

# Northern<sup>★</sup>



**Model: PTZKBD2**

## **2-Axis Speed Dome Controller Operation Manual**

**Version: 1.1**

Please read this operation manual carefully before using this device.

# INDEX

■ Summary .....	1
→ Introduction of the Keyboard Panel .....	1
Sketch of the Front Panel and Description of Buttons.....	1
■ Rear Panel .....	3
■ Selecting the Protocol of the Keyboard .....	4
■ Operation of the Keyboard .....	4
■ Installation and Connection .....	7
■ Technical Specifications .....	8
■ Points for Attention.....	8
■ Packing List .....	8

## Summary

- ◆ This keyboard controller is used for terminal receivers such as speed dome cameras. It can be used for operating and setting up the speed dome camera. The controller can also be used to control the terminal receiver for controlling pan/tilt, lens etc.
- ◆ Uses the EIA/RS-485 electrical interface between the keyboard and the receiver.
- ◆ One keyboard can control up to 32 speed dome cameras.
- ◆ The maximum communication distance between the keyboard and the receiver is up to 1.2 km.

## → Introduction of the keyboard Panel

### Sketch of the Front Panel and Description of Buttons (Figure 1)

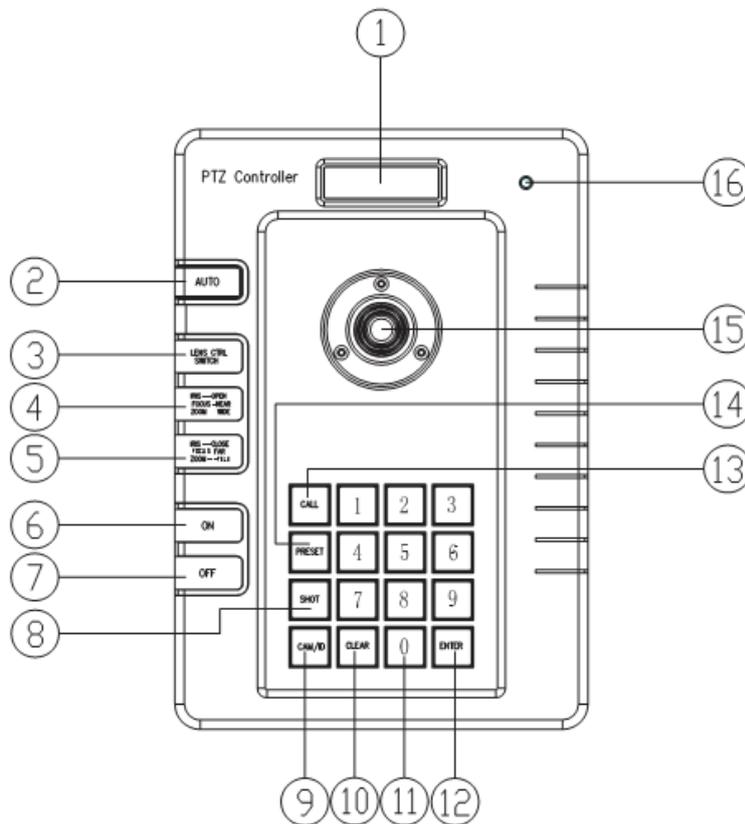


Figure 1

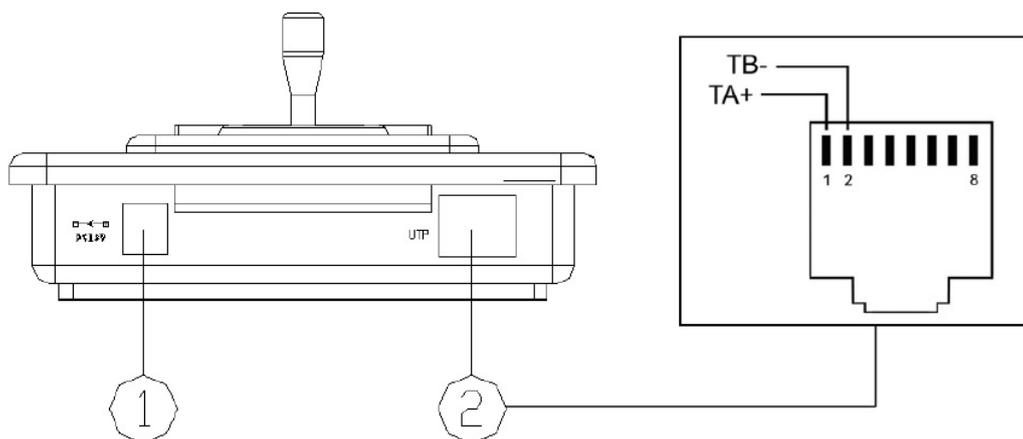
#### 1、LCD

2、**AUTO**: Used to control the auto-horizontal rotation for Pan/Tilt.

