

HIGH SPEED DOME CAMERA

USER MANUAL

DYN-SD/INT/A
DYN-SD/EXT/A

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1. ATTENTIONS !

Thank you for purchasing our product. Please, operate the product after being fully aware of the manual. Please contact with us in any inquiries, problems.

Precaution

**Note the following matters before the installation of the product.
Avoid the following places for the installation.**

A high/low temperature



Using indoor-cameras in the places of +50°C~ -10°C can cause troubles and a lowering of its capacity.

Snow, rain and wet



Protect indoor-cameras from humidity or water.

Oil, gas



Oil and gas damage the camera as they go through the cameras.

Vibration, shock



They bring on problems or errors of the camera.

Direct light, exposure to the air



In the case of that sets indoor-cameras outside where the weather is changeable, it can make problems.

Closing to High frequency and electric power lines



Setting the camera up around electromagnetic units or power supplier can result problems.

Caution in under using

Do not disassemble the unit and put alien substances in the unit.

Disassembling the unit or putting alien substances such as a metal can make the camera wrong.

Make sure of power switch-off before the installation.

Ensure power switch-off and check the voltage the camera before the installation.

Do not give the unit a shock and an operation.

Giving a strong shock or an excessive power on the button, terminal can cause problems.



This product has been designed and manufactured in accordance with the harmonized European standards, following the provisions of the below stated directives.
Electromagnetic Compatibility Directive 89/336/EEC(EN61000-3-2:1995, EN61000-3-3:1995, EN50081-1:1992, EN50082-1:1997)

This device complies with part 15 of the fcc rules operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) This device must accept any interference received including interference that may cause undesired operation

2. INTRODUCTION OF PRODUCT

1). DESCRIPTION AND FEATURES

-Description-

This camera has been designed elegantly for buildings, department stores that need to be in harmony with the interior as a high speed dome camera, including various observation functions.

-Features-

● High Magnification Zoom Lens

Maximum 230x zoom function.
(Optical zoom 23x, Digital zoom 10x)

● Horizontal Resolution more than 520TVL supporting

Color: more than 520TVL, B/W: more than 570TVL supporting.

● Minimum Illumination, DAY & NIGHT function

Realization of Minimum illumination 0.0007Lux(DSS Control) by the improvement of electric sensibility.
- Conversion into B/W mode (0.1Lux) in the night by DAY & NIGHT function.

● Additional functions

PTZ trace :
Realization of identical trace by memorization of P/T/Z motion for 120sec.

Auto swing :
Auto observation and repeat function of the designated 2 points, pan and tilt by preset points.

Group :
Repeat and auto observation in order by preset speed and delay time that has been thrown 12preset points into 1group.(maximum group up to 12)

Tour :

Operation function by the motions of the sequence group that has been thrown 12 groups into 1 tour.

● DIS function (STABILIZE)

Compensation of broken images.

● 250 Preset positions

Observation function of up to 250 pre-set points designated.

● 4ch alarm inputs

Auto moving function to can go to the preset point by the sensor.

● Auto Tilt Move

It can make easy to detect the subject which moves to a vertical turn(180°)

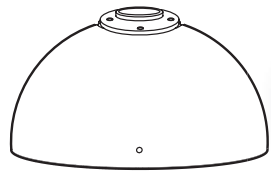
● OSD(On Screen Display)

Provides to correct, convert the menu of the camera and ID, Preset, Dome speed on displayed screen.

2). INSTALLATION AND CONNECTION.

2-1. Name and Function of each part

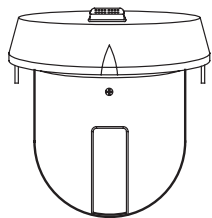
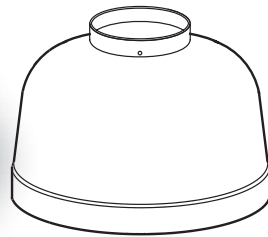
Indoor Type



A UPPER COVER

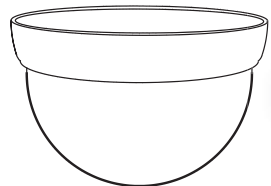
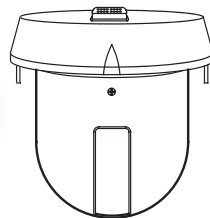
The camera's body goes to here and a power cable, data cable, video cable, sensor have been connected with this.

Outdoor Type



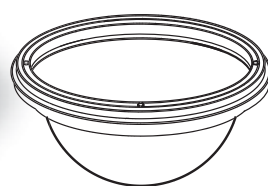
B CAMERA BODY

A main body that has a built-in the control units and camera.



C LOWER COVER

Insert the body into the upper cover, then close the lower cover.

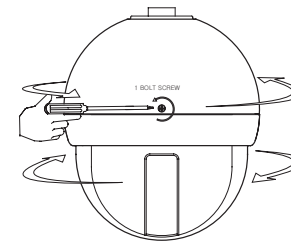


2-2. Installation

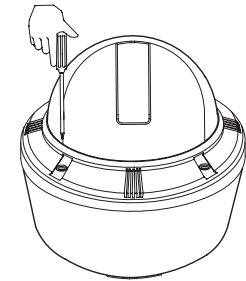
Indoor Type

Outdoor Type

SEPARATION OF LOWER COVER



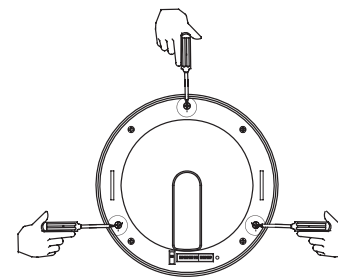
Loosen the bolt of the back of lower cover by a screwdriver(+), then turn the cover as above the picture and pull the lower cover to the down



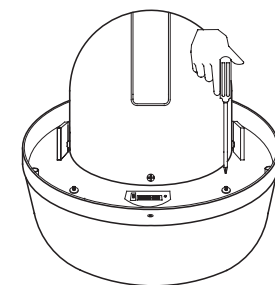
Loosen the four bolts of the lower cover, then separate.



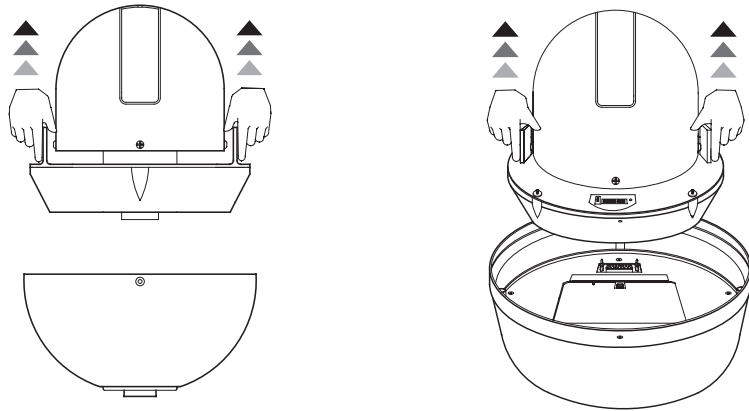
SEPARATION OF UPPER COVER



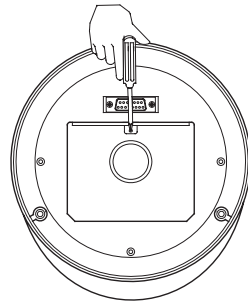
Loosen the three bolts, the round head shaped, of the camera body. The three bolts are not loosened completely and not come up more than 1cm.



2-2. INSTALLATION



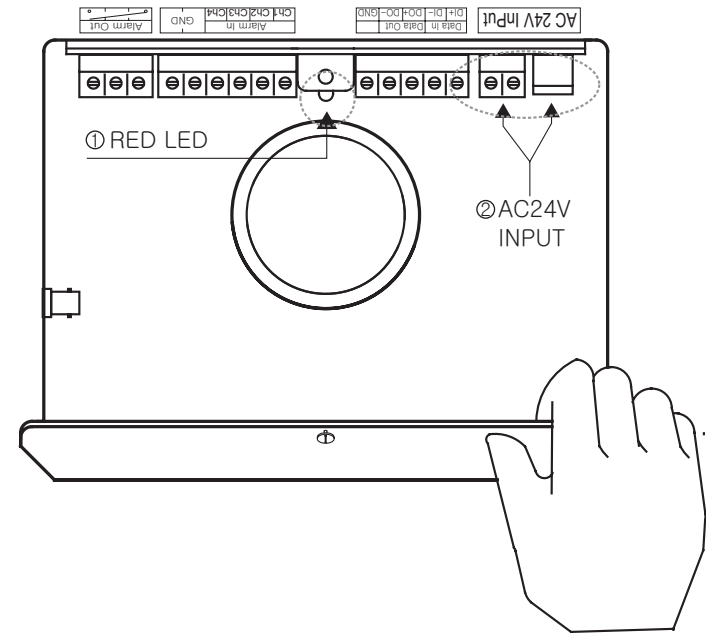
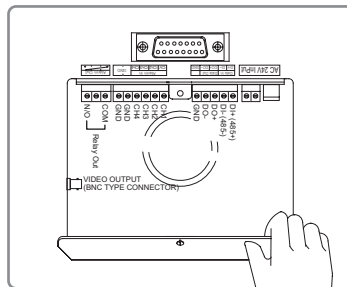
Pull the cover up with grabbing the bottom of the camera after loosening the three bolts



Open the connector cover, then connect POWER, DATA, VIDEO CABLE and SENSOR.

The cover is opened if user loosens the one bolt on the connector cover by using a screwdriver(+).

The bolts are not loosened completely to protect from missing of them. Be careful that each cable which each function is explained is changed wrong.



