



## Operation Manual for DVR Keyboard



Please read the operation manual carefully  
before installing and using the unit.

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## **I. Description of Performance**

### **1.Introduction**

The DVR keyboard can be used alone or together with DVR mainframe and built-in hard disk VCR to control matching terminal products, such as high/constant- speed dome cameras, decoders, etc. The electric outlet between the controlling keyboard and the receiving terminal is EIA/RS – 485, which enables the keyboard to control as many as 127 dome cameras or other terminals within a maximal communication range of 1.2 Km. Using the controlling keyboard, you can easily control and setup for variable-speed dome cameras. The controlling keyboard can also directly control terminal decoders so that the control of the front devices such as the constant-speed pan/tilt, the lens, the light, the rain brush etc can be realized. It can connect single or multi DVR mainframes or mainstream stand-alone DVRs, and it can also control all the panel-controlling function.

### **2. Technical Index**

#### **A. Electric Index**

Power supply: DC9V~12V 500mA

Provided power adapter: AC220V±10% 50/60HZ switch to DC9V 500mA

Communication connection mode: RS-485 for mainframe connection; RS-485 bus mode for controlling units connection

Baud rate of communication: 2400/4800/9600/19200 BIT/S

Range of communication: 1200M (0.5MM twisted-pair)

#### **B. Mechanical Index**

Dimension: 70□H□X 165□W□X 270□L□mm

#### **C. Ambient**

Temperature: 0□~60□

Relative Humidity□90%RH

## **II. Description of Main Functions**

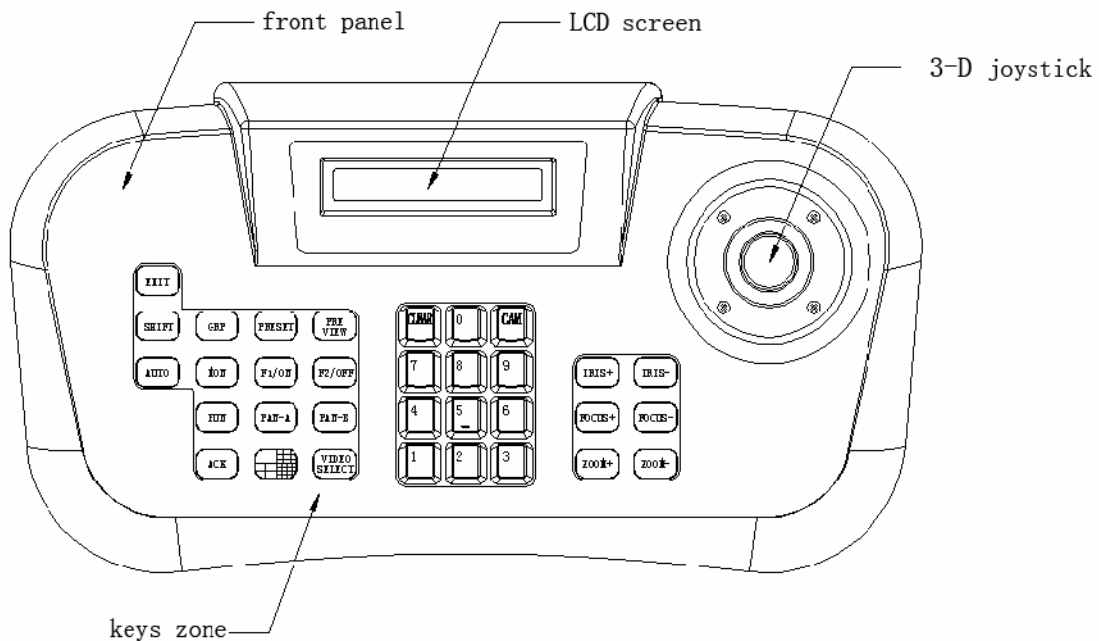
The main functions of the DVR keyboard include:

1. The keyboard output adopts photoelectric insulated 485 control so that it can provides strong anti-jamming and long-distance transmission.
2. Using the keyboard, you can set up dome camera or decoder address at the range of: 1~255.
3. Through the keyboard, variable-speed operation can be applied to the built-in pan/tilt of the high speed dome camera.
4. Via the keyboard, pre-set positions can be setup and previewed in the high speed dome camera.

