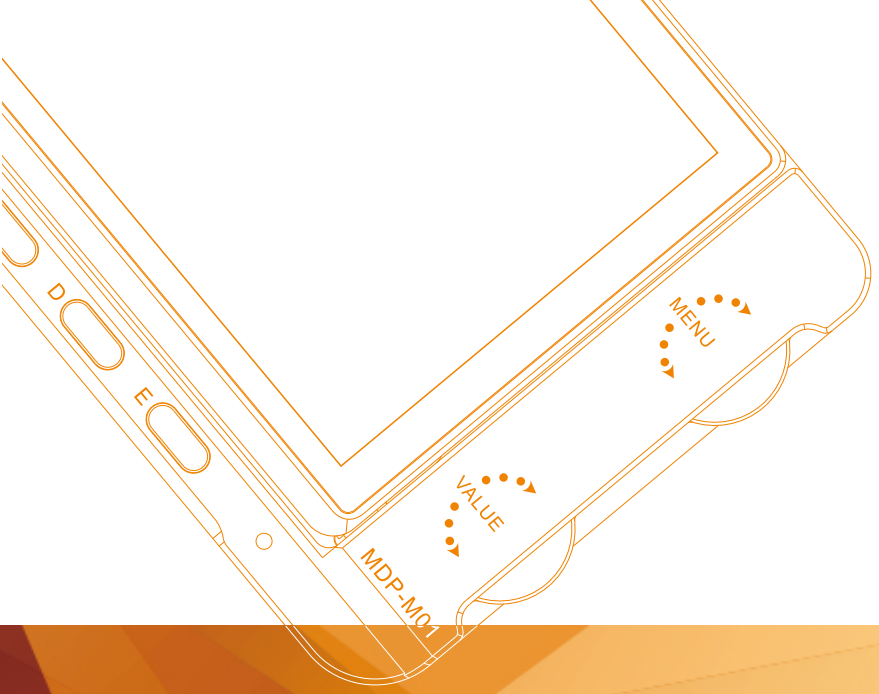


MINIWARE

MDP-M01 Smart Digital Monitor

User Manual V3.2

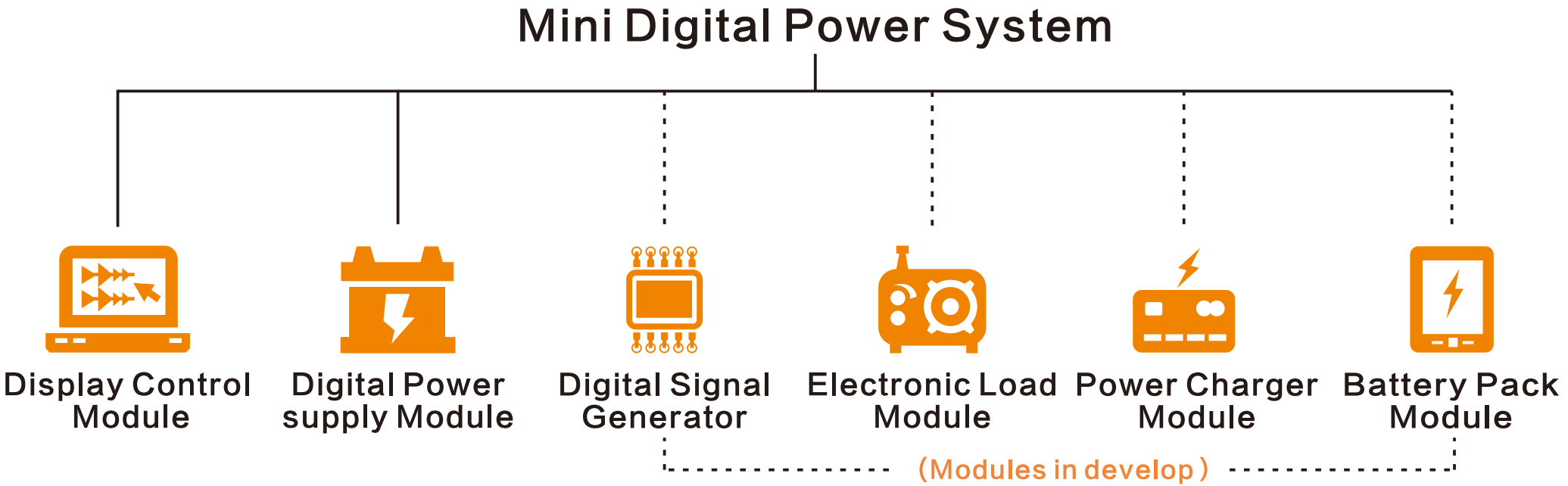
This user manual is based on MDP-M01 DFU V3.64, APP V1.25.

Contents

01/ Product Description

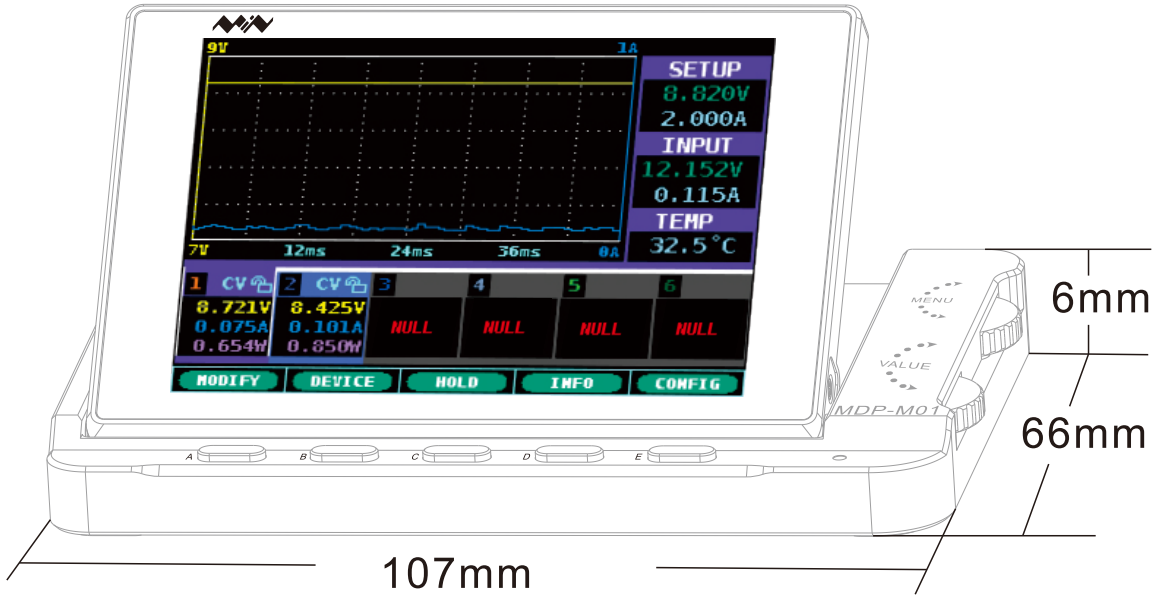
1.1 Product Introduction

MDP (Mini Digital Power System) is a system of programmable linear DC power supply system based on modular design, capable of connecting different modules for use as needed.



