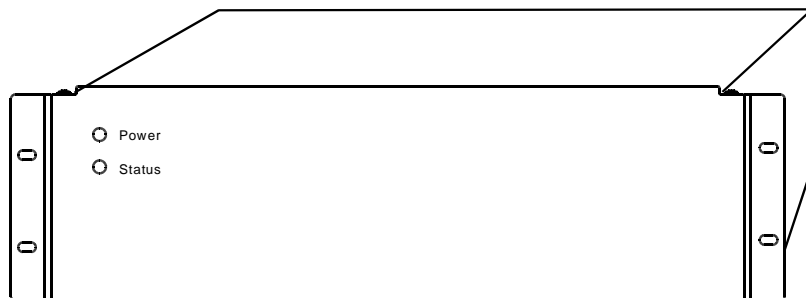


# Matrix

## operation manual



Pls read this manual carefully before use this equipment.

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## 1. Precautions

### ◆ **Electrical safety**

Conform to country and local electrical safety standard when using or installing the product.

### ◆ **Transportation with care**

The PTZ should be protected against extremes of pressure, vibration and humidity during storage installation and transportation.

### ◆ **Installation with care**

Please refer to user installation manual when installation. Do not squeezed structure parts, which may cause mechanical damage.

### ◆ **Requirements to service personnel**

All the service work should be done by qualified technicians.

### ◆ **Do not disassemble the pan/tilt module**

Do not disassemble screws or open the dome cover. There is no user serviceable part, Only qualified engineer can service the unit.

### ◆ **Environment requirements**

Indoor application:

Environment temperature: 0°C ~ +50°C

Humidity: <95%

Air pressure: 86 ~ 106Kpa

AC power supply: AC220V, 50/60Hz

### ◆ **Keep the unit away from water or moisture**

Do not operate the unit near a wet location.

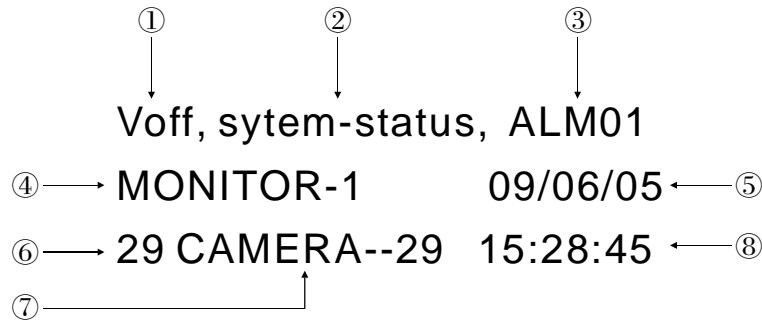
If entered water or moisture cause malfunction of the unit, switch off the power and notify qualified engineer to service the unit. Water or moisture can damage the unit that can also expose you to dangerous electric shock.

### ◆ **Do not use strong or abrasive detergent to clean the unit. Use a dry soft cloth to clean the unit and remove any dust on it. Use neutral detergent to clean the unit carefully when necessary.**

## 2. Features

### 2.1 System Status Display on Monitor

The monitor can display the monitor number, camera title, number, date, time, status and alarm information. User can open or close the status display after entering matrix SYSTEM MENU.



- (1) Video loss: when there is no video display on monitor, the screen displays “Voff” .When the video is lost, the system buzzer will send out a alarm signal to advise User.
- (2) System status display: When the system is running Tour, the screen will display “ TOUR25-01” , which means the system is running NO.1 with the current tour 25; when the system is running SALVO, the screen will display “ SALVO 01-POS1” , which means the current monitor is running No. 1 of Salvo Group 1.
- (3) Alarm display: the screen displays “ALM01” , which means the monitor is running the image which is relative with NO. 1 alarm signal.
- (4) Monitor Number: display the Number of the current monitor.
- (5) Date Display: the selectable date display of system. Three formats are available: Asian format YY/MM/DD,International format DD/MM/YY & U.S. format MM/DD/YY.
- (6) Camera Port Number: the number of port connecting camera to Matrix. The number is also the camera ID number.
- (7) Monitor Title: user can edit any memerial characteres.
- (8) Time Display: the 24H time display of system.

### 2.2 Video Tour

Can switch any video of any camera, the system can save 64 groups of tour, each group of tour can set 48 input, and the camera, park time and preset of each input can be set separately.

### 2.3 Video group

Can switch several cameras in several monitors synchronously, the system can set 64 groups, each group can switch 8 cameras in 8 monitors synchronously.

### 2.4 Switch to Previous Camera

To display the video of previous camera by ID number.

### 2.5 Switch to Next Camera

To display the video of next camera by ID number.

## 2.6 Event timer

The system can set 35 timing event, which is relative with date, time and monitor. When timing event is responded, can run or stop an appointed tour at an appointed monitor.

## 2.7 Video Loss

Any video is loss while malfunction, the system will send out a buzzer alarm, if the monitor display video loss, it will show “Voff” . Even there is no video input, user can edit system menu.

## 2.8 Automatic Alarm Switch

The system has 16 alarm inputs and 4 alarm outputs. When the system receives alarm signal, It will auto-start up alarm process, and switch to the presetting video, calling preset, controlling relay output, and display the alarm status information on the monitor. Camera number, preset, park time, relayaction, monitor which are relative with alarm signal can be set through menu.

## 2.9 Alarm display

When the system receives alarm signal, can switch to the appointed camera through menu or directly run the appointed system tour.

## 2.10 Alarm Clearance

There are two modes of alarm clearance: automatic clearance and manual clearance. Under manual clearance mode, when the keyboard responds the current alarm, the system will implement the actions of next alarm. Under automatic clearance mode, when the park time of the actions of current alarm is over, the system will auto-implement the actions of next alarm.

## 2.11 Lock Functions

To reinforce the safety and reliability, to prevent unauthorization keyboard to control the protective camera, the system can set lock to keyboard, monitor, camera and alarm input.

## 2.12 Communication Ports

The system provides 2 groups of RJ45 port, one 9-bin D-SUB ports to connect PC.

## 2.13 Ports and Connectors

**Video Input and Output:** standard BNC connectors

**Looping Video Connection:** two 16-pin flat cable ports.

**Keyboard:** One RJ45 422 port, One 6-pin flat cable port (422), One RJ45 Ethernet port

**Alarm input:** two 12-pin flat cable ports

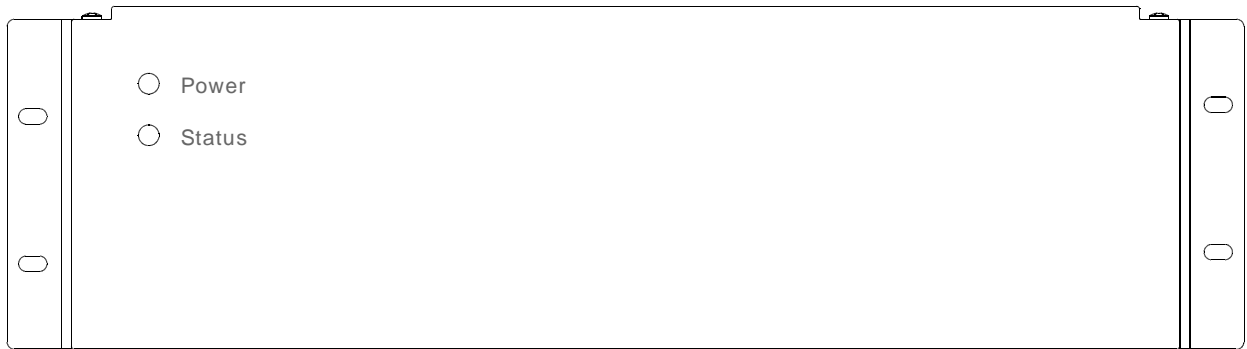
**Alarm output:** One 12-pin flat cable port

**RS485 port:** One 12-pin flat cable port

## 3. Specification

Specification				
Item	Description		Item	Description
Video input	Minimum 48 inputs, can be expanded to 128 inputs. 1V (p-p, 75Ω)		Date Format	3 selectable displays
Video output	8 outputs, 75Ω (BNC)		Preset	128 (each camera)
Video specification	Frequency characteristics(-3db Band Width)	± 2.0dB 5.58MHz	Alarm inputs	Built-in 16 inputs
	S/N Ratio(weighted )	≥52dB	Alarm Display	2 selectable displays
	Differential Gain	≤0.6%	Alarm outputs	4 relay outputs, normal open/normal close modes, 30VAC/0.6A resistance load. (can extend to 20 outputs)
	Differential Phase	≤1.1°	RS232 Port	9-pin D-Sub connector
	Insert Gain	≤ ±0.5db	RS485 Port	8 RS485 Bus. Communication distance up to 1500m, control up to 255 cameras
	Adjacent Channel Isolation Degree (Input to Input)	≥50dB (3.58MHz)	Keyboard	Up to 8 keyboards can be connected to the system
	Adjacent Channel Crosstalk (Input to Output)	≤-40dB (3.58MHz)	User	Each user has his own registered password and priority
	Synchronous Nonlinear Distortion	1%	Tour	64 groups, each group can set up to 48 inputs
	Luminance Nonlinear Distortion	1.5%	Group	64 groups, each group can set up to 8 inputs
	Intermodulation Distortion	0.5%	Power	AC220V 50Hz/60Hz
	Short Time Waveform Distortion	1.5%	Operating Environment	0°C~50°C, humidity < 90%
	Cluster Frequency Delay Characteristics	6ns	Power consumption	≤15W
	Brightness/Color Time Offset	2.5ns	Dimensions	480 (L) x 308 (W) x 133 (H) mm
Brightness/Color Gain Offset	8%	Weight	7.8Kg	
Video Check	To check any video loss on any monitor		Mounting	19 " EIA standard rack mounting
Title	Camera	One line 10 characters		

