FULL HD MEGA-PIXEL
RUGGED IR PTZ CAMERA

Distributed by

Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

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1. INFORMATION FOR USER

1. 1 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 VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

<div align="center">

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

</div>

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

1. 2 EXPLANATION OF GRAPHICAL SYMBOLS

The lightning flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1. 3 FCC COMPLIANCE STATEMENT

FCC INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference a this own expense.

1. 4 CE COMPLIANCE STATEMENT

WARNING - This is a CLASS A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

CAUTION - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

**This installation should be made by a qualified service person and should conform to all local codes.

2. PRECAUTIONS

■ **Do not install the camera in extreme temperature conditions.**

Do use the camera under conditions where temperatures are within -20°C to 50°C (in continuous operation). Under high temperatures, ensure proper ventilation.

■ **Do not install or use the camera in an environment where the humidity is high.**

It can cause the image quality to be poor.

■ **Do not install the camera under unstable lighting conditions.**

Severe lighting change or flicker can cause the camera to work improperly.

■ **Never use the camera close to a gas or oil leak.**

It can cause malfunctions to occur.

■ **Do not disassemble the camera.**

There are no user-serviceable parts inside it.

■ **Do not drop the camera or subject them to physical shocks.**

It can cause malfunctions to occur.

■ **Do not allow direct sunlight into the camera.**

It can damage CCD.

■ **Do not expose the camera to rain or spill beverages on it.**

If it gets wet, wipe it dry immediately. Liquids can contain minerals that corrode the electronic components.

■ **To prevent electric shock and risk of fire hazards.**

■ **Do not use power sources other than that specified.**

■ **Note**
If the camera is exposed to spotlight or object reflecting the strong light, smear or blooming may occur.
Please check the power whether it satisfies the normal specification before connecting the camera.

3. FEATURES

*S*pecially useful for Police car and other special application

This stable and reliable design makes ideal for car application such as traffic monitoring, car surveillance.

*A*uto-focus 20X Optical Zoom

The built-in 20X optical zoom lens with auto-focus is combined with a 12X digital zoom(20x), providing a maximum of 240X zoom.

*3*60˚ Endless Pan Rotation (15˚ to 270˚ Tilt Angle)

*W*ide Range Auto functions

Preset : Up to 63 programmable Presets.
Tour : Up to 8 programmable Tours consisting of presets with individual dwell time.
Scan : Repeatedly pan & tilt operating between two positions. (Max.4)
Pattern : Up to 2 programmable Patterns memorized the PTZ movement.
Alarm : Move the camera to programmed Preset position with Alarm trigger.(Max.2)
Area : Up to 4 programmable Areas display set.

*B*uilt-in Fan & Heater

*T*rue Day & Night (ICR Filter Change)

The IR cut filter is on when the camera is operating as a color camera for precise color reproduction. With ICR, the filter is removed which allows for much greater light sensitivity in monochrome mode.

*O*SD (On Screen Display)

The camera IDs, camera preset numbers, preset names, area names and camera operation status are displayed on the monitor, allowing set up of various camera functions through the OSD menu screen.

*M*echanical Auto Flip

*W*DR (Wide dynamic range)

The Camera delivers clear, high quality pictures even in backlight, by increasing exposure in dark areas while decreasing it in bright areas a corrected image with clear details results (only 36X Zoom Series).

*V*ariable speed Pan/Tilt control

In manual mode, sophisticated operating is possible at zoom in state by speed correcting function.

*L*ight Function

It's builin 12 Pcs IR LED, So it provides visible distance up to 120m in dark.

*C*ompact Size

Even though this camera has built-in
26X/36X optical zoom and LED, it's size is very compact (Refer to the 42~43 pages).
So it does't spoil beauty of city.

4. SETTING & INSTALLATION

4. 1 Unpacking

Base plate bracket
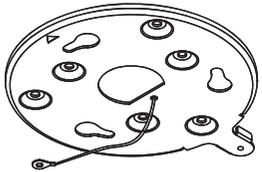
4PIN Plugable Terminal Block
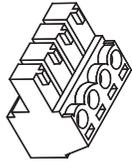
Manual
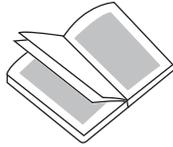
Alarm Cable
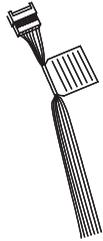
Main Cable

Screws

1.   2.
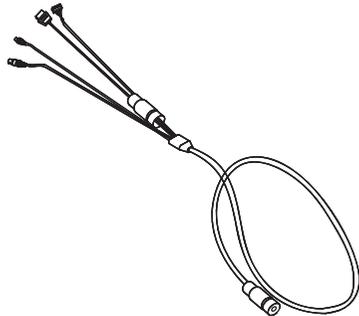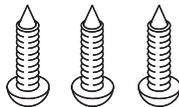
1. BH 3 x 6 (Screw for base plate with camera)   8 x 38 (Screw to fix the base plate bracket)
2. TH 3 x 6 (Screw for safety cable)

4. 2 DIP Switch Setting

Before start up the camera, set the protocol, camera address and details with dip-switches referring to the follows.
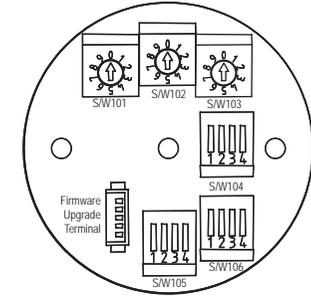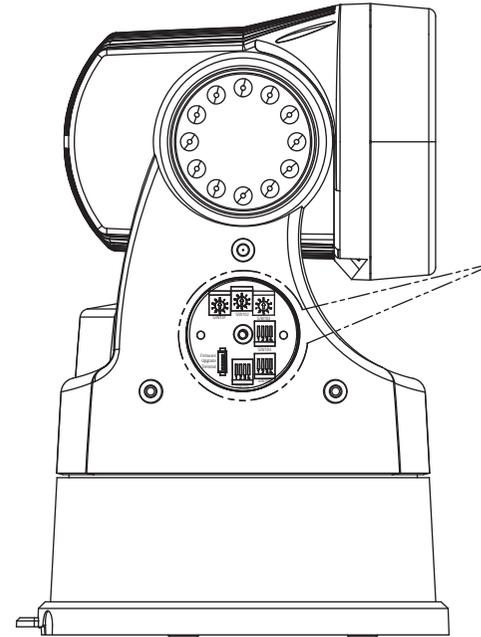
Open the left side of cover and set the camera

Camera ID (ADDRESS)

S/W101   S/W102   S/W103
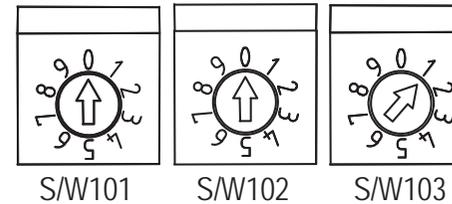
S/W101 : 100 digit of ID
S/W102 :   10 digit of ID
S/W103 :   1 digit of ID

Ex) S/W101=0, S/W102=0, S/W103=1

Address=001

Each camera must have a unique address(ID). Identacal IDs on the same line may damage the control curcuit caused by an electronic short.

DIP switch

Firmware Upgrade Terminal

S/W105   S/W106   S/W104
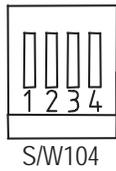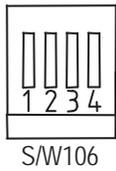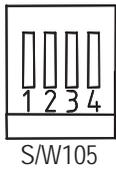
PROTOCOL	S/W105-1	S/W105-2
WTX (WONWOO)	OFF	OFF
WPD1.0 (PELCO-D V1.0)	OFF	ON
WPP (PELCO-P)	ON	OFF
WPD5.0 (PELCO-D V5.0)	ON	ON

VIDEO MODE	S/W106-4
TOP	OFF
BOTTOM	ON

BAUDRATE	S/W105-3	S/W105-4	S/W106-1
2400bps	OFF	OFF	OFF
4800bps	OFF	OFF	ON
9600bps	OFF	ON	OFF
19200bps	OFF	ON	ON
38400bps	ON	OFF	OFF
57600bps	ON	OFF	ON
115200bps	ON	ON	OFF

CAM MODE	S/W106-2	S/W106-3
EH	OFF	OFF
MM	OFF	ON
NC	ON	OFF
NC	ON	ON

OUTPUT FORMAT	S/W104-1	S/W104-2	VIDEO MODE	S/W104-3
1920 x 1080 p 30	OFF	OFF	NTSC	OFF
1920 x 1080 i 60	OFF	ON	NTSC	OFF
1280 x 720 p 60	ON	OFF	NTSC	OFF
1920 x 1080 p 25	OFF	OFF	PAL	ON
1920 x 1080 i 50	OFF	ON	PAL	ON
1280 x 720 p 50	ON	OFF	PAL	ON

RS MODE	S/W104-4
RS485	ON
RS422	OFF

4. 3 Cable Connection

4. 3. 1   Basic Diagram of Cable Connection

Video Out

Data Communication

Alarm

Power Input
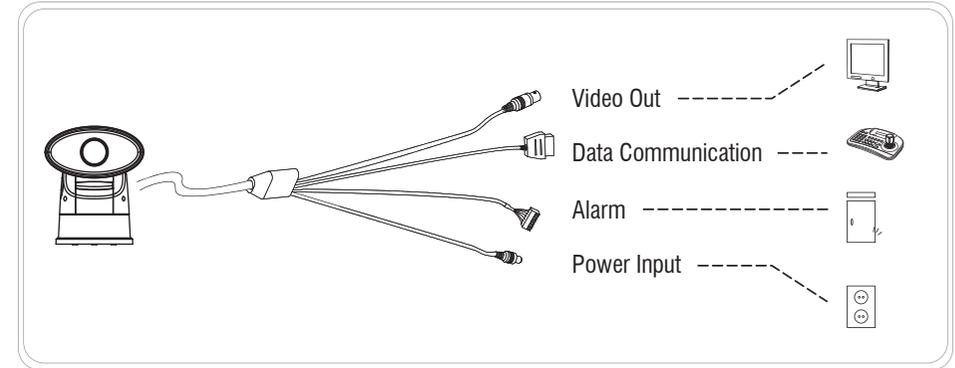
4. 3. 2   Video Output Connection
Connect the video out (BNC) connector to the monitor or video input of DVR.

4. 3. 3   RS-485 / RS-422 Communication Connection
Rugged IR PTZ camera can be remotely controlled by an external device or control system, such as a control keyboard or DVR, using RS-485 half-duplex, RS-422 duplex or simplex serial data communi -cation signals. After inserting 4pin plugable terminal block of accessory package to green port of main cable, then connect marked RX+, RX- to TX+, TX- of the RS-485 control system. If control system is RS-422, connect TX+,TX- of controller to RX+, RX- of the camera. And also connect the TX+, TX- of camera to RX+, RX- of the control device respectively. Total length of the cable for commu -nication should not exceed 1.2Km.

4. 3. 4   Alarm Connection
Rugged IR PTZ camera can operate specific motion receiving external Alarm Device(Sensor)'s signal (Max 2 Alarm.) Connect the alarm cable to external Alarm Device referring to below.
- Brown color line : Ground / Black & Red color lines : Alarm 1 & 2.

4. 3. 5   Power Connection
- After connecting above 3 connections(Video/Data Communication/Alarm), connect the power cable finally.
- Connect the power of DC 12V, 1.5A to this camera.
- Use certified Class 2 power supply transformer only.

4. 4 Installation

- The following steps of installation and connection work should be done by qualified service personnel or system installers and should confirm to all local codes.
- Be sure to switch the camera off before installation is completed.
- Do not install the camera near the air outlet of an air conditioner.
- Before installation, set camera system with Dip-switches on the 7~8 pages.

4. 4. 1 Typical Installation

1
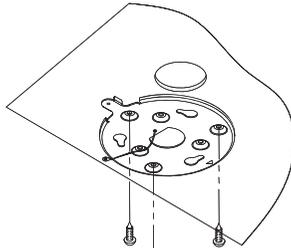
Fix the base
plate after make holes on the ceiling.

2
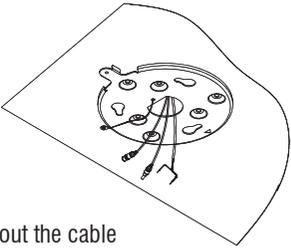
Pull out the cable
where the camera will be installed.

3
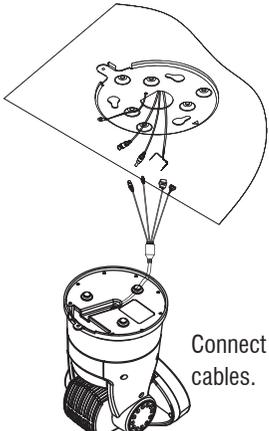
Connect the main cables.

4
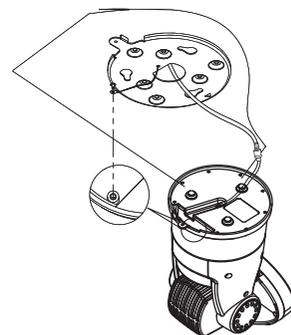
Connect the safety wire to the camera base and base plate using enclosed screws(TH 3x6).

5
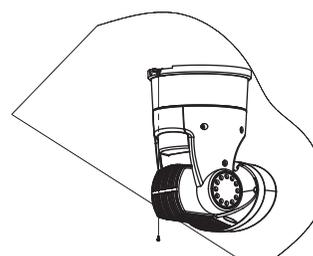
Fix the screw(BH 3x6) after fix the camera on the ceiling.

4. 4. 2 Installation for vehicle application

To install Rugged IR PTZ Camera to Vehicle, Bracket must be needed.
This bracket is provided optionally. (WCA-VB1)
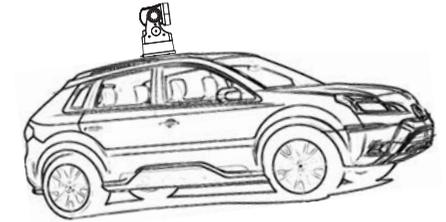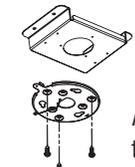
1

Attached the camera base plate
to the bracket base plate by using M4x8 SUS screws.

