

SDCP9

Wallplate Control Panel-9 buttons

8 programmable buttons plus 1 audio mute button, 3 built-in programmable RS232, 2 RS485 and 2 IR connectors.

SEADA

Showing the World

User Manual

VER 1.0

Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

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1. Introduction

1.1 Product Introduction

The SDCP9 is a wallplate control panel with 8 programmable buttons plus 1 audio mute button. It features 3 built-in programmable RS232, 2 RS485 and 2 IR connectors.

The programmable control panel can fully control the compatible device via TCP/IP, RS232, RS485 and IR, such as matrix switcher, scaler switcher, projectors, screens, etc. Use the device for presentations in showrooms, classrooms, and boardrooms.

1.2 Features

- ✦ Features 8 programmable buttons plus 1 audio mute button, 3 built-in programmable RS232, 2 RS485 and 2 IR connectors.
- ✦ Each button can be programmed to send RS232, RS485, IR or TCP/IP commands simultaneously to control third party devices.
- ✦ The unit can be easily configured using the supporting control panel via the ENTERNET port.
- ✦ The volume control buttons is specially designed for various applications.
- ✦ Crystal and backlit buttons with easy user-friendly customizable changeable labels.
- ✦ The backlit brightness is controllable.

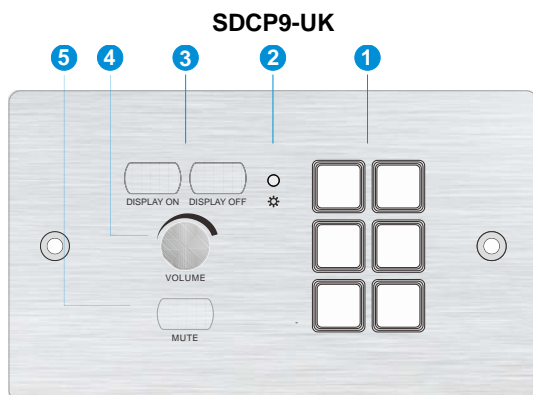
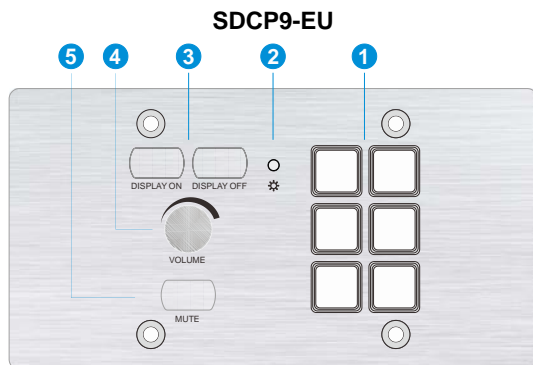
1.3 Package List

- ① 1x SDCP9
- ② 5x 2-pin pluggable terminal blocks
- ③ 3x 3-pin pluggable terminal blocks
- ④ 6x Button caps
- ⑤ 1x Button label
- ⑥ 1x Power adapter (12VDC 1A)
- ⑦ 1x User manual

Note: Please confirm if the product and the accessories are all included, if not, please contact with the dealers.

