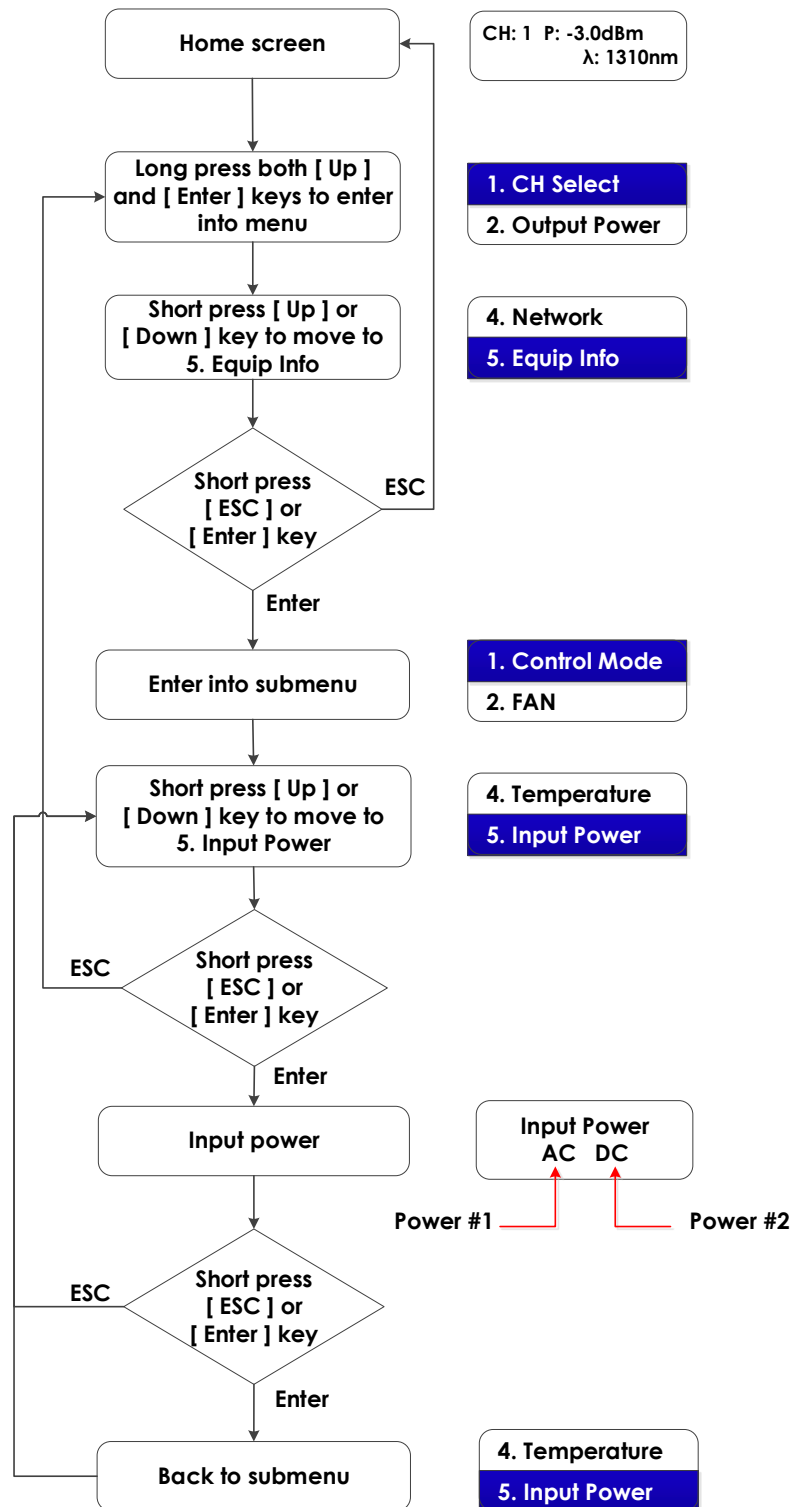
5.3.5.4 Temperature

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **4. Temperature** and then short press [**Enter**] key to see the temperature. Short press [**ESC**] or [**Enter**] key to return to the submenu.