## 4. Profile



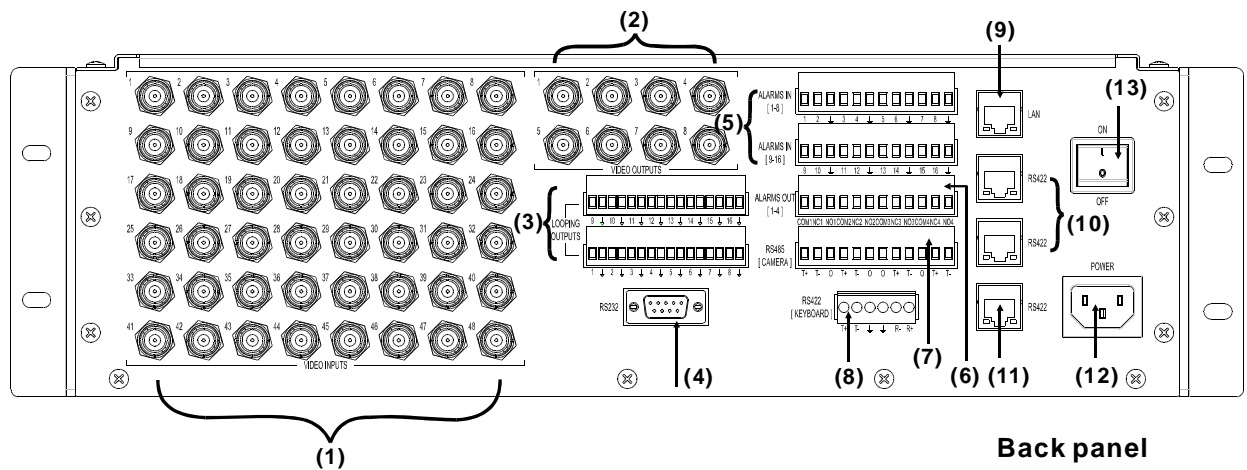
Front panel

“POWER” : lit light indicates that the power supply is normal.

“STATUS” : flashing light indicates that the system is running normally.

Keyboard connect with Matrix, flashing (frequency 5HZ)

The system receive external alarm signal, flashing(Frequency 10HZ)

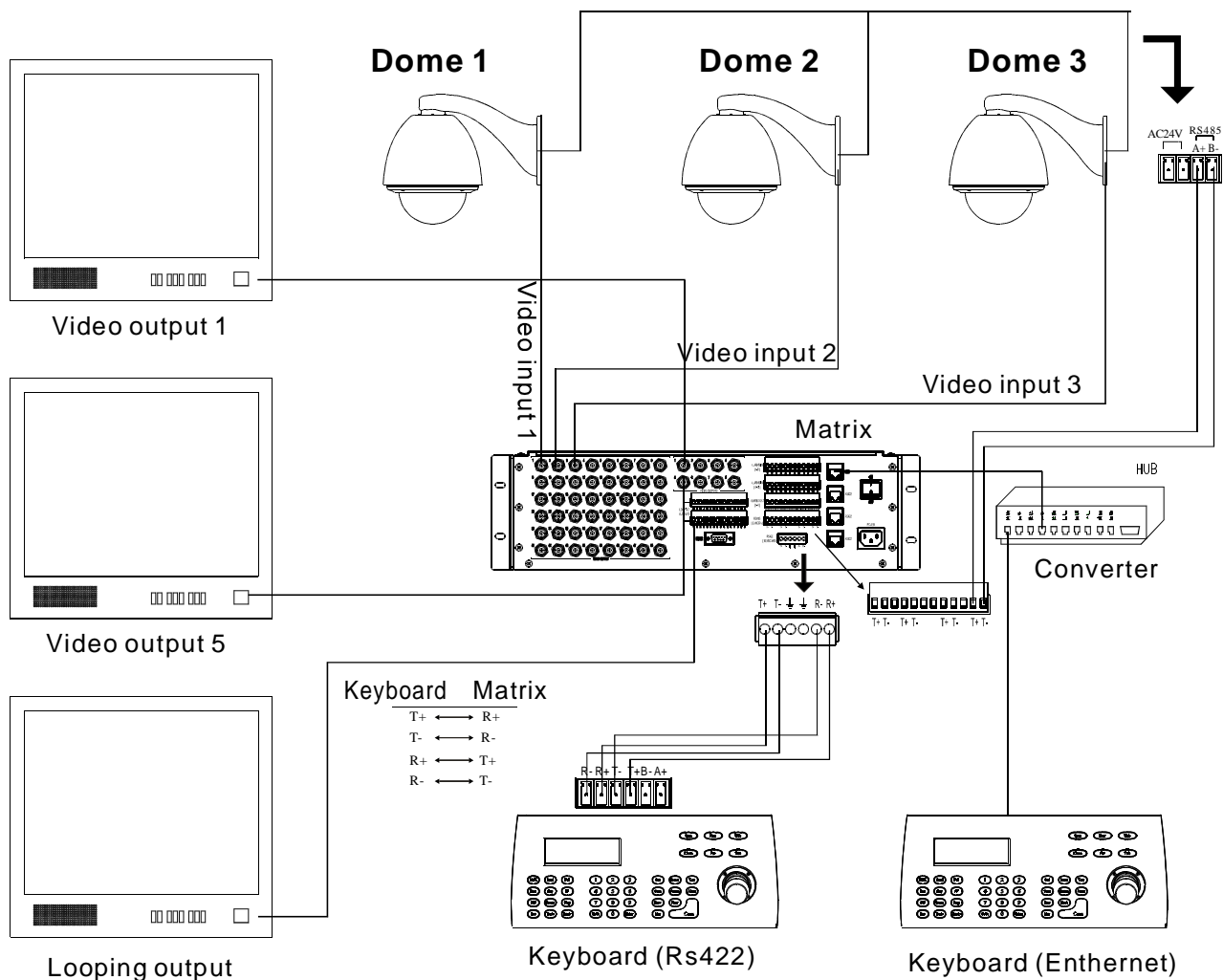


Back panel

- (1) Video inputs: 48 video input, standard BNC connectors
- (2) Video outputs: 8 video output, standard BNC connectors
- (3) Looping outputs: 16 channels video looping output, two 16-pin flat cable ports, pls refer the above picture.
- (4) Rs232 port: Connect PC, standard 9-pin D SUB port.
- (5) Alarm input: 16 alarm input, two 16-pin flat cable ports, pls refer the above picture.
- (6) Alarm output: 4 relay output, one 12-pin flat cable port, pls refer the above picture.
- (7) RS485 port (Camera): 4 BUS output, one 12 pin flat cable port, pls refer the above picture
- (8) Keyboard port(Rs422, Keyboard): Connect keyboard, one 6-pin flat cable port, pls refer the above picture.
- (9) Enthernet port (LAN): Connect enthernet keyboard(through converter), standard RJ-45 port
- (10) System extension port(RJ-45): Connect keyboard, standard RJ-45 port
- (11) Keyboard extension port(RS422): Connect keyboard,standard RJ-45, can directly provide 12V power for keyboard
- (12) Power plug: 3 plug power socket
- (13) Power switch

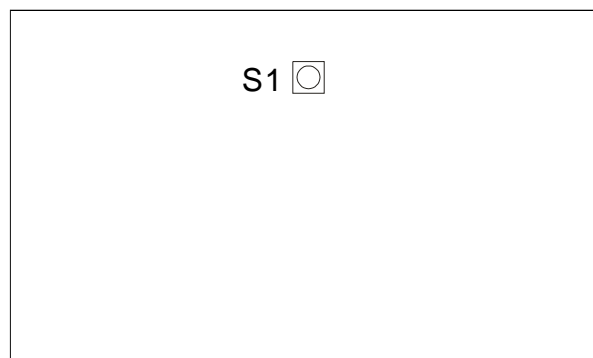


## 5. Connection



## 6. Reset

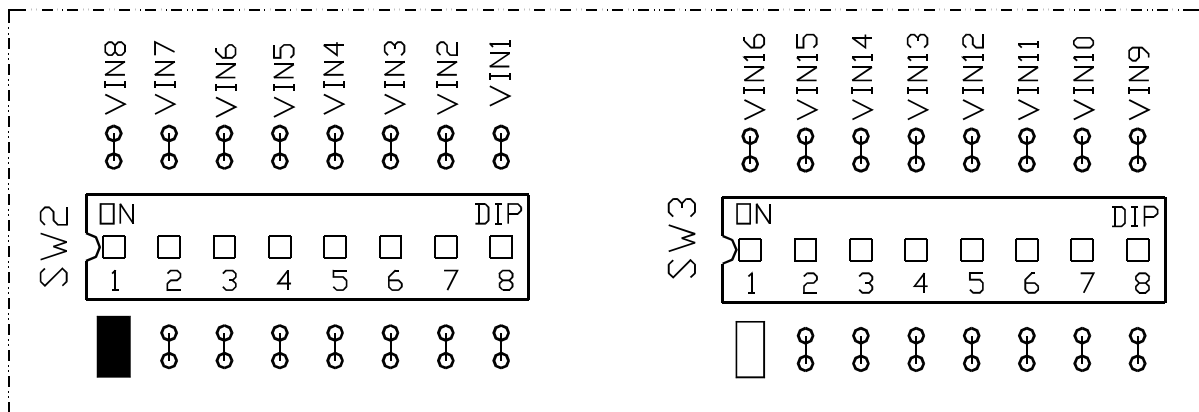
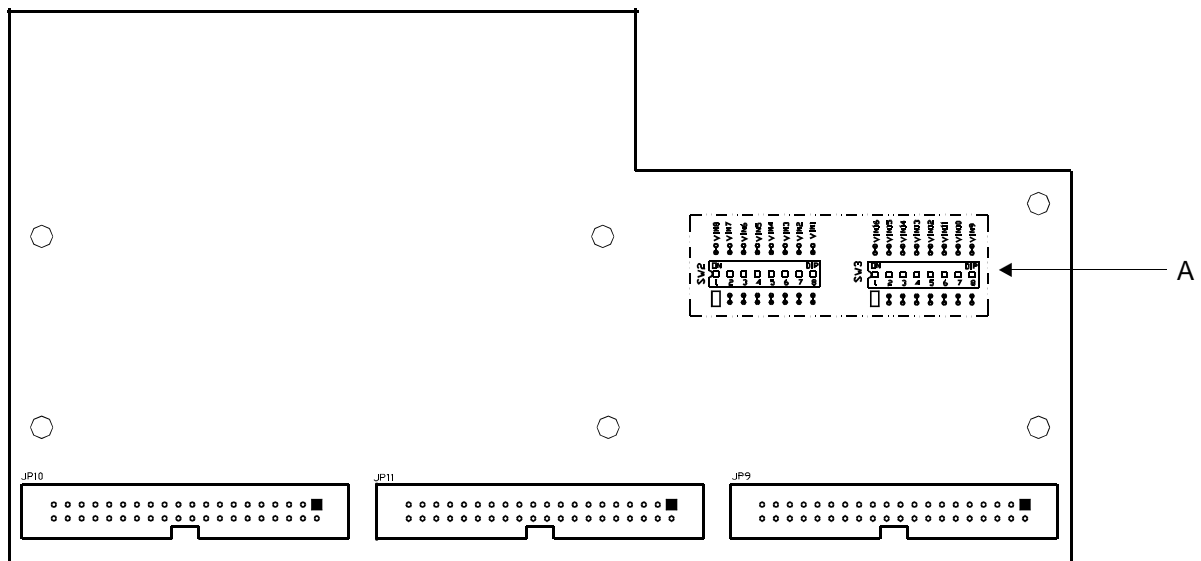
Open the matrix, you will find a key S1 in the main board, press S1 for 5s, the system will reset as factory default, and auto-restart