2
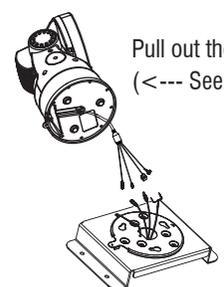
Pull out the cable from the hole of bracket base plate and connect with camera.
(<--- See picture No.2)

3
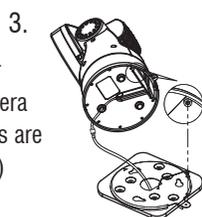
Connect the safty wire of camera base plate to the bottom of camera by using TH3x6 screws.(Screws are enclosed in the accessory pack)

4

Fix the serew(PH3x6) with the camera body and camera base plate.
(Screws are enclosed in the accessory pack)

5

Attach the guide plate to the bracket base by using M4x8 screws.

(PH M3x6 SUS 1EA)

(TH M3x6 SUS 1EA)

(M4x8 SUS 7EA)

4. 4. 3 Installation for vehicle application

To install Rugged IR PTZ Camera to Vehicle, Bracket must be needed.
This bracket is provided optionally. (WCA-VB2)

1.
Attached the camera base plate to the bracket base plate by using M4x8 SUS screws.

2.
Pull out the cable from the hole of bracket base plate and connect with camra.
(<--- See picture no.2)

3.
Connect the safty wire of camer base plate to the bottom of camera by using TH3X6 screws.(Screws are enclosed in the accessory pack)

4.
Fix the screw (PH 3x6) with the camera body and camera base plate. (Screws are enclosed in the accessory pack)
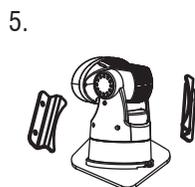
5.
Attach the guide plate to the bracket base by using screws.
(M4x8 TH / M4 SPRING W/S)

(PH M3x6 SUS 1EA)

(TH M3x6 SUS 1EA)

(M4x8 TH SUS 7EA)
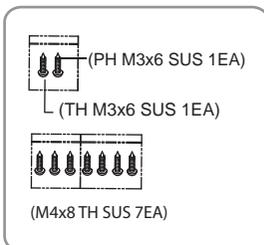
4. 5 Basic Configuration of the System

RX+ RX- TX+ TX-

RS-485 INPUT

Multi-Converter

RS-232

RS-485 OUTPUT

DVR

Monitor

Controller
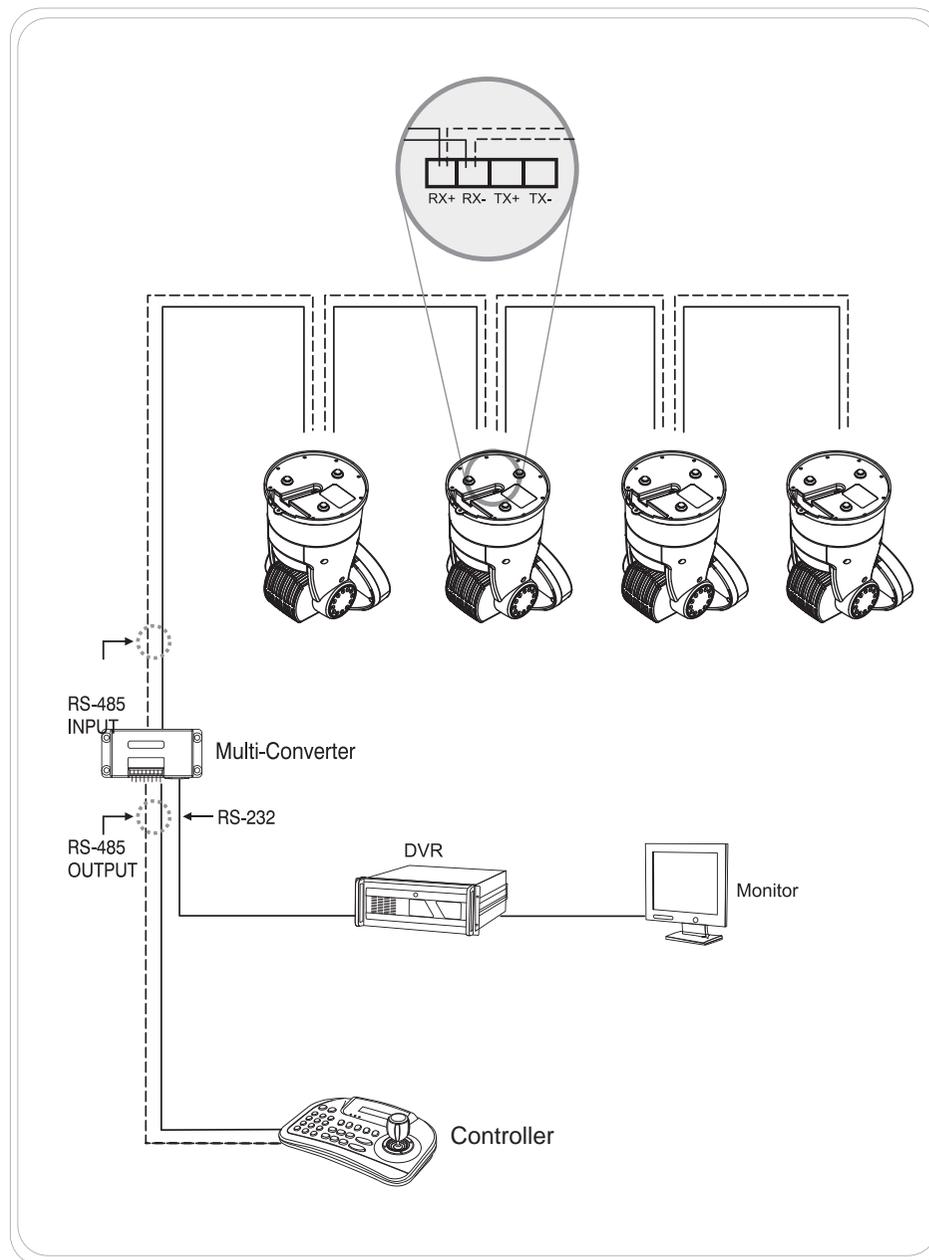
5. MAIN SETUP MENU

5. 1 Initialize

```
            INITIALIZE

ADDRESS              : 001
INSTALL TYPE         : TOP
VERSION              : XXX
DIGITAL OUT          : 1080p30
CVBS OUT             : NTSC
PROTOCOL             : PelcoD
BAUDRATE             : 2400, N, 1
CAMERA               : XX

PAN OFFSET           .
TILT OFFSET          .
```
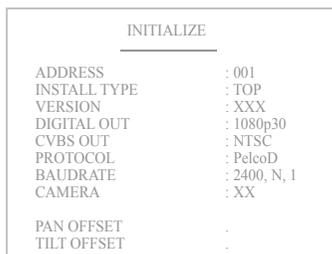
When the device is powered on, you can check the address, version, protocol and video setting values.

5. 2 Motion Setting

```
           MAIN MENU

▶ MOTION      ▶
  DOME        ▶
  CAMERA      ▶
  CLEAR       ▶
  RESET
  EXIT



    < NEAR / RIGHT  →  SUB MENU >
```
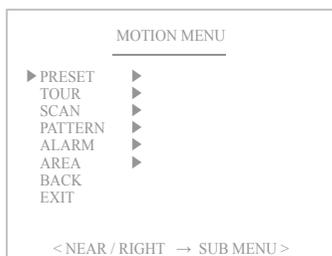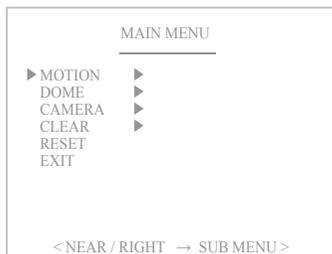
MOTION MENU
The preset function is that the camera memorizes positions of the pan/tilt and zoom. This function is a representative function of the speed dome which can find memorized preset positions just by selecting the preset number.

```
          MOTION MENU

▶ PRESET      ▶
  TOUR        ▶
  SCAN        ▶
  PATTERN     ▶
  ALARM       ▶
  AREA        ▶
  BACK
  EXIT

    < NEAR / RIGHT  →  SUB MENU >
```

5. 2. 1 PRESET
A Maximum of 63 Preset positions are toured in order.

```
           PRESET MENU

PRESET NO  :01 DEFINE
▶ LABEL       :
  POSITION    :000.0,015.0
  CLEAR
  SAVE
  BACK
  EXIT


   < NEAR / RIGHT  →  LABEL EDIT >
```

Move : [JOYSTICK]   Select : [TELE] or [JOYSTICK]   Delete : [WIDE] or [JOYSTICK]

It's available to set the desired label, displayed on the executing screen of Preset.
After the label is set, push the NEAR button to exit.

PRESET NO

```
          PRESET SELECT

  01 02 03 04 05 06 07
  08 09 10 11 12 13 14
  15 16 17 18 19 20 21
  22 23 24 25 26 27 28
  29 30 31 32 33 34 35
  36 37 38 39 40 41 42
  43 44 45 46 47 48 49
  50 51 52 53 54 55 56
  57 58 59 60 61 62 63

  < SEL&NEAR/MOVE&JOYSTICK >
```

① Select the Position menu   ② Move and set the position

[NEAR] or [JOYSTICK]   [JOYSTICK]

③ Set & Back

[NEAR]

LABEL

```
           PRESET MENU

  LABEL  : � _ _ _ _ _ _ _ _ _ _ _ _ _ _ -

  ▪ 0  1  2  3  4  5  6  7  8  9  (
  )  A  B  C  D  E  F  G  H  I  J  K
  L  M  N  O  P  Q  R  S  T  U  V  W
  X  Y  Z  .  /  ,  +  -  =  <  >  @


  <STORE&TELE    MOVE&JOY >
  <DEL&WIDE      BACK&NEAR>
```
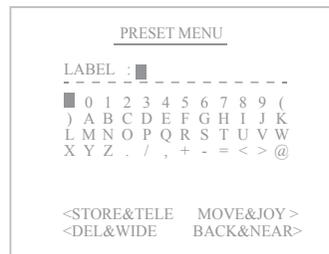
Define the Preset position

5. 2. 2 TOUR

The Tour function consists of several presets run by turn.
Maximum of 8 Tour functions are toured in order.

```
        MOTION MENU                              TOUR MENU

    PRESET      ▶                        ▶TOUR NO          :01 DEFINE
  ▶ TOUR        ▶                          LABEL           :
    SCAN        ▶                          TOUR EDIT
    PATTERN     ▶                          CLEAR
    ALARM       ▶                          SAVE
    AREA        ▶                          BACK
    BACK                                   EXIT
    EXIT


    < NEAR / RIGHT  → SUB MENU >              < NEAR / RIGHT  →TOUR NO>
```

TOUR NO

```
        TOUR SELECT

    01   02   03   04   05   06
    07   08






    < SEL&NEAR/MOVE&JOYSTICK>
```
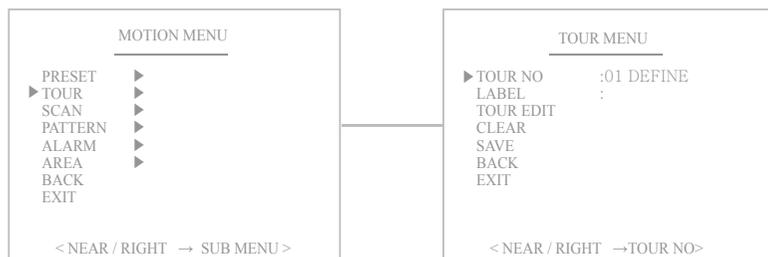
Select the Tour number

Move : JOYSTICK   Select : NEAR
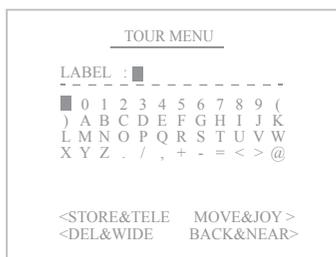
LABEL

```
        TOUR MENU

    LABEL  : ▮ _ _ _ _ _ _ _ _ _ _

    ▮ 0 1 2 3 4 5 6 7 8 9 (
    ) A B C D E F G H I J K
    L M N O P Q R S T U V W
    X Y Z  .  /  ,  +  -  =  <  >  @



    <STORE&TELE    MOVE&JOY >
    <DEL&WIDE      BACK&NEAR>
```

Set the Tour Label

Move : JOYSTICK   Select : TELE or JOYSTICK

Delete : WIDE or JOYSTICK

It's available to set the desired label, displayed on the executing screen of Tour.

After the label is set, push the NEAR button to exit.

TOUR EDIT

```
        TOUR EDIT <01>                              PRESET SELECT
        - - - - - - - - -
    NO    PRESET   SPEED   DWELL            01 02 03 04 05 06 07
    01    <XX>      XX      XX               08 09 10 11 12 13 14
    02     XX       XX      XX               15 16 17 18 19 20 21
    03     XX       XX      XX               22 23 24 25 26 27 28
    04     XX       XX      XX               29 30 31 32 33 34 35
    05     XX       XX      XX               36 37 38 39 40 41 42
    06     XX       XX      XX               43 44 45 46 47 48 49
    07     XX       XX      XX               50 51 52 53 54 55 56
    08     XX       XX      XX               57 58 59 60 61 62 63

    <SEL&NEAR      PRESET&LEFT>             < SEL&NEAR/MOVE&JOYSTICK >
```

Define the Preset position

① Move to the set-up window   ② Move and set the position   ③ Set & Back

NEAR or JOYSTICK   JOYSTICK   NEAR

5. 2. 3 SCAN

```
        MOTION MENU                              SCAN MENU

    PRESET      ▶                        ▶ SCAN NO  : 01 DEFINE
    TOUR        ▶                          LABEL    :
  ▶ SCAN        ▶                          START PAN POS. : 000.0
    PATTERN     ▶                          END PAN POS.   : 000.0
    ALARM       ▶                          MOVE SPEED : 50
    AREA        ▶                          CLEAR
    BACK                                   SAVE
    EXIT                                   BACK
                                           EXIT

    < NEAR / RIGHT  → SUB MENU >            < NEAR / RIGHT  →SCAN NO>
```

The Scan function means that the camera keeps panning between two programmed pan positions. It is also adjusts the moving speed(1∼63 step). Maximum 4 Scan functions are toured in order.