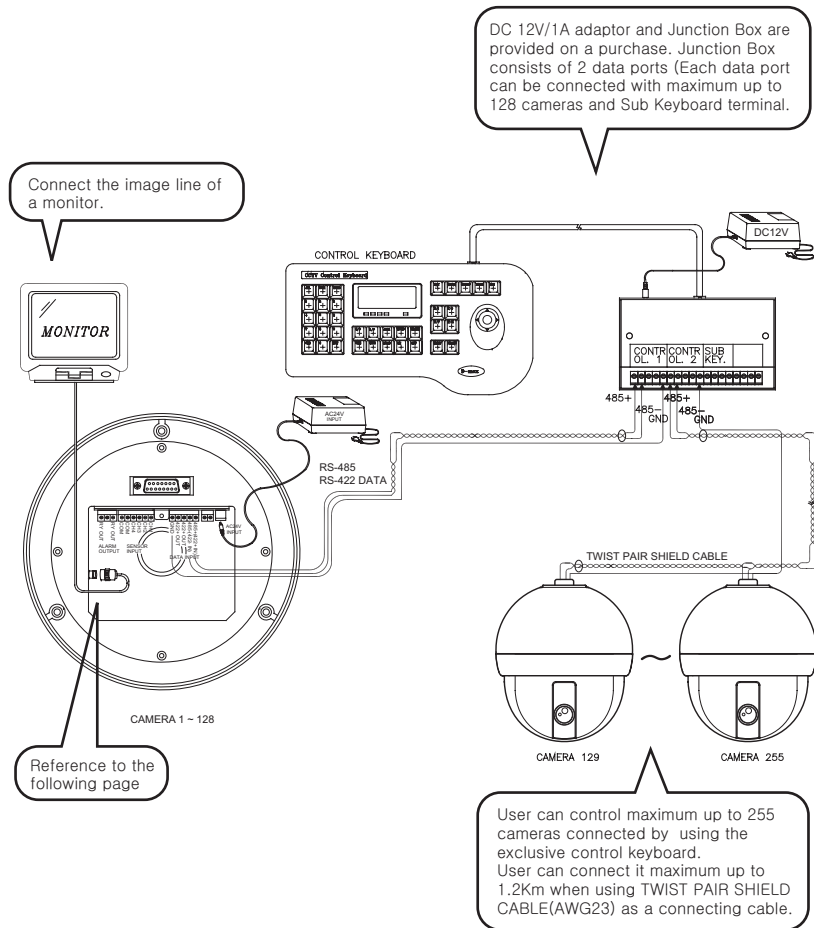
Have you connect the power cable in the right direction?

If yes.

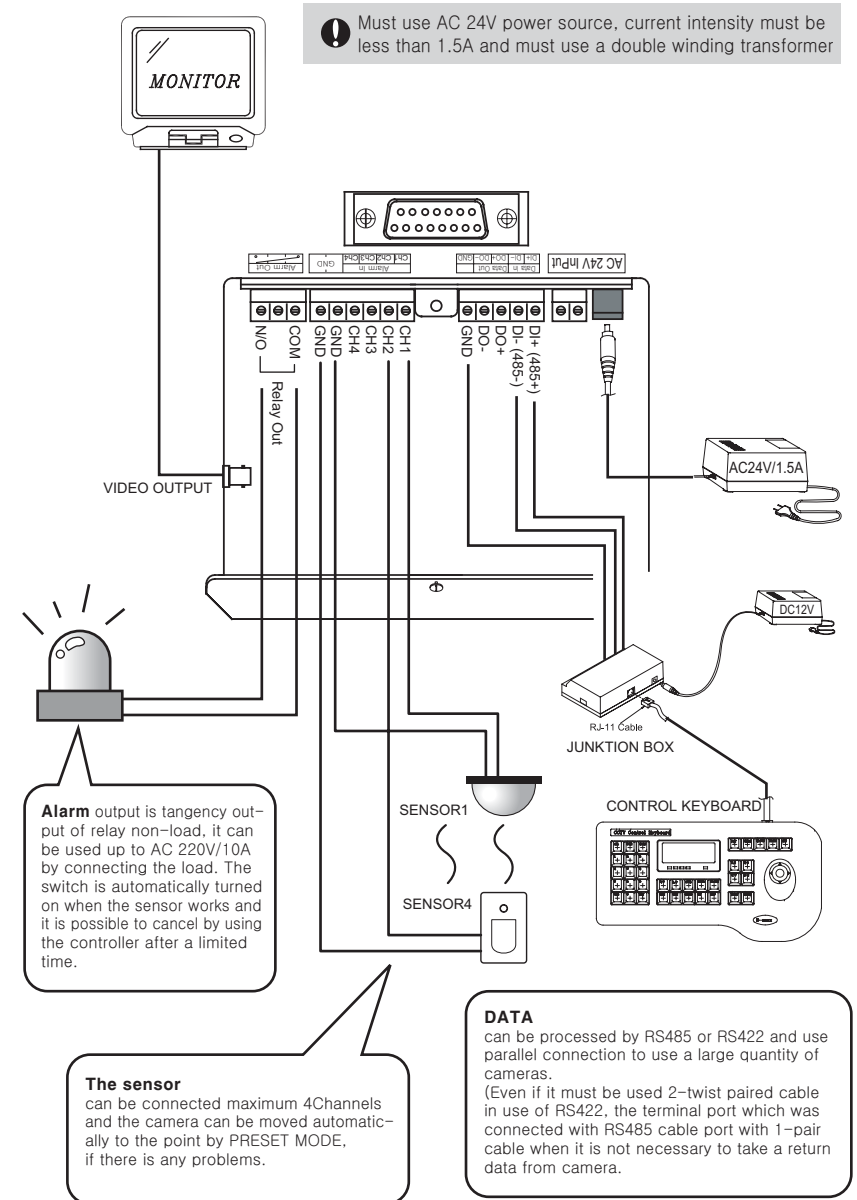
① RED LED, in the middle of the connector, is lighted.

② Use AC 24V power source and user **can use any power input** that is connected with a **terminal and a jack**. (But, use 1 input)

2-3. Basic Connection

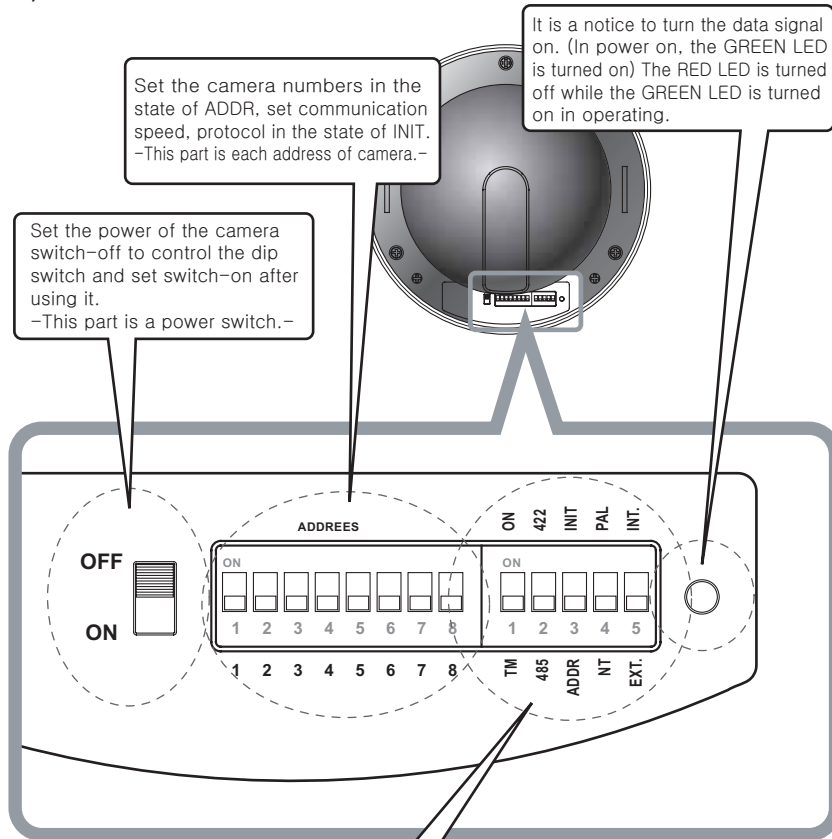


2-4. Connection Diagram



3. DIRECTIONS FOR USE

1).DIP SWITCH SETTING



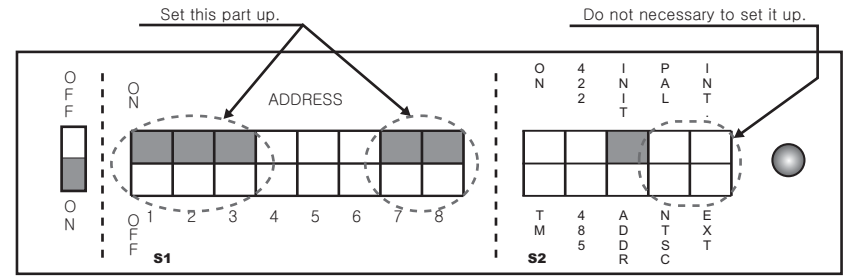
-TERMINAL RESISTOR (DIP SW NO1)
~Turn the last camera on the data line as a switch to turn on/off the terminal resistor on. Turn the DIP SW of some of the farthest cameras on in the case of the data lines distributed to several directions.
(** The first default is off. **)

-RS485/RS422 SELECT (DIP SW NO2)
~Turn on or off for the suitable data system between RS485 and RS422.
(** The first default is RS485 **)

-ADDRESS/INITIAL SELECT (DIP SW NO3)
~Set the DIP SW up in the ADDRESS.
(•Reference the next page•)
(**The first default is ADDRESS.**)
~Set the communication speed and Protocol (Demand for the technical inquiry) up in the state of the INITIAL.

- INTERNAL/ EXTERNAL (DIP SW NO5)
~Use it when selecting INTERNAL and EXTERNAL.
(**The first default is INTERNAL.**)

2).HOW TO SET PROTOCOL



The switch to select Protocol.

The switch to select Baud Rate

| PROTOCOL | S1 | | | | | S2 |
|------------------|-----|-----|-----|-----|-----|----------------|
| | SW1 | SW2 | SW3 | SW7 | SW8 | SW 'INIT↔ADDR' |
| D-MAX (9600 bps) | OFF | OFF | OFF | OFF | OFF | INIT |
| P-P (9600 bps) | ON | OFF | OFF | OFF | OFF | INIT |
| P-P (4800 bps) | ON | OFF | OFF | OFF | ON | INIT |
| P-P (2400 bps) | ON | OFF | OFF | ON | OFF | INIT |
| P-D (9600 bps) | OFF | ON | OFF | OFF | OFF | INIT |
| P-D (4800 bps) | OFF | ON | OFF | OFF | ON | INIT |
| P-D (2400 bps) | OFF | ON | OFF | ON | OFF | INIT |
| S-T (9600 bps) | OFF | OFF | ON | OFF | OFF | INIT |

Change No3 of S2 to INIT if user wants to change Protocol.

- ① Please the power off.
- ② Switch Protocol that user wants to change on as above the table.
- ③ The power on, then the set Protocol and Baud rate are appeared.
- ④ The power off, if every setting is right. Then the change of Protocol is finished.
- ⑤ Change NO 3 of S2 to ADDR before the power on, then the power on after setting the address of the camera.
- ⑥ Try it again with the information as above the table, if something is wrong.

3). SETTING ADDRESS OD DIP SWITCHES

Use DIP switches No.1 to No.8 for ADDRESS, it can be set 1 program to 255 program.

