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1. Keyboard introduction

Intelligent network keyboard is designed to directly control high speed / low speed dome camera, PTZ camera, standalone DVR and matrix switcher.

1.1 Keyboard main features

3-Axis joystick, position exactly

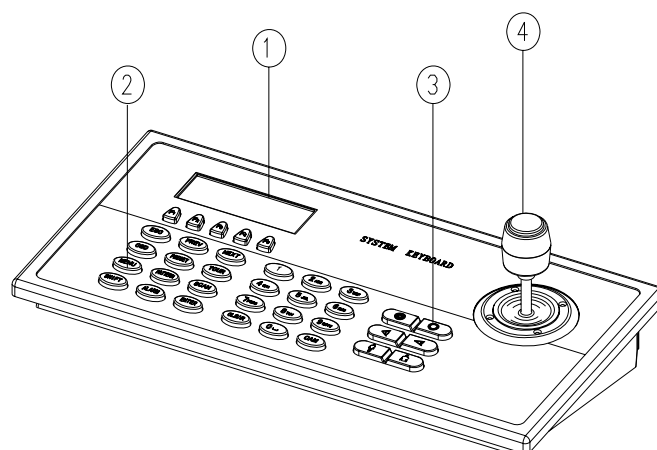
Meticulous LCD, operate help information plentiful and real-time

Two wires of RS-485 port can control multi-domes.

Silica gel keystroke back light subarea display, durable for using.

Support self-inspection of joystick/keyboard/LCD/port

1.2 Keyboard layout



【figure 1-1 keyboard layout】

①LCD

②Main board

Orange Backlight

【0】 ... 【9】: Figure

【F1】 ... 【F5】: Shortcut button

【CANCEL】: Cancel

【ENTER】: Confirmation key

【PREV】: Switch to last dome; move the cursor upward on menu

【NEXT】: Switch to next dome; move the cursor downward on menu

【PRESET】: Function key for preset position

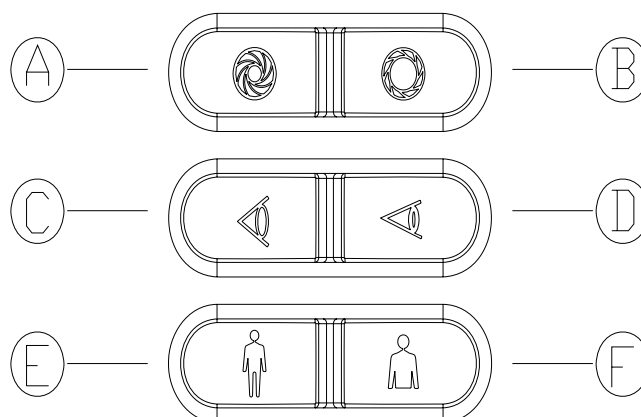
【LOCK】: Lock

【SITE】: Choose a device

【MACRO】: Macro function key

- 【ALARM】:** Disalarm function key
- 【ARM】:** Arm/Disarm function key
- 【PGM】:** Program key
- 【SHIFT】:** Combination key
- 【MON】:** Monitor switching key
- 【CAM】:** Camera switching key

③ Lens control key



- A: Iris close B: Iris open
- C: Focus near D: Focus far
- E: Zoom out F: Zoom in