MDP-M01 is a display control module equipped with a 2.8-inch TFT display screen, the screen can be turned 90 degrees, which is convenient for users to view data. MDP-M01 can realize online display and control with MDP-P905 mini digital power supply module and other modules of MDP system through 2.4G wireless communication, and can control up to 6 sub-modules at the same time.

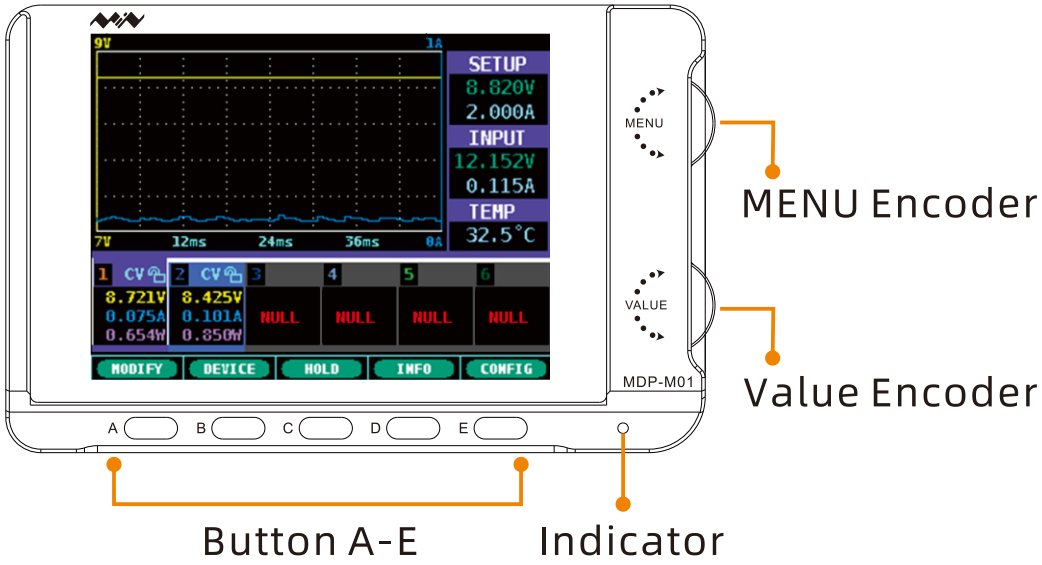
1.2 Performance Parameters



Screen Size	2.8” TFT
Screen Resolution	240*320
Power Input	Micro USB power input, or taking power from sub-module via dedicated power cable
Size	107*66*13.6mm
Weight	133g
Other Functions	Upgrade firmware through Micro USB

02/ Button Functions

2.1 Button Instructions



Encoders:

MENU Encoder: Move cursor (select item to be edited)

VALUE Encoder: Adjust numeric value

Shortcuts:

Screenshot: long press Button "E" to capture screen. The picture captured will be saved in sequence in the built-in USB flash disk of display control module.

Button A-E:

Button A-E respectively corresponds to different button operations in different levels of menu. When the background color of the button in this level of menu is grey, it represents that the current button is invalid.

Indicator light:

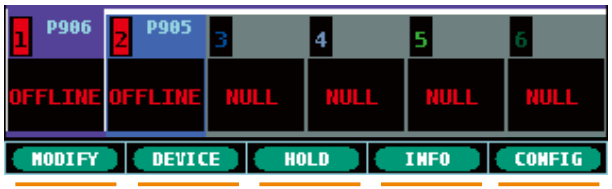
Blue: working state.

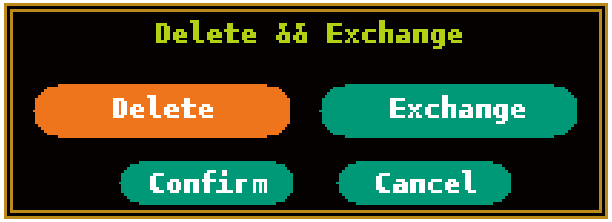
Red: sub-module alarm.

▲Note:

1) Total power shall be limited within 90W during adjusting and setting current and voltage;

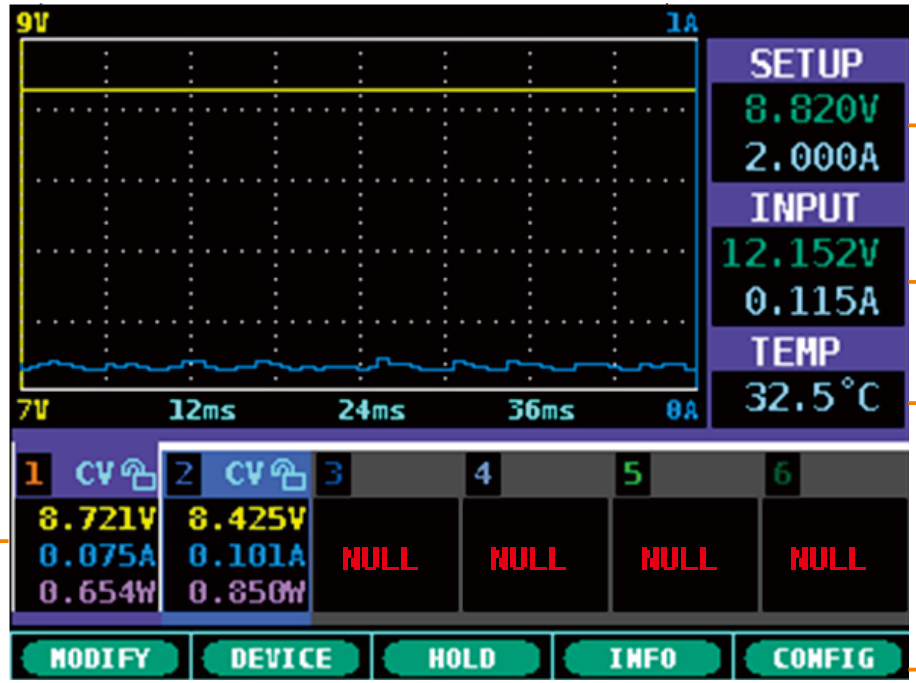
2) Once display control module and power module are disconnected owing to communication distance and signal interference, the editing mode will exit automatically.





