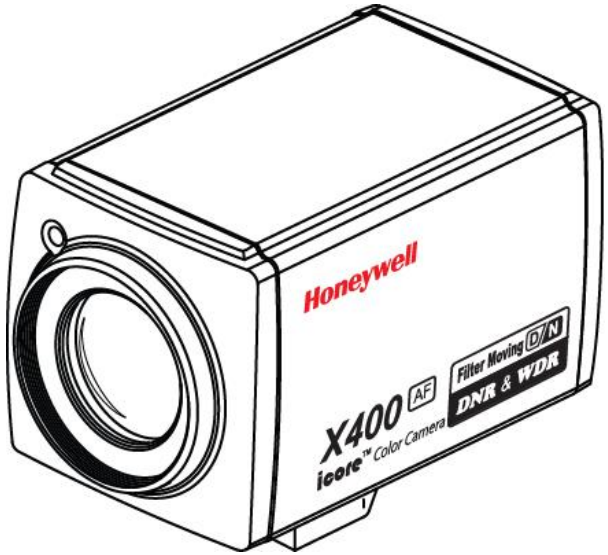
Honeywell

OPERATION MANUAL

Built-in x25 Optical ZOOM
High Resolution AUTO FOCUS CAMERA

HZC-252N/P Series



READ AND KEEP THIS OPERATION MANUAL

CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN

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

Indicate a potentially hazardous situation which if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Warning:
This equipment generates and uses radio frequency energy and if not installed and used properly, I.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Warning:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION FOR SAFE OPERATION

1. Water and Moisture
To prevent fire or shock hazard, do not expose this camera to rain or moisture.

2. Servicing
Do not attempt to disassemble or repair by yourself.
You may be exposed to dangerous voltage or other hazards.
Note that all servicing is qualified service personnel.
Modifications not approved by manufacturer could void the user's authority to operate the equipment.

3. Power Sources
To prevent electric shocks and risk of hazards, do not use more than the specified power source.

4. Environment
Do not install too warm or too cold place. Recommended operation temperature is between -5℃ and 50℃

5. Sunlight
Do not point the camera at the sun. CCD can be damaged.

6. Heavy Shock and Vibration
Do not drop the camera or subject it to heavy shock of vibration.

7. Install on an Unstable Place
Do not place or install this camera on an unstable place, stand, tripod, bracket or table. That may cause serious injury to people or damage to appliance.

8. When operation is incorrect or a malfunction is observed
While operating, if any abnormal condition (strange sound, smell or smoke) or a malfunction (no pictures, etc.) is observed, stop using the camera immediately, turn the power off, then contact your supplier.

9. Cleaning
Turn the power off and wipe off the dirt with a dry soft cloth.
If it is extremely dirty, use furniture cleaner to wipe it off.
To clean the lens, use a blower or lens cleaning tissue. (available from any camera dealer)

10. Do not shoot any source of bright light.
If the objects contain very bright areas, bright vertical or horizontal lines may appear on the screen. This is called "smear" , a Phenomenon which often occurs with solid - state pickups, and is not a malfunction.

11. Damage Requiring service
Unplug the camera from the power source and refer servicing to qualified service personnel under the following condition:

a. If the power-supply cord or plug is damaged.
b. If the camera has been exposed to rain or water.
c. If liquid has been spilled, or objects have fallen into the camera.
d. If the camera does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the camera to its normal operation.
e. If the camera has been dropped or the cabinet has been damaged.
f . If the camera exhibits a distinct change in performance.

Warranty is not covered in case of natural disaster or wrong Installation.

CONTENTS

Thank you for using our Auto Focus Zoom Color Camera. To get the best efficiency, read carefully all instructions in this manual before use, and keep this manual for reference. If you have any problems with this camera, contact your supplier to service.

1. Features

Ideal Digital Video Camera for Security
The HZC-252N/P Series. is a compact camera that offers easy system integration. Coming with the built-in zoom lens, user can monitor the scene from variable angle without an extra lens.
DSP technology such auto iris and auto white balance has dedicated to realize clear and detailed picture. In addition, remote Focus/Zoom operation is enabled as well as manual control through RS-232C, RS422, 485. All these features including highly sensitive 1/4-inch CCD make the ideal digital processing CCTV camera HZC-252N/P series to provide effective surveillance impact.

Built -in x25 Optical power zoom lens
The HZC-252N/P Series with highly durable built-in zoom lens offers auto focus, auto iris, and optical zoom functions which enables users to monitor a clear scene in any desired angle of view.
With the x25 optical zoom lens, the total zoom rate is up to x400 with x16 digital zoom processing.

High Resolution & Sensitivity SONY CCD
The chassis features a highly sensitive 1/4-inch CCD pickup with approximately 380,000 effective pixels minimizing residual image and geometric distortion. All images are reproduced with a high horizontal resolution of 520 TV lines for fine detail.

High Sensitivity with Integration and removal of IR filter
HZC-252N/P Series has the increased light sensitivity to 0.001lx (512 fields, IR Cut Filter ON) through field (frame) integration technology. Integration and removal of IR cut filter makes more effective surveillance under low light condition.(HZC-252N/P less than 0.0001 lx)

DNR (Digital Noise Reduction)
By using the iCORE™ ISP chip applied to the DNR technology, the amount of low illuminance noise has been significantly reduced.

Privacy Zone Masking
HZC-252N/P Series mask the unwanted view for privacy protection up to 8 zones. Privacy Zone operates with zoom in/out and it increases the effect of privacy protection.

Remote Control through RS232C, RS422 Interface
Remote control operations are possible through RS-232C/RS422 interface for Focus, Zoom control and various functions.

AI / Fuzzy Control Circuit with DSP
Advanced DSP technology automatically adjusts operations such as Iris , White Balance flexibly adapting to environmental conditions.

Auto Iris **:** the iris is adjusted so that visual output is kept at a fixed level, even if brightness of the surrounding changes.

Auto White Balance **:** color adjustment according to the color temperature of the light source illuminating the subject. white balance can be obtained even with fluorescent lights, halogen lamps or outdoor.

Wide Dynamic Range/ Black Mask BLC (***BMB™***)
The HZC-252N/P Series camera incorporates an advanced backlight compensation technology that improves the camera's dynamic range.

Motion Detection
You can transmit an alert signal when it detects motion of an object on the screen. This feature is useful when you have to monitor several screens simultaneously.
(64 areas can be selectable for working area)

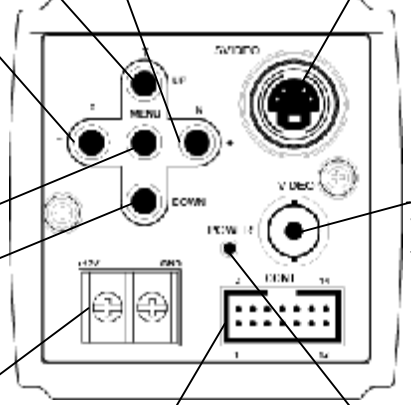
Other Functions
- QUAD function (supports 4 split screen display)
- 128 Presets programmed with Zoom, Focus position.
- Picture In Picture (PIP) function
- Picture freeze function.
- Built-in OSD menu

2. Terms & Functions

FAR(-) BUTTON

TELE(UP) BUTTON

NEAR(+) BUTTON



S-VIDEO OUTPUT

This is the output terminal
for separate Y/C signal .