-ADDRESS SETTING TABLE-

| RX NO (DEC) | DIP SWITCH (HEX) | | | | | | | RX NO (DEC) | DIP SWITCH (HEX) | | | | | | |
|----------------|------------------|-----|-----|-----|-----|-----|-----|----------------|------------------|-----|-----|-----|-----|----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | ON | OFF | OFF | OFF | OFF | OFF | OFF | 33 | ON | OFF | OFF | OFF | OFF | ON | OFF |
| 2 | OFF | ON | OFF | OFF | OFF | OFF | OFF | 34 | OFF | ON | OFF | OFF | OFF | ON | OFF |
| 3 | ON | ON | OFF | OFF | OFF | OFF | OFF | 35 | ON | ON | OFF | OFF | OFF | ON | OFF |
| 4 | OFF | OFF | ON | OFF | OFF | OFF | OFF | 36 | OFF | OFF | ON | OFF | OFF | ON | OFF |
| 5 | ON | OFF | ON | OFF | OFF | OFF | OFF | 37 | ON | OFF | ON | OFF | OFF | ON | OFF |
| 6 | OFF | ON | ON | OFF | OFF | OFF | OFF | 38 | OFF | ON | ON | OFF | OFF | ON | OFF |
| 7 | ON | ON | ON | OFF | OFF | OFF | OFF | 39 | ON | ON | ON | OFF | OFF | ON | OFF |
| 8 | OFF | OFF | OFF | ON | OFF | OFF | OFF | 40 | OFF | OFF | OFF | ON | OFF | ON | OFF |
| 9 | ON | OFF | OFF | ON | OFF | OFF | OFF | 41 | ON | OFF | OFF | ON | OFF | ON | OFF |
| 10 | OFF | ON | OFF | ON | OFF | OFF | OFF | 42 | OFF | ON | OFF | ON | OFF | ON | OFF |
| 11 | ON | ON | OFF | ON | OFF | OFF | OFF | 43 | ON | ON | OFF | ON | OFF | ON | OFF |
| 12 | OFF | OFF | ON | ON | OFF | OFF | OFF | 44 | OFF | OFF | ON | ON | OFF | ON | OFF |
| 13 | ON | OFF | ON | ON | OFF | OFF | OFF | 45 | ON | OFF | ON | ON | OFF | ON | OFF |
| 14 | OFF | ON | ON | ON | OFF | OFF | OFF | 46 | OFF | ON | ON | ON | OFF | ON | OFF |
| 15 | ON | ON | ON | ON | OFF | OFF | OFF | 47 | ON | ON | ON | ON | OFF | ON | OFF |
| 16 | OFF | OFF | OFF | OFF | ON | OFF | OFF | 48 | OFF | OFF | OFF | OFF | ON | ON | OFF |
| 17 | ON | OFF | OFF | OFF | ON | OFF | OFF | 49 | ON | OFF | OFF | OFF | ON | ON | OFF |
| 18 | OFF | ON | OFF | OFF | ON | OFF | OFF | 50 | OFF | ON | OFF | OFF | ON | ON | OFF |
| 19 | ON | ON | OFF | OFF | ON | OFF | OFF | 51 | ON | ON | OFF | OFF | ON | ON | OFF |
| 20 | OFF | OFF | ON | OFF | ON | OFF | OFF | 52 | OFF | OFF | ON | OFF | ON | ON | OFF |
| 21 | ON | OFF | ON | OFF | ON | OFF | OFF | 53 | ON | OFF | ON | OFF | ON | ON | OFF |
| 22 | OFF | ON | ON | OFF | ON | OFF | OFF | 54 | OFF | ON | ON | OFF | ON | ON | OFF |
| 23 | ON | ON | ON | OFF | ON | OFF | OFF | 55 | ON | ON | ON | OFF | ON | ON | OFF |
| 24 | OFF | OFF | OFF | ON | ON | OFF | OFF | 56 | OFF | OFF | OFF | ON | ON | ON | OFF |
| 25 | ON | OFF | OFF | ON | ON | OFF | OFF | 57 | ON | OFF | OFF | ON | ON | ON | OFF |
| 26 | OFF | ON | OFF | ON | ON | OFF | OFF | 58 | OFF | ON | OFF | ON | ON | ON | OFF |
| 27 | ON | ON | OFF | ON | ON | OFF | OFF | 59 | ON | ON | OFF | ON | ON | ON | OFF |
| 28 | OFF | OFF | ON | ON | ON | OFF | OFF | 60 | OFF | OFF | ON | ON | ON | ON | OFF |
| 29 | ON | OFF | ON | ON | ON | OFF | OFF | 61 | ON | OFF | ON | ON | ON | ON | OFF |
| 30 | OFF | ON | ON | ON | ON | OFF | OFF | 62 | OFF | ON | ON | ON | ON | ON | OFF |
| 31 | ON | ON | ON | ON | ON | OFF | OFF | 63 | ON | ON | ON | ON | ON | ON | OFF |
| 32 | OFF | OFF | OFF | OFF | OFF | ON | OFF | 64 | OFF | OFF | OFF | OFF | OFF | ON | OFF |

*** -No.1 is changed to No.65 and the last No.65 is changed No.128 when No.7 DIP SW is on.
 -No.1 is changed to No.129 when No.7 DIP SW is off and No.8 DIP SW on.
 -No.1 is changed to No.193 and user can set up to maximum 255 ADDRESS when No.7,8 DIP SW are on.

4). HOW TO USE OSD MENU

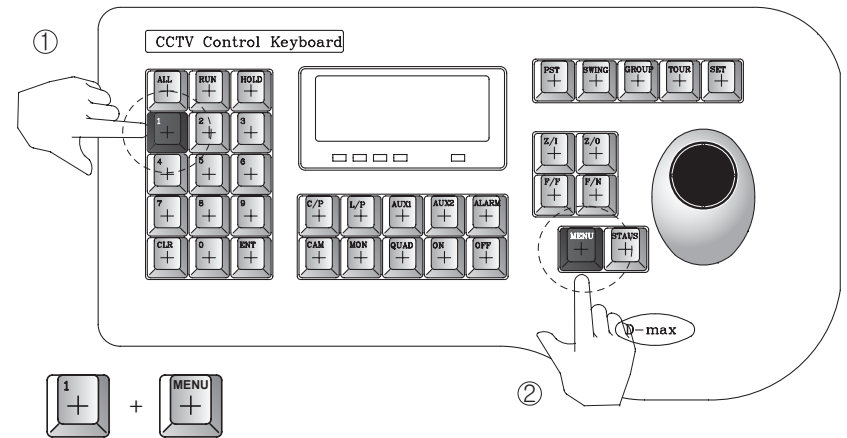
4-1. How to control OSD menu

● OSD (ON SCREEN DISPLAY) CONTROL

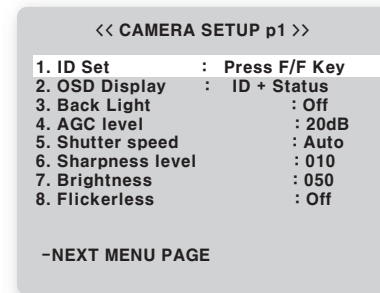
User can call the main menu up on the screen by OSD menu.

※ User can not only set Preset, Group, Tour, Swing, Trace functions of the camera up by the menu, but also set them up by shortening keys

● Accessing OSD MENU



(1) The menu is displayed on the screen with the key tone when user presses No.1 and menu key.



● OSD Menu Control

Right and Left moving of Cursor : or
 Feed letters into system : JOYSTICK
 Selection of up and down menu : or JOYSTICK
 Changing of setting : JOYSTICK

● Cancellation of OSD MENU

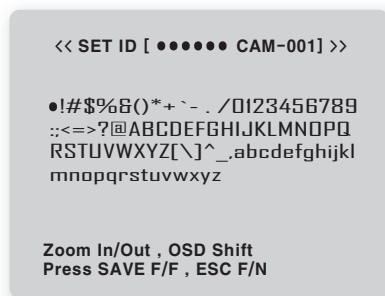


4-2. Functional Descriptions of each Menu

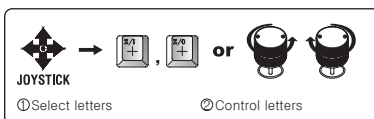
1. ID SET

User can set ID of the camera up.

Move to No.1 menu and the screen moves as following when user presses F/F key.



User can choose letters that they want, if user control a joystick up/down/right/left, and user can reselect the previous letters, if user presses Z/I, Z/O or turn the head of the joystick to right/left

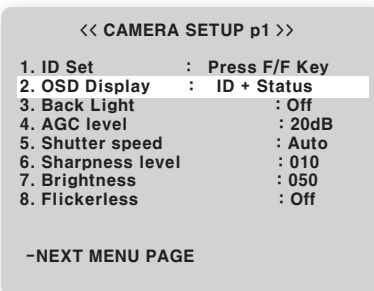
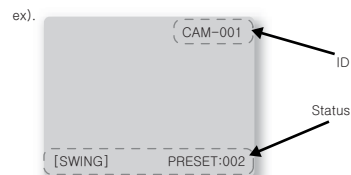


"●" is not displayed on the screen as a blank letter, user can input letters in Japanese and in Chinese if user moves the joystick down continuously.

2. OSD DISPLAY

Set up whether user sets ID and STATUS to display on the screen in normal operating.

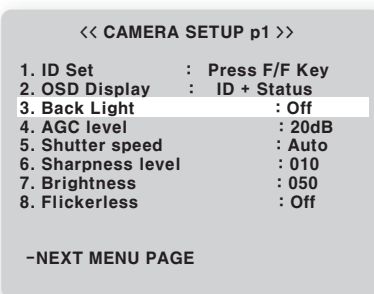
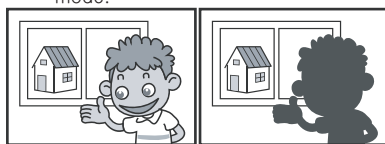
- ▶ ID + Status : ID and Status displayed on the screen
- ▶ ID only : Only ID displayed on the screen
- ▶ Status only : Only status displayed on the screen
- ▶ All off : Nothing displayed on the screen



3. BACK LIGHT

Set up backlight compensation mode.

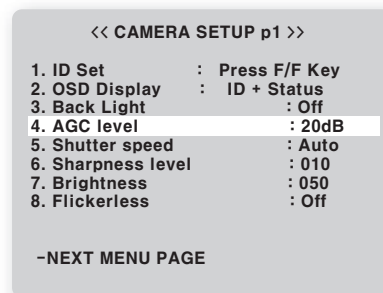
- ▶ On : It can change a dark subject to a distinguishable subject by backlight.
- ▶ Off : Cancellation of backlight compensation mode.



4. AGC LEVEL

AGC(Automatic Gain Control)- It adjusts the amount of video amplification to maintain a full 1-volt peak-to-peak video signal output automatically.

- ▶ Range : AUTO, 8dB, 10dB,38dB

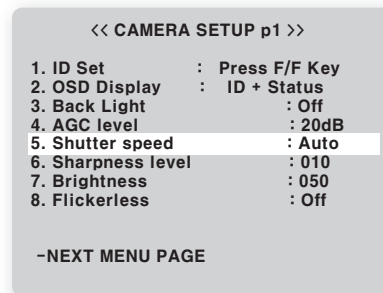


5. SHUTTER SPEED

As a setting shutter speed mode, it can be distinguished a fast moving subject easily by means of shutter speed up.

