KEYBOARD CONTROLLER

OPERATION INSTRUCTION

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Precautions:

1. Installation Site

Keep away from heat source and high temperature environment. Avoiding exposing to direct sunlight.

Don't install the machine at site with poor ventilation, ensuring proper radiation.

Don't site the machine where is inflammable and explosive, preventing from electric shock and fire.

Avoid violent impaction and vibration. Don't install the machine at site with tough quake. Don't move it where it is too cold and too hot in case of dewing inside and service life shorten.

2. Avoiding Electric Shock and Fire

Don't touch power switch and the machine with wet hands.

Don't spray liquid on the machine, protecting the machine from short circuit and fire.

Don't put other equipment directly on the top of the machine.

Important Notes :

Don't remove the enclosure without authorization in case the machine is damaged. Maintenance shall be done by qualified technical personnel at authorized maintenance site.

Don't use strong detergent to clean the machine. Use dry cloth if there is dust.

Don't run the machine as the voltage of power supple is too high or too low.

Read carefully the operation instruction before operation, making sure that you understand how to operate the machine. Keep the operation instruction properly for future reference. Please contact the local authorized maintenance station if maintenance is needed.

Environment Protection :

The machine meets national standard for electromagnetic radiation and does no harm to human body.

Statements:

The publication and distribution of the product should be used by the original buyer under the terms of license;
No individual or organization shall partly or entirely copy, reproduce or translate the product into other types of machine-readable electronic media without previous authorization;
The operation instruction may be revised without previous notification;
It is the software that shall be followed in case it doesn't corresponds with the operation instruction because of software upgrade.

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KEYBOARD CONTROLLER

Overview of the Equipment

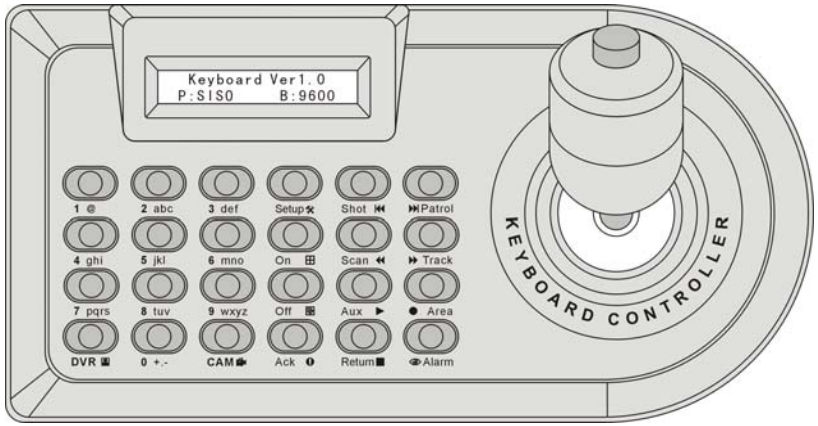
The keyboard controller is designed to control and operate the intelligent camera and digital video recorder. It has multiple built-in intelligent camera control protocols such as SISO, PELCO-D, PELCO-P, EREN, SAMSUNG, PANASONIC and KALATEL, as well as the digital video recorder control protocols such as HIKVISON, DAHUA and DALI. The controller adopts RS485 communication way and five baud rates are available.

The keyboard controller could control and operate the cradle head, lens, pre-position, patrol queue, trace scanning and menu setting. The unique one-bar control could flexibly control the actions of cradle head and lens.

The keyboard controller could control the operations of multi-picture monitoring, video recording, playing, playing forward, playing backward, information displaying and menu setting.

The LCD of keyboard controller could display the camera number, digital video recorder number and working status, it's easy to operate.