MENU BUTTON

WIDE(DOWN) BUTTON

VIDEO OUTPUT

This is the output terminal
for composite video signal .

POWER INPUT TERMINAL

DC 12V
(Please use a specified adaptor)

POWER ON LAMP

In power ON state ,
this LED is ON .

CAMERA CONTROL CONNECTOR

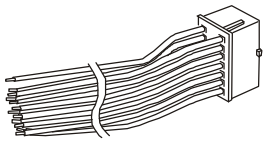
This is the 14 pin connector for external
camera controls .
(Refer to 4. CAMERA CONTROL METHODS)

3. Installation

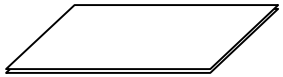
3.1 Check all accessories with enclosed package .

- **HZC-252N/P Ser. SET**
- **14 PIN CONNECTION CABLE (150mm)**
- **OPERATION MANUAL**

HZC-252N/P Ser.



14 PIN CABLE*



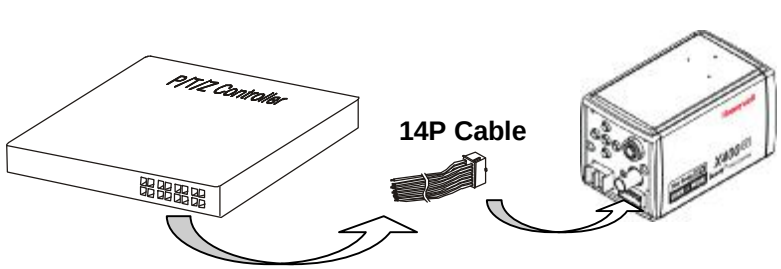
OPERATION MANUAL

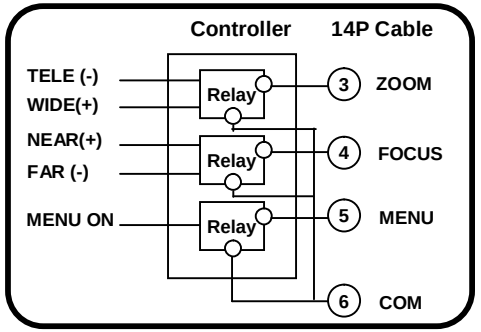
*** CABLE DESCRIPTION**

1. KEY1	**(RED)**	**2. KEY2**	**(YELLOW)**
3. ZOOM	**(GREEN)**	**4. FOCUS**	**(BLUE)**
5. MENU	**(WHITE)**	**6. COM**	**(ORANGE)**
7. GND	**(BLACK)**	**8. GND**	**(BLACK)**
9. R+/NC	**(BROWN)**	**10. R-/RD**	**(PINK)**
11. T+/TD	**(VIOLET)**	**12. T-/GND**	**(GRAY)**
13. EXT_VD	**(WHITE)**	**14. GND**	**(BLACK)**