SCAN NO

```
          SCAN SELECT
    01   02   03   04




    < SEL&NEAR/MOVE&JOYSTICK>
```

Move : [JOYSTICK]   Select : [TELE] or [JOYSTICK]

Delete : [WIDE] or [JOYSTICK]

It's available to set the desired label, displayed on the executing screen of Scan.
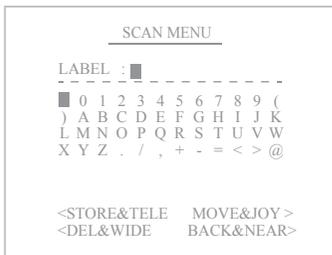
After the label is set, push NEAR button to go out.

LABEL

```
          SCAN MENU
    LABEL   : ▉ - - - - - - - - - - - - -

    ▉  0  1  2  3  4  5  6  7  8  9  (
    )  A  B  C  D  E  F  G  H  I  J  K
    L  M  N  O  P  Q  R  S  T  U  V  W
    X  Y  Z  .  /  ,  +  -  =  <  >  @


    <STORE&TELE    MOVE&JOY >
    <DEL&WIDE        BACK&NEAR>
```

START POSITION

```
          SCAN MENU
    SCAN NO  : 01 DEFINE
    LABEL   :
  ▶ START PAN POS. : 000.0
    END PAN POS.   : 000.0
    MOVE SPEED : 50
    CLEAR
    SAVE
    BACK
    EXIT

    < NEAR / RIGHT  →SCAN NO>
```

```
        SCAN START PAN POSITION




    POSITION :
    <EXIT & FOCUS NEAR>
```

Define the Start pan position
① Select Start Pos menu   ② Move and set the position   ③ Go back

[NEAR] or [JOYSTICK]   [JOYSTICK]   [NEAR]

END POSITIION

```
          SCAN MENU
    SCAN NO  : 01 DEFINE
    LABEL   :
    START PAN POS. : 000.0
  ▶ END PAN POS.   : 000.0
    MOVE SPEED : 50
    CLEAR
    SAVE
    BACK
    EXIT

    < NEAR / RIGHT  →SCAN NO>
```

```
        SCAN END PAN POSITION




    POSITION : 000.0
    <EXIT & FOCUS NEAR>
```
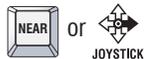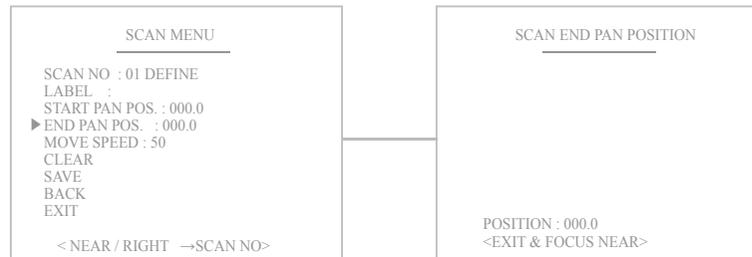
Define the End pan position
① Select End Pos menu   ② Move and set the position   ③ Go back

[NEAR] or [JOYSTICK]   [JOYSTICK]   [NEAR]

MOVE SPEED

```
          SCAN MENU
    SCAN NO  : 01 DEFINE
    LABEL   :
    START PAN POS. : 000.0
    END PAN POS.   : 000.0
  ▶ MOVE SPEED : 50
    CLEAR
    SAVE
    BACK
    EXIT

    < NEAR / RIGHT  →TELE/WIDE  >
```
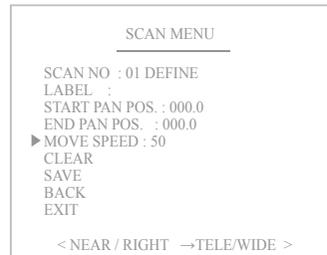
Set the Scan speed

Increase : [TELE] or [JOYSTICK]

Decrease : [WIDE] or [JOYSTICK]

It adjusts the moving speed from 0~63 steps.

※ Select SAVE after scan setting.
- "Save" above setting data to the memory.
- "CLR" means above setting Pattern data will not be saved and be cleared.
- "BACK" means it goes back to the previous menu.
- "EXIT" means it goes out of the MENU

5. 2. 4 PATTERN

The Pattern function memorizes User's random moving path and zoom ratio. Total recording time limit is 90secs and maximum 2 Pattern functions are toured in order.

```
          MOTION MENU

   PRESET     ▶
   TOUR       ▶
   SCAN       ▶
 ▶ PATTERN    ▶
   ALARM      ▶
   AREA       ▶
   BACK
   EXIT


     < NEAR / RIGHT  → SUB MENU >
```

```
          PATTERN MENU

 ▶PATTERN NO :    :01 DEFINE
  LABEL          :
  RECORD
  PLAY
  CLEAR
  BACK
  EXIT


     < NEAR / RIGHT  →PATTERN NO>
```

PATTERN NO

```
        PATTERN SELECT

  PAT01    0 2




     < SEL&NEAR/MOVE&JOYSTICK>
```
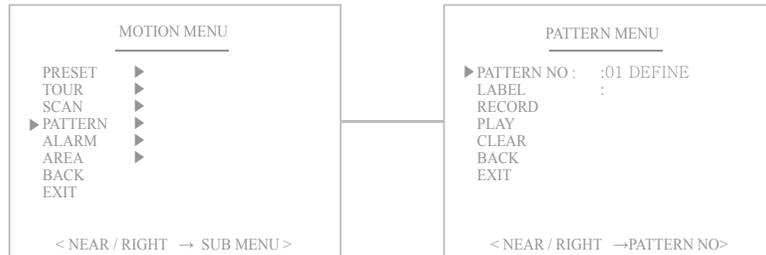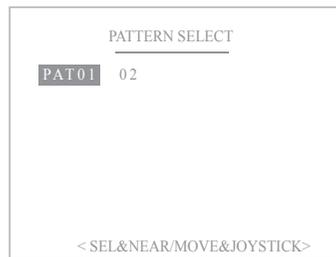
Select the Pattern number

Move :   Select :

LABEL

```
        PATTERN MENU

   LABEL  : █ - - - - - - - - - -
   █ 0 1 2 3 4 5 6 7 8 9 (
   ) A B C D E F G H I J K
   L M N O P Q R S T U V W
   X Y Z . / , + - = < > @


   <STORE&TELE    MOVE&JOY >
   <DEL&WIDE      BACK&NEAR>
```
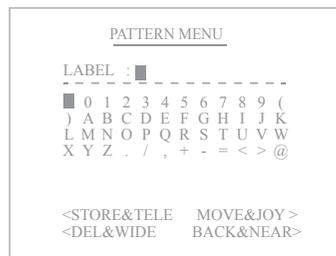
Set the Pattern Label

Move :   Select : TELE or

Delete : WIDE or

It's available to set the desired label, displayed on the executing screen of Pattern.

After the label set, push NEAR button to go out.

RECORD

```
      PATTERN RECORD SAVE
      _____



   REC
   ■■            06/90

     < EXIT &  FOCUS NEAR>
```

Record and Save the User's random Pattern data

① Select the "Record" Menu

NEAR or

② Move and record the pattern   ③ Set & Back

     NEAR

```
        PATTERN MENU

  PATTERN NO :    :01 DEFINE
  LABEL          :
  RECORD
 ▶PLAY
  CLEAR
  BACK
  EXIT


     < NEAR / RIGHT  →PATT PLAY>
```

Play back the recorded Pattern data

※ PATTERN function is saved automatically.

5. 2. 5 ALARM

The Alarm function means that the camera moves to the programmed Preset position by the Alarm trigger. Maximum 2 Alarm functions are toured in order.

```
          MOTION MENU

   PRESET     ▶
   TOUR       ▶
   SCAN       ▶
   PATTERN    ▶
 ▶ ALARM      ▶
   AREA       ▶
   BACK
   EXIT


     < NEAR / RIGHT  → SUB MENU >
```

```
          ALARM MENU

 ▶ALRAM NO       :01 DEFINE
  LABEL          :
  PRESET NO      :01
  CLEAR
  SAVE
  BACK
  EXIT


     < NEAR / RIGHT  →ALARM NO>
```

ALRAM NO

```
        ALARM SELECT
┌─────────────────────────────┐
│                             │
│   PAT01    02               │
│                             │
│                             │
│                             │
│                             │
│  < SEL&NEAR/MOVE&JOYSTICK>  │
└─────────────────────────────┘
```

The Alarm function means that the camera moves to the programmed Preset position by the Alarm trigger.

Maximum 2 Alarm functions are toured in order.

Move : [JOYSTICK]   Select : [NEAR]

LABEL

```
        ALARM MENU
┌─────────────────────────────┐
│  LABEL  : █ _ _ _ _ _ _ _   │
│  █ 0  1  2  3  4  5  6  7  8  9  (  │
│  )  A  B  C  D  E  F  G  H  I  J  K │
│  L  M  N  O  P  Q  R  S  T  U  V  W │
│  X  Y  Z  .  /  ,  +  -  =  <  >  @ │
│                             │
│  <STORE&TELE    MOVE&JOY >  │
│  <DEL&WIDE      BACK&NEAR>  │
└─────────────────────────────┘
```

Set the Alarm Label

Move : [JOYSTICK]   Select : [TELE] or [JOYSTICK]

Delete : [WIDE] or [JOYSTICK]
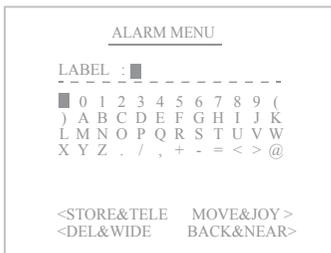
It's available to set the desired label, displayed on the executing screen of Alarm.

After the label is set, push the NEAR button to exit.

PRESET NO

```
        ALARM MENU
┌─────────────────────────────┐
│  ALRAM NO       :01 DEFINE  │
│  LABEL          :           │
│ ▶PRESET NO      :01         │
│  CLEAR                      │
│  SAVE                       │
│  BACK                       │
│  EXIT                       │
│                             │
│  < NEAR / RIGHT  →ALARM NO> │
└─────────────────────────────┘
```

```
        PRESET SELECT
┌─────────────────────────────┐
│  01  02  03  04  05  06  07 │
│  08  09  10  11  12  13  14 │
│  15  16  17  18  19  20  21 │
│  22  23  24  25  26  27  28 │
│  29  30  31  32  33  34  35 │
│  36  37  38  39  40  41  42 │
│  43  44  45  46  47  48  49 │
│  50  51  52  53  54  55  56 │
│  57  58  59  60  61  62  63 │
│  < SEL&NEAR/MOVE&JOYSTICK > │
└─────────────────────────────┘
```

Define the Preset position with Alarm trigger

① Select the "Preset No"   ② Move and set the position   ③ Set & Back

[NEAR] or [JOYSTICK]   [JOYSTICK]   [NEAR]

※ "Save" above setting Alarm data to the memory.
- "Save" above setting data to the memory.
- "CLR" means above setting Pattern data will not be saved and be cleared.
- "BACK" means it goes back to the previous menu.
- "EXIT" means it goes out of the MENU

---
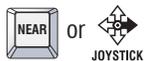
5. 2 .6 AREA

The Area function means that it displays the Area name between two programmed pan positions. Maximun 4 Area functions are toured in order.

```
        MOTION MENU
┌─────────────────────────────┐
│  PRESET         ▶           │
│  TOUR           ▶           │
│  SCAN           ▶           │
│  PATTERN        ▶           │
│  ALARM          ▶           │
│ ▶AREA           ▶           │
│  BACK                       │
│  EXIT                       │
│  < NEAR / RIGHT  → SUB MENU >│
└─────────────────────────────┘
```

```
        AREA MENU
┌─────────────────────────────┐
│ ▶AREA NO   : 01 DEFINE      │
│  LABEL        :             │
│  START PAN POS.  : 000.0    │
│  STOP   PAN POS.  : 000.0   │
│  CLEAR                      │
│  SAVE                       │
│  BACK                       │
│  EXIT                       │
│  < NEAR / RIGHT  →ALARM NO> │
└─────────────────────────────┘
```

AREA NO

```
        AREA SELECT
┌─────────────────────────────┐
│                             │
│   01   02    03    04       │
│                             │
│                             │
│                             │
│                             │
│  < SEL&NEAR/MOVE&JOYSTICK>  │
└─────────────────────────────┘
```
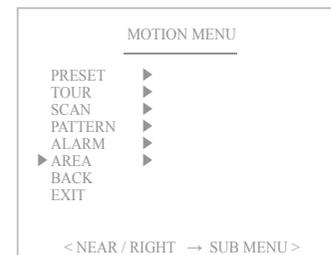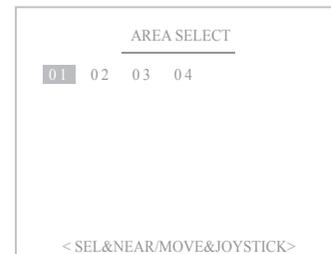
Select the Area number

Move : [JOYSTICK]   Select : [NEAR]

AREA

```
        AREA MENU
┌─────────────────────────────┐
│  LABEL  : █ _ _ _ _ _ _ _   │
│  █ 0  1  2  3  4  5  6  7  8  9  (  │
│  )  A  B  C  D  E  F  G  H  I  J  K │
│  L  M  N  O  P  Q  R  S  T  U  V  W │
│  X  Y  Z  .  /  ,  +  -  =  <  >  @ │
│                             │
│  <STORE&TELE    MOVE&JOY >  │
│  <DEL   &WIDE   BACK&NEAR>  │
└─────────────────────────────┘
```

Set the Area Label

Move : [JOYSTICK]   Select : [TELE] or [JOYSTICK]

Delete : [WIDE] or [JOYSTICK]

After the label set, push NEAR button to go out.

