EKB700 Keyboard

User's Manual

EverFocus

1. Introduction

The EKB700 keyboard (RS-485) is designed for telemetry control of speed dome cameras. Featured with ergonomic key alignment and the joystick, the keyboard brings convenient operation for controlling the speed dome cameras.
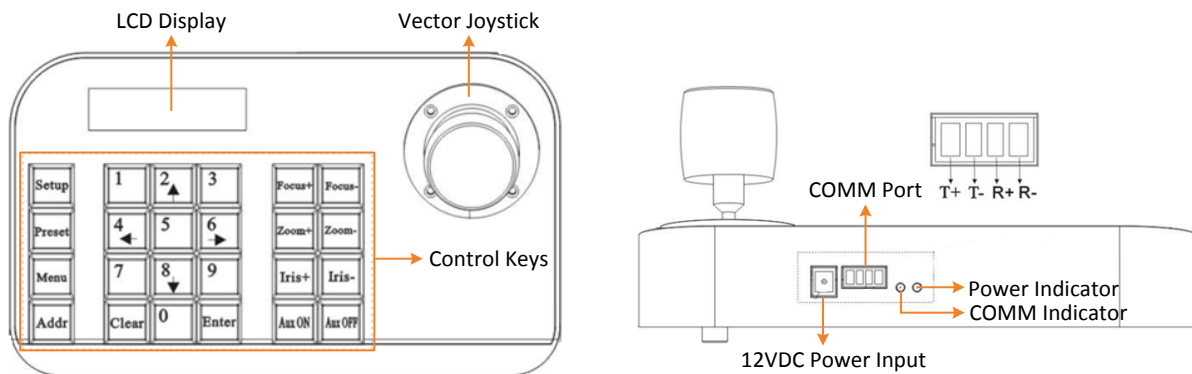
12VDC Power Input: Connect to the 12VDC power source.

COMM Port: Connect to RS-485 wires of speed dome cameras. Connect T+ to RS-485+; connect T- to RS-485-; R+ and R- are reserved.

Power Indicator: Indicates the power status. The power indicator will light on when power is connected properly.

COMM Indicator: The COMM indicator will light on when keyboard is connected to speed dome cameras properly.

1.1 Features

- Address can be set from 0~255
- Up to 128 devices can be connected in parallel
- Lightning protection design of all input and output communication ports
- High anti-jamming ability
- Up to 1.2km transmission distance
- Full functionalities for controlling the speed dome cameras
- Built-in multiple protocols
- Supports OSD
- Supports key sound on/off function

1.2 Packing List
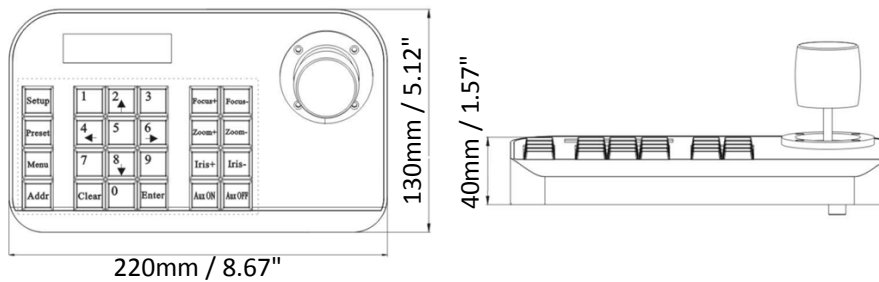
1. Keyboard x 1
2. Power supply x 1
3. 4-Pin line pressing terminals x 1
4. User Manual x 1

Note: Please keep the shipping carton for possible future use. Contact the shipper if any items appear to have been damaged in the shipping process.