④ Three-dimensional Joystick

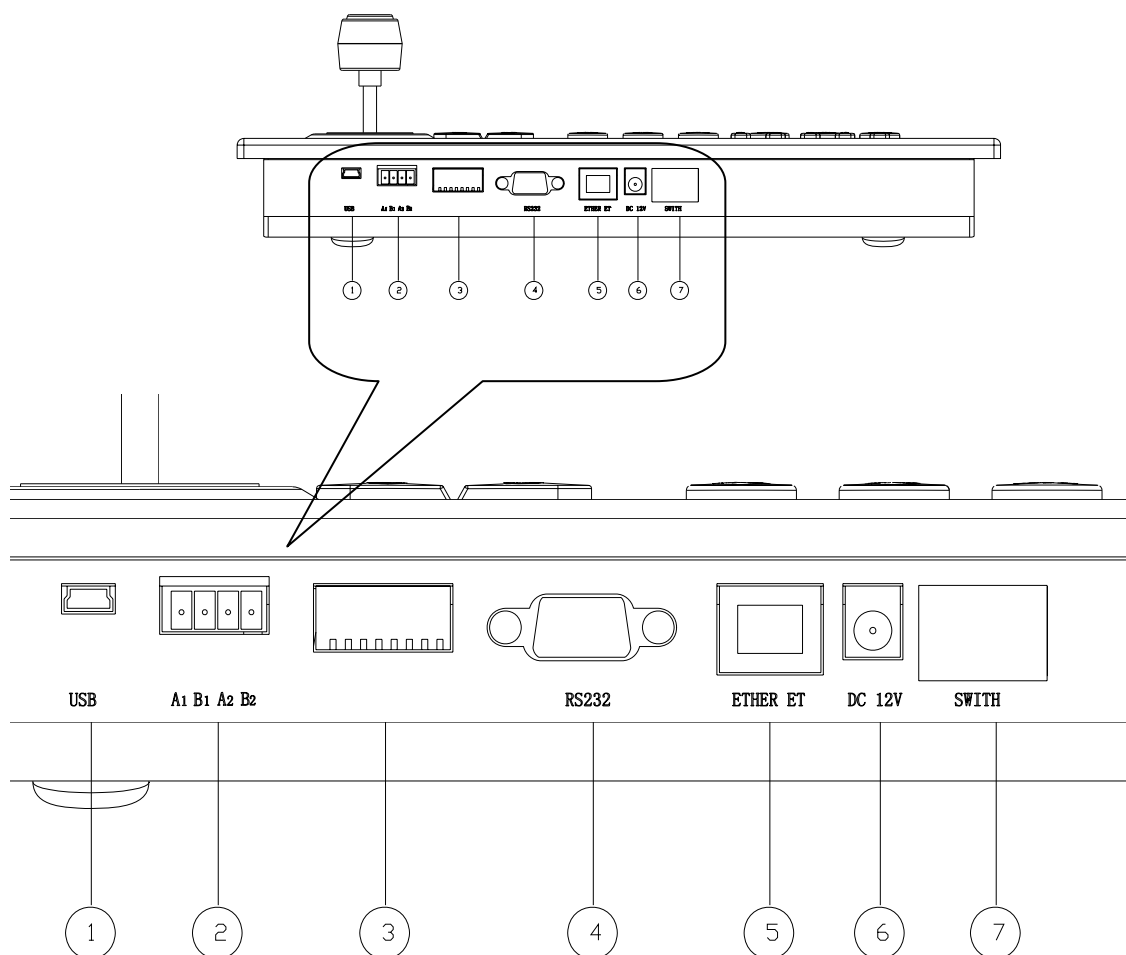
【figure 1-2 Lens control keys】

1.3 Technical data

- operating temperature: -10℃~50℃
- operating humidity: <90%
- operating voltage: DC12V
- power consumption: 5W
- Ethernet port: 10Base-T UDP
- dimensions (mm): 345×175×98 (length × width× height)

2. Keyboard installation

2.1 The back view



【figure 2-1 keyboard back panel】

- ① MINI USB: Program upgrade USB
- ② RS-485: Two lines of RS-485 control, for connecting PTZ and DVR
- ③ Dip switch: Reserved for further use
- ④ RS-232: Reserved for further use
- ⑤ Network connection: for connecting matrix switcher
- ⑥ Power input: DC12V/1000mA
- ⑦ Power switch

2.2 Installation

2.2.1 PTZ Control

Connect RS-485 port on the keyboard with RS-485 port on camera. (two equipment A/B/G separately connect) , connect and power on keyboard. In log-in menu, select direct control, input keyboard ID and password, and it's done. Before log-in, user needs to add direct control device to keyboard in keyboard setting menu, .

Quick guidance:

1. Enter keyboard setting menu, input keyboard ID and password , defaultpassword“000000”, add direct control device to keyboard and also set the correct protocol and baud rate.
2. In log-in menu, select direct control and input keyboard ID (default 1) and password (default 000000) to enter direct control window.
3. In direct control window, input camera ID, press **【CAM】** to confirm or change the current ID.
4. Use joystick and lens control keys to control the up, down, left, right and zoom of speed dome camera.

2.2.3 Standalone DVR Control

Intelligent keyboard controller can control popular standalone DVR. Connect DVR to RS-485port on keyboard. Power on keyboard and switch on it. After keyboard screen displays log-in menu, select DVR device, input keyboard ID and password. Before log-in, user needs to add DVR to keyboard through keyboard setting menu. Also user needs to set the keyboard ID for controlling DVR in keyboard setting menu.

Quick guidance:

1. Enter keyboard setting menu, in keyboard attribute, add DVR to keyboard, set keyboard ID for controlling DVR.
2. Enter keyboard log-in menu, select DVR ID number, input keyboard ID(default 1) and password (default 000000)to enter DVR control menu.
3. In DVR control menu, user can control DVR. Press **【Iris Off】** to switch to PTZ control mode. In PTZ control mode, user can control PTZ camera. Press **【CANCEL】** to go back to DVR control mode.

3. Keyboard Setting

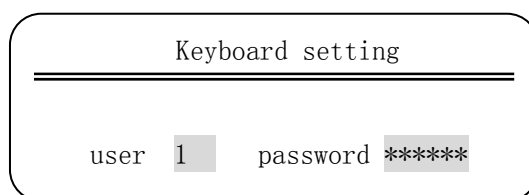
3.1 General Introduction

If this is the first time that you use intelligent keyboard controller, please read this chapter carefully. This chapter will guide you to set the network attribute, control device attribute, hardware function and complete hardware testing.

The soft keys on keyboard screen corresponds with shortcut key buttons on keyboard **【F1】** ~ **【F5】**. Press shortcut button to use soft key function. < > represents soft key in this manual.