Panel View of Keyboard Controller:



Functional Description of Keys:

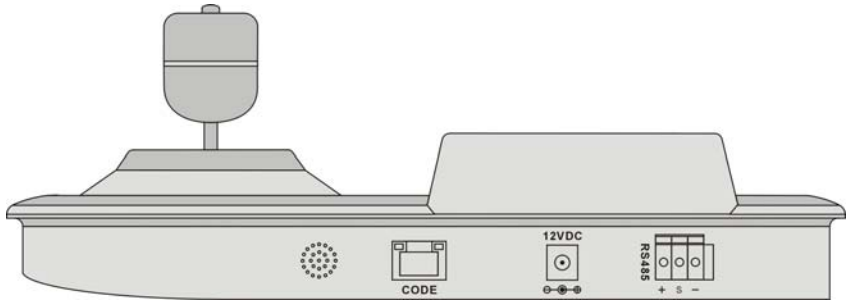
Key	Function	Key	Function
【DVR】	Select video recorder	【CAM】	Select video recorder

【Setup】	Programming of menu	【Ack】	Confirmation of functions
【On】	Enable functions	【Off】	Disable function
【Shot】	Call preset point	【Patrol】	Image patrol
【Track】	Scanning of tracks	【Area】	Scanning of areas
【Scan】	Scanning of images	【Aux】	Auxiliary functions
【Return】	Return of images	【Alarm】	Contact for alarm
【 ⏮ 】	Head of passage	【 ◀◀ 】	Skid backward
【 ⏭ 】	End of passage	【 ▶▶ 】	Fast forward
【 ⏯ 】	Play, pause	【 ■ 】	Stop
【 ● 】	Recording	【 ◉ 】	Monitoring
【 ⊞ 】	Multiple screens	【 ⊞ 】	Browsing
【 ⓘ 】	Information	【0】-【9】	Input digits

Functional Description of Vector Rocker:

The vector rocker can control direction of tripod and aperture, focus and zoom of lens and in the setting of menu, it can control movement of the cursor and confirm and cancel optional items. The button on the top of the rocker is a multi-functional smart key.

Rear View of Keyboard Controller:



Description of Interfaces:

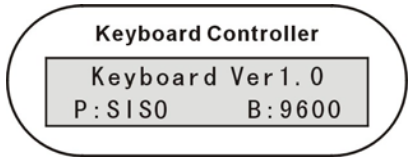
12VDC—Power input port of keyboard

RS485-Communication interface of keyboard

CODE-Integrated interface of keyboard(Including power input port and RS485 communication interface of the keyboard)

Start Running:

Supply power to the keyboard with a DC 12V power source and connect RS485 communication interface to the communication interface of the equipment to be controlled.



After power is connected, information such as version number of software, control protocol and bandrate will be displayed on the keyboard and soon after display of the information, the keyboard will enter normal state of operation.

Press number key of 【 0 】for long to reset numbers. The keyboard will reset automatically for number exceeding 4 digits and display newly input number again.

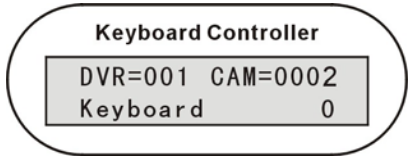
Part I Control of Camera

Note:

1. Corresponding control protocol, bandrate and serial number of the keyboard shall be set in advance for the camera to be controlled by the keyboard. Please refer to relevant part in the Setting of Keyboard for specific setting.
2. Some of the following operational functions shall be supported by corresponding functions of camera, subject to the type of camera!

1.1 Select Camera

Input number of the camera required for selection in the number key area and press 【CAM】key on the keyboard.



E.g. Select No.2 camera.

1. Press number key of 【 2 】;
2. Press 【CAM】key.

1.2 Control Direction of Camera

Control direction of the camera by the vector rocker on the keyboard according to the following steps:

1. Operate the vector rocker to the direction that the image will be moved towards to control the direction of the

camera;

2. Loosen the vector rocker to stop directional operation of the camera.

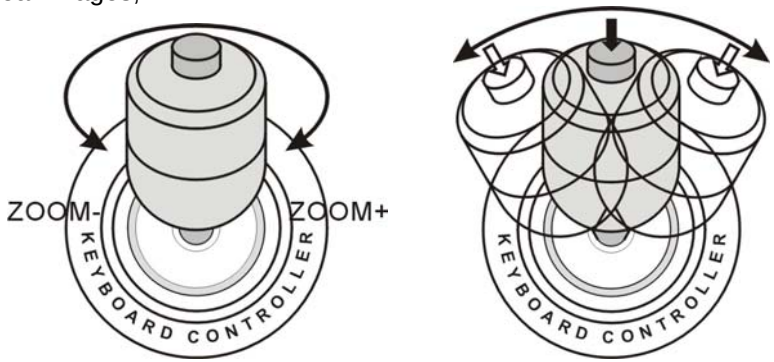
The degree of deviation of the vector rocker from the center is in positive proportion to motion speed of the smart camera, namely the greater angle that vector rocker deviates from the center, the faster motion speed of the smart camera will be.