3、**LENS CTRL SWITCH**: Used to select the following function → IRIS / FOCUS / ZOOM

4. **IRIS OPEN / FOCUS NEAR / ZOOM WIDE:** Used to execute the selected function from the [LENS CTRL SWITCH] There are three functions → IRIS OPEN / FOCUS NEAR / ZOOM WIDE
5. **IRIS CLOSE / FOCUS FAR / ZOOM TELE:** Used to execute the function selected from the [LENS CTRL SWITCH]. There are three functions: iris close, focus far, zoom tele.
6. **ON:** Switches on the setting of function.
7. **OFF:** Switches off the setting of function.
8. **SHOT:** Used to call up cruising track.
9. **CAM/ID:** Selects the address of the Speed Dome.
10. **CLEAR:** Used to clear inputted data.
11. **0-9:** Number keys.
12. **Enter:** Used to confirm selection.
13. **CALL:** Used to call the preset position.
14. **PRESET:** Used to set the preset position.
15. **JOYSTICK:** Used to control the upward, downward, leftward and rightward movement and speed of the speed dome.
16. **Power LED**

■ **Rear Panel (Figure 2)**



**Figure 2**

- 1、 Power input connector: input DC12V power.
- 2、 Communication connector RS485: twisted-pair.

## ■ Select the Protocol of the Keyboard

1. Protocol Setting: press [CALL]+[200]+[ON], LCD will show: “Display: Select Protocol”. Turn the joystick left or right to select the protocol you wanted, press [ Enter] to save the protocol.

2. Protocol types:

- ◆ PELCO-D 2400bps
- ◆ PELCO-D 4800bps
- ◆ PELCO-P 4800bps
- ◆ PELCO-D 9600bps
- ◆ PELCO-P 9600bps
- ◆ COP-2 9600bps

## ■ Keyboard Operation

1. Select the Address of the Speed Dome Camera: [CAM]+[N]+[Enter]

Display: Current CamID: 001

Description: N - No. of camera from 0 to 255

Function: Selects the address of the camera to be controlled. The value N must be in conformity with the address of the Speed Dome Camera to be able to control the camera.

2. Set the Preset Position: [PRESET]+[N]+[ Enter]

Display: Preset No: 001

Description: N - No. of preset positions from 1 to 255.

Function: Stores current position and refer it as No. N position.

3. Call the Preset Position: [CALL]+[N]+[ Enter]

Display: Call Number: 001

Description: N - No. of preset position from 1 to 255.

Function: Transfer the camera to the position of No. N preset position.

4. Cancel the Preset Position: [PRESET]+[N]+[OFF]

Display: Preset No: 001

Description: N — No. of preset position from 1 to 255.

Function: Delete the No. N preset position stored.

5. Set the Cruise Track: (COP-2, PELCO-D, PELCO-P Available)

- ◆ Enter the Status of Track Setting: [SHOT]+[N]+ [ON] (N - No. of track from 1 to 6).

Display: Track = 01 Sum = 06

Description: Track No.1 is currently setting, in which there are 6 preset points.

- ◆ Edit Track: Press [TELE] to edit down page and press [WIDE] to edit up page. Each track involves 16 preset Points, the running speed and the dwelling time of each preset position.

Display: No: 01 Point: 001 → Description: The 1st preset position in the track is 001.

Display: No: 01 Speed: 001 → Description: The speed of the 1st preset point in the track is the 1st class.

Display: No: 01 Time: 004 → Description: The dwell time of the 1st preset point in the track is 4

Seconds

- ◆ Speed Range: 1 to 8 from the fastest to the lowest. Any speed outside the range will be referred as the 1. The range of the dwelling time is: 1 to 255.
- ◆ When the No. N preset point is set as No. 0, then all preset points before the No. N preset point in the track will be valid however all numbers of preset points afterward and their speed and dwelling time shall be set as 0 automatically.
- ◆ After tracks are edited, press OFF to store and exit. Pushing the joystick will exit without storage.

6. Run Cruise Track: **[SHOT]+[N]+ [Enter]**

Display: **Input Tour No: 01**

Description: N - No. of the track from 1 to 6.

Function: Tour the No. N track and stop tour by pushing the joystick.