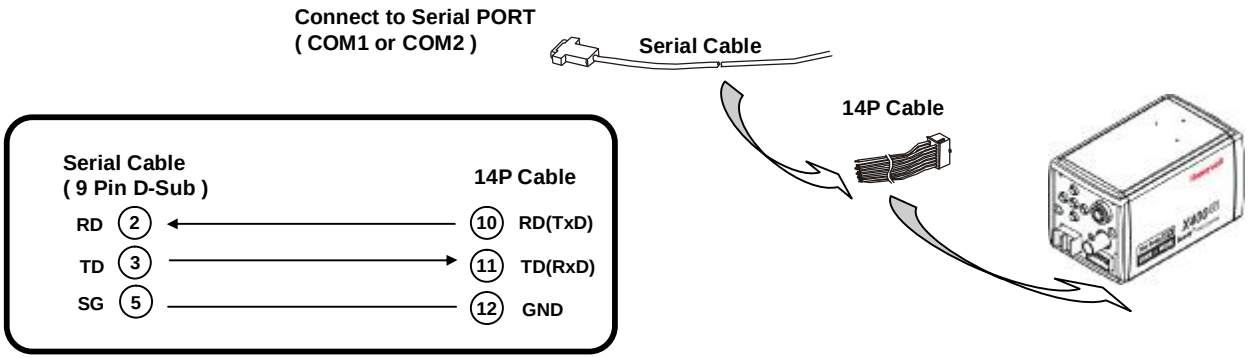
4. Camera Control Methods

4.1 Remote Control using for Hard wired connection (Connector pin 3,4,5,6)

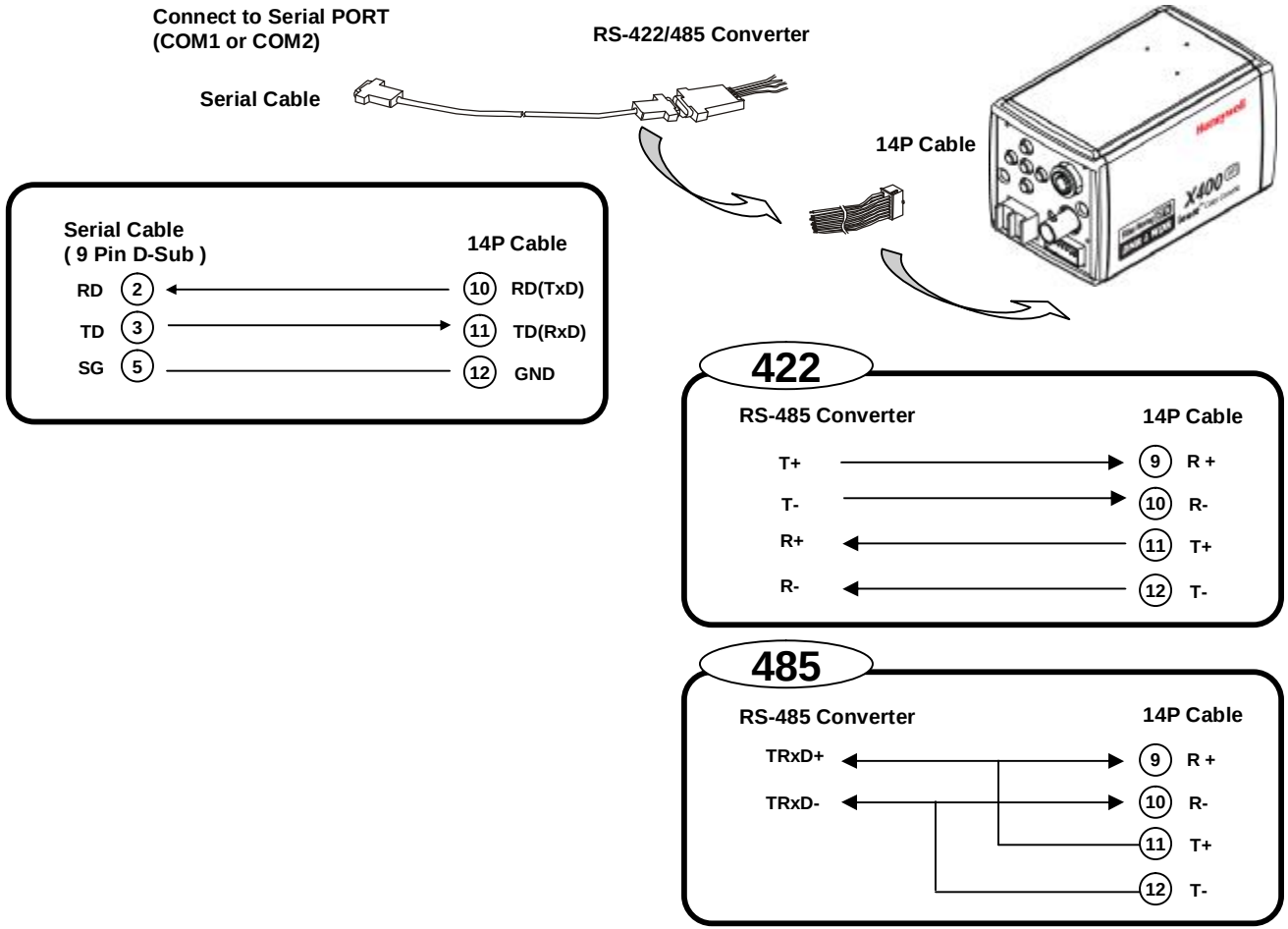




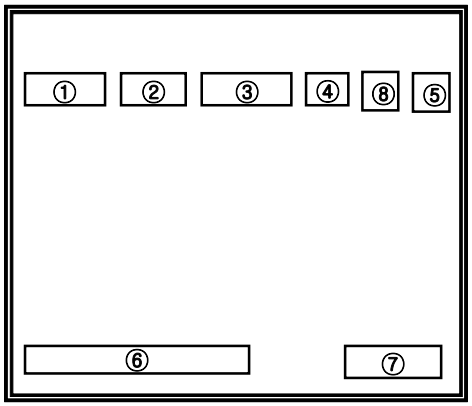
4.2 Remote Control using for RS-232C connection (Connector pin 10,11,12)



4.3. Remote Control using for RS-422/485 connection (Connector pin 9,10,11,12) -------- OPTION



5. On Screen Display



<Fig5-1. Operating OSD display position>

5.1 How to display Operating OSD

a. Press the MENU key softly to confirm current Operating OSD.
It will disappear after about five seconds if there are no more key actions.

b. When it zoom-in or out by pressing TELE(up) or WIDE(down) key,
all Operating OSD is displayed and then disappears.
When NEAR(+) , FAR(-) key is pressed, only upper part of Operating OSD (for displaying camera mode) is displayed and then disappeared.
(It is for checking current camera mode and zoom position)

c. Even though Operating OSD disappears,
it keeps displaying ID in lower part of the screen.
One way of not displaying ID is by changing EEPROM data of Camera, while the other way is to use external communication through RS-232C.

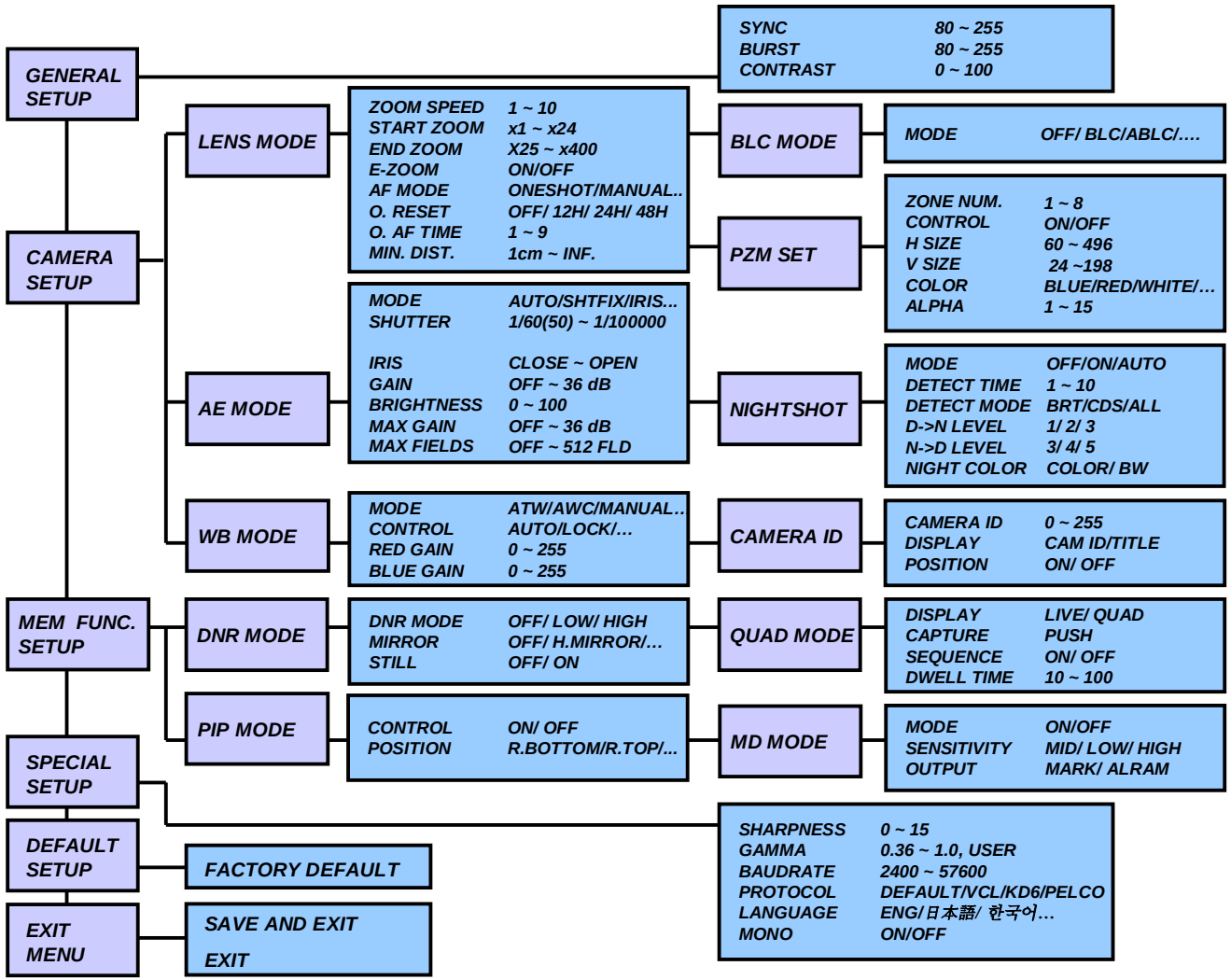
d. By using RS-232C communication, display position of ID changes as following order;
Bottom Right -> Top Left -> Top Right -> Non display.