3.2 Keyboard Setting log-in

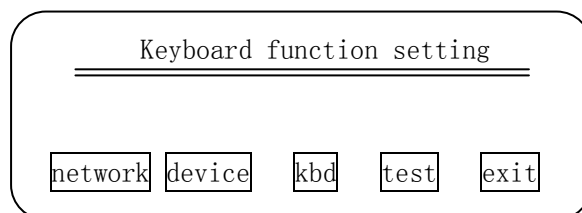
Power on keyboard while holding **【PGM】**, keyboard will enter its setting window. Input user ID and password to log in. This keyboard support 4 user ID (user ID are 1、2、3、4), password is six digits, default password000000.



【figure 3-1 keyboard setting log-in】

3.3 Keyboard Setting

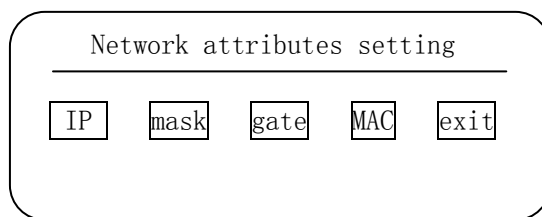
In keyboard setting window, user can modify network parameters such as keyboard IP address and subnet mask code, as well as relevant attributes of control device, adjust backlight and key tone, test key buttons and joystick.



【figure 3-2 keyboard function setting】

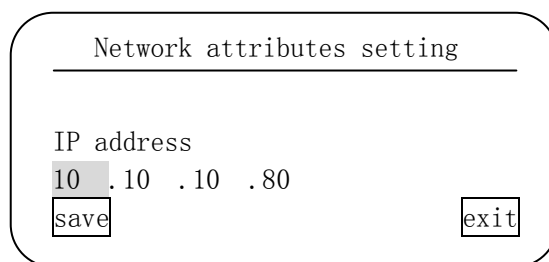
3.3.1 Network Attributes Setting

Press soft key <network> to enter network attributes setting. Set keyboard IP address, subnet mask code, network gate and MAC address.



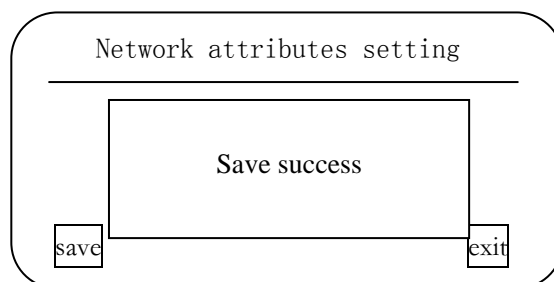
【figure 3-3 keyboard network attributes setting】

Press corresponding soft key to enter modification. Input numbers to change 按 values. Press【PREV】to move forward, press【NEXT】、【ENTER】to move backward. Press <exit> to return.



【figure 3-4 set keyboard network attributes】

After modification, press<save>, keyboard pops up a hint. Press 【ENTER】 <exit>to return.



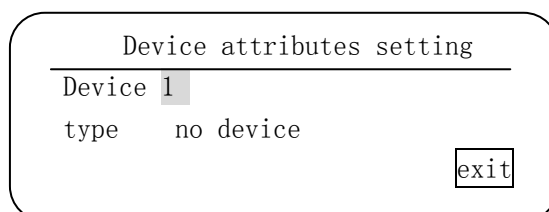
【figure 3-5 save keyboard network attributes】

3.3.2 Device Attributes Setting

In keyboard function setting menu (see figure 3-2), press<device> to enter device attributes setting.

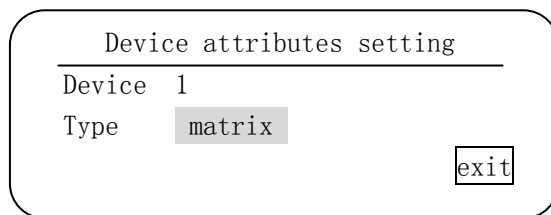
Each keyboard supports 10 devices at the maximum (device ID is 1-10) . Devices are divided into four types:“no device”、 “matrix”、 “direct control”、 “DVR”.

Input ID number in Device, press 【ENTER】 to confirm.



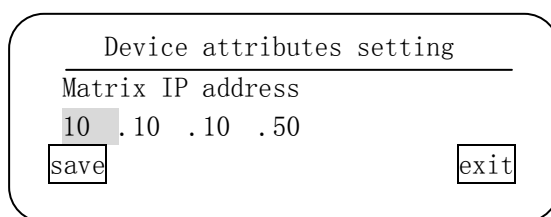
【figure 3-6 Device attributes setting】

In type selection box, press **【PREV】**、**【NEXT】** to select control devices, press **【ENTER】** to confirm, then it enters the device attribute setting menu for the selected device.



【figure 3-7 select device type】

After select matrix, it enters matrix attribute setting menu. Set matrix IP address, and press <save> to save setting.