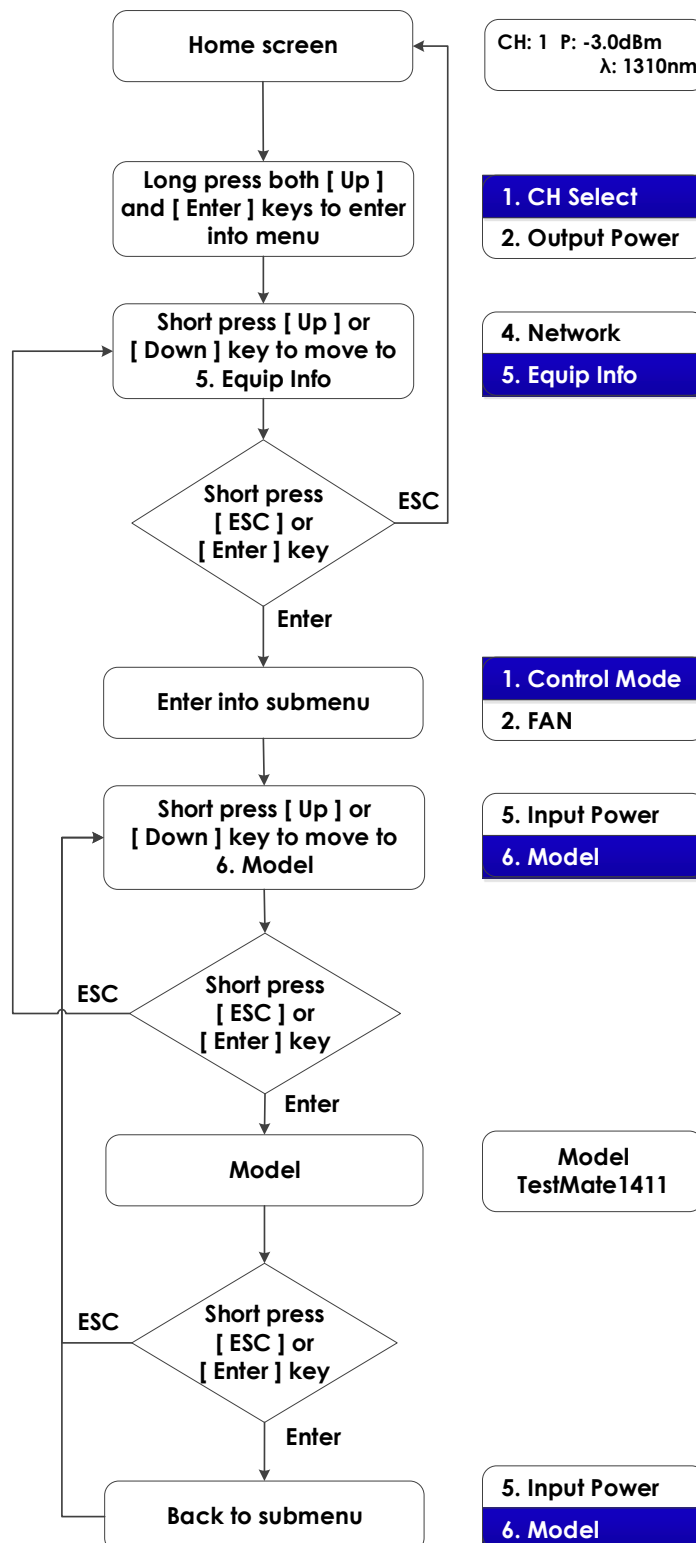
5.3.5.5 Input Power

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **5. Input Power** and then short press [**Enter**] key to see the input power. Short press [**ESC**] or [**Enter**] key to return to the submenu.



