HD-SDI High Speed Dome Camera Series

USER'S MANUAL

Note:

※Please read the operation manual carefully before installing and using this unit

Warning:

To reduce the risk of fire or electric shock, do not expose this product to rain or moisture. Do not insert any metallic objects through the bentilation grills or other openings on the equipment.

CAUTION

RISK OF ELECTRIC SHOCK.

DO NOT OPEN.

This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

CAUTION: TO REDUCE THE RISK OF ELECTROIC SHOCK, DO NOT REMOVE COVER(OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

Content

I.   Points for Attention

1. Please read the operation manual carefully before installing and operating the product.
2. The product takes power supply of AC24V. The rated input voltage of the camera is marked on the base or other corresponding place.
3. During the course of transportation, storage and installation, the product should be avoided from incorrect operations such as heavy pressing, strong vibration etc., which can cause damage of product as there are sophisticated optical and electronic devices inside the machine.
4. Do not attempt to disassemble the camera. In order to prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside.
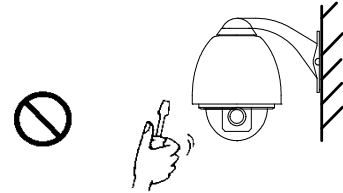
5. Always follow all electrical standards for safety when it is in operation. Adopt the particular power supply which is provided with the unit. RS-485 and video signal should keep enough distance with high voltage equipments and cables when they are in transmission. Precautions for anti-lightning and anti-surging should be taken if necessary.
6. Do not operate it in case temperature, humidity and power supply are beyond the limited stipulations.
7. Do not let the camera aim at the sun or the object with extreme light whatsoever it is switched on or not. Do not let the camera aim at or monitor bright and standstill object for a long time.
8. Do not use aggressive detergent to clean the main body of the camera. Wipe dirt with dry cloth. If needed, mild detergent can be used suitably.
9. Operate the intelligent speed dome camera with great care to avoid shock or vibration. It operate incorrectly, the Speed Dome could be damaged
10. Be careful to avoid to crash, Never mount the unit on a ceiling that cannot support its weight.
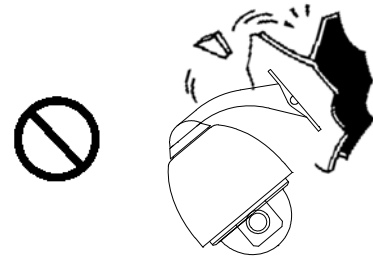
11. If necessary, use a commercial lens cleaning paper to clear the lens windows. Gently wipe the lens window until clean.

II. Functions Description

1. Integrated speed-variable PAN/TILT
a. Turning 360°horizontally and continuously with unlimited positions and an adjustable speed from **0 -- 300°/s**; turning 0 - 90°vertically with a speed up to **120°/s.**
b. Running stably at low speed with super lower noise. Pictures have no shaking.
c. the location precision up to **±0.1°**.
d. 6 programmable tracks, 4 scanning tracks,1 pattern track.
e. Idle ptorection and power-off memory function.
f. Display orientation,title of speed dome camera,temperature, alarm and other informations

2. High Intelligent Degree

a. **255 preset** positions can be preset with powerless memory;
b. The camera can scan horizontally between two points and scan speed can be modified. The positions of linear scan are optional and the dome camera can scan the range larger or smaller than 180° between any two points with adjustable speed;
c. Automatic speed matching function
d. Built-in PELCO-D、PELCO-P protocol, baud rate from 2400bps to 19200bps

3. Functions of the Camera

a. Description of the Focus Control Mode: the user can adjust the focus of the camera manually.
b. Description of Backlight Compensation: when the object to be shot is dark and looks dim, the user can open the backlight compensation according to actual need.
c. Description of White Balance: when the image has color distort on the screen, the user can set different modes by orders. There are 6modes for options: Indoor Mode   Outdoor Mode   Touch Mode   Automatic   Trace   of White Balance ATW   Manual WB-MAN   Automatic Mode.
d. Description of ZOOM Control: user can "pull near" or "push far" the lens according to actual conditions
e. Electron shutter: it is 1/50 sec after the camera electrified, and it will display 50 on the monitor.
f. AE Mode: setup of Manual/Automatic.
g. Low illumination set: It is used only when the external brightness is extremely low. Normally the camera works on the automatic state. In case the external brightness is lower than 1Lux, the camera can be switch to the Zero Illuminance state automatically and icon   appears on the screen. You can also set the Zero Illuminance state manually
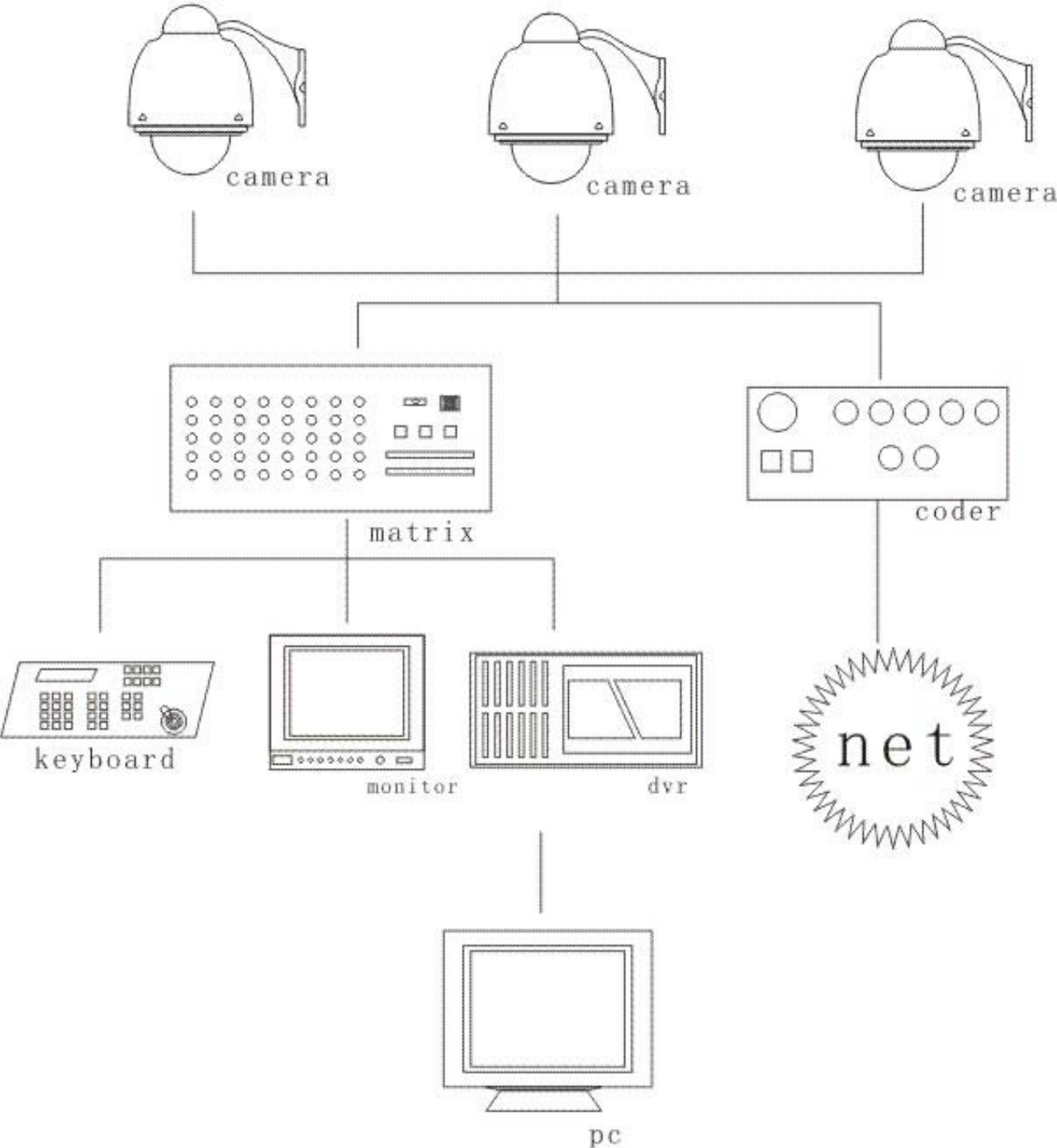
III. System connection