Menu Level	Button Name	Button Function
Level 1	MODIFY	Edit mode
	DEVICE	Device selection
	PLAY/HOLD	Play or hold the waveform
	INFO	Detailed information
	CONFIG	Setting
Level 2	BACK	Exit edit mode
	FORWARD	Previous item
	BACKWARD	Latter item
	OUTPUT	Output on/off
	CONFIRM	Confirm
	ESC	Back to the main menu
Level 3	Cancel	Cancel
	Help	Help
	Delete	Delete current device information
	Exchange	Exchange information of two power supplies selected

03/ Main Menu



Output Setting

Input Information

Sub-module Temperature

Output Information

Button Function area

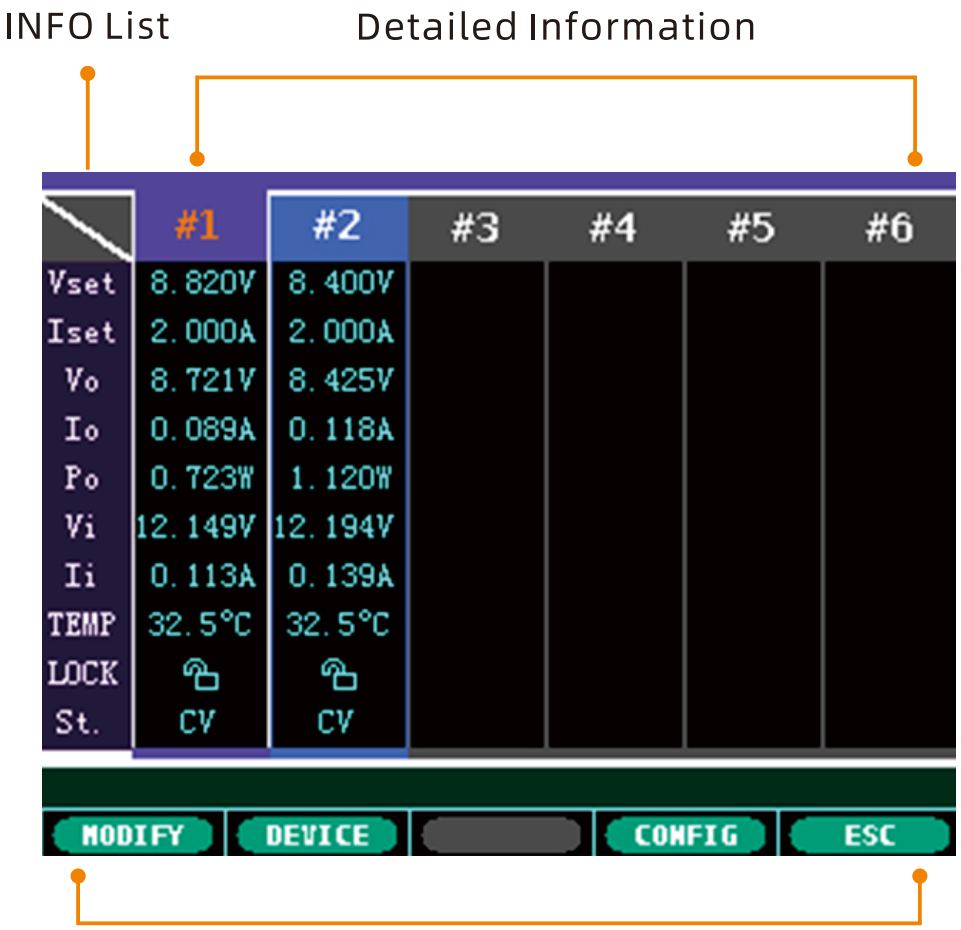
1) Waveform self-adaption: after long pressing Button C on the main interface, waveform will be self-adapting in full measuring range or auto ranging;

2) Adjust time axis: scroll MENU Encoder to adjust;

3) If MDP-M01 hasn't been connected to sub-module, there will be a prompt in button function area at the bottom of the screen, indicating to enter "Auto Match" interface to run wireless connection pairing;

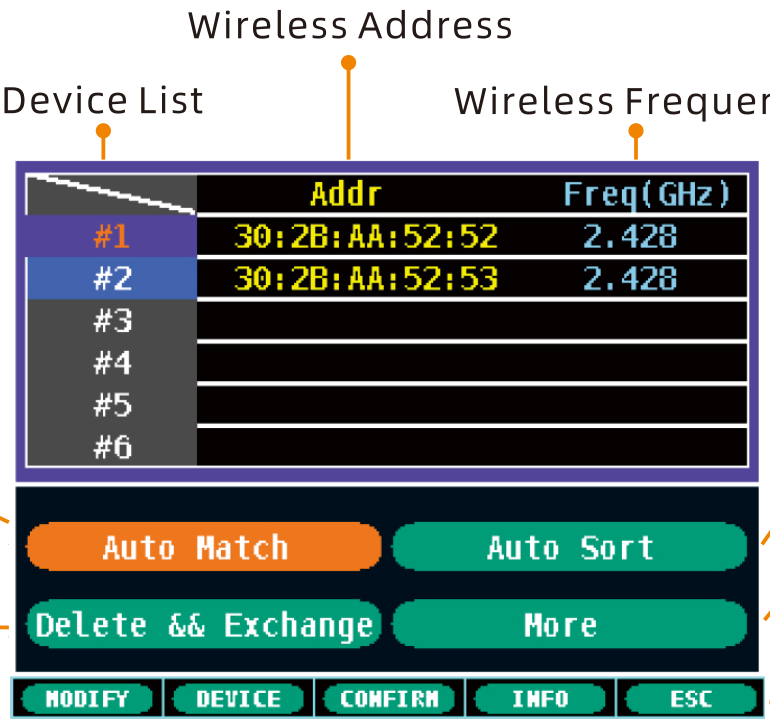
4) After the sub-module paired with MDP-M01 is disconnected, its corresponding channel number will be shown in red in reverse. Once it is reconnected, the original color will be shown again.

