

# 3 Axis Controller Operation manual



Please carefully read this operation manual before using this keyboard controller

**Controller packing list:**

- |                                     |              |
|-------------------------------------|--------------|
| <b>1. keyboard controller</b>       | <b>1 PCS</b> |
| <b>2. Power supply DC 12V(DC9V)</b> | <b>1 PCS</b> |
| <b>3. RJ 45 Cable</b>               | <b>1 PCS</b> |
| <b>4. RJ45 Interface box</b>        | <b>1 PCS</b> |
| <b>5. Operation Manual</b>          | <b>1 PCS</b> |

## **Attention Item:**

- I Please read the keyboard operation manual carefully before using it.**
- I The keyboard is served with 12V (9V) DC power supply. Please make sure the voltage and polarity before the power supply is switched on.**
- I Do not place the keyboard under the rain or on wet place to avoid short circuit or electrical shock.**
- I The keyboard is high precision electronic device; please do not open the case, to avoid any possible breakdown.**
- I The keyboard integrates with multiple protocols; please choose the appropriate protocol and baud rate. Please notice the LCD will display the chosen protocol and baud rate for moment.**

## I . **General introduction**

The keyboard controller is professional equipped together with terminal receivers such as the intelligent Speed Dome and the decoder etc. Taking the EIA/RS-485 electrical interface between the keyboard and the receiver, one keyboard can control as much as 32 speed dome and decoders and the maximum communication distance between the keyboard and the receiver is up to 1.2 km without bus-mastering. The keyboard controller makes it more convenient to control the speed dome camera and the terminal decoder, hence to control the camera constant speed pan tilt, lens, light, rain brush and so on.

### **Main Functions:**

- I Dome camera or decoder address setting range: 0~9999
- I Users can set password, keyboard locking time, communication rate and protocol by using the operation menu.
- I With functions to control the dome camera: such as camera background light compensation on/off.
- I Operate the dome camera at different speed setting, speed switching smooth and even
- I Control the pan tilt auto line scan, speed and direction can be set as well
- I Set or call the set points and cruise tracks of the dome camera. Altogether 999 preset points and 1--6 cruise tracks can be set. Each track involves 16 preset position and the dwelling time and call speed upon each point can be set as well.
- I Manually or automatically control the dome camera, and change the internal function settings of particular camera by call the menu of the camera. .
- I Manually control the focus, zoom and iris of the camera.
- I Provide on line control help
- I Intelligent design, easy operation, all setting can be done with the operation menu.

## II. Keyboard Panel introduction:

### 1. The Front Panel and Buttons description (Figure 1-1)

There are speed joystick, buttons and LCD on the front panel of the keyboard. The display is used to show the status of the system and operation information. The joystick controls the upward, downward, leftward and rightward speed motion of the speed dome. The description of buttons is as follows:



(Figure1-1)

**NO.+SHOT+ON:** Preset point

**NO.+SHOT+ACK:** Call preset point

**NO.+SHOT+OFF:** Cancel preset points

**NO.+SHOT+ENTER:** Call cruise

**NO.+SHOT+F1:** Stop cruise

**NO.+SHOT+F2:** Delete cruise track

**WIDE:** Zoom out

**TELE:** Zoom in

**FAR:** Focus far

**NEAR:** Focus near

**F1:** Auxiliary control button

**OPEN:** Iris open

**CLOSE:** Iris close

**F2:** Auxiliary control button

**SET:** Menu entering

**ENTER:** OK

**ESC:** Exit menu

## 2. Rear Panel (Figure 2)



- Power input connector (**DC12V**): DC12V power supply.
- Communication connector (**RS485**): RS485 signal output.
- Integration connector (**RJ45**): The port includes the output of RS485 and input of the power supply, the port is connected to adapter box by specific cable.
- PC connector (**PC/RS232**): Used to connect the PC RS232 port, implement control with the PC together.