## 6.1 Video Lopping setup

Open matrix crate, there are two DIP switches on communication board: SW2, SW3 (as the picture shows)

For example: If the first video need setting looping, dial the V1N1 of DIP switch to “OFF” . (Purpose: To cut off 75 ohmic resistance on circuit board); If the first video do not need setting looping, make V1N1 at “ON” . (Purpose: To close 75 ohmic resistance on circuit board).



**Knowledge:** matrix's video looping output: It's used to transport one video signal into two devices. For example: video signal is sent to matrix's looping output, then to monitors, It should set the inputted impedance of matrix video as “high impedance” and the inputted impedance of monitoras “75 ohm”

## 7. User logs in & logs out

The system can support 8 keyboards at most, also support connect 422 keyboard and ethernet keyboard at the same time. The keyboards which are connected with matrix should have different ID. 422 and ethernet connection can not be used in the keyboard at the same time.

Log in and log out are auto processed, not need operation by persons.

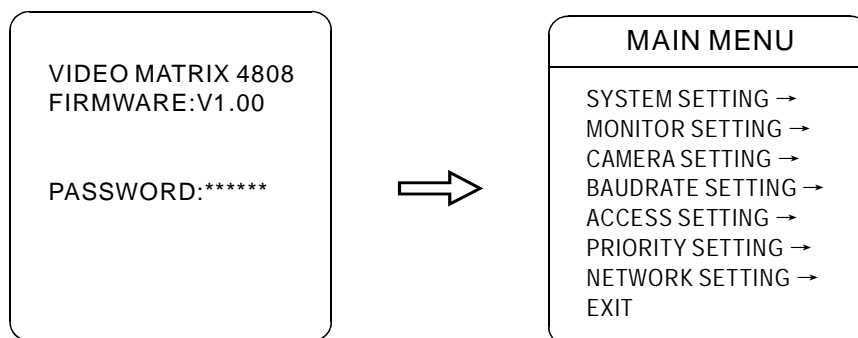
While each keyboard with ID enter into system, it needs inputting keyboard's passwords. The initial passwords are "000000", The super passwords of the system are "892226"

## 8. System menu program

### 8.1 Basic Operation

#### 8.1.1 Call main menu

The system enter into the inputting passwords page by calling "SHIFT +SET", input the right passwords then press "ENT", or operate joystick to select right passwords (Remark: super passwords: 892226), Move joystick to right and enter into main menu of system. As shown in the below picture



#### 8.1.2 Menu and keyboard operation

##### ◆ Menu and keyboard operation

**【OPEN】** when choosing pictures, it means to increase Iris.

**【CLOSE】** when choosing pictures, it means to reduce Iris

**【FAR】** Focus to far

**【NEAR】** Focus to near

**【TELE】** Increase zoom

**【WIDE】** Reduce zoom

**【TRACK+】** when choosing menu, it means increase one parameter by degrees.

**【TRACK-】** when choosing menu, it means reduce one parameter by degrees.

**Joystick to up:** when choosing pictures, it means camera tilt up; When choosing menu, it means to choose the former one.

**Joystick to down:** when choosing pictures, it means camera tilt down; When choosing menu, it means to choose the next one.

**Joystick to left:** when choosing pictures, it means camera tilt left.

**Joystick to right:** when choosing pictures, it means camera tilt right.

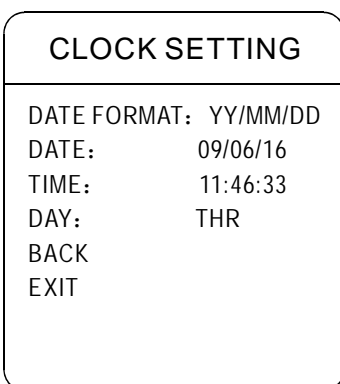
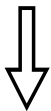
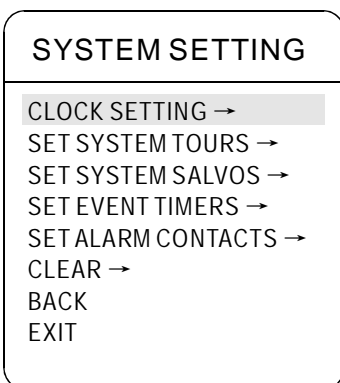
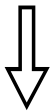
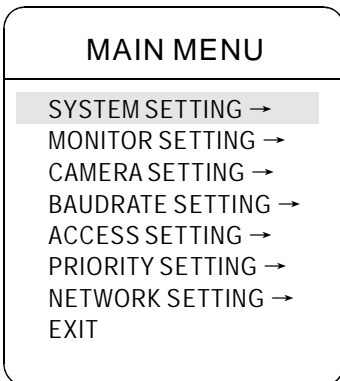
Press **【TEEL】** and **【WIDE】** at the same time, it means 3D joystick rotates joystick cap.

**【BACK】** : Back to the former menu

**【EXIT】** : Exit to menu

**【ON】** : Open some setting

**【OFF】** : Close some setting



## 8.2 System setting

### 8.2.1 Clock Setting

Date/time setting contains date format for selecting (three optional Date format: Asia format YY/MM/DD, International format DD/MM/YY and American format MM/DD/YY), DATE, TIME and DAY.

1. Press the combined keys “SHIFT+SET” on the keyboard, thus enter into Pin input page, input the pin via the keyboard, then press “ENT” for system main menu. Or move the joystick up and downward to choose the right PIN then rightward move Joystick for system main menu.

2. Operate joystick, move the cursor to **【SYSTEM SETTING】**, right move the joystick for sub-menu.

3. Operate joystick up and downward, move the cursor to **【CLOCK SETTING】**, right move the joystick for **【DATE/TIME】** setting, as left picture.

4. Operate joystick, move the cursor to **【DATE FORMAT】**, Left and right move the joystick to select the items need to be modified (Only for DATE/TIME format). Up and downward operate Joystick to do the modification, right operate the Joystick to save after setting.

**【DATE】**

**【TIME】**

**【DAY】**

5. Move Joystick to **【BACK】**, right move joystick to back to former menu.

**Notice:** in Date Format setting, the second item in the clock setting sub-menu will also vary with the date format, and the time setting is fixed 24 hours.

MAIN MENU	
SYSTEM SETTING →	
MONITOR SETTING →	
CAMERA SETTING →	
BAUDRATE SETTING →	
ACCESS SETTING →	
PRIORITY SETTING →	
NETWORK SETTING →	
EXIT	



SYSTEM SETTING	
CLOCK SETTING →	
SET SYSTEM TOURS →	
SET SYSTEM SALVOS →	
SET EVENT TIMERS →	
SET ALARM CONTACTS →	
CLEAR →	
BACK	
EXIT	



SET SYSTEM TOURS			
TOUR	01		
ENT	CAMERA	DWELL	PRESET
01	00	02	000
02	00	02	000
03	00	02	000
04	00	02	000
05	00	02	000
06	00	02	000
07	00	02	000
08	00	02	000
BACK			

## 8.2.2 Tour Setting

Calling the system tour means the system can display a group of Camera's image on the screen of designated monitor in sequence.

Using the tour setting menu, 64 groups tour queue can be set at most, each queue contains 48 input ports, the **【CAMERA】** , **【WELL】** and **【PRESET】** of each port can be set separately.

1. Operate joystick, move the cursor to **【SYSTEM SETTING】** , right move the joystick for sub-menu.

2. Operate joystick up and downward, move the cursor to **【SET SYSTEM TOURS】** , right move the joystick for tour setting, as left picture.

3. **【TOUR NO. SETTING】** : Operate joystick, move the cursor to **【TOUR】** , input Tour no. with Keyboard (01--64), downward joystick to save, the system will automatically save the current tour parameter.