START PAN POS

```
            AREA MENU
         _____

   AREA NO    : 01 DEFINE
   LABEL        :
 ▶ START PAN POS.  : 000.0
   STOP   PAN POS.  : 000.0
   CLEAR
   SAVE
   BACK
   EXIT


     < NEAR / RIGHT   →ALARM NO>
```

```
        AREA START PAN POSITION
        _____




        POSITION :
        <EXIT & FOCUS NEAR>
```

Define the Start pan position

① Select the "Start Pan Pos" menu   ② Move and set the position   ③ Set & Back

[NEAR] or JOYSTICK   JOYSTICK   [NEAR]

※ Camera will move to clockwise direction only when START setting.

STOP PAN POS

```
            AREA MENU
         _____

   AREA NO    : 01 DEFINE
   LABEL        :
   START PAN POS.  : 000.0
 ▶ STOP   PAN POS.  : 000.0
   CLEAR
   SAVE
   BACK
   EXIT


     < NEAR / RIGHT   →ALARM NO>
```

```
        AREA STOP PAN POSITION
        _____




        POSITION :
        <EXIT & FOCUS NEAR>
```
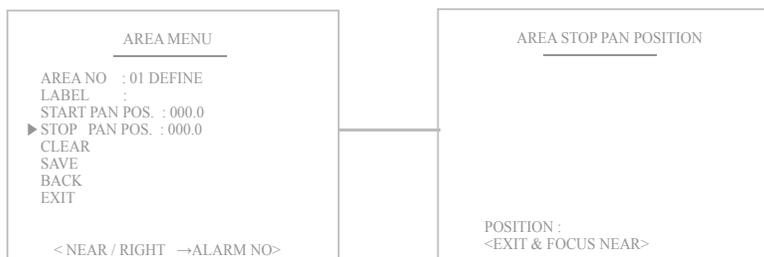
Define the Stop pan position

① Select the "Start Pan Pos" Menu ② Move and set the position   ③ Set & Back

[NEAR] or JOYSTICK   JOYSTICK   [NEAR]
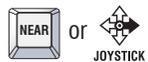
※ "Save" above setting Area data to the memory.
- "Save" above setting data to the memory.
- "CLR" means above setting Pattern data will not be saved and be cleared.
- "BACK" means it goes back to the previous menu.
- "EXIT" means it goes out of the MENU

5. 3 DOME Setting

```
          MAIN MENU
       _____

   MOTION       ▶
 ▶ DOME         ▶
   CAMERA       ▶
   CLEAR        ▶
   RESET
   EXIT



     < NEAR / RIGHT   →  SUB MENU >
```

Pan, Tilt, Zoom motion is adjustable in the "Dome Setting" Menu.
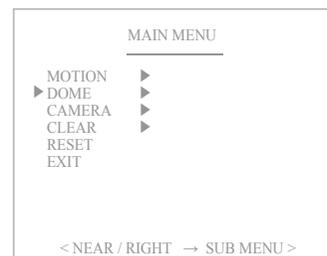
5. 3. 1 Set the Dome camera title

Move : JOYSTICK   Select : [TELE] or JOYSTICK   Delete : [WIDE] or JOYSTICK

```
          DOME MENU
       _____

 ▶ TITLE SET :       WCA
   DOME EXTEND  ▶
   PARK ACTION  ▶
   TEMP . SET      ▶
   PWR UP ACTION : OFF
   LED TYPE : INFRARED
   FACTORY SET
   SAVE
   BACK
   EXIT
     < NEAR / RIGHT   →TITLE SET>
```

```
          DOME MENU
       _____

   LABEL : WCA
   - - - - - - - - - - - - -
   ■  0  1  2  3  4  5  6  7  8  9  (
   )  A  B  C  D  E  F  G  H  I  J  K
   L  M  N  O  P  Q  R  S  T  U  V  W
   X  Y  Z  .  /  ,  +  -  =  <  >  @


   <STORE&TELE    MOVE&JOY >
   <DEL   &WIDE    BACK&NEAR>
```

After the label set, push NEAR button to go out.

5. 3. 2 DOME EXTEND

```
          DOME MENU
       _____

   TITLE SET :       WCA
 ▶ DOME EXTEND  ▶
   PARK ACTION  ▶
   TEMP . SET      ▶
   PWR UP ACTION : OFF
   LED TYPE : INFRARED
   FACTORY SET
   SAVE
   BACK
   EXIT
     < NEAR / RIGHT   →TITLE SET>
```

Addtional funtions of DOME MENU.

- DISPLAY

- AUTO FLIP

- SPEED BY ZOOM

DISPLAY ON/OFF

```
             DOME MENU
  ▶ DISPLAY ▶
    AUTO FLIP      : ON
    SPD BY ZOOM    : ON
    BACK



      < NEAR / RIGHT  →SUB MENU>
```

```
              DOME MENU
         DISPLAY ON/OFF SET
  TITLE    < O>  POSITION   O
  ZOOM        O    ACTION       O
  PRESET      O
  TOUR        O
  SCAN        O
  PATTERN    O
  AREA        O
  ALARM      O
      < ON ▶ TELE     MOVE ▶ JOY  >
      < OFF ▶ WIDE    BACK ▶ NEAR >
```
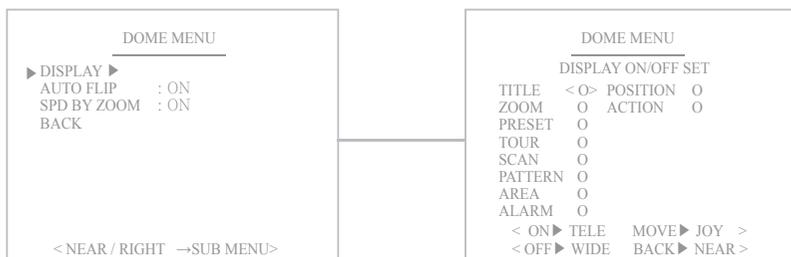
You can select the OSD ON to shown on the screen or clear by selecting OFF in this function.

OSD ON : [TELE] OSD OFF: [WIDE] Select : [NEAR]

AUTO FLIP

```
             DOME MENU
    DISPLAY ▶
  ▶ AUTO FLIP      : ON
    SPD BY ZOOM    : ON
    BACK



      < NEAR / RIGHT  →ON/OFF>
```

You can observe the moving object without reversing of the screen, by using this AUTO FLIP function. ON: If this function is set to ON, camera will be automatically flipped in tilt 90°
OFF: If this function is set to OFF, tilt movement range is 0~90°

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]

Set OFF : [NEAR]

SPEED BY ZOOM

```
             DOME MENU
    DISPLAY ▶
    AUTO FLIP      : ON
  ▶ SPD BY ZOOM    : ON
    BACK



      < NEAR / RIGHT  →ON/OFF>
```

When this function is ON, the pan/tilt speed is inversely adjusted to the zoom ratio.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]

Set OFF : [NEAR]

5. 3. 3 PARK ACTION

```
             DOME MENU

    TITLE SET :        WCA
    DOME EXTEND   ▶
  ▶ PARK ACTION    ▶
    TEMP . SET        ▶
    PWR UP ACTION : OFF
    LED TYPE : INFRARED
    FACTORY SET
    SAVE
    BACK
    EXIT
      < NEAR / RIGHT   →SUB MENU>
```

This function enables to locate the camera to specific position automatically if operator doesn't operate the controller for a while.

Move : [JOYSTICK] or [NEAR]   Select: [JOYSTICK]

Set : [NEAR]

PARK ENABLE

```
             PARK MENU

  ▶ PARK ENABLE    : 0N
    ACTIVE MODE    : PRESET
    ACTIVE NUM     : 01
    ACTIVE TIME    : 10SEC
    BACK



      < NEAR / RIGHT   →ON/OFF>
```

Select ON or OFF

Move : [JOYSTICK] or [NEAR]   Select: [JOYSTICK]

Set : [NEAR]

ACTIVE MODE

```
             PARK MENU

    PARK ENABLE    : 0N
  ▶ ACTIVE MODE    : PRESET
    ACTIVE NUM     : 01
    ACTIVE TIME    : 10SEC
    BACK



      < NEAR / RIGHT   →MODE SET>
```

Select the function which will be back after active time. (PRESET, TOUR)

Move : [JOYSTICK] or [NEAR]   Select: [JOYSTICK]

Set : [NEAR]

ACTIVE NUMBER

```
             PARK MENU

    PARK ENABLE    : 0N
    ACTIVE MODE    : PRESET
  ▶ ACTIVE NUM     : 01
    ACTIVE TIME    : 10SEC
    BACK



      < NEAR / RIGHT   →NUM SET >
```

Select the appointed function's Number

– PRESET : 01~63

– TOUR   : 01~08

ACTIVE TIME

```
          PARK MENU

  PARK ENABLE   : 0N
  ACTIVE MODE   : PRESET
  ACTIVE NUM    : 01
▶ ACTIVE TIME   : 10SEC
  BACK



    < NEAR / RIGHT  →NUM SET >
```

Set operating time of PARK ACTION.
 - By 10 sec.(10~60/sec), Max. 2min.

Move：   or   NEAR   Select：
   JOYSTICK   JOYSTICK

Set： NEAR
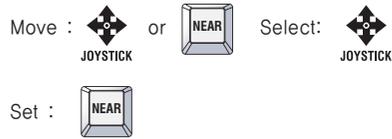
※ This function is not working while Motion funtion is operating

5. 3. 4 TEMP SET

```
          DOME MENU

  TITLE SET :     WCA
  DOME EXTEND  ▶
  PARK ACTION  ▶
▶ TEMP . SET    ▶
  PWR UP ACTION : OFF
  LED TYPE : INFRARED
  FACTORY SET
  SAVE
  BACK
  EXIT
    < NEAR / RIGHT  →SUB MENU>
```

It shows you the current temperature and you can also set
the value manually. The compulsory Fan & Heater operation
is a useful function to remove humidity.

HEATER ON TEMP

```
         TEMPER. MENU

▶ HEATER ON TEMP    : 15
  HEATER ON TIME    : 30MIN
  HEATER OFF TEMP   : 20
  BACK

  CURRENT TEMP : 25.8c



    < NEAR / RIGHT  →HEATER ON>
```
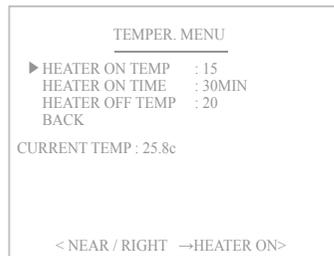
* Set the operating temperature of the heater.(0~70℃)

Move：   or   NEAR   Select：
   JOYSTICK   JOYSTICK

Set： NEAR

HEATER ON TIME
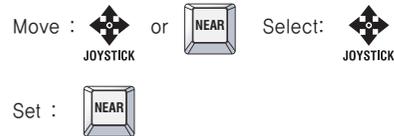
```
         TEMPER. MENU

  HEATER ON TEMP    : 15
▶ HEATER ON TIME    : 30MIN
  HEATER OFF TEMP   : 20
  BACK

  CURRENT TEMP : 25.8c



    < NEAR / RIGHT  →ON TIME>
```
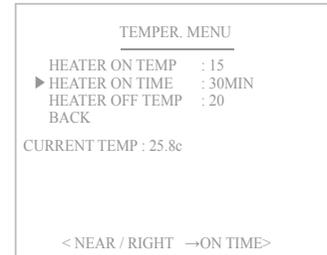
* Set the operating time of the heater.
 - By 10min. (10~60 min.)

Move：   or   NEAR   Select：
   JOYSTICK   JOYSTICK

Set： NEAR

HEATER OFF TEMP

```
         TEMPER. MENU

  HEATER ON TEMP    : 15
  HEATER ON TIME    : 30MIN
▶ HEATER OFF TEMP   : 20
  BACK

  CURRENT TEMP : 25.8c



    < NEAR / RIGHT  →HEATER OFF>
```
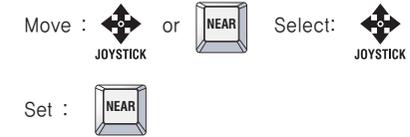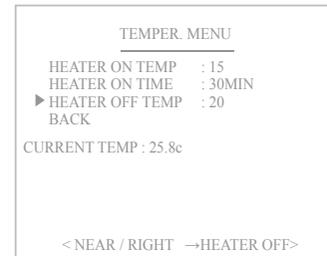
* Set the temerature of heater OFF. (0~70℃)

Move：   or   NEAR   Select：
   JOYSTICK   JOYSTICK

Set： NEAR

5. 3. 5 POWER UP ACTION

```
          DOME MENU

  TITLE SET :     WCA
  DOME EXTEND  ▶
  PARK ACTION  ▶
  TEMP . SET    ▶
▶ PWR UP ACTION : OFF
  LED TYPE : INFRARED
  FACTORY SET
  SAVE
  BACK
  EXIT
    < NEAR / RIGHT  →SUB MENU>
```
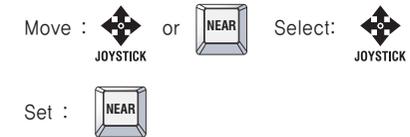
When this function is ON, the camera memorize the latest action
and restore it from sudden power failure.

Move：   or   NEAR   Select：
   JOYSTICK   JOYSTICK

Set： NEAR

5. 3. 6 LED TYPE
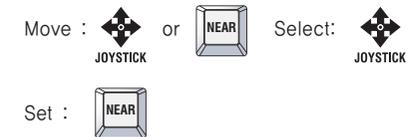
```
          DOME MENU

  TITLE SET :     WCA
  DOME EXTEND  ▶
  PARK ACTION  ▶
  TEMP . SET    ▶
  PWR UP ACTION : OFF
▶ LED TYPE : INFRARED
  FACTORY SET
  SAVE
  BACK
  EXIT
    < NEAR / RIGHT  →LED TYPE>
```

Select LED type.
 ->INFRARED(IR), WHITE

Move：   or   NEAR   Select：
   JOYSTICK   JOYSTICK

Set： NEAR

5. 3. 7 FATORY SET

```
           DOME MENU
      ─────────────────
   TITLE SET :       WCA
   DOME EXTEND  ▶
   PARK ACTION  ▶
   TEMP . SET   ▶
   PWR UP ACTION : OFF
   LED TYPE : INFRARED
 ▶ FACTORY SET
   SAVE
   BACK
   EXIT
   ─────────────────────
   < NEAR / RIGHT  →FACTORY>
```
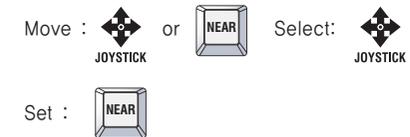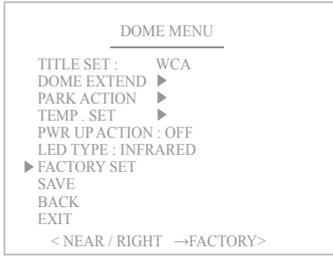
Factory Set

Restore all of setting value to the factory default.