1.3 Control Lens of the Camera

Zooming function of lens of the camera can be controlled by rotating the vector rocker, by which zooming times of lens can be changed to acquire wide-angle(far from object) or close-up screen(close to object);

Press smart key on the top of the vector rocker without loosening and move the vector rocker rightward and leftward to control IRIS function of lens of the camera, by which light amount of lens can be changed to acquire images of proper brightness.

Press smart key on the vector rocker without loosening and move the vector rocker upward and downward to control focusing function of lens of the camera, by which focus of lens can be changed to acquire clear images;



Loosen the vector rocker and loosen smart key to stop operation of lens of the camera.

1.4 Operation for Preset Position

1.4.1 Set Preset Position

Select a camera, adjust the image properly, input a self-defined serial number of the preset position, press【Shot】key and press smart key without loosening, then press【On】key and loosen smart key at last. Adjust the image properly and set the next preset position.

1.4.2 Call Preset Position

Input number of the preset image needs calling in the number area, press【Shot】key, and press【Ack】key. If this preset image has not been set in advance, there will be no change for the image on the monitor.

1.4.3 Clear Preset Position

Select a camera, input serial number of the preset position, press【Shot】key and press smart key without loosening, then press【Off】key and loosen smart key finally.

1.5 Image Return

Select a camera and press【Return】to return the current image to the previous image on the smart camera.

1.6 Automatic Patrol

1.6.1 Set pPatrol Queue

The preset position of the camera shall be set in advance before it can be used in the patrol queue.

1. Input number of the patrol queue in the number area, press【Patrol】key and press【On】key to start setting patrol queue;
2. Input number of the preset screen in the number area, press【Shoot】key to add the first preset position in the patrol queue;
3. Input number of preset screen in the number area, press【Shoot】key to add the second preset position in the patrol queue;

   ……
4. Input number of preset screen in the number area, press【Shoot】key to add the last preset position in the patrol queue;
5. Press【Off】key to finish setting patrol queue.

1.6.2 Call Patrol Queue

Input number of the patrol queue needs running in the number area, press【Patrol】key, then press【Ack】key and the camera starts running the image of the patrol queue formulated in advance. There will be no change for the image if this patrol queue has not been set in advance.

1.7 Track Scanning

1.7.1 Setting Track Scanning

1. Input number for track scanning in the number area, press 【Track】key and press 【On】key to start setting track scanning;
2. Operate the vector rocker and move the camera toward the anticipated direction, or control zooming function of lens of the camera to adjust size of the image;
3. Press【Off】key to finish setting track scanning.

1.7.2 Call Track Scanning

Input number for track scanning needs running in the number area, press 【Track】key, then press 【Ack】key and camera start running image for track scanning formulated in advance. There will be no change for the image if this scanning of tracks has not been set in advance.

1.8 Regional Scanning

1.8.1 Setting Regional Scanning

1. Input number of regional scanning in the number area and press 【Area】key;
2. Operate the vector rocker and adjust the initial image on the camera for regional scanning properly, then press 【On】key to confirm the initial position for regional scanning;
3. Operate the vector rocker and adjust the final image on the camera for regional scanning properly;
4. Press 【Off】key to confirm final position for regional scanning;

1.8.2 Calling Regional Scanning

Input number for regional scanning needs running in the number area, press 【Area】key and press 【Ack】key and the camera start running the image for regional scanning formulated in advance. There will be no change for the image if this regional scanning has not been set in advance.

1.9 Automatic Scanning on Tripod

Start automatic scanning: Select a camera, press【Scan】key, then press【On】key or press【 0 】key, then press 【 Aux 】key and press 【 On 】key finally.