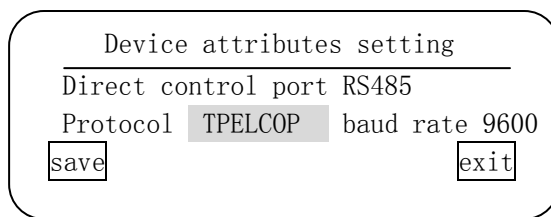


【figure 3-8 set matrix network attribute】

After select direct control, it enters pan/tilt attribute setting menu.需要 Set communication protocol and baud rate. Press **【PREV】**、**【NEXT】** to select communication protocol and baud rate. Press **【ENTER】** to move cursor to baud rate selection box. Press **【CANCEL】** to move cursor to communication protocol selection box. Press <save> to save settings.

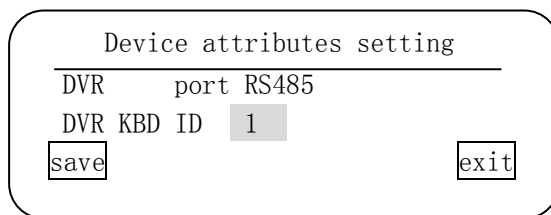
Communication protocol for selection: TPELCOP (relates to PelcoP)、TPELCOD (relates to PelcoD) .

Baud rate for selection: 2400bps、4800bps、9600bps、19200bps.



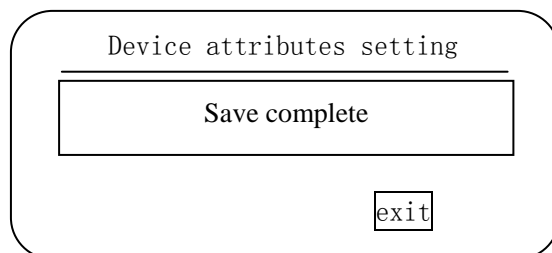
【figure 3-9 set pan/tilt direct control attribute】

After select DVR, it enters DVR attributes setting menu. Set an keyboard ID for controlling DVR (range 1-16) . Press <save> to save settings.



【figure 3-10 set DVR keyboard ID】

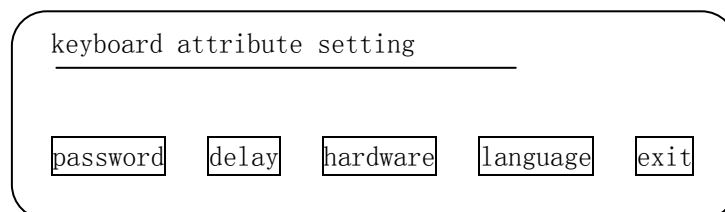
After select “no device”, press **【ENTER】** to confirm. After saving setting, the current ID is set to be occupied by no device.



【figure 3-11 device type set to be “no device”】

3.3.3 Keyboard Attributes Setting

In keyboard function setting menu (see figure 3-2), press <keyboard> to enter keyboard attribute setting menu.

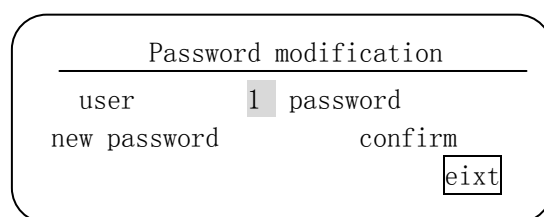


【figure 3-12 keyboard attribute setting】

Modify user password

Press<password> to enter keyboard user password modification menu.

Input user ID (keyboard supports 4 user ID, range 1-4), press **【ENTER】** to 键将 move cursor to password input box. Input original password, after verification, input new password twice.



【figure 3-13 Password modification】

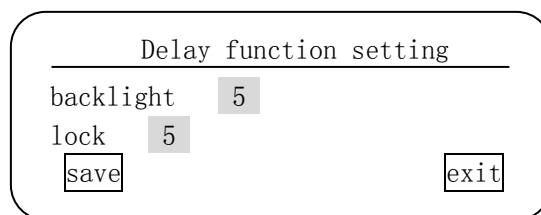
Backlight delay, lock delay

Press soft key <delay> to enter.

Backlight delay: delay time 1-60 minutes, set 0 to remain on.

Lock delay: keyboard will be locked after a period if no operation is executed. Delay time 1-60 minutes, set 0 to remain unlocked. No password is needed to unlock the keyboard.

Press <save> to save settings.



【figure 3-14 Delay function setting】

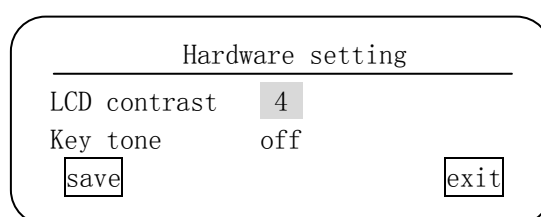
LCD contras, key tone

Press <hardware> to enter hardware setting menu.

