# **Operating Instructions**

# 8-Button Control Panel Wall Switch Programmable For Star Ceilings

# Model: ES-PB





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# 1. Product Introduction

The programmable control panel is a Wall Control Panel. Every button is programmable and works either individually or together. The programmable control panel is built in the programmable 3 RS232, 1 RS485, 3 Infrared & 2 Relay, and 1 mini USB for programming.

Please notice, RS232 (1) and IR2 share the same port, cannot be used at the same time. Also, RS232 (2) and IR3 share the same port, cannot be used at the same time.

#### 1.1 Features

- Every button can be programmed to send the bi-direction RS232 and RS485 commands simultaneously to control third party devices.
- Every button can be programmed to send the infrared code, control the relay, to let them work simultaneously to control the third party devices.
- Every button is built in the infrared code and RS232 code learning function, and baud-rate setting.
- ID looping function. 99pcs programmable control panels can be looped and controlled together, by ID identifying.
- Programmed by USB or RS232, working with the PC software (JTD-Control).
- Crystal and backlit buttons with easy user-friendly customizable changeable labels.
- The backlit brightness is controllable.
- Dimension: 11.4cm long and 7cm wide.

### 1.2 Package List

- 1 x Programmable Control Panel
- 3 x 2-pin Captive Screw Connector
- 8 x Button Caps
- 1 x USB Converting Cable

- 1 x Power Adapter (DC 12V)
- 2 x IR Emitter
- 1 x Button Label
- 1 x User Manual

**Note:** Please contact your distributor immediately if any damage or defect in the components is found.

#### 1.3 Installation

Follow the steps to install the device:

Firstly, dig a hole on the desk to the size marked on the aperture paper (shown in Figure 1-1).

Secondly, put the device into the hole and adjust it to flush with the table (shown in Figure 1-2).

Then, plug a set screw into the fixing mounting and screw the nuts tightly.



Figure 1-1 Aperture paper



Figure 1-2 Installation Guide

2. Panel Descriptions 2.1 Front Panel

Crystal and luminescent, programmable buttons:

Every button can be programmable with the software JTD-Control.

Connect the PC via USB or RS232.

And every label inside the button can be changeable. You can choose the label you need and change it very easily like below:

(For the specific transparent paper table, please contact the local distributor or reseller for it)



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#### 2.2 Side Panel



**Note**: When use this USB port to program the control panel's buttons, the available COM port number should not be more than 10.

#### 2.3 Rear Panel



The programmable control panel has various ports in the rear panel, including Lopping port, RS232 port, RS485 port, IR port, Relay port and Power port. Below is the introduction:

(1) This port includes two parts:

One part is RS232 (2)/IR3, it can be used for control other devices or looping

output. RS232 (2) and IR3 share the same port, the detailed use depends on the setting of JTD-Control.

Other part is RS232 (3), it can be used for control other devices or looping output, or connect with PC.

These two parts share the same grounding.

- (2) This port includes: RS232 (1)/IR2, IR1 and RS485.
  - a) RS232 (1)/IR2: share the same port, the detailed use depends on the setting of JTD-Control. When be used as RS232, it is unidirectional transmission, transmit data but without receive.
  - b) IR1: for control other devices, it can be programmable by the JTD-Control.
  - c) RS485: the RS485 can be programmed as different commands and control the device with RS485 port. The command of RS485 is the same as RS232 (1).
- 3 Low-Voltage relay ports: set the relay on/off by software JTD-Control
- Power connector: 12VDC. Be sure that the "+" and "-" never be mixed or wrong connection.

## 3. Connection Introduction

#### 3.1 System Diagram

The programmable control panel can active different ports at one time. It means every button can send the RS232 and RS485 commands, IR code and control the relay at the same time. The demo system diagram as below:

#### 3.2 Connection of Programming and Looping

The programmable control panel can be connected to the computer for programming, to default the functions of every button. It can be connected by USB or RS232, working with the JTD-Control software. It is shown as below:



#### **Programming Connection**

Several pieces programmable control panels can be also looped to be a system, for control more devices. It is looped by the inter RS232 setting. Please check the demo picture as below:



#### Several programmable control panels Looping connecting

After connect the programmable control panels as above, and then we should set the ID of each programmable control panel by JTD-Control. The ID number is from 01 to 99, and it also is the class of the programmable control panel in the loop, different programmable control panels should set to different ID. After connections finish, we can set the control modes by JTD-Control. For detailed connecting, please check the picture below:



#### **Detailed looping connecting**

**Note:** Up to 99 programmable control panels can be looped within one system. However, to achieve normal interaction, loop less programmable control panels (10 tops) in the system.

## 4...System Operations

#### 4.1 USB Driver Installation

There are USB driver file and JTD-Control software in the disk. The JTD-Control can run directly without installation.

But when connect the programmable control panel with PC by USB, it may need to install the USB driver. Use the driver file to install the driver of USB, we can use USB to program the programmable control panel.

#### 4.2 Software Programming

You can use this software JTD-Control to easily set every button of the programmable control panel.

After connect the programmable control panel with PC by USB or RS232, we can open the JTD-Control to program the buttons for controlling.

The main window of JTD-Control has five parts: main menu, panel (button) setting, event setting, action list and event list. In this manual we will take programmable control panels-V for example, to show the uses of all functions.