**【ENT】** : Input ports (01-48), display 8 input ports per page, 6 pages intotal.

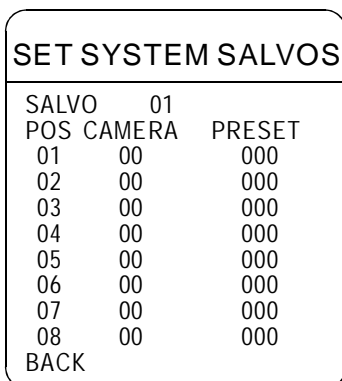
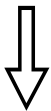
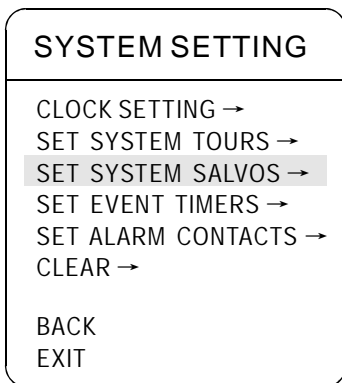
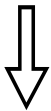
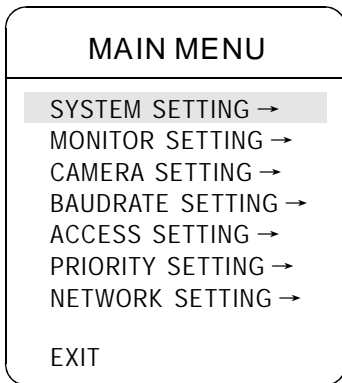
**【Camera】** : Switched camera NO.(00-99), when the input no. is 00, the system will recognize it as no camera input; If the NO. is over 48, it will be recognized as virtual and invalid NO. The system will directly jump to next input port.

**【DWELL】** : The Displaying dwell time (0-99s) of the camera's image on the monitor. If the Dwell time is 0 second, system will have no action.

**【PRESET】** : the camera's Preset point (000---128) used in executing functions, when the preset point is set as ? 00? it mean the camera will keep the current image.

**【TURN OVER】** : every page display 8 [ENT], 6 pages in total, when the demanded ENT is not at the current Page, Press key [PREV] [NEXT] to do the Turn over operation.

4. Move Joystick to [BACK], right move joystick to back to former menu.



### 8.2.3 System Salvos Setting

With Systems Salvos switching function, the system can call the Image of designated camera in designated cameras' group. 8 systems Salvos switching can be set at most, the Position (POS), Camera and Preset of each system Salvos can be separately set.

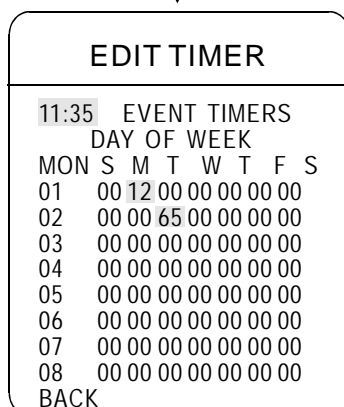
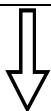
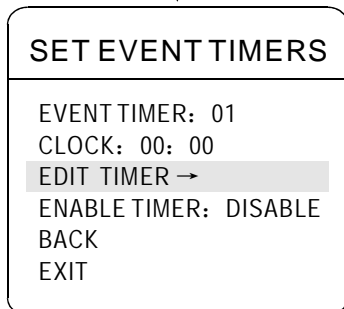
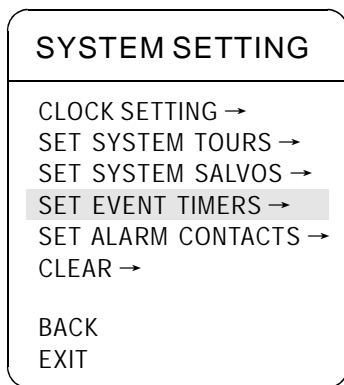
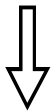
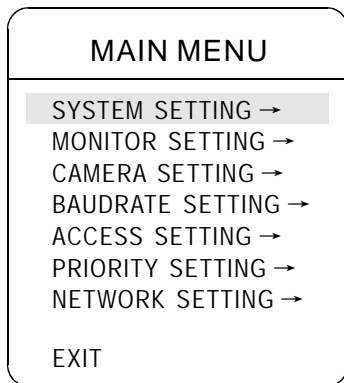
1. Operate joystick, move the cursor to **【SYSTEM SETTING】** , right move the joystick for sub-menu.
2. Operate joystick up and downward, move the cursor to **【SET SYSTEM SALVOS】** , right move the joystick for System Salvos NO. Setting Menu.
3. System Salvos NO. Setting: Operate joystick, move the cursor to **【SALVO】** , input System Salvos NO. With Keyboard (01--64), downward joystick to save, the system will automatically save the current System Salvo's parameter.
4. Rightward Move Joystick for Systems Salvos Parameters setting area:

**POS:**The NO. Of Output Camera (For example: the set Parameter for POS 1 Means its corresponding camera : Camera1).

**CAMERA:** Called camera NO.(00-99), when the input NO. is 00 or over 48. , it will be recognized as invalid NO. Without any action.

**【PRESET】** : the camera's Preset point (000---128) called in function running, when the preset point is set as ? 00? it mean the camera will not move and keep the current image.

5. Move Joystick to [BACK], right move joystick to back to former menu.



## 8.2.4 Event Timer

Event Timer function is the function which enable the system to automatically open or stop operating designated System tour on designated date, time and monitor. With 35 sett able Event Timer at most, the responding time, week and function (Call tour or stop tour) can be set separately.

1. Operate joystick, move the cursor to **【SYSTEM SETTING】** , right move the joystick for sub-menu.

2. Operate joystick up and downward, move the cursor to **【SET EVENT TIMERS】** , right move the joystick for EVENT TIMERS NO. Set Menu.

**【EVENT TIMER】** : NO. Setting of Event timer (01--35)

**【CLOCK】** : time setting of Event timer (01--35)

**【EDIT TIMER】** : relative parameters setting of Event Timer

**【ENABLE TIMER】** : Enable function setting of Event Timer

3. Take NO. Setting of Event Timer as example to illuminate the operation procedure. Operate joystick up and downward, move the cursor to **【EVENT TIMER】**, right move the joystick to set the NO. Of **【EVENT TIMER】** , selecting from (01--35). Right move joystick to save setting after setting.

4. Operate joystick up and downward, move the cursor to **【EDIT TIMER】** , right move the joystick for relative parameters Set Menu of EVENT TIMERS (as left picture).

**【DAY OF WEEK】** : WEEK, IN correspondence with Sunday--- Saturday

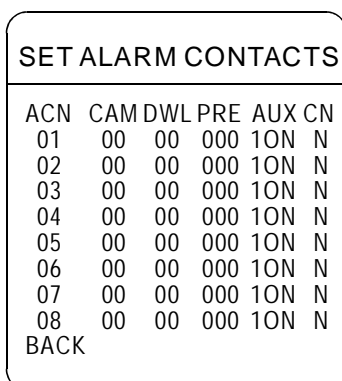
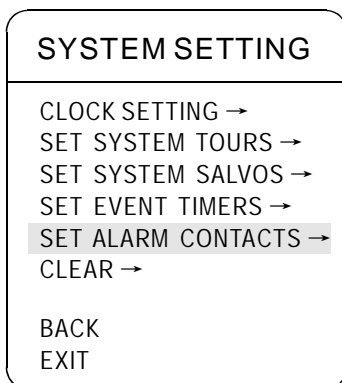
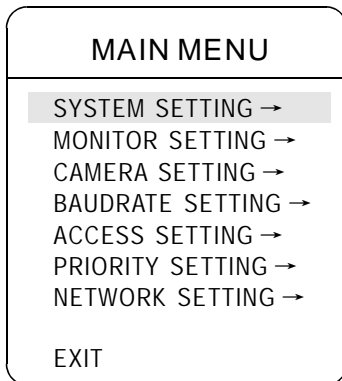
**【MON】** : monitor's NO.(01---08)

Operations as follows:

5. Up and downward Operate joystick to the crossed position of the line of MON AND WEEK, the figure in this position will twinkle, input the tour NO.(0064) with Keyboard, if the NO. is over 64, the system will recognize it as stopping operating Tour.

6. **【ENABLE TIMER】** function setting enable or disable the current EVENT TIMERS' function. Two options: disable current motion; enable current motion. Right move the joystick to save.

Example: As left picture, at 11:35 of Monday, the system will run the 12<sup>th</sup> Tour of NO. 1 monitor. At 11:35 of Tuesday, the system will stop running any tour. After setting, Move Joystick to **【BACK】** , right move joystick to back to former menu.



### 8.2.5 Alarm Setting

This function can be set to a certain way when the system detects alarm signal, Automatically transferred out of the designated preset position to develop the camera image, and automatic control the electric relay output.

1. Operate joystick, Move the cursor to **【SYSTEM SETTING】** Move joystick right to next menu .

2. Tilt up/down joystick, move the cursor to **【SET ALARM CONTACTS】** , Move joystick right to enter alarm Specification setting menu, Through numeric keyboard to set the alarm input data.