5. Through the keyboard, up to four tour routes can be setup and previewed in the high speed dome camera, with each tour having a maximum of 16 pre-set positions, dwell time and speed for each pre-set positions programmable.
6. The high speed dome camera can be manually / automatically controlled with the keyboard.
7. Lens zoom ratio, focus and iris can be manually controlled via the keyboard.
8. More than one terminals, such as dome cameras and decoders, can be controlled with the keyboard.
9. Joint-control can be realized by simultaneously using the DVR keyboard with one or more DVR mainframes or built-in hard disk VCR.
10. The keyboard has menu displaying LCD, 3D controlling joystick, as well as DVR or built-in hard disk VCR panel controlling functions.

### III. Description of Keyboard Panel

#### 1. Front Panel



On the front panel of the DVR keyboard are 3-D variable-speed controlling joystick, keys and LED digital displayer. The LED digital displayer shows system and operation information. The controlling joystick controls the different direction variable-velocity movement of the dome as well as the focus length of the lens.

Instructions:

[CAM] camera channel selection/confirmation

[PRESET] pre-set position setup

[PREVIEW] pre-set position previewing

[0] —[9] numeral keys [CLEAR]/

[CLEAR] clear key

[AUTO] automatic dome pan scanning control (ON/OFF)

[F1/ON] Ancillary switch ON

[F2/OFF] Ancillary switch OFF

[IRIS+] Iris wide

[IRIS-] Iris narrow

[ZOOM+] Zoom short

[ZOOM-] Zoom long

[FOCUS+] Focus far

[FOCUS-] Focus near

[FUN] Function key

[ACK] Acknowledge key


[EXIT] Exit key

[MON] Channel Selecion

[GRP] Tour routes preview

[PAN-A] Left limit position setup

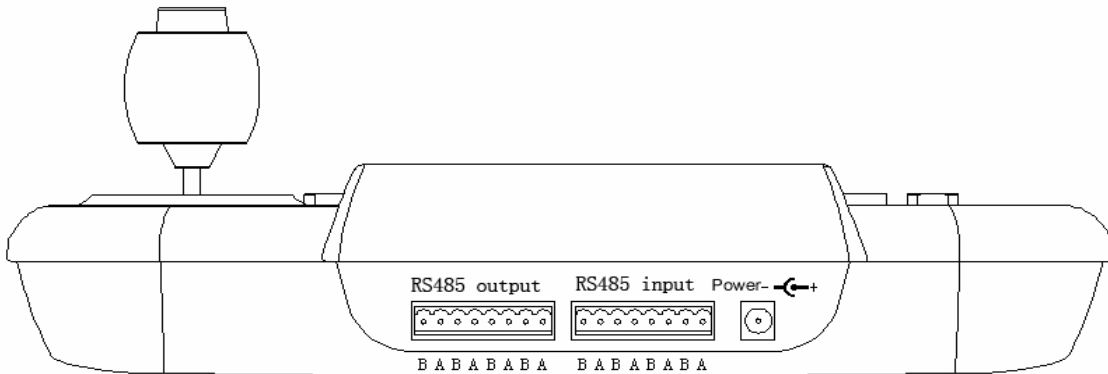
[PAN-B] Right limit position setup

[  ] Picture frame partition

[VIDEO SELECT] Picture frame selection

## 2. Back Panel

Figure:



Power supply outlet: connecting external DC9V power.

Communication outlet: RS-485 output outlet connecting the RS-485 outlet of the decoder, RS-485 input outlet connecting the outlet of DVR mainframe or built-in hard disk VCR.

## IV. Operation of the Keyboard

When the keyboard is power-on, the protocol and the baudrate of the dome camera is displayed, 3 seconds later, the following operation-waiting picture will be shown.

CH.	CAM	DATA
001	001	

Remark: "CH." Controlling channel, "CAM" Dome camera address,"DATA" Data area.