The main window of JTD-Control is as below:

| Č  |  |  |  |
|--|--|--|--|
| 1         7           3         *           7         *           7         *           9         *  | Fig.         Fig. <th< th=""><th>K Claur All<br/>Rey Type Bata</th><th></th></th<> | K Claur All<br>Rey Type Bata                       |  |
| Carlos Corresto Contractor Contra | O (Pater ) Salar (crosere ) (15) (Pater ) Salar (crosere ) (15) (Pater )         P           LB Punction:         Active:         Port.           W         Send RS22 W         Port.1           Edit LB         Monton:         Port.1           Edit LB         Monton:         Ecot LB           CO Dur hov Acd Frond:         Event Name           Charles:         Compare Paters:         Crose (Compare Paters)           Othors:         Compare Paters:         Crose (Compare Paters)  | Constant<br>(a) (b) (b) (Law All)<br>Fan Tyys Data |  |

We will introduce all the configurations one by one.

#### 4.2.1 Main Menu

The main menu includes file management, system model, connection type and help.

- File management: Open/Save/Save as a configuration. After program, user can save the configuration to a file, so that you can use the same configuration next time.
- 2) System model: includes programmable control panels-H, programmable control panels-V, WP19R etc., and the buttons interface view are different with different models. The pictures below show the differences between programmable control panels-V and programmable control panels-H.