Fig 1

IV.Installation

1.Conect description

1.1 4 kinds of bracket installation for outdoor speed dome：wall mount, cornet mount, ceilling mount, pole mount.

1.1.1 Wall mount
Check the wall and make sure it's firm. The bearing weight is more than 8 times of the speed dome weight.

a. Label installation position

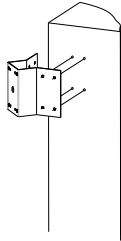b. Install the bracket

c. Assemble the speed dome

d. Fix the speed dome

e. Connection of cables
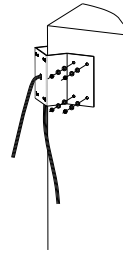
1.1.2 Corner mount

Check the wall and make sure it's firm. The bearing weight is more than 8 times of the speed dome weight.

f. Label installation position

a. Install the base

Make the power cable, RS485 cable and video cable through the hole of base

g. Install the bracket
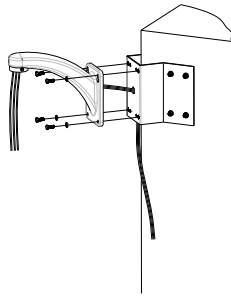
b. The same way of wall mount installation

1.1.3 Pole mount

The diameter of pillar is 130-150mm(5.12"~6)

a. Install the base

b. Install the bracket

c. The same way of wall mount installation

1.1.4 Ceilling mount

If the ceiling is too low, we can install the speed dome on the base directly.

a. Label installation position

c. Installation the base

b.
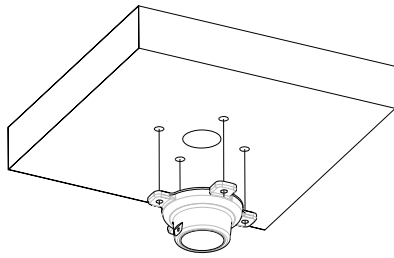
Make the cable through the hole and fix the base on the ceilling.

Note: if install outdoor, please coat silicone gel on the base.

Silica Gel
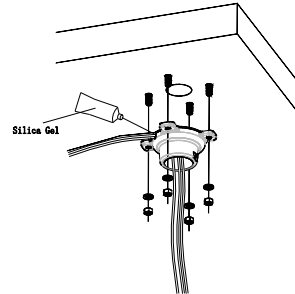
d. Install the bracket

Note:if outdoor, please use silicone gel and rubber belt

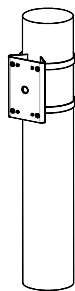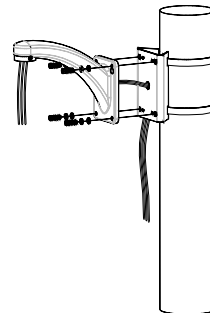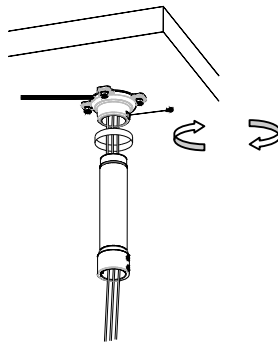d. Install the dome housing

Note, if outdoor, please use waterproof tapes, if the ceilling is too low, we may install on the base directly.
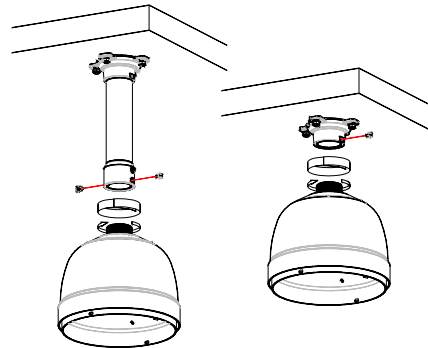
e. Connection of cables
According to the connection identifier
1.2. Installation for indoor speed dome.

1.2.1 Carefully read the operation manual and the point for attention.
1.2.2 Carefully set the communication code, baud rate and address of the high speed dome camera and make confirmation they are correct.