⚠ All of existing setting value would be erased.
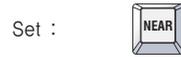
Move : 🕹 or [NEAR]   Select : 🕹
      JOYSTICK   JOYSTICK

Set :   [NEAR]

※ "Save" above setting data to the memory.
- "Save" above setting data to the memory.
- "CLR" means above setting Pattern data will not be saved and be cleared.
- "BACK" means it goes back to the previous menu.
- "EXIT" means it goes out of the MENU

---

5. 4 Camera Setting

5. 4. 1 CAMERA MENU (EH-6300)
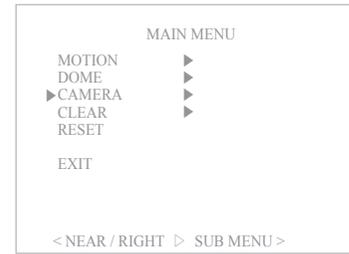
```
            MAIN MENU

    MOTION         ▶
    DOME           ▶
  ▶ CAMERA         ▶
    CLEAR          ▶
    RESET


    EXIT


   < NEAR / RIGHT  ▷  SUB MENU >
```

CAMERA MENU
- Functions can be set-up using the Camera menu.
  In this menu, user can set the zoom, focus, white balance, auto exposure...etc functions.

① ZOOM MODE

```
           CAMERA MENU
  ▶ ZOOM MODE        ▶
    FOCUS MODE       ▶
    WHITE BAL.       ▶
    AUTO EXP.        ▶
    WDR MODE         ▶
    SPECIAL          ▶
    CAMERA RESET     ▶
    SAVE
    BACK
    EXIT

   < NEAR / RIGHT  ▷  SUB MENU >
```
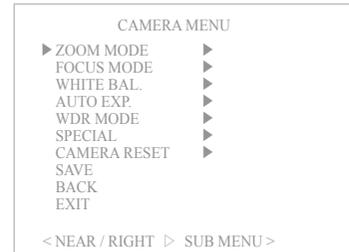
Decide using of digital zoom function and select zoom speed.

＊ ZOOM SPD : 1 ～ 7steps, USER(standard)
＊ D-ZOOM   : ON / OFF

- ZOOM SPD

```
            ZOOM MENU

  ▶ ZOOM SPD : USER
    D-ZOOM    : ON
    BACK






   < NEAR / RIGHT  ▷  ZOOM SPD >
```

ZOOM SPD : Select from 1sept to 7 steps,
                USER (Standard speed)

select : 🕹 or [NEAR]   Set ON : 🕹 Set OFF : [NEAR]
       JOYSTICK   JOYSTICK

- D-ZOOM

```
            ZOOM MENU

    ZOOM SPD : USER
  ▶ D-ZOOM    : ON
    BACK






   < NEAR / RIGHT  ▷  D-ZOOM>
```

Decide using of digital zoom function.
D-ZOOM: ON/ OFF

select : 🕹 or [NEAR]   Set ON : 🕹 Set OFF : [NEAR]
       JOYSTICK   JOYSTICK

② FOCUS MODE

```
         CAMERA MENU

    ZOOM MODE          ▶
  ▶ FOCUS MODE         ▶
    WHITE BAL.         ▶
    AUTO EXP.          ▶
    WDR MODE           ▶
    SPECIAL            ▶
    CAMERA RESET       ▶
    SAVE
    BACK
    EXIT

  < NEAR / RIGHT  ▷  SUB MENU >
```

In Focus menu, you can set up the focus speed, focus mode, near limit, AF mode and sensitivity.

- FOCUS SPD

```
         FOCUS MENU

  ▶ FOCUS SPD     : USER
    FOCUS MODE  : AUTO
    NEAR LIMIT   : 8CM
    AF MODE       : NORMAL
    SENSITIVITY  : NORMAL
    IRSELECTION : STANDARD
    BACK


  < NEAR / RIGHT  ▷  FOCUS SPD >
```

Set the speed for camera focusing.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- FOCUS MODE

```
         FOCUS MENU

    FOCUS SPD     : USER
  ▶ FOCUS MODE  : AUTO
    NEAR LIMIT   : 1CM
    AF MODE       : NORMAL
    SENSITIVITY  : NORMAL
    IRSELECTION : STANDARD
    BACK


  < NEAR / RIGHT  ▷  FOCUS MODE >
```

AUTO: The camera adjusts the focus automatically while monitoring the screen continuously in the auto mode. In the auto focusing mode, zoom key operation is not recognized as the input of the focus key.
Manual: In the manual mode, users can adjust the camera focus manually.
One Push: It will be focused in about 5 seconds after zooming, panning, and return to MANUAL mode automatically. This is for focusing accurately after zooming.
Infinity: infinity focus is the state where a lens forms an image of an object an infinite distance away. This corresponds to the point of focus for parallel rays.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- NEAR LIMIT

```
         FOCUS MENU

    FOCUS SPD     : USER
    FOCUS MODE  : AUTO
  ▶ NEAR LIMIT   : 1CM
    AF MODE       : NORMAL
    SENSITIVITY  : NORMAL
    IRSELECTION : STANDARD
    BACK


  < NEAR / RIGHT  ▷  NEAR LIMIT >
```

Infinity focus is the state where a lens forms an image of an object an infinite
distance away. This corresponds to the point of focus for parallel rays.
(Over Infinity~ 1.0CM)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- AF MODE

```
         FOCUS MENU

    FOCUS SPD     : USER
    FOCUS MODE  : AUTO
    NEAR LIMIT   : 1CM
  ▶ AF MODE       : NORMAL
    SENSITIVITY  : NORMAL
    IRSELECTION : STANDARD
    BACK


  < NEAR / RIGHT  ▷  AF MODE SEL >
```

Set the AUTO FOCUS MODE position

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- SENSITIVITY

```
         FOCUS MENU

    FOCUS SPD     : USER
    FOCUS MODE  : AUTO
    NEAR LIMIT   : 1CM
    AF MODE       : NORMAL
  ▶ SENSITIVITY  : NORMAL
    IRSELECTION : STANDARD
    BACK


  < NEAR / RIGHT  ▷  AF SENS SEL >
```

Set the sensitivity of focus.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- IR SELECTION

```
         FOCUS MENU

    FOCUS SPD     : USER
    FOCUS MODE  : AUTO
    NEAR LIMIT   : 1CM
    AF MODE       : NORMAL
    SENSITIVITY  : NORMAL
  ▶ IRSELECTION : STANDARD
    BACK


  < NEAR / RIGHT  ▷  IRC SEL >
```

Correct the IR conversion data.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

③ WHTE BALANCE　　Set the white balance of camera.

```
        CAMERA MENU
   ZOOM MODE        ▶
   FOCUS MODE       ▶
 ▶ WHITE BAL.       ▶
   AUTO EXP.        ▶
   WDR MODE         ▶
   SPECIAL          ▶
   CAMERA RESET     ▶
   SAVE
   BACK
   EXIT

 < NEAR / RIGHT  ▷ SUB MENU >
```

White balance setting is a function revising color temperature to resolve the problem that screen's colors change by the color temperature's difference arrcording to time.
RED GAIN: Adjust red color level from 0~255.(standard:208)
BLUE GAIN: Adjust blue color level from 0~255.(standard:162)

- WB MODE
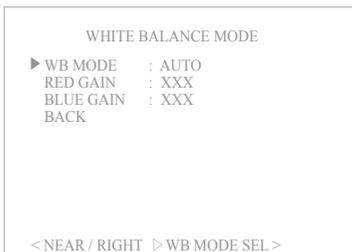
```
      WHITE BALANCE MODE

 ▶ WB MODE       : AUTO
   RED GAIN      : XXX
   BLUE GAIN     : XXX
   BACK




 < NEAR / RIGHT  ▷ WB MODE SEL >
```

WB MODE: Set the color depend on white balacne.
WB MODE : Select AUTO, INDOOR, OUTDOOR ONEPUSH, ATW or MANUAL.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]
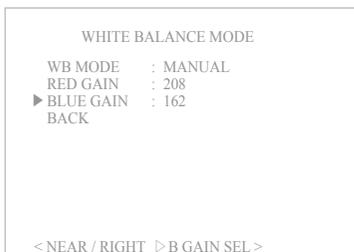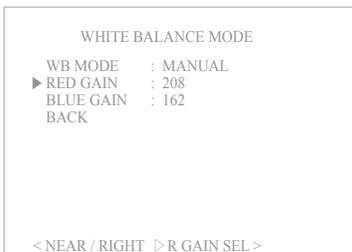
- RED, BLUE MODE

```
      WHITE BALANCE MODE

   WB MODE       : MANUAL
 ▶ RED GAIN      : 208
   BLUE GAIN     : 162
   BACK




 < NEAR / RIGHT  ▷ R GAIN SEL >
```

```
      WHITE BALANCE MODE

   WB MODE       : MANUAL
   RED GAIN      : 208
 ▶ BLUE GAIN     : 162
   BACK




 < NEAR / RIGHT  ▷ B GAIN SEL >
```

Adjust color leverl (RED, BLUE : 001~ 255)

select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

④ AUTO EXPO

```
        CAMERA MENU
   ZOOM MODE        ▶
   FOCUS MODE       ▶
   WHITE BAL.       ▶
 ▶ AUTO EXP.        ▶
   WDR MODE         ▶
   SPECIAL          ▶
   CAMERA RESET     ▶
   SAVE
   BACK
   EXIT

 < NEAR / RIGHT  ▷ SUB MENU >
```

AE setting is a function adjusting shutter speed acoording to subject's brightness to get standard amount of exposed light.

AE MODE: Select AUTO,MANUAL,SHUTTER, IRIS or BRIGHT.
EXPOSURE : 10.5dB ~ -10.5dB (Standard 0dB)
SLOW SHUTTER: Select AUTO, MENUAL
SHUTTER: Set the shutter speed.
IRIS LEVEL: If you set IRIS in AE mode, you can control the level value (CLOSE ~F1.6)
BRIGHT LEVEL: If you set BRIGHT in AE mode, you can control level value (00~31)
Gain: Control the brightness (-3dB ~ 28dB)

- AE MODE

```
        AUTO EXPO. MENU

 ▶ AE MODE       : AUTO
   EXPOSURE      :   0dB
   SLOW SHUTTER: AUTO
   SHUTTER       : AUTO
   IRIS LEVEL    : AUTO
   BRIGHT LEVEL : XX
   GAIN          : XX
   GAIN LIMIT    : 6dB
   BACK

 < NEAR / RIGHT  ▷ AE MODE SEL >
```

Select MANUAL,SHUTTER, IRIS or BRIGHT.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- EXPO MODE

```
        AUTO EXPO. MENU

   AE MODE       : AUTO
 ▶ EXPOSURE      :   0dB
   SLOW SHUTTER: AUTO
   SHUTTER       : AUTO
   IRIS LEVEL    : AUTO
   BRIGHT LEVEL : XX
   GAIN          : XX
   GAIN LIMIT    : 6dB
   BACK

 < NEAR / RIGHT  ▷ EXPO SEL >
```
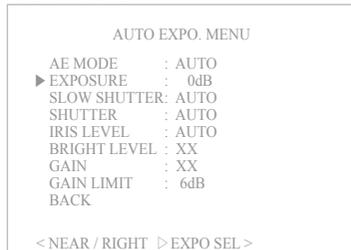
-10dB~ + 10dB(0d standard)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- SLOW SHUTTER

```
        AUTO EXPO. MENU

   AE MODE       : AUTO
   EXPOSURE      :   0dB
 ▶ SLOW SHUTTER: AUTO
   SHUTTER       : AUTO
   IRIS LEVEL    : AUTO
   BRIGHT LEVEL : XX
   GAIN          : XX
   GAIN LIMIT    : 6dB
   BACK

 < NEAR / RIGHT  ▷ SLOWSHUTTER >
```

Select AUTO or MANUAL .

