

WARNING!

Do not use such solvent as gasoline or thinner to wipe the appearance to avoid damage; use a piece of soft cloth dipped with alcohol or water to wipe it.



1. Do not contact the keyboard with water or other liquids and keep the appearance clean.
2. The keyboard is only for indoor use. Never expose it in rain or moisture.
3. The LCD might not perform normally below -10°C.
4. Use the power adapter supply with the keyboard. If a substitute is required, ensure the power supply is within 9-15V/1000ma.
5. Keep away from fire.
6. Avoid collision or friction with hard objects.



IMPORTANT

This product is manufactured to comply with requirements of following directives:

89/336/EEC, 92/31/EEC, 93/68/EEC

Product Overview:

The keyboard is a product for professional use in security systems. The keyboard is applied to remotely control digital multiplexers, DVRs and speed dome cameras. It's ergonomic construction guarantees comfortable operation for security personnel.

Main Features:

- " The keyboard can be applied to control CCTV systems, speed dome cameras, DVRs, and personal computer monitoring terminal devices.
- " 6-axis, zoom control function, the frame control of DVRs by jog/shuttle wheel, cursor control function;
- " LCD, two lines of 20 characters, backlight.
- " 28 keys, silicon rubber + keystroke, one million times long lifetime, backlight;

Equipment that can be connected:

Speed dome cameras : (baud rate : 2400, 4800, 9600)

PELCO-D, PELCO-P, Panasonic, AD (TYCO), Samsung, Dahua, SonyVisca

Digital Video Recorders: (baud rate: 9600)

Hikvision, Dahua, Dali, Hanbang, HighEasy

Personal Computer monitoring terminal devices: USB2.0 (with drivers)

Specifications:

Dimensions:	355(L) × 150(W) × 155(H)mm
Weight:	1.47kg (without power supply) 1.89 kg (with power supply) 2.4kg (prepared for shipping)
Operating Temperature:	-10°C - 70°C
Humidity:	30% - 90% (without condensation)
Power Consumption:	2.7 W (not loaded line)
Adapter:	12VDC/1000mA
Connectors:	1 x RJ-45 (RS-485) (for DVR) 1 x RS485 (COM1) RS485 power output, 2000M (for camera) 1 x RS485 (COM2) RS485 two-way communication, standard RS485 main line, 1200M (for camera) 1 x USB-D: USB2.0 (for computer)

Accessory:

1. 1 power adaptor
2. 1 RJ45 signal cable
3. 1 junction box
4. 1 3.81mm terminal

Joystick : 6-Axis, Non-Contact, High Resolution, Long Lifetime

Cursor Control (2-axis)

KX, KY Axis

KX, KY Axis:

Used for "Cursor" control or user-defined functions; 16-level angle values;

Z Axis: Zoom control

Z Axis:

Used for zooming control, rotation angle $\pm 36^\circ$, Max. 64-level angle values;

B Axis: Jog/shuttle wheel

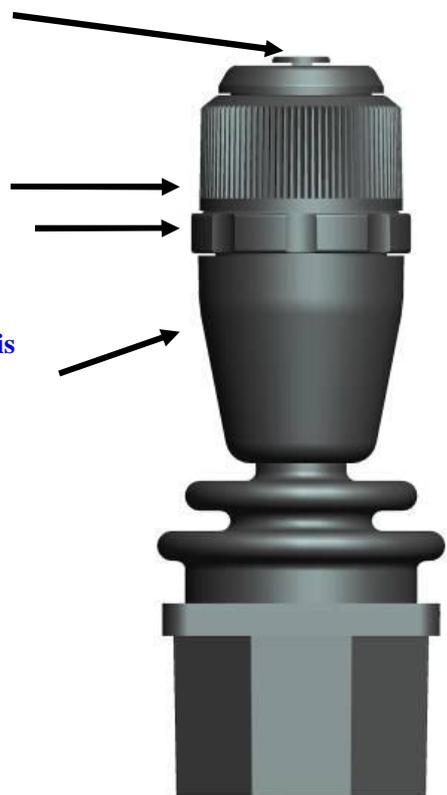
B Axis:

Jog /shuttle wheel, generally used for the frame control of DVRs, or user-defined functions;