1. Mouting Base
2. Tube
3. Shading Cover
4. Outer Cover
5. Video Camera
6. Connecting Cable
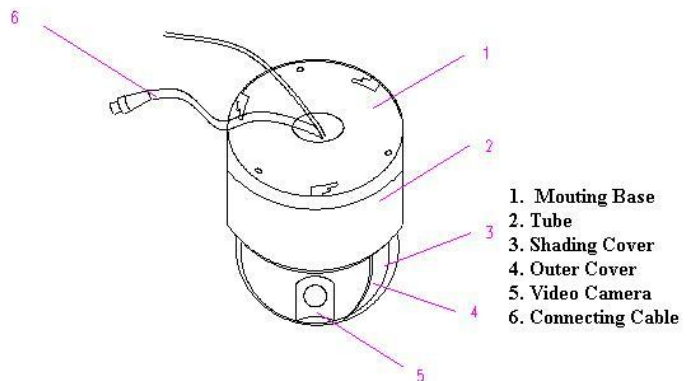
1.2.3 Take out the plug of the dome camera and connect external power supply, RS485 and VF wires as per marks on the plug. Take care that the power supply of the spherical camera and adopt the particular power supply which is provided with the dome camera.

1.2.4 Take out the mounting base from the spherical camera, thread the connecting wire from behind through the central hole of the base. Fix the base by three screws on the ceiling as per the drawing, and connect the wire with the ball. Aim the latch in the ball with the notch on the base as per the drawing, and mount the ball upward to the position and turn it clockwise until the spring sheet on the base takes effect. In case the wire could not come out from behind the ceiling, you can open a hole on the edge of the casing for running of the wire.

2.Product size

Fig 4.1

3.Connection identifier

RED LINE(DC12V + IN) — RED CONNECTOR (POWER IN)
BLACK LINE(DC12V - IN)
ORANGE LINE(RS485+) — BLACK CONNECTOR (RS485 CONTROL IN)
YELLOW LINE(RS485-)
VIDEO OUT
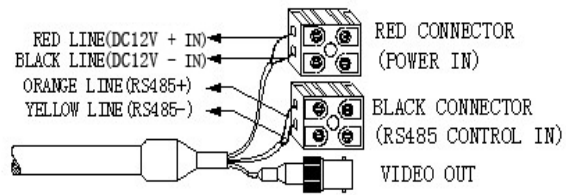
Fig 4.2

V. Operation Introduction

1.　　Basic Operation of the Menu

1.1 Open the main menu of the setup by the keyboard or the matrix via the operation "Call No. 64 preset position

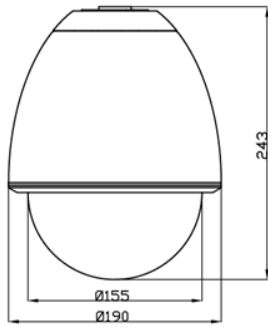1.2 When the menu is displayed on the screen, operate "TILT UP", "TILT DOWN" to move the cursor to the option to be set, operate "PAN LEFT", "PAN RIGHT" to modify the content or the order to enter this option.

1.3 All setups on the menu couldn't be lost even power failure

2.　　Setup of the Menu

1.

1.1　MAIN MENU

1.1.1　SYSTEM SETUP.

1.1.2　DISPLAY SETUP:　to enter the submenu of display of the screen by which ID display, title display of preset point and display of camera screen can be set.

```
      MAINMENU
---------------------------
1.<SYSTEM SETUP>
2.<DISPLAY SETUP>
3.<CAMERA SETUP>
4.<MOTION SETUP>
 5.<PRIVACY MSK>
6.<ADVANCE SETUP>
7.SYSTEM RESET
8.EXIT
```

1.1.3　CAMERA SETUP:　to enter the submenu of setup of normal data of camera.

1.1.4　MOTTON SETUP:　to enter the setup of enhanced function of dome camera.

1.1.5　PRIVACY MASK: to enter the submenu of the camera privacy function setting.

1.1.6　ADVANCE SETUP.

1.1.7　SYSTEM RESET: to reset the system. The dome will make self-checking function after it carries out reset function, the station for the dome's reset is ：AUTO FLIP -ON/PTZ SPD RATE-ON/ ID DISPLAY-ON/ANGLE DISPLAY-OFF/ DOME LABEL DISPLAY-OFF/ D-ZOOM-OFF/ PT INTERLOCK –AF AUTO/BLC-OFF/ AUTO HOME –OFF/ PARK TIME -4MIN/FAN-AUTO/ TIMP DISPAY-OFF。

1.1.8 EXIT: to quit the main menu.

1.2 SYSTEM SETUP

1.2.1 SYSTEM INFORMATION: to display the system information.

1.2.2 AUTO FLIP: to ON/OFF the dome 180°auto flip.

1.2.3 PROP PAN SPD: to ON/OFF the proportional pan function.

1.2.4 RESERVED：This function setting also kept for this products.

1.2.5 ALARM SETUP:

1.2.5.1   ALARM NO: N/A

1.2.5.2   ACTION: N/A

1.2.5.3   ALARM: N/A

1.2.5.4   RETURN: to return to the SYSTEM SETUP menu.

1.2.6 RETURN: to return to the main menu.

1.3 DISPLAY SETUP

1.3.1 CAMERA ID: when it is set at ON, address of dome camera

appears on the screen such as "CAM 001". The default setting

is ON.

1.3.1.1   DISPLAY: to ON/OFF the dome address.

1.3.1.2   POSITION: to set the position of dome address, there
positions to be displayed: TOP-L (top-left corner), TOP-R
(top-right corner), BOTT-R (bottom-right corner) AND
 BOTT-L (bottom-left corner).

1.3.1.3   RETURN: to return to the DISPLAY SETUP menu.

1.3.2 ANGLE DISPLAY: to enter the angel display submenu.

1.3.2.1   DISPLAY: to ON/OFF the angle display. ONEPUSH
singly displayed, auto disappeared in 4 seconds.

1.3.2.2   POSITION: to set the display position of the angle:

```
....SYSTEM SETUP....
1.SYSTEM INFORMATION
2.AUTO FLIP:          ON
3.PROP PAN SPD:       ON
4.RESERVED:           N/A
5.<ALARM SETUP>
6.RETURN
```
⇩
```
SYSTEM INFORMATION
CAMERA SN:000000
CAMERA ID :001
PROTOCOL :P003
BAUD RATE:2400BPS
MODEL     :S100P
VERSION   :1.00
```
```
....SYSTEM SETUP....
1.SYSTEM INFORMATION
2.AUTO FLIP:          ON
3.PROP PAN SPD:       ON
4.RESERVED:           N/A
5.<ALARM SETUP>
6.RETURN
```
⇩
```
ALARM SETUP
1.ALARM NO:      N/A
2.ACTION:        N/A
3.ALARM:         N/A
4.RETURN
```
```
DISPLAY SETUP
1.<CAMERA  ID >
2.<ANGLE DISPLAY>
3.<PRESET LABEL>
4.<DOME LABEL>
5. RETURN
```
⇩
```
CAMERA ID
1.DISPLAY        ON
2.POSITION       TOP-R
3.RETURN
```
```
DISPLAY SETUP
1.<CAMERA  ID >
2.<ANGLE DISPLAY>
3.<PRESET LABEL>
4.<DOME LABEL>
5. RETURN
```
⇩
```
ANGLE DISPLAY
1.DISPLAY        ON
2.POSITION       TOP
3.RETURN
```

TOP/BOTTOM.