2. Panel Description

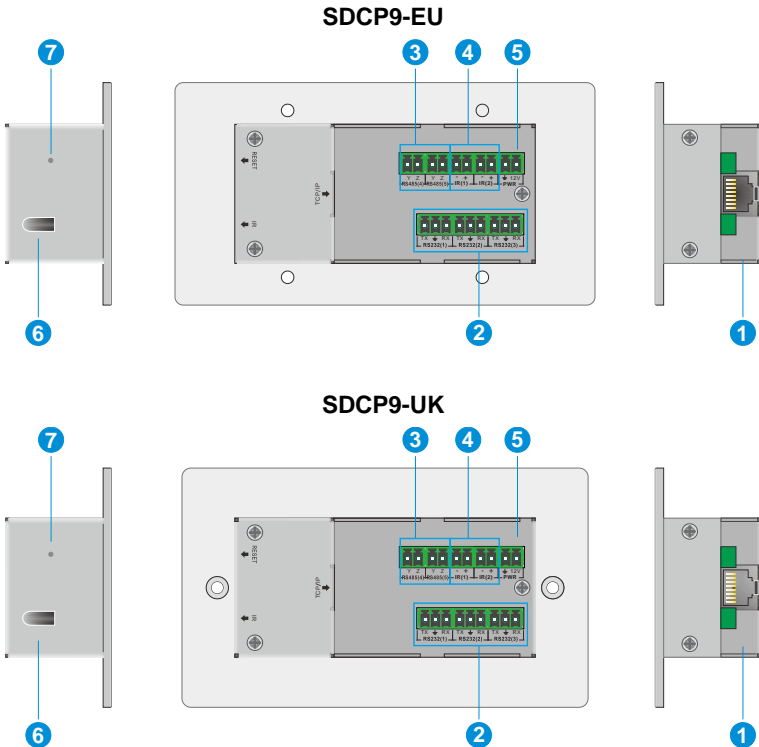
2.1 Front Panel



No.	Name	Description
1	Button	<p>6 crystal and luminescent buttons, programmable functions can be customized via the Control Software.</p> <p>Each label within a button can be easily changed. Simply select the label you need and change it as shown below:</p>

2	Power LED	The LED illuminates red when power is applied.
3	DISPLAY ON	The button can be customized to turn on the third-party device.
	DISPLAY OFF	The button can be customized to turn off the third-party device.
4	VOLUME	The rotary knob can be customized as Volume Up and Volume Down buttons for specific application.
5	MUTE	The button can be customized as Toggle Mute and Unmute buttons for specific application.

2.2 Rear Panel



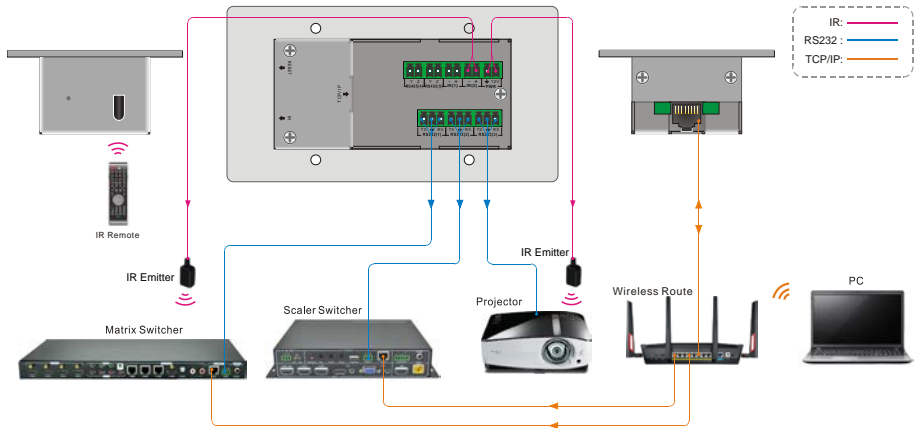
No.	Name	Description
1	ETHERNET	RJ45 connector for connecting PC to run the Control Software to customize the programmable functions for all buttons. After buttons programming, the RJ45 connector should be connected to the third-party device which needs

		to be controlled via TCP/IP. Note: <i>The wallplate control panel and third-party devices can connected to the LAN to facilitate remote control and simplify system connection.</i>
2	RS232 (1) ~ RS232 (3)	3-pin RS232 terminal blocks for connecting the third-party devices which need to be controlled via RS232.
3	RS485 (4) ~ RS485 (5)	2-pin RS485 terminal blocks for connecting the third-party devices which need to be controlled via RS485.
4	IR (1) ~ IR (2)	2-pin IR terminal blocks for connecting with IR emitters to control the third-party devices via IR.
5	PWR(12V)	2-pin terminal block for connecting 12V DC power adaptor.
6	IR Sensor	Built-in IR receiver for receiving IR code from IR remote to build the IR database.
7	RESET	Press and hold this button for 3 seconds until the power LED goes out. Then the LED will light up while the device is restored to factory defaults successfully.

3. System Connection

The SDCP9 can active different ports at the same time. It means that every button can send RS232, RS485, TCP/IP and IR control signal synchronously.