Stop automatic scanning: Select a camera, press【Scan】key, then press【Off】key or press【 0 】key, then press 【 Aux 】key and press 【 Off 】key finally.

1.10 Auxiliary Operational Function

Turn on the switch for auxiliary function: Select the camera to be controlled, first press number keys to input number for auxiliary functions, then press【Aux】key and press【On】key finally.

Turn off the switch for auxiliary function: Select the camera to be controlled, first press number key to input number for auxiliary functions, then press【Aux】key and press【Off】key finally.

Auxiliary functions and auxiliary functions commonly used for decoder: 1.Common auxiliary switch, 2. Control of windshield wiper, 3. Control of light 4. Control of temperature

1.11 Menu Setting of Smart Camera

Select number of the camera to be set and press【CAM】key to confirm. Press smart key without loosening, then press【Setup】key to enter menu for setting of smart camera, or press【 0 】key, then press 【 Shot】key and press 【 Ack 】key finally to enter menu for setting of smart camera.

In the menu of smart camera:

1. Operate the vector rocker on the panel and move the cursor on the menu upward, downward, leftward and rightward;
2. Rotate the vector rocker clockwise and counter-clockwise to confirm or cancel selected functions;
3. Operate the vector rocker upward or downward to input data on the menu.

Part II Control of Digital Video Recorder

Note:

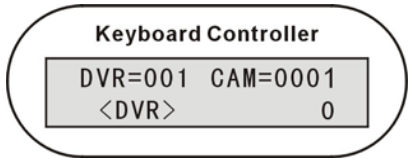
1. Corresponding control protocol, bandrate and serial number of the keyboard shall be set in advance for the digital video recorder to be controlled by the keyboard. Please refer to relevant part in the Setting of Keyboard for specific setting.
2. Some of the following operational functions shall be supported by corresponding functions of digital video recorder, subject to the type of digital video recorder!

2.1 Select Digital Video Recorder

Press number keys to input serial number of digital video recorder and press【DVR】key.

At this time, “DVR” will be displayed on the status area of LCD screen

of the keyboard, which indicates that the keyboard is in the control state of digital video recorder.



2.2 Monitoring of Images

Press 【 】 key on the keyboard to return from playing and video recording state of digital video recorder to normal monitoring state of images.

2.3 Monitoring of Multiple Screens

Input quality of screens and press 【 】 key on the keyboard to control screen of digital video recorder to be displayed as per corresponding screen formats.

E.g. Display of screen 9 of digital video recorder

1. Press number key of 【 9 】;
2. Press 【 】 key.

2.4 Browsing of Images

Press 【 】 key on the keyboard to control shifting of images on the screen of digital video recorder for monitoring and browsing purposes by the operator.

2.5 Playing and Pause of Images

Press 【 】 key on the keyboard to play recorded video information in the digital video recorder. In the course of playing video information, press 【 】 key to pause playing and press 【 】 key again to go on playing video information.

2.6 Skip Backward and Fast Forward of Images

Press 【 】 key on the keyboard to play digital video recorder fast forward; press 【 】 key on the keyboard to play digital video recorder fast backward.

2.7 Head and End of Images

Press 【 】 key on the keyboard to move digital video recorder to the starting position of video information for playing; press 【 】key on the keyboard to finish playing of current video information on the digital video recorder.

2.8 Recording of Images

Press 【 】key on the keyboard to record the selected images in the camera with digital video recorder.

2.9 Stopping Images

Press 【 】 key on the keyboard to stop playing and recording of digital video recorder.

2.10 Display of Information

Press 【 】 key on the keyboard to display or close prompt information on the screen of digital video recorder.

2.11 Menu Setting of Video Recorder

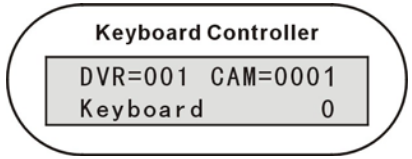
Press smart key without loosening, then press【Setup】key to enter the menu for setting of video recorder.

On the menu of video recorder:

1. Operate the vector rocker on the keyboard to move cursor of the menu upward, downward, leftward and rightward;
2. Rotate the vector rocker clockwise and counter-clockwise to confirm or cancel selected functions;
3. Press number key to input data on the menu.