| Image: Size of the second s   | Image: state of the state  | Panel Set   |   |
|---|---|---|---|
| 3       4       First       First </td <td>3       4       Fr5       Fr6       Fr4       Fr6       Fr6&lt;</td> <td>1 1 <sup>2</sup> 2</td> <td><sup>9</sup> 9 <sup>10</sup>10 <sup>11</sup>11 <sup>12</sup>12 <sup>13</sup>13 <sup>14</sup>14</td> | 3       4       Fr5       Fr6       Fr4       Fr6       Fr6<  | 1 1 <sup>2</sup> 2  | <sup>9</sup> 9 <sup>10</sup> 10 <sup>11</sup> 11 <sup>12</sup> 12 <sup>13</sup> 13 <sup>14</sup> 14             |
| 8       9       8   | 6       6       6       6       6       6       6       7       8       6       6       7       8   | 3 3 4 4   | <sup>15</sup> 15 <sup>16</sup> 16 <sup>17</sup> 17 <sup>18</sup> 18 <sup>19</sup> 19 <sup>20</sup> 20           |
| 7       8       127       128       120       131       122         Piol.       170 Million       158       127       128       120       131       122         Panel Set       1       2       13       5       6       7       8       1       1       2       10       No.       -       ✓         Panel Set       1       2       13       5       6       7       7       8       1  | 7       8       1       1       1       1       2       8       1       1       1       2       8       1   | <sup>5</sup> 5 <sup>6</sup> 6   | 2121 2222 2323 2424 2526 2526   |
| You         You <thyou< th=""> <thyou< th=""> <thyou< th=""></thyou<></thyou<></thyou<>   | Yan         Yan <thyan< th=""> <thyan< th=""> <thyan< th=""></thyan<></thyan<></thyan<>   | 7788  |   |
| Enable RS232/IR: PS232(1),(2) V ID No V<br>Panel Set<br>1 2 3 4<br>5 6 6 7 6 8<br>70. T0H Filme Start<br>9 9 9:0 11:1 12:12:13 15:14 15:15 16:16 17:17 16:16 19:10 16:20<br>121 12:22 16:22 16:25 16:26 17:27 16:26 16:20 13:1 12:32<br>Enable RS232/IR: RS232(1)(2) V ID No V  | Enable RS232/IR:         RS232(1), (2)         ID No.         IV           Panel Set         1         2         3         4         5         6         7         7         8         7         10 <t< td=""><td>POL HOH Hime Start</td><td><sup>2</sup><sup>27</sup> <sup>10</sup>28 <sup>10</sup>29 <sup>10</sup>30 <sup>11</sup>31 <sup>12</sup>32</td></t<>   | POL HOH Hime Start  | <sup>2</sup> <sup>27</sup> <sup>10</sup> 28 <sup>10</sup> 29 <sup>10</sup> 30 <sup>11</sup> 31 <sup>12</sup> 32 |
| Panel Set           1         2         3         4           5         6         7         8           Plot.         Mor.         Pinel         Barr.           9         9         9         9         9         9           11         1         2         2         3         4           5         6         6         7         8         8           9         9         11         12         13         14         16         17         18         19         10         20           121         122         122         124         1525         1520         127         128         130         131         122           Enable RS232//R:         RS232(1)(2)         V         JD No.         -         M   | Panel Set<br>1 2 3 4<br>5 6 6 7 8<br>70 7 8<br>70 7 8<br>70 7 7 8<br>70 7 7 8<br>70 8<br>70 7 7 8<br>70 7<br>70 8<br>70 8<br>70 7<br>70 8<br>70 8<br>70 7<br>70 7<br>70 8<br>70 7<br>70 8<br>70 7<br>70 70 7<br>70 70 70<br>70 70 70<br>70<br>70 70 70<br>70<br>70 70<br>70 70<br>70<br>70 70 70<br>70<br>70 70<br>70<br>70<br>70<br>70 70<br>70<br>70<br>70<br>70<br>70 70<br>70<br>70<br>7 | Early peopolity   | ID No.  |
| Panel Set<br>1 1 2 2 3 3 4 4<br>5 6 6 7 7 8 8<br>FOL TOH Fime Bar<br>9 9 19 0 11 11 12 12 13 13 14 4 15 15 16 16 17 17 18 18 19 19 16 20<br>12 1 12 22 19 23 14 24 15 25 16 20 17 27 18 28 19 29 19 30 13 1 12 32<br>Enable RS232/R: RS232(1)(2) Y ID No Y  | Panel Set<br>1 2 3 4<br>5 6 6 7 7 8<br>70 7 8<br>70 7 7<br>8 7<br>70 8<br>70 7<br>70 8<br>70 8<br>70 7<br>70 8<br>70 8<br>70 7<br>70 8<br>70 7<br>70 8<br>70 70 8<br>70 8<br>70 8<br>70 8<br>70 8<br>70 8<br>70 8<br>70 70 8<br>70 70 8<br>70 8<br>70 8<br>70 8<br>70 70 8<br>70 70 8<br>70   | Enable K5232/JK: R5232(1),(2)   |   |
| Panel Set<br>1 1 2 2 3 3 4 4<br>5 6 6 7 7 8 8<br>30 1 10 1 10 10 10 10 10 10 10 10 10 10 1  | Panel Set<br>1 2 2 2 3 4 4<br>6 9 7 7 9 8<br>210L 10H 19me 18ter<br>9 9 1940 1111 1212 1243 1414 515 1646 1717 1648 1940 1920<br>121 1222 1223 1424 1545 1658 1727 1648 1940 1920<br>121 1222 1223 1424 1545 1620 1727 1628 1920 1930 1131 1232<br>Enable RS232/R: RS232(1),(2) V JD No V   | 27.02.1   |   |
| 1     1     2     2     3     4       5     6     7     8       9     9     9     9     9     9       111     121     124     15     5     6       121     1222     122     124     15     15       Enable RS232//R:     RS232(1)(2)     V     JD No.     -   | 1       2       2       3       4         6       6       7       8         9       10L       10H       17me       8sart         9       160       1141       1212       1313       1414       1616       1717       1818       1819       1820         121       1222       1828       1828       1826       1828       1829       1830       1831       12232         Enable RS232/JR:       RS232(1).(2)       V       JD No.       •       •  | Panel Set   |   |
| 6         6         7         8           Рос.         Рон.         Рим.         Выл.           9         1111         1212         1213         1414         1615         1616         1717         1618         1619         1620           121         1222         1623         1626         1627         1628         1620         131         16232           Enable RS232//R:         RS232/(1) (2)         V         JD No.         -         M   | 5         6         7         5           Рос.         Рон.         Ртм.         Выл.           9         10-10         Ртм.         Был.           9         10-10         Ртм.         Был.           9         10-10         Ртм.         Был.           121         1222         1223         14-14         15-15         15-16         17-17         16-16         17-20           Enable RS232/JR:         RS232(1).(2)         V         JD No.         V         V  | <sup>1</sup> 1 <sup>2</sup> 2   | 3 3 4 4   |
| Чо.         Чтине         Выл           Р в         Вил         Вил         Вил           Вил         Вил         Вил         Вил </td <td>Рос.         Руне         Баят           9 0         1640         1141         1212         1243         1544         1545         1546         1747         1548         15420         1520           121         1222         1723         1524         1555         15620         1727         1528         1520         1532           Enable RS232/JR:         RS232(1).(2)         V         JD No.         -         ×</td> <td><sup>5</sup> 5 <sup>8</sup> 6</td> <td>7788</td>  | Рос.         Руне         Баят           9 0         1640         1141         1212         1243         1544         1545         1546         1747         1548         15420         1520           121         1222         1723         1524         1555         15620         1727         1528         1520         1532           Enable RS232/JR:         RS232(1).(2)         V         JD No.         -         ×   | <sup>5</sup> 5 <sup>8</sup> 6   | 7788  |
| 9         9         111         121         1213         1414         1515         1516         1717         1518         1520           1121         1522         1723         1524         1526         1526         1727         1528         1530         1531         1532           Enable RS232/IR:         RS232/(1) (2)         V         JD No.         -         V   | 9 0         1910         1911         1912         1913         1914         1915         1916         1917         1916         1910         1920           1921         1922         1923         1924         1926         1927         1930         1931         1923           Enable RS232/IR:         RS232(1).(2)         V         JD No.         -         V  | Рос. Ион  | Yime Start  |
| 9           | 9         9         11         12         12         12         13         14         15         16         17         16         19         18         19         18         19         18         19         18         19         18         19         18         19         18         19         18         19         18         19         18         19         18         19         18         19         18         19         10 <td></td> <td></td>   |   |   |
| P121 P222 P123 P124 P125 P127 P128 P129 P130 P131 P232<br>Enable RS232//R: RS232(1)(2) V JD No V  | 1121         1222         12323         1424         15525         15526         1727         1828         1929         1830         1131         1232           Enable RS232/JR:         RS232(1),(2)         •         ID No.         -         •   | <sup>9</sup> 9 <sup>10</sup> 10 <sup>11</sup> 11 <sup>12</sup> 12 <sup>13</sup> 13 <sup>14</sup> 14   | <sup>16</sup> 15 <sup>18</sup> 18 <sup>17</sup> 17 <sup>18</sup> 18 <sup>19</sup> 19 <sup>20</sup> 20           |
| Enable RS232/IR: RS232(1).(2) V ID No V   | Enable RS232/IR: RS232(1),(2)   | <sup>21</sup> 21 <sup>22</sup> 22 <sup>23</sup> 23 <sup>24</sup> 24 <sup>25</sup> 25 <sup>25</sup> 26 | <sup>7</sup> 27 <sup>18</sup> 28 <sup>19</sup> 29 <sup>30</sup> 30 <sup>31</sup> 31 <sup>12</sup> 32            |
|   |   | Enable RS232/IR: R5232(1),(2)   | ID No 💌   |