1.3.2.3　RETURN: to return to the DISPLAY SETUP menu.

1.3.3　PRESET LABEL: to enter the PRESET LABEL submenu.

1.3.3.1　DISPLAY: to ON/OFF the display of the preset label. If it is ON, the preset label will be displayed on the left of the monitor when the preset position is setting.

1.3.3.2　POSITION: to set the display position of the preset label: TOP-at the top of the monitor, BOTTON- at the bottom of the monitor.

1.3.3.3　RETURN: to return to the DISPLAY SETUP menu.

1.3.4　DOME LABEL: to enter the DOME LABEL submenu.

1.3.4.1　DISPLAY: to ON/OFF the display of the dome label.

1.3.4.2　POSITION: to set the display position of the dome label: TOP-at the top of the monitor, BOTTON- at the bottom of the monitor.

1.3.4.3　RETURN: to return to the DISPLAY SETUP menu.

1.3.5　RETURN:　to return to MAIN MENU.

1.4　CAMERA SEUP: If setting camera parameter is N/A, it means the camera can not support this function.

1.4.1　D-ZOOM: to ON/OFF the digital zoom.

1.4.2　DISPLAY: to ON/OFF the display of the camera information.

1.4.3　FOCUS MODE: NON: iris & focus invariably / A-AUTO: Auto iris / F-AUTO: Auto focus / AF-AUTO: Auto iris and focus.

1.4.4　ICR: to set the AUTO/DAY/NIGHT situation.

1.4.5　BLC: to ON/OFF the back light compensation.

1.4.6　L-SYNC: to ON/OFF the external synchronization. (Only for some special cameras.)

1.4.7　SLOW SHUTTER:　frame accumulation with two options

Manual/Automatic. When camera screen is opened under automatic state, ASS displays on screen. (Only sony camera has this function)

1.4.8 WB/AE SETUP.

1.4.8.1 AE MODE: to set the automatic exposure to MANU/AUTO/SHUTTER mode; SHTTER: it is only available at the AE MODE is SHUTTER.

1.4.8.2 WB MODE: to set the white balance mode: ATW / MANUAL / AUTO / INDOOR / OUTDOOR / ONEPUSH; R GAIN: it is only available for pulsing red at the WB MODE

Is MANUAL.

B GAIN: it is only available for pulsing blue at the WB MODE is MANUAL.

1.4.8.3 WDR MODE: to ON/OFF the Wide Dynamic Range mode.

1.4.8.4 EXPCOMP SETUP：exposure-compensation.

1.4.8.5 EXPCOMP: exposure-compensation.

1.4.8.6 AMOUNT: the value of exposure-compensation:-7 - +7.

1.4.8.7 RETURN: to return to the WB/AE SETUP menu.

1.4.9 RETURN: to return to the MAIN MANU.

1.5 MOTION SETUP

1.5.1 PRESETS: to enter the Preset Position submenu.

1.5.1.1 PRESET NO: to edit the preset number.

1.5.1.2 EDIT LABEL: to edit the preset label. After entering the edit mode, 1-225 present positions. It displayed on screen as the pictures: in the picture, "PRESET NO" stands for NO.1 present position, the topic is "NO LABEL". Using PANLEFT/RIGHT can remove the cursor, TILT UP/DOWN can modify the number, press the "CLOSE", exit edit mode and save it. The topics of the present positions includes 10

characters at most, they are 0-9, A-Z, blank and special characters including 〈 = 〉? ，@\+、-./ 〕 etc. Notes: the first letter must be from 0-9 or A-Z, in case that, it stands for canceling the preset position topic. When testing the preset position, it only display "NO.XXX", not display the topic.

```
PRESET NO: 01
LABEL: NO  LABEL



            CLOSE:EXIT
```
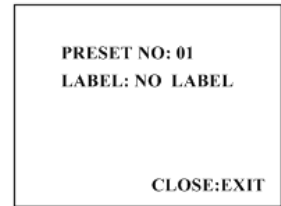
1.5.1.3   CLR LABEL: to clear the preset label.

1.5.1.4   RETURN: to return to the PROGRAM SETUP submenu.

1.5.2 AUTO SCAN: to enter the Auto Scanning submenu:

1.5.2.1   SCAN NO: to set the auto scanning number, maximum is 03.

```
___ MOTION SETUP ___ .

1.<PRESETS>
2.<AUTO SCAN >
3.<PATROLS>
4.<PATTERNS>
5.<CLEAR >
6. EDIT DOME LABEL
7. RETURN
```

1.5.2.2   SPEED: to set the scanning speed for each patrol.

1.5.2.3   SET START LIMIT: to set the start position of the scanning. After the user enter this item, to use the joystick to move the dome camera and press "CLOSE" to save the current position.

```
     AUTO SCAN
-----------------------
1. SCAN NO ·        001
2. SPEED            001
3. SET START LIMIT
4. SET END LIMIT
5. RUN SCAN
6. CLEAR SCAN
7. RETURN
```

1.5.2.4   SET END LIMIT: to set the end position of the scanning. After the user enter this item, to use the joystick to move the dome camera and press "CLOSE" to save the current position.