2.12 Exit from Control of Digital Video Recorder

Press 【 DVR 】 key on the keyboard to display “Keyboard”on the status area of LCD screen of the keyboard, which indicates that keyboard returns to control status of camera.



Part III Setting of Keyboard

Before the keyboard is used to control camera and digital video recorder and so on, corresponding bandrate and control protocols shall be set on the menu of the keyboard for the equipment to be controlled before the equipment can be controlled properly.

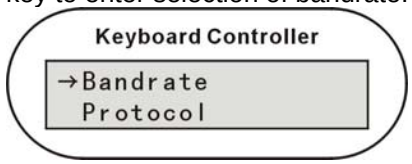
Press smart key without loosening and connect to power of the keyboard and enter menu setting status of the keyboard about 5 seconds later. Select corresponding menu items by operating the vector rocker; rotate the vector rocker rightward or press【On】 key to confirm and enter menu items; rotate the vector rocker leftward or

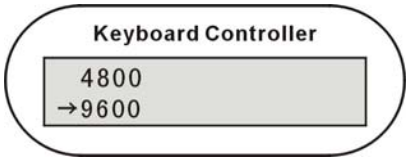
press【Off】key to cancel and exit from menu items.
Menu items of the keyboard are as follows:

1. Bandrate
2. Protocol
3. Operator
4. Setting
5. Language
6. Version
7. Exit

3.1 Setting of Bandrate

Select 〖Bandrate〗, rotate the vector rocker rightward or press【On】key to enter selection of bandrate.

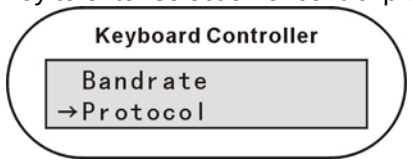


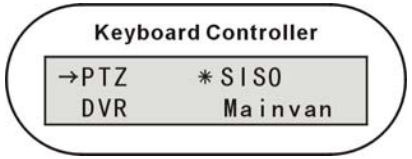


The selection of bandrate is to make sure there is equal data transmission rate between the keyboard and the equipment to be controlled. There are five optional items for bandrate:
Rotate the vector rocker rightward or press【On】key to confirm the selection ; rotate the vector rocker leftward or press【Off】key to cancel the operation and exit.

3.2 Setting of Control Protocol

Select 〖Protocol〗, rotate the vector rocker rightward or press【On】key to enter selection of control protocol.

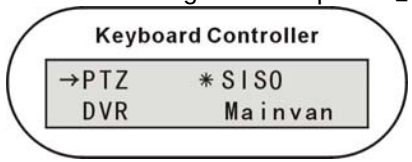


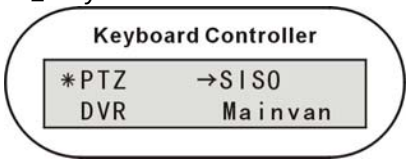


Control protocols are divided into two kinds: “PTZ and DVR”. “PTZ” is used in the monitoring system that the keyboard controls the camera and “DVR” is used in the monitoring system that the keyboard controls the digital video recorder.
Rotate the vector rocker rightward or press【On】key to confirm the selection ; rotate the vector rocker leftward or press【Off】key to cancel the operation and exit.
Note: The mark “→” indicates item to be selected and the mark “ ＊ ”indicates the selected item.

3.2.1 Setting of Protocol of Smart Camera

This item is mainly used in the monitoring system that the keyboard controls the camera. Point the cursor at the item of 〖PTZ〗, rotate the vector rocker rightward or press【On】key to confirm the selection.

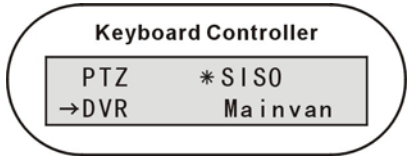


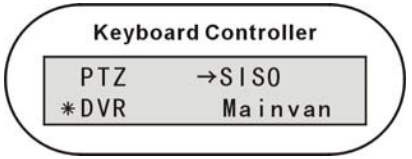


There are options of “SISO, Mainvan, PELCO-D, PELCO-P, EREN, SAMSUNG, PANASONIC and KALATEL” available for choice. Move the cursor upward or downward for selection.
Rotate the vector rocker rightward or press【On】key to confirm the selection; rotate the vector rocker leftward or press【Off】key to cancel the operation and exit.