| Enable RS232/IR: | RS232(1),(2)    | ID No. 🔤 📉 |     |
|------------------|-----------------|------------|-----|
|                  |                 |            |     |
| Output Port      | Selection       |            |     |
|                  |                 |            |     |
|                  |                 |            |     |
|                  | Enable RS232/IR |            |     |
|                  | RS232(1),(2)    | *          |     |
|                  | RS232(1),(2)    |            |     |
|                  | RS232(2),IR 2   |            |     |
|                  | LIR 2,3         |            |     |
|                  |                 |            | 1.1 |

**Note:** When select the model, it will pop up "Output Port Selection" dialog, user can select different RS and IR types, depend on the uses of the two shared ports. The dialog is as the picture below:

The output port set in JTD-Control and the port used in the programmable control panel is corresponding. And there are four output types. They are showed as below form (" $\sqrt{$ " means port is available):

| Output port of<br>the Panel<br>Output mode<br>of JTD-Control | IR1          | RS232(1)     | IR2          | RS232(2)     | IR3          | RS232(3)     | RS485        |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| RS232(1)(2)  | $\checkmark$ | $\checkmark$ |              | $\checkmark$ |              | $\checkmark$ | $\checkmark$ |
| RS232(2),IR2   | $\checkmark$ |              | $\checkmark$ | $\checkmark$ |              | $\checkmark$ |              |
| RS232(1),IR3   |              |              |              |              |              |              |              |
| IR2,3  |              |              | $\checkmark$ |              | $\checkmark$ | $\checkmark$ |              |

3) Connection type: the instructions are in the picture below:



The functions of the programmable control panel's buttons will be available only after the programmed data is uploading successfully.

4) Help: Show the information of JTD-Control.

#### 4.2.2 Panel/Key setting

There are three different colors of keys in the panel set of JTD-Control. Add a key action to action list, then add events to this action, make this action will execute the events. Here take programmable control panels-V for example, to introduce the uses of different buttons:

| Panel Set  |              |                                   |   |
|--|--------------|-----------------------------------|---|
| <sup>1</sup> 1 <sup>2</sup> 2                      |              | <sup>9</sup> 9 <sup>10</sup> 10   | <sup>11</sup> 11 <sup>12</sup> 12 <sup>13</sup> 13 <sup>14</sup> 14 |
| <sup>3</sup> 3 <sup>4</sup> 4                      |              | <sup>16</sup> 15 <sup>16</sup> 16 | <sup>17</sup> 17 <sup>18</sup> 18 <sup>19</sup> 19 <sup>20</sup> 20 |
| <sup>5</sup> 5 <sup>6</sup> 6                      |              | <sup>21</sup> 21 <sup>22</sup> 22 | <sup>23</sup> 23 <sup>24</sup> 24 <sup>25</sup> 25 <sup>28</sup> 26 |
| 7788   |              | 2727 2828                         | <sup>29</sup> 29 <sup>30</sup> 30 <sup>31</sup> 31 <sup>32</sup> 32 |
| <sup>39</sup> OL <sup>9</sup> OH <sup>9</sup> Aime | Start        |                                   |   |
| Enable RS232/IR:                                   | RS232(1),(2) | v                                 | ID No 💌   |

**1)** White keys: keys 1-8, correspond to the buttons on the programmable control panel. Click the key, it will pop up dialog as below:

#### Key Action Type:

- 1. Press: Execute events when press button.
- 2. Release: Execute events when release button.
- Page: Built-in most 4 actions, actions need to be switched by other buttons, press to execute.
- Toggle: Built-in most 4 actions, actions will loop run when press. Actions can also be switched by other buttons, press to execute.

| 2            | Dialog                            | E   |
|--------------|-----------------------------------|-----|
| $\checkmark$ | Key Atcion Type                   |     |
| X            | Press Y                           |     |
| 1            |                                   |     |
|              |                                   |     |
| - 1          |                                   |     |
|              |                                   | Add |
|              | LED Brightness Key Group Key Name | Add |
|              | LED Brightness Key Group Key Name | Add |
|              | LED Brightness Key Group Key Name | Add |

When select the type "Toggle", the setting interface is as below:

| Dialog                          | X            |
|---------------------------------|--------------|
| Key Atcion Type<br>Toggle 🔻     |              |
| Toggle Class 2 V<br>2<br>3<br>4 | Toggle Num 1 |
| LED Brightness Key Group        | Key Name     |
| Level 1 🔻                       | ▼ 1 Set      |
|                                 | Cancel       |

The toggle class is the action loop class, depends on the numbers of looped actions. When the class is 2, there are two actions in the toggle. And so on.