* If display Operating OSD is not requested by special reason, such as using external text overlay board, it can be OFF mode at all times through external communication control as RS 232C.

	•FUNCTION	•OSD FORMAT	•DESCRIPTION
①	•Focus Mode	•Non display	•Oneshot Focus Mode
		•MF	•Manual Focus Mode
②	•Back Light	•Non display	•Backlight OFF
		•O	•Backlight ON
		•A	•Auto Backlight ON
		•B	•BMB ON
		•W	•WDR ON
③	•Shutter Speed	•Non display	•NTSC: 1/60, PAL:1/50
		•1/250 **1/100000**	•variable steps
		•FL	•1/100 (NTSC), 1/120 (PAL)
④	•Night Mode	•Non display	•Night OFF
		•IR	•Night ON
⑤	•WB Mode	•Non display	•Auto Trace WB mode
		•IN	•Indoor Preset (3200°K)
		•OUT	•Outdoor Preset(5400°K)
		•MWB	•Manual WB mode
		•AWC	•One Push Mode
⑥	•Zoom Display	•Dx90	•Digital Zoom
		•>>TELE	•Zoom IN
		•<<WIDE	•Zoom OUT
⑦	•CAMERA **ID/TITLE**	•Non display	•In case that ID is 0
		•ID: 002	•In case that ID is 1 ~ 255
		•TITLE	•DISPLAY set as TITLE
⑧	•MD Mode	•Non display	•Motion Detection is OFF
		🏃	•Motion Detection is ON

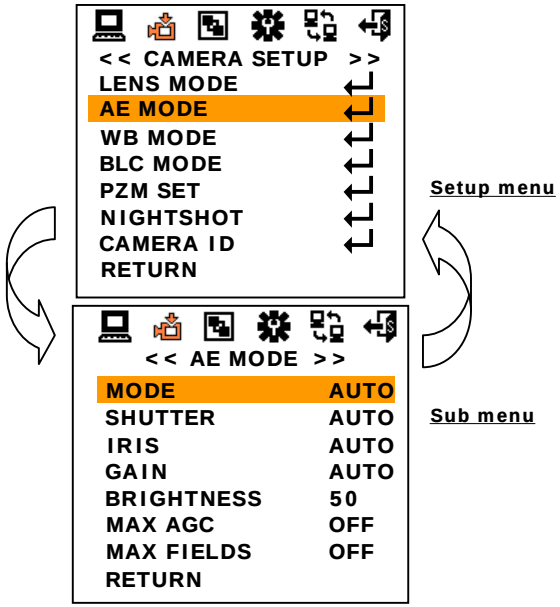
<Table5-1. Operating OSD description>

5.2 OSD SETUP MENU Structure



5.2 Display SETUP MENU

a. Press MENU key above for 2 seconds so that SETUP MENU is displayed on the screen.
b. Select item from SETUP MENU using TELE(up) / WIDE(down) key.
c. NEAR(+) / FAR(-) key is used to increase / decrease data of selected item.



<Fig5-2. SETUP MENU change>

5.3 Move between SETUP MENU and Sub MENU

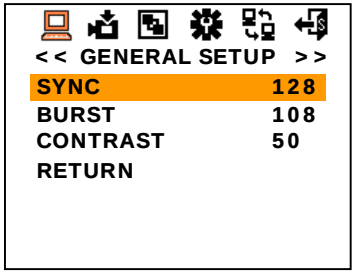
a. In order to change from SETUP MENU to Detail MENU, select Sub MENU using TELE / WIDE key, and press NEAR / FAR key.
b. In order to change from Sub MENU to SETUP MENU, select RETURN MENU using TELE / WIDE key, and press NEAR / FAR key.

5.4 Exiting from Main-Menu

a. **At Main-menu, move cursor to icon, and press MENU button.**
① **SAVE AND EXIT : Camera will save the changes**
② **EXIT : Camera will not save the changes.**

<Fig5-3. EXIT SETUP >

5.5 GENERAL SETUP



<Fig5-4. GENERAL SETUP >

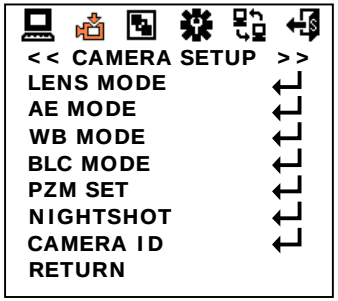
① SYNC adjustment
: **User can adjust SYNC level (80 ~ 255)**
SYNC 80 → 81 → ... → 255

② BURST adjustment
: **User can adjust BURST level (80 ~ 255)**
BURST 80 → 81 → ... → 255

③ CONTRAST adjustment
: **User can adjust CONTRAST (0 ~ 100)**
CONTRAST 0 → 1 → ... → 100

5.2 CAMERA SETUP MENU

a. **At main menu, select icon, and press MENU button.**



<Fig5-5. CAMERA SETUP menu>

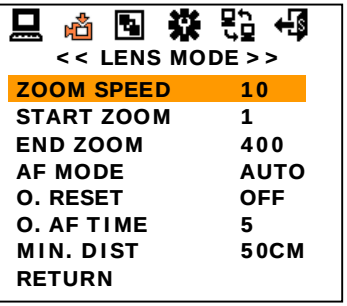
5.5 LENS MODE

① ZOOM Speed Control
: Set zoom speed 1 to 10, 10 steps.
ZOOM SPEED **1 → 2 → ... → 10**

② Start Zoom Ratio
: Set boundary value of WIDE zooming.
START ZOOM **x 1 ~ x 24** (in optical zoom region)

③ End Zoom ratio
: Set boundary value of TELE zooming. It can be set up to x400 including electronic zoom. (in case the digital zoom limit is 16 times) Once Start Zoom and End Zoom ratio are set, Camera moves to setting zoom times simultaneously as it is enabled to move to the desired position.
END ZOOM **x 25 ~ x 400** (in digital zoom region)

④ E-Zoom Control
: ON means up to x400, OFF means only optical zoom region.
E-ZOOM **OFF → ON.**



<Fig5-6. LENS MODE setup >

⑤ Set Focus Mode
: Three modes are available

AUTO
:It is used to focus automatically at all times.

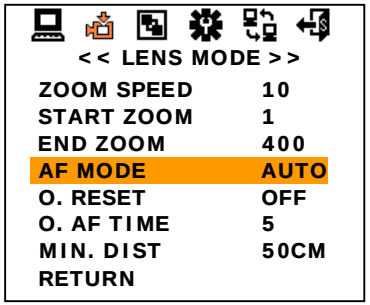
MANUAL
: It is used to focus manually by pushing NEAR(+) / FAR(-)key. When MANUAL mode is selected, it will focus for about 5 seconds after zoom in(TELE) / out(WIDE), and return to MANUAL mode automatically.
This is useful to focus accurately after zooming.