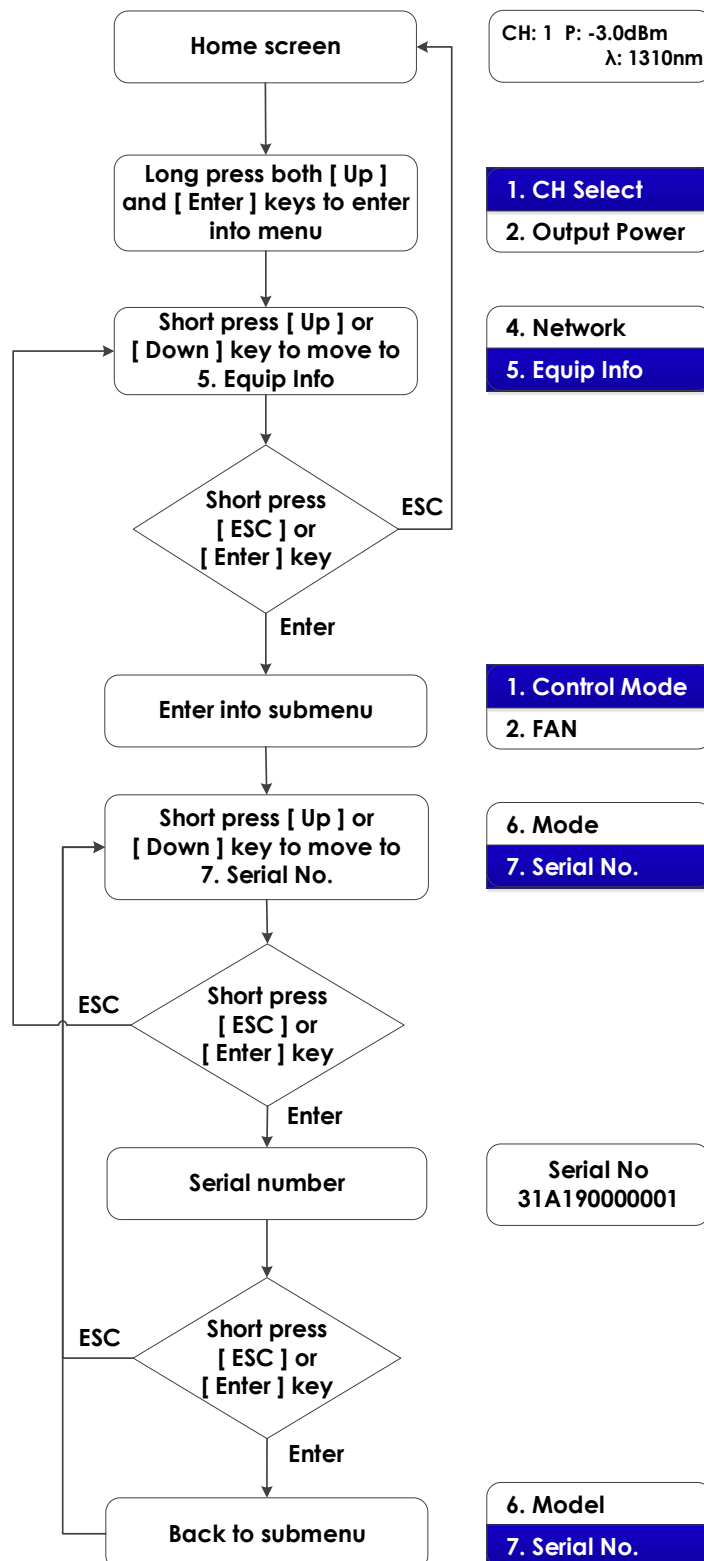
5.3.5.6 Model

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **6. Model** and then short press [**Enter**] key to see the model. Short press [**ESC**] or [**Enter**] key to return to the submenu.