2. Installation

Dimensions of the keyboard

Before installation, please ensure the power of all devices is off. Communication cables used to connect between the devices should be twisted-pair with shielding.
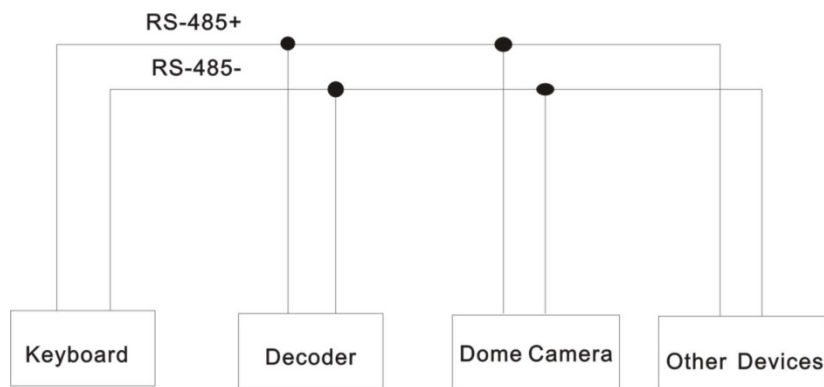
The control system of controlling multiple speed dome cameras is shown as below:
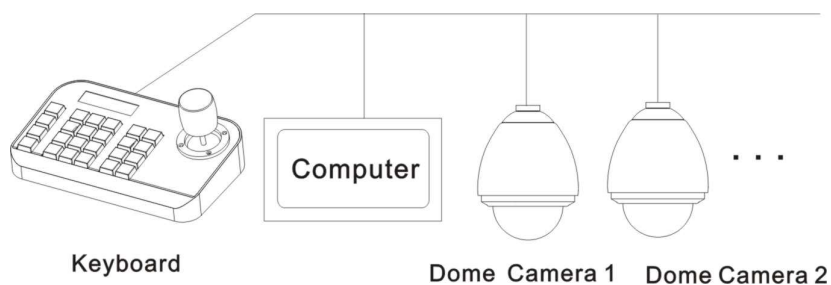
Note: Before using the keyboard to control speed dome camera, please make sure the address, protocol, baud rate setup on the keyboard is the same with those setup on the speed dome camera, otherwise, the speed dome cameras cannot be controlled.

3. Operation

3.1 Keyboard Self-Detection

<table>
<tr>
<td>SYSTEM   STARTUP

< < < < < <</td>
<td>PELCO-D 2400 000</td>
</tr>
<tr>
<td align="center">Figure 3.1.1</td>
<td align="center">Figure 3.1.2</td>
</tr>
</table>

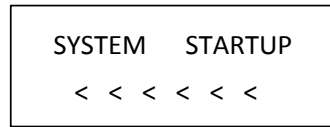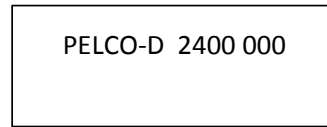After power on, the keyboard take the following actions automatically:

1. **Self-Detecting:** The first line on the LCD display shows "SYSTEM STARTUP". The second line shows "<" and "<" increases successively till it fills the screen with a sound "di". If keyboard sound is turned on, "<" increases successively with sound "di,di…" (*Figure 3.1.1*)

2. **When Selft-Detection is Complete:** The keyboard will get the current parameters automatically and clear the contents of the second line on the LCD display. As shown in *Figure 3.1.2*, the first line of LCD display shows "PELCO-D 2400 000", which represents the communication protocol, baud rate and address respectively.

3.2 Joystick Operation

You can use the Joystick to control the rotation, pan/tilt direction and speed of the speed dome cameras. Changing the tilt angle of the Joystick can adjust controlling speed.
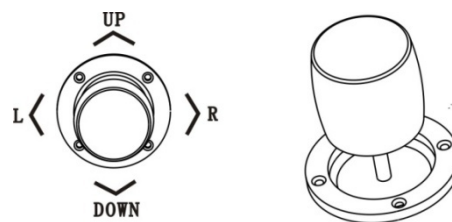
1. **Rotation Control:** Push the joystick in any direction to control the camera directions. At the same time, the LCD displays "PTZ <<<<<", where "<" indicates the control speed. The more the "<" displays on the LCD screen, the faster the control speed. To control the speed, tilts the joystick. The more the tilt angle, the faster the speed.