ACN: Alarm Input No **【01-16】** (Eg: CAN 02 is correspond to 2 alarm input)

CAM: Camera No **【01-48】**

DWL: Dwell time **【00-99】**

PRE: Camera preset NO., **【000-128】**

AUX: Alarm Output **【0-4】**

When the keyboard input 0, display “1 ON ” means the No 1 output electric relay action

When the keyboard input 1, display “2 ON” , means the No 2 output electric relay action

When the keyboard input 2, display “3 ON” , means the No 3 output electric relay action

When the keyboard input 3, display “4 ON” , means the No 4 output electric relay action

When the keyboard input 4, means no electric relay action CN :Choose connect operate:

When keyboard input 0, the screen will display “T” , it means after the alarm triggered, implement the corresponding tour is corresponding with the CAM

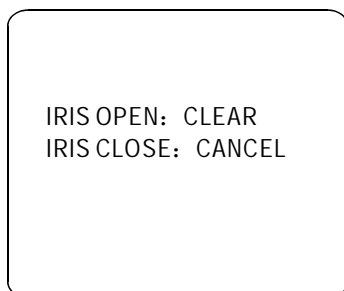
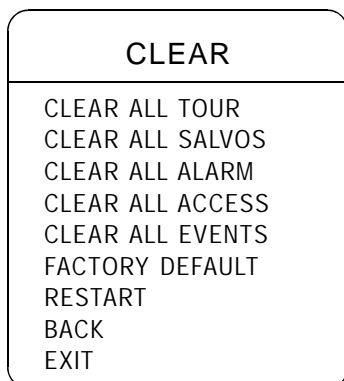
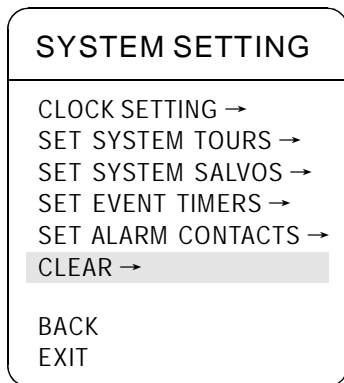
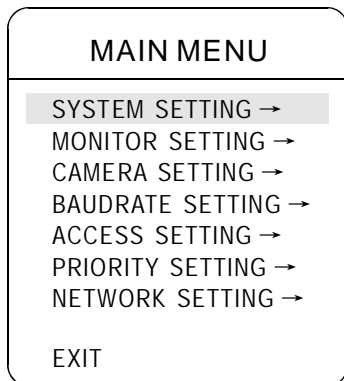
When keyboard input 1, the screen will display “N” , it means after the alarm triggered, will not implement the corresponding tour ,only output the CAM corresponding with the camera image signal.

Totally 2 pages ,every page can set 8 alarm output, can use PREV/NEXT to operate former or back.

3. After finish setting, move the joystick to **【BACK】** , move joystick right to back the menu.

**Notice:** This function must at the setting menu can set the alarm date to the monitor. when the alarm signal operate, the system can display the image at the connect monitor.





## 8.2.6 Clear and Restart Setting

1. Through keyboard to operate “SHIFT+SET” , enter the menu, Operate keyboard input the right password then click ENT to enter the system menu or Tilt up/down joystick to choose the right password, move joystick right to enter the system menu.

2. Operate joystick, Move the cursor to **【SYSTEM SETTING】** Move joystick right to next menu .

3. Tilt up/down joystick to move cursor to **【CLEAR】** ,Move joystick right to enter clear setting menu, Tilt up/down cursor to choose the clear items

**【CLEAR ALL TOURS】**

**【CLEAR ALL SALVOS】**

**【CLEAR ALL ALRAM】**

**【CLEAR ALL ACCESS】**

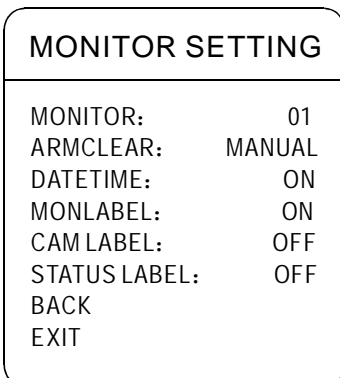
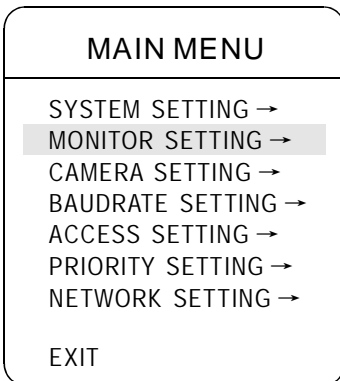
**【CLEAR ALL EVENTS】**

**【FACTORY DEFAULT】** Resume the Factory default. (Run this function, the camera parameter and system parameter will resume before production, clear all windows and alarm setting, Please be cautious to use this function.)

**【RESTART】** The Matrix restart

4. Set clear all tours for example: Operate joystick. move the cursor to **【CLEAR ALL TOURS】** ,Move joystick right, the screen will display Press **【Open】** to clear; Press **【CLOSE】** to exit, back to the menu. Press **【OPEN】** all the tours will clear.

**Notice:** Once clear all commands in the controlling menu, they does not resume, so please be careful of using.



### 8.3 Monitor Setting

This function can set all the monitor alarm clear, and all kinds of label display.

1. Through keyboard to press “SHIFT+SET” to enter .operate keyboard input the right password then press “ENT” to enter the system main menu or Tilt up and down to choose the right password .move the joystick to enter the system menu.

2. Operate joystick move the cursor to **【MONITOR SETTING】** move joystick right to enter the next menu.

3. Tilt up and down joystick move the cursor to **【MONITOR SETTING】** , move joystick right to enter the parameter setting, tilt up and down joystick to choose the demand setting.

**【MONITOR】** :Monitor No.(01-08)

**【ARMCLEAR】** :Alarm clear way. MANUAL and AUTO can optional.

a. when selected Manual, Once the alarm signal trigger, the system will implement the correspond action. At this moment must control by keyboard to press **【ALARM】** to clear all the alarm setting, after receiving the clear setting can implement the next alarm setting.

b. When selected Auto. Trigger the alarm, the system will implement the correspond action. After the time ended, system will clear this alarm setting, and implement the next alarm setting .

c. When setting the alarm for one tour, this alarm clear must by Manual (setting this clear alarm monitor for Auto)

**【DATE TIME】** Date /Time Display

**【MON LABEL】** Monitor Display

**【CAM LABEL】** Camera Display

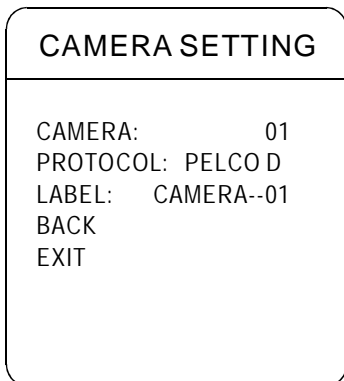
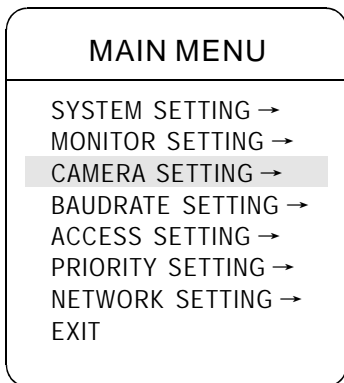
**【STATUS LABEL】** System Status Display

4. Set the System Status display for example: Operate the joystick move the cursor to **【STATUS LABEL】** , tilt up and down joystick to choose the demand setting.

ON: Monitor Screen will display

OFF: Monitor Screen will not display.

5. After finishing setting, move joystick to “BACK” move joystick right to next menu.



## 8.4 Camera Parameter Setting

This function can setting all kinds of camera's label ,control protocol

1. Through keyboard to press “SHIFT+SET” to enter .operate keyboard input the right password then press “ENT” to enter the system main menu or Tilt up and down to choose the right password .move joystick to enter the system menu.

2. Operate joystick move the cursor to **【CAMERA SETTING】** move joystick right to enter the next menu.

3. Operate joystick move the cursor to **【CAMERA】** ,move joystick right to enter the select status, tilt up and down joystick to select the correspond camera No.(01-48).Move joystick to select the Number

**【CAMERA】** :Camera No.(01-48)

**【PROTOCOL】** :Camera Protocol (PELCO-D、 PELCO-P)

**【LABEL】** :Camera Label

4. When the cursor is twinkling in the first character of the label, to move joystick to choose character, after editing move joystick right to save.

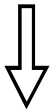
5. After finishing setting, move joystick to “BACK” to next menu.



**Notice:** The label can set up to 10 characters, and doesn't need editing characters. Clicking the right button continuously to jump over and using spacebar to replace the deleted characters. When you finish to edit a character, Clicking the right button to enter into the next editing character; when you finish to edit the last character, clicking the right button to save. Clicking the right button to exit.

Character of label is suitable for choosing as follow: 0-9 A-Z :<>-. , space. The editing ways of other labels are the same as above.

MAIN MENU	
SYSTEM SETTING →	
MONITOR SETTING →	
CAMERA SETTING →	
BAUDRATE SETTING →	
ACCESS SETTING →	
PRIORITY SETTING →	
NETWORK SETTING →	
EXIT	



BAUDRATE SETTING	
RS232:	19200
CAMERA:	19200
KEYBOARD:	19200
EXTEND:	19200
BACK	
EXIT	

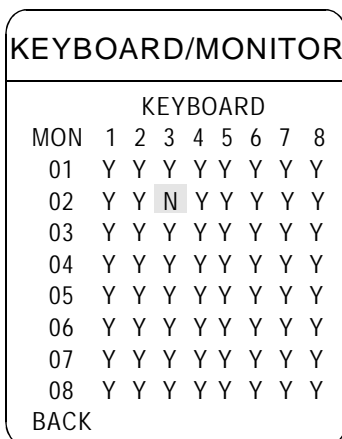
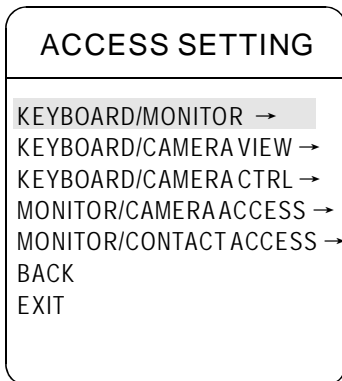
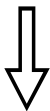
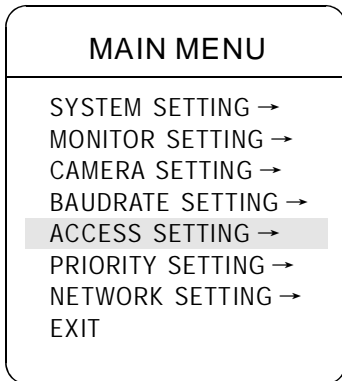
## 8.5 Baud Rate Setting

Baud rate setting including RS232 (PC COMMUNICATION),CAMERA、KEYBOARD EXTEND, Operate as following:

1. Through keyboard to press “SHIFT+SET” to enter .operate keyboard input the right password then press “ENT” to enter the system main menu or Tilt up and down to choose the right password .move the joystick to enter the system menu.
2. Operate joystick move the cursor to **【BAUDRATE SETTING】** move joystick right to enter the baud rate setting status. Tilt up and down to edit. The baud rate can optional :2400/4800/9600/19200.
3. After finishing the baud rate setting, move joystick to BACK to the former menu.