- *Attention-The illumination of the camera decreases if shutter speed is up.
- *The state of first default is 'AUTO'.
- *It can be worked in the state of Flickerless 'off'

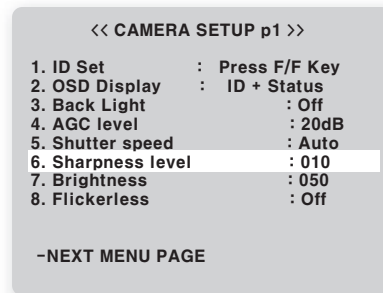
- ▶ Range : AUTO, 1/125, 1/150, 1/200,....1/10000



6. SHARPNESS LEVEL

Compensation of the shape of a subject

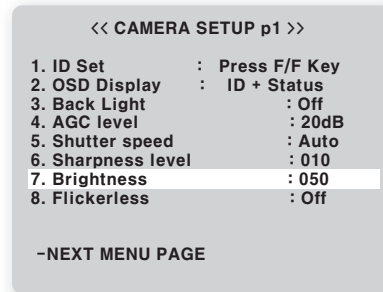
- ▶ Range : 0 ~ 14 , Default : 10



7. BRIGHTNESS

Control brightness of a screen.
 The screen gets dark because an iris is closed as the numerical value is low, whereas the screen gets bright because an iris is opened as the numerical value is high.

- ▶ Range: 0~99, Default: 50

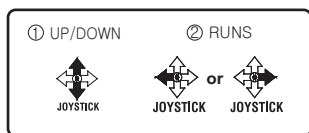


<< CAMERA SETUP p1 >>

- 1. ID Set : Press F/F Key
- 2. OSD Display : ID + Status
- 3. Back Light : Off
- 4. AGC level : 20dB
- 5. Shutter speed : Auto
- 6. Sharpness level : 010
- 7. Brightness : 050
- 8. Flickerless : Off

-NEXT MENU PAGE

Move the joystick down then choose "NEXT MENU PAGE" on the screen to move next page.



8. FLICKERLESS

Tremble on the screen is removed in the state of FLICKERLESS 'ON', the shutter speed, at the same time, is fixed in 1/120sec in NTSC and in 1/100sec in PAL.

<< CAMERA SETUP p1 >>

- 1. ID Set : Press F/F Key
- 2. OSD Display : ID + Status
- 3. Back Light : Off
- 4. AGC level : 20dB
- 5. Shutter speed : Auto
- 6. Sharpness level : 010
- 7. Brightness : 050
- 8. Flickerless : Off

-NEXT MENU PAGE

<< CAMERA SETUP p2 >>

- 9. SSNR level : Middle
- 10. White balance : Outdoor
- 11. Focus mode : Oneshot
- 12. Zoom MAX Limit : x46
- 13. DSS CONTROL : 2 fields
- 14. DAY & NIGHT : Auto
- 15. STABILIZ On/Off : Off

- PREV MENU PAGE
- NEXT MENU PAGE

9. SSNR level

It can remarkably reduce noise of minimum illumination by super noise removable technique and also file size becomes smaller while DVR is being recorded by the effective reduction of noise.

- ▶ Off, Low, Middle, High

<< CAMERA SETUP p2 >>

- 9. SSNR level : Middle
- 10. White balance : Outdoor
- 11. Focus mode : Oneshot
- 12. Zoom MAX Limit : x46
- 13. DSS CONTROL : 2 fields
- 14. DAY & NIGHT : Auto
- 15. STABILIZ On/Off : Off

- PREV MENU PAGE
- NEXT MENU PAGE

10. WHITE BALANCE

It prevents from that white color is changed as illumination, user can set it up in 2 ways.

- ▶ INDOOR, OUTDOOR

11. FOCUS MODE

Change Focus Mode to hand-worked or auto.

- ▶ OneShot : Auto Focusing mode works during non-working after zoom is worked.
- ▶ Auto : It adjusts the focus automatically as it monitors the screen.
- ▶ Manual : User can control the focus by hand-worked.

<< CAMERA SETUP p2 >>

- 9. SSNR level : Middle
- 10. White balance : Outdoor
- 11. Focus mode : Oneshot
- 12. Zoom MAX Limit : x46
- 13. DSS CONTROL : 2 fields
- 14. DAY & NIGHT : Auto
- 15. STABILIZ On/Off : Off

- PREV MENU PAGE
- NEXT MENU PAGE

12. ZOOM MAX Limit

It is used when user corrects and limits the extensional range of the focus as a function to set the maximum value of zoom.

- ▶ Off, x46 ~ x230

The camera is reset when user is out of Menu mode after end the setting, and the changed magnification is registered in the camera.

<< CAMERA SETUP p2 >>

- 9. SSNR level : Middle
- 10. White balance : Outdoor
- 11. Focus mode : Oneshot
- 12. Zoom MAX Limit : x46
- 13. DSS CONTROL : 2 fields
- 14. DAY & NIGHT : Auto
- 15. STABILIZ On/Off : Off

- PREV MENU PAGE
- NEXT MENU PAGE

13. DSS CONTROL

An object becomes clear as the field value gets higher in illumination, whereas a moving object becomes dim.

- ▶ Range : Off, 2 ~ 128 field

<< CAMERA SETUP p2 >>

- 9. SSNR level : Middle
- 10. White balance : Outdoor
- 11. Focus mode : Oneshot
- 12. Zoom MAX Limit : x46
- 13. DSS CONTROL : 2 fields
- 14. DAY & NIGHT : Auto
- 15. STABILIZ On/Off : Off

- PREV MENU PAGE
- NEXT MENU PAGE

14. DAY & NIGHT

An object becomes clear as the field value gets higher in illumination, whereas a moving object becomes dim.

- ▶ Auto : DAY & NIGHT mode is worked automatically, if it is dark.
- ▶ On : Change into DAY & NIGHT mode by hand-worked
- ▶ Off : Set DAY & NIGHT mode 'off'

<< CAMERA SETUP p2 >>

- 9. SSNR level : Middle
- 10. White balance : Outdoor
- 11. Focus mode : Oneshot
- 12. Zoom MAX Limit : x46
- 13. DSS CONTROL : 2 fields
- 14. DAY & NIGHT : Auto
- 15. STABILIZ On/Off : Off

- PREV MENU PAGE
- NEXT MENU PAGE

15. STABILIZ On/Off

There is some tremble as zoom magnification is high, the function can compensate the tremble.

▶ On/Off

<< CAMERA SETUP p2 >>

| | |
|---------------------|------------|
| 9. SSNR level | : Middle |
| 10. White balance | : Outdoor |
| 11. Focus mode | : Oneshot |
| 12. Zoom MAX Limit | : x46 |
| 13. DSS CONTROL | : 2 fields |
| 14. DAY & NIGHT | : Auto |
| 15. STABILIZ On/Off | : Off |

- PREV MENU PAGE
- NEXT MENU PAGE

<< CAMERA SETUP p3 >>

| | |
|---------------------------|------|
| 16. Motion Detection | : On |
| 17. PRESET SET & RUN PAGE | |
| 18. TRACE SET PAGE | |
| 19. ALARM CH ON/OFF PAGE | |
| 20. ALARM PRESET SET PAGE | |

-PREV MENU PAGE
-NEXT MENU PAGE

<< CAMERA SETUP p3 >>

| | |
|---------------------------|------|
| 16. Motion Detection | : On |
| 17. PRESET SET & RUN PAGE | |
| 18. TRACE SET PAGE | |
| 19. ALARM CH ON/OFF PAGE | |
| 20. ALARM PRESET SET PAGE | |

-PREV MENU PAGE
-NEXT MENU PAGE

<< PRESET SET & RUN PAGE >>

| |
|------------------------|
| - Preset set CH : 001 |
| - Preset PTZ SET |
| - Preset Swing SET |
| - Group SET CH : 001 |
| - Tour SET Group |
| - Run Function : UNDEF |
| - RETURN MENU PAGE |

Press F/F Set Mode

16. Motion Detection

Set Motion 'On' after move the camera where user wants. It displays the message 'Motion Detected' on the screen when the moving of an object is sensed on the same screen.

17. PRESET SET & RUN PAGE

It is a function to set and operate Preset, Group, Tour.

User can see the screen when moves the joystick to Right/Left after fixing the cursor on the menu.

<< PRESET SETUP PAGE >>

- ① Preset set CH : User can set Preset No. and title on this menu.
- Preset No. set : Set it by moving the joystick to Right/Left
- Preset title set : User can see the menu "SET ID" when presses F/F key after setting Preset No.

■ The setting steps are the same as "ID Set" at page 14.

<< SET CH:001[PRESET:001] >>

●!#\$%&'()*+`-./0123456789
:;<=>?@ABCDEFGHIJKLMNPO
RSTUVWXYZ[\]^_`abcdefghijklmnop
mnopqrstuvwxyz

Zoom In/Out , OSD Shift
Press SAVE F/F , ESC F/N

<< PRESET SET & RUN PAGE >>

| |
|------------------------|
| - Preset set CH : 001 |
| - Preset PTZ SET |
| - Preset Swing SET |
| - Group SET CH : 001 |
| - Tour SET Group |
| - Run Function : UNDEF |
| - RETURN MENU PAGE |

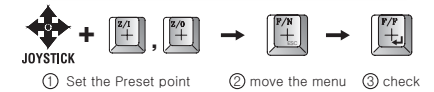
Press F/F Set Mode

PRESET : 001

[SAVE] [DELETE] [ESC]

F/F Save Return, F/N Select

② Preset PTZ SET : Set the position of Preset. Select the main menu with the joystick, then press F/F key for next page. Select [SAVE] with F/N key after setting the Preset point by using the joystick and In/Out function, then the data is saved if user presses F/F key, then it is moved to the previous screen automatically from the menu.



• [SAVE]:Previous screen [DELETE]:Remove [ESC]:Cancel

*Repeat the same way after changing the number of Preset, if user set another Preset.

<< PRESET SET & RUN PAGE >>

| |
|------------------------|
| - Preset set CH : 001 |
| - Preset PTZ SET |
| - Preset Swing SET |
| - Group SET CH : 001 |
| - Tour SET Group |
| - Run Function : UNDEF |
| - RETURN MENU PAGE |

Press F/F Set Mode

<< SWING SETUP PAGE >>

| | |
|----------------|--------------------|
| - P/T Swing | : Undef (TILT/PAN) |
| - Start Preset | : 000 (1~250) |
| - End Preset | : 000 (1~250) |
| - Swing Time | : 000 (1~127) |
| - Swing Speed | : 000 (1~64) |

Press F/F Save, F/N(ESC)

- P/T Swing: TILT-Observe up and down
PAN-Observe right and left
- Start Preset: Preset number of the location to be started an observation
- End Preset: Preset number of the location to be ended an observation
- Swing Time: Delay time after moving
- Swing Speed: Move speed

③ Preset Swing SET : Set Preset Swing. Move next SWING page for the setting,if user presses F/F key in the state of selection of the menu.