7. Stop Cruise Track: **[SHOT]+[N]+ [OFF]**

Display: **Input Tour No: 01**

Description: N - No. of the track from 1 to 6.

Function: Stop the No. N track or stop tour by pushing the joystick.

8. Cancel Cruise Track: **[SHOT]+[N]+ [OFF] (Pressing [OFF] down until “Clear Tour OK” appears)**

Display: **Input Tour No: 01**

Description: N - No. of the track from 1 to 6.

Function: Delete the No. N track

9. Auto Pan ON (Operation of COP-2 Protocol): **[AUTO]+[P1]+[ON]+[P2]+[OFF]**

Display: **Input 1st No: 001**

Description: P1 - the starting scan No. of preset point from 1 to 255, which should be set already.

Display: **Input 2nd No: 002**

Description: P2 - the ending scan No. of preset point from 1 to 255, which should be set already.

If  $P1 = P2$  or P1 and P2 are coincided, the speed dome will make scan in range of  $360^\circ$ .

Note:

(1) For PELCO-D and PELCO-P Protocols the way of operation is as follows:

- ◆ Set the Starting Scan Position: Transfer the speed dome to the starting scan position, operation **[AUTO] + [ON]**
- ◆ Set the Ending Scan Position: Transfer the speed dome to the ending scan position, operation **[AUTO] + [OFF]**
- ◆ Run Auto Pan: **[AUTO]+[ENTER]**

(2) Auto Pan operation takes the following parameters. You must set these parameters before using a Auto Pan command to begin the scan operation. You can use the scan Stop command or PT scan stop command to stop the scan. Setting scan condition:

- ◆ Auto Pan Position (First specify position, second specify position)
- ◆ Auto Pan Speed and Direction.

10. Stop Auto Pan: **[AUTO]+[OFF]** (only for COP-2 protocol) or push the joystick to stop scan.

11. Control the Zoom of the Camera: first, press **[LENS CTRL SWITCH]**, you can see “Lens Zoom CTRL” showed on the LCD, second, press **[ZOOM WIDE] / [ZOOM TELE]** to execute the function.

12. Control the Focus of the Camera: first, press [LENS CTRL SWITCH], you can see “Lens Focus CTRL” showed on the LCD, second, press [FOCUS FAR] / [FOCUS NEAR] to execute the function.
13. Control the Iris of the Camera: first, press [LENS CTRL SWITCH], you can see “Lens Iris CTRL” showed on the LCD, second, press [IRIS OPEN] / [IRIS CLOSE] to execute the function.
14. Control the Vibration Correction of the Camera: [ON] / [OFF]
15. Back Light of Keyboard Screen: [CALL] + [5] + [ON] / [CALL] + [5] + [OFF]
16. Version number display: [CALL] + [211] + [ENTER]
17. 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 speed dome randomly. The speed of pan/tilt is decided by the angle of the joystick you operated (Figure 3).

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.

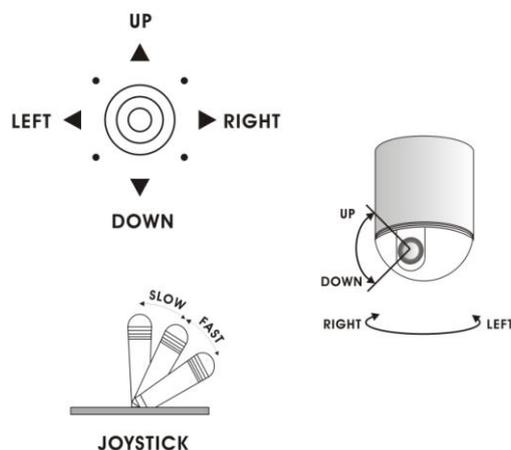


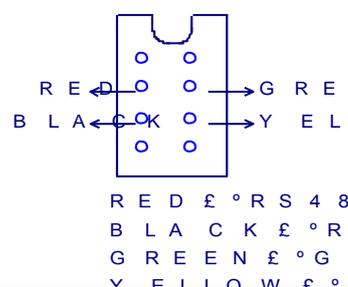
Figure 3

18. In case error operation occurs, normal display will be recovered after “Error Operation” appears for 1 second.

## ■ 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 possible.

1. The marking of wires of the transfer box (Figure 4)



2. Connections of the keyboard controller controlling multiple speed dome cameras (Figure 5)
3. Connections between the keyboard and the speed dome camera (Figure 6)