2. **Zoom Control:** Rotate the joystick grip to adjust focal length of the lens. Clockwise rotation of Joystick grip can zoom in and the image gets closer and larger; Counterclockwise rotation of joystick grip can zoom out and image gets farther and smaller. When rotating the joystick, the LCD will display "PTZ<<<<<", where "<" indicates the control speed. The more the "<" displays on the LCD screen, the faster the control speed.

3. **OSD Control:** Push the joystick up to select previous menu option; push the joystick down to select the next menu option. Push the joystick left or right can change parameters of the selected menu (as described in *3.4 OSD Menu on LCD*).

3.3   Key Operation

【Focus+】: Manual focus on far object. The far objects come clear and the near objects come blurring.

【Focus-】: Manual focus on near object. The near objects come clear and the far objects come blurring.

【Zoom+】: Zoom in to enlarge object.

【Zoom-】: Zoom out the lens to view wider field. The object becomes smaller.

【Iris+】: Increase aperture gradually. The picture becomes brighter.

【Iris-】: Downsize aperture. The picture becomes darker.

【Setup】: Set key, [Setup]+number+[Enter] to set up the preset point of the camera or set up the short commands of the keyboard (refer to *3.5 Keyboard Short Commands*).

【Preset】: Run key, [Preset]+number+[Enter] to run the preset point.

【Menu】: Menu key, to enter Menu.

【Addr】: Address key, [Addr]+number+[Enter] to choose the communication address.

【0】～【9】: Number keys [0], [1], [2], [3], [4], [5], [6], [7], [8], [9].

【Clear】: Delete key, [Clear]+number+[Enter] to delete the preset point.

【Enter】: Confirm key, to confirm the present operation.

【Aux ON】: Aux ON.

【Aux OFF】: Aux OFF.

3.4   OSD Menu on LCD

To enter the OSD menu on LCD screen, press the【Menu】 key (*Figure 3.4.1*).

To exit the OSD menu using the keys on the keyboard, select a random function key, except【Menu】key, to exit the current menu and enter the corresponding menu (depends on the function key you press). For example, press 【Focus+】to exit the current menu and enter focus setting (*Figure 3.4.2*).LCD screen
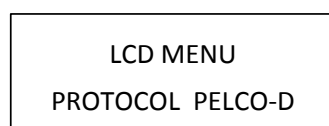
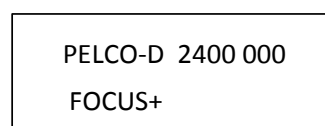| LCD MENU	PELCO-D 2400 000
PROTOCOL PELCO-D	FOCUS+

Figure 3.4.1   *Figure 3.4.2*

3.4.1   Menu Operation

There are two ways to operate the menu options: Use the Joystick or Use the Keys. Please note that when Joystick and Keys are being operated at the same time, the control goes to Joystick.

➢ **Joystick Operation:**
- Push the joystick up or down to flip the menu.
- Push the joystick left or right to select among the parameters and then press the 【Enter】 key to confirm setting.
- Rotating the joystick to any direction can exit the current setup page except the 【Menu】 page.
- When entering the OSD menu on the LCD screen, the joystick can only be used to operate the OSD menu and cannot be used to control the actions of speed dome camera.