The demo system diagram as below:



- 1) Connect the SDCP9 to a **LAN** port of Wireless Route.
- 2) Connect a control PC to the Wireless Route.
- 3) Connect the third-party devices (such as matrix switcher and scaler switcher) to the **LAN** port of Wireless Route.
- 4) Connect the third-party devices (such as matrix switcher, scaler switcher and projector) to **RS232 (1)**, **RS232 (2)** and **RS232 (3)** ports.
- 5) The third-party devices which support RS485 communication can be connected to **RS485 (4)** and **RS485 (5)** ports.
- 6) Connect the IR Emitters to **IR (1)** and **IR (2)** ports.
- 7) Plug in 12V DC power supply adapter.

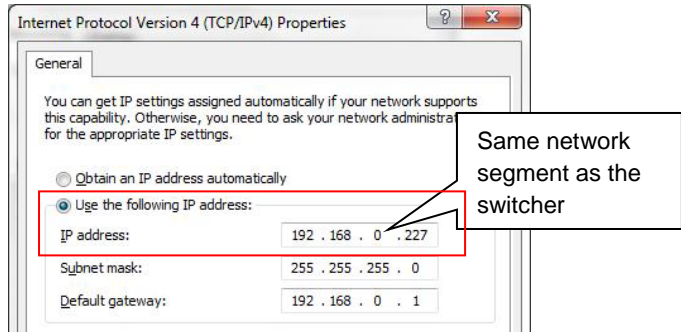
Note: The control PC can be directly connected to the **TCP/IP** port of SDCP9 to customized button functions. After buttons programming, disconnect the PC, and then connect the third-party device to the **TCP/IP** port.

4. Control Software

4.1 Basic Setting

The Control Software is used to easily set functions for every button.

- 1) According to the system diagram to establish system connection.
- 2) The default IP of SDCP9 is 192.168.0.178 (modifiable), the network segment of control PC must be set the same as the SDCP9's.



- 3) Installation/uninstallation of Control Software:
 - Installation: Copy the software package to the control PC.
 - Uninstallation: Delete all the software files in corresponding file path.
- 4) Double-click the below icon to run this software:



The below main window has five parts: Panel Set, TCP/IP, Action List, Event Set and Event List.

Panel Set: Click any key to set its action.

Show IP addresses of all connected wallplate control panels in LAN.

Show all key actions, and any action can be chosen for setting events.

The screenshot shows a software interface with a menu bar (File, Settings, Connection, Help) and a status bar at the bottom. The status bar displays: 2018/1/25 14:55, Status: Disconnected, UDP Status: Activated, and Local IP: 192.168.12.25.

Panel Set: Contains a grid of 6 buttons labeled 1 through 6. To the right are controls for AUDIO (KNOB, MUTE), DISPLAY (ON, OFF), and input fields for IP Address, Net Mask, Gateway, and Port.

TCP/IP: Features a table with columns 'Num' and 'Data' and a 'Clear All' button.

Action List: Features a table with columns 'Key', 'Type', and 'Data' and a 'Clear All' button.

Event Set: Includes a sidebar with a tree view (RS232, IR, TCP/IP, Delay, Compare, LED, Toggle). The main area has settings for RS232/485, including Lib name, Lib Function, Port, Baud Rate, Data Bit, Stop Bit, Parity, Format (ASCII/HEX), End Char for ASCII, and a Data field.

Event List: Features a table with columns 'Num', 'Type', and 'Data' and a 'Clear All' button.

Set events for the selected key action.

Show all events for the selected key action.

Menu Options of Control Software:

The header of the main window features four titles including File, System, Connection and Help.

- Click “File” → “Open” to invoke an available configuration file.
- Click “File” → “Save” to save the current configuration data into the installation directory.
- Click “File” → “Save as” to export all configuration information and save as a file.

- Click “System” → “Version” to query the current software version.
- Click “System” → “Message” to query the Link Status, Machine Type, Software Version, IP Information, MAC address.
- Click “System” → “Software Update” → Open upgrade Web page (<http://192.168.0.178:4001/>) on IE → Type User ID (admin) and Password (123456) → upload update file → Click “Upload” → Click “Reset MCU”.
- Click “System” → “Factory Defaults” to restore factory defaults.

- Click “Connection” → “TCP/IP” → “Reconnect” to refresh all connected SDCP9.
- Click “Connection” → “Read from Device” → to load the MCU data of the selected SDCP9 to control software.
- Click “Connection” → “Write to Device” → to download the current configuration data of control software to the selected SDCP9.