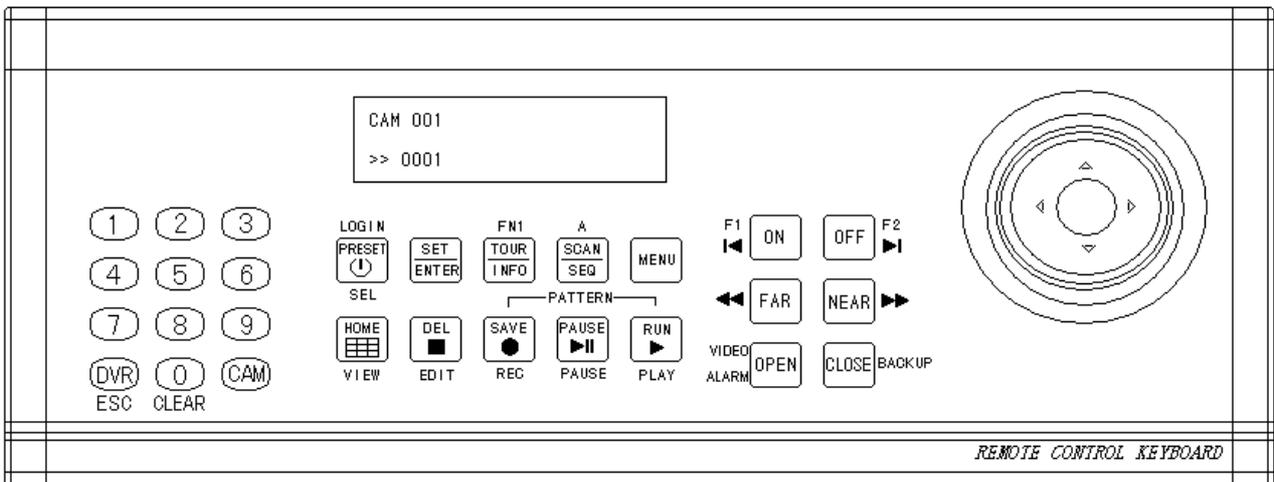
Main Axis: X, Y Axis

X, Y Axis:

Used for pan/tilt control, rotation angle $\pm 36^\circ$, 0-100 level speed values;



Front View:



Keystroke Backlight:

Two lights below each keystroke: blue and red. Blue is for backlight, and red is for function indication.

Press one keystroke, the blue light will blink for 1 second, and then the red light for 2 seconds.

Press [DVR] and [CAM], the blue light will blink two times, and the red light will be constant on to indicate the current status.

Brief Instructions

Definition:

CAM:	Camera
DVR:	Digital video recorder
PRESET:	Preset positions
SET:	Set presets
DEL:	Delete Presets
HOME:	Home place
TOUR:	Tours
SCAN:	Scans
MENU:	Menu
SAVE:	Save (video)
PAUSE:	Pause, frame
RUN:	Run
ON:	Auxiliary on
OFF:	Auxiliary off
FAR:	Zoom out
NEAR:	Zoom in
OPEN:	Iris on
CLOSE:	Iris off
PATTERN:	Patterns

Brief Instructions:

Clear LCD:	Press [0] for 2 seconds
Shift Camera:	Number+CAM
Shift DVR:	Number+DVR
Shift DVR to CAM:	CAM or “number+CAM”
Shift CAM to DVR:	DVR or “number+DVR”
Call Presets:	Number+preset
Quick Access to Presets:	Rotate the jog/shuttle wheel to call presets 1-9
Set Presets:	Number+SET
Delete Presets:	Number+DEL
Call Tours:	TOUR or “number+TOUR”
Call Scans:	SCAN or “number+SCAN”
Run Patterns:	Number+RUN
Save Patterns:	Number+SAVE
Stop Patterns:	Number+PAUSE
Auxiliary On:	Number+ON
Auxiliary Off:	Number+OFF
Open Camera Menu:	MENU→8888

Symbol Explanation:

Power



Stop



Record



Pause/Frame



Play

 Multi-Screen Shift
  Backward
  Forward
  Fast Backward
  Fast Forward

LCD Display:



Camera Operation Mode

C	A	M	:	0	0	1													
>	>			0	0	0	0												

Camera Operation Mode Function (Call Presets)

C	A	M	:	0	0	1			[	M	O	V	E]					
>	>			0	0	0	0			P	R	E	S	E	T				

DVR Operation Mode

C	A	M	:	0	0	1															
>	>			0	0	0	0								D	V	R	:	0	0	1

DVR Operation Mode MENU

C	A	M	:	0	0	1															
[M	E	N	U	→]									D	V	R	:	0	0	1

- CAM: 001 Control of “address 001 camera”
- DVR: 001 Control of “address 001 DVR”
- >> 0000 Number input area, Max. 4 digits
- [MENU→] Menu operation under DVR status
- [MOVE] PRESET Function display area: indicate current keystroke function and disappear after 3 seconds.



Camera Operation:

CAM Mode: Press [CAM] or “Number”+[CAM] to enter CAM mode.

PTZ Control:

Control camera directions: up, down, left, and right. 360° rotation, 0-64 level speed (PELCO protocol), 0-100 level speed (other protocols).

Lens Control:

Zoom:	Zoom In (Tele)
	Zoom Out (Wide)
Focus:	NEAR
	FAR
IRIS:	OPEN
	CLOSE

Auxiliary Control:

Control such front surveillance equipment as lights, wiper, spray, heater, and fan. Max. 255 auxiliary equipment for each camera (PELCO protocol).

Auxiliary on: Number+ON

Auxiliary off: Number+OFF

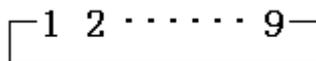
Call Presets:

Input preset number “0-255”

PRESET

Quick Access to Presets:

Rotate jog/shuttle wheel to call presets 1-9.



Quick shift presets from 1-9.