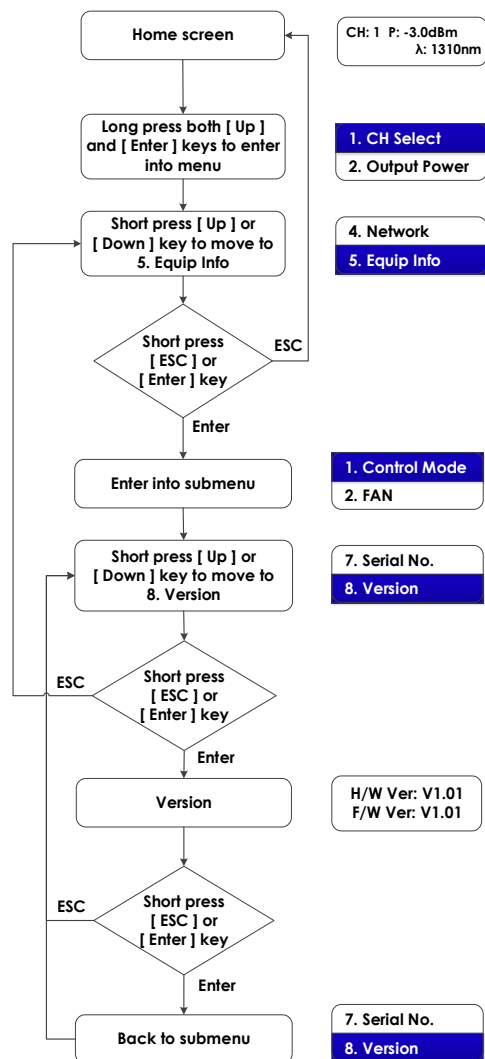
5.3.5.7 Serial Number

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **7. Serial No** and then short press [**Enter**] key to see the serial number. Short press [**ESC**] or [**Enter**] key to return to the submenu.