Keyboard LCD contrast range 1-7.

Key tone can be turned on or off by pressing 【NEXT】、【PREV】.

Press <save> to save settings.



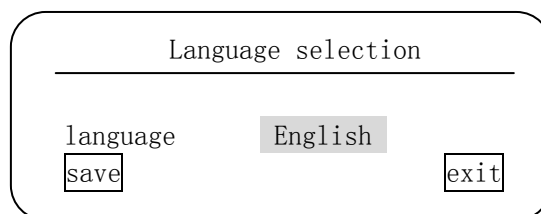
【figure 3-15 keyboard hardware setting】

Language Selection

Press <language> to enter language selection menu.

Keyboard support two languages: Chinese and English, press 【NEXT】、【PREV】 to choose language.

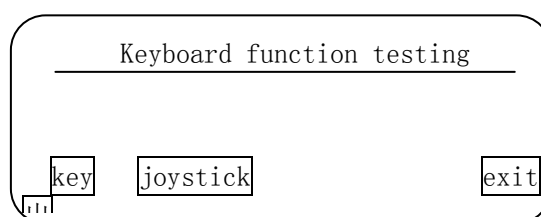
Press <save> to save settings.



【figure 3-16 Language selection】

3.3.4 Keyboard Testing Function

In keyboard function setting menu (see figure 3-2), press<test> to enter keyboard function testing menu.

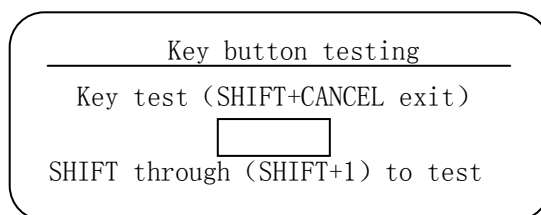


【figure 3-17 keyboard function testing】

Key button testing

Press <key> to enter key button testing menu.

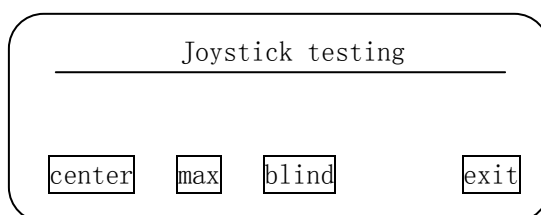
In key button testing menu, press key buttons on keyboard, the corresponding 在 name will be shown in the box. This is to test the function of key buttons.



【figure 3-18 keyboard testing】

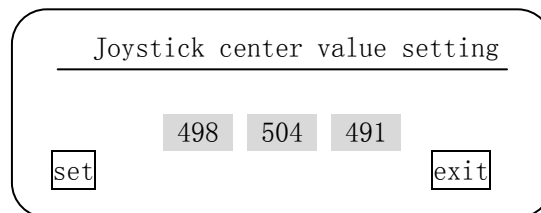
Joystick Calibration

Press <joystick> to enter joystick testing menu.



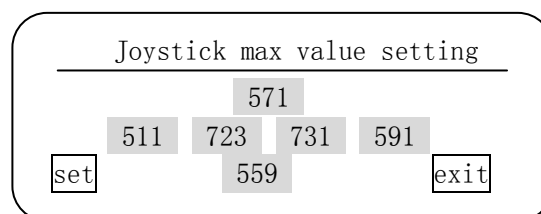
【figure 3-19 joystick testing】

Center value: enter joystick center value setting menu, release joystick to let it resume to center position, press <set> to set the center value.



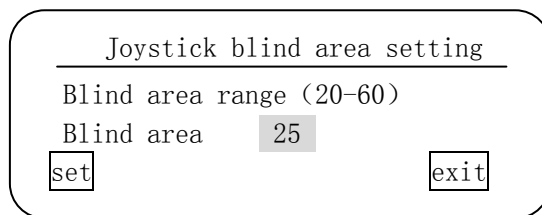
【figure 3-20 Joystick center value setting】

Max value: Enter max value setting menu, move joystick up, down, left and right to its maximum on after another, meanwhile, press <set> to set the max value for this direction.



【figure 3-21 Joystick max value setting】

Blind area: Enter joystick blind area setting menu, input blind area value range (20-60) . Default blind area is suggested to be around 25. As time go on, accuracy of components will change, user may increase blind area accordingly.

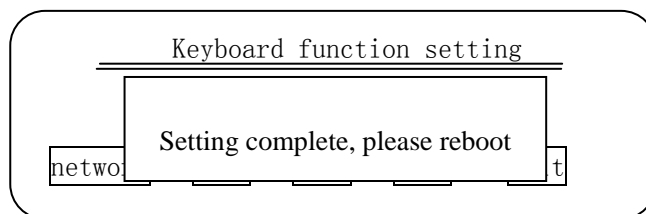


【figure 3-22 Joystick blind area setting】

Please make sure to calibrate the center value before setting max values. Otherwise, the max value will not be correct.

3.3.5 Setting complete

After the completion of keyboard function setting, user needs to reboot the keyboard.