## III. Keyboard setting:



Figure 1

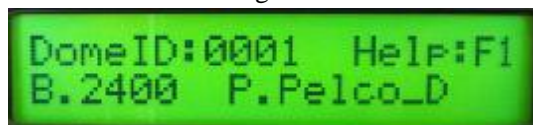


Figure 2

- 
1. Keyboard is with a sound 'di—'when power is on, 1.5 seconds later, keyboard start normal working status and display the latest dome number, protocol, baud rate. If the user set password, then password is required before entering into normal work status, refer to figure 1, input six digits password, click enter, start work, refer to figure 2.
  2. If there is something not sure, press F1 for help information.



Figure 3

3. Parameter setting: press **【Set】**, then **【Enter】** to change some parameter. The chosen setting g will be glittering , shown as figure 3,press **【F2】** for downward or **【F1】** upward for selecting ,press **【Enter】** to enter into the related choices for setting



Figure 4

- 1). Dome number setting: when choose “1.Dome ID”, press**【Enter】**, come to new dome number. Press **【Esc】**to delete the wrong number and input again. When finish the input, press**【Enter】**, system will ask: Save or not? Press **【Enter】**to save the dome number, , system returns to the last menu or press **【Esc】** returns to the last menu without saving the setting.



Figure 5

- 2). Protocol setting : when choose “2.Protocol”, press **【Enter】**, enter into protocol for selecting, eight protocols for selection, press **【F2】**downward or **【F1】** upward for selection, the chosen item will be glittering, if press **【Enter】**, system will ask save or not, press **【Enter】** to save the

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parameter, press **【Esc】**, system returns to the last menu. Shown as Figure 5



Figure 6

- 3)、 Baud rate setting: press “3.Baudrate” , press **【Enter】** to start the rate selection shown as figure 7. Four rates altogether, press **【F2】** downward or **【F1】** upward to make the selection, the chosen item will be glittering, Press **【Enter】** for system to save the setting or press **【Esc】** for system

return to the last menu .Shown as Figure 6.



Figure 7



Figure 8

- 4)、 Password setting : chose “4.Password”, press **【Enter】** ,system will ask for the old password, upon verified of the old password, system comes to the next setting step, shown as figure 7, if input the wrong password, press **【Enter】** or **【Esc】** to input again. When enter into the system, refer to press the figure 8, **【F2】** for downward or **【F1】** upward to make the selection.



Figure 9

- 
- a)、 “1、 On” is the password for starting the machine, when the item blinks, press **【Enter】**, system goes to next step setting, press **【F2】** downward or **【F1】** upward to make the choice, shown as Figure 9.



Figure 10

- ①、“1.Lock time Set” blinks, press **【Enter】** to enter into keyboard locking time setting, shown as figure 10, 99 minute is the biggest figure, if input wrong, press **【Esc】** to cancel , press **【Enter】** to save the right figure, and system returns to the last menu, or press **【Esc】** to cancel the setting and system returns to the last menu as well.

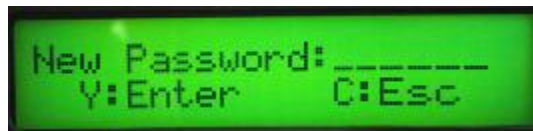


Figure 11

- ②、“2、 Password Set” blinks, press **【Enter】** system enters into new password setting, and users will be asked to input the new password, press **【Esc】**to cancel the wrong input, press**【Enter】**for system to save the right one, and return to the last menu, or press **【Esc】** to return to the last menu without saving the parameter. .



Figure 12

- b)、 “2、 Off”is the password for close the machine, when the item blinks, press **【Enter】**, system will ask to use the password or not, shown as figure 12, if press **【Enter】** , the password close then, the keyboard lock is closed as well.