04/ INFO Details



Menu	Function
Vset	Set voltage (Adjustable)
Iset	Set current (Adjustable)
Vo	Real-time output voltage
Io	Real-time output current
Po	Real-time output power
Vi	Input voltage
Ii	Input current
TEMP	Corresponding device's temperature
LOCK	The current device is locked or not. When the lock icon shows open, it means the device is unlocked; when the lock icon shows locked (red), it means the device is locked, and MDP-M01 can't control the device, you can only view the information.
St.	Device Status. ON (output turns on)/ CC (constant current output)/ CV (constant voltage output)/ OFF (output turns off)

05/ Configurations



Wireless Address Auto-match

Delete & Exchange Wireless Address and ID

Wireless Address Auto-sorting

More Functions:
Adjust power supply's Encoder color, adjust volume and view version information

Button Function Area

Menu Name	Function
Addr	Connected wireless address (modifiable)
Freq(GHz)	Connected wireless frequency (modifiable)
Auto Match	Auto-match button of wireless address; wireless address and wireless frequency can be matched automatically
Auto Sort	Auto-sorting button of wireless address; wireless address and wireless frequency can be automatically sorted according to its starting value
Delete && Exchange	Delete and exchange the wireless matching address and ID of the corresponding devices
More	Modify power supply module's Encoder color, adjust the volume of display control device, view version information (including ID number and name of device, and firmware version information)

5.1 Wireless Connection

【5.1.1】 Auto Match: Auto-matching of wireless address and wireless frequency for sub-module.

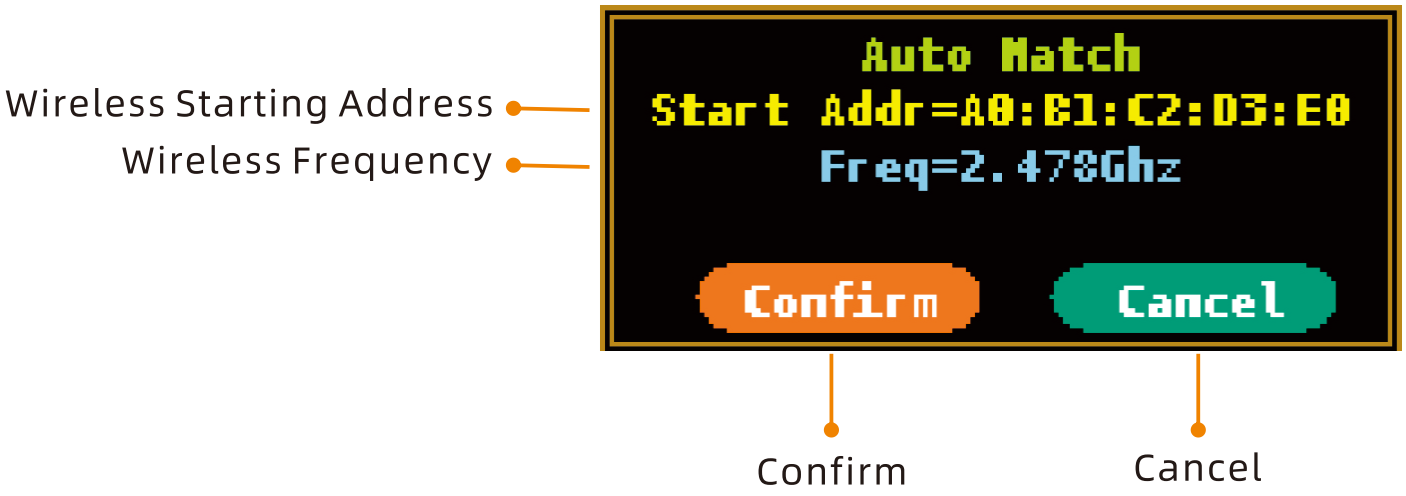
Before automatically matching the wireless address and frequency for sub-module, it is necessary to match MDP-M01 display control module with sub-module.

Auto-match Operation of MDP-M01:

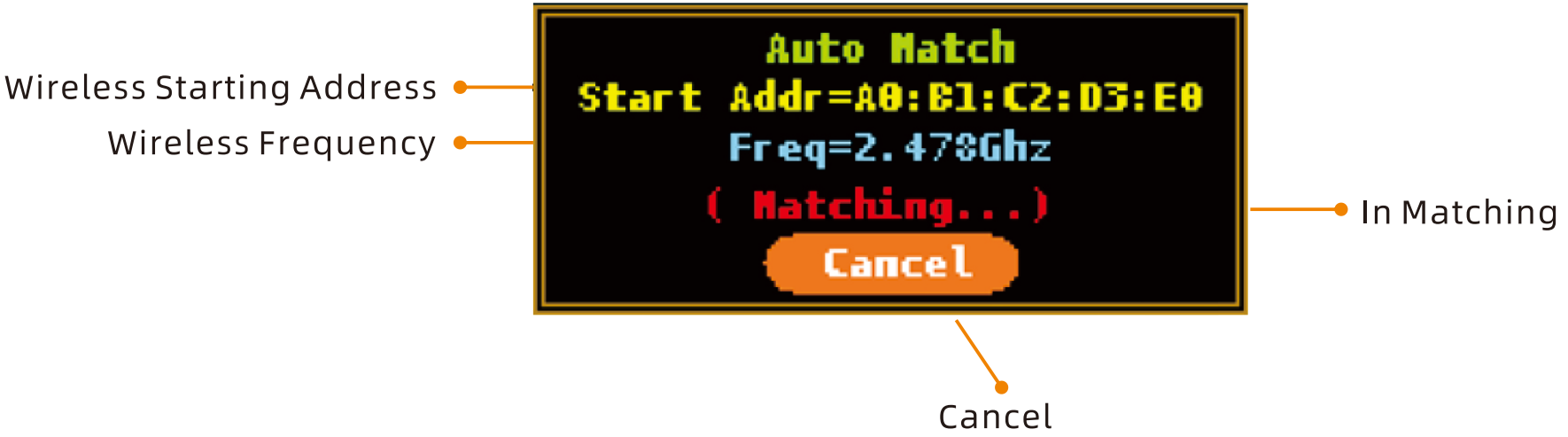
1) Choose the menu item "Auto Match" on MDP-M01 display control module, and press Button "Confirm" to enter menu (See below picture);

Submenu of Auto Match:

Start Addr: the wireless starting address during auto-matching of sub-module; the last bit of wireless address will accumulate by 1 for every additional sub-module;

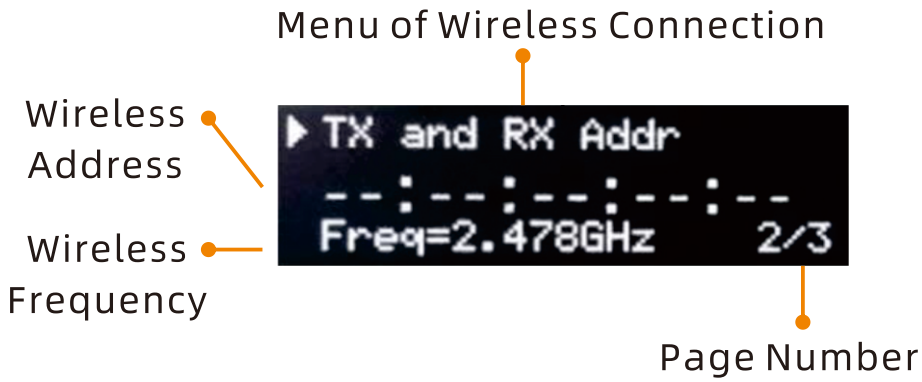


2) When an auto-match dialogue box appears on the screen, Press Button "Confirm" to confirm and issue a request for matching;
3) Wait power supply module to reply to wireless pairing.