Set Presets:

Input preset number “0-255”

SET

Delete Presets:

Input preset number “0-255”

DEL

Call Tours:

Two ways:

1. Default tour: Press [TOUR] or call TOUR 1.
2. Multiple tours:
 - 1) Input tour number "0-16" (Max. 255) or refer to camera manual.
 - 2) TOUR

Call Scans:

Two ways:

1. Default scan: Press [SCAN] or call SCAN 1.
2. Multiple scans:
 - 1) Input scan number "0-16" (Max. 255) or refer to camera manual.
 - 2) SCAN

Patterns

C	A	M	:	0	0	1				P	A	T	T	E	R	N				
>	>	X	X	X	X					P	L	A	Y							

Run Patterns:

Input number "0-4" (Max. 255) or refer to camera manual.

RUN

Save Patterns:

Input number "0-4" (Max. 255) or refer to camera manual.

SAVE

Stop Patterns:

Input number "0-4" (Max. 255) or refer to camera manual.

PAUSE

Home Place:

Please refer to camera manual for its function. The key is a shortcut key to call preset 1 or home place. Please set an important place as home place when using this function.

Open Camera Menu:

The menu operation methods are different from different cameras, Please refer to camera manuals. Standard protocol operation method:

Press [MENU]

Input Password: "8888"

Press [Menu], the LCD display:

M	E	N	U														
>	>		P	a	s	s	w	o	r	d			-	-	*	*	

Input password, the LCD display:

C	A	M	:	0	0	1			M	E	N	U					
>	>		0	0	0	0											

Press [MENU] again to exit password input.

The above method might not suitable for some cameras. Please refer to camera manuals.

For example: The way to open the menu of camera with PELCO protocol is "95+PRESET".

Please refer to camera manuals for the OSD menu operations.

Switch DVR ID:

Under camera mode: "number"+"DVR"

Under DVR mode: "CAM"→"number"→"DVR"

DVR Operations:

DVR mode: Press [DVR] or "number+DVR" to enter DVR mode.

A DVR is only to be operated under this mode.

Operations of Hikvision DVR:

Set DVR protocol as Hikvision in OSD.

Connect with Hikvision DVR by RS485 communication cable under baudrate 9600.

The function of the following keys are the same as that of remote controller. Please refer to Hikvision DVR manual for detail operation methods.

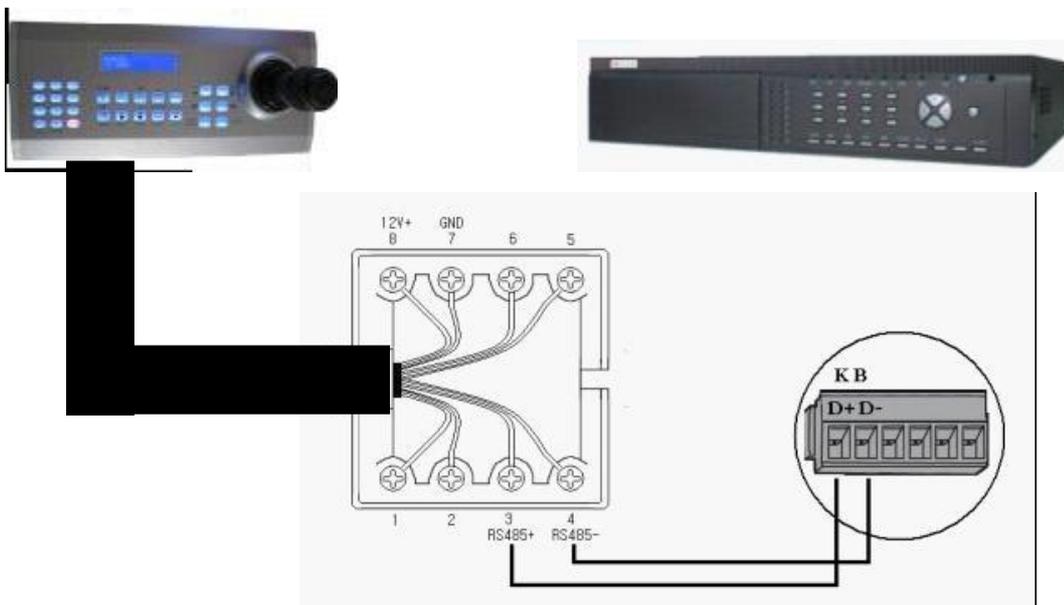
- ⓑ POWER, VIEW, A, MENU, ENTER, INFO, REC, PAUSE, PLAY, F1, F2, 0-9 number, ESC, EDIT
- Jog/shuttle wheel-frame, VIOP (VIDEO)
- Cursor control: Main joystick -“up, down, left, right.

Connections with Hikvision DVR:

Method 1:



Method 2:



Operations of Dahua DVR:

The protocol is applied to Dahua DVR of RS485 and baud rate of 9600.

Keyboard Settings:

Set the DVR protocol as Dahua on the keyboard OSD.

DVR ID =1 (under CAM mode: "number 1"+"DVR").

Dahua DVR settings:

(1) Menu→ System Settings→General Settings→Keyboard ID “1”

Serial Port settings: function "Network keyboard"

Baud rate “9600”

Data bits “8”

Stop bit “1”

Verify "none"

(2) Menu→ Shutdown→ Logout Menu User→Confirm, if without this step, the keyboard can't enter into the "Setting" menu.

Notes: After finishing the settings, please pull out the Mouse with DVR, or some functions can not control.