3.2.2 Setting of Digital Video Recorder

This item is mainly used in the monitoring system that the keyboard controls the digital video recorder. Point the cursor at the item of 〖DVR〗, rotate vector rocker rightward or press【On】key to confirm the selection.

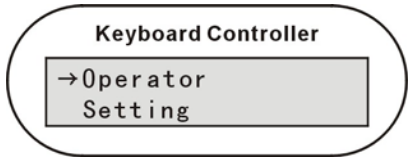




There are options of “SISO, Mainvan, HIKVISON, DAHUA and DALI” available for choice. Move the cursor upward or downward for selection.
Rotate the vector rocker rightward or press【On】key to confirm the selection ; rotate the vector rocker leftward or press【Off】key to cancel the operation and exit.

3.3 Setting of Operator

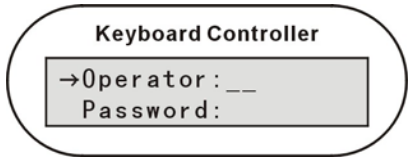
Select 〖Operator〗 and rotate vector rocker rightward or press【On】key. This function is mainly used for setting serial number of keyboard operator and setting



password of operator.

3.3.1 Setting Number of Keyboard (Select Operator)

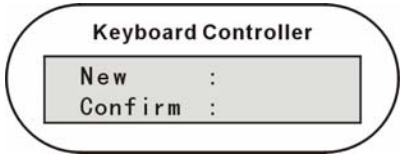
Select 〖Operator〗and the user can input serial number of keyboard from 00～15. The serial number of each keyboard shall not be the same, otherwise it will result in erroneous operations.



Select 〖Password〗 and input current password of the operator corresponding to the serial number of the keyboard. The default password is “000000”.

3.3.2 Setting Password of Operator

Select 〖New〗 and input a new password if the operator needs to modify the password. After the password is input, rotate the vector rocker or press【On】key to confirm the newly input password.

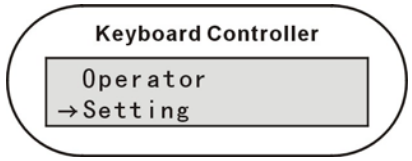


Select 〖Confirm〗and the operator inputs the new password again for confirmation. After the password is input, rotate the vector rocker or press 【On】 key to confirm the repeatedly input new password.

Rotate the vector rocker leftward or press 【Off】 key to return to the parent menu.

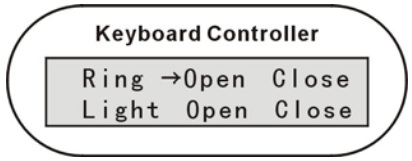
3.4 Routine Setting

Select 〖Setting〗and rotate the vector rocker rightward or press 【On】 key to enter setting of sound of keys, control of backlight and resetting of default setting.



3.4.1 Sound of Keys

Select 〖Ring〗and this function is mainly used for selection of the switch for sound of keys on the keyboard.



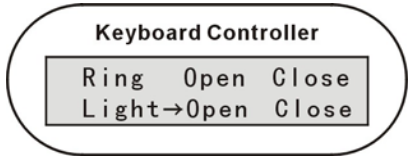
Select “Open” and rotate the vector rocker rightward or press【On】 key to enable sound of keys on the keyboard.

Select “Close” and rotate the vector rocker rightward or press【On】 key to disable sound of keys on the keyboard.

Rotate vector rocker leftward or press 【Off】key to return to the parent menu.

3.4.2 Control of Backlight

Select 〖Light〗 and this function is mainly used for selection of the switch for backlight of LCD screen of the keyboard.



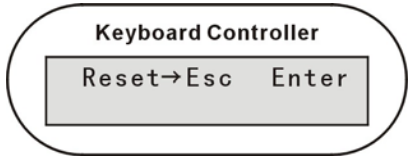
Select “Open” and rotate the vector rocker rightward or press 【On】key. And backlight of LCD screen of the keyboard will be closed automatically about 15 seconds later after pressing the corresponding key.