- 2) Blue Keys: Keys 9-32, all are virtual keys, used in the loop function. When use the loop function, the ID must be set, the ID can be 1 to 99. Press "add" will add the button to action list.
- **3)** Yellow Keys: Keys 33-36, all are virtual keys. Key 33 and 34 are for I/O control, which is not supported with the programmable control panel. Key 36 is a start action, if add events to this action, when the programmable control panel is power on, it will execute the events in this action. Key 35 is delay button, there are three time slots can be set. See in the picture below:

| Dialog                 | X      |
|------------------------|--------|
| No.                    | start  |
| Time 2<br>Hour: Time 3 | 0      |
| Minute:                | 0      |
| Add                    | Cancel |

The time is counted from the programmable control panel start. When come to time1, the programmable control panel will execute the events in time1. Then recount from time2, and then time3.

Example: Set time1 to 5 minutes, and time2 to 3 minutes, add event1 to time1 and event2 to time2. When the unit starts, it will execute event1 after 5 minutes, and then execute event2 after 8 minutes.

#### 4.2.3 Action list

Action list shows all the set actions. An available action must be added to the list. The action list is as the picture below:



10

#### 4.2.4 Event setting

Event setting includes RS232, IR, I/O, Relay, Delay, Compare, LED, Page, Loop and Toggle setting. Before set events, an action must be added first. The following introduction will show you the setting of each event:

#### > RS232 Setting

This item is used for setting the parameters of the programmable control panel's serial ports. Click "RS232", it will show as below:

| /O<br>telay                                     | Lib Name:  | Lib Function:                          | Active:<br>Send RS23 💙   | Port 1       |
|---|--|--|--------------------------|--------------|
| ielay<br>iompare<br>ED<br>lage<br>oop<br>ioggle | Change Lib<br>Baud Rate: 9<br>Data Bit: 8  | Edit Lib<br>600 V Senc<br>V Type       |                          | Send<br>Port |
|   | Stop Bit: 1<br>Format<br>Stop Action of the store of the stor | End Char For Ascii F<br>None O Carriag | ormat<br>ge Return O Ent | Event Name   |

 The data of RS232 can be directly entered or selected from library. Click "Change Lib" to select a library file and open it. Click "Edit Lib" to create or edit a library file as below:

|                           | Create/open      | a library  | Create/delet       | e the fun<br>comman                          | ction<br>d |
|---------------------------|------------------|--|--------------------|--|------------|
| Dialog<br>R5232 Lib Name: | 2 Open Lib       | New Lib Function: 1  | New Function Delet | e Function                                   | E          |
| Data Form                 |                  | End Char For ASCII Format           Image: Solution of the second | m OEnter<br>Clear  | UART<br>Baud Rate:<br>Data Bit:<br>Stop Bit: | 9600       |
| Ent                       | er the serial co | ommand for dev   | rice control.      |  |            |

Note: When editing finish, remember to save the editing, and then press "OK".

2) There are two send types: send once and send more times. When select "more times", the send times and the delay between times can be set. See in picture below:

|           | Lib Name:           | Li     | b Function:                     | Active:                   | Port:      |
|-----------|---------------------|--------|---------------------------------|---------------------------|------------|
| У         | 2                   | 1      | ~                               | More Time 🔽               | Port 1 💌   |
| ý<br>pare | Change Lib          | Edit L | ib Sen                          | d No. of Transmissi       | on Strings |
| je        | Baud Rate:          | 9600   |                                 | The balance of            |            |
| p<br>ggle | Data Bit:           | 8      |                                 | iy time between st        |            |
|           | Stop Bit:           | 1      | ~                               |                           | Event Name |
|           | Format<br>ascii he> | < End  | Char For Ascii<br>Ione O Carria | Format<br>ige Return OEnt | er         |
|           | Data:               |        |                                 |                           |            |

- **3)** The send port must be selected as the same as model setting, otherwise the event cannot be added.
- 4) User can set the event name. It is optional function, not necessary.

#### > IR Setting

This item is used for setting the parameters of the programmable control panel's IR ports. Click "IR", it will show as below:

| RS232   | 4 /RS232 / IR /I/O / Relay / Delay / Compare / LED / Page / Loop / Toggle ) >                    |
|---|--|
| IR<br>I/O<br>Relay<br>Delay<br>Compare<br>LED<br>Page<br>Loop<br>Toggle | Lib Name: Function: Active: Port Carrier<br>Send Ir Or V Port 1 V On V<br>Change Lib<br>Edit Lib |
|   | Add  |