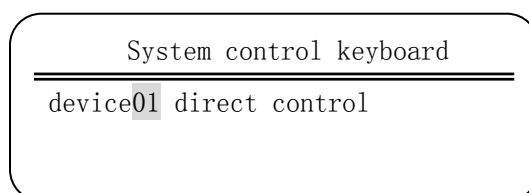


【figure 3-23 keyboard reboot】

4. Direct Control

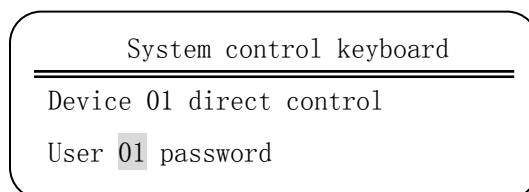
In order to control RS-485 PTZ, user needs to add direct control device in keyboard setting menu—device attributes, and set the correct communication protocol and baud rate.

4.1 Direct control Log-in



【figure 5-1 keyboard log-in device menu】

After power on, it displays log-in menu. Input device ID, press **【ENTER】** to enter the following menu:

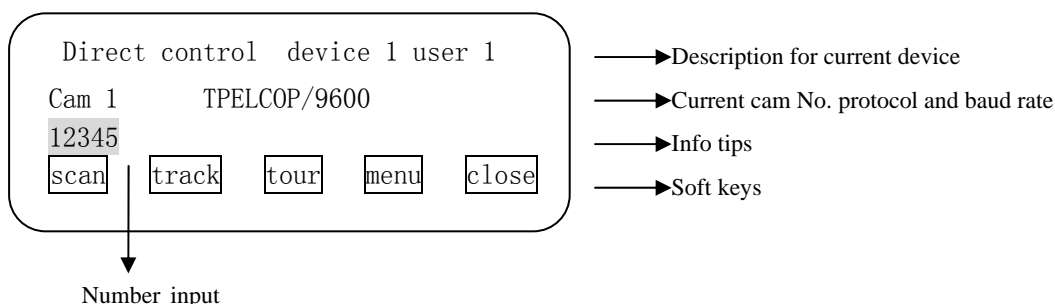


【figure 5-2 keyboard log-in to direct control】

Input keyboard ID, press **【ENTER】**, input correct password and press enter to 输 enter direct control menu.

note: default keyboard password: 000000.

4.2 Direct control menu



【figure 5-3 direct control menu】

4.3 switch camera

Keyboard supports three ways of switching. (camera address range 1-256):

- 1、 Input camera ID, press **【CAM】**
- 2、 Input camera ID, press **【ENTER】**

- 3、 press **【PREV】** / **【NEXT】** to switch back and forth.

4.4 Direct Cam Control

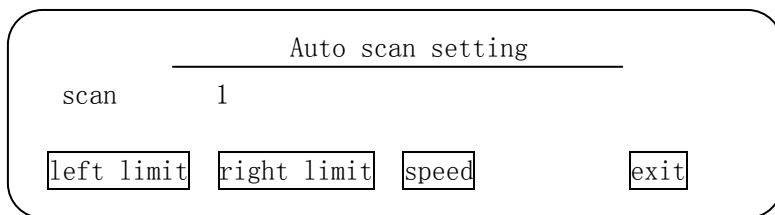
Intelligent keyboard controller is able to execute the main functions of speed dome/ PTZ receiver.

- 1、 PTZ control: move joystick up and down, left and right, to control the movements of pan/tilt. Speed is divided into 0~63 steps, LCD screen will display the value of movements. Use the lens keys to control zoom, focus and zoom.
- 2、 Preset operation: select camera ID, press any number, and press **【PRESET】** to call the preset position, preset number range 1~255. press any number and press **【SHIFT】** + **【PRESET】** to edit the preset position.

Aux switch: open/close the aux switch of the PTZ receiver, each receiver supports 8 aux switch, needs special protocol.

Stop: press any number, press **【SHIFT】** +<shut>.

- 3、 Auto scan operation: press any number, press <scan> to call it. Total 8 auto scan (number 1-8) . Press <scan> to enter auto scan settings.



【figure 5-4 Auto scan setting】

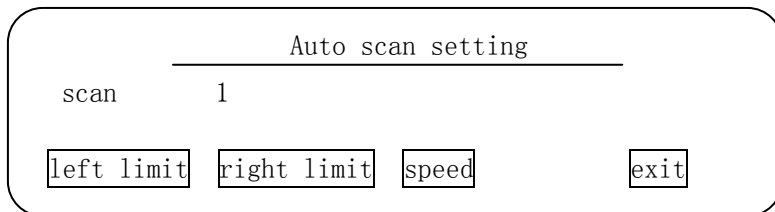
Modify auto scan NO.: press number, and press **【ENTER】**

Set left limit: move speed dome to the position, press <left limit>

Set right limit: move speed dome to the position, press <right limit>

Set scan speed: press number, press <speed> (range 1-30) .