■ The preset must be set before the setting as Swing is a function to repeat an auto observation of 2 Preset points user fixes in Preset set.



<< PRESET SET & RUN PAGE >>

| |
|------------------------|
| - Preset set CH : 001 |
| - Preset PTZ SET |
| - Preset Swing SET |
| - Group SET CH : 001 |
| - Tour SET Group |
| - Run Function : UNDEF |
| - RETURN MENU PAGE |

Press F/F Set Mode

<< GROUP SET CH:01 >>

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| [P] | [S] | [T] | [P] | [S] | [T] |
| 000 | 000 | 000 | 000 | 000 | 000 |
| 000 | 000 | 000 | 000 | 000 | 000 |
| 000 | 000 | 000 | 000 | 000 | 000 |
| 000 | 000 | 000 | 000 | 000 | 000 |
| 000 | 000 | 000 | 000 | 000 | 000 |
| 000 | 000 | 000 | 000 | 000 | 000 |

Press F/F Save, F/N(ESC)

④ GROUP SET : User can set maximum 12 groups. Select a channel then move to next page after pressing F/F key.

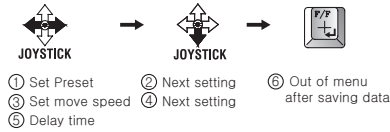
■ The Preset point in the Group that 12 Preset points are set is observed repeatedly and in order with regular speed and time.

<< PRESET SET & RUN PAGE >>

- Preset set CH : 001
- Preset PTZ SET
- Preset Swing SET
- Group SET CH : 001
- Tour SET Group
- Run Function : UNDEF
- RETURN MENU PAGE

Press F/F Set Mode

- [P] : Set Preset (1~250)
- [S] : Move speed (1~64)
- [T] : Delay time



<< TOUR SETUP PAGE >>

| | | | |
|--------|--------|--------|--------|
| T01:01 | T02:00 | T03:00 | T04:00 |
| T05:00 | T06:00 | T07:00 | T08:00 |
| T09:00 | T10:00 | T11:00 | T12:00 |

Press F/F Save, F/N(ESC)

Set the value of "00" part of T01~T12 to Group channel that User wants, then the setting is saved when user is out of the menu after pressing F/F key.



⑤ Tour SET Group: User can set continual Group motion that can be put 12 Groups in 1 Tour. Move to the setting page if user presses F/F key on this menu.

■ The Group user wants to set must be set firstly.

Setting is only possible when Preset is set first in the state of setting of Swing, Group, Tour, otherwise, it displays the message "Sorry Undefined".

⑥ Run Function : Operate one of SWING/GROUP/TOUR/TRACE. (It is operated automatically after end of OSD menu)

<< PRESET SET & RUN PAGE >>

- Preset set CH : 001
- Preset PTZ SET
- Preset Swing SET
- Group SET CH : 001
- Tour SET Group
- Run Function : UNDEF
- RETURN MENU PAGE

Press F/F Set Mode

■ User can look at how to set TRACE at "18. TRACE SET PAGE"

⑦ RETURN MENU PAGE : Move to a higher menu page when control the joystick Right/Left in the selection of this menu.

✗Set / Stop order with a control keyboard without menu on the screen.

| | RUN | STOP |
|--------|---------------------|------|
| Preset | 1~250 + | |
| Swing | 1(PAN) or 2(TILT) + | or |
| Group | 1~12 + | or |
| Tour | | or |

<< CAMERA SETUP p3 >>

- 16. Motion Detection : On
- 17. PRESET SET & RUN PAGE
- 18. TRACE SET PAGE
- 19. ALARM CH ON/OFF PAGE
- 20. ALARM PRESET SET PAGE

-PREV MENU PAGE
-NEXT MENU PAGE

<< P/T/Z TRACE SET >>

[SET] [SAVE] [DELETE] [ESC]

F/F Save Return, F/N Select

18. TRACE SET PAGE

Set TRACE.
User can regenerate and save a change of the unrestricted location of ZOOM In/Out and a position of the camera by hand-worked control with a joystick.

User can see the screen when moves the joystick to Right/Left after fixing the cursor on the menu.

■ How to set TRACE

Move to [SET] after pressing

Check - Control scenes that user wants by hand-worked with a joystick after the message "Set Trace: 00%" on the middle of the screen. If user finishes this part.

Move to [SAVE] with

It goes a higher menu after being saved data if user presses with a display of the message "Save TRACE"

<< CAMERA SETUP p3 >>

- 16. Motion Detection : On
- 17. PRESET SET & RUN PAGE
- 18. TRACE SET PAGE
- 19. ALARM CH ON/OFF PAGE
- 20. ALARM PRESET SET PAGE

-PREV MENU PAGE
-NEXT MENU PAGE

<< ALARM CHANNEL ON/OFF >>

| | | | |
|-------|------|------|------|
| - CH1 | :Off | -CH2 | :Off |
| - CH3 | :Off | -CH4 | :Off |

- Alarm Relay :Off
- Active Alarm :Close
- Resume timeset :Off

- RETURN MENU PAGE

19. ALARM CHANNEL ON/OFF

■ What is the ALARM function? : It operate to observe the location of the camera which is memorized previously in the situation of the warning signal or trespassers by using a sensor.

- CH On/Off : Alarm Input - Each channel can be ON/OFF
- Alarm Relay : It can be set On or not when ALARM OUTOUT PORT operate wrong.
- Active Alarm : It selects ACTIVE OPEN or ACTIVE CLOSE by tangency when something is wrong. It is ACTIVE when ALARM INPUT is OPEN in ACTIVE OPEN, it is ACTIVE when ALARM INPUT is CLOSE in ACTIVE CLOSE.
- Resume Time Set : It can select the delay time that the camera move to the place alarming to observe where wrong signal is sensed. User can set it for 1sec to 180sec and operate GROUP, TOUR, SWING again in a preset time. SWING, GROUP, TOUR are operated in a preset time when user stops the operating joystick in the case of not connecting with the ALARM. Press SWING, GROUP, TOUR keys without stopping of the joystick to stop the operating completely (*Stopping the operating with the joystick affects the SET function.)

<< CAMERA SETUP p3 >>

16. Motion Detection : On
 17. PRESET SET & RUN PAGE
 18. TRACE SET PAGE
 19. ALARM CH ON/OFF PAGE
 20. ALARM PRESET SET PAGE

-PREV MENU PAGE
 -NEXT MENU PAGE

<< ALARM PRESET SET >>

- CH : 001 - CH : 002
 - CH : 003 - CH : 004

- Home Position Preset : 001~250
 - Home Position Time : OFF/001~180

- RETURN MENU PAGE

<< CAMERA SETUP p4 >>

22. Auto Tilt Move : Off
 23. Smart pan Tilt : On
 24. Manual P/T Speed : Medium
 25. Language : English
 26. FACTORY RESET WARNING!

-PREV MENU PAGE

<< CAMERA SETUP p4 >>

22. Auto Tilt Move : Off
 23. Smart pan Tilt : On
 24. Manual P/T Speed : Medium
 25. Language : English
 26. FACTORY RESET WARNING!

-PREV MENU PAGE

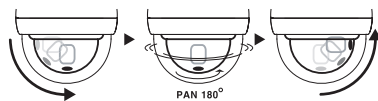
20. ALARM PRESET SET PAGE

- The camera can move to a preset point automatically when something is wrong in each ALARM CHANNEL.
- Set a preset point firstly to move if anything wrong, then use that sets the preset number into each ALARM CHANNEL.
- PRESET is out of connecting in ALARM CHANNEL No."0"
- User can select PRESET number 1 to 250 and set it.
- Home Position Preset
 Master user can observe a previous area automatically when another user move the camera's sight to other area. (It is possible 1 to 250)
- Home Position Time
 It sets delay time of Home Position Preset. The camera moves to observe a preset area in a set time Master set after observing another area, in the operating of Home Position Time.
 (It is possible 1 to 180sec. Set a concurrent control of Home Position Preset and Home Position Time for using this function.)

As above the setting menu, ALARM setting MENU can not set only in CAMERA SET MENU MODE, but also a KEYBOARD in direct.

22. AUTO TILT MOVE

The PAN is turned in a 180° degree arc automatically when the angle of the camera moves down to the maximum degree, therefore, it is possible to track objects continuously.



23. SMART PANTILT

It is a function that PANTILT speed is getting slower as Zoom in. It is hard to observe objects with the high PANTILT speed in operating of Zoon In. This function makes the speed less automatically for the effective observation.

24. MANUAL P/T SPEED

User can control the maximum speed in controlling of up and down. It can be set Low, Medium, Max and one turn (360°/sec) is possible in Max.

25. LANGUAGE

English, Portugu-, Polish

26. FACTORY RESET WARNING

Please be careful of that all setting data of OSD MENU are reset into the first default when operates FACTORY RESET WARNING.

The setting data of Preset, Swing, Group, Tour, Trace, also is deleted all.

<< CAMERA SETUP p4 >>

22. Auto Tilt Move : Off
 23. Smart pan Tilt : On
 24. Manual P/T Speed : Medium
 25. Language : English
 26. FACTORY RESET WARNING!

-PREV MENU PAGE

<< CAMERA SETUP p4 >>

22. Auto Tilt Move : Off
 23. Smart pan Tilt : On
 24. Manual P/T Speed : Medium
 25. Language : English
 26. FACTORY RESET WARNING!

-PREV MENU PAGE

<< CAMERA SETUP p4 >>

22. Auto Tilt Move : Off
 23. Smart pan Tilt : On
 24. Manual P/T Speed : Medium
 25. Language : English
 26. FACTORY RESET WARNING!

-PREV MENU PAGE

4-3. Functional Setting, Operating/Deletion by the Keyboard

1. Preset setting

User can set Preset point up to 250.

① Preset input



Preset setting can be set 1 to 250 sequentially after moves the camera to the place to will be memorized.

② Preset Move



Moves to the fixed point if user presses P-SET button after pressing Preset number that user wants.