1.5.2.5   RUN SCAN: to run the scanning function, Please set the start and end position first. And if the start and end position are the same. The dome camera will scanning for 360°。To press "CLOSE" to exit.

```
_ MOTION SETUP __ .

1.<PRESETS>
2.<AUTO SCAN >
3.<PATROLS>
4.<PATTERNS>
5.<CLEAR >
6. EDIT DOME LABEL
7. RETURN
```

1.5.2.6   CLEAR SCAN: the clear the setting of the scanning, to press "CLOSE" to exit.

1.5.2.7   RETURN: to return to the PROGRAM SETUP menu.

1.5.3 PATROLS: to enter the submenu to set the patrols.

```
      PATROLS
--------------------
1. PATROL NO  .   001
2. EDIT PATROL
3. RUN PATROL
4. CLEAR PATROL
5. RETURN
```
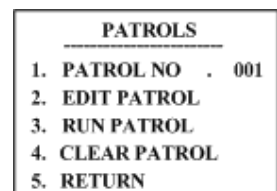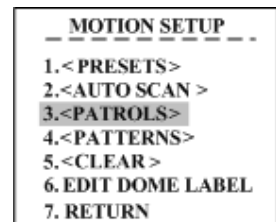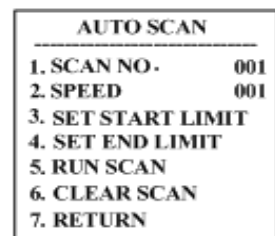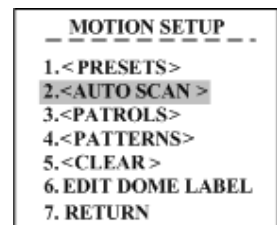
1.5.3.1 PATROL NO: to set the patrol number.

1.5.3.2 EDIT PATROL: to set the parameter of the patrol, after enter this item,

the monitor is as following:

NO – Patrol number
POS – Preset number
TM – Stop time

After entering into edit area,
screen shows as follows:
Edit Area, data of 2 patrol
position appears on one line.

PATROL:01 – It means the set
No.1 patrol
CLOSE:EXIT – Press CLOSE to exit
edit state

Both top and bottom lines display prompt and information of each
patrol is displayed on the middle of the screen. **Data of 2 Patrol
points appears on one line.** And to press PAN LEFT/RIGHT to
move the cursor, to press TILT UP/DOWN to modify the data, to press
"CLOSE" to save and quit the edit state.

1.5.3.3 RUN PATROL: to run the patrol, press "CLOSE" to exit.

1.5.3.4 CLEAR PATROL: to clear the patrol.

1.5.3.5 RETURN: to return to the PROGRAM SETUP menu.

1.5.4 PATTERNS: to enter the PATTERN setting submenu.

1.5.4.1 PATTERNS: to edit the pattern number. No 1-3 for optional.

1.5.4.2 RECORD PATTERN: to record the pattern, and press
"CLOSE" to exit.

1.5.4.3 RUN PATTERN: to run the pattern, and will quit the menu
automatically, and any move of the joystick will stop this
function.

1.5.4.4 CLEAR PATTERN: to clear the setting of the pattern.

1.5.4.5 RETURN: to return to the superior menu.

1.5.5 CLEAR: to enter the CLEAR submenu.

1.5.5.1   CLEAR ALL PRELABEL: to clear all the preset positions.

MOTION SETUP
1.< PRESETS >
2.<AUTO SCAN >
3.<PATROLS>
4.<PATTERNS>
5.<CLEAR >
6. EDIT DOME LABEL
7. RETURN

PATTERNS
1.PATTERN NO.   001
2.RECORD PATTERN
3.RUN PATTERN
4.CLEAR PATTERN
5.RETURN

4.<PATTERNS>
5.<CLEAR >
6. EDIT DOME LABEL
7. RETURN

CLEAR
1.CLEAR ALL PRELABEL
2.CLEAR ALL SCAN
3.CLEAR ALL PATROLS
4.CLEAR ALL PATTERNS
5.RETURN

1.5.5.2   CLEAR ALL SCAN: to clear all the scanning.

1.5.5.3   CLEAR ALL PATROLS: to clear all the patrols.

1.5.5.4   CLEAR ALL PATTERNS: to clear all the patterns.

1.5.5.5   RETURN: to return to the PREGRAM SETUP menu.

1.5.5.6   EDIT DOME LABEL: To edit the dome label. Set a label for each
              dome, the label is make up of 10 characters, and the optional
              character is the same as 2.5.1.2.

2.5.7   RETURN: to return to the MAIN MENU.

1.6   PRIVACY MASK:

1.6.1   PRIVACY MASK: to set the privacy number. 1-4 for optional.

         (different cameras have different choose)

1.6.2   MASK SHADE: to set the color of the mask area.

1.6.3   DISPLAY: to ON/OFF the privacy function

1.6.4   EDIT MASK: to edit the mask area.

1.6.5   RETURN: to return to Main Menu.

```
     PRIVACY MASK
– – – – – – – – – – .
1.PRIVACY MASK  01
2.MASK SHADE      WHITE
3.DISPLAY              ON
4.EDIT MASK
5.RETURN
```
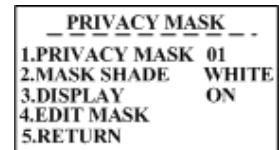
1.7 ADVANCE SETUP:

1.7.1 <u>HOME SETUP: to enter the auto home submenu.</u>

1.7.1.1   AUTO HOME: to set ON to open the AUTO HOME function, it is
              mean the dome camera will back to the home position without any
              action in the PARK TIME. And set OFF to close this function.

1.7.1.2   HOME ACTION: to set the auto home point. For example:
              if the user want to set one scene to be the HOME, just set
              the dome camera to this scene, and set it to be the preset
              No:3, then open this menu, set the HOME ACTION to be
              "3". And don't forget to set the AUTO HOME to be ON.
              The HOME ACTION could be the preset "1-50", RESUME,
              PATROL 1, SCAN 1, PATT 1. The "1-50" are the preset
              number, RESUME is mean to back to the scene before

```
    ADVANCE SETUP
– – – – – – – – – – .
1.<HOME SETUP>
2.<PASSWORD>
3.<CAM ID SETUP>
4.<FAN CONTROL>
5.LANGUAGE:  ENG
6.SET NORTH POSITION
7.RETURN
```

⇩

```
    HOME SETUP
– – – – – – – – – – .
1.AUTO HOME      ON
2.HOME ACTION  01
3.PARK TIME        01
4.PWR RESUME   ON
5.RETURN
```
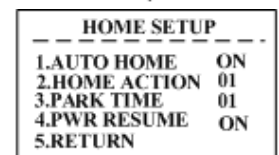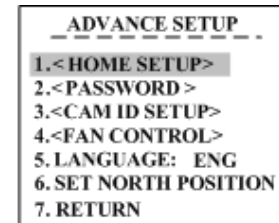
the manual control, PATROL 1 is the patrol No.1, SCAN 1 is the scanning No.1 and the PATT 1 is the pattern No.1.