- 4、 Auto Scan Operation: Press number buttons first, and then<Scan> button to call. 8 pcs of auto scan (Series number 1-8) are supported, and press <Scan> button to enter the auto scan setup menu.



【Fig 5-4 Auto Scan Setup】

Change auto scan series number: Press number button first, and then **【ENTER】**。

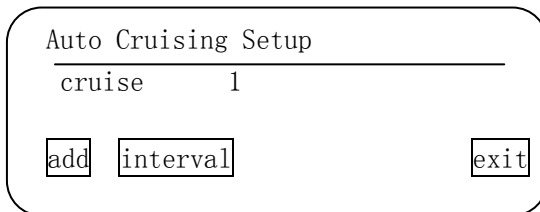
Set auto scan left boundary: Move the joy stick to control speed dome to the position, and press <left boundary> button。

Set auto scan right boundary: Move the joy stick to control speed dome to the

position, and press <right boundary> button.

Set auto scan speed: Press number button first, and then <Speed> button (Value 1-30).

- 5、 Auto cruising operation: press number first, and then <Cruising> button to call. 8 cruising (Series Number 1-8) are supported. Press <Cruising> button to enter auto cruising setup menu.

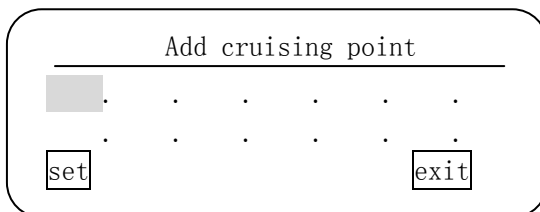


【Fig 5-5 Auto Cruising Setup】

Change auto Cruising number: Press number button and then **【ENTER】** button.

Set cruising point interval: Press number button, and then <Interval> button (Value 1-60).

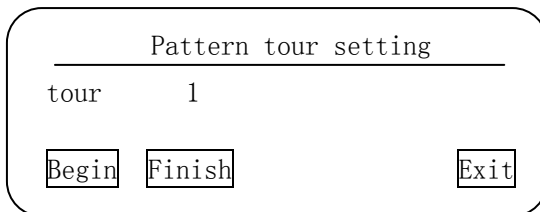
Add cruising point: Press <Add> button to enter the cruising point add menu.



【Fig 5-6 Add Cruising point】

In the cruising point menu, input preset point number for each cruising point by sequence (Number 1-255). Press **【NEXT】/【ENTER】** button to move the arrow focus to next cruising point, and press **【PREV】** to move the arrow to the previous cruising point. Press <Setup> button after setting all the cruising points, and the sequence information will be save in the speed dome camera.

- 6、 Pattern Tour Operation: First press number key then press <tour> can be call. It supports 8 tracks pattern tour. Push <tour> to the setting screen of pattern tour.



【5-7 Pattern tour setting】

Change the number of pattern tour: First press number key then press **【ENTER】**

Setup pattern tour: press <start> enable pattern tour record then operate joystick in order to let speed dome work with excepting tour that can be

memorized automatically. After finish setting, please release joystick and press < finish > close setting of pattern tour.

7、 Open OSD Menu Operation:

Press <Menu> to open speed dome setup menu

8、 Re-log Operation:

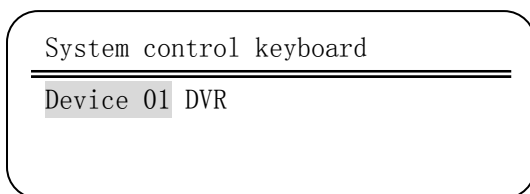
Press **【SHIFT】 + 【CANCEL】** to exit main interface of camera direct control.

Note: Auto scan, auto cruising, pattern tour, and open OSD menu need special protocol support.

5. Standalone DVR Control

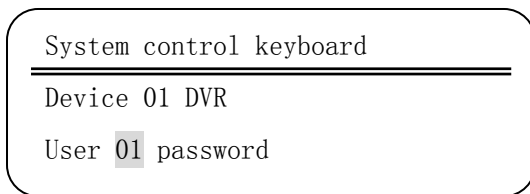
In order to control standalone DVR, user needs to add DVR to keyboard through setting menu, and register a keyboard ID for controlling DVR. Connect power to the keyboard, press **【PGM】**, and switch on the keyboard while holding **【PGM】**, the keyboard will log into setting menu. In the setting menu, add the DVR ID into the keyboard and set a keyboard ID for controlling DVR. After the completion of above settings, please shut down the keyboard and power on again. After logging in, choose device 3 to enter DVR control mode. In the DVR control mode, please press **【SITE】**, and input the DVR ID. After that, user will be able to control DVR through keyboard. (for the functions of DVR, please refer to DVR user's manual) .