When switch to simulating DVR built-in panel controlling state, the LCD displays as:

CH.	DVR	DATA_DVR
001	001	

Remark: "CH." Controlling channel, "DVR" Mainframe address,"DATA" Data area.

### 1. Selecting Camera/Decoder Addresses: N [CAM]

Display: New "N" value will be displayed on the CAM section of the LCD displayer

Remarks: N- camera number, range: 1~255

Function: Selecting the address of the corresponding camera. When the N value conforms with the address of the dome camera/decoder, the corresponding dome camera/decoder will be under

control.

## **2. Selecting Controlling Channel□N [MON]**

Display: The present channel number “N” will be displayed on the CH section of the LCD screen.

Remark: N---Channel number, range: 1~4

Function: Select the channel number which is to be controlled by the keyboard

## **3. Shift keyboard controlling state:**

The keyboard has two mode of controlling states: “Simulating DVR built-in panel controlling” state and “Pan/tilt directly controlling” state. When power on, the default state is “Pan/Tilt directly controlling” state. Press [SHIFT] key, you can shift the keyboard controlling state. The protocol and baudrate of the corresponding controlling state will be shown on the LCD.

## **4. Dome Lens Control**

4.1 Lens focus panoramic image: [ZOOM+]

4.2 Lens focus feature image: [ZOOM-]

4.3 Adjusting Lens focus far: [FOCUS+]

4.4 Adjusting Lens focus near: [FOCUS-]

4.5 Iris wide: [IRIS+]

4.6 Iris narrow: [IRIS-]

4.7 Automatic switch on/off: [AUTO] cyclical key press

4.8 Brush:on/off: Press numeral key “1” then press key “F1/ON” to switch on; press numeral key “2” the press key “F2/ON” to switch off

4.9 Light:on/ff, ,press numeral key “2”,then press key “F1/on” to switch on; press numeral key “2”,then press key “F2/on”to switch off.

4.10 Variable-speed controlling joystick can easily adjust the direction and speed of pan/tilt dome movement. The speed of pan/tilt movement depends on the operating angles of the controlling joystick, and changing the slope angle of the joystick will adjust the movement speed.

## 5. Pre-set Position Setup: N [PRESET]

Display: The DATA section of the LCD will display

“PRESET” Remarks: N- pre-set position number, range: 1~255

Function: store the present position as the “N” position

## 6. Preview Pre-set Position: N [PREVIEW]

Display: The DATA section of the LCD will display

“PREVIEW” Remarks: N—pre-set position number, range:

1~255

Function: Switch the camera to position number N

## 7. Deleting Pre-set Position : N [PREVIEW]

Display: The DATA section of the LCD will display

“DELETE” Remarks: N- pre-set position number, range: 1~255

Function: Delete the stored pre-set position number N

## 8. Enter/Exit Camera Menu

8.1 Enter camera menu: [3] [F1/ON]

Display: The DATA section of the LCD will display “MENUON”

8.2 Exit camera menu [3] [F2/OFF]

Display: The DATA section of the LCD will display “MENUOFF”

## 9. Entering/Exit of Home (Default) Position Function

9.1 Enter Home Position Function: [4] [F1/ON]

Display: The DATA section of the LCD will display “HOME ON”

9.2 Exit Home Position Function: [4] [F2/OFF]

Display: The DATA section of the LCD will display “HOME OFF”

## 10. Keyboard Menu Setup

### 10□1 Tour Group Setup

#### 1. Enter Tour Group Setup

Press “[FUN]” key to enter keyboard menu, making the LCD display:

1) Speed Dome Tour Setup
-----------------------------

Remarks: The above information indicates the setup of tour group

Press “[ACK]” key to acknowledge, and the LCD will display:

1.0 Speed Dome No.001 Tour No.1
------------------------------------



Remarks: The above information suggests the User enter the speed dome camera address and tour group number.

