

USER GUIDE FOR 3D CONTROL KEYBOARD



CATALOGUE

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1. Introduction

This control keyboard can works with DVR host, Embedded DVR, or independently control intelligent speed dome camera, decoder and other terminal receiver machines. We use EIA / RS 485 connector between keyboard and receiver, when the situation without any bus driver, one keyboard can at most control 255 units speed dome cameras at the same time, the maximum communication distance between keyboard and receiver up to 1200m. Use keyboard can control and set speed dome camera more convenient, when you use it to control terminal receiver directly, can control its PTZ, lens, light, etc.

2. Technical information

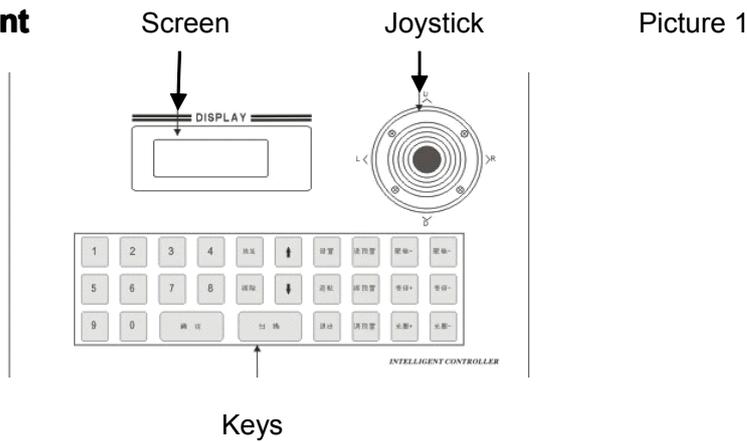
Power supply	DC9 ~12V 500mA
Power adaptor	AC220V±10% 50/60Hz transfer to be DC9V 500mA
communication	RS-485 wire
Communication speed	1200/2400/4800/9600/BIT/S
Communication distance	1200M (0.5MM, twisted-pair wire)
weight	1.4 Kg
size	255 (L) × 158 (W) × 100 (H) mm (include joystick height)
Environment temp	-10℃ ~ +60℃
Relative humidity	≤ 90% RH

3. Function information

1. The output is use photoelectric isolation and use RS485 to control, good anti - interference capacity, standard transport distance up to 1200m.
2. Control 255 PCS dome camera / decoder / other terminal equipments, range of address code is 0~255.
3. Can operate the built PTZ in the dome camera to change its speed.
4. Can control the camera zoom, focus, iris by manual operation.
5. Can auto control or manual control the dome camera.
6. 3D controlling joystick, LCD display screen.
7. Can set / delete / call preset positions of the dome camera.
8. Can set / call the left & right limit scan of the dome camera.
9. Can set / call the cruise routes of the dome camera.

4. Introduction of keyboard panel

(1) Front



Picture 1

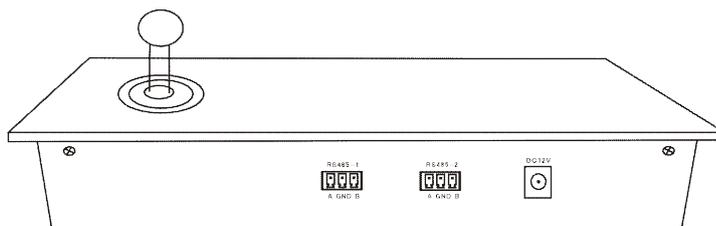
There are 3D joystick, keys, LCD screen on the front of keyboard. Screen is for display the system state and operation information. 3D joystick is for control the camera up, down, left, right, change speed and lens zoom.

Introduction for keys:

[0]—[9]	Number keys
[Add]	Select camera (address number)
[Dele]	Delete (make the cursor to be zero)
[Enter]	Enter (confirmation)
[Scan]	Open the auto scan between left and right limit positions (ON)
↑	Up
↓	Down
[Set]	Enter the setting menu of keyboard
[Cruise]	Start cruise scan (tour scan)
[Back]	Back
[Set pre]	Set preset positions
[Dele pre]	Delete preset positions
[Call pre]	Call preset positions
[Iris+]	Enlarge lens iris
[Iris-]	Reduce lens iris
[Zoom+]	Make lens zoom distance to be shorter
[Zoom-]	Make lens zoom distance to be longer
[Focus+]	Focus further
[Focus-]	Focus nearer

(2) Back

Picture 2



Power input: connect power adaptor to here and input DC 9V ~ 12V voltage.

Communication port:

1. RS-485-1 output port for connect to receiver's RS485 port.
2. RS485-2 for connect to DVR control port.

5. Operation

(1) Power on and display

When the keyboard power on, it will display its protocol and baud rate, means the information of keyboard communicate with camera.

```
CAM ID: 001
Protocol: PELCO-D
```

After 1 second, will display as follows:

```
CAM ID: 001
Baud rate: 2400
```

After i second, will enter the standby:

```
CAM ID: 001
```

Note: "CAM ID" -- camera address number, range is 1 ~ 255.

(2) Choose camera address number

Operation: press "Add", type the address number "N", press "Enter".

Note: "N" -- address number of camera. Range:1~255 ("N" means the number you want, the biggest number is "255"), press "Dele", address number is "0", no camera is chose by you.

Function: which number you chose, its relative camera will under your control.