③ Delete a separate Preset

Go on in order as follow when the sound is heard in 3 seconds after pressing



Ex) Delete 5th Preset



(Waiting for 3seconds)



④ Delete all Preset

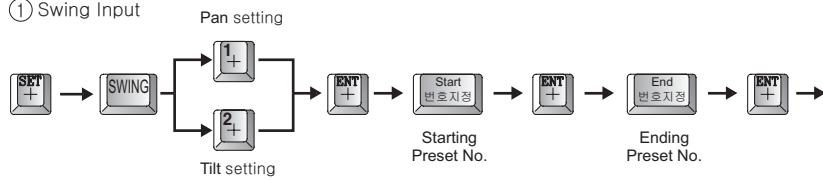
Go on in order as follow when the sound is heard in 3 seconds after pressing



(Waiting for 3seconds)

2. Swing setting

① Swing Input



Set the delay time (1~127sec)

Set the move speed (1~64 steps)

② Operation of Swing



(Run Pan)

(Run Tilt)

③ End of Swing



3. Group setting

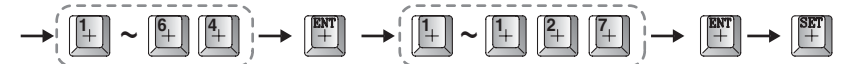
① Start Group setting mode



Start a Group setting mode

Select a Group in 1~12

Select and input Preset in 1~250



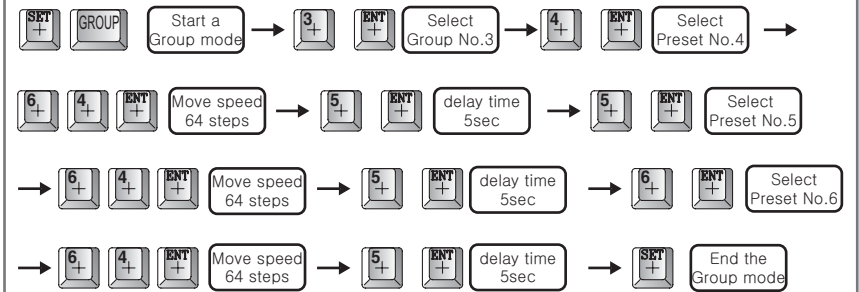
Move Speed :
The Speed from A to B
64 = High , 1 = Low

Dwell Time :
The delay time at A or B
before a move. (sec)

Set Preset No. again in continual input.

Set a GROUP again from the first after ending with SET+, if user wants to finish Preset input in one Group to input another Group.

EX). Register No.4 ~ No.6 as Group No.3 and delay time is 5sec, 64 Move speed.



② Start a Group

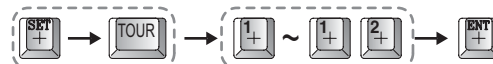


③ Start a Group

It can be stopped when user presses GROUP or controlling the joystick.

4. Tour setting

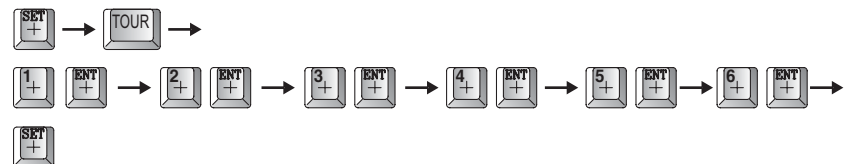
① Tour set mode

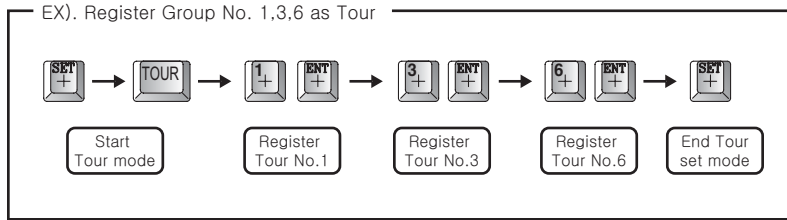


Start a Tour set mode

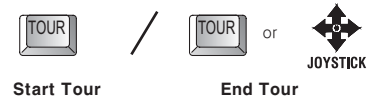
Select a Group in 1 ~ 12 Groups

Repeat input in continual input





② Start / End Tour



③ Delete Tour



5. Spiral Function

It is a function to observe objects automatically in the spiral direction.

① Spiral observation 'ON'



② End



6. PTZ Trace

It memorizes P/T/Z motions for 200sec then operates them at the same Trace.

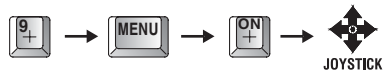
① Start / End Trace



② End



② Set Trace



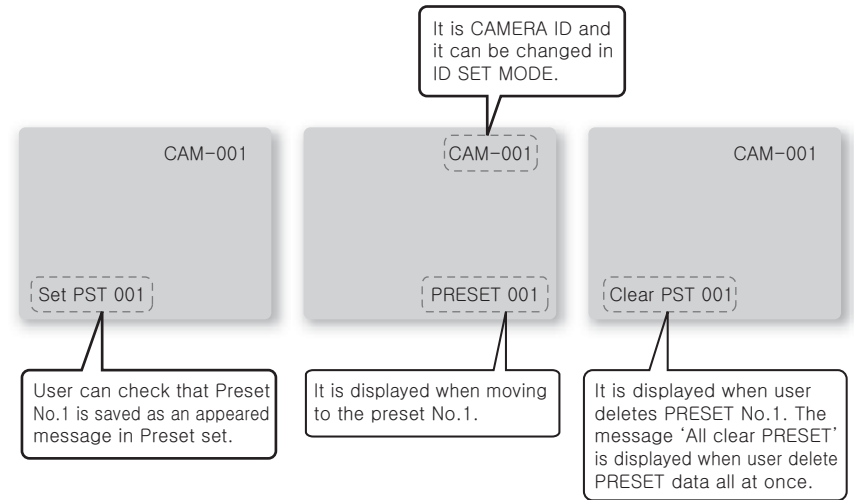
Control the joystick and Lens

③ Delete Trace

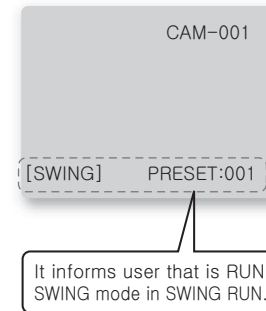


4-4. OSD MESSAGE DISCRPTION

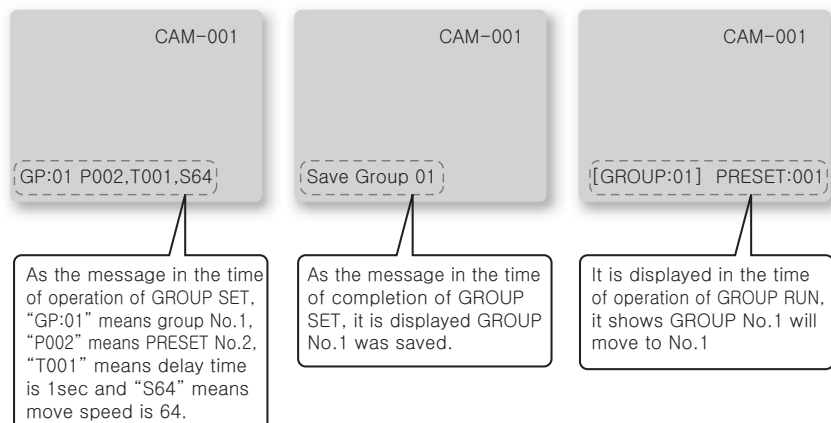
1. PRESET MESSAGE



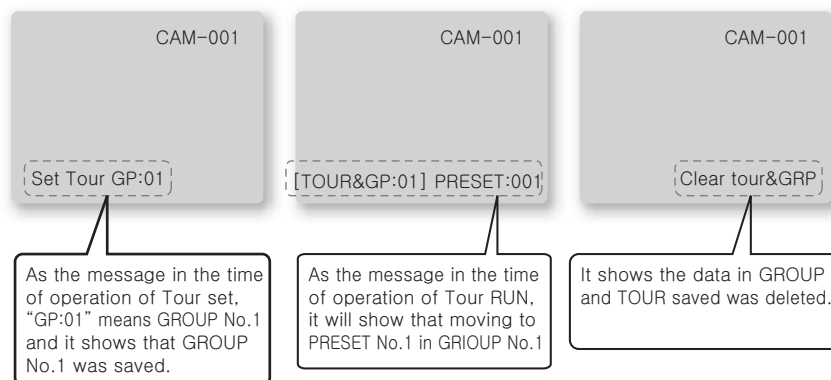
2. SWING MESSAGE



3. GROUP MESSAGE



4. TOUR MESSAGE



5. Spiral SEQ MESSAGE



5. TROUBLE SHOOTING

Caution in use

- Make sure that turn the power switch off before installation.
- Avoid the places where is the high/low temperature and humid.
- Use a power supply of AC24 / 1.5A output.
- Please be careful of that you connect respective wires without mismatching in installation.
- Supply to power sources after checking the state of insulation of cables which is connected to the exterior.
- Please keep the product from a strong shock or vibration which is the cause of troubles.

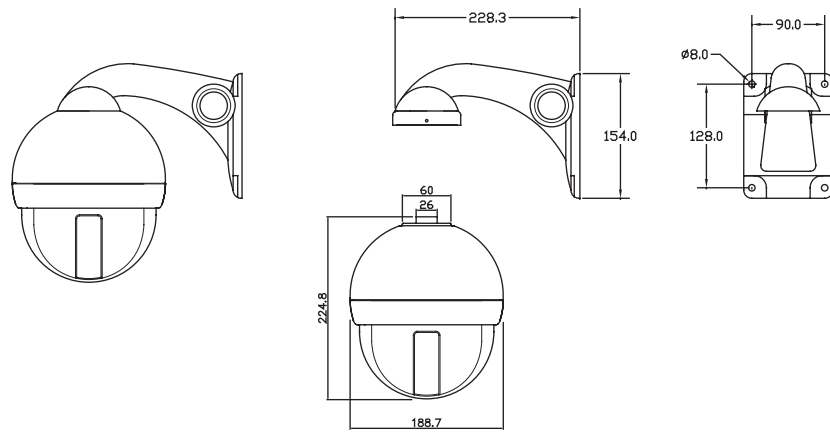
Checking in under using

Check the product as following, if something is wrong in installation or using.