Select “Close” and rotate the vector rocker rightward or press【On】 key to enable backlight of LCD screen of the keyboard remains open all the time.

Rotate the vector rocker leftward or press 【Off】 key to return to the parent menu.

3.4.3 Resetting of Default Setting

Select 〖Reset〗. This function is mainly used to enable the keyboard to return to the initial state in case of abnormality of the keyboard and disordered setting of functions of the menu and all set parameters by the user before this will be invalid by confirming this operation.



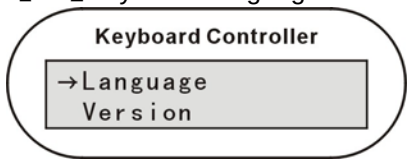
Confirm the operation: point the cursor at the item of “Enter”, rotate the vector rocker rightward or press【On】 key and the keyboard will resume to default state if there’s prompt of “OK” on the keyboard.

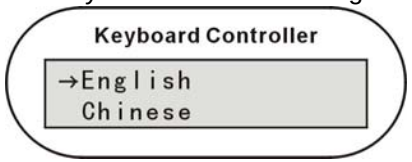
Rotate the vector rocker leftward or press 【Off】 key to return to the parent menu.

3.5 Selection of Languages

Select 〖Language〗 and rotate the vector rocker rightward or press

【On】key to set language mode of the keyboard: Chinese or English.

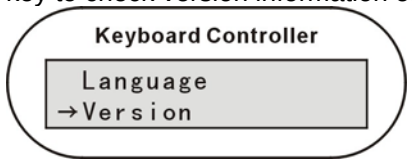


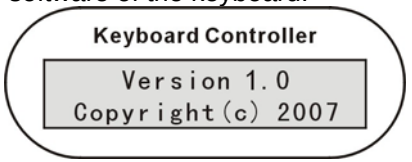


Currently this keyboard only supports display of English language. Rotate the vector rocker leftward or press 【Off】key to return to the parent menu.

3.6 Version of Software

Select 〖Version〗and rotate the vector rocker rightward or press【On】key to check version information of software of the keyboard.

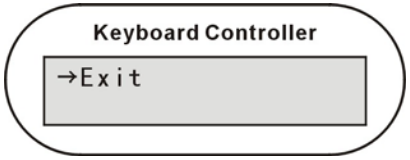




Rotate the vector rocker leftward or press 【Off】key to return to the parent menu.

3.7 Exit

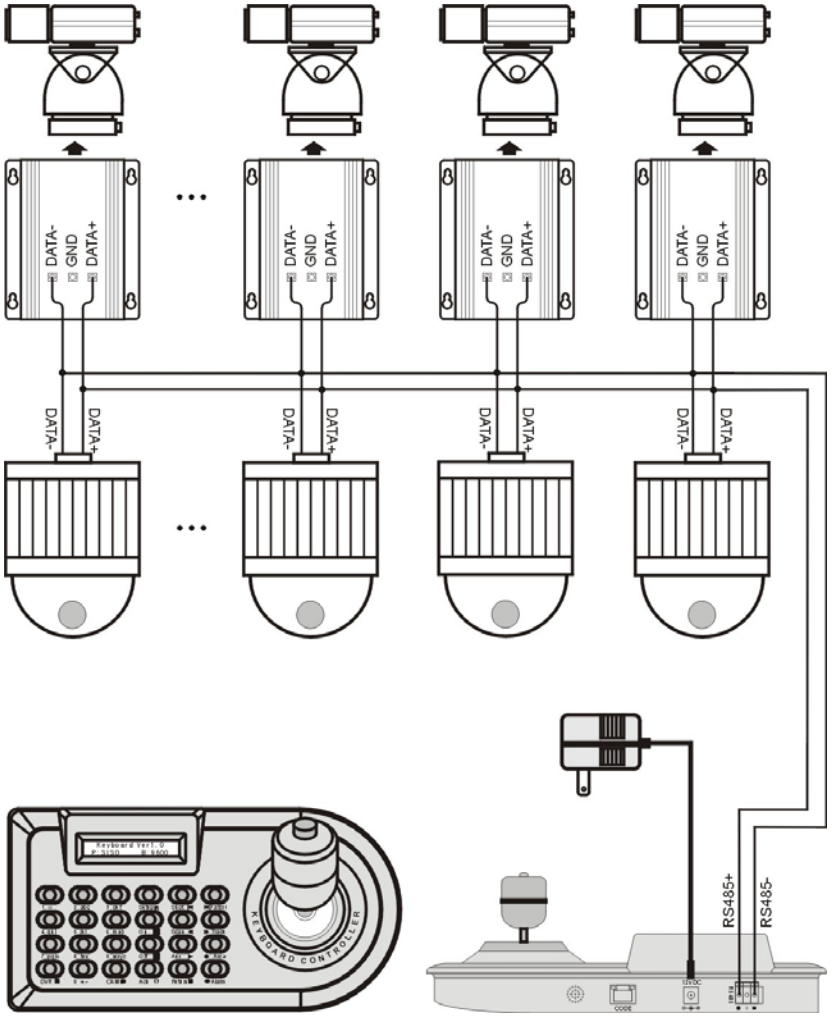
Select 〖Exit〗and rotate the vector rocker rightward or press 【On】key to exit from menu setting of the keyboard and enter the state of normal use of the keyboard.