Button Setting Procedure:

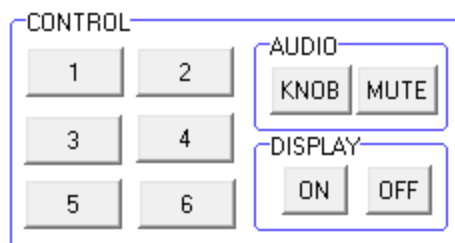
The nine programmable buttons should be set by the following steps:

- 1) Click any button to set key actions, refer to **4.2 Panel Set**.
- 2) Select any key action, refer to **4.3 Action List**.
- 3) Set the button functions for the selected key action, refer to **4.4 Event Setting** and **4.5 Event List**.

4.2 Panel Set

The below Panel Set part shows 9 customizable buttons can be programmed via the control software.

Panel Set

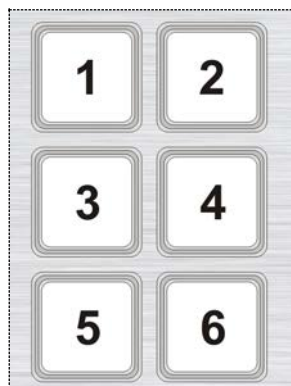


IP Address:

Net Mask:

Gateway:

Port: 



Buttons 1-6, KNOB, MUTE, ON, OFF, correspond to the buttons on SDCP9. For example, click the button 1 to set its key action as below:

Key Type:

- Press: Execute events when press button.
- Release: Execute events when release button.
- Toggle: The button can be regard as composite key, press and press again to execute different events.

Built key group for LED setting.

The 'Dialog' window shows the configuration for a button. It has a 'Key Type' dropdown set to 'Press'. Below it is an 'Add' button. A table with two columns, 'Key Group' and 'Key Name', contains one row with 'Group 1' and '1'. To the right of the table is a 'Set' button. At the bottom right is a 'Cancel' button.

Key Group	Key Name
Group 1	1

4.3 Action List

All key actions will be shown on the below action list.

Action List

The screenshot shows the 'Action List' interface. At the top, there are two icons: an orange square with a white 'x' and a red square with a white trash can. To the right of these icons is a 'Clear All' button. A callout box points to the 'Clear All' button with the text 'Empty all actions.' Below the icons is a table with three columns: 'K', 'Type', and 'Data'. The table contains three rows of data. A callout box points to the orange 'x' icon with the text 'Delete the selected action.' Another callout box points to the red trash can icon with the text 'Delete all invalid actions which have no events.'

K	Type	Data
1	Key1	Press
2	Key2	Press
3	Key3	Toggle

4.4 Event setting

The Event Set part supports RS232, RS485, IR, TCP/IP, Delay, Compare, LED and Toggle setting. Before set events, at least one key action must be added first. The following introduction is about how to set events for each action.

4.4.1 RS232 Setting

This item is used for setting the events of the selected key action to control the third-party device through RS232 (1~3) and RS485 (4~5) ports.

Event Set

The screenshot shows the 'Event Set' configuration window. On the left is a vertical list of event types: RS232, IR, TCP/IP, Delay, Compare, LED, and Toggle. The 'RS232' option is selected and highlighted in blue. The main configuration area has tabs for each event type, with 'RS232/485' being the active tab. The configuration fields include: 'Lib name' (text input), 'Lib Function' (dropdown), 'Port' (dropdown set to 'Port1'), 'Baud Rate' (dropdown set to '9600'), 'Data Bit' (dropdown set to '8'), 'Stop Bit' (dropdown set to '1'), and 'Parity' (dropdown set to 'None'). There are 'Change Lib' and 'Edit Lib' buttons. The 'Delay Send' field is a dropdown set to 'None'. A 'Format' section contains two radio buttons: 'ASCII' (selected) and 'HEX'. Below it, the 'End Char for ASCII' is a dropdown set to 'NULL'. A 'Data' field is a large text input box with up/down arrow buttons. To its right are 'Clear' and 'Add' buttons.

Operation procedure:

- 1) Select a key action in action list.
- 2) Set the "Lib Name" and "Lib Function" as needed.
- 3) Select the RS232/485 port.
- 4) Confirm and set the baud rate, data bit, stop bit and parity.
- 5) Type RS232 command in data box, and then press "add" to save.