5.1 log onto DVR



【Picture 6-1 log onto DVR】

Power on the keyboard, input ID and password in log-in window, press **【ENTER】** to enter the following window:

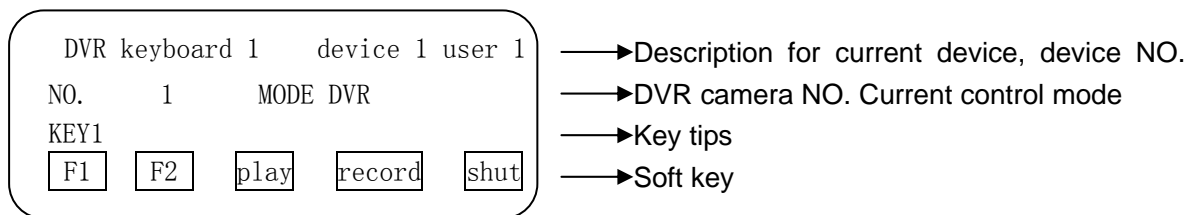


【Picture 6-2 keyboard log-in DVR window】

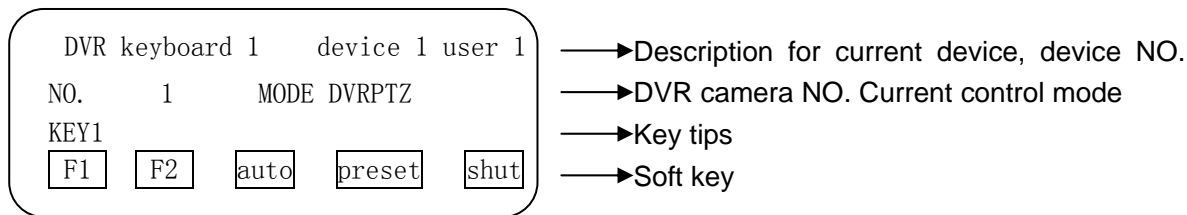
Input keyboard user ID and press **【ENTER】**, then input password and press **【ENTER】** to enter DVR control window.

Note: Default in-factory password for keyboard is 000000.

5.2 DVR Control Window



【Picture 6-3 DVR control mode window】



【Picture 6-4 Pan/Tilt control mode window】

5.2.1 DVR Control

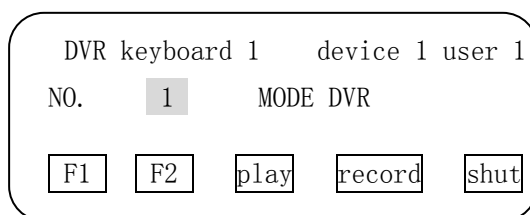
After keyboard logging into DVR, it enters DVR control mode (it displays MODE DVR), and is able to set and control DVR menu and functions. Under DVR control mode, press **【iris off】**, it will switch to pan/tilt control mode. Input password (password for logging into keyboard) and press **【ENTER】** to enter pan/tilt control mode (it displays MODE DVRPTZ) . Under pan/tilt control mode, keyboard is able to control PTZ movements. Press **【CANCEL】** to go back to DVR control mode.

Function description for keys on keyboard: Function keys on keyboard that are related to DVR control are basically the same with those on DVR front panel, some keys are soft keys.

- 【0】 ~ 【9】:** Number keys
- 【F1】:** Lighting control key
- 【F2】:** aux device control key
- 【F3】** DVR mode: <play>key; pan/tilt control mode: <auto>key
- 【F4】** DVR mode: <record>key; pan/tilt control mode: <preset>key
- 【F5】** shut down
- 【CANCEL】:** cancel
- 【ENTER】:** confirm
- 【PREV】:** multi-screen key: 1、 switch to multi-screen in preview window; 2、 switch from menu mode to preview window
- 【NEXT】:** Undefined
- 【PRESET】:** DVR mode: <record>key; pan/tilt control mode: <preset>key
- 【LOCK】:** Lock/unlock
- 【SITE】:** DVR device selection key, able to control multi DVRs
- 【MACRO】:** Undefined
- 【ALARM】:** Undefined
- 【ARM】:** Undefined
- 【PGM】:** Menu key
- 【SHIFT】:** Combination key
- 【MON】:** Undefined
- 【CAM】:** Undefined
- 【zoom in】 :** DVR mode: system information key; pan/tilt control mode: Zoom in
- 【zoom out】 :** DVR mode: talk key; pan/tilt control mode: Zoom out
- 【focus in】 :** DVR mode: input method key; pan/tilt control mode: Focus in
- 【focus out】 :** DVR mode: multi-screen key; pan/tilt control mode: Focus out
- 【iris on】 :**DVR mode: edit key; pan/tilt control mode: Lens iris on
- 【iris off】 :**DVR mode: pan/tilt control key; pan/tilt control mode: Lens iris off

5.2.2 DVR Device Switching:

Under DVR control mode, press **【SITE】** , NO. box background turns black, then input 可以 DVR number ID that you want to switch to(range 1~16),press**【ENTER】**to confirm.



【Picture 6-5 DVR switching window】

5.2.3 Exit DVR Control Mode:

Press **【SHIFT】+【CANCEL】** to exit DVR control mode and return to log-in window.