1.7.1.3   PARK TIME: to set the park time of the dome camera, it is mean how long the dome camera will be back to the HOME. The time from 1-99 minutes.

1.7.1.4   PWR RESUME: to ON/OFF the function, which the dome camera will be back to the scene before the power off.

1.7.1.5   RETURN: to return to the ADVANCE SETUP Menu.

1.7.2   PASSWORD: to enter the password setting menu. (Initial password is 111111.)

1.7.2.1   PASSWORD: to ON/OFF the password protection.

1.7.2.2   MODIFY KEY: to enter the new password.

1.7.2.3   CONFIRM KEY: to enter the new password again for confirm.

1.7.2.4   RETURN: to return to the ADVANCE SETUP menu.

1.7.3   CAM ID SETUP: to enter the soft ID setting submenu.

1.7.3.1   CAMERA S/N: to display the series number of the dome.

1.7.3.2   INPUT S/N: to input the series number of the dome.

1.7.3.3   OLD ID: to display the old address of the dome.

2.7.3.4   NEW ID: to display the new address of the dome. Input the series number before inputting the new address.
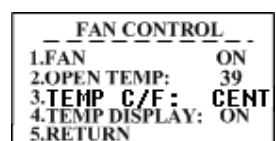
2.7.3.5   SAVE & RETURN: to save and return to the ADVANCE SETUP menu.

2.7.3.6   CANCEL & RETURN: to cancel and return to the ADVANCE SETTING menu.

2.7.4   FAN CONTROL: to enter the fan control setting submenu.

2.7.4.1 FAN: to set the work condition of the fan: ON / OFF / AUTO.

2.7.4.2 OPEN TEMP: to set the work temperature of the fan

ADVANCE SETUP
1.< HOME SETUP>
2.< PASSWORD >
3.< CAM ID SETUP>
4.< FAN CONTROL>
5. LANGUAGE: ENG
6. SET NORTH POSITION
7. RETURN

PASSWORD
1. PASSWORD   ON
2. MODIFY KEY   ******
3. CONFIRM KEY   ******
4. RETURN

ADVANCE SETUP
1.< HOME SETUP>
2.< PASSWORD >
3.< CAM ID SETUP>
4.< FAN CONTROL>
5. LANGUAGE: ENG
6. SET NORTH POSITION
7. RETURN

CAM ID SETUP
1. CAMERA S/N : 0001
2. INPUT S/N: 0001
3. OLD ID: 001
4. NEW ID: 001
5. SAVE& RETURN
6. CANCEL& RETURN

ADVANCE SETUP
1.< HOME SETUP>
2.< PASSWORD >
3.< CAM ID SETUP>
4.< FAN CONTROL>
5. LANGUAGE: ENG
6. SET NORTH POSITION
7. RETURN

FAN CONTROL
1.FAN   ON
2.OPEN TEMP: 39
3.TEMP C/F: CENT
4.TEMP DISPLAY: ON
5.RETURN

under AUTO condition.

2.7.4.3 Temperature Fahrenheit / Celsius display switch.

2.7.4.4 TEMP DISPLAY: to ON/OFF the display of the temperature.

2.7.4.5 RETURN: to return the ADVANCE SETUP menu.

2.7.5 <u>LANGUAGN: to select the language.</u>

2.7.6 <u>SET NORTH POSITION.</u>

2.8   EXIT: to exit the main menu.

3. Code switch setting

3.1 Code Switch position

Fig 5.1

3.2 Setup of Coding Switch of Dome Camera

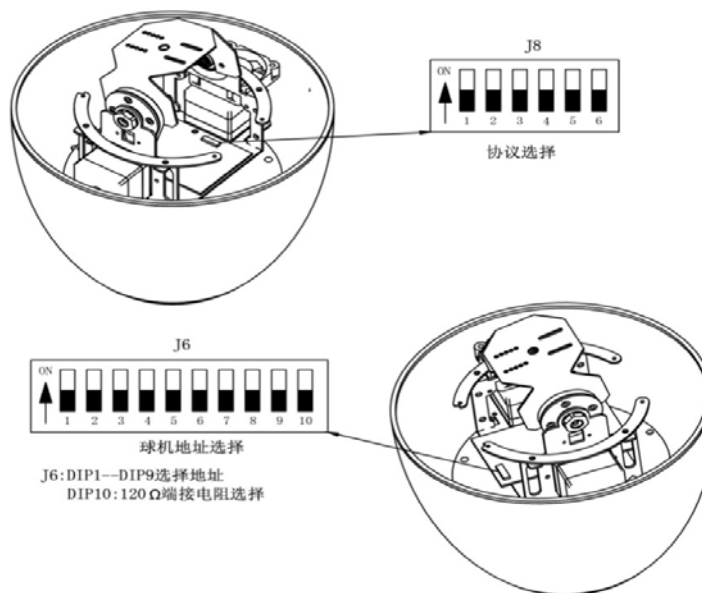As shown in Figure 5.1, SW1 is used to set address of the dome camera from 1 – 1023. The ID-CODE from DIP-10 to DIP-1 are equivalent to a 10-bit binary digit. DIP-10 is MSB while DIP-1 is LSB. The state "ON" of each bit means 1 while "OFF" means 0. Following table shows states of coding

switches of some addresses.