- 6) The RS232 data also can be selected from library. Click “Change Lib” to select an available library file, or click “Edit Lib” to create a new library file as below:

The screenshot shows the 'RS232 Lib Name' dialog box. Annotations include:

- A green box labeled 'Open/create a library' pointing to the 'Open Lib' button.
- A green box labeled 'Create/delete the function name of the command.' pointing to the 'Function' dropdown menu.
- A green box labeled 'Type RS232 command for device control.' pointing to the 'Data' input field.

Fields and buttons in the dialog include: RS232 Lib Name (123), Open Lib, New Lib, Function (Open), New Function, Delete Function, Data (Format: ASCII/HEX, End Char for ASCII Format: NULL, Power ON), Set (Baud Rate: 9600, Data Bit: 8, Stop Bit: 1), Clear, Save, Save as, OK, and Cancel.

Note: Once set up, please press “Save” to save the setting or press “Save as” to save the setting as a file, and then press “OK”.

- 7) The number of transmission strings and the delay time between strings can be set.

Event Set

The screenshot shows the 'Event Set' dialog box. Annotations include:

- A blue box labeled 'RS232' pointing to the 'RS232/485' tab.
- A green box labeled 'Send no. of transmission strings' pointing to the 'Send no. of transmission strings' slider.
- A green box labeled 'Delay time between string' pointing to the 'Delay time between string' slider.

Fields and buttons in the dialog include: RS232/485, IR, TCP/IP, Delay, Compare, LED, Toggle, Lib name, Lib Function, Port (Port1), Baud Rate (9600), Data Bit (8), Stop Bit (1), Parity (None), Format (ASCII/HEX), End Char for ASCII (NULL), Change Lib, Edit Lib, Delay Send (Set), Send no. of transmission strings (1), Delay time between string (1), Data, Clear, and Add.

4.4.2 IR Setting

This item is used for setting the events of the selected key action to control the third-party device through IR (1~2) ports.

Event Set

RS232
IR
TCP/IP
Delay
Compare
LED
Toggle

RS232/485

IR

TCP/IP

Delay

Compare

LED

Toggle

Lib name:

Delay Send:

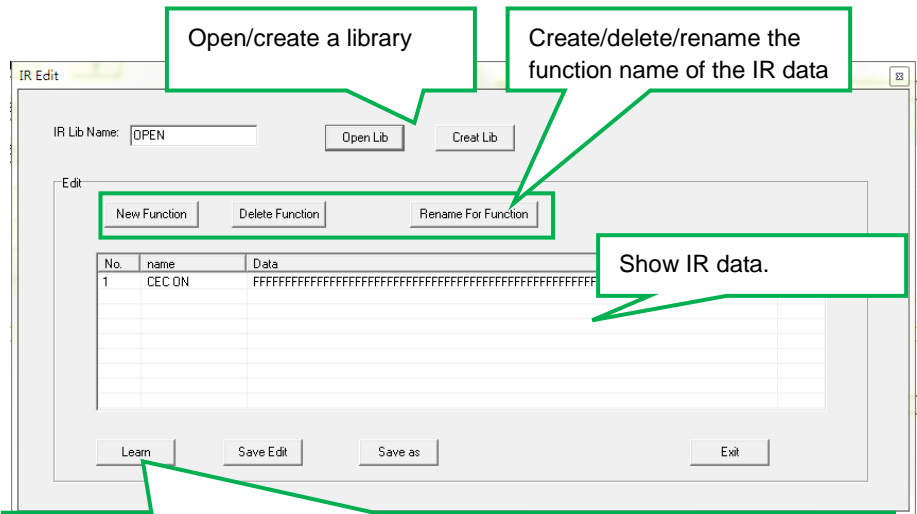
Lib Function:

Port:

Carrier:

Operation procedure:

- 1) Select the key action in action list.
- 2) Set the “Lib name” and “Lib Function” as needed.
- 3) Select the IR port.
- 4) Set the IR carrier mode: On/Off.
- 5) Click “Change Lib” to select an available library file or click “Edit Lib” to create or edit a library file as below:



IR leaning procedure:

- 1) Click “Learn” to enter IR learning mode.
- 2) Put the IR Remote close to the IR sensor of wallplate control panel.
- 3) Press any button on the IR Remote to send the IR code to the IR sensor, and the IR edit box will refresh the IR data.
- 4) Follow the above steps can learn other function of the remote buttons.