(In MANUAL mode, when it is powered not to focusing, it will be returned to the setting before power off.)

ONESHOT
: It is similar to MANUAL mode, but some differences do exist. In case the focus mode is ONESHOT, it is focused whenever ONESHOT (AUTO/MANUAL key) key is pushed. It will be returned to MANUAL mode after seconds (Special Menu : O.S. AF TIME) if best focus cannot be found. In this case, press ONESHOT(AUTO/ MANUAL key) key again to set to the best focus.

PUSHAUTO (option)
: While key is pressed, Focus mode will remain AUTO.

☞ caution
1. According to the Model , order is Auto -> Manual -> Oneshot, or Auto > Manual -> Pushauto.



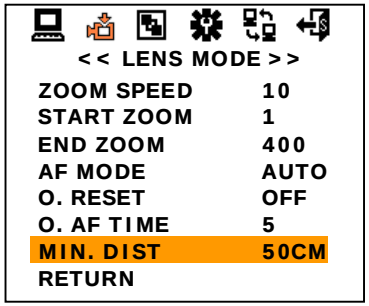
<Fig5-7. AF MODE change >

⑥ ONESHOT AF RESET
: Use in case focus is deviated due to impact, vibration etc. Auto Focusing is operated during set time.
O.RESET OFF → ON

☞ *caution*
1. Focus deviation occurs based on the conditions (brightness, facility to focus the object, etc).

⑦ ONESHOT AF TIME
: Set Oneshot AF operating time. When AF is completed, Focus mode will be Manual. Even when AF is not completed, it stops when time is up.(unit:sec)
O.AF TIME 1 → 2 → ... → 10

⑧ Minimum Distance
: Set the minimum distance which can be focalized.
MIN. DIST. 1CM → 10CM → 50CM → 1M → 3M → 5M → 10M → INF.



<Fig5-8. Minimum focus distance >

5.6 AE MODE

① Exposure Mode
: It is composed of five modes according to circumstantial illuminance.

AUTO
: Exposure is controlled by Shutter Speed,Iris,Gain to meet the Brightenss.

SHUTTER FIX
: Low/High shutter speed is fixed, Exposure is controlled by Iris and Gain.

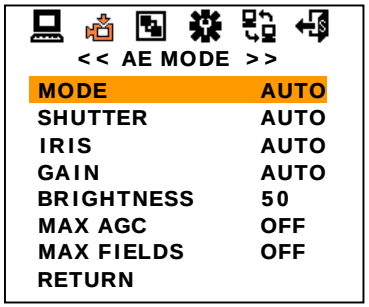
IRIS FIX
: Iris is fixed, Exposure is controlled by Shutter Speed and Gain. *(Shutter Speed,GAIN is not adjust and operate automatically.)*

GAIN FIX
: Gain is fixed, Exposure is controlled by Shutter Speed and iris.

MANUAL
: Shutter Speed,Iris,Gain is fixed as set value regardless of illuminance.

☞ *caution*
1. There are menu items not to adjust and to skip according to mode.
2. Field Integration is not operated in Shutter Fix, Gain Fix, Manual.

MODE AUTO → SHT FIX → IRIS FIX → GAIN FIX → MANUAL



<Fig5-9. AE MODE >

② SHUTTER Speed
: In Shutter Fix and Manual Mode, range is from 1/60(50) sec to 1/100,000 sec.

SHUTTER 1/60 → .... → 1/100000

③ IRIS
: In Iris Fix, Manual Mode, range is 12 phases from OPEN (full Open) to CLOSE.
IRIS CLOSE → F16.0 → F11.0 → . . . . → OPEN

④ GAIN
: In Gain Fix, Manual Mode, range is 16 phases from OFF to 36dB.
GAIN OFF → 8dB → 10dB → . . . . → 36dB

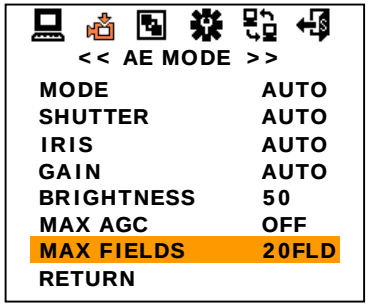
⑤ Brightness
: Adjust level of Auto Iris. The smaller brightness value indicates the darker it gets, as iris is more closed. On the contrary, it gets brighter as the brightness value becomes bigger when iris is opened more.
BRIGHTNESS 0 ~ 100

⑥ MAX AGC
: Adjust Max AGC level.
MAX GAIN OFF→ 8dB → 10dB → . . . . → 36dB

⑦ MAX FIELDS (option)
: Use for compensating the low illumination condition. In case this function is used due to low illumination condition, adjust maximum integration fields to get brighter and dynamical image. However, the scene becomes slower than OFF mode. The larger max fields is simultaneously the noise of image is larger. This phenomenon occurs due to very small video output integrated on many fields memory.
To get more dynamical image, adjust maximum integration fields and set maximum AGC gain as HIGH, to result in better standard of dynamic image.

MAX FLDS OFF → 1FLD → 2FLD → 3FLD → 4FLD → 5FLD → , , , → 10FLD → 20FLD → 40FLD → , , , → 160FLD →320FLD →512FLD

☞*caution*
1. In Fields Integration mode, noises as well as video information are increased. When an ambient temperature keeps high, CCD pixel defect happens to be larger and whiter. This is not due to failure.



<Fig5-10. MAX FIELDS change >

5.7 White Balance Mode

① White Balance Mode
: Outer illumination condition is expressed by Color temperature, Kelvin (°K). It is White Balance that shows white as white in any illumination conditions. It is composed of five modes as follows;

ATW (Auto Trace White balance)
: Trace automatically under any condition within range of 2,500°K ~ 8,000°K
(*It is adjustable to red and blue point for desired white position.*)

INDOOR
: Use to set the preset illumination condition as 3200°K

OUTDOOR
: Use to set the preset illumination condition as 5400°K

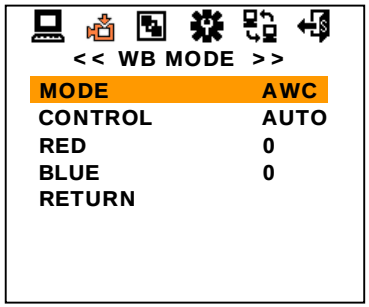
MANUAL
: Use to adjust to desired RED, BLUE gain manually.

AWC
: Consider current illumination condition, force to conduct white balance and lock as manual

② White Balance Mode Control
: It displays and changes White Balance Mode Control status of Camera. (According to Mode, it just display the state and not to adjust.)