**Notice:** Edit the matrix keyboard interface communication baud rate ,need to restart the Matrix and edit the keyboard communication baud rate correspond to the system baud rate. otherwise the keyboard can not control the Matrix.



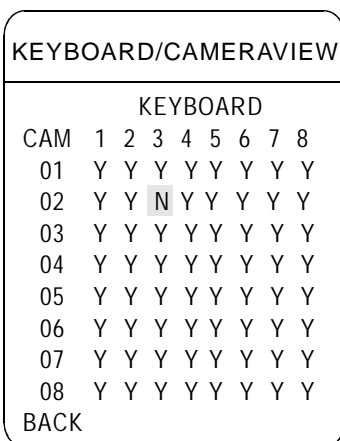
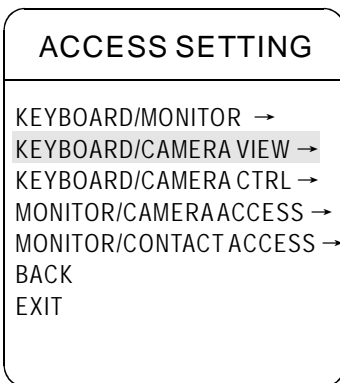
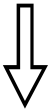
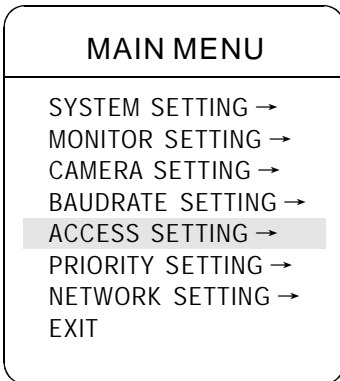
## 8.6 Access Setting

### 8.6.1 Keyboard/monitor access setting

To increase the safety and distinguish each ID keyboard operate, this function can precise setting keyboard, monitor, camera, alarm input access.

1. Through keyboard to press “SHIFT+SET” to enter .operate keyboard input the right password then press “ENT” to enter the system main menu or Tilt up and down to choose the right password .move joystick to enter the system menu.
2. Operate joystick move the cursor to **【ACCESS SETTING】** move joystick right to enter the access setting.
3. Operate joystick move the cursor to **【KEYBOARD/MONITOR】** move joystick right to enter the KEYBOARD/MONITOR access setting.  
 MON: Monitor(01-08)  
 KEYBOARD: Keyboard (8 rows, each row correspond to one ID)
  - a. Operate joystick, move the cursor to the user want to set the need parameter setting site, move joystick right to enter the access setting. The parameter site is twinkling, input the need setting No(0,1)by keyboard  
 When input “0” by keyboard, display “N” means the correspond monitor not allow to run the correspond keyboard  
 When input “1” display “Y” means the correspond monitor can call the correspond keyboard, also can use TRACK +/- to choose the parameter.
  - b. After finishing setting, move joystick to BACK, move joystick right to back the menu.

Eg: as left pic,the monitor in row 2 ,the keyboard in row 3 across “N” means the ID 3 keyboard can not run any action at the 2 monitor (Switch video ,run tour etc)



### 8.6.2 Keyboard/ camera view setting

1. Pls press “SHIFT+SET” combination key by keyboard, enter into code entry page, then press ENT key to enter into Main Menu after inputting the right password, or move the joystick up and down to choose the right password, and move the joystick right to enter Main Menu.

2. Move the joystick up and down to let the cursor point to **【ACCESS SETTING】** , move the joystick right to enter the setting menu.

3. Move the joystick up and down to let the cursor point to **【KEYBOARD/ CAMERA VIEW】** , move the joystick right to enter the setting menu. The setting procedure is as follows:

MON: Monitor (01-48)

KEYBOARD: Keyboard. 8 columns, each column corresponds to an ID number keyboard (1-8)

a. Move the joystick up and down to let the flashing cursor point to the desired item, press no. (0,1) by keyboard.

When inputting 0 using the numeric keypad, show "N" it means to restrict the keyboard from calling up the camera.

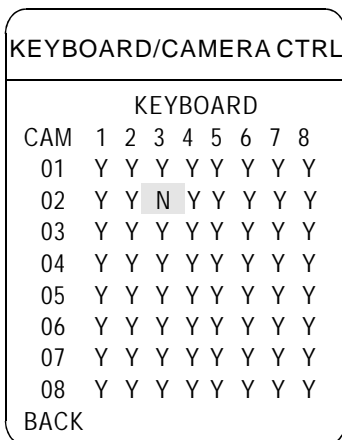
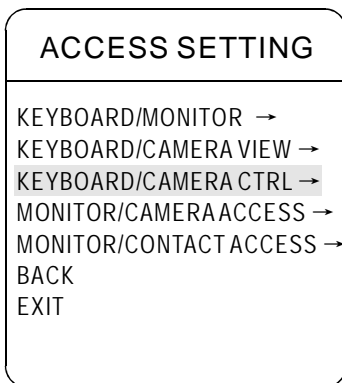
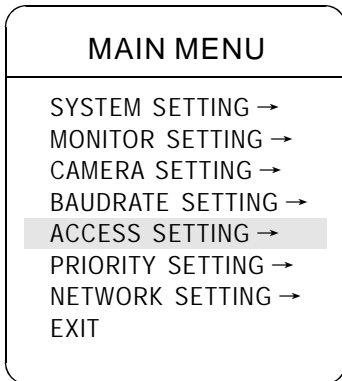
When inputting 1, show "Y", it means to allow the keyboard to call up the camera for video viewing.

Also can choice parameters by using "TRACK+/-"

b. Each page can set 8 domes, total 6 pages. Turning page up and down by using "PREV/NEXT"key.

c. When finished, move the joystick to **【BACK】** , move the joystick right to back the previous menu.

For example, show as left picture, parameter "N" in the cross-position between camera 02 and keyboard 03, it means camera 02 cannot be viewed by the keyboard 03.



## 8.6.3 Keyboard/ camera control setting

1. Pls press "SHIFT+SET" combination key by keyboard, enter into code entry page, then press ENT key to enter into Main Menu after inputting the right password, or move the joystick up and down to choose the right password, and move the joystick right to enter Main Menu.

2. Move the joystick up and down to let the cursor point to **【ACCESS SETTING】**, move the joystick right to enter the setting menu.

3. Move the joystick up and down to let the cursor point to **【KEYBOARD/ CAMERA CTRL】**, move the joystick right to enter the setting menu. The setting procedure is as follows:

MON: Monitor (01-48)

KEYBOARD: Keyboard. 8 columns, each column corresponds to an ID number keyboard (1-8)

a. Move the joystick up and down to let the flashing cursor point to the desired item, press no. (0,1) by keyboard.

When inputting 0 using the numeric keypad, show “**N**” it means to restrict the keyboard from controlling the camera.

When inputting 1, show “**Y**” it means to allow the keyboard to control the camera.

Also can choice parameters by using “RACK +/-” key.

b. Each page can set 8 domes, total 6 pages. Turning page up and down by using “REV / NEXT” key.

c. When finished, move the joystick to **【BACK】**, move the joystick right to back the previous menu.

For example, show as left picture, parameter "N" in the cross-position between camera 02 and keyboard 03, it means camera 02 cannot be controlled by the keyboard 03.

MAIN MENU	
SYSTEM SETTING →	
MONITOR SETTING →	
CAMERA SETTING →	
BAUDRATE SETTING →	
ACCESS SETTING →	
PRIORITY SETTING →	
NETWORK SETTING →	
EXIT	



ACCESS SETTING	
KEYBOARD/MONITOR →	
KEYBOARD/CAMERA VIEW →	
KEYBOARD/CAMERA CTRL →	
MONITOR/CAMERAACCESS →	
MONITOR/CONTACT ACCESS →	
BACK	
EXIT	



MONITOR/CAMEAACCESS								
	MONITOR							
CAM	1	2	3	4	5	6	7	8
01	Y	Y	Y	Y	Y	Y	Y	Y
02	Y	Y	N	Y	Y	Y	Y	Y
03	Y	Y	Y	Y	Y	Y	Y	Y
04	Y	Y	Y	Y	Y	Y	Y	Y
05	Y	Y	Y	Y	Y	Y	Y	Y
06	Y	Y	Y	Y	Y	Y	Y	Y
07	Y	Y	Y	Y	Y	Y	Y	Y
08	Y	Y	Y	Y	Y	Y	Y	Y
BACK								

### 8.6.4 Monitor/ camera access setting

1. Pls press “SHIFT+SET” combination key by keyboard, enter into code entry page, then press ENT key to enter into Main Menu after inputting the right password, or move the joystick up and down to choose the right password, and move the joystick right to enter Main Menu.

2. Move the joystick up and down to let the cursor point to **【ACCESS SETTING】** , move the joystick right to enter the setting menu.

3. Move the joystick up and down to let the cursor point to **【KEYBOARD/CAMERAACCESS】** , move the joystick right to enter the setting menu.

The setting procedure is as follows:

CAM: Camera (01-48)

KEYBOARD: Keyboard. 8 columns, each column corresponds to an ID number keyboard (1-8)

a. Move the joystick up and down to let the flashing cursor point to the desired item, press no. (0,1) by keyboard.

When inputting 0 using the numeric keypad, show "N", it means to restrict the moniitor from displaying video images from the camera.

When inputting 1, show "Y", it means to allow the monitor to display video images from the camera.