The function of the following keys is the same with the remote controller. Please refer to the DVR manual for detail instructions.

"LOGIN" to enter, if there is no operation on the DVR for a while, then the DVR will exit the login, at this this situation, you can't control the DVR, only to press the "LOGIN" key again, then can control.



Multi-screen: single screen, four screens, nine screens, sixteen screens.

■ STOP: stop recording,

MENU: enter the menu/ confirm

ENTER : confirm/ enter the menu,

REC: recording,

PLAY: play the recording

Number 0-9,: ESC to exit

◀ Previous, ▶ next, ◀◀ slow forward, ▶▶ fast forward

Cursor movement: move joystick up, down, left, and right

Switch to Single Screen:

Method 1: press number 1, 2, 3, 4...9 directly to switch,

Method2:  + by joystick to up down, left and right.

Other Controls:

Jog/shutter wheel: to frame fast forward / frame slow forward while playing video

SEQ: Switch the view windows, 1-4/5-8/9-12/13-16, 8 windows, 9 windows, 16 windows,

Fn: PTZ Auxiliary function

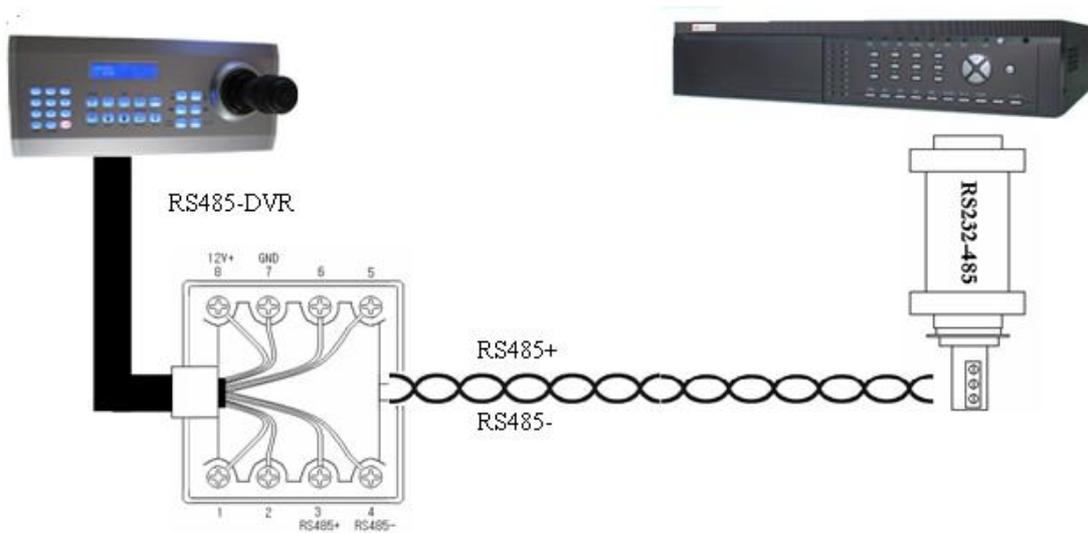
OPEN/ CLOSE: through DVR to control the PTZ or Camera

Zoom: through DVR to control the Lens's TELE/WIDE

ON: through DVR to control the FOCUS FAR

OFF: through DVR to control the FOCUS NEAR

Connections with Dahua DVR:



Operations of Dali DVR:

Set DVR protocol as Dali in OSD.

Connect with Dali DVR by RS485 communication cable under baudrate 9600.

The function of the following keys are the same as that of remote controller. Please refer to Dali DVR manual for detail operation methods.

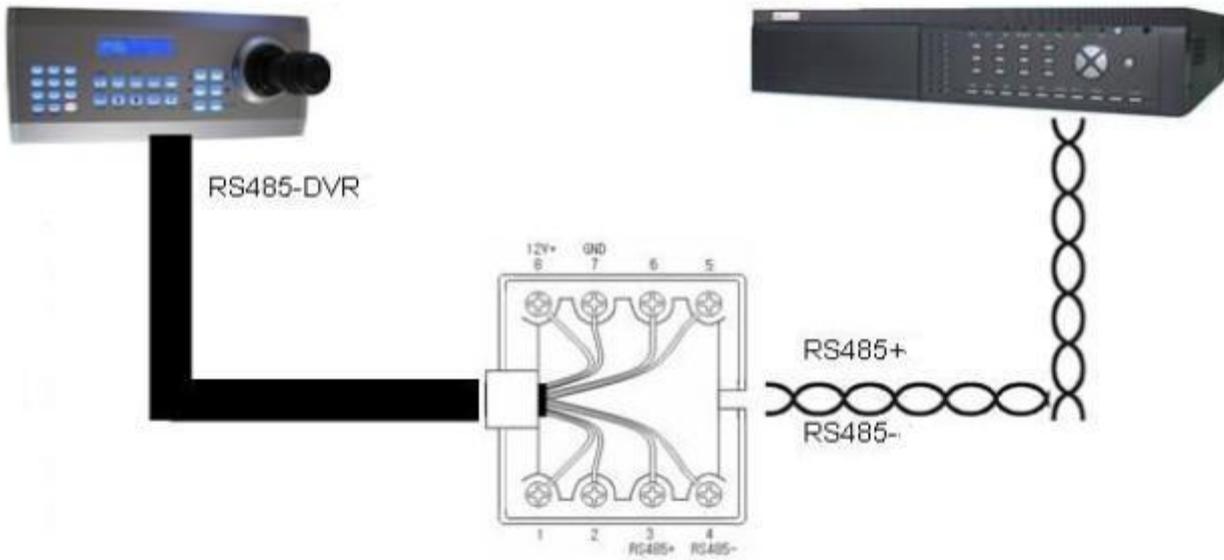
 Multi-screen shift ■ STOP, SEL, ENTER, SEQ, MENU, REC, PAUSE, PLAY, Number 0-9, ESC