ATW	**AUTO**
INDOOR	**3200°K**
OUTDOOR	**5400°K**
MANUAL	**R/B CONT**
AWC	**LOCK →PUSH**
AWC	**AUTO**

(LOCK means Manual white balance status. Press NEAR(+) / FAR(-) key continuously, LOCK mode becomes PUSH mode and white balance acts automatically, and then white balance mode is locked as manual.)



<Fig5-11. WB MODE >

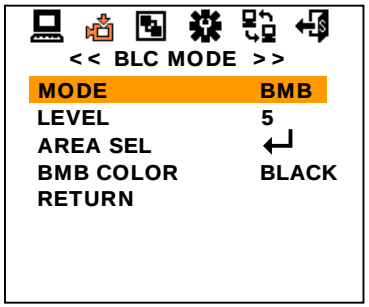
③ RED GAIN (Range is different on each Mode.)
: Adjust RED Gain, and tune the sensitivity of white point.

ATW	**-20 → -19 → .... → 19 → 20**
MANUAL	**0 → 1 → .... → 254 → 255**
AWC	**30** (Current RED gain display)

④ BLUE GAIN (Range is different on each Mode.)
: Adjust BLUE Gain, and tune the sensitivity of white point.

ATW	**-20 → -19 → .... → 19 → 20**
MANUAL	**0 → 1 → .... → 254 → 255**
AWC	**30** (Current BLUE gain display)

5.9 BLC / BMB Mode



<Fig5-12. BLC MODE >

① Backlight Compensation Mode
: It is for preventing the center object getting too dark when the excessive light is behind the central object.
Set BACKLIGHT ON, then the center object gets brighten in the contrast to the background light.

MODE **OFF → BLC → ABLC → WDR → BMB**

(WDR [Wide Dynamic Range] function combines dark area's image and bright area's image inside memory, and makes a subject shown more clearly.)

*(**BMB [Black Mask BLC]** is different backlight compensation, mask the excessive light and make objects look clearly.)*

② Backlight Compensation Level (BLC, ABLC, WDR, BMB Level)

LEVEL **5 (0 ~ 20)**

<Fig5-13. BLC OFF and ON >

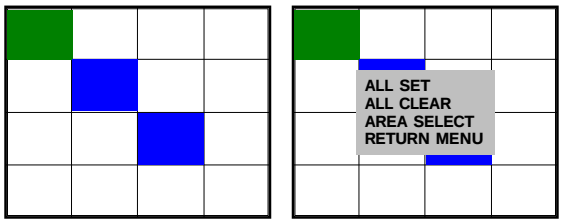
<Fig5-14. WDR and BMB >

③ BMB Color selection: User can select masking color of BMB

BMB MASKING BLACK →D.GRAY → ... → WHITE

AREA SEL : User can select area for BMB.

If you press MENU at AREA SEL, you can configure the area of BMB. To exit area selection menu, press the MENU button for more than 2 seconds.



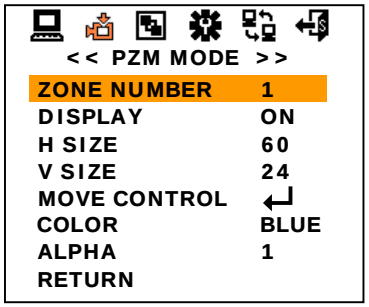
<Fig5-15. BMB MODE areas setting >

-. ALL SET : Select all area
-. ALL CLEAR : Clear all area
-. AREA SELECT : Back to area select mode
-. RETURN MENU : Exit AREA SEL, and return to BLC MODE

5.10 PRIVACY ZONE

① Set Privacy ZONE
: PZM(Privacy Zone Mask) is to hide the unwanted view to protect privacy invasion. It works with Zoom/PAN/TILT operation. Select PZM zone upto 8 zones.

ZONE NUMBER 1 → 2 → .... → 8



<Fig5-16. PZM MODE change >

② PZM display
: Set ON/OFF for each PZM Zone.

CONTROL OFF → ON

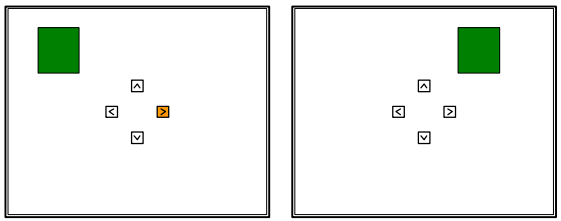
③ PZM Horizontal center starting point
: Set PZM for the starting point of Horizontal center.

H SIZE 60 ~ 496

④ PZM Vertical center starting point
: Set PZM for the starting point of vertical center.

V SIZE 24 ~ 198

⑤ Moving PZM area
: Configured PZM area can be moved by this menu. If you press MENU button at MOVE CONTROL, below screen will appear. You can move PZM area by TELE, WIDE, NEAR, FAR buttons. To exit MOVE CONTROL menu, press MENU button for more than 2 seconds.



<Fig5-17. PZM position move >

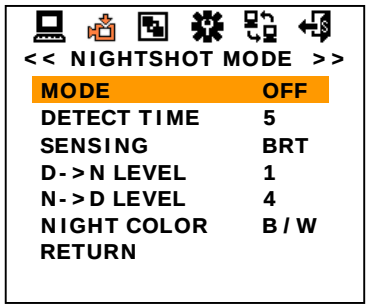
⑥ **PZM Masking**
: Choose the Color to mask the PZM zone. 8 color (Black, Gray, Light Gray, White, Red, Blue, Green, Yellow) is available.

PZM MASKING **BLUE → RED → .... → GREEN**

⑦ **Transparency of PZM area**
: Transparency of PZM area can be decided

ALPHA **0 ~ 15**

5.8 NIGHTSHOT MODE



<Fig5-18. NIGHTSHOT MODE >

① NIGHTSHOT MODE
: It is used in low illumination condition. ON is Night mode, OFF is normal state. Sensitivity of camera becomes more higher level like BW camera.
external IR illuminator can be available when AUTO mode is converted ON / OFF automatically according to illuminance change.

MODE **OFF → ON → AUTO**

② NIGHTSHOT MODE DETECT TIME
: Set time to protect susceptible conversion of ON/OFF according to illuminance change on Auto. When illuminace keeps the state during detect time, convert ON/OFF.

DETECT TIME **1 → 2 → .... → 10**

③ NIGHTSHOT DETECT MODE
: It is useful with external IR illuminator set on Auto. Select CDS sensor ON/OFF to detect the illuminance state more effectively.

DETECT MODE **BRT → CDS → ALL**

☞ *caution*
BRT means shooting scene brightness, CDS sensor's operation depends on circumstantial brightness. Select to match with installation circumstance.

④ Turnover LEVEL from DAY TO NIGHT
: Set the LEVEL to turnover from Day to Night.

D→N LEVEL **1 → 2 → 3**

⑤ Turnover LEVEL from NIGHT TO DAY
: Set the LEVEL to turnover from Night to Day.

N→D LEVEL **3 → 4 → 5**

⑥ Color on Nightshot Mode
: Set Color Mode on Night Mode.