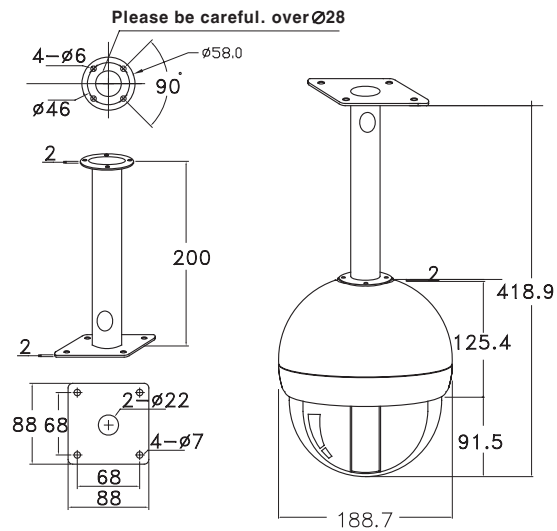
| TROUBLE SHOOTING | CHECK POINT | MEASURES |
|--|--|---|
| Power is not turned on. | Does the electric power supply into the product well? | Check that LED at CNNECTOR of UPPER COVER has been lit. |
| Does not work in Power On. | In operating, does the LED beside POWER SW light on red? | Check the status of DATA CABLE, if it is not lit. Check ADDRESS and DIP SW of communication speed setting, if it is not lit. |
| | Have you selected to RS485 or RS422 right? | Check the status of OPTION DIP SW No.2 |
| Poor condition of PAN/TILT | Have you turned the ending terminal register 'ON'? | Turn 'ON' the ending terminal register of the camera which is set in farthest away. |
| A image is not clear or black lines are displayed on the screen. | Is the power adapter AC24V, 1.5A over? | Exchange the adapter to for an adapte which has higher current. |
| A Focus is not clear in the controlling of hand-worked. | Have you changed MINIMUM DISTENCE in the SET MENU? | Change MINIMUM DISTENCE in the SET MODE. |
| The message 'P/T POSITION ERROR' is displayed continuously. | Is the camera pressed by something heavy or put it between others? | Check that a rotation of the camera's body works smoothly and remove a object that hinders the operation of the camera. |
| The message 'SORRY NOT MEMORY' is displayed continuously. | Have you set the related functions? | Please refer to the manual book and setting the function you want. |
| ALARM RELAY is not changed to 'ON' in the state of being alarmed. | Have you set the ALARM RELAY 'ON' in the SET MODE? | Make sure ALARM RELAY 'ON' in the SET MODE. |
| In abnormal condition, even if the sensor is well. | Is it correct ALARM ACTIVE setting status and the sensor is either opened or closed? | Fit ALARM ACTIVE MODE setting with the connection of the SENDOR in the SET MODE. (It means either sensor is opened or closed) |
| PRESET point is different or out of moving when the ALARM occurs. | Is it correct ALARM ACTIVE setting status and the sensor is either opened or closed? | Check the status of the ALARM PRESET setting in the SET MODE. |
| The warning does not work from the keyboard when the ARLAM occurs. | Have you used the exclusive control keyboard? | The warning is only reacted to the exclusive control keyboard. |

5. DIMENTIONS

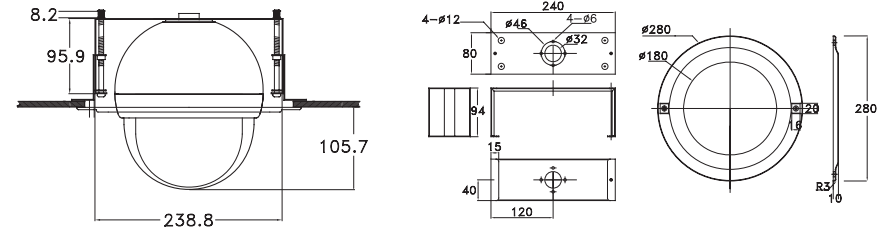
Wall Bracket (DYN-30EWP)



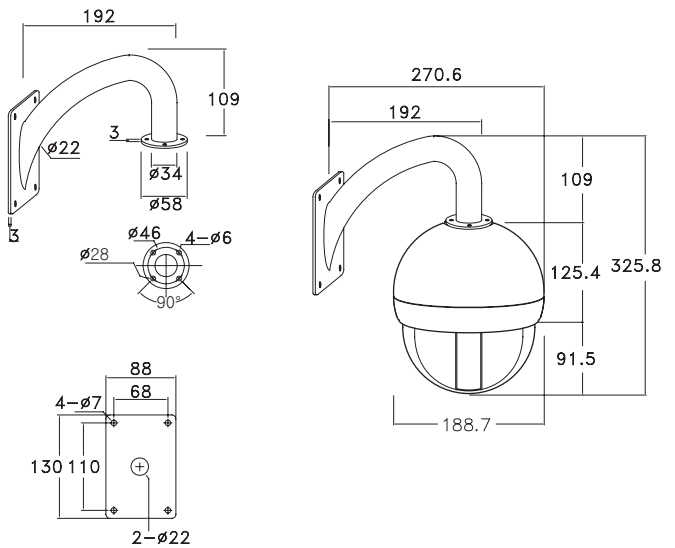
Ceiling Bracket (DYN-20CP)



In-Ceiling Bracket (DYN-20ICB)

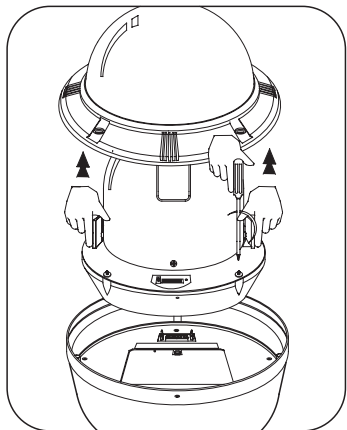


Wall Bracket (DYN-20WP)

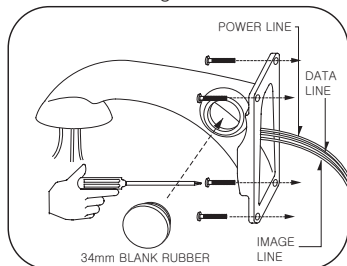


6.ASSEMBLES

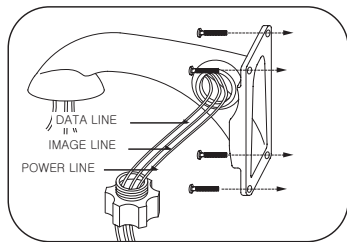
DYN-SD/EXT/A(Wall sty. DYN-30EWP)



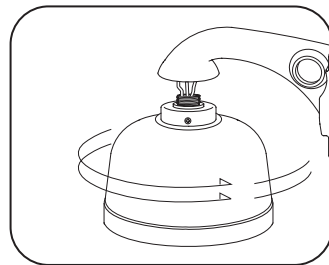
- ① Remove the main body of the camera from the housing.



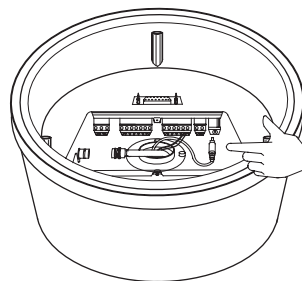
- ② -1. Fix four bolts after connecting each line and block up the hole of the bracket's body with 34mm BLANK RUBBER.



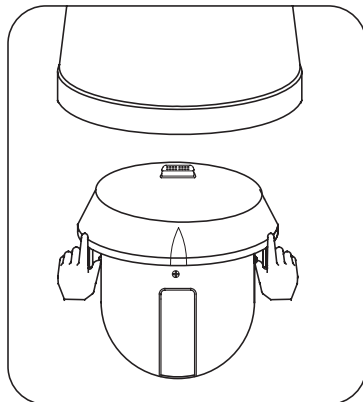
- 2. Connect the line as above the picture when you set it in the concrete structure such as the wall and connect TAB/P1/11" FLEXIBLE CONNECTOR(28 φ).



- ③ Fix the upper cover into a wall bracket with turning it in the same direction as the picture.

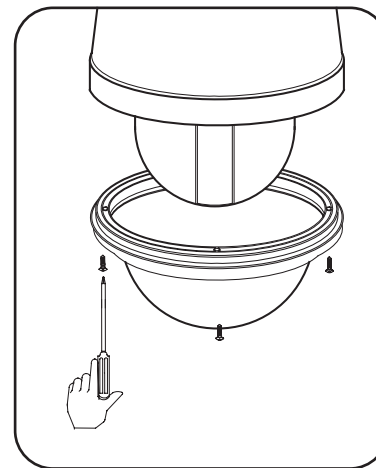


- ④ Connect the data cable, video cable and power source cable.



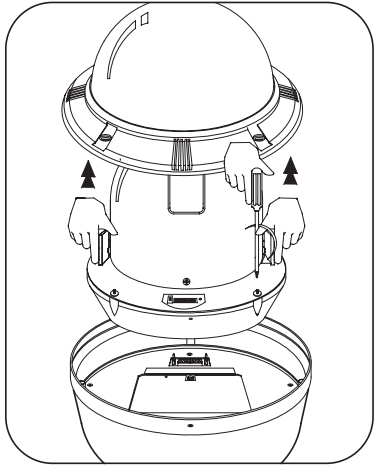
- ⑤ Unite the body of the camera to the housing.

DYN-SD/EXT/A(Wall sty. DYN-30EWP)

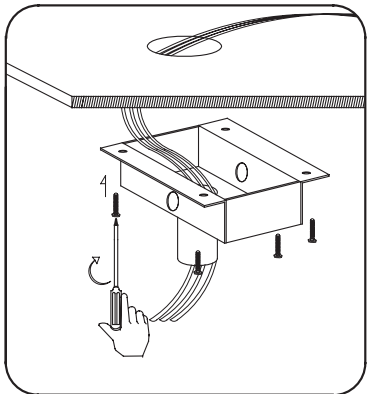


- ⑥ Unite the transparent bubble to the housing.

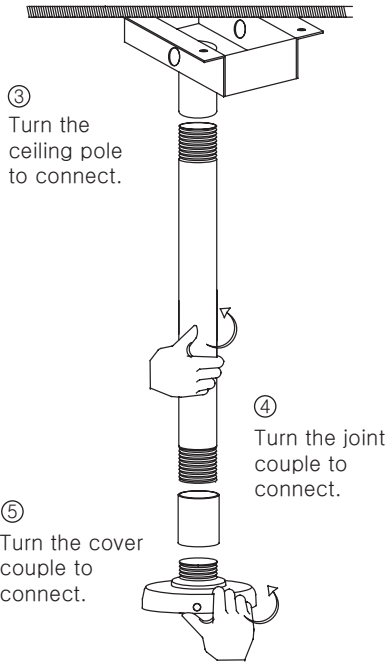
DYN - SD/EXT/A(Ceiling sty. DYN-20ECP)



① Remove the main body of the camera from the housing.



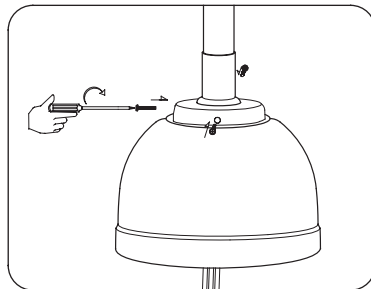
② Fix the pole box on the ceiling.



③ Turn the ceiling pole to connect.

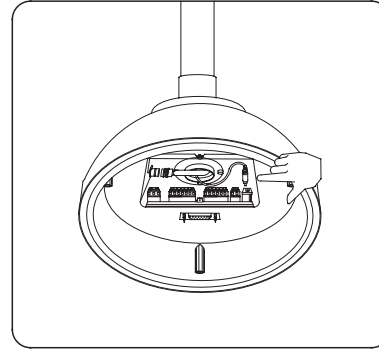
④ Turn the joint couple to connect.