Auto-match Operation of Sub-module (MDP-P905 Power Module):

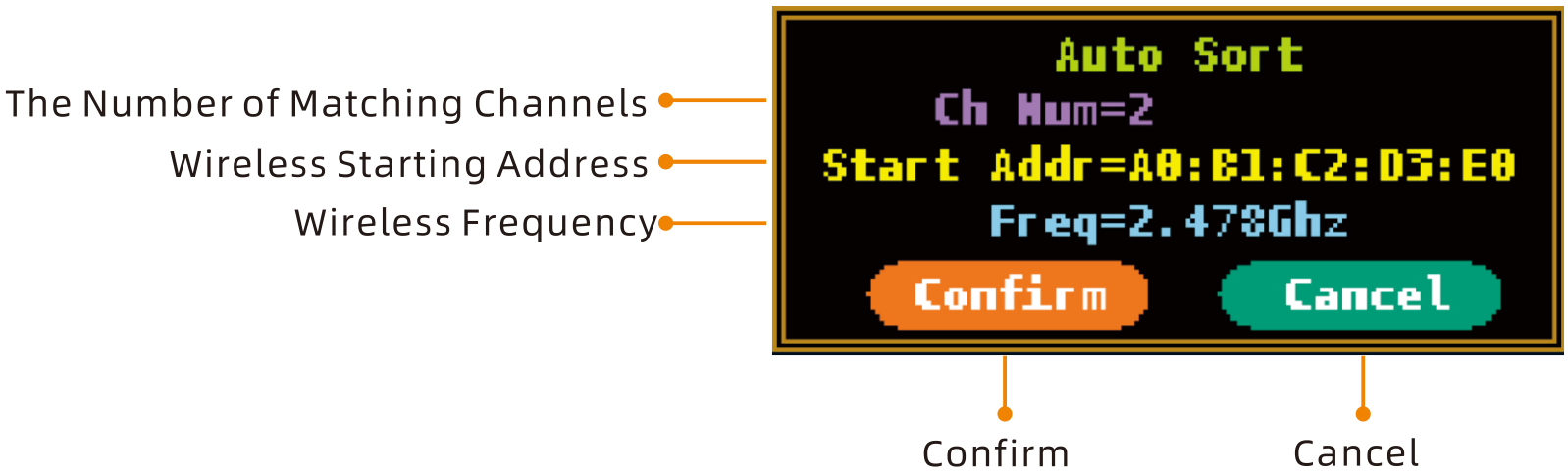
1) Long press Button "MENU" to enter the setting items of menu;
2) Scroll Encoder to select "Tx and Rx Addr", short press Button "SET" to confirm.(See picture)



After display control module successfully matches with sub-module, the wireless address and frequency matched will be displayed on display control module and sub-module.

【5.1.2】 Auto Sort: Auto-sorting of wireless address and wireless frequency

This pairing method is suitable for the wireless addresses of the sub-modules that have been arranged in order, or the sub-modules that have been modified with the appropriate wireless address and wireless frequency through config file.



Subinterface of Auto Sort:

Ch Num: The number of sub-module to be sorted;

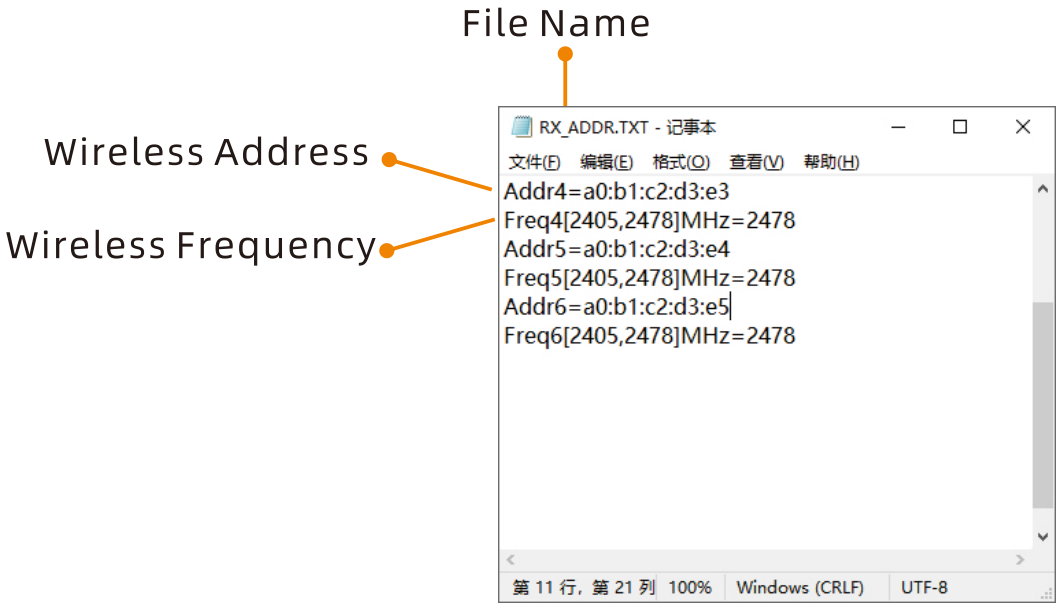
Start Addr: The wireless starting address of sub-module to be sorted; the last bit of wireless address will accumulate by 1 for every additional sub-module;

Freq: The wireless frequency of sub-module to be sorted.