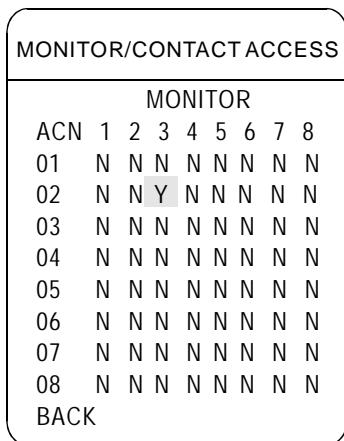
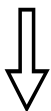
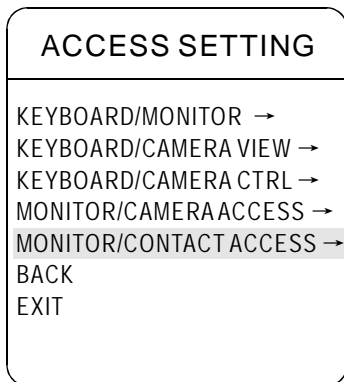
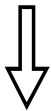
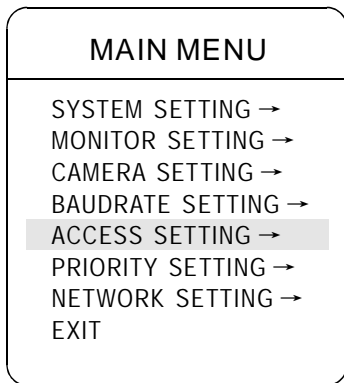
Also can choice parameters by using "TRACK + / -" key.

b.Each page can set 8 domes, total 6 pages. Turning page up and down by using "PREV / NEXT" key.

c.When finished, move the joystick to **【BACK】** , move the joystick right to back the previous menu.

For example, show as left picture, parameter "N" in the cross-position between camera 02 and monitor 03, it means camera 02 cannot be showed by the monitor 03.





## 8.6.5 Monitor/ contact access setting

1. Pls press “SHIFT+SET” combination key by keyboard, enter into code entry page, then press ENT key to enter into Main Menu after inputting the right password, or move the joystick up and down to choose the right password, and move the joystick right to enter Main Menu.

2. Move the joystick up and down to let the cursor point to **【ACCESS SETTING】** , move the joystick right to enter the setting menu.

3. Move the joystick up and down to let the cursor point to **【MONITOR/ CONTACT ACCESS】** , move the joystick right to enter the setting menu.

The setting procedure is as follows:

ACN: Alarm contact no. (01-16)

MONITOR: Monitor. 8 columns, each column corresponds to an monitor (1-8)

a. Move the joystick up and down to let the flashing cursor point to the desired item, press no. (0,1) by keyboard.

When inputting 0 using the numeric keypad, show "N" it means to disable the monitor from automatically responding to the alarm contact.

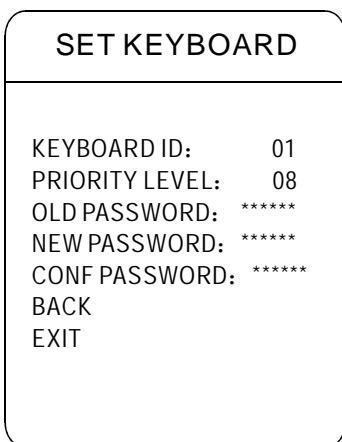
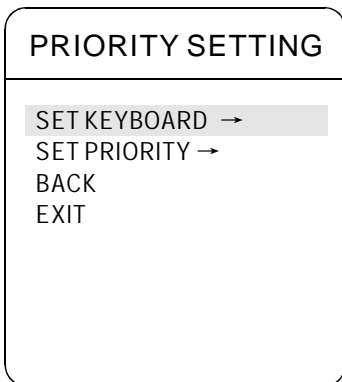
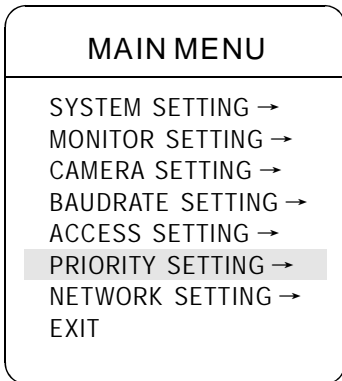
When inputting 1, show "Y", it means to allow alarmed videos triggered by the alarm contact to be automatically switched to the monitor.

Also can choice parameters by using "TRACK + / -" key.

b. Each page can set 8 alarm contacts, total 2 pages. Turning page up and down by using "PREV / NEXT" key.

c. When finished, move the joystick to [BACK], move the joystick right to back the previous menu.

For example, show as left picture, parameter "Y" in the cross-position between alarm contact 02 and monitor 03, it means to allow alarmed videos triggered by alarm contact 02 to be automatically switched to monitor 03.



## 8.7 Priority setting

This function can set the priority level of each keyboard ID no. And the code to enter into main menu.

### 8.7.1 Set keyboard

1. Pls press “SHIFT+SET” combination key by keyboard, enter into code entry page, then press ENT key to enter into Main Menu after inputting the right password, or move the joystick up and down to choose the right password, and move the joystick right to enter Main Menu.
2. Move the joystick up and down to let the cursor point to **【PRIORITY SETTING】** , move the joystick right to enter the setting menu.
3. Move the joystick up and down to let the cursor point to **【SET KEYBOARD】** , move the joystick right to enter the setting menu.
4. Move the joystick up and down to let the cursor point to **【KEYBOARD ID】** , move the joystick right to enter the setting menu. Move the joystick up and down to choose keyboard ID no. (01-08). When finished, move the joystick right to confirm. PRIORITY LEVEL (setting of the current priority levels of keyboard ID no.) setting is as below (01-08).

#### 8.7.1.1 Keyboard ID password setting

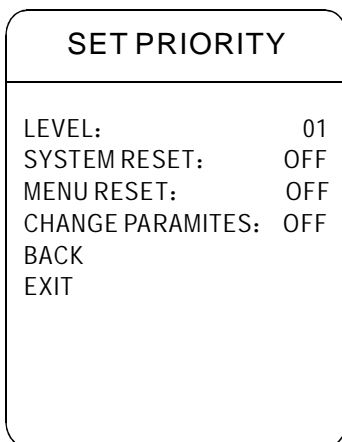
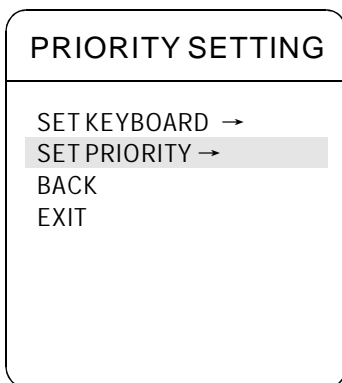
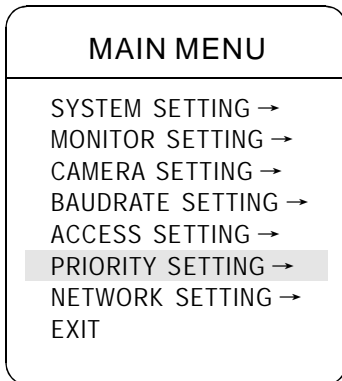
Factory default 6-digit password is 000000, user can modify the password when necessary. The setting procedure is as follows:

Move the joystick up and down to let the cursor point to **【OLD PASSWORD】** , move the joystick right to enter the setting, input the desired 6-digit password, then move the joystick right to confirm.

- 【OLD PASSWORD】** : Old password
- 【NEW PASSWORD】** : New password
- 【CONF PASSWORD】** : Confirm password

**Note:** The causes of unsuccessful password changing:

- 1.The old password is not correct
- 2.The new password and the confirmed new password are not the same



## 8.7.2 Set priority

1. Pls press “SHIFT+SET” combination key by keyboard, enter into code entry page, then press ENT key to enter into Main Menu after inputting the right password, or move the joystick up and down to choose the right password, and move the joystick right to enter Main Menu.

2. Move the joystick up and down to let the cursor point to **【PRIORITY SETTING】** , move the joystick right to enter the setting menu.

3. Move the joystick up and down to let the cursor point to **【SET PRIORITY】** , move the joystick right to enter the setting menu.

4. Move the joystick up and down to let the cursor point to **【LEVEL】** , move the joystick right to enter the setting menu. Move the joystick up and down to choose level no. (01-08). When finished, move the joystick right to confirm.

**【LEVEL】** level choosing (01-08)

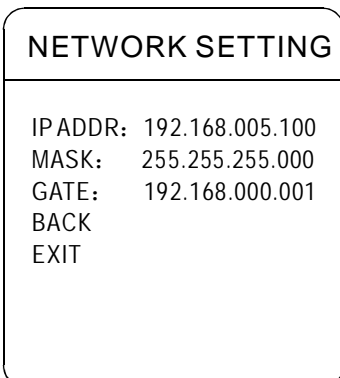
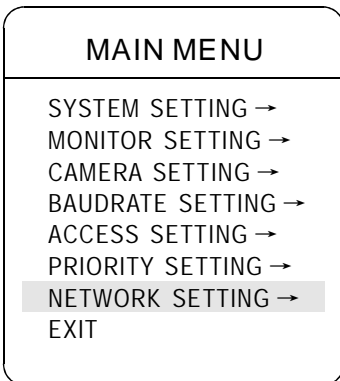
**【SYSTEM RESET】** system resetting

**【MENU RESET】** menu resetting

**【CHANGE PARAMETERS】** change parameters setting

The menu setting is as below, "ON" means open this function, "OFF" means clock this function. When finished, move the joystick right to save.

5. Move the joystick to [BACK], move the joystick right to back the previous menu.



## 8.8 Network parameters setup:

Use this function, you can set network attribute of system. IP, subnet mask, gateway all can be set respectively.

1. The system enter into the inputing passwords page by calling “SHIFT” and “SET” input the right passwords then press “ENT” or operate joystick to select right passwords, Move joystick to right and enter into main menu of system.
2. Moving joystick to move the cursor to **【NETWORK SETTING】** , and move joystick to enter into network parameters setting menu.
3. Moving joystick to move the cursor to “IP ADDR” Set proper IP, subnet mask, gateway according to customer's request.