⑤ Turn the cover couple to connect.

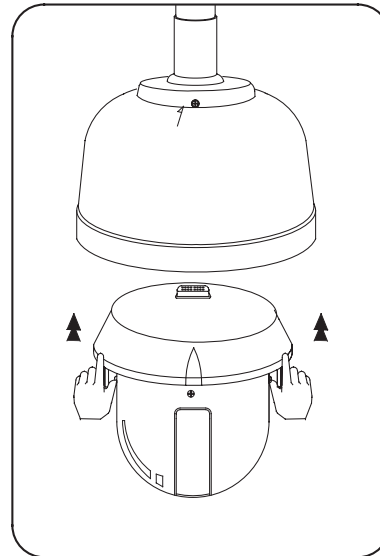


⑥ Turn the cover couple to connect.

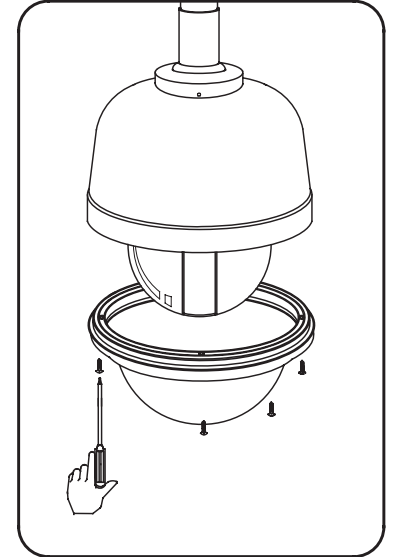
DYN - SD/EXT/A(Ceiling sty. DYN-20ECP)



⑦ Connect the data cable, video lines and power source cable.



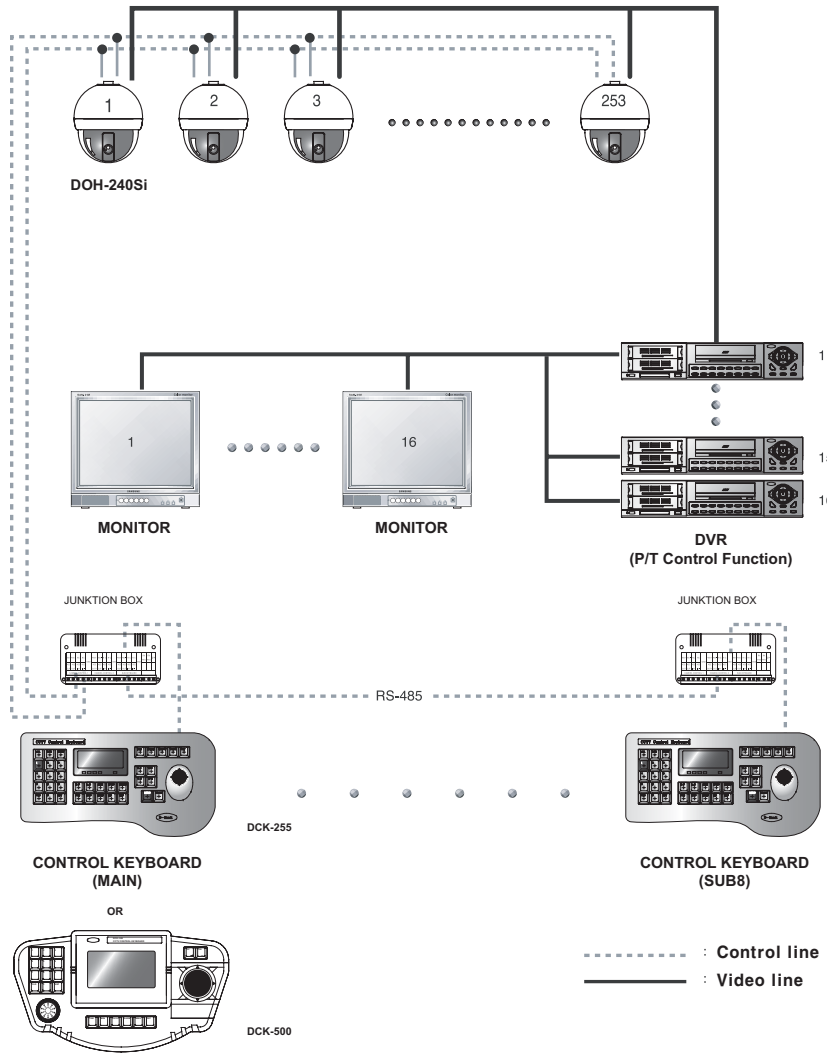
⑧ Unite the body of the camera to the housing.



⑨ Unite the transparent bubble to the housing.

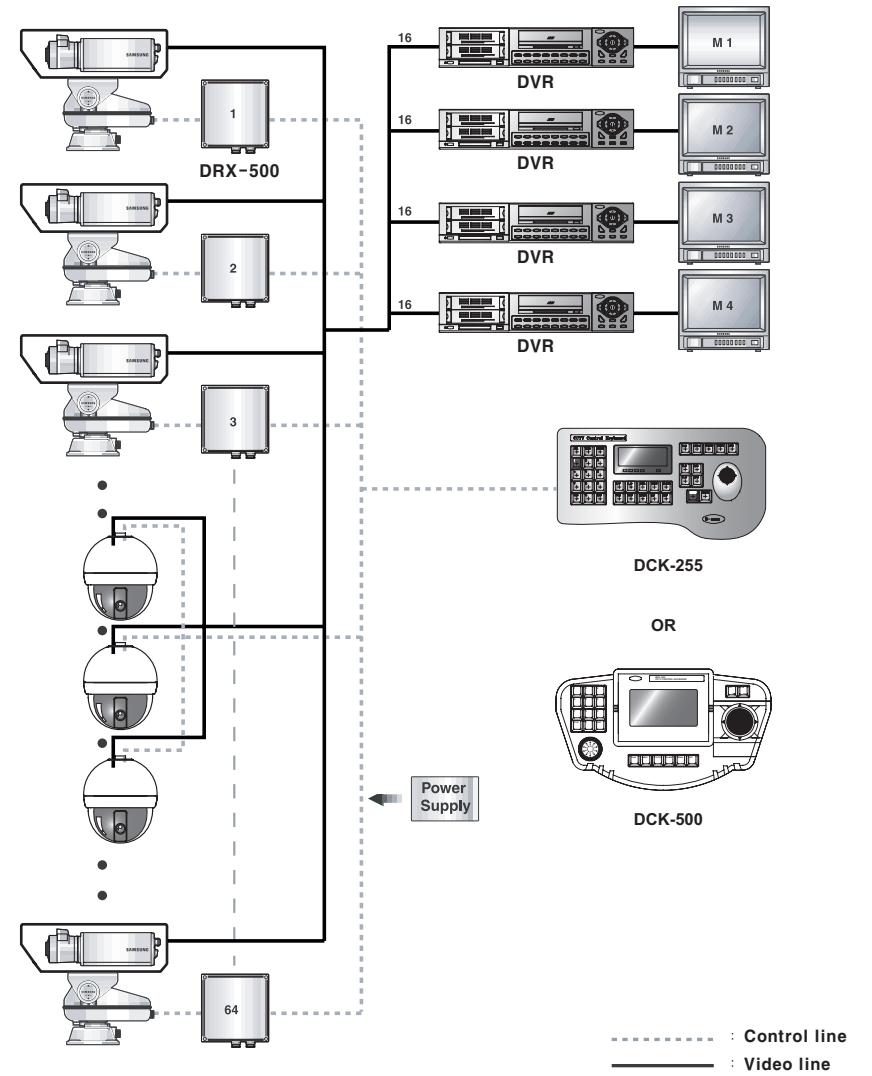
PRODUCT STRUCTURE

■ Set SUB KEYBOARD



PRODUCT STRUCTURE

■ Set one KEYBOARD



7. SPECIFICATIONS

| MODEL | DYN-SD/INT/A (INDOOR) | |
|-----------------------|--|---------------------|
| Signal system | NTSC | PAL |
| Image sensor | 1/4" Sony HAD CCD | |
| Effective pixels | 768(H) X 494(V), | 752(H) X 582(V), |
| Horizontal resolution | More than 520TVL(Color Mode) / More than 570TVL(B/W Mode) | |
| Lens | 23x Optical zoom, f =3.84 - 88.4mm | |
| Digital zoom | 10x (Total zoom 230x) | |
| Angle of view | H:52.2° (W) to 2.36°(T), V:40.252° (W) to 1.78° (T) | |
| Minimum illumination | 0.7Lux @F1.6 (Normal Color Mode) 0.1 Lux @F1.6 (B/W Mode) 0.0007 Lux@F1.6 (Sens-up Mode) | |
| Luminance S/N ratio | More than 50dB (AGC Off) | |
| Video output | 1 Vp-p Composite video output 75Ω | |
| Focus mode | Auto / Manual / Oneshot | |
| Back light | Off / Low / Middle / High | |
| DIS | On / Off Selectable | |
| SSNR | Off / Low / Middle / High | |
| Shutter speed | 1/60 -1/120,000 sec | 1/50 -1/120,000 sec |
| White balance | Indoor / Outdoor | |
| Alarm in/out | 4 Inputs / 1 Relay Output | |
| Pan/Tilt angle | 360° Endless / 92° | |
| Pan speed | 0.1° ~ 180°/sec (64 Levels) | |
| Preset point | 250 Presets | |
| Preset Speed | Max 180°/sec (64 Levels) | |
| Communication system | RS-485 / 422 | |
| Operating temperature | - 10°C ~ 50°C (-14°F ~ 122°F) | |
| Storage temperature | - 5°C ~ 60°C | |
| OSD | Built-in | |
| Operating humidity | Less than 90%RH | |
| Dimensions | 188.7mm(Diameter) x 216.9(Height) mm | |
| Weight | About 3.1Kg (Without adaptor) | |
| Construction | ABS body , Clear vandal bubble (PC) | |
| Power consumption | 18W (Max) | |
| Power supply | AC24V, 60/50 Hz | |

| MODEL | DYN-SD/EXT/A (OUTDOOR) |
|-----------------------|--|
| Operating temperature | -40° C ~ 50° C (-40°F ~ 122°F) |
| Operating humidity | Less than 100%RH |
| Dimensions | 216.8mm(Diameter) x 317.7(Height) mm |
| Weight | About 5.2Kg (Without adaptor) |
| Construction | Aluminum body , Clear vandal bubble (PC) |
| Power consumption | 21W (Max) |
| Power supply | AC24V, 60/50 Hz |

* It is changeable to improve the quality of the product without a notice.

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