 Backword
  Forward
  Fast Backward
  Fast Forward

Jog/shuttle wheel: Control the frame of DVRs.

Cursor control: Main joystick -“up, down, left, right”

Connections with Dali DVR:



Operations of Hanbang DVR:

 Multi-Screen Shift, LOGIN, ENTER, INFO, CHINA, MENU, DEL, REC, PAUSE, PLAY, Number 0-9, ESC, ALARM, BACKUP

 Backward
  Forward
  Fast Backard
  Fast Forward

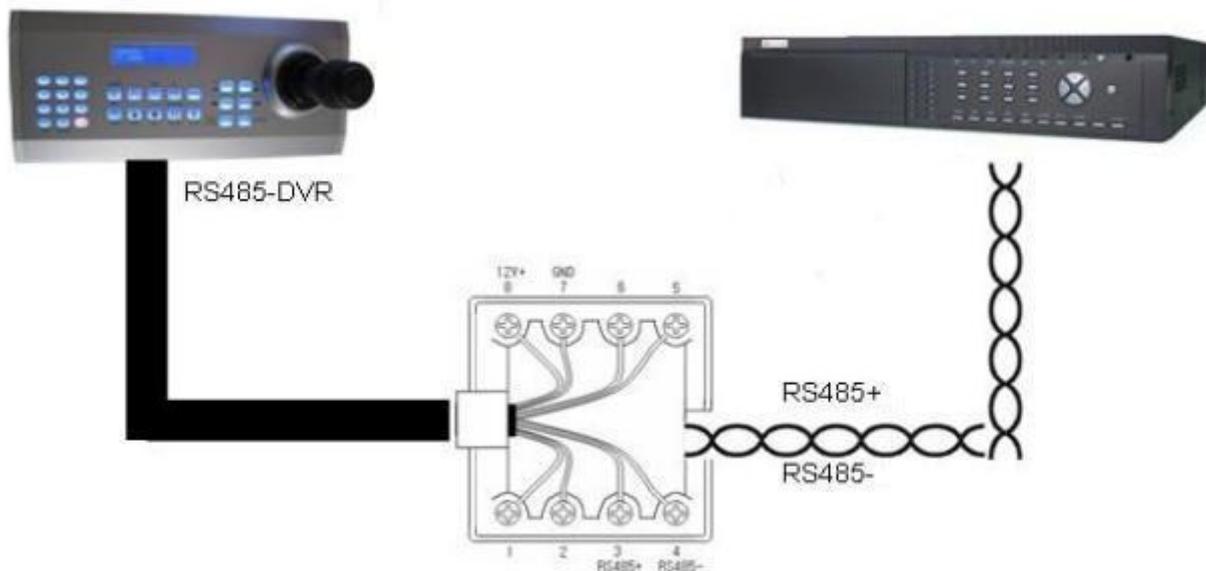
POINT: K Axis -> “right”

FORMAT: K Axis -> “left”

Jog/shuttle wheel: Control the frame of DVRs.

Cursor control: Main joystick -“up, down, left, right”

Connections with Hanbang DVR:



Operations of HighEasy DVR:

Keyboard Settings:

Set the DVR protocol as HighEasy in keyboard OSD.

DVR ID =1

DVR Settings:

Default

Connections with the DVR:

Connect the keyboard and the DVR with a DVR-RS485 communication cable through the junction box, RS485+ and RS485- connecting with the R+ and R- of the RS422 port on the back of the DVR.

⏻ (power off), MULTI (multi-screen), A (CH/EN switch), MENU (10+), ENTER (confirmation), Fn (auxiliary), REC (record), PAUSE (frame), PLAY (play), F1 (fast forward), F2 (fast backward), 0-9 number, ESC (exit), STOP (stop), BACKUP (delete)

The function of the following keys is the same as that of remote controller. Please refer to the DVR manual for the operations.