Note: The IR learning mode will be exit automatically while if no operation within 3 seconds.

Note: Once set up, please press “Save Edit” to save the setting or “Save as” to save as a file, and then press “OK”.

- 8) The number of transmission strings and the delay time between strings can be set.

Event Set

RS232
IR
TCP/IP
Delay
Compare
LED
Toggle

RS232/485

IR

TCP/IP

Delay

Compare

LED

Toggle

Lib name:

Delay Send:

Lib Function:

Port:

Carrier:

Send no.of transmission strings

Delay time between string

Change Lib

Edit Lib

Add

4.4.3 TCP/IP Setting

This item is used for setting the events of the selected key action to control the third-party device through TCP/IP port.

Event Set

- RS232
- IR
- TCP/IP**
- Delay
- Compare
- LED
- Toggle

Type the IP address of third-party device.

RS232/485 IR TCP/IP Compare LED Toggle

IP: 192.168.0.178

Port: 4001

Format: ☒ ASCII ☐ HEX

End Char for ASCII: NULL

Data:

Clear

Add

Type the control command.

4.4.4 Delay Setting

This item is used for setting the delay time between two events. If set the delay time to be 3 seconds, it means that the first event starts executing at 12:00:00, followed by the second event executing at 12:00:00:03.

The delay time setting showed as below:

Event Set

- RS232
- IR
- TCP/IP
- Delay
- Compare
- LED
- Toggle

Hour: 0~23
Minute: 0~59
Second: 0~59

Hour:
Minute:
Second:

Reset Add

4.4.5 Compare Setting

This item is used for comparing the RS232 feedback commands. When trigger button to send RS232 command to the third-party device, the device will send back a feedback command. If we add the correct command in the data box, the SDCP9 will compare it with the received feedback command to verify the availability of sending command. The compare setting showed as below:

Event Set

Operation procedure:

- 1) Select the key action in action list.
- 2) Select the RS232 port.
- 3) Set the command format ASCII or Hex, and then set the terminator for ASCII.
- 4) Type the correct RS232 command in data box, and then press "add" to save the command.
- 5) Add an event that the LED lights up to indicate the comparison result.
- 6) The executing priority of events in event list is from top to bottom, so that the comparing function can be used for the key action which with three or more events.

4.4.6 LED Setting

This item is used for setting the LEDs status of programmable buttons to indicate the results of executing event.

Event Set

RS232
IR
TCP/IP
Delay
Compare
LED
Toggle

RS232 IR TCP/IP Delay Compare LED Toggle

Key: Key1

Light Action: On

- ① On: Switch on the LED of the selected Key1.
- ② Off: Switch off the LED of the selected Key1.
- ③ On/Other off: Switch on the LED of the selected Key1 and switch off the others.
- ④ On/Group off: Switch on the LED of the selected Key1 and switch off the others in the same group.

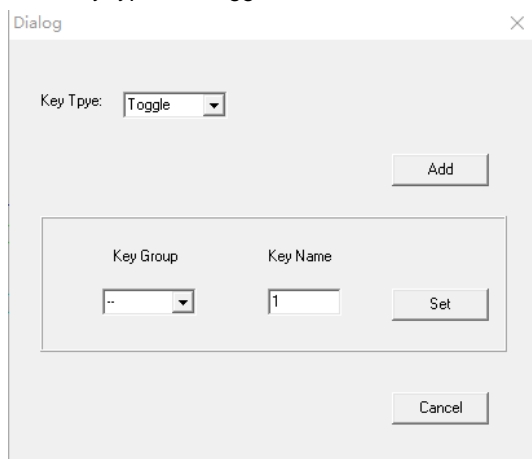
4.4.7 Toggle Setting

The key action type can be set as “Toggle” that enable the button to be a composite key.

Here take Key1 as an example to introduce the “Toggle Setting”.