Dome	ID-CODE Status								
Address	DIP-1	DIP-2	DIP-3	DIP-4	DIP-5	DIP-6	DIP-7	DIP-8	DIP-9
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
…	…	…	…	…	…	…	…	…	…
512	ON	ON	ON	ON	ON	ON	ON	ON	ON

Table 1

Eg：
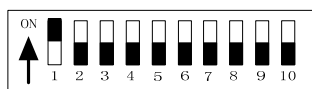
Speed Dome Address=1
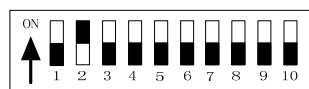
Speed Dome Address=2
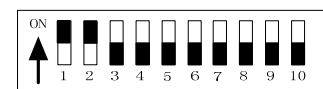
Speed Dome Address=3
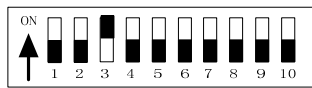
Speed Dome Address=4
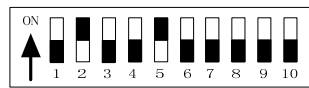
Speed Dome Address=18

Speed Dome Address=512

3.3 Setup of the Protocol and the Default Baud Rate

As shown of figure 5.1, J8 set the protocol and baut rate of speed dome.   DIP-4to DIP-1

to choose the protocol,DIP-1 to DIP-4 are all OFF means PELCL-D protocol

Protocol	Protocol selcection				Baute rate	
	DIP-1	DIP-2	DIP-3	DIP-4	DIP-5	DIP-6
PELCO-D	OFF	OFF	OFF	OFF	OFF	OFF

PELCO-P	OFF	ON	OFF	OFF	OFF	OFF

<div align="center">Fig 5.2</div>

3.4. Setup of the Baud Rate of Communication

As shown of figure 5.1, J8 set the protocol and baut rate of speed dome. DIP-4to DIP-1 to choose the protocol, max 4 selection of baut rate.If the baut rate of contrller isn't standard, please adjust the baut rate the same with it.

Baut rate					Bate rate set	
	DIP-1	DIP-2	DIP-3	DIP-4	DIP-5	DIP-6
2400bps					OFF	OFF
4800bps					ON	OFF
9600bps					OFF	ON
19200bps					ON	ON

3.5. Selection of the Terminal Resistor of the Dome Camera

As shown of figure 5.1,J6 is the select switch of the 120 Ω terminal resistor on the bus RS485, on which only one terminal resistor of the dome camera at the farthest end can be connected, while the terminal resistors of other devices should be opened.

J6, the tenth turn to be ON:120Ω terminal resistor is open; turn to be OFF: Ω terminal resistor is closed.

4. Shortcut control function

Preset N	Set Preset N	Call Preset N
1	Reserved	Twice Call Preset 1 within 4 seconds Open the menu
63	Open camera menu	Open camera menu
64	Close the menu	Open the menu
90	Reserved	Reserved
91	Reserved	Run the first patrol
92	Reserved	Scan limit to left
93	Reserved	Scan limit to right
94	Reserved	Reserved
95	Close the menu	Open the menu
96	Reserved	Stop scan
97	Reserved	Run the first scan

98	Reserved	Reserved
99	If the built-in camera is YOKO231, please set the 99 preset in advance, re-start the speed dome, camera will work correctly.	Reserved

VI.Technical data table

Model	CD55-SDI
Cam characteristics	
Sensor	1/2.8" 200W Exmor@ CMOS sensor
Zoom	20X optic/12X digital zoom
Lens	F=4.7mm-94mm, f1.6-3.5,angle: 55.4°to 2.9°
Resolution	1080P/30FPS,1080P/25FPS
Min illumination	Day:1.7LUX/1/30sec,night（ICR）0.0005LUX/1/3sec
S/N ratio	>50dB
Focus	Auto or manual
White balance	Auto or manual
WDR	Auto or manual
Vide enhancement	White balance, mirror, color enhancement, DNR, slow shutter,gain control
Privacy maskings	Support
Shutter speed	1/1 to 1/10000sec
Gain control	Auto or manual（-3DB-26DB,16STEPS）max.（6DB to 28DB，12STEPS）
PTZ characteristics	
PTZ degree	Horizontal:360°，0.1°-240°/S，tilt 90°，0.1°-100°/S
Speed	Horizontal 380°/S，tilt 160°/S
Preset	255 preset
Self-learning track	auto
Cruise track	6 tracks
Scanning track	3 tracks
Control mode	RS485，baut rate 2400~19200bps
Idle protection	0 to 240s
Boot-up action	Preset, tracks
Alarm I/O	1CH in/1CH out(optional)
Video output	HD-SDI（BNC） 1.0Vp-p/75Ω
Work Temperture	-30° to 65°，10~75% HR
Size	215(diameter)mmX380（height）mm
Protection	IP66
Power	DC12V ／AC24V ， 50/60Hz

VII. Troubleshooting

Problem	Probable cause	Solution
On power no action	Power supply fault	Replace
	Bad connection of the power	Make correction
	Transformer damaged	Replace
On power cannot self-check have image but have motor noise	Mechanical failure	Repair
	Camera incline	Reinstall
	Power supply not enough	Replace
Self-check ok, but have no image	Video signal fault	Reinstall
	Bad connection of the video	Press to full connect
	Camera damaged	Replace
Self-check ok but cannot control	RS485 Bus bad connection	Check the RS485 connection
	Dome id setting is wrong	Reselect
	Protocol setting is wrong	Reset and on power again
Vague image	Bad connection of the video	Press to full connect
	Power supply not enough	Replace
On power cannot control	Self check error	On power again
	Bad connection of control	Press to full connect
	Bad control of matrix	On power again

Appendix ：Lightning Proof and Surge Signal Proof

The product adopts TVS lightning proof technology to prevent from damage by lightning strike below 1500 W and impulse signals such as surge; but it is also necessary to abide by the following precautions to ensure electrical safety based on practical circumstances:

- Keep the communication cables at least 50 meters away from high voltage equipment or cables.
- Make outdoor cable laying-out under eaves as possible as you can.
- In open area shield cables in steel tube and conduct a single point ground to the tube. Trolley wire is forbidden in such circumstances.
- In strong thunderstorm or high faradic zone (such as high voltage transformer substation), extra strong lightning proof equipment must be installed.
- Take the building lightning proof requirements into account to design the lightning proof and grounding of outdoor equipment and cable laying-out in accordance with the national and industrial standards.
- The system must be grounded with equal potentials. The earth ground connection must satisfy the anti-interference and electrical safety requirements and must not short circuited with high voltage electricity net. When the system is grounded separately, the resistance of down conductor should be ≤ 4Ω and the sectional area of down conductor should be ≤25mm2 (refer to Figure I).