Figure 13

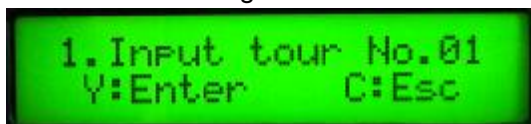


Figure 14

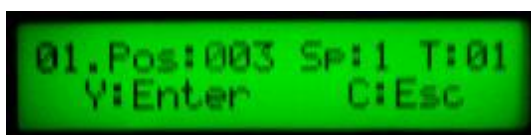


Figure 15

- 5)、Cruise tracking set: input track number, (only up to 6 digits More than 6 will be invalid input) shown as figure 13, press **【Enter】**to set the cruising point setting,(up to 16 only), press **【Enter】**after inputting the cruise track, shown as figure 14,system start to edit the tracking points, shown as figure 15., press **【Enter】** when finish the edition, and press **【Enter】** to save the parameter and return to the last menu or press **【Esc】**otherwise.



Figure 16

- 6)、Button sound switch : “On” blinks , press **【Enter】**, system will ask to save or not, press**【Enter】**to save the parameter and sound is open, press **【Esc】**,system directly returns to the last menu ; when “Off”blinks, press **【Enter】** system will ask to save or not, press **【Enter】** to save the setting, sound off, system returns to the last menu, or press **【Esc】** otherwise , shown as figure 16

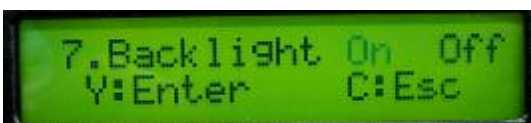


Figure 17

- 7)、Backlight switch: “On” blinks , press **【Enter】**, press **【Enter】** to save backlight is on, otherwise, press **【Esc】** “Off” blinks , press **【Enter】** to save backlight is off..

**14、 Dome camera function control and its parameter setting  
(special control description)**

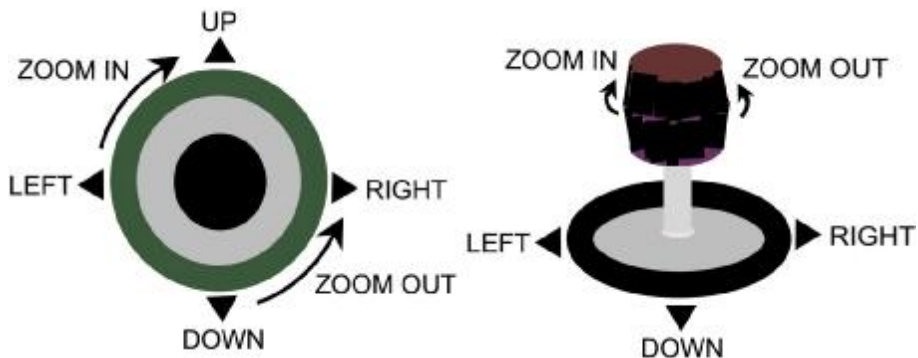
- I Control function varies based on different camera.
- I Item marked with “\*”are with memory function when the dome is off power.
- I To the cameras with menu, press “**NO.+SHOT+ACK**” to open it, or “**NO.+SHOT+ON**” to close the menu. If the camera is with menu and it is on:
  1. Use [WIDE]/[TELE]to scroll up and down to choose the menu item.
  2. Use [FAR]/[NEAR]to change the menu item status
  3. When the menu setting is ok, to close the menu as per the table shown instruction.
  4. Please refer to the dome operation manual for special cases.

No.	Control Item	Keyboard operation	
		No. +SHOT+ACK	No. +SHOT+ON
51	Pan-tilt Compensation Control	Enable line-scanning (low-speed)	Start cruise track
52		Enable line-scanning (middle-speed)	Set starting point of scanning
53		Enable line-scanning (high-speed)	Set ending point of scanning
54	Video Camera Power Control	Power on	Power off
55	Background Light Compensation *	on	Off
56	Zero Illumination	on	off
57	Screen Display *	on	off
58	Digital Zoom *	on	off
59	FOCUS	Auto	Manually
60	IRIS	Auto	Manually

61	White Balance Mode	Auto	Manually
62		Indoor	outdoor
63		ATW	One Push WB
100	Home position	On	off
95	Dwell time setting for the Home position function	1min	
96		2min	
97		4min	
98		8min	
99		10min	

### 15. Use the Joystick to Control the Speed Dome Camera:

You can use the speed joystick to control the Pan/Tilt direction and speed of the dome of the camera randomly. The speed of pan/tilt is decided by the angle of the joystick you operate at (Figure18). Change the tilting angle of the joystick you can adjust the speed evenly and the camera can be focused automatically in the course of scan to keep images being distinct.