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- SHUTTER

```
        AUTO EXPO. MENU

   AE MODE       : SHUTTER
   EXPOSURE      :   0dB
   SLOW SHUTTER: AUTO
 ▶ SHUTTER       : 1/60
   IRIS LEVEL    : AUTO
   BRIGHT LEVEL : XX
   GAIN          : XX
   GAIN LIMIT    : 6dB
   BACK

 < NEAR / RIGHT  ▷ SHUTTER SEL >
```

If you set SHUTTER in the AE MODE, you can control shutter speed. (1/1~ 1/1000)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- IRIS LEVEL

```
     AUTO EXPO. MENU

  AE MODE        : IRIS
  EXPOSURE       :   0dB
  SLOW SHUTTER: AUTO
  SHUTTER        : AUTO
▶ IRIS LEVEL     : F1.6
  BRIGHT LEVEL  : XX
  GAIN           : XX
  GAIN LIMIT     :  6dB
  BACK


< NEAR / RIGHT  ▷ AE MODE SEL >
```

If you set IRIS in the AE MODE, you can set the IRIS level (CLOSE ~ F 1.6)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- BRIGHT LEVEL

```
     AUTO EXPO. MENU

  AE MODE        : BRIGHT
  EXPOSURE       :   0dB
  SLOW SHUTTER: AUTO
  SHUTTER        : AUTO
  IRIS LEVEL     : AUTO
▶ BRIGHT LEVEL  : 27
  GAIN           : XX
  GAIN LIMIT     :  6dB
  BACK


< NEAR / RIGHT  ▷ AE MODE SEL >
```

If you set BRIGHT in AE mode, you can control level value. (0 ~ 31)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- GAIN

```
     AUTO EXPO. MENU

  AE MODE        : AUTO
  EXPOSURE       :   0dB
  SLOW SHUTTER: AUTO
  SHUTTER        : AUTO
  IRIS LEVEL     : AUTO
  BRIGHT LEVEL  : XX
▶ GAIN           : XX
  GAIN LIMIT     :  6dB
  BACK


< NEAR / RIGHT  ▷ GAIN SEL >
```

If you set MEMUAL in AE mode, you can control Gain. (0 ~ 28dB, -3dB)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- GAIN LIMIT

```
     AUTO EXPO. MENU

  AE MODE        : AUTO
  EXPOSURE       :   0dB
  SLOW SHUTTER: AUTO
  SHUTTER        : AUTO
  IRIS LEVEL     : AUTO
  BRIGHT LEVEL  : XX
  GAIN           : XX
▶ GAIN LIMIT     :  6dB
  BACK


< NEAR / RIGHT  ▷ GAIN LIMIT >
```

Change the GAIN LIMIT. (6~28dB) -changed by 2dB

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

⑤ WDR MODE

```
        CAMERA MENU
  ZOOM MODE        ▶
  FOCUS MODE       ▶
  WHITE BAL.       ▶
  AUTO EXP.        ▶
▶ WDR MODE         ▶
  SPECIAL          ▶
  CAMERA RESET     ▶
  SAVE
  BACK
  EXIT

< NEAR / RIGHT  ▷  SUB MENU >
```

Select WDR(Wide Dynamic Range)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- WDR MODE

```
      WDR MODE MENU

▶ WDR MODE          : WDR OFF
  SCREED DISP       : LONG
  DETECT SEN        : MID
  BLOCKED UP LEV    : MID
  BLOWN OUT LEV     : MID
  EXPOSURE RATIO(%) : 010
  BACK



< NEAR / RIGHT  ▷ WDR MODE >
```

Select ON or OFF and set the LEVEL and the LIMIT value.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- SCREEN DISP

```
      WDR MODE MENU

  WDR MODE          : WDR OFF
▶ SCREED DISP       : LONG
  DETECT SEN        : MID
  BLOCKED UP LEV    : MID
  BLOWN OUT LEV     : MID
  EXPOSURE RATIO(%) : 010
  BACK



< NEAR / RIGHT  ▷ SCREEN DIS >
```

Select WDR changing time.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- DETECTION SENSITIVITY

```
      WDR MODE MENU

  WDR MODE          : WDR OFF
  SCREED DISP       : LONG
▶ DETECT SEN        : MID
  BLOCKED UP LEV    : MID
  BLOWN OUT LEV     : MID
  EXPOSURE RATIO(%) : 010
  BACK



< NEAR / RIGHT  ▷ DETECT SENS >
```

Change the WDR level

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- BLOCKED UP LEVEL

```
        WDR MODE MENU

  WDR MODE          : WDR OFF
  SCREED DISP       : LONG
  DETECT SEN        : MID
▶ BLOCKED UP LEV    : MID
  BLOWN OUT LEV     : MID
  EXPOSURE RATIO(%) : 010
  BACK



  < NEAR / RIGHT  ▷ SHADOW LEV >
```

Select blocked up level

select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- BLOWN-OUT LEVEL

```
        WDR MODE MENU

  WDR MODE          : WDR OFF
  SCREED DISP       : LONG
  DETECT SEN        : MID
  BLOCKED UP LEV    : MID
▶ BLOWN OUT LEV     : MID
  EXPOSURE RATIO(%) : 010
  BACK



  < NEAR / RIGHT  ▷ HIGHLIGHT L >
```
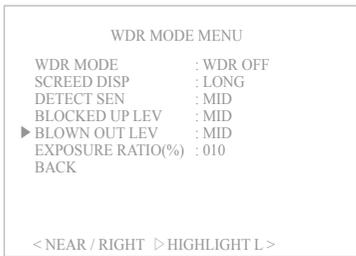
Select blown-out level

select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- EXPOSURE RATIO

```
        WDR MODE MENU

  WDR MODE          : WDR OFF
  SCREED DISP       : LONG
  DETECT SEN        : MID
  BLOCKED UP LEV    : MID
  BLOWN OUT LEV     : MID
▶ EXPOSURE RATIO(%) : 010
  BACK



  < NEAR / RIGHT  ▷ EXP RATIO >
```
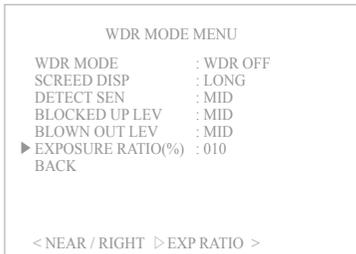
Select exposure ratio

select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

⑥ SPECIAL

```
        CAMERA MENU

  ZOOM MODE         ▶
  FOCUS MODE        ▶
  WHITE BAL.        ▶
  AUTO EXP.         ▶
  WDR MODE          ▶
▶ SPECIAL           ▶
  CAMERA RESET      ▶
  SAVE
  BACK
  EXIT

  < NEAR / RIGHT  ▷  SUB MENU >
```

In the Special menu, it's available to set special function of the camera

- ENHANCE

```
        SPECIAL MENU

▶ ENHANCE MODE   ▶
  APERTUREGAIN   : 05
  BACK LIGHT     : XX
  ICR MODE       : AUTO
  DAY ▶ NIGHT LEV : 2.5LUX
  NIGHT ▶ DAY LEV : 7.0LUX
  PRESET FREEZE  : ON
  BACK


  < NEAR / RIGHT  ▷ SUB MENU  >
```

Enhance the video color.

select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- HR MODE

```
        SPECIAL MENU

▶ HR MODE        : ON
  NR LEVEL       : 3
  GAMMA          : STANDARD
  HIGH SENS      : OFF
  CHROMA LEV     : OFF
  BACK



  < NEAR / RIGHT  ▷ HR MODE  >
```

Select HIGH-Resolusion

select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- NR LEVEL

```
        SPECIAL MENU

  HR MODE        : ON
▶ NR LEVEL       : 3
  GAMMA          : STANDARD
  HIGH SENS      : OFF
  CHROMA LEV     : OFF
  BACK



  < NEAR / RIGHT  ▷ NR LEVEL  >
```

Select NOISE-Reduction level

select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- GAMMA

```
          SPECIAL MENU
   HR MODE       : ON
   NR LEVEL      : 3
 ▶ GAMMA         : STANDARD
   HIGH SENS     : OFF
   CHROMA LEV    : OFF
   BACK



  < NEAR / RIGHT  ▷ GAMMA >
```

GAMMA : Select light and shade level

(STANDARD, STRAIGHT, S-CURVE L, S-CURVE M, S-CURVE H)

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- HIGH SENSITIVITY

```
          SPECIAL MENU
   HR MODE       : ON
   NR LEVEL      : 3
   GAMMA         : STANDARD
 ▶ HIGH SENS     : OFF
   CHROMA LEV    : OFF
   BACK



  < NEAR / RIGHT  ▷ HIGH SENS >
```

HIGH SENSITIVITY : Select High sensitiviy

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- CHROMA LEVEL

```
          SPECIAL MENU
   HR MODE       : ON
   NR LEVEL      : 3
   GAMMA         : STANDARD
   HIGH SENS     : OFF
 ▶ CHROMA LEV    : OFF
   BACK



  < NEAR / RIGHT  ▷ CHROMA LEV >
```

CHROMA LEVEL : Select chroma level

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- APERTURE GAIN

```
          SPECIAL MENU
   ENHANCE MODE        ▶
 ▶ APERTUREGAIN   : 05
   BACK LIGHT     : XX
   ICR MODE       : AUTO
   DAY ▶ NIGHT LEV : 2.5LUX
   NIGHT ▶ DAY LEV : 7.0LUX
   PRESET FREEZE  : ON
   BACK


  < NEAR / RIGHT  ▷ APERTURE >
```

APERTURE GAIN: Select aperture gain

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- BACK LIGHT

```
          SPECIAL MENU
   ENHANCE MODE        ▶
   APERTUREGAIN   : 05
 ▶ BACK LIGHT     : ON
   ICR MODE       : AUTO
   DAY ▶ NIGHT LEV : 2.5LUX
   NIGHT ▶ DAY LEV : 7.0LUX
   PRESET FREEZE  : ON
   BACK


  < NEAR / RIGHT  ▷ BACK LIGHT   >
```

Select ON/OFF in the BACK LIGHT function.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- ICR MODE

```
          SPECIAL MENU
   ENHANCE MODE        ▶
   APERTUREGAIN   : 05
   BACK LIGHT     : XX
 ▶ ICR MODE       : AUTO
   DAY ▶ NIGHT LEV : 2.5LUX
   NIGHT ▶ DAY LEV : 7.0LUX
   PRESET FREEZE  : ON
   BACK


  < NEAR / RIGHT  ▷ ICR MODE   >
```

Select IRC mode.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- DAY/NIGHT LEVEL

```
          SPECIAL MENU
   ENHANCE MODE        ▶
   APERTUREGAIN   : 05
   BACK LIGHT     : XX
   ICR MODE       : AUTO
 ▶ DAY ▶ NIGHT LEV : 2.5LUX
   NIGHT ▶ DAY LEV : 7.0LUX
   PRESET FREEZE  : ON
   BACK


  < NEAR / RIGHT  ▷ D/N LEVEL   >
```

Select the darkness level when the DAY mode is changed to NIGHT mode.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- NIGHT/DAY LEVEL

```
          SPECIAL MENU
   ENHANCE MODE        ▶
   APERTUREGAIN   : 05
   BACK LIGHT     : XX
   ICR MODE       : AUTO
   DAY ▶ NIGHT LEV : 2.5LUX
 ▶ NIGHT ▶ DAY LEV : 7.0LUX
   PRESET FREEZE  : ON
   BACK


  < NEAR / RIGHT  ▷ N /DLEVEL   >
```

Select the darkness level when the NIGHT mode is changed to DAY mode.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- PRESET FREEZE

```
          SPECIAL MENU

ENHANCE MODE          ▶
APERTUREGAIN          : 05
BACK LIGHT            : XX
ICR MODE             : AUTO
DAY ▶ NIGHT LEV      : 2.5LUX
NIGHT ▶ DAY LEV      : 7.0LUX
▶ PRESET FREEZE      : ON
BACK


< NEAR / RIGHT  ▷ FREEZE   >
```

The screen is stopped while the camera is operating preset funtion.

select : or [NEAR]   Set ON : Set OFF : [NEAR]

⑦ CAMERA RESET

```
          CAMERA MENU

ZOOM MODE            ▶
FOCUS MODE           ▶
WHITE BAL.           ▶
AUTO EXP.            ▶
WDR MODE             ▶
SPECIAL              ▶
▶ CAMERA RESET       ▶
SAVE
BACK
EXIT

< NEAR / RIGHT  ▷  RESET >
```

Make initialize the setting value which is set in CAMERA MENU.

select : or [NEAR]   Set ON : Set OFF : [NEAR]

5. 4. 2 CAMERA MENU (MM-202)

```
          MAIN MENU

MOTION               →
DOME                 →
▷ CAMERA             →
CLEAR                →
RESET


EXIT


〈 NEAR / RIGHT  ▷  MOTION 〉
```

```
          CAMERA MENU

▷ ZOOM MODE          ▷
FOCUS MODE           ▷
WHITE BAL.           ▷
AUTO EXP.            ▷
WDR MODE             ▷
SPECIAL              ▷
CAMERA RESET         ▷
SAVE
BACK
EXIT

〈 NEAR / RIGHT  ▷  ZOOM MODE 〉
```

CAMERA MENU
- Functions can be set-up using the Camera menu.
  In this menu, user can set the zoom, focus, white balance, auto exposure...etc functions.
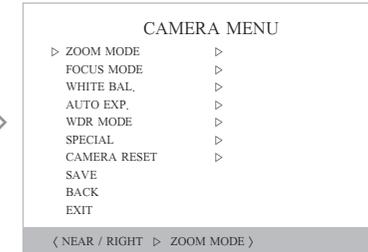
① ZOOM MODE

```
          CAMERA MENU

▷ ZOOM MODE          ▷
FOCUS MODE           ▷
WHITE BAL.           ▷
AUTO EXP.            ▷
WDR MODE             ▷
SPECIAL              ▷
CAMERA RESET         ▷
SAVE
BACK
EXIT

〈 NEAR / RIGHT  ▷  ZOOM MODE 〉
```
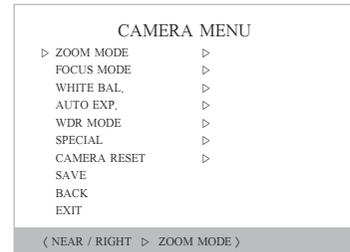
Decide using of digital zoom function and select zoom speed.

* ZOOM SPD : 0 ~ 7steps, USER(standard)
* D-ZOOM   : ON / OFF
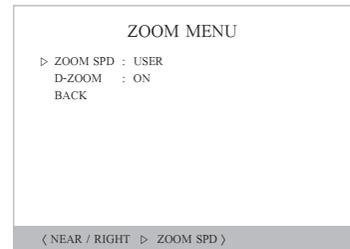
- ZOOM SPD

```
          ZOOM MENU

▷ ZOOM SPD  :  USER
D-ZOOM      :  ON
BACK




〈 NEAR / RIGHT  ▷  ZOOM SPD 〉
```

ZOOM SPD : Select from 1sept to 7 steps,
                USER (Standard speed)

Select : or [NEAR]   Set ON : Set OFF : [NEAR]

- D-ZOOM

```
          ZOOM MENU

ZOOM SPD  :  USER
▷ D-ZOOM    :  ON
BACK




〈 NEAR / RIGHT  ▷  D-ZOOM 〉
```

Decide using of digital zoom function.
D-ZOOM: ON/ OFF

Select : or [NEAR]   Set ON : Set OFF : [NEAR]

② FOCUS MODE

```
            CAMERA MENU
  ZOOM MODE           ▷
▷ FOCUS MODE          ▷
  WHITE BAL.          ▷
  AUTO EXP.           ▷
  WDR MODE            ▷
  SPECIAL             ▷
  CAMERA RESET        ▷
  SAVE
  BACK
  EXIT

〈 NEAR / RIGHT  ▷  ZOOM MODE 〉
```

In Focus menu, you can set up the focus speed, focus mode, near limit, AF mode and sensitivity.