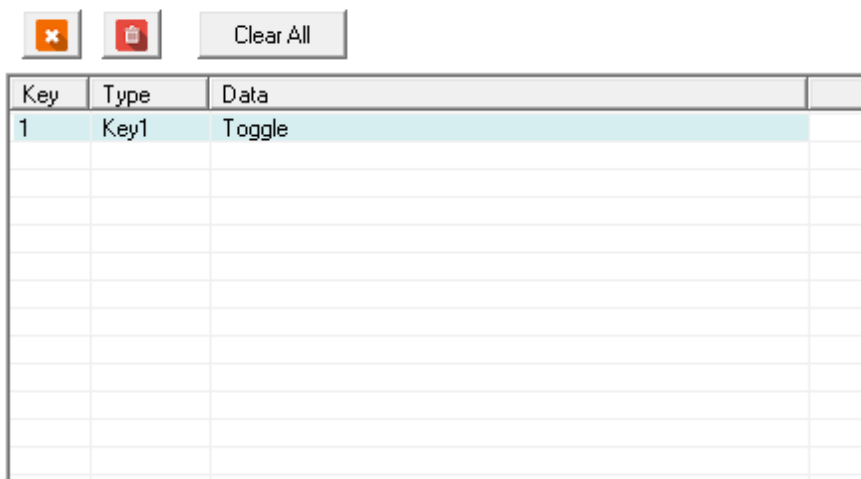
Operation procedure:

- 1) Click “1” and set its key type as “Toggle”.



The screenshot shows a 'Dialog' window with a close button (X) in the top right corner. Inside the dialog, there is a label 'Key Type:' followed by a dropdown menu currently showing 'Toggle'. To the right of this is an 'Add' button. Below these is a section with two labels: 'Key Group' and 'Key Name'. Under 'Key Group' is a dropdown menu showing '..'. Under 'Key Name' is a text input field containing '1'. To the right of these two fields is a 'Set' button. At the bottom right of the dialog is a 'Cancel' button.

Action List



The screenshot shows the 'Action List' interface. At the top, there are three buttons: a red square button with a white 'X', a red square button with a white document icon, and a 'Clear All' button. Below these buttons is a table with four columns: 'Key', 'Type', 'Data', and an empty column. The first row of the table is highlighted in light blue and contains the values '1', 'Key1', and 'Toggle'. The table has 12 rows in total.

Key	Type	Data	
1	Key1	Toggle	

- 2) Add toggle & RS232 events for the key action.**

Event Set

RS232
IR
TCP/IP
Delay
Compare
LED
Toggle

RS232/485IRTCP/IPDelayCompareLEDToggle

Key:

Toggle Start:

Add

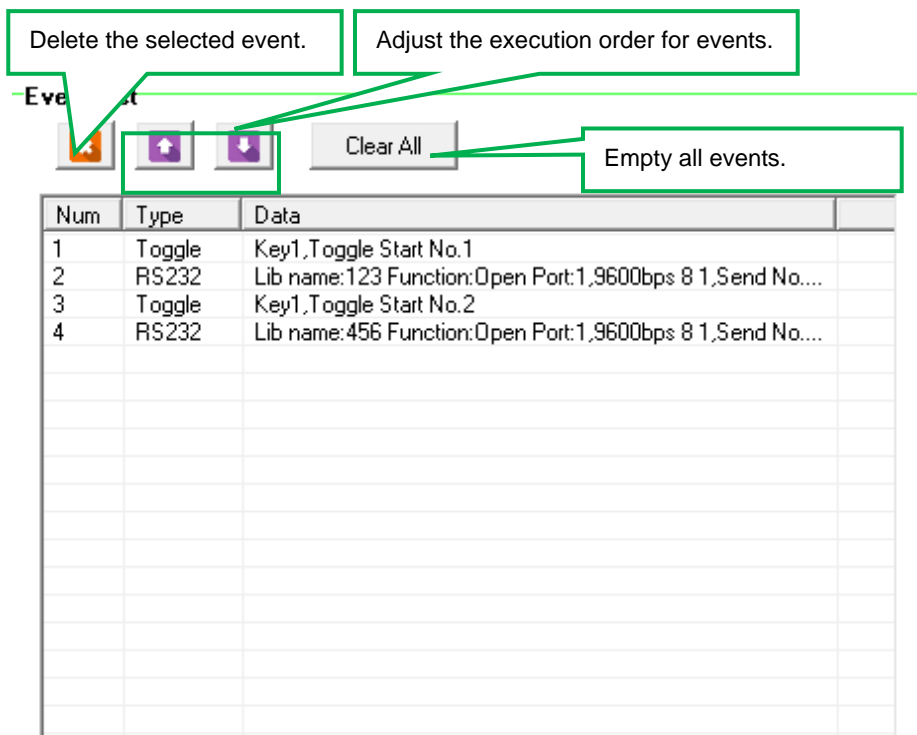
Event List

[illegible]

- 3) Press the button 1 to execute the second event, and then press again to execute the fourth event.