➢ **Key Operation:**
- Press [2] or [8] to flip the menu; Press [4] or [6] to select among the parameters.
- Press the 【Enter】 key to confirm and save changes each time when setting up a function.
- When entering the OSD menu on the LCD screen, the number keys [0], [1], [3], [5], [7], [9] will be invalid. The [2], [8], [4], [6] keys can only be used to operate the OSD menu as up, down, left and right keys.
- When entering the address page, the [2], [8], [4], [6] keys can only be used as number keys.
- The [2], [8], [4], [6] keys can be used as joystick to control the direction (up, down, left and right) of the speed dome camera only when:
  1) Exiting the OSD menu on the LCD screen.
  2) The second line on LCD screen shows blank (*Figure 3.4.1.1*), the number keys [2], [8], [4] and [6] can be used as joystick to control the direction (up, down, left and right) of the speed dome camera. The rotation speed is fixed to fastest and cannot be adjusted (*Figure 3.4.1.2*).
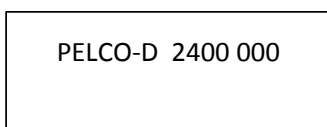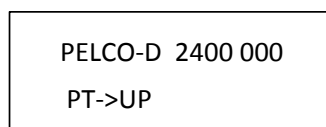
```
PELCO-D  2400 000
```
Figure 3.4.1.1

```
PELCO-D  2400 000
PT->UP
```
Figure 3.4.1.2

3.4.2   Index of Menu

The menu contains 5 categories, which include Protocol, Language, Sound, Address and Baud Rate.

LCD MENU		LCD MENU		LCD MENU		LCD MENU		LCD MENU
PROTOCOL PELCO-D		LANGUAGE ENGLISH		SOUND OFF		ADDRESS 000		BAUD RATE 2400

Protocol: Options include Pelco-P, Pelco-D, Samsung, Yaan and SAE.

Language: English.

Sound: Select On to turn on key sound; select Off to turn off key sound.

Address: Set up an address from 000 to 255.

Baud Rate: Options include 1200bps, 2400bps, 4800bps, 9600bps and 19200bps.

After setting up the Address and pressing the 【Enter】 key, the OSD menu will enter the Baud Rate menu [BAUD RATE 2400]. When users go back to Address menu again, the OSD menu will display [ADDRESS 000] as the present setting of the Address cannot be seen. However, when users exit the OSD menu, the first line on the LCD screen will display the current communication address.

3.5   Keyboard Short Commands

Combination key: [Setup]+number+[Enter]

Number	Function
700	Turn off key sound
701	Turn on key sound
812	Set baud rate to 1200bps
824	Set baud rate to 2400bps
848	Set baud rate to 4800bps
896	Set baud rate to 9600bps
819	Set baud rate to 19200bps

4. Specifications

Product Model	EKB700 Keyboard
Power Supply	12VDC + 10% / 500mA
Operating Temperature	-20°C ~ +55°C / -4°F ~ 131°F
Operating Humidity	≤90% non-condensing
Communication	RS-485
Interface	4-PIN terminals (RS-485)
Baud Rate	1200bps, 2400bps, 4800bps, 9600bps, 19200bps
Communication Protocol	PELCO-D, PELCO-P, SAMSUNG, YAAN, SAE
Communication between Camera and Keyboard	One point to multi-points Half-duplex
Joystick	Vector joystick
Display	LCD
Communication Distance	1.2km
Control Camera Quantity	128
OSD Menu Language	English
Dimensions (W x D x H)	220 x 130 x 10mm / 8.67" x 5.12" x 1.57"

5. Troubleshooting

The below solutions of common issues are just for your reference. If there are some special issues, please contact your dealer to get technical support.

Issue	Possible Reason	Solution
Nothing on LCD screen after turning on the keyboard	No power	Check the power cable and whether the power cable is connected properly
		Make sure the power source is 12VDC
Cannot control the target dome camera	Protocol is wrong	Check protocol of keyboard. Make sure it is the same with the speed dome camera.
	Baud rate is wrong	Check baud rate of keyboard. Make sure it is the same with the speed dome camera.
	Address is wrong	Check address of keyboard. Make sure it is the same with the speed dome camera.