Brief Instructions:

Jog/Shutter Wheel: frame

Cursor Movement: move joystick up, down, left, and right

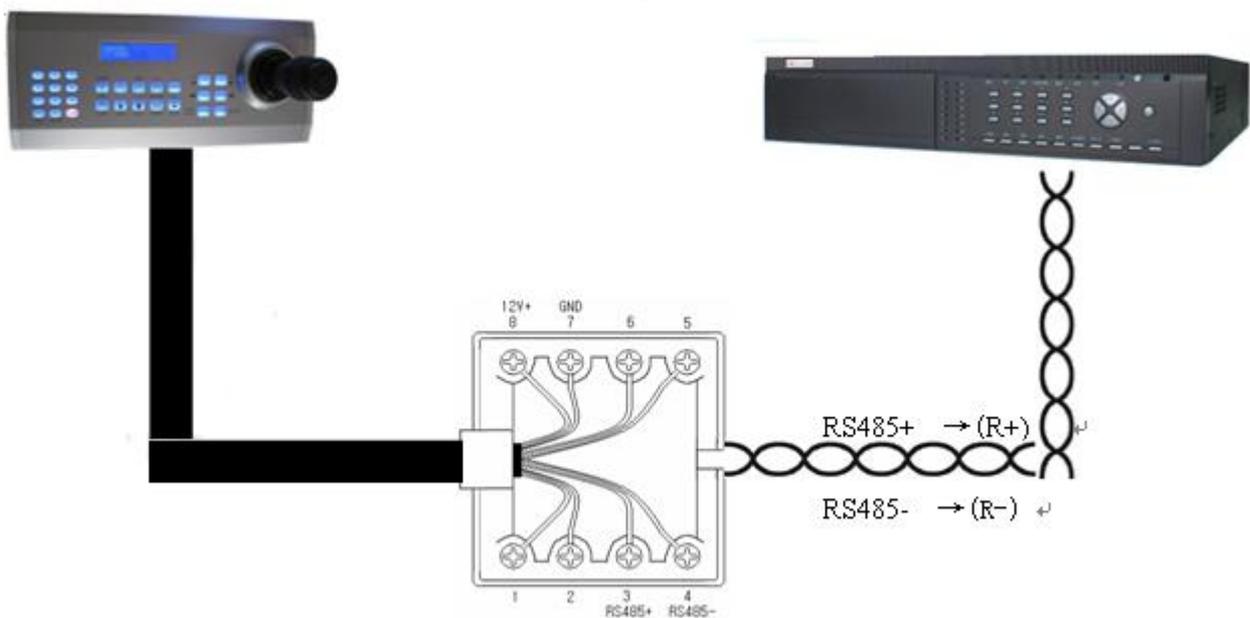
Enter Menu: Enter

Back to previous menu: ESC

Multiple screen: MULTI

1-9 to select single screen

Connections with HighEasy DVR:



Keyboard Settings

The Usage of Joystick in menu:

Enter Menu:	Menu+9999
Shift between menu N0.1-10:	Joystick Up or Down
Change current parameters:	Joystick Left or Right
Next Menu:	Joystick Down
Previous Menu:	Joystick Up
Parameter+:	Joystick Right
Parameter-:	Joystick Left

Keyboard Setting in OSD Menu

Menu Structure

LCD OSD

Main Menu (1-10)

- | | | |
|--------------------|--|-------------------|
| 1. Key Backlight | =On | (On/Off/Active) |
| 2. LCD Backlight | =On/Off | |
| 3. Camera Protocol | =Pelco-P /Pelco-D /AD /Samsung /Panasonic/DahuaDOME/DH-PELCO-P | |
| 4. Camera Baudrate | =9600 /4800 /2400 | |
| 5. DVR Protocol | =/Dahua/Hikvision/Dali/Hanbang/Appro | |
| 6. Alarm In | = RS485 /USB | |
| 7. Alarm Do | =All Red /Led Blink | |
| 8. Keyboard ID | =001 | |
| 9. Password1 | =**** | |
| Password2 | =**** | |
| 10. Exit | Exit menu | |

Enter Keyboard Menu:

- 1) Press [CAM] (The step can be omitted in CAM status).
- 2) Press [MUNU]
- 3) Input password: 9999

Enter menu, the LCD displays:

No1: Backlight

N	o	l	:	K	e	y		B	a	c	k	l	i	g	h	t			
				[	O	n	]		O	f	f								

Exit keyboard menu:

Two ways:

- 1) Press [MENU]
- 2) Rotate Z Axis in No10 sub-menu: Exit.

No1: Key Backlight

N	o	l	:	K	e	y		B	a	c	k	l	i	g	h	t			
				[	O	n	]		O	f	f								

Enter sub-menu: Rotate jog/shuttle wheel in a clockwise direction.

Back to previous menu: Rotate jog/shuttle wheel in a counter-clockwise direction.

Change current parameter: Rotate Axis Z. Clockwise+, counter clockwise -.

The items in brackets are alternative options. For example: The above [O N] is a valid option.

No2: LCD Backlight

N	o	2	:	L	C	D		B	a	c	k	l	i	g	h	t			
				[	O	n	]		O	f	f								

No3: Camera Protocol

N	o	3	:	C	a	m	e	a		P	r	o	t	o	c	o	l		
				[	P	e	l	c	o	-	P]							

Camera Protocols:

Pelco-P, Pelco-D, AD, Samsung, Panasonic, DaHua, DH-PELCO-P(DaHua Camera No.1 DVR ID is 1)

Joystick Left or Right to select camera protocols

No4: Camera Baudrate

N	o	4	:	C	a	m	e	a		B	a	u	d	r	a	t	e		
				[	9	6	0	0]										

Camera Baudrate: 2400, 4800, 9600

Joystick Left or Right to select camera baudrates

No5: DVR Protocol

N	o	5	:	D	V	R		P	r	o	t	o	c	o	l				
				[	H	i	k	v	i	s	i	o	n]					

DVR Protocols: Baudrate: 9600

Dahua, Hikvision, Dali, Hanbang, Appro, HighEasy

Joystick Left or Right to select DVR baudrates

No6: Alarm In

N	o	6	:	A	l	a	r	m		I	n								
				[	U	s	b	]		R	s	4	8	5					

USB: USB port

RS485: DVR RS485 port; baudrate: 9600

Joystick Left or Right to select ports

No7: Alarm Do

N	o	7	:	A	l	a	r	m		D	o								
				[	L	e	d		B	l	i	n	k]	.	.			