【5.1.3】 Modify wireless address and wireless frequency by config files

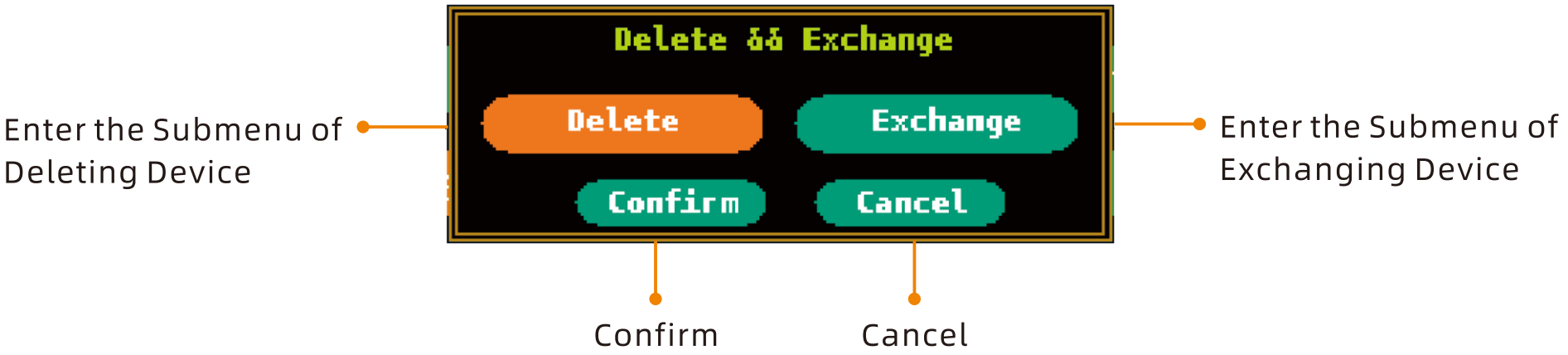
This pairing method is suitable for the wireless addresses of the sub-modules that have been arranged in order, the sub-modules that have been modified with the appropriate wireless address and wireless frequency through config file.

1) Connect MDP-M01 display control module with computer by data cable, a virtual disk will appear on the computer;
2) Open the file RX_ADDR.TXT in the virtual disk and modify wireless address and frequency to match sub-module; the file contents are as shown in the following figure:

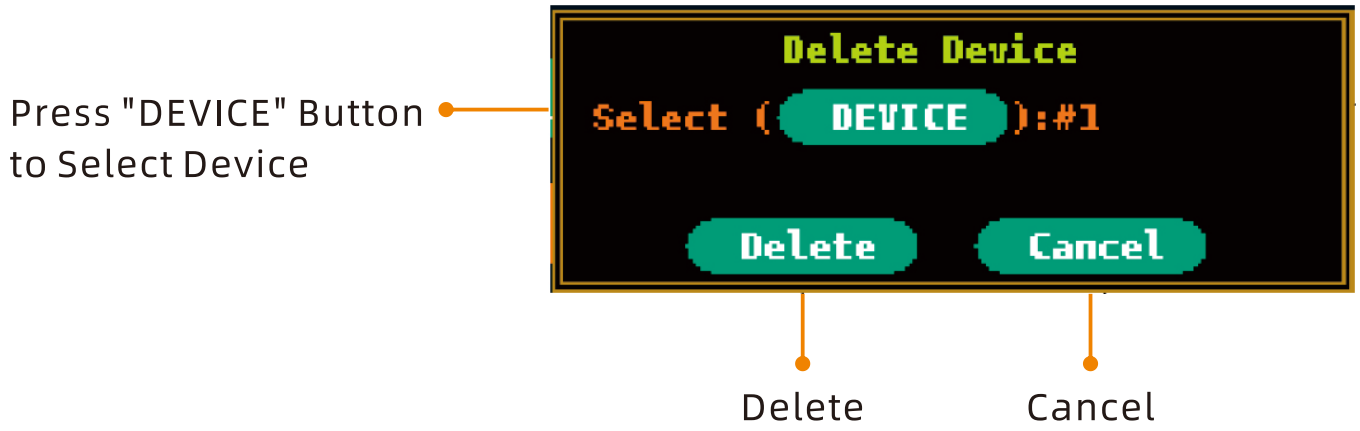


3) Save file, restart MDP-M01 after exiting the virtual disk, and the config file will take effect.

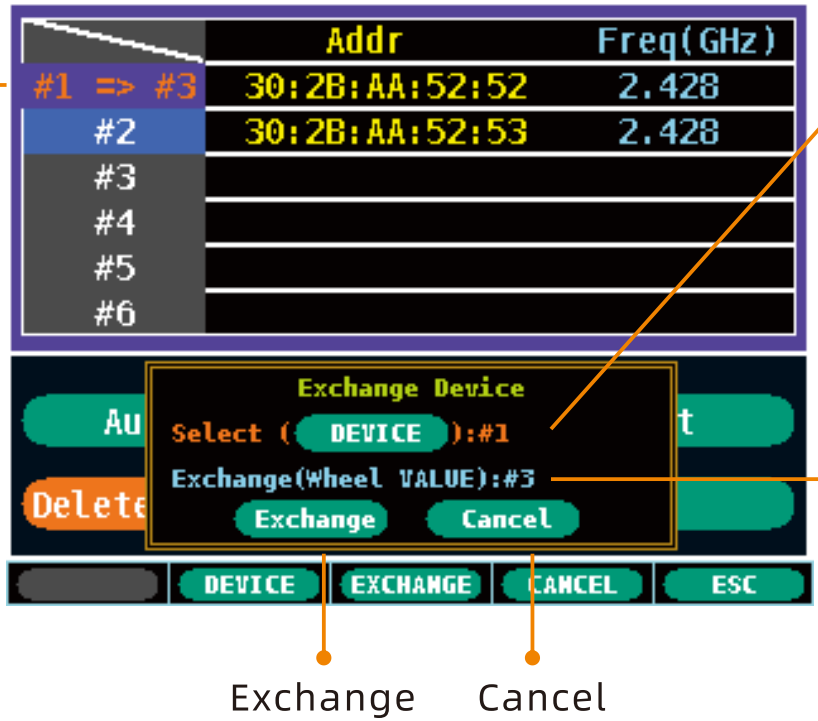
5.2 Delete&& Exchange



【5.2.1】Delete Device: Delete device information



【5.2.2】Exchange Device: Exchange information of display device



Exchange and display information of device 1 to device 3

Press "DEVICE" button to select the starting device to exchange

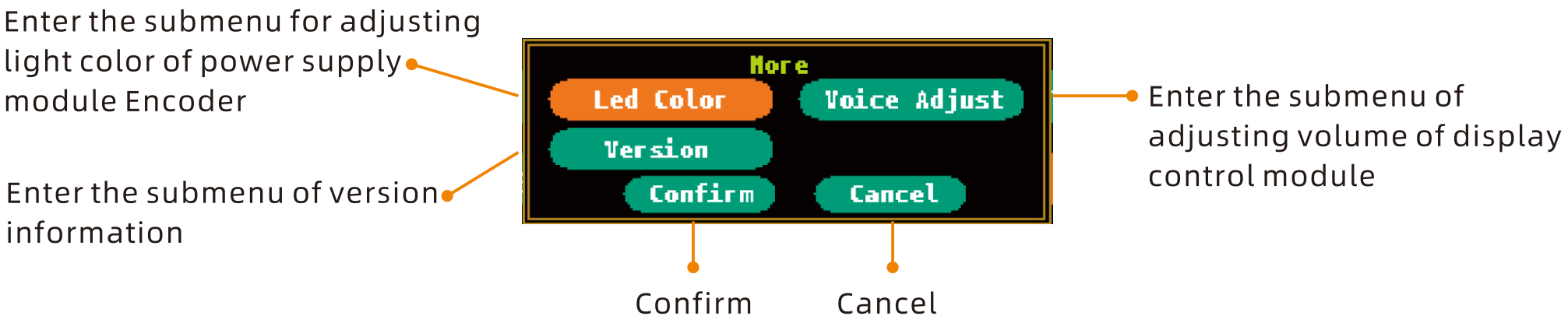
Scroll "VALUE" Encoder to select the destination device to exchange