1) The data of IR need to be selected from library. Click "Change Lib" to select a library file and open it. Click "Edit Lib" to create or edit a library file as below:

| Create/open a library |              |                 | orary         |                      | Create/delete/rename the function name of the IR data |   |
|-----------------------|--------------|-----------------|---------------|----------------------|---|---|
| IR Edi                | .t           |                 |               |                      |   | × |
| IR Lib                | Name:        | SC61D           | Open Lib      | New Lib              |   |   |
| CE.                   | dit          |                 |               |                      |   |   |
|                       | Nev          | v Function Dele | ecte Function | ReName For Func      | tion  |   |
|                       | No.          | Name            | Data          |                      |   |   |
|                       | 1            | HDMI1           | b3570c0a0d0   | 90d0a0c090d0a0c0a0d1 | 1f0d0a0c200d1f0d200c200d1f0d200d1f                    |   |
|                       | 3            | VGA             | b3580c0a0c0a  | a0c0a0d090d090d0a0c2 | 00c0a0d200c200d200c200d10d200c20                      |   |
|                       | 4            | YPBPR           | b3570c0a0d0   | 90d0a0c090d0a0d090d  | 1f0d0a0c200d1f0d200d1f0d1f0d200d1f                    |   |
|                       |              |                 |               |                      |   |   |
|                       | _            |                 |               |                      |   |   |
|                       |              |                 |               |                      |   |   |
|                       |              |                 |               |                      |   |   |
|                       |              |                 |               |                      |   |   |
|                       | _            |                 |               |                      |   |   |
|                       |              |                 |               |                      |   |   |
| <u> </u>              |              |                 |               |                      |   |   |
|                       |              | earn            | Save Edit     | Save Name as         | OK Cancel   |   |
|                       |              |                 |               |                      |   |   |
|                       |              |                 |               |                      |   |   |
|                       |              |                 |               |                      |   |   |
| 0.1                   | - <b>1</b> . | £ 4:            |               | -1:-1- "1 "          | was as the UD was stall without the                   |   |
| Sele                  | ct a         | function,       | and then      | click "learn",       | press the IR remote button to send                    |   |
| tho I                 | D cc         | do to infi      | rarad cone    | or port it wi        | Il rofroch the IP data. Follow the                    |   |
| ulei                  | n cc         |                 | aleu sells    | or port, it wi       |   |   |
| sam                   | e ste        | ens can le      | earn anv fi   | inction of th        | e remote buttons                                      |   |
| Sam                   | 0.010        |                 | ourn arry re  |                      |   |   |

Note: When editing finish, remember to save the editing, and then press "OK".

2) There are two send types: send once and send more times. When select "more times", the send times and the delay between times can be set. See in picture below:

| Event Set   |   |
|---|---|
| Event Set<br>R5232<br>I/O<br>Relay<br>Delay<br>Compare<br>LED<br>Page<br>Loop<br>Toggle | Image: Send No. of Transmission Strings         Change Lib         Edit Lib |
|   | Add   |

- **3)** The send port must be selected as the same as model setting, otherwise the event cannot be added.
- 4) The IR can set the carrier on/off, to turn on/turn off the IR sending.

#### > I/O Setting

There is no I/O port in the programmable control panel, so the setting is not introduced in this manual.

#### > Relay Setting

This item is for the replay ports setting. The setting is as the picture below:

| Event Set   |  |
|---|--|
| RS232<br>IR<br>I/O<br>Delay<br>Compare<br>LED<br>Page<br>Loop<br>Toggle | 4 / R5232 (IR (I/O) Relay (Compare (LED) (Page (Loop (Toggle)))<br>Port Action<br>Port On<br>Port Action: "On"<br>for connected, "Off"<br>for disconnected.<br>Add |

#### > Delay setting

This item is to set a delay time, user can add a delay between two events; so when one event is finished, it will delay a certain time then start another event. The delay setting is as picture below:

| RS232                       | d RS232 (IR 1/0 Relay Delay | Compare LED Page Loop Toggle > P |
|-----------------------------|-----------------------------|----------------------------------|
| IR<br>I/O<br>Relay<br>Delay | Hour                        | O                                |
| Compare<br>LED<br>Page      | Minute                      | 0                                |
| Loop<br>Toggle              | Second                      | 0                                |
|                             | Half Second 0               |                                  |
|                             |                             | Add                              |
|                             |                             |                                  |

#### Compare Setting

This item is used for compare the feedback of RS232 commands. When the programmable control panel send a RS232 command to the controlled device, the device will send back a feedback. If we add the correct feedback in the data, the programmable control panel will compare it with the feedback received from controlled device, to verify the command is work or not. The compare setting is as the picture below:

14

| RS232                                    | A RS232 (IR (I/O (Relay (Delay) Compare (LED (Page (Loop (Toggle)   |
|--|---|
| I/O                                      | Port  |
| Relay<br>Delav                           | Port 2  |
| Compare<br>LED<br>Page<br>Loop<br>Toggle | Format         End Char For ASCII Format                            |
|  | V:006->001 Enter the compare commands,<br>don't miss any character. |
|  | Clear Data  |
|  | Add   |
|  | Event Name:   |

- The send port must be selected as the same as model setting, otherwise the event cannot be added. And port 1 cannot be used for compare, for there is no a receive pin in this port.
- 2) User can set the event name; it is optional function, not necessary.
- 3) For the events in one event list have priority, from top to bottom, so that the compare function can be used in action which with three or more events. When send a serial command, we can add a compare then other events. If the compare is incorrect, the event behind compare will not be executed.