- FOCUS SPD

```
            FOCUS MENU
▷ FOCUS SPD       :  USER
  FOCUS MODE      :  AUTO
  NEAR LIMIT      :  OVERINF
  AF MODE         :  NORMAL
  BACK



〈 NEAR / RIGHT  ▷  FOCUS SPD 〉
```
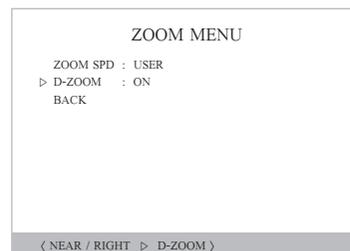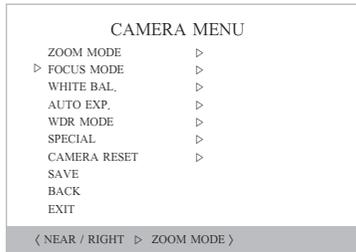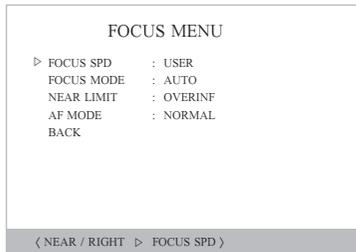
Set the speed for camera focusing.
1 ～ 7steps, USER(standard)

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- FOCUS MODE

```
            FOCUS MENU
  FOCUS SPD       :  USER
▷ FOCUS MODE      :  AUTO
  NEAR LIMIT      :  OVERINF
  AF MODE         :  NORMAL
  BACK



〈 NEAR / RIGHT  ▷  FOCUS MODE 〉
```

AUTO: The camera adjusts the focus automatically while monitoring the screen continuously in the auto mode. In the auto focusing mode, zoom key operation is not recognized as the input of the focus key.
Manual: In the manual mode, users can adjust the camera focus manually.
One Push: It will be focused in about 5 seconds after zooming, panning, and return to MANUAL mode automatically. This is for focusing accurately after zooming.
Infinity: infinity focus is the state where a lens forms an image of an object an infinite distance away. This corresponds to the point of focus for parallel rays.

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- NEAR LIMIT

```
            FOCUS MENU
  FOCUS SPD       :  USER
  FOCUS MODE      :  AUTO
▷ NEAR LIMIT      :  OVERINF
  AF MODE         :  NORMAL
  BACK



〈 NEAR / RIGHT  ▷  NEAR LIMIT 〉
```

Infinity focus is the state where a lens forms an image of an object an infinite distance away. This corresponds to the point of focus for parallel rays.
(Over Infinity～ 1.0CM)

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- AF MODE

```
            FOCUS MENU
  FOCUS SPD       :  USER
  FOCUS MODE      :  AUTO
  NEAR LIMIT      :  OVERINF
▷ AF MODE         :  NORMAL
  BACK



〈 NEAR / RIGHT  ▷  AF MODE SEL 〉
```

Set the AUTO FOCUS MODE position

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

③ WHTE BALANCE   Set the white balance of camera.

```
         CAMERA MENU

    ZOOM MODE           ▷
    FOCUS MODE          ▷
 ▷  WHITE BAL.          ▷
    AUTO EXP.           ▷
    WDR MODE            ▷
    SPECIAL             ▷
    CAMERA RESET        ▷
    SAVE
    BACK
    EXIT

〈 NEAR / RIGHT  ▷  WB SETTING 〉
```

White balance setting is a function revising color temperature to resolve the problem that screen's colors change by the color temperature's difference arrcording to time.
RED GAIN: Adjust red color level from 0~255.
BLUE GAIN: Adjust blue color level from 0~255.

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]
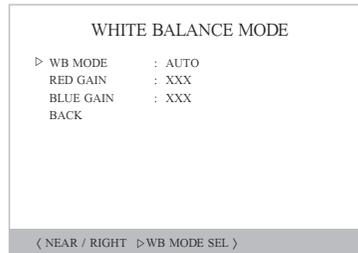
- WB MODE

```
       WHITE BALANCE MODE

 ▷  WB MODE       :  AUTO
    RED GAIN      :  XXX
    BLUE GAIN     :  XXX
    BACK


〈 NEAR / RIGHT  ▷WB MODE SEL 〉
```

WB MODE: Set the color depend on white balacne.
WB MODE : Select AUTO, INDOOR, OUTDOOR, ONEPUSH, ATW, MANUAL or ONEPUSHTRG

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]
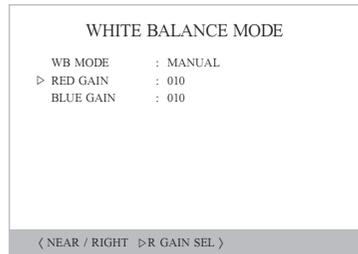
- RED, BLUE MODE

```
       WHITE BALANCE MODE

    WB MODE       :  MANUAL
 ▷  RED GAIN      :  010
    BLUE GAIN     :  010


〈 NEAR / RIGHT  ▷R GAIN SEL 〉
```

Adjust color leverl (RED, BLUE : 01~255)

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

```
       WHITE BALANCE MODE

    WB MODE       :  MANUAL
    RED GAIN      :  010
 ▷  BLUE GAIN     :  010


〈 NEAR / RIGHT  ▷B GAIN SEL 〉
```

④ AUTO EXPO

```
         CAMERA MENU

    ZOOM MODE           ▷
    FOCUS MODE          ▷
    WHITE BAL.          ▷
 ▷  AUTO EXP.           ▷
    WDR MODE            ▷
    SPECIAL             ▷
    CAMERA RESET        ▷
    SAVE
    BACK
    EXIT

〈 NEAR / RIGHT   ▷  AE SETTING 〉
```
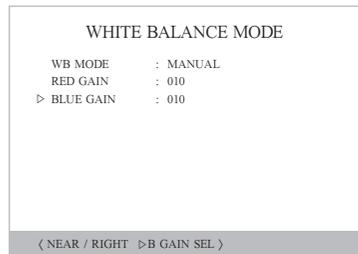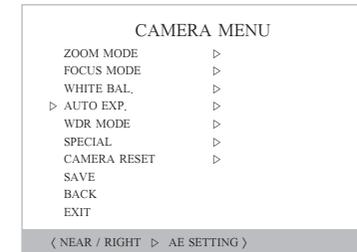
AE setting is a function adjusting shutter speed acoording to subject's brightness to get standard amount of exposed light.

AE MODE: Select AUTO,MANUAL,SHUTTER, IRIS.
DSS LEVEL: Control digital show shutter speed.
SLOW SHUTTER: Select AUTO, MENUAL
SHUTTER: If you set SHUTTER in AE mode, you can control the level value
IRIS LEVEL: If you set IRIS in AE mode, you can control the level value (1 ~ 19)
EXPOSURE : 0 ~ 19 (Standard 00)

- AE MODE

```
       AUTO EXPO. MENU

 ▷  AE MODE          :  AUTO
    SLOW SHUTTER     :  AUTO
    DSS LEVEL        :  00
    SHUTTER          :  AUTO
    IRIS LEVEL       :  AUTO
    EXPOSURE         :  10
    BACK


〈 NEAR / RIGHT  ▷AE MODE SEL 〉
```
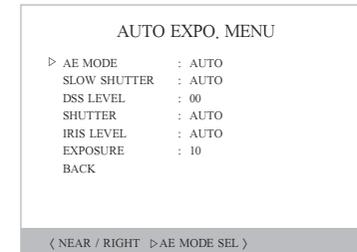
Select AUTO,MANUAL,SHUTTER, IRIS.

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- SLOW SHUTTER

```
       AUTO EXPO. MENU

    AE MODE          :  AUTO
 ▷  SLOW SHUTTER     :  AUTO
    DSS LEVEL        :  00
    SHUTTER          :  AUTO
    IRIS LEVEL       :  AUTO
    EXPOSURE         :  10
    BACK


〈 NEAR / RIGHT  ▷SLOWSHUTTER 〉
```

Select AUTO or MANUAL .

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- DSS LEVEL
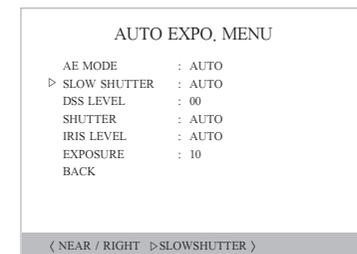
```
       AUTO EXPO. MENU

    AE MODE          :  AUTO
    SLOW SHUTTER     :  AUTO
 ▷  DSS LEVEL        :  00
    SHUTTER          :  AUTO
    IRIS LEVEL       :  AUTO
    EXPOSURE         :  10
    BACK


〈 NEAR / RIGHT  ▷DSS LEVEL 〉
```
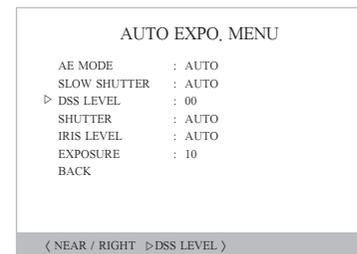
Digital Slow Shutter: Control digital show shutter speed.

Select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- SHUTTER

```
        AUTO EXPO. MENU

    AE MODE        : SHUTTER
    SLOW SHUTTER   : AUTO
    DSS LEVEL      : 00
  ▷ SHUTTER        : 1/20
    IRIS LEVEL     : AUTO
    EXPOSURE       : 10
    BACK

  〈 NEAR / RIGHT  ▷SHUTTER SEL 〉
```

If you set SHUTTER in the AE MODE, you can control shutter
 speed.
(1/30 ～ 1/60000)

Select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- IRIS LEVEL

```
        AUTO EXPO. MENU

    AE MODE        : IRIS
    SLOW SHUTTER   : AUTO
    DSS LEVEL      : 00
    SHUTTER        : 1/20
  ▷ IRIS LEVEL     : 10
    EXPOSURE       : 10
    BACK

  〈 NEAR / RIGHT  ▷AE MODE SEL 〉
```

If you set IRIS in the AE MODE, you can set the IRIS level
(1~19)

Select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- EXPO MODE

```
        AUTO EXPO. MENU

    AE MODE        : AUTO
    SLOW SHUTTER   : AUTO
    DSS LEVEL      : 00
    SHUTTER        : AUTO
    IRIS LEVEL     : AUTO
  ▷ EXPOSURE       : 10
    BACK



  〈 NEAR / RIGHT  ▷EXPO SEL 〉
```

Set the exposure.(0~19 , Standard 0)

Select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

---

⑤ WDR MODE

```
        CAMERA MENU

    ZOOM MODE          ▷
    FOCUS MODE         ▷
    WHITE BAL.         ▷
    AUTO EXP.          ▷
  ▷ WDR MODE           ▷
    SPECIAL            ▷
    CAMERA RESET       ▷
    SAVE
    BACK
    EXIT

  〈 NEAR / RIGHT  ▷  WDR MODE  〉
```

Set WDR funtion
WDR(Wide Dynamic Range)

- WDR MODE

```
        WDR MODE MENU

  ▷ WDR MODE         : OFF
    WDR LEVEL        : 02
    ATR LEVEL        : 0FF

    BACK



  〈 NEAR / RIGHT  ▷WDR MODE 〉
```

Select ON or OFF.

Select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- WDR LEVEL

```
        WDR MODE MENU

    WDR MODE         : OFF
  ▷ WDR LEVEL        : 02
    ATR LEVEL        : 0FF
    BACK




  〈 NEAR / RIGHT  ▷WDR LEVEL 〉
```

Select from 00 to 02.

Select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

- ATR LEVEL

```
        WDR MODE MENU

    WDR MODE         : OFF
    WDR LEVEL        : 02
  ▷ ATR LEVEL        : ON
    BACK




  〈 NEAR / RIGHT  ▷ATR LEVEL〉
```

Select ON or OFF

Select : [JOYSTICK]   or [NEAR]   Set ON : [JOYSTICK]   Set OFF : [NEAR]

⑥ SPECIAL

```
                CAMERA MENU
     ZOOM MODE              ▷
     FOCUS MODE             ▷
     WHITE BAL.             ▷
     AUTO EXP.              ▷
     WDR MODE               ▷
  ▷  SPECIAL                ▷
     CAMERA RESET           ▷
     SAVE
     BACK
     EXIT

  〈 NEAR / RIGHT  ▷ SPECIAL 〉
```
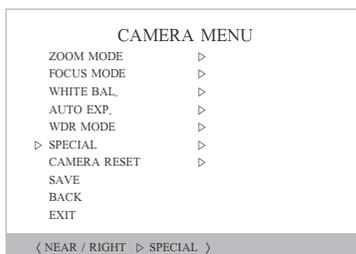
In the Special menu, it's available to set special function
of the camera

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- ICR MODE

```
              SPECIAL MENU
  ▷  ICR MODE ▶
     APERTUREGAIN      : 05
     BACK LIGHT        : OFF
     PRESET FREEZE     : ON
     DNR LEVEL         : AUTO
     BACK


  〈 NEAR / RIGHT  ▷ SUB MENU 〉
```
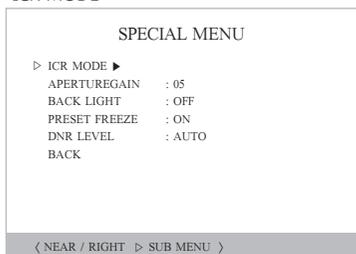
Control DAY & NIGHT funtion.

