

Public View Monitor

USER'S GUIDE

MLM20/26W-WDR

A D V A N C E D D I S P L A Y

PVM 20

PVM 26

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CAUTION



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.



The lightning flash with 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 electric shock.



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

WARNING: To reduce the risk of fire or electric shock hazard, do not expose this appliance to rain or moisture.



DISPOSAL OF USED ELECTRICAL & ELECTRONIC EQUIPMENT

The meaning of the symbol on the product, its accessory or packaging indicates that this product shall not be treated as household waste. Please, dispose of this equipment at your applicable collection point for the recycling of electrical & electronic equipments waste. In the European Union and Other European countries which there are separate collection systems for used electrical and electronic product. By ensuring the correct disposal of this product, you will help prevent potentially hazardous to the environment and to human health, which could otherwise be caused by unsuitable waste handling of this product. The recycling of materials will help conserve natural resources. Please do not therefore dispose of your old electrical and electronic equipment with your household waste. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

SAFETY PRECAUTIONS

1. Cleaning

Unplug the Public view monitor from the AC power outlet before cleaning. Do not use liquid cleaner or aerosol cleaner. Use a soft and damp cloth for cleaning.



2. Attachments

Do not use attachments not recommended by the Public view monitor equipment manufacturer as they may result in the risk of fire, electronic shock or other injury.



3. Water and Moisture

Do not place the Public view monitor near water, for example:- near a bathtub, kitchen sink, laundry tub, in a wet basement or near a swimming pool, or the like.

4. Heat

Keep the Public view monitor away from heat sources such as radiator, heater, stoves and other heat-generating products.



5. Setting

Do not place the Public view monitor on an unstable platform, for example:- a stand or table. Placing the Public view monitor on an unstable base can cause the Public view monitor to fall resulting in personal injuries as well as damage to the Public view monitor. Use only a platform recommended by the manufacturer.



6. Wall or Ceiling Mount

When mounting the product on a wall or ceiling be sure to install the product using the designated mounting tools according to the method recommended by the manufacturer.



7. Power

The Public view monitor should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home consult your monitor dealer or local power company.



8. Pixels

The Public view monitor panel is a high technology product with thousands of thin film transistors which give you super-fine picture detail. Occasionally a few non-active pixels may appear on the screen as a fixed point of blue, green or red. Please note that this does not affect the performance of your product and can be very difficult to even see.

9. Moving

When moving the product place your fingers of one hand in the socket on the back of the Public view monitor and support the front of the Public view monitor with the other hand. Please make sure no pressure is applied to the screen itself as it can and will damage the sensitive LCD/LED pixels within the screen.

SAFETY PRECAUTIONS

The PVM is manufactured to meet international safety standards. Read the following safety precautions to avoid injury and prevent damage to the PVM or any products connected to it.

1. Use a correct power source. Do not connect this product to a power source that supplies more than the specified voltage (DC24V), as this will cause damage to the unit.
2. Never insert anything metallic into the PVM as this can cause electric shock.
3. Do not operate in wet & dusty conditions. Keep product surfaces clean and dry. Avoid placing the PVM in areas like a damp basement or a dusty hallway.
4. Do not expose this product to rain or use near water. If the product gets wet, unplug it and contact an authorized dealer immediately.
5. To clean the outside case of the PVM, use a lightly dampened cloth (no solvents).
6. Do not operate if you suspected to unit is faulty. If there are any unusual sounds or smells coming from the PVM, immediately unplug it and contact an authorized dealer or service centre.
7. Do not attempt to remove the top cover.
8. Warning: Removing the PVM's cover can cause an electrical shock.
9. Handle PVM carefully to avoid damaging the product. Dropping your PVM on any hard surface may cause the unit to malfunction. If the PVM does not work properly due to physical damage, contact an authorized dealer for repair or exchange.
10. The unit has a lithium battery preinstalled.
The standard lithium cell 3V battery located on the motherboard should be replaced if the time clock does not hold its time after the power is turned off.

Warning:

Unplug the PVM before replacing battery or you may be subjected to severe electrical shock. Properly dispose of old batteries.

Caution:

Risk of explosion if battery is replaced by an incorrect type. Do not discard lithium batteries into the trash can or into fire. Dispose in accordance with local waste regulations.

Information to user

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

PRODUCT FEATURES

- The convenient and user-friendly on-screen display allows for easy and accurate adjustments of screen size, position and screen color.
- The PVM complies with the VESA Display Data Channel (DDC) specification for Plug and Play compatibility. Advanced microcircuitry makes setup and configuration fast and effortless.
- The PVM features Advanced Color Controls for fine-tuning to meet your own personal tastes or application requirements. Use the on-screen controls to adjust the color temperature, RGB gain value for the best possible screen color and intensity.
- The PVM can connected to various types of video devices with supporting video input signals like composite video(CVBS), VGA
- The PVM has a built-in camera is capable of the anti-theft feature.
- The PVM has a built-in MMP and promotional videos or messages can be represented.(Optional)
- Use media player to play, edit, link and embed a variety of multimedia files including video, audio and animation files. (Optional)

IMPORTANT SAFEGUARDS

Location

Heat, Moisture, Dust, Vibration Position your Public view monitor so that bright light or sunlight doesn't fall directly onto the screen. Care should be taken not to expose the set to any unnecessary vibration, moisture, dust or heat. Do not expose the set to dripping or splashing.

Ventilation

Also ensure that the set is placed in a position to allow a free flow of air.
Do not cover the ventilation openings on the back cover.
Leave at least 10 cm around each side of the monitor set.

Mounting

This set can be positioned by using the table top stand or wall mounting bracket.
When you install the set using the wall mounting bracket, fix it carefully so it is secure.

Object Entry

Do not insert foreign objects, such as needles and coins, into the ventilation openings.

Lightning Strikes

You should disconnect your set from the mains and the aerial system during thunderstorms.

Cleaning

Unplug the set from the mains before cleaning.
Dust the set by wiping the LCD/LED screen and the cabinet with a soft, clean cloth.
If the screen requires additional cleaning, use a clean, damp cloth.
Do not use liquid cleaners or aerosol cleaners.
Do not rub or strike the LCD/LED with anything hard as this may scratch or damage the LCD/LED permanently.

Service

Never remove the back cover of the set as this can expose you to high voltage and other hazards.
If the set does not operate properly,unplug it and call your dealer.

IMPORTANT SAFEGUARDS

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

NOTE : This equipment has been tested and found to comply with the 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 in a commercial installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or TV technician for help.

CAUTION : Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADIAN NOTICE

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS CANADIEN

Cet appareil numérique de la Class A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

INTRODUCTION

This manual explains how to correctly install, operate and get the best performance from your PVM. Please read this Installation Manual carefully before installing your PVM, then keep it near your PVM for quick reference.

First, please check that the contents of the box corresponds with the following checklist :

- PVM
- Power Cord
- User`s guide
- DC Adapter
- Remote Controller
- SD Card(Optional)

If any item is missing or damaged, please contact your distributor
Please keep the box and packing materials so that you may properly store or transport your PVM.

REMOTE CONTROL

R1 POWER

- Turns the set on from stand-by or off to Stand-by mode.

R2 INPUT SOURCE

- Select the signal source from the multiple input sources.

R3 MUTE

- Turns the sound on and off (Optional)

R4 NUMBER Button

- Not used.

R5 LAST CH

- Not used.

R6 INFO

- Information display.

R7 PICT MODE

- Select the picture mode.

R8 SLEEP

- Sets the sleep timer.

R9 MENU

- Display a main menu.

R10 EXIT