#### LED setting

This item is used for set the button LEDs in the programmable control panel to turn on/off. The setting is as below:



#### > Page setting

White buttons can be set to type "page" that include four actions. To change different actions, it will need other white buttons to active the page action number. Here take a example to show you the use of this function:

 Take button1 for example: click key1 and select the action type "page", add the four actions to the action list. Then add other four buttons "press" action to the list (here take keys 5-8 for example):

| Key 🔺 | Туре  | Data            |  |
|-------|-------|-----------------|--|
| Key1  | Page  | Class: 1,Num: 1 |  |
| Key1  | Page  | Class: 1,Num: 2 |  |
| Key1  | Page  | Class: 1,Num: 3 |  |
| Key1  | Page  | Class: 1,Num: 4 |  |
| Key5  | Press |                 |  |
| Key6  | Press |                 |  |
| Key7  | Press |                 |  |
| Key8  | Press |                 |  |
| 50    |       |                 |  |
|       |       |                 |  |
|       |       |                 |  |
|       |       |                 |  |

2) In event setting, we add four different events to the four page actions of key1, and the four other keys will be added the page event to each of them as below:

| Panel Set  | Action List  |  |
|--|--|--|
| 1 2 Po Poo Poo Poo Poo Poo   | K Gr Clear All   |  |
|  | Key A Type Date  |  |
| 28 24  | Key1 Page Class: 1,hkmr 1  |  |
| 10 to 10 to 10 to 10 to 10 to 10 to  | Key1 Page Class: 1,Num 2   |  |
|  | Key1 Page Class: 1,Num: 3  |  |
| ° 0 ° 0  | Key1 Page Class: 1,Marr 4  |  |
| Pat Pag Pag Pag Pag  | DAUD HORD  |  |
|  | Keyo Hees  |  |
| 7 0  | Kerr Press   |  |
| P22 P24 P29 P30 P31 P32  | NIV THE  |  |
|  |  |  |
| ter level term level   |  |  |
|  |  |  |
|  |  |  |
| Enable PS222 (B) Enables and Enables Enables PS222 (B)   |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Event Set  | Event Lot  |  |
| Event Sot  | Beent Lot  |  |
| Event Sot<br>RS222 4 / NS3N (37 (20 ) Neise (Selar (Sevente (38)) Peak (Seve (Sevente ) )  | Event List   |  |
| Event Sat<br>R5222<br>R<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10  | Event Lot<br>M @ @ Clear All<br>Mn Type Bate   |  |
| Event Sat<br>6232 4 / MINE (37 \210 \764er \564er \566er \566er \100 ) 744er \566er \566<br>800<br>800   | Event Lit<br>(A) (a) (Cour All)<br>(Box Type ) (Arts<br>1. Page Page Classif, Start No.:1  |  |
| Elect Set  | Provit List<br>(a) (a) (Caser All)<br>See Type I has<br>1 Page Page Classil, Start No.:1   |  |
| Exect Sit<br>6222 4 / 5022 (31 (30 (16/21 (56/21))))))))))))))))))))))))))))))))))))  | Evert Liz<br>() () () () () () () () () () () () () (  |  |
| Exact Sol<br>5002 4 / 19832 (19 1) (19 plane 1964e 1964e 1969)<br>10 plane<br>10 p   | Devet Lit<br>(a) (b) (Cour Al)<br>Fen Type Rite<br>1 Page Daris Start No.1   |  |
| E-MAX Set.<br>502<br>503<br>504<br>504<br>504<br>504<br>504<br>504<br>504<br>504   | Even Lut<br>a (a) (b) (cree Ab)<br>b (cree Ab) |  |
| Ever Set<br>ROZE<br>PO<br>ROY<br>ROY<br>ROY<br>ROY<br>ROY<br>ROY<br>ROY<br>RO  | Dever List<br>(a) (b) (b) (Cover AL)<br>(b) (b) (b) (b) (b) (b) (b) (b) (b) (b)  |  |
| Ever SM<br>RS22<br>C / SSEE (IF) (IF) (Nor (Size (Smort (SM) / Nor (SM)  | Perrill<br>M. (a) (b) Clow ML<br>M. Type Inter<br>1 Page Page Class, Start Ho. 1   |  |
| Eard Sol<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>2007<br>20 | Divertition<br>(a) (b) (Source Max)<br>(b) (Type) (Divertibut)<br>(b) (Type) (Divertibut)<br>(b) (Type) (Divertibut)<br>(c) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C   |  |
| Ever Sat.<br>1/2022 (2) (2) (3)(2) (5)(   | Deart LX<br>(a) (a) (Truer AL)<br>(b) (b) (b) (b) (b) (b) (b) (b) (b) (b)  |  |
| Ever Stat         4 / 1928 (11) (12) (Nori (Star) (Sta   | Berritit<br>A (g) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a   |  |
| Ever 2 SM         6 / 1001 (111 (110 (110 (110 (110 (110 (1  | Berry Litt<br>R (a) (a) (See KB)<br>R (See KB)<br>1 Foge Fright See (Ser Ha L)   |  |
| Ever Sat<br>2022<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>2020<br>20 | Every Lid<br>a (a (bar k))<br>b (bar k)<br>1 (bar k)<br>1 (bar k)<br>1 (bar k)<br>1 (bar k)  |  |
| Ever Sat<br>RS22<br>4 / MS25 (M (15) Mark (Saler (Saler (Saler (Saler )<br>Control (Saler )<br>Figs. Advents.<br>Topol<br>Topol<br>Topol<br>Cont New.<br>Md  | Berry Litt<br>A (a)  |  |

Then set the "page" event to make four "press" actions to active the four page number: key5-num1, key6-num2, key7-num3 and key8-num4. It will perform like this:

- When press the button5 and then button1, the button1 will execute the event of num1, press button1 more times it will execute num1 more times;
- When press the button6 and then button1, the button1 will execute the event of num2, press button1 more times it will execute num2 more times;
- When press the button7 and then button1, the button1 will execute the event of num3, press button1 more times it will execute num3 more times;
- When press the button8 and then button1, the button1 will execute the event of num4, press button1 more times it will execute num4 more times.