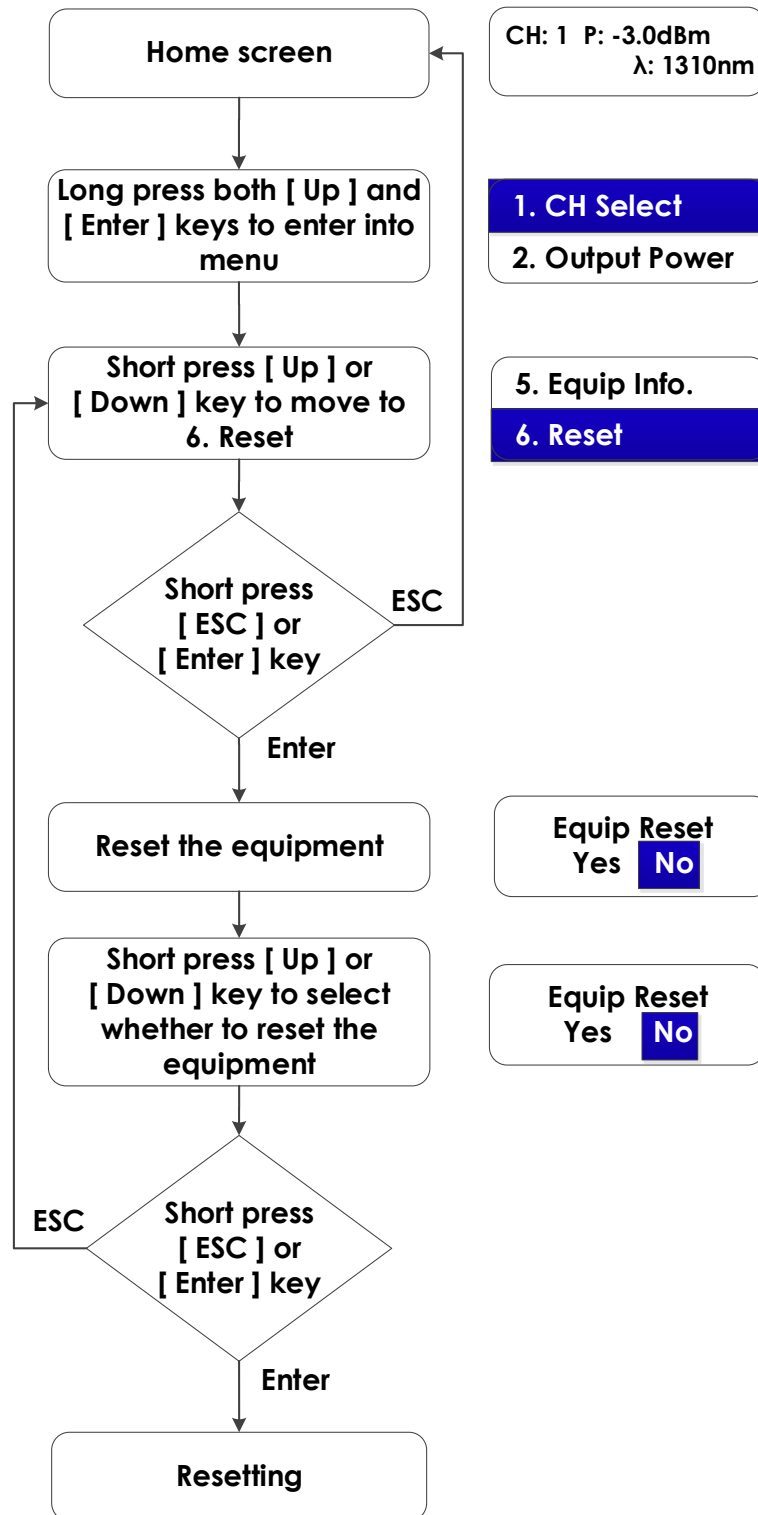
5.3.5.8 Version

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **5. Equip Info** and then short press [**Enter**] key to enter into the submenu.
3. From the submenu, short press [**Up**] or [**Down**] key to move to **8. Version** and then short press [**Enter**] key to see the version. Short press [**ESC**] or [**Enter**] key to return to the submenu.