Exchange

Cancel

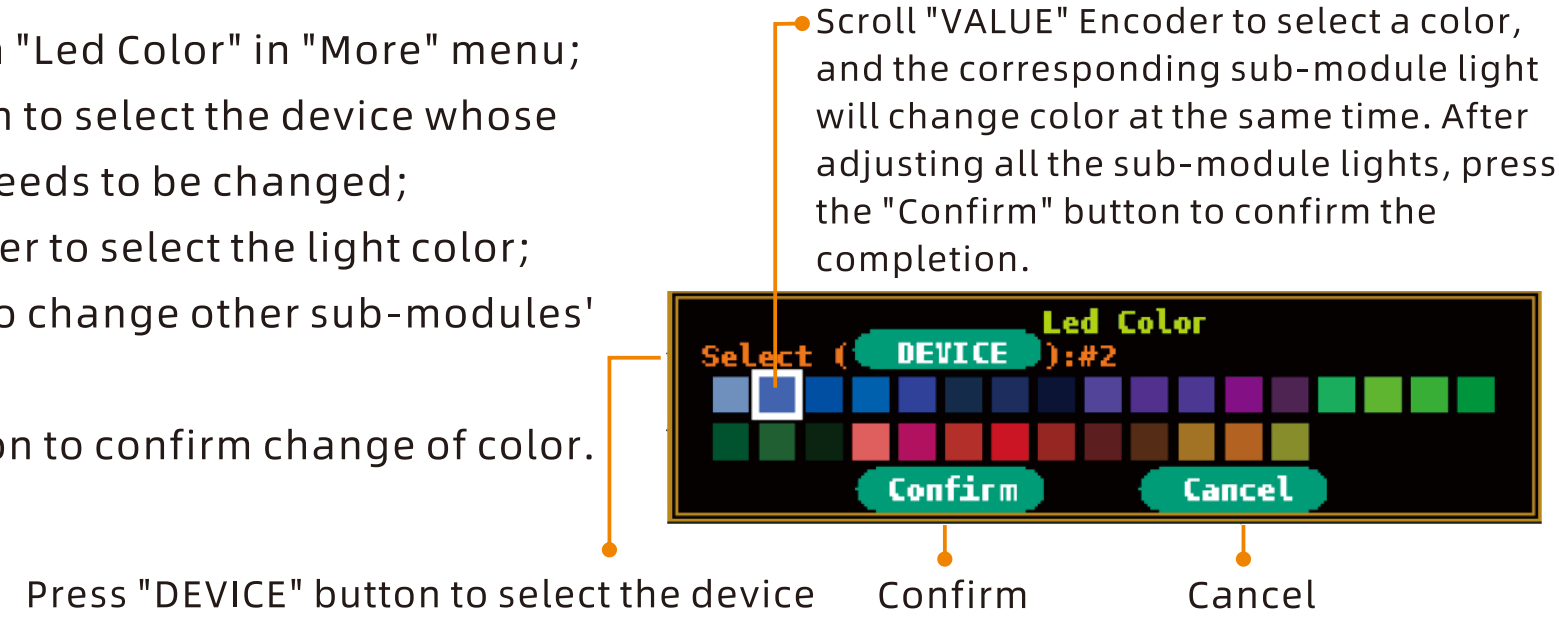
5.3 More

The menu "More" contains multiple functions, such as changing light color of sub-module Encoder, adjusting the volume of the display control module, and viewing version information (including device ID number, device name, and software version information), etc.

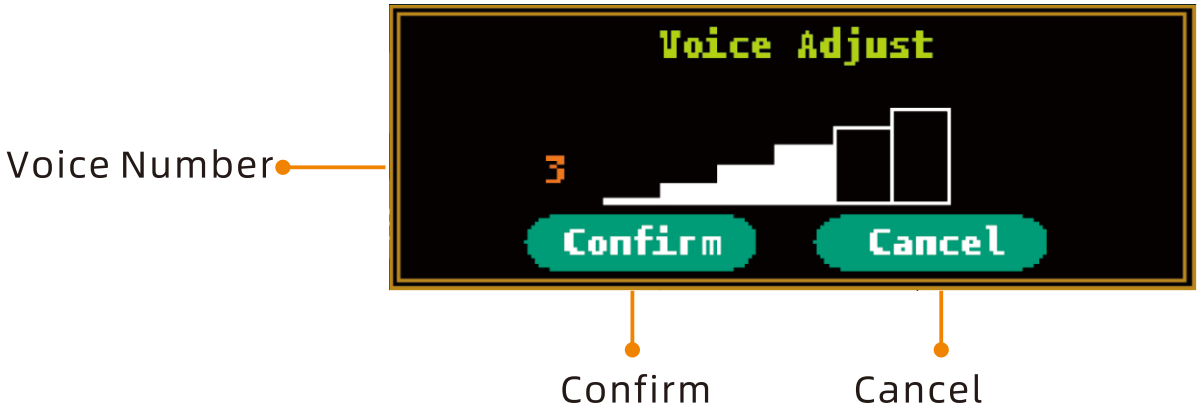


【5.3.1】 Led Color: Change light color of power supply module encoder

1) Enter the setting item "Led Color" in "More" menu;
2) Press "DEVICE" button to select the device whose Encoder light color needs to be changed;
3) Scroll "VALUE" Encoder to select the light color;
4) Repeat step 2 and 3 to change other sub-modules' Encoder light color;
5) Press "Confirm" button to confirm change of color.