#### Loop Setting

This item is used for looping the programmable control panel. When use the loop function, the ID of each programmable control panel must be set.

| Enable RS23  | 82/IR: RS232(1)           | ,(2) 🔹                    | ID No.           | 01 🔻              |
|--|---------------------------|---------------------------|------------------|-------------------|
| Event Set  |                           |                           |                  |                   |
| RS232<br>IR<br>I/O<br>Relay<br>Delay<br>Compare<br>LED<br>Page<br>Loop | 4 R5232 IR 1<br>ID<br>2 T | VO Relay Delay<br>Key No. | √Compare ∖LED ⟨P | age Loop Toggle + |
| roggie   | Event Name:               |                           |                  | Add               |

#### > Toggle Setting

The toggle setting is as the picture below:

| Event Set  |   |
|--|---|
| RS232<br>IR<br>I/O<br>Relay<br>Delay<br>Compare<br>LED<br>Page<br>Loop<br>Toggle | 4 / RE222 VIR VIO VRALEY VDelay VCompare VIED VPage VIOop / Toggle \ b<br>Button Toggle Start<br>Button 1 V |
|  | Event Name:   |

The setting steps of toggle are similar with the page setting. But toggle performs differently, for the actions in it are loop running, it will perform as below (take the same example like page function):

a) When press the button5 and then button1, the button1 will execute the event of num1, press button1 more times it will execute num2, then

num3->num4->num1 and so on.

- b) When press the button6 and then button1, the button1 will execute the event of num2, press button1 more times it will execute num3, then num4->num1->num2 and so on.
- c) When press the button7 and then button1, the button1 will execute the event of num3, press button1 more times it will execute num4, then num1->num2->num3 and so on.
- d) When press the button8 and then button1, the button1 will execute the event of num4, press button1 more times it will execute num1, then num2->num3->num4 and so on.

#### 4.2.5 Event List

The event list shows all events of the selected action, and for each action of the programmable control panel, the most events can be added is ten. The executing priority is from 1 to 10, see the picture below. If there is an event execute incorrectly, all the events behind it will not be executed.

| ×   | 🚹 🚺     | Clear All                               |  |
|-----|---------|---|--|
| Num | Туре    | Data                                    |  |
| 1   | Loop    | ID:2, Action Key:6                      |  |
| 2   | Toggle  | Button 8 : Start No. 1                  |  |
| 3   | RS232   | Baud:9600,Port:2,Send Once              |  |
| 4   | Compare | Port 2                                  |  |
| 5   | Delay   | Time Hour:0 Minute:0 Second:1s          |  |
| 6   | Led     | Button 1 On/Group Off                   |  |
| 7   | IR      | Lib:dvd,Fun:open/close,Port:1,Send Once |  |
| 8   | Relay   | Port 2 On                               |  |
| 9   | Delay   | Time Hour:0 Minute:0 Second:5s          |  |
| 10  | Led     | Button 1 Off                            |  |
|     |         |   |  |

### 5. Specification

| Program Port           | USB or RS232                                  |
|------------------------|---|
| Output Port            | (3) RS232, (1) RS485, (3) IR, (2) Relay       |
| Serial Control Port    | RS232   |
| Baud Rate And Protocol | 9600 baud, 8 data bits, 1 stop bit, no parity |
| Software               | JTD-Control                                   |
| Frequency Response     | 20Hz ~20KHz                                   |
| Operation Temperature  | -10 ~ +55℃                                    |
| Storage Temperature    | -25 ~ +70℃                                    |
| Relative Humility      | 10%-90%                                       |
| Dowor Supply           | Input: 100VAC~240VAC, 50/60 Hz;               |
| Power Suppry           | Output: 12V DC 2A                             |
| Max Power Consumption  | 1W  |
| Dimension (W*H*D)      | 114mm x 70mm x 28mm                           |
| Net Weight             | 150g  |

# 6. Panel Drawing





114 mm

## 7. Troubleshooting & Maintenance

- When the control panel cannot work, please check and make sure the power cord connection is well, plug cannot be mixed or connect wrong. Then restart, if still not work, the control panel may be broken. Please send it to the dealer for repairing.
- When USB cannot open or without response, please make sure the USB driver is installed correctly, and then reconnect the USB cable.
- When uploading the USB cannot be found, please restart the software or panel.
- When the LED of a button cannot be lighted, please check if there is a compare event in this button. If yes, delete the compare and try again. If still not work, the LED may be broken. Please send the unit to dealer for repairing.
- When serial commands sending without function executed, please check the baud rate and make sure is correct, and the serial connection is well.
- If the controlling queue is confused when use loop function, please reboot the programmable control panel.



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