4.5 Event List

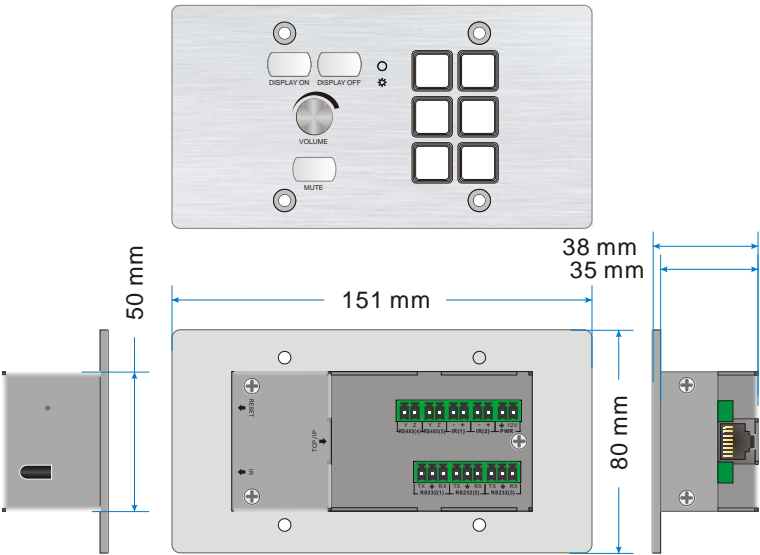
The event list shows all events of the selected key action. The executing priority of events is from top to bottom, see the picture below. If there is an event execute incorrectly, all subsequent events will not be executed.



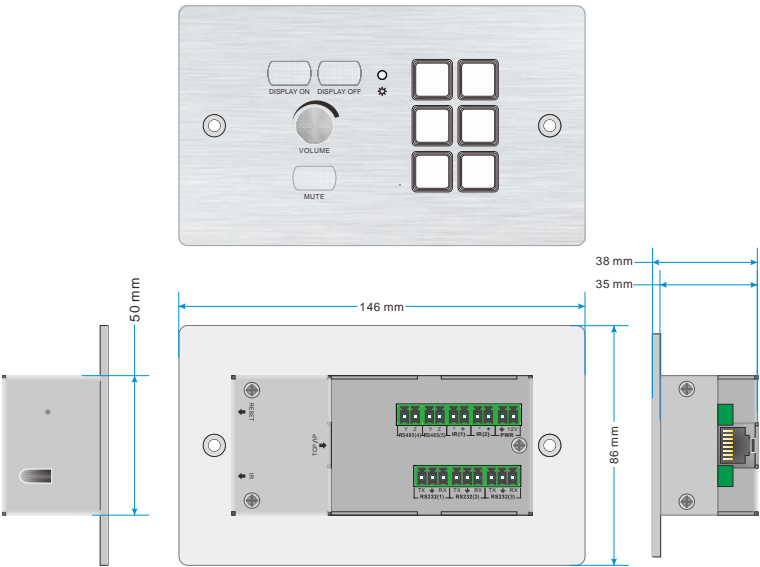
5. Specification

Control Port	(1) TCP/IP, (3) RS232, (2) RS485 and (2) IR out
Control Port Connector	(1) RJ45 (3) 3-pin pluggable terminal blocks (4) 2 pin pluggable terminal blocks
Control Buttons	(6) Programmable buttons (2) Programmable display control buttons (1) Programmable volume knob (1) Programmable MUTE button
Other	(1) Built-in IR sensor
Baud Rate	Supports 2400, 4800, 9600, 19200, 38400, 56000, 57600, 115200.
Software	SDCP9
Power Consumption	1W (Max)
Operation Temperature	-10 ~ +55°C
Storage Temperature	-25~ +70°C
Relative Humidity	10% ~ 90%
Power Supply	Input: 100VAC~240VAC, 50/60 Hz; Output: 12VDC 1A
Net Weight	About 300g
Dimension (W*H*D)	151mm x 80mm x 38mm

6. Panel Drawing



SDCP9-EU



SDCP9-UK