(3) Control the lens

- 3.1 Zoom lens to get close-up image: **[Zoom+]**
- 3.2 Zoom lens to get full image: **[Zoom-]**
- 3.3 Adjust lens to focus further: **[Focus+]**
- 3.4 Adjust lens to focus nearer: **[Focus-]**
- 3.5 Open lens iris: **[Iris+]**
- 3.6 Close lens iris: **[Iris-]**
- 3.7 Auto scan: **[Scan]**
- 3.8 PTZ action: use the joystick, you can control the PTZ to rotate, up, down, direction, speed. Speed is controlled by the joystick tilt angle, change the angle to be big or small, can change the rotating speed.

(4) Set, call, delete preset positions

Set preset position: press **[Set pre]**, press number keys to type preset number "N", press "Enter" key.

Note: "N" -- preset numbers you like. Range: 1~255.

Function: save the preset position you set just now, and make now camera direction as this preset position.

Call preset position: press **[Call pre]**, press number keys to type preset position "N", press "Enter" key/

Note: "N" -- preset position you already set before. Range: 1~255. This preset position number must is the one you had been saved before.

Function: adjust the camera to turn its lens to the relative direction of this preset position.

Delete preset position: press **[Dele pre]**, press number keys to type preset position "N", press "Enter" key/

Note: "N" -- preset position you already set before. Range: 1~255. This preset position number must is the one you had been saved before.

Function: delete this preset position you saved before.

Cruise route: press **[Cruise]**, the NO.1 route will start works (between 1~16 preset positions). This function is custom protocol, for high speed dome camera, generally using "call preset position" to start cruise routes, detailed operation method, please refer to camera user guide.

5. Operate the keyboard menu

(1) Set protocol

Press [Set], make LCD screen display as follows:

CAM ID: 001 protocol: PELCO-D

Press [↑] [↓] keys to select protocol, press "Enter" key to save. This keyboard supply 2 protocol for your selection (PELCO-D, PELCO-P).

(2) Set baud rate

Press **[Set]** again and again, make the LCD screen to display as follows:

```
CAM ID: 001
Baud rate:2400
```

Press [↑][↓] to select baud rate, press "Enter" key to save. This keyboard supply these baud rate: 1200bps, 2400bps, 4800bps, 9600bps.

(3) Set, delete left limit position

Press **[Set]** again and again, make the LCD screen to display as follows:

```
CAM ID: 001
Left: Set
```

Press [↑][↓] to select "set" / "delete", press "Enter" key to save.

(4) Set, delete right limit position

Press **[Set]** again and again, make the LCD screen to display as follows:

```
CAM ID: 001
Right: Set
```

Press [↑][↓] to select "set" / "delete", press "Enter" key to save.

Note: after set left positions, for low-speed camera and constant-speed dome camera, if press **[Scan]**, dome camera will auto scan between these left and right limit positions. For high speed dome camera, generally need to call preset position to start auto scan between left and right limit positions, the preset position number should decided on the dome camera. Stop: for all dome camera, when you move joystick, the dome camera will auto stop scan between left and right limit positions. For low-speed camera and constant-speed dome camera, you can press "AUTO" key to stop this auto scan between left and right limit positions.

(5) Scan speed

Press **[Set]** again and again, make the LCD screen to display as follows:

```
CAM ID: 001
Scan speed:01
```

Press [↑][↓] to select speed, press "Enter" key to save. This keyboard supply speed as: 01, 02, 03, 04 shifts.

(6) Stay time

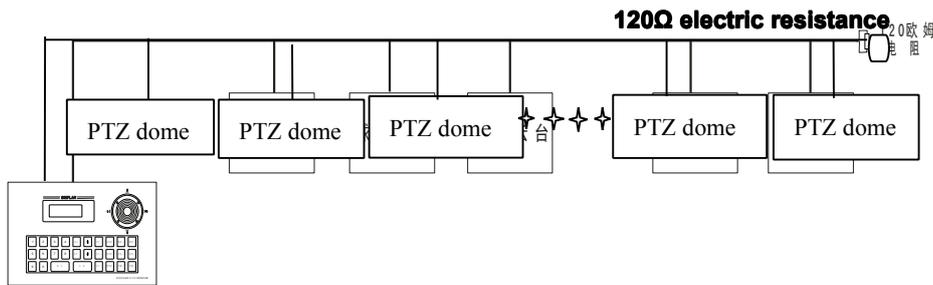
Press **[Set]** again and again, make the LCD screen to display as follows:

```
CAM ID: 001
Stay time:01
```

Press [↑][↓] to select time, press "Enter" key to save. This keyboard supply time as: 01, 02, 03, 04, 05 shifts.

After finish setting, press[Back] key to exit the setting state.

6. Installation and connection



1. This keyboard use RS485 single direction communication method, the communication port have functions like restrain instantaneous voltage, anti-static, anti-strong electrical input. Generally, the communication distance can up to 1200m, the RS485 communication ports A & B have positive and negative, you should make A connect to A, B connect to B.
2. You should use 2-cores or 2-cores shielded twisted-pair wire to as the communication wire, wiring should avoid strong electricity or magnetic field and other source of disturbance. And should use "BUS (total wire)" method (see the picture in previous page).
3. When you need to connect many dome cameras in a total wire route, please add an electric resistance as 120Ω (loop resistance match, also called "terminator") at the last one camera (with the longest wire in this route, or is the furthest away from the total wire beginning). Or you should use "Jumper cap" to connect the "terminator electric resistance" of the dome camera.