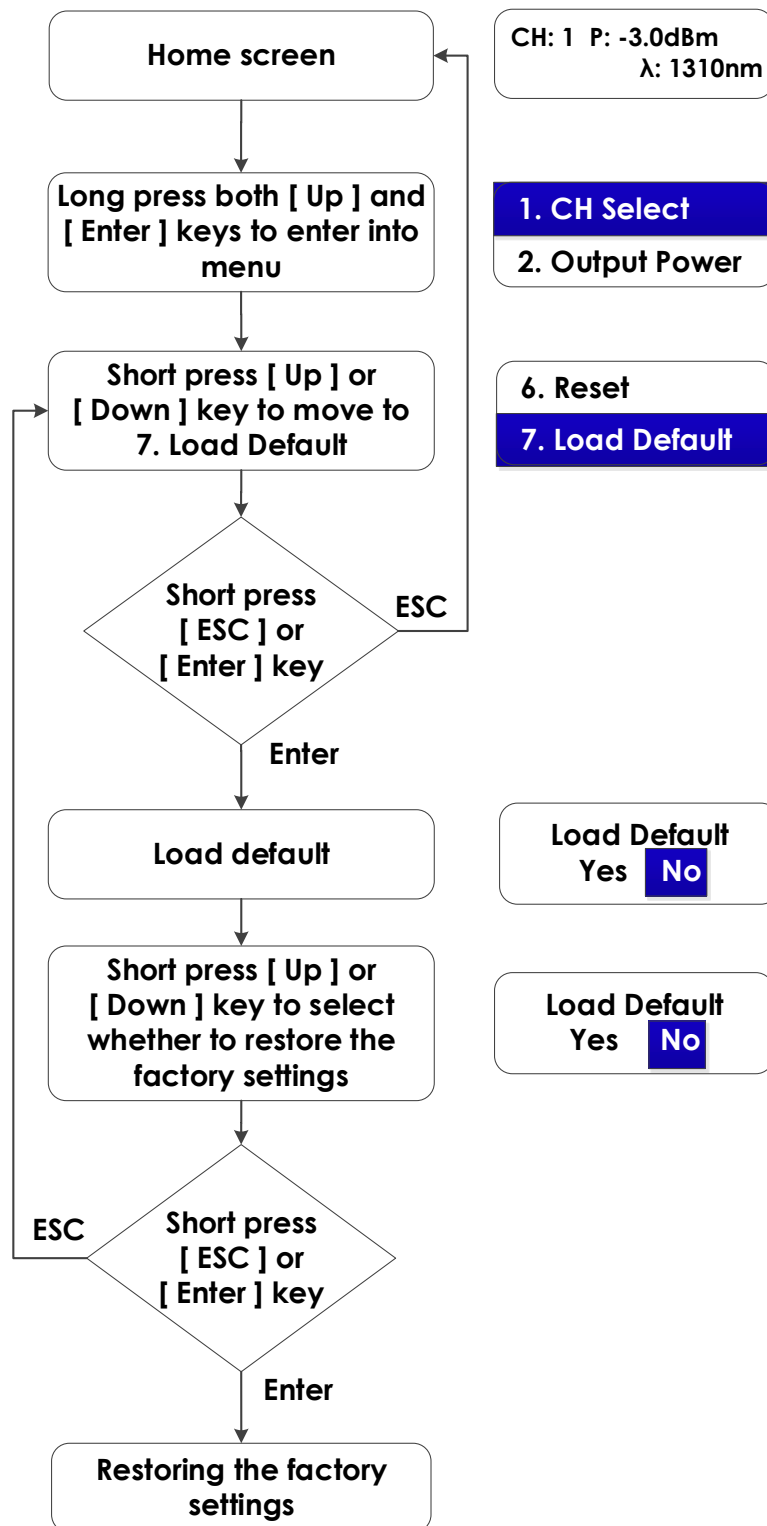
5.3.6 Equipment Reset

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **6. Reset** and then short press [**Enter**] key.
3. Short press [**Up**] or [**Down**] key to select whether to reset or not and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the menu.



5.3.7 Load Default

1. From home screen, long press both [**Up**] and [**Enter**] keys for two seconds to enter into the menu.
2. From the menu, short press [**Up**] or [**Down**] key to move to **7. Load Default** and then short press [**Enter**] key.
3. Short press [**Up**] or [**Down**] key to select whether to restore factory settings or not and then short press [**Enter**] key to confirm the setting. Short press [**ESC**] or [**Enter**] key to return to the menu.



6. Operational Command of Program Control

The equipment provides:

1. Local monitoring: RS232 and USB
2. Remote monitoring: Ethernet.

6.1 Local Monitoring

- RS232 and USB
- The control circuit includes USB to RS232 circuit, which is convenient for users to control by using USB cable.

6.1.1 Control Format

ASCII code

Format: send command

- The word, "send", is required to be lowercase.
- The command is required to be capital letters.
- There is a space between "send" and the command.
- End with the [ENTER] key.

Parameter Setting	
Baud Rate	9600 bit/s
Data Bit	8 bit
Parity Bit	N
Stop Bit	1 bit
Follow Control	none

6.2 Remote Monitoring

- RJ45 Ethernet
- Port: 7777

6.3 Code Definition

- {CrLf}: End of the command, hexadecimal 0x0D & 0x0A
- {sp}: Space, hexadecimal 0x20
- <xxxx>: Parameter setting

6.4 Glossary

Term	Description
CH	Current channel
WLN	Working wavelength
POW	Optical power
OFS	Offset value of optical power
Ip	Internet protocol
Mask	Subnet mask
GW	Default gateway
CMode	Monitoring mode 1. Local: Only RS232 and USB are available. 2. Remote: Ethernet is available as well as RS232 and USB.

Term	Description
Fan	Fan status 1. ON 2. OFF 3. Auto: On, equipment temperature > 30°C Off, equipment temperature < 30°C
Buz	Buzzer status 1. ON: "Beep, beep" sound will be made if there is any alarm. 2. OFF
Temp	Temperature
InPwr	Input power 1. AC: 100 to 240 Vac / 50 to 60Hz 2. DC: 36 to 72 Vdc
Model	Equipment model
SN	Equipment serial number
Ver	Equipment version 1. H/W Ver: Hardware version 2. F/W Ver: Firmware version
Reset	Restart the equipment
Def	Restore factory settings
ALM	Read or set channel alarm