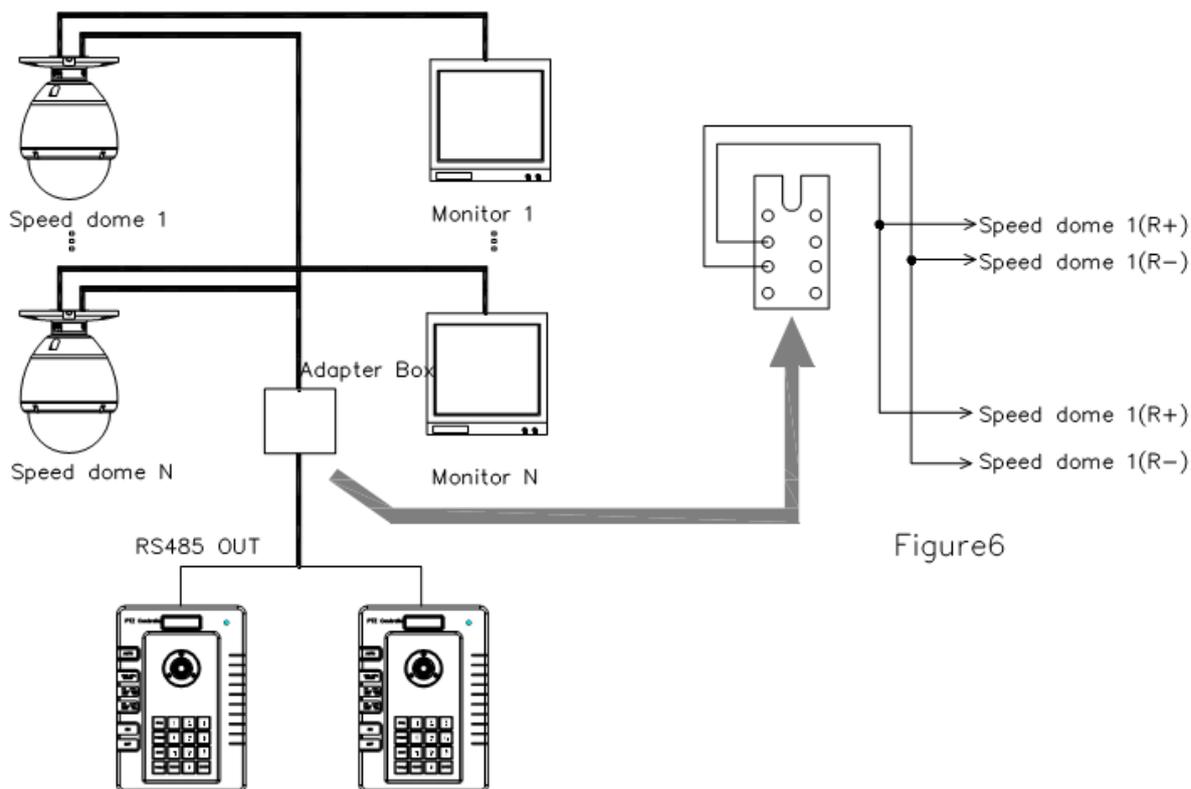


Figure5

Figure6

### ■ Technical Specifications :

- ◆ Communication between Speed Dome Camera and Controller: Port to multi-port and half duplex function.
- ◆ Communication connector: RS-485.
- ◆ Baud Rate of Communication: Four baud rates i.e. 2400bps, 4800bps and 9600bps.
- ◆ Distance of Communication: 1200m in maximum
- ◆ Power Supply: DC12V +-1v / 1A Consumption
- ◆ Size: 130 (L) × 190 (W) × 64 (H) (mm)
- ◆ Weight: 1.2lb
- ◆ Number of controlled speed dome camera: Up to 32.

### ■ Points for Attention :

- ◆ Please read the operation manual of the keyboard carefully before using it.

- ◆ The keyboard takes DC12V power supply. Please confirm the voltage and polarity before the power supply is switched on.
- ◆ Do not place the keyboard near any type of moisture in order to avoid short circuits or electrical shock.
- ◆ Do not open the Speed Dome controller case, there are no user serviceable parts inside.
- ◆ The keyboard has integrated multiple protocols, make sure the keyboard and speed domes protocols and baud rates match or the controller will not work properly. When switching on power supply, take notice of the selected protocol and the baud rate on the first screen. Keyboards default Protocol setting is: Pelco D, Baud rate is 2400.

## ■ Packing List

- ◆ Keyboard Controller      1
- ◆ Power supply DC 12V      1
- ◆ RJ45 Cable                      1