- ICR MODE

```
              SPECIAL MENU
  ▷  ICR MODE : DAY
     ICR AUTO THRES    : XX
     ICR AUTO GAP      : XX
     ICR AUTO DELAY    : XXX
     BACK



  〈 NEAR / RIGHT  ▷ ICR MODE 〉
```
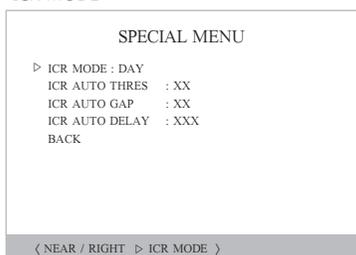
Select AUTO, DAY and NIGHT.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- ICR AUTO THRESHOLD

```
              SPECIAL MENU
     ICR MODE : AUTO
  ▷  ICR AUTO THRES   : 01
     ICR AUTO GAP     : 01
     ICR AUTO DELAY   : 005
     BACK



     BACK
  〈 NEAR / RIGHT  ▷ THRESHOLD 〉
```
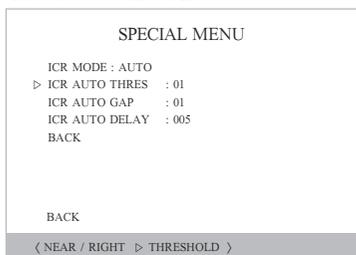
Set the ICR THRESHOLD

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- ICR AUTO GAP

```
              SPECIAL MENU
     ICR MODE : AUTO
     ICR AUTO THRES    : 01
  ▷  ICR AUTO GAP      : 01
     ICR AUTO DELAY    : 005
     BACK



  〈 NEAR / RIGHT  ▷ GAP 〉
```
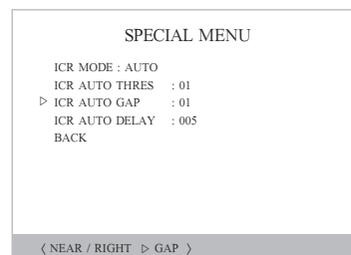
Select the ICR level.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- ICR AUTO DELAY

```
              SPECIAL MENU
     ICR MODE : AUTO
     ICR AUTO THRES    : 01
     ICR AUTO GAP      : 01
  ▷  ICR AUTO DELAY    : 005
     BACK



  〈 NEAR / RIGHT  ▷ DELAY 〉
```
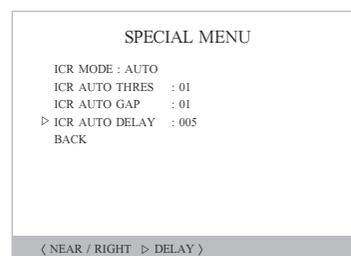
Set ICR auto delay.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- APERTURE GAIN

```
              SPECIAL MENU
     ICR MODE ▶
  ▷  APERTUREGAIN      : 05
     BACK LIGHT        : OFF
     PRESET FREEZE     : ON
     DNR LEVEL         : AUTO
     BACK


  〈 NEAR / RIGHT  ▷ APERTURE 〉
```

APERTURE GAIN: Select aperture gain

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- BACK LIGHT

```
              SPECIAL MENU
     ICR MODE ▶
     APERTUREGAIN      : 05
  ▷  BACK LIGHT        : OFF
     PRESET FREEZE     : ON
     DNR LEVEL         : AUTO
     BACK


     BACK
  〈 NEAR / RIGHT  ▷ BACK LIGHT 〉
```

Select ON/OFF in the BACK LIGHT function.

select : [JOYSTICK] or [NEAR]   Set ON : [JOYSTICK] Set OFF : [NEAR]

- PRESET FREEZE

```
         SPECIAL MENU

    ICR MODE ▶
    APERTUREGAIN    : 05
    BACK LIGHT      : OFF
  ▷ PRESET FREEZE   : ON
    DNR LEVEL       : AUTO
    BACK



 〈 NEAR / RIGHT  ▷ FREEZE 〉
```
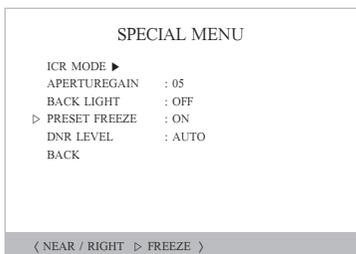
The screen is stopped while the camera is operating preset funtion.

select :   or   Set ON :   Set OFF :

- DNR LEVEL

```
         SPECIAL MENU

    ICR MODE ▶
    APERTUREGAIN    : 05
    BACK LIGHT      : OFF
    PRESET FREEZE   : ON
  ▷ DNR LEVEL       : AUTO
    BACK



 〈 NEAR / RIGHT  ▷ DNR LEVEL 〉
```
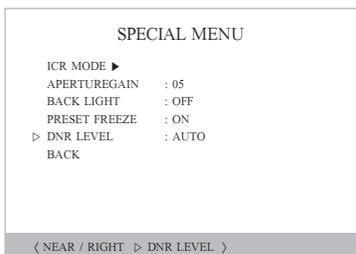
Select the DNR level from AUTO, LEV1, LEV2, LEV3 and OFF.

select :   or   Set ON :   Set OFF :

⑦ CAMERA RESET

```
         CAMERA MENU
    ZOOM MODE          ▷
    FOCUS MODE         ▷
    WHITE BAL.         ▷
    AUTO EXP.          ▷
    WDR MODE           ▷
    SPECIAL            ▷
  ▷ CAMERA RESET       ▷ YES 〈NO〉
    SAVE
    BACK
    EXIT
 〈 NEAR / RIGHT  ▷ RESET 〉
```
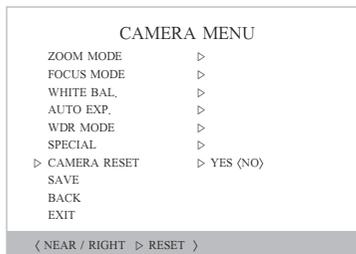
Make initialize the setting value which is set in CAMERA MENU.

select :   or   Set ON :   Set OFF :

5. 5   Clear Setting

Clears the PTZ position and function value. With this function the camera keeps the accuracy of the PTZ position value.

```
         MAIN MENU


 MOTION       ▷
 DOME         ▷
 CAMERA       ▷
 CLEAR        ▶
 RESET        ▷


 EXIT
 < NEAR / RIGHT   ▷  CLEAR >
```

```
         CLEAR MENU


 PRESET       ▶ YES  NO
 TOUR         ▷
 SCAN         ▷
 PATTERN      ▷
 AREA         ▷
 ALARM        ▷
 PRIVACY      ▷

 ▷ PRESET CLEAR:
 < SEL ▷ NEAR   LEFT  /RIGHT>
```
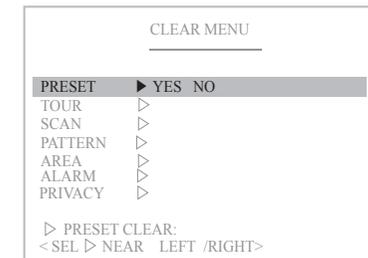
select :   or   Set ON :   Set OFF :

5. 6   Reset

It is a reset function and is useful when you change the dipswitches for address, protocol and baud rate.

```
         MAIN MENU


 MOTION       ▷
 DOME         ▷
 CAMERA       ▷
 CLEAR        ▷
 RESET        ▶


 EXIT
 < NEAR / RIGHT   ▷  RESET >
```

6. SPECIFICATIONS

6. 1   Mechanical Specifications

6. 1. 1   MECHANICAL

Pan	: 360° Continuous Pan, 0.1° to 100°/sec.
Pan Preset Speed	: 110°/sec, 0.3° Accuracy
Tilt	: TOP 15°~270° , BOTTOM 345°~90° tilt angle , Proportional to zoom
Tilt Preset Speed	: 60°/sec, 0.3° Accuracy
Weight	: Standard Model : Approx. 2.7kg / Packing 3.2kg
	: Additional LED Model : Approx. 3.5kg / Packing 4kg

6. 1. 2   ENVIRONMENTAL

Construction	: Die-casing Aluminum
	: All internal parts are corrosion protected epoxy powder coating
Ingress Protection	: IP66 Outdoor Application
Color	: Ivory and Black
Operating Temp	: -20°C to 50°C (In continuous operation with Fan & Heater)
Storage Temp	: -20°C to 50°C
Humidity	: 0% to 90%

6. 1. 3   FUNCTIONS

Preset	: 63 points
Tour	: 8 programmable
Pattern	: 2 patterns for Max. 90 second.
Scan	: 4 programmable speed and diagonal scan
Display	: 4 Area Title
Alarm	: 2 alarm
Flip	: Mechanical Auto Flip On/Off (Rotate: TOP 270° BOTTOM 90° at bottom of tilt)
Address	: Up to 255 selectable ID (setting with Dip-switches)
Data Communication Control	: RS-485/ RS-422
Protocol	: Multiple Protocol (WTX, PELCO-D V1, PELCO-P, PELCO-D V5)
Baud rate	: 2400, 4800, 9600, 19200, 38400, 57600, 115200 bps selectable

6. 1. 4   ELECTRICAL

Power	: DC12V, 40W, 3.3A / AC24V, 50W, 2.1A
	Power adaptor not included
Consumption	: DC12V 0.9A(11W) / AC24V 0.6A(15W)
Fan & Heater	: DC12V IR: 1.9A(23W)
	AC24V IR: 0.9A(22W)

· 12VDC model is designed for vehicle application. Ground for both power and video is just one and therefore the power is not isolated and may damaged by surge input if it is installed in general circumstance not in Vehicle.
· 24VAC is available for CCTV application

6. 2 Camera Specifications

EH-6300

Imager	1/3 Type Exmor CMOS Sensor
Picture elements	2000K pixels
Lens	20× zoom
	F= 4.7 mm (WIDE) to 94.0 mm(TELE), F1.6 to F3.5
Digital zoom	12× (240× with optical zoom)
Angle of view (H)	Approx. 55.4 degrees (WIDE end),
	approx. 2.9 degrees (TELE end)
	(1080i mode)
	Approx. 37.6 degrees (WIDE end),
	approx. 2.0 degrees (TELE end)
	(720p mode)
Min. working distance	10 mm (WIDE end), 1000 mm (TELE end)
Sync system	Internal
Min. illumination	0.5 lx (1/30 sec, 50%, High Sensitivity mode ON)
(Typical value)	1.7 lx (1/30 sec, 50%, High Sensitivity mode OFF)
	ICR-ON Mode
	0.095 lx (1/30 sec, 50%, High Sensitivity mode ON)
	0.3 lx (1/30 sec, 50%, High Sensitivity mode OFF)
S/N ratio	50 dB (Weight ON)
Wide dynamic range	ON/OFF/AUTO
Noise reduction	ON/OFF (level 5 to 1 / OFF, 6 steps)
Color Enhancement	ON/OFF
Aperture control	16 steps
Preset	6-POSITIONS
Video Output	HD: Analog component (Y/Pb/Pr) Digital (LVDS) Analog SD: VBS

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Image Sensor	1/3" Panasonic CMOS Sensor
Total Pixels	2,010(H) x 1,108(V), 2.2M Pixels
Active pixels	1,944(H) x 1,092(V), 2.1M Pixels
Scanning system	Progressive Scan
Sync. System	Internal
Resolution	Digital ; 1920x1080p(1080p/30fps) , 1280x720p(720p/60fps)
	Analog : 700TVL
Min. illumination	Color : 0.5 lux , BW : 0.1lux
	Color DSS : 0.002 lux , BW DSS : 0.001 lux
Video Output	HD : Digital(LVDS)
	Analog SD : VBS(without WDR)
S/N Ratio	more than 50dB (AGC off)
Lens type	x20 Day & Night Zoom Lens
Zoom Ratio	Optical x20, Digital x32 Zoom
Focal Length	f = 4.7 mm ~ 94.0 mm
Aperture Ratio	F1.6 (wide) ~ F3.5 (tele)
Focus	Mode / Distance / Lens Refresh / E.Zoom
Mode	Auto / One Push / Manual
Distance	0.1 / 0.5 / 0.8 / 1.0 / 3.0 / 6.0 / 10.0 m
Lens Refresh	Off / 1 ~ 10Day
E.Zoom	Off / MAX x2 ~ x32
Exposure	AUTO / IRIS.P / SHUT.P / MANUAL
Shutter Speed	1/30(25) ~ 1/60,000 sec
Iris	0 ~ 20
Digital Slow Shutter (DSS)	Off / Max x2 ~ x4
WDR/BLC	OFF / WDR / BLC
Day&Night	Auto / Day / Night / Ext
White Balance	AUTO / One Push / Manual / Indoor / Outdoor
DNR	Auto / Off / Low / Middle / High
System	NTSC / PAL
HD Format	1080P / 720P

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· 24VAC is available for CCTV application

6. 3 LED Specifications

	Infra Red LED
Light Distance	120m manual focusing
LED	12pcs of 18ø IR Lens

7. DIMENSIONS(mm)

7. 1 Standard Model

7. 2   Optional Bracket (Vihechle bracket)

WCA−VB1

WCA−VB2

8. FROUBLE SHOOTING

If you have trouble with operating camera, refer to the following table.
If the guidelines do not enable you to solve the problem, contact an authorized technician.

Problem	Solution
No video.	Check that the power is connected to all pieces of equipment in the system. Check that the BNC connectors are inserted properly. Check if the iris of the lens is closed and adjust that. Check the camera's fixed shutter menu and adjust that.
Poor Video Quality.	Check the voltage level of the camera. Check the power supply voltage.
Controller does not work.	Check if the camera and peripheral devices are properly connected. Verify the setups of ID, protocol, and baud rates.
Too dark or bright video.	Check the camera's Brightness Level and adjust that.
Focus out video.	Check the dome cover or camera lens and clean the dirt off. If Auto Focusing is having difficulty focusing on a particular subject, set Focus mode to Manual and adjust the focus by yourself. Reset the camera referring to 38 page.
LED does not work.	Check if light mode is set correctly referring to 37 page. Check the Day & Night mode and converting Lux value referring to 36 page.
Day or night mode does not convert automatically.	Check that Day & Night mode is set to AUTO mode referring to 36 page. Check the converting Lux value and adjust according to surrounding's illumination referring to 36 page. Check it the CDS sensor(there's blue one beside of LED) is covered by something.
Pan, Tilt, Zoom do not work.	Check that the power is connected to all pieces of equipment in the system. Check that the BNC connectors are inserted properly.