## 2. Speed Dome Camera Address and Tour Group Number Setup

Operation procedure: Enter speed dome camera address from the numeral key section (0-9), ranging “1~128”, then press “[F1/ON]” key to switch the cursor to tour group setup, and enter tour group number, ranging “1~4”. For example, if the User intends to setup the second tour group of dome camera NO. 3, first enter number “3”, and press “[F1/ON]” key to switch the cursor to tour group setup, and enter number “2”, the LCD displaying:

1.0 Speed Dome No.3 Tour No.2
----------------------------------

After setting up the dome camera address and tour group number, press “[ACK]” key to enter the next setup.

## 3. Adding Pre-set Position Number to the Tour Group

### a) Adding Pre-set Position Number

Following the above step ② (setting up dome camera address and tour group), press “[ACK]” key to enter the setup of adding pre-set position number, the LCD displaying:

1.1Add position Position No.:1
-----------------------------------

Remarks: The above information suggests the User enter pre-set position number. Enter the pre-set position number from the numeral key section (0-9), ranging “1~128”, then press “[ACK]” to acknowledge and enter the next setup

### b) Pre-set Position Parameters Setup

Following the above step, LCD displays:

1.2Position:XXX Time:3
---------------------------

Remarks: The above information suggests the User set up the speed and dwelling time of the pre-set position, “XXX” is the pre-set position that entered during the previous step.

Enter dwelling time of the pre-set position from the numeral key section, ranging “1-255”, then press “[ACK}” key to acknowledge, and a pre-set position is successfully added to the tour group. The LCD display returns to the state of pre-set position setup for further addition. Please repeat the first and second steps to add all the required pre-set positions to the tour group.

**4. Store the Tour Group set up in Step ③ in the Speed Dome Camera**

After the last pre-set position is successfully added to the tour group (as is shown in Step ③ ), the LCD display returns to the state of pre-set position setup for further addition:

1.1Add position  
Position No.:1

Press “[F2/OFF]” key, and the tour group set up in Step ③ will be stored in the speed dome camera. LCD will return to the operation of Step ②.

**5. Repeat the operations of Steps ②, ③, ④ to set up tour groups for all speed dome camera, and continually press “[EXIT]” key twice to exit the setup.**

**10.2 Setup of Keyboard Baud Rate / Protocol**

① Enter Baud rate/protocol setup

Continually press “[FUN]” key until the LCD displays:

2) Keyboard Setup

Press “[ACK]” key to enter Baud rate/protocol setup.

② Enter desired camera number

On entering keyboard setup, the LCD will display:

2.0Protocol&BautRate  
Setting:Speed Dome

Remarks: The above information suggests the User select the object with which the protocol is to be set up. The keyboard can set up protocol for controlling dome camera. It can also set up the protocols for communicating with DVR mainframe or stand-alone DVR. On the screen, “Speed Dome” means setting up protocol for controlling dome camera, “DVR” indicates setting up the protocols for communicating with DVR mainframe or stand-alone DVR. Press [Preset] or [Preview] key to select the object with which the protocol is to be set up. Press “[ACK]” key to confirm and enter the Protocol and Baud rate setup state.

③ Protocol and Baud rate setup

At the “Dome Camera Protocol and Baud rate setup” state, LCD displays:

Protocol: PELCO\_D  
Baud Rate:4800

Remarks: The above information shows the present protocol and Baud rate for the Dome Camera.

At the “DVR mainframe or stand-alone DVR communicating protocol setup” state, LCD displays:

Protocol: NONE Baud Rate:9600
----------------------------------

Remarks: The above information shows the present protocol and Baud rate communicating with DVR mainframe or stand-alone DVR.

There are five optional protocols for dome camera controlling: PELO-D, PELCO-P, PELCOD1, PELCOP1 and NEW.

There are also five optional protocols for built-in stand-alone DVR communicating: NONE  DVR\_HIK  DVR\_HANBANG  DVR\_NEATECH  DVR\_DAHUA

Remarks: “NONE” means there is no communication with DVR mainframe or stand-alone DVR.