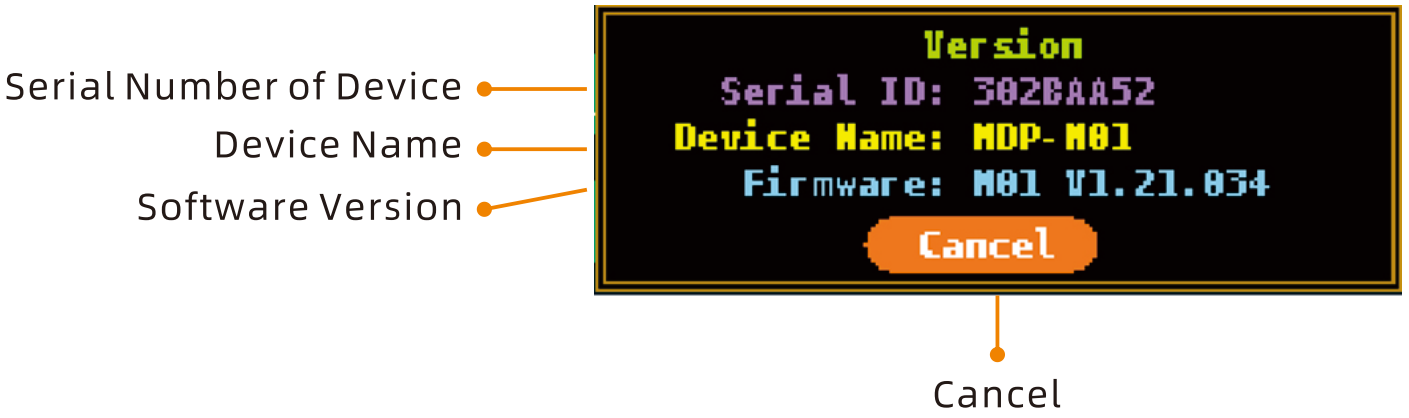
【5.3.2】 Voice Adjust: Adjust the volume of the button sound



Scroll VALUE Encoder to adjust volume. The larger the number is, the hihger the volume will be.

Press "Confirm" button to confirm change and exit.

【5.3.3】 Version: Version information

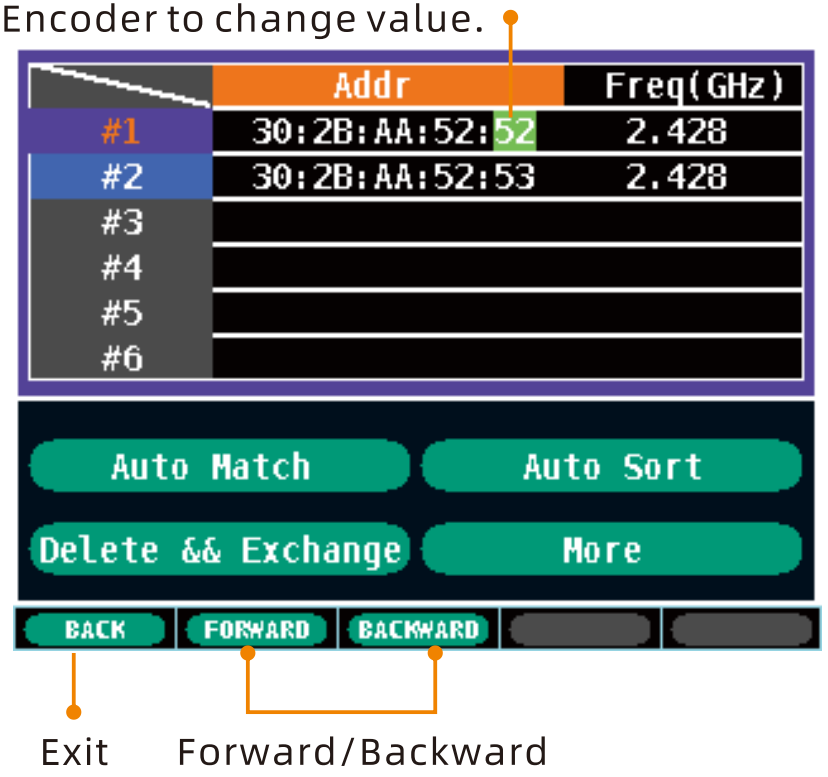


5.4 Quick Modification of Wireless Address and Wireless Frequency

After MDP-M01 display control module is paired with sub-module, the wireless address (Addr) and wireless frequency (Freq (GHz)) of the sub-module can be modified through "CONFIG" submenu.

1) Press "CONFIG" button to enter submenu, and then press "DEVICE" to select sub-module to modify;
2) Press "MODIFY" to enter setting, and select "Addr" or "Freq(GHz)" through "FORWARD" and "BACKWARD" button;
3) The selected number will be displayed in highlight , scroll "MENU" Encoder to switch to the option that needs to be modified, and scroll "VALUE" Encoder to adjust value;
4) Press "BACK" to confirm modification and return to the previous step.

In the selected Addr, scroll the upper Encoder to select the specified value, and scroll the lower Encoder to change value.



▲Note:

1) After MDP-M01 is paired with a sub-module for the first time, the ID number of the sub-module will be saved by default to avoid misconnection of other sub-modules with the same wireless address. Therefore, just modifying the wireless address of the paired sub-module cannot be connected to the new sub-module. Please proceed first to "Delete" the saved ID information, and re-matches the new sub-module;
2) Set range of wireless frequency: 2405MHz-2478MHz;
3) When the current sub-module selected is offline, it will automatically jump to other online sub-modules.
4) During matching of wireless address, if power output is turned on, power output will be closed compulsorily for safety protection.

06/ Firmware Upgrade

1) Visit www.miniware.com.cn, download the applicable MDP-M01 firmware to computer;
2) Hold Button "A", and connect MDP-M01 with computer by Micro USB data cable to enter DFU mode. Then a virtual disk named "DFU Vx_xx_x" will appear on computer;
3) Copy the .hex firmware to the root directory of the virtual disk, and after the name suffix of firmware turns into .RDY, restart MDP-M01 to upgrade firmware.

▲Note:

For all the versions upgraded from the previous firmware version to M01_v1.22 and above, User needs to firstly backup files into computer before upgrading firmware, and after upgrade, format diskette and then save the files back into the virtual disk.

07/ FAQ

Once the following situations happen, MDP-M01 will give the alarm or buzzer warning.

Display contents	Reason	Solution
Display "RX_ADDR.TXT File Error"	Errors in reading files of wireless config	Check whether the content of the RX_ADDR.TXT file in the flash disk is normal
"Flash Error" is displayed	Errors in flash chip	Contact after-sales service, you may need to replace the display control module
"Wireless Error" is displayed	Errors in wireless chip	

08/ Legal Statements

FCC compliance statement

This device is complied with the regulation in the 15th part of FCC regulation.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including the interference that may cause undesired operation.

The CE mark is a registered trademark of European Community.

This CE mark shows that the product complies with all the relevant European Legal Directives.

This product contains batteries and/or recyclable electronic parts.

Please do not dispose of the product together with household garbage.

Please handle it according to your local laws and regulations.