NIGHT COLOR **B/W → COLOR**

5.11 Camera ID SET

① ID SET
: Camera ID identifies each assigned Camera when many cameras are under control. It ranges from 0 to 255, however 0 is not displayed on screen. It is always displayed even though whole Operating OSD is disappeared from the screen. Still, it is possible to make non display and to choose display position (BOTTOM RIGHT, TOP RIGHT, TOP LEFT) by RS-232C communication.
CAMERA ID **0 ~ 255**

☞ *caution*
1. In case of Camera ID FIX model, it cannot be selected..
2. ID is not changed by MENU control through communication.

② DISPLAY MODE
: Choose which is to display Camera ID or Title.

DISPLAY **CAM ID → TITLE**

③ DISPLAY POSITION
: Choose Camera ID or Title to display ON/OFF.

POSITION **OFF → ON**

④ Title
: It is the name of Camera. It enters 10 characters including space.

TITLE: ■■■■■■■■■■

▣ *How to Enter the Title* ▣

Let's enter the Title as "R1", example

-. Select the position of title character by using Near or Far key. The chosen position is blinking.
(Only chosen Cursor will be blink as "■", rest of them will be shown as a blank " ".)

TITLE: □

-. *Select the character "R" among ⓐ ~ ⓓ by using UP,DOWN, (+),(-) key. The chosen character "R" is blinking.*

ABCDEFGHIJKLMNOPQRST
UVWXYZabcdefghijklmn
opqrstuvwxyz12345678
9!?#$%&<>*,.:;/+-=~■

-. *Press MENU key, the character "R" is entered in the Title.*
(Automatically the position will be forward to next position.)

TITLE: R □

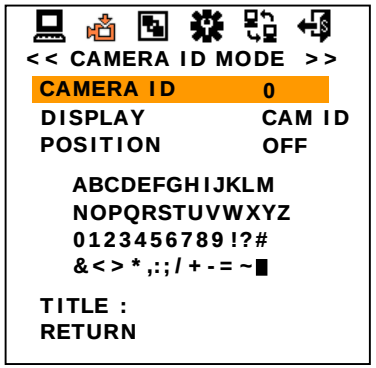
-. If you want to edit specified character, you shall use TELE/Wide to move on the position and NEAR/FAR to select on the character. By using TELE/WIDE to position the character to continue to edit.

-. Select character "1" using TELE, WIDE, NEAR, FAR button and it will blink the cursor on the character "1"

ABCDEFGHIJKLMNOPQRST
UVWXYZabcdefghijklmn
opqrstuvwxyz12345678
9!?#$%&<>*,.:;/+-=~■

-. Push MENU to enter the character "1".

TITLE: R 1 □

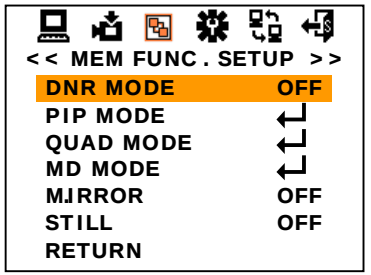


<Fig5-19. CAMERA ID setting >

5.11 MEMORY FUNTION

① DNR MODE
: **Image noise can be reduced by using the DNR function. The intensity of the Noise Reduction filter can be selected High or Low.**

DNR MODE OFF → LOW →HIGH



<Fig5-20. DNR MODE >

5.2 PIP MODE

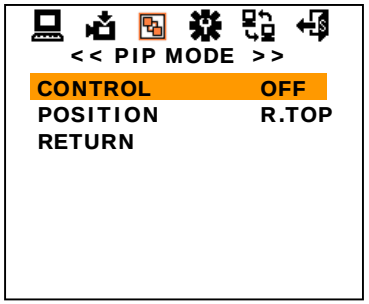
: PIP (Picture-in-Picture) works when Digital zoom is working. After you make CONTROL "ON" and exit OSD menu, if you push LEFT, RIGHT buttons then digital zoom will work and you can get PIP on the screen.

① Control of PIP
: This function makes PIP On/Off .

CONTROL OFF → ON

② Position of PIP
: PIP display can have a position of Right-Top, Right-Bottom, Left-Top, Left-Bottom.

POSITION R.BOTTOM → ... → L.TOP



<Fig5-21. PIP MODE >

5.2 QUAD MODE

: QUAD Mode supports 4 split screen display. There are two working mode of "manual push" or "sequence switching" for split screen change.

① Display mode
: It makes QUAD mode ON/OFF. If it is selected as LIVE, normal video will be displayed, and if it is selected as QUAD, screen will be split.

DISPLAY LIVE → QUAD

② Video Capture
: When DISPLAY is set as QUAD, if you push MENU button then still image will be displayed at each split screen with clockwise direction.

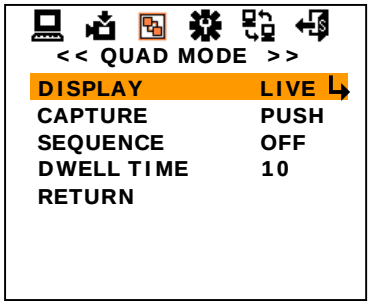
CAPTURE PUSH

③ Sequence
: If SEQUENCE is set as "ON" then each split screen will display still image, and still image will be changed by time interval decided at dwell time.

SEQUENCE OFF → ON

④ Switching time
: When SEQUENCE is set as "ON", still image's refresh time can be decided by this DWELL TIME value (sec)

DWELL TIME 10 → 11 → .... → 100



<Fig5-22. QUAD MODE >

5.12 MD MODE

:Supports Motion detection and 64 areas can be selectable.

① Mode : User can decide whether you will use motion detection function or not

MODE OFF → ON

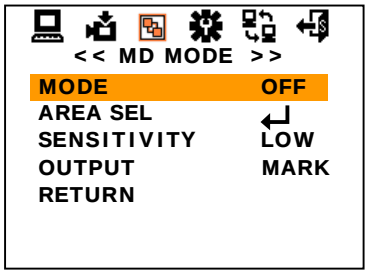
② Motion area
: User can configure motion detection area. Area selection method is same to BMB area selection

③ **Sensitivity**
: **User can decide sensitivity of motion detection.**

SENSITIVITY **LOW → MID → HIGH**

④ **Output of motion detection**
: Motion detection has two output method. One is marking on screen " " icon, and the other is MD signal.

OUTPUT **MARK → ALRAM**



<Fig5-23. MD MODE >

⑤ Mirror Mode
: Mode set makes Mirrored image.

MIRROR **OFF → H MIRROR → V MIRROR → FLIP**

⑥ STILL
: It pause current image. ON is to stop, OFF is to return to normal state.

STILL **OFF → ON**

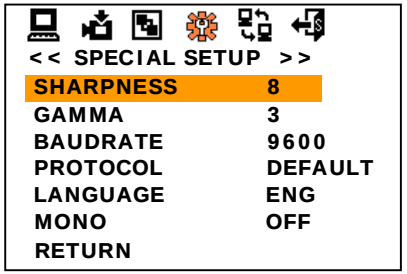
5.3 SPECIAL SETUP

① Sharpness
: Use to change the contour of Scene.