Part IV Connection of Keyboard

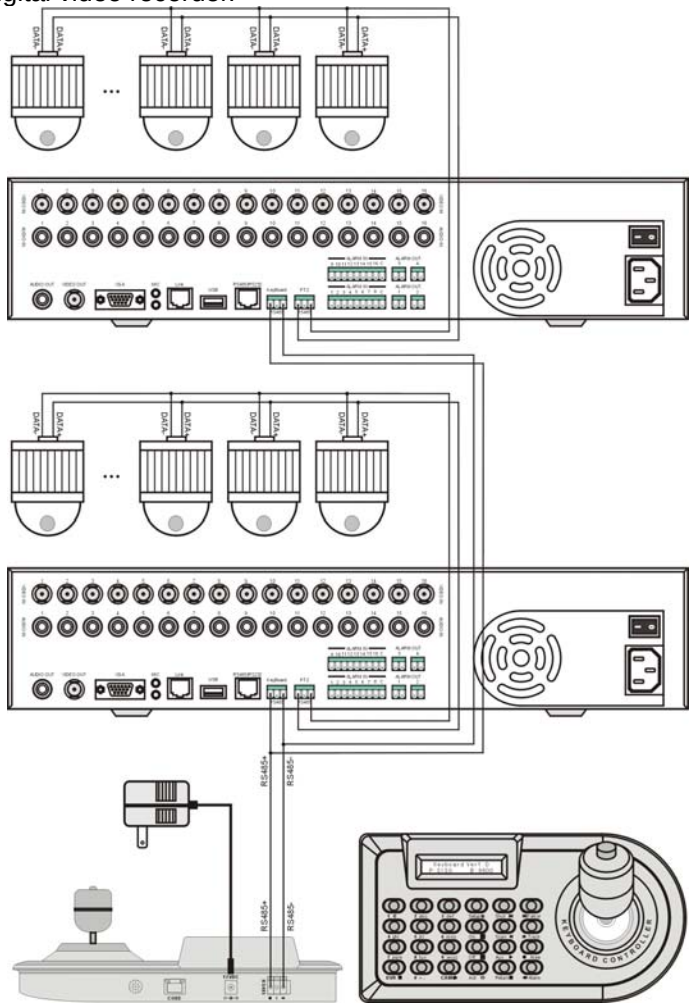
4.1 Diagram for Connection Keyboard to Smart Camera

Connection of keyboard to smart camera or decoder is through commonly shielded two-core twist cable with max. length of 1200m.



4.2 Diagram for Connection Keyboard to Digital Video Recorder

Connection of keyboard to digital video recorder (DVR) is through commonly shielded two-core twist cable with max. length of 1200m. After the equipment is connected, make sure to set address code of the digital video recorder.



Note: When the control protocol of the digital video recorder is identical with that of the keyboard, the keyboard can control the digital video recorder directly, without needing control code converter to transforming the control protocol.