Led Blink, RS485 (RS485 output signal from DVR port)

Joystick Left or Right to select ports

No8: Keyboard ID

N	o	8	:	K	e	y	b	o	a	r	d		I	D	=	[0	1]
---	---	---	---	---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	---

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Keyboard ID: 00 -99

Joystick Left or Right to select ports

No9: Password 1, 2

N	o	9	:		P	a	s	s	w	o	r	d	1	[*	*	*	*]
					P	a	s	s	w	o	r	d	2						

Rotate

jog/shuttle wheel in a clockwise direction to enter Password 2

N	o	9	:		P	a	s	s	w	o	r	d	1						
					P	a	s	s	w	o	r	d	2	[*	*	*	*]

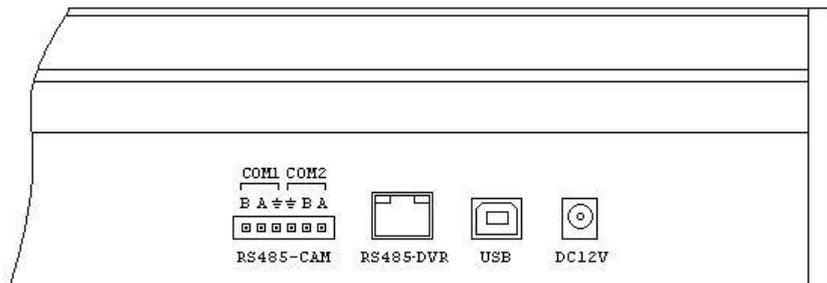
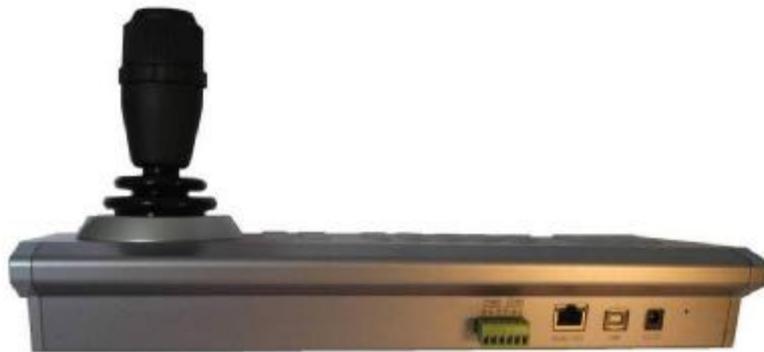
- 1) Input password
- 2) Joystick Left or Right to confirm

No10: Exit

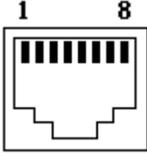
N	o	1	0	:	E	x	i	t												

Joystick Left or Right to exit

Back View:



Port Explanation:

Port	Description	Remarks
DC12V	Power supply port	DC12V /1000 Ma chip+
USB	USB port	Connect with PC surveillance ends
RS485-DVR	Control DVR	 <p>3. RS485+ / A / TX+</p> <p>4. RS485- / A / TX-</p> <p>7. GND</p> <p>8. DC12V+</p>
RS485-CAM	Control cameras, 2 RS485 ports	COM1: RS485 one-way port, Max. 2000M
		COM2: RS485 two-way port, Max. 1000M, can be connected with other control equipment in parallel



signal cable RJ45



junction box

Connections of Cameras:

RS485 Communication Requirement:

Use RS485 communication cable, twisted-pair or shielded twisted pair. The communication distance will greatly reduced if non-twisted-pair is used. The shield twisted pair has strong anti-interference ability, which is required to be used in strong interference area, such as factories with strong interference, power plants, and chemical plants. Moreover, It must be single end grounded.

RS485 communication is required for impedance matching. The RS485 of the last camera must be connected with a "120-ohm 1/4W resistor" at both ends.