6.5 Command

Description	Format	Example	Response
Read the position of optical channel	CH{CrLf}	CH{CrLf}	1{CrLf}
Set the position of optical channel	CH{sp}<CH>	CH{sp}2{CrLf}	OK{CrLf}
Read working wavelength	WLN{sp}<CH>{CrLf}	WLN{sp}2{CrLf}	1550{CrLf}
Set working wavelength	WLN{sp}<CH>{sp}<Wavelength>{CrLf}	WLN{sp}2{sp}1625{CrLf}	OK{CrLf}
Read optical power	POW{sp}<CH>{CrLf}	POW{sp}1{CrLf}	-25.50{CrLf}
Offset value of output optical power	OFS{sp}<CH>{sp}<dB>{CrLf}	OFS{sp}1{sp}0.30{CrLf}	OK{CrLf}
Read IP address	IP{CrLf}	IP{CrLf}	192.168.10.100{CrLf}
Set IP address	IP{sp}<IP>{CrLf}	IP{sp}192.168.10.100{CrLf}	OK{CrLf}
Read mask	MASK{CrLf}	MASK{CrLf}	255.255.255.0{CrLf}
Set mask	MASK{sp}<MASK>{CrLf}	MASK{sp}255.255.255.0{CrLf}	OK{CrLf}
Read gateway	GW{CrLf}	GW{CrLf}	192.168.10.254{CrLf}
Set gateway	GW{sp}<GATEWAY>{CrLf}	GW{sp}255.255.255.0{CrLf}	OK{CrLf}
Read monitoring mode	CMODE{CrLf}	CMODE{CrLf}	L{CrLf}
Set monitoring mode	CMODE{sp}<Mode>{CrLf}	CMODE{sp}L{CrLf} L: Local R: Remote	OK{CrLf}

Description	Format	Example	Response
Read fan mode	FAN{CrLf}	FAN{CrLf}	A{CrLf}
Set fan mode	FAN{sp}<Mmode> {CrLf}	FAN{sp}A{CrLf} 0: OFF; 1: ON; A: AUTO	OK{CrLf}
Read buzzer mode	BUZ{CrLf}	BUZ{CrLf} 0: OFF; 1: ON	1{CrLf}
Set buzzer mode	BUZ{sp}<ON OFF> {CrLf}	BUZ{sp}1{CrLf}	OK{CrLf}
Read temperature	TEMP{CrLf}	TEMP{CrLf}	28{CrLf}
Read input power	INPWR{CrLf}	INPWR{CrLf}	P1:AC{CrLf} P2:DC{CrLf}
Read model	MODEL{CrLf}	MODEL{CrLf}	TESTMATE1116{CrLf}
Read serial number	SN{CrLf}	SN{CrLf}	31A190000001{CrLf}
Read version	VER{CrLf}	VER{CrLf}	HW:V1.01{CrLf} FW:V1.01{CrLf}
Restart the equipment	Reset{CrLf}	Reset{CrLf}	OK{CrLf}
Restore factory settings	DEF{CrLf}	DEF{CrLf}	OK{CrLf}
Read alarm channel	ALM{CrLf}	ALM{CrLf}	2{sp}3 There is an alarm in Channel 2 and 3.
Set alarm channel	ALM{sp}<CH>{CrLf }	ALM{sp}2{CrLf}	OK{CrLf}

7. Factory Setting

Item	Default	Note
Working wavelength	1310nm	
IP address	192.168.10.100	
Mask	255.255.255.0	
Gateway	192.168.10.254	
Port	7777	
RS232 parameter	9600, 8, N, 1	
Control mode	Local	
Fan mode	Auto	

8. Troubleshooting

8.1 Common Problems

Please contact Ascentac if there is any problem. Do not disassemble the equipment by yourself.

Item	Problems	Solution
1	All LED light and LCD screen doesn't work.	1. Check the power cord connections 2. Check the fuse
2	The fan doesn't work when the status is ON.	Restart the equipment
3	Failed RS232, USB or Ethernet connection	1. Check whether RS232, USB or Ethernet connection is functional 2. Check the parameters of RS232 and USB. 3. Check whether the light of RJ45 connector is flashing normally 4. Check the setting of IP address, mask and gateway 5. Check whether IP address is valid
4	The optical power is too low.	Clean fiber-optic connector end-faces

8.2 Additional Suggestions

Based on protection and safety, the end of fiber optic connector on the equipment are packed with dust cap. Please don't remove the dust cap before connecting fiber optic patch cords with the equipment. Be sure to cover the end of fiber optic connector on the equipment with the dust cap when it doesn't be used.

It is recommended that the optical connector be cleaned before use and reconnection every time. The dirty end-face may scratch or damage the glass surface of the mating one. Dust, dirt or debris residues will transfer. It may also cause an air gap or misalignment between cores to result in strong back reflections.

Strong back reflection will cause:

- Degradation of the signal quality
- Burned-out end-face
- A slowdown of data traffic
- Failure of the whole system