(Figure 18)

## v. Installation and Connection:

Attention: Please read the operation manual of the keyboard and the speed dome carefully before connecting wires. Any incorrect connections can cause permanent damage of the device. When connecting wires, first switch off the power supply of all devices. The communication wires between devices should be shielded twisted cable. When installing cables they should be far away from high voltage lines or other possible interference circuits as much as possible.

### 1. Integrative connection:

(Figure 19)

Refers to the control output of the keyboard RS485 and the power input go through the interface box first then the single RJ45 cable is connected to the keyboard RJ45 port.

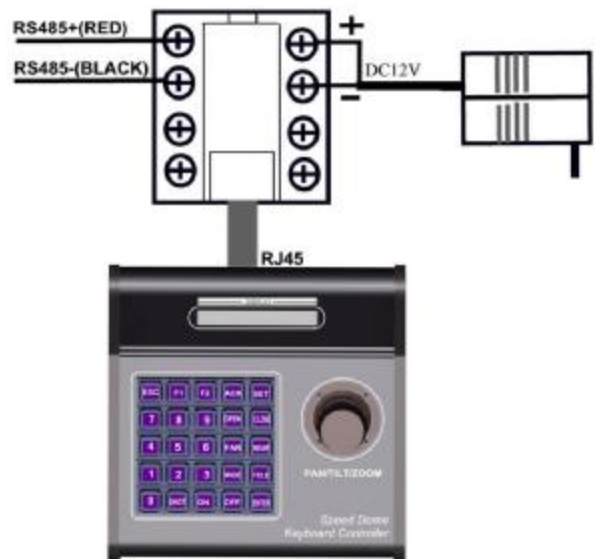


Figure 19

### 2. Normal connection :( Figure 20)

Refers to the RS485 control output and power output are directly connected to the keyboard relative ports.



Figure 20

3. **Connect to PC** (Figure 21): Refers to the keyboard and computer can be connected together to control the dome camera.

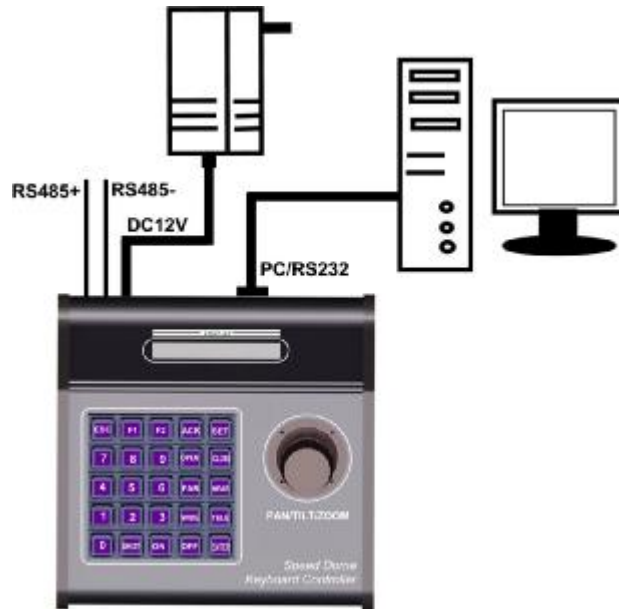


Figure 21

## VI. Technical Specifications:

- I Communication between Speed Dome Camera and the Controller: Port to multi-port and half duplex function.
- I Communication mode: RS-485/PC RS 232
- I Baud Rate of Communication: Four baud rates i.e. 2400Bps, 4800Bps, 9600Bps and 19200Bps.
- I Distance of Communication: 1200 M in maximum
- I Power Supply: DC12V/800 mA (DC9V/100mA)
- I Number of Controlled Speed Dome Camera up to 32.
- I Size: 95mm(H) × 205mm(L) × 205mm(W)
- I Weight: 1.2 Kg