“DVR\_HIK” means HIK stand-alone DVR

“DVR-HANBANG” means HANBANG stand-alone DVR

“DVR\_NEATECH” means NEATECH stand-alone DVR

“DVR\_DAHUA” means DAHUA stand-alone DVR

Press “[PREVIEW]” or “[PRESET]” key to select desired protocol. After setting up the protocol, press “[F1/ON]” key to switch the cursor to the state of Baud rate setup. Applicable Baud rates are: 1200  2400  4800  9600  19200bps. Press “[PREVIEW]” or “[PRESET]” key to select desired Baud rate.

- ④ Store the present setup of protocols and Baud rates

After setting up protocols and Baud rates, press “[F2/OFF]” key to store the setup into the keyboard.

- ⑤ When protocols and Baud rates for all cameras are setup, please press “[EXIT]” key to exit the setup.

### 10.3 Setup of Left/Right Limits for Dome Camera

- ① Enter left/right limits setup

Repeatedly press “[FUN]” key until the LCD displays:

3)Limits Setup
----------------

Press “[ACK]” to enter the setup of left/right limits

② Left limit setup

When entering the setup of left/right limits, the LCD will display:

3.0 Limits Setup Limit:Left
--------------------------------

Please press “[PRESET]” or “[PREVIEW]” key until the cursor shows “Left”, then use the joystick to move the dome camera to the desired left limit position. Press “[F2/OFF]” key to store the present left limit position into the dome camera, LCD displaying:

Left Limit Set OK!
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③ Right limit setup

When entering the setup of left/right limits, press “[PRESET]” or “[PREVIEW]” key until the cursor shows “Right”, then use the joystick to move the dome camera to the desired right limit position. Press “[F2/OFF]” key to store the present right limit position into the dome camera, LCD displaying:

Right Limit Set OK!
------------------------

④ Exit left/right limits setup

Press “[EXIT]” key to exit left/right limits setup.

#### 10.4 Home(Default) Position: Setup

① Enter home(default) position setup

Repeatedly press “[FUN]” key until LCD displays:

4)Home Setup
--------------

② Press “[ACK]” key to enter home(default) position setup

③ Setup Home (Default) Position

When entering home position setup, LCD will display:

4.0 Home Setup Home: current lie
-------------------------------------

Use the joystick to move the dome camera to the desired home position, and press [F2/OFF] key to store the present home position into the dome camera, LCD displaying:

Home Lie
Set OK!

- ④ Exit home position setup  
Press “[EXIT]”key.

### 10.5 Run the Tour Group of the Dome Camera

- ① Enter the menu for running tour group  
Continually press “[FUN]”, until LCD displays:

5)Run Group
-------------

Press “[ACK]” to enter the running of tour group

- ② Enter tour group number  
When entering the running of tour group, LCD will display:

5.0 Input Group
No.:1

Enter tour group number from the numeral key section, ranging “1-4”.

- ③ Run a tour group  
After entering the tour group number, press “[F2/OFF]” to run the tour group, LCD displaying:

Run Group
Group No.:1

- ④ Exit the running of tour group  
Press “[EXIT]” key.

### 11.Simulate DVR built-in panel controlling state

This keyboard can simulate many of the DVRs’ built-in panels and almost all the functions of the DVRs can be realized by operating the keyboard. These DVRs include HIK, HANBANG, NEATECH, DAHUA etc.

At the “simulating DVR built-in panel controlling” state, the LCD displays as below:

CH. DVR DATA_DVR
001 001

If the keyboard is not at the “simulating DVR built-in panel controlling” state, it is necessary to press [SHIFT] key to shift to this state.

#### **11.1 Select the number of the DVR mainframe**

Press [CAM] key, the number “001” will be displayed in the DATA\_ DVR area, press numeral keys to enter new number of the DVR mainframe(001~014) , the new number of the DVR mainframewill be displayed the DATA\_ DVR area.

#### **11.2 Shift controlling channels**

There are 4 optional controlling channels with the keyboard. If you want to control the DVR mainframes on another channel, you need to shift to the corresponding channel, the details of the operation is as below:

Press “MON” key, the number “001” will be displayed in the DATA\_ DVR area, press numeral keys to enter new channel number(001~004), the new channel number will be displayed in the “CH” area.