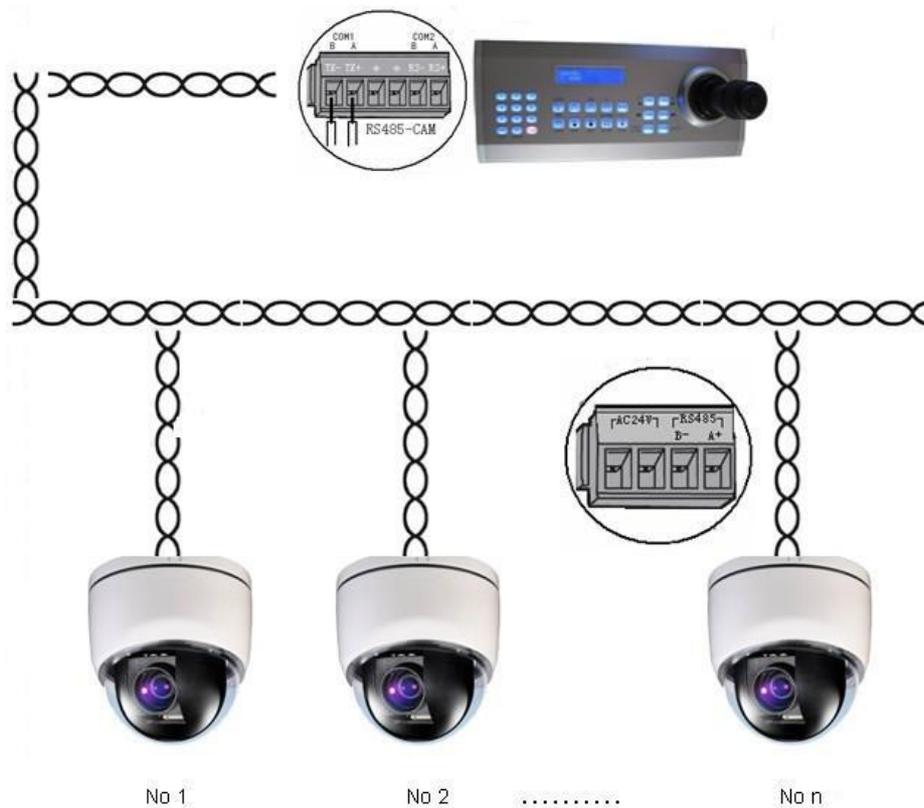
The terminal equipment on RS485 cable of COM1 port must be connected with a "120-ohm 1/4W resistor".

The terminal equipment on RS485 cable of COM2 port must be connected with a "120-ohm 1/4W resistor".

Each cable can only contain one resistance of 120 ohms. If two or more resistances are used, the cable might not work properly.

Connections with one keyboard:

There are two communication ports on RS485-CAM. Both of them can control cameras. The differences are: COM1 is a single power transmission port. It contains 485 communication signal amplifier circuit and only transmits RS485 data. The Max. communication distance reaches 2000m; COM2 is a standard RS485 port, which enables parallel connection of multiple keyboards.



Connections with Two or Above Two Keyboards:

Connect COM2 of RS485-CAM with the RS485 cable of each keyboard, and then connect with front cameras. The port is in half-duplex mode, which enables the parallel connection of multiple keyboards.

Do not use COM1 port to connect with multiple keyboards. The port only sends out data, and can be connected with only one keyboard. It has the advantages of high degree of reliability and long communication distance.



DAHUA Camera Protocol Operation: (Camera Model No.: DAHUA SD66)

Enter the camera menu:

“MENU”→ enter the pass word: “ 8888”

Screen Display:

C	A	M	:	0	0	1			M	E	N	U					
>	>			0	0	0	0										

Camera Menu Control:

Joystick “up/down” to control the camera’s menu cursor, “left/right” to change the setting parameter, “open” to confirm.

Exit the Camera Menu Control Mode:

Press “ MENU” to exit the camera menu control mode, the “menu” on the keyboard LCD Display will be disappeared.

C	A	M	:	0	0	1													
>	>		0	0	0	0													

Notes: The Camera Operation of DAHUA Protocols

After entering the camera menu, there is “MENU” displaying on the keyboard LCD Screen. At this time, if you want to control the camera by PTZ function, you must press the MENU key on the keyboard to exit the camera mode, then the “MENU” displaying will disappeared on the keyboard screen. That means you have successfully exit the camera menu mode. Or you can’t control the camera by PTZ Function at this menu mode state.

Shortcuts for DAHUA Camera:

Set No.81 preset: first line left limit

Set No.82 preset: first line right limit

Set No.83 preset: second line left limit

Set No.84 preset: second line right limit

Set No.85 preset: third line left limit

Set No.86 preset: third line right limit

Set No.87 preset: fourth line left limit

Set No.88 preset: fourth line right limit

Set No.89 preset: fifth line left limit

Set No.90 preset: fifth line right limit

Call 91-95 preset: Play 1-5 scan lines

“1”+ SCAN : Play scan 1-5 lines (should preset 1-5 lines in the camera menu, or can’t play)

“1-8” + TOUR: Play tour 1-8 (should preset the tour in the camera menu, or can’t play)

“1-5” + SAVE: Record the pattern play 1-5 lines

“1-5” + PAUSE: Stop the pattern play 1-5 lines

“1-5” + RUN: Play the Pattern 1-5 lines

DH-PELCO-P : DAHUA Camera’s PELCOP Protocols Short Cuts

Set No.92 preset: set first line left limit

Set No.93 preset: set first line right limit

Set No.79 preset: record first line pattern to begin

Set No.80 preset: record first line pattern to stop

Call preset No.99: play the first scan line

Call preset No.81: play the first pattern line

Call preset No.82: play the first tour line

Call preset No.96: stop the scan, tour, pattern

Call Preset No.95: Enter the camera menu

Call preset No.99: Auto scan

Call preset No.98: Frame scan

Call Preset No.97: Random scan