- 【IP ADDR】** : IP setting (It consist of 4 bytes. The value of each bytes is from 0-255, Each matrix in network must have a IP)
- 【MASK】** : Subnet mask(It decides which part of IP is composed of subnet, which part of IP is used to identify main machine)
- 【GATE】** : Gate IP setting(Gate's function is used for communication of 2 or above 2 sections of network)

**Note:** IP of system and IP of keyboard must be in the same network, Otherwise, it will not connect normally, Please consult to professional network technical for specific operation.

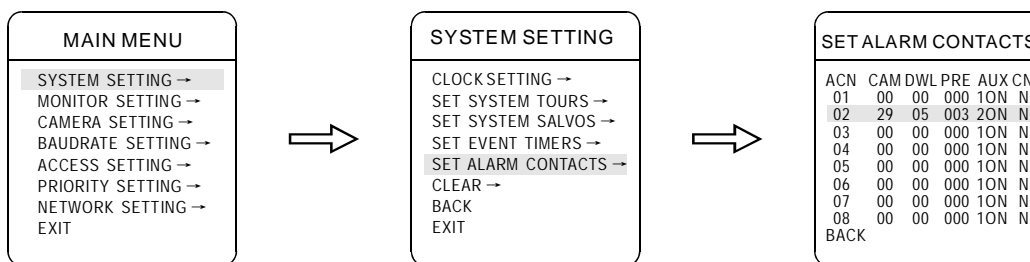
## 9. Operation Explanation

### 9.1 Video switch

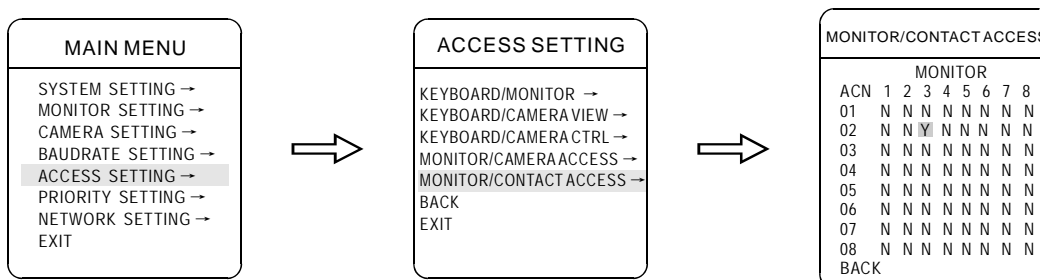
1. Select monitor: Press **【Number】** + **【MON】** to switch objective monitor
2. Select camera: Press **【Number】** + **【CAM】** to switch objective camera to present monitor
3. Previous Switch: Press **【PREV】** , the number of objective camera will be reduced 1
4. Next Switch: Press **【NEXT】** , the number of objective camera will be increased 1
5. Set tours in procession: Press **【Number】** + **【TOUR】** to set tour in procession on present monitor
6. Group switch: Press **【Number】** + **【PLAY】** to switch images of a group cameras to a group monitors

### 9.2 Alarm setting examples:

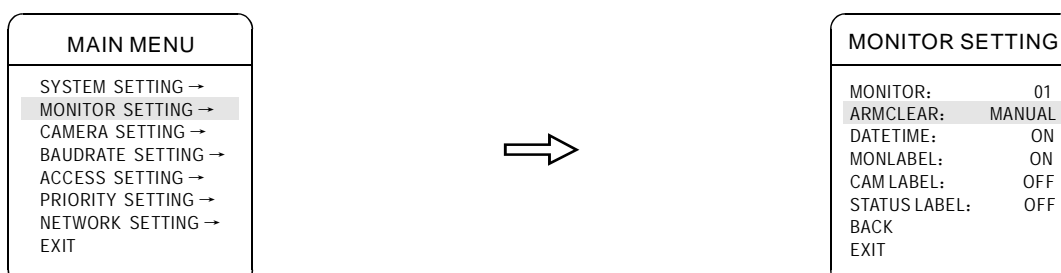
Purpose: While the second alarm inputted signal respond, auto-call the third preset of the 29th camera, the second relay will respond output, and image is output onto 3rd monitor. Clear alarm by hands if need. Setting as below:



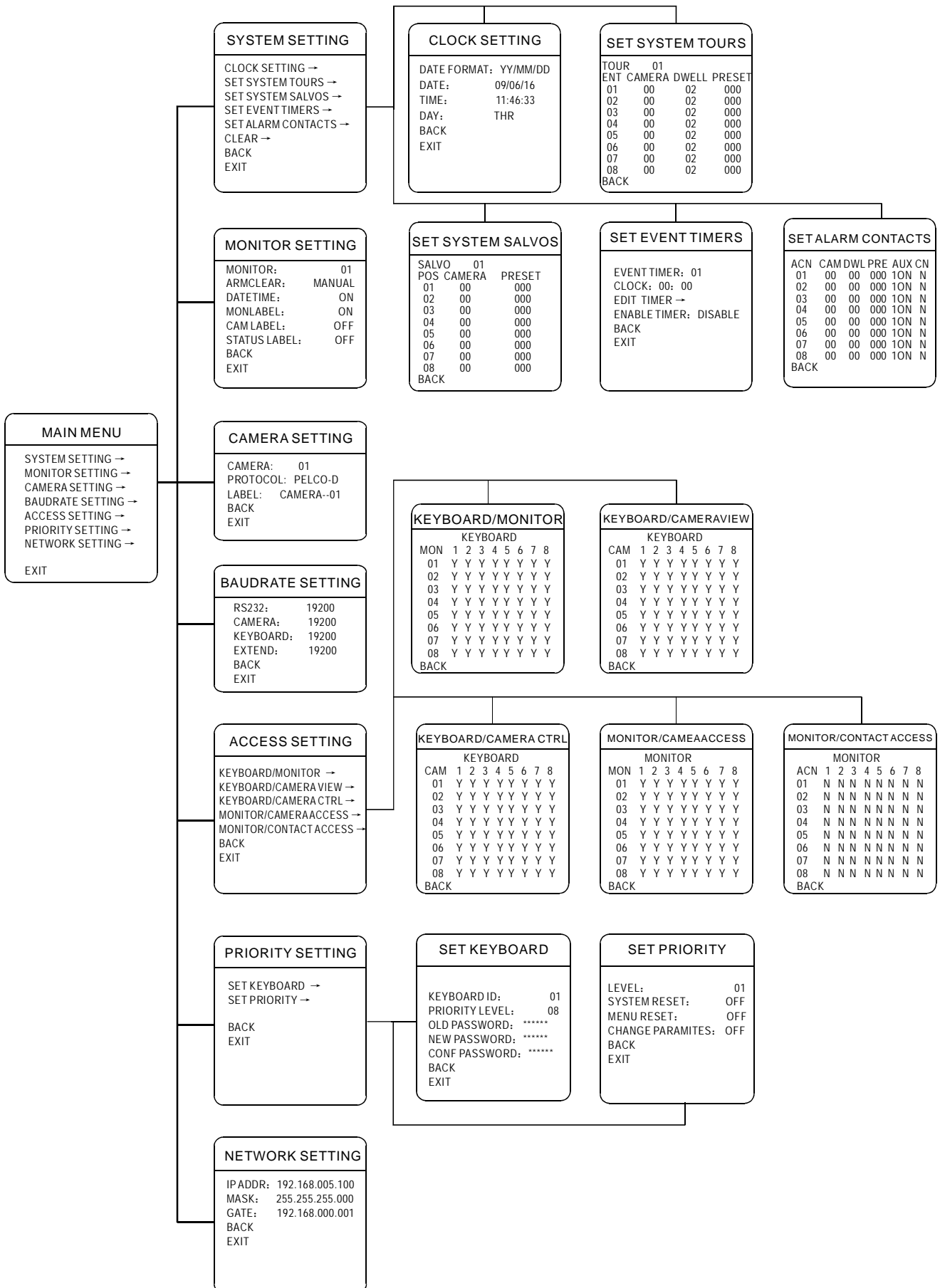
2. Enter into main menu Enter into system setting menu Enter into alarm setting menu.



3. Enter into main menu Enter into monitor setting menu. Set clear mode on 3<sup>rd</sup> monitor.



# 10. Menu Index



## 11. Maintenance service terms

### 1. Range of warranty

- The product will be maintained free for one year.
- The product will be obtained the free maintenance service if the same malfunction appears again within three months.
- Malfunction of products caused by force majeure (such as war, earthquake, lightning strike and so on), abuse, non-standard operation, change of construction, non-normal wear or accident are non-free of warranty.
- Please prevent from the damage which is caused by heavy pressure, the fierce vibration and soaks in the process of transportation and storage, which does not belong to the free maintenance scope.
- Please adopt the way of fission package or original package to transport because the product damage dose not belong to the free maintenance scope if you use the whole packing way, not the original packing way.
- The maintenance services will not be free when the pan/tilt module is disassembled or serviced by the user voluntarily.
- Our company implements the lifetime payable service if the product in malfunction has surpassed the warranty period.
- To the products with defect :if it's in the period of warranty, please fill in the form of warranty information correctly, describe the trouble in details, and provide the trouble in details, and provide original sales invoice or its copy.
- For the damage and loss which was caused by the user's specifically application, factory won't bear any risk and responsibility. The factory compensation made by breach of faith, negligence or tortious won't exceed the amount of the products. The factory won't bear any responsibility for the special, unexpected and continue damage caused by any other reasons.
- Our company has the final right of explanation for the above terms.

### 2. Warranty terms

- If the products are within the warranty time, the buyer should fill in the warranty card and send back together with the products.

### 3. Shipping

- If the product needs repaired, you can return it to the manufacturer through the supplier or directly. If you choose the later, please contact us in order to speed up the process. And our company only undertake the one-way freight from manufacturer to customer after maintenance.