SHARPNESS **0 ~ 15**

② Gamma
: **Gamma is controllable**

GAMMA **0.36 → 0.38 → ... → USER**



<Fig5-24. SPECIAL SETUP >

③ **BAUD RATE**
: Use to communicate through RS232C, RS485, RS232TTL .

BAUDRATE **2400 → 4800 → .... → 57600**

☞ ***caution***
1. If the Baud Rate does not match between Camera and external system, it may occur the communication failure. Please make sure a proper Baud Rate.

④ **PROTOCOL Setting**
: Setting the PROTOCOL with communication device.

PROTOCOL **DEFAULT → VCL → KD6 → PELCO**

⑤ **OSD language**

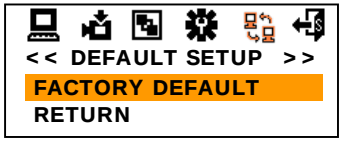
LANGUAGE **ENG → 한국어 →日本語 → 簡體中文 → 繁體中文**

⑥ Color Mode
: Use for changing color and monochrome (black & white)mode . OFF is Color mode, ON is black&white mode.

MONO **OFF → ON**

5.5 FACTORY DEFAULT

: At main menu, select icon, and press MENU button. If you press "Factory default", all data will be returned factory default values

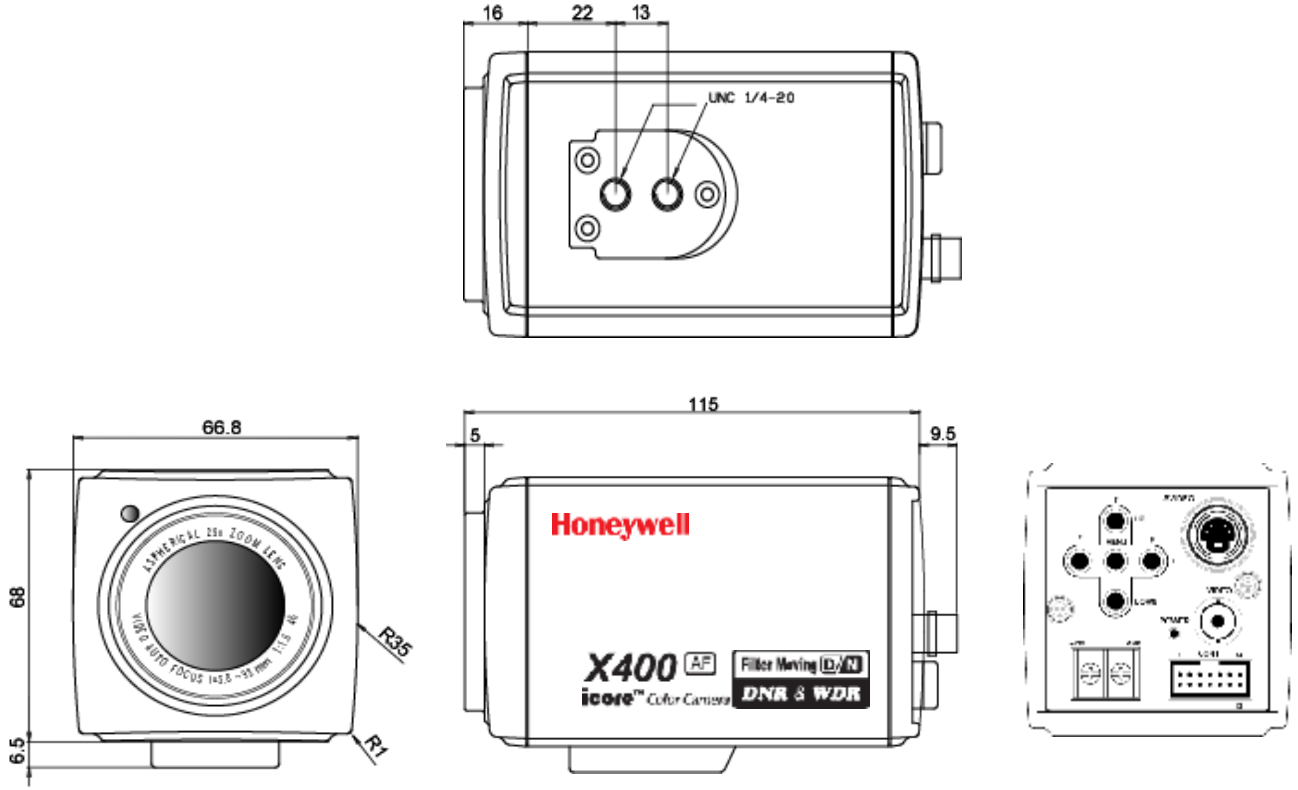


<Fig5-25. DEFAULT SETUP >

6. Specification

Model Name	HZC-252N	HZC-252P
Pick up Device	1/4" Sony Super HAD CCD	
Total/Effective Pixels	410,000 / 380,000	470,000/440,000
Scanning System	2:1 Interlace	
Lens	Optical x25, f = 3.8~95mm, F1.6(WIDE) ~ F3.7(TELE)	
Digital Zoom Ratio	x26 ~ x400 can be adjustable	
Sync. System	Internal	
H. Resolution	More than 520 TV Lines	More than 520 TV Lines
S/N Ratio	More than 50 dB (AGC OFF)	
Min. illuminance	0.5 lx (50IRE) ; 0.05 lx (IR FILTER OFF) ; 0.001 lx (512 fields) ; 0.0001 lx (512 fields, IR FILTER OFF)	
Focus Mode	Auto / Manual / Oneshot	
Brightness	0 ~ 100 adjustable	
Shutter Speed	1/60(50) ~ 1/100,000	
Field Integration	x1 ~ x512 adjustable	
Mirror	Horizontal Mirror / Vertical Mirror / FLIP(Horizontal Mirror + Vertical Mirror)	
Day & Night Mode	AUTO / ON / OFF (CDS Sensor ON/OFF)	
Privacy Zone	ON (Max 8 area) / OFF	
AGC	ON (8 ~ 36dB) / OFF	
White Balance	AUTO(ATW, AWC) / AWC-LOCK / Indoor / Outdoor / Manual	
BLC (BMB/WDR)	OFF / BLC / ABLC / WDR / BMB	
Remote Control	HZC-252N,HZC-252P: RS-232C / HZC-252N-VR,HZC-252P-VR: RS-422 (RS-485)	
Power Supply/Consump.	DC 9V ~ DC 14V (Motor Activate 3.5 W , Motor Stop 2.5 W)	
Operation/Storage Temp.	-10 ~ 60 ℃(Recommended -5 ~ 50 ℃) / -20 ~ 60 ℃	
Dimension / Weight	66.8 x 68 x 115 (mm) / 440g	

7. Dimensions



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