<Fig ＞
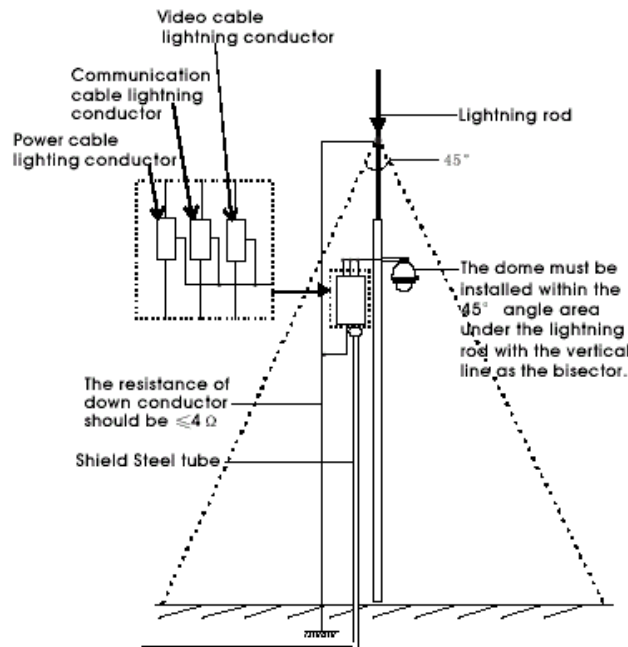
Appendix : The Cleaning of Clear Down Cover

To obtain constant clear videos, user should clean the down cover periodically.

- Be cautious when cleaning. Hold the down cover ring only to avoid direct touch to the acrylic down cover. The acid sweat mark of fingerprint will corrode the coating of down cover and scratch on down cover will cause vague images.
- Use soft dry cloth or the substitute to clean the inner and outer surfaces.
- For hard contamination, use neutral detergent. Any cleanser for high grade furniture is applicable.

Appendix III: RS485 Bus Basic Knowledge

1. Characteristics of RS485 Bus

As specified by RS485 standards, RS485 Bus is of half-duplex data transmission cables with characteristic impedance as 120Ω. The maximum load capacity is 32 unit loads (including main controller and controlled equipment).

2. Transmission distances of RS485 Bus

When user selects the 0.56mm (24AWG) twisted pair wires as data transmission cable, the maximum theoretical transmitting distances are as follows:

Baud Rate	Maximum Transmitting Distance
2400 Bps	1800m
4800 Bps	1200m
9600Bps	800m

If user selects thinner cables, or installs the dome in an environment with strong electromagnetic interference, or connects lots of equipment to the RS485 Bus, the maximum transmitting distance will be decreased. To increase the maximum transmitting distance, do the contrary.

3. Connection and termination resistor

The RS485 standards require a daisy-chain connection between the equipment. There must be termination resistors with 120Ωimpedance at both ends of the connection (refer to Figure 20).

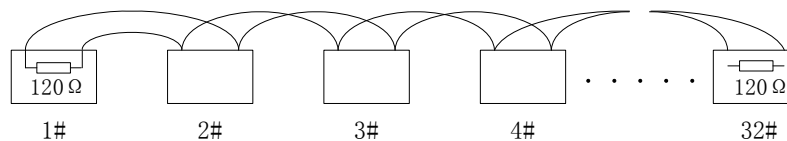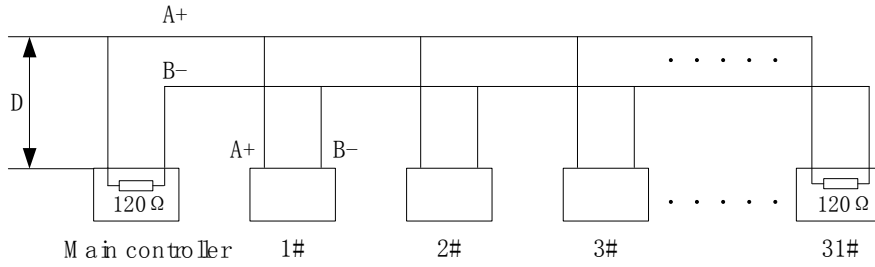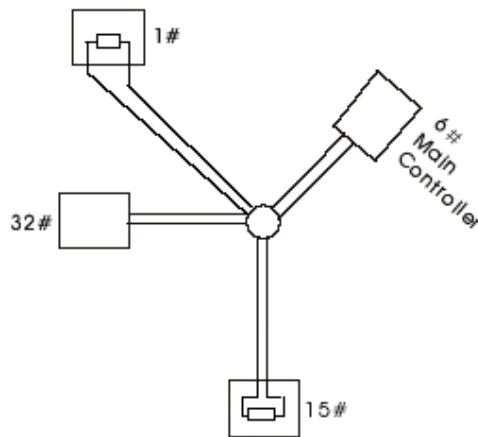Please refer to Figure 21 for simple connection. "D" should not exceed 7m.

Figure 20

Figure 21

The connection of 120Ω termination resistor: The termination resistor is ready on the Protocol PCB. There are two kinds of connection. Refer to the Protocol PCB jumper setting form (refer to Picture 2).
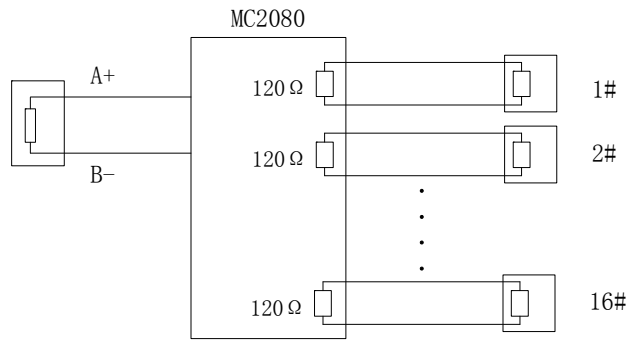
1) In the Picture it is the factory default connection. The jumper is seated on Pin2&Pin3 and the termination resistor is not connected.

2) when connecting the 120Ω termination resistor, user should plug the jumper on Pin1&Pin2. and the termination resistor is connected.

4. Problems in practical connection

In some circumstances user adopts a star configuration in practical connection. The termination resistors must be connected to the two equipment that are farthest away from each other, such as equipment 1# and 15# in Picture 44. As the star configuration is not in conformity with the requirements of RS485 standards, problems such as signal reflections, lower anti-interference performance arise when the cables are long in the connection. The reliability of control signals is decreased with the phenomena that the dome does not respond to or just responds at intervals to the controller, or does continuous operation without stop (refer to Figure III).

<Fig.　c>

MC2080

A+

B−

120 Ω   1#

120 Ω   2#

.
.
.
.

120 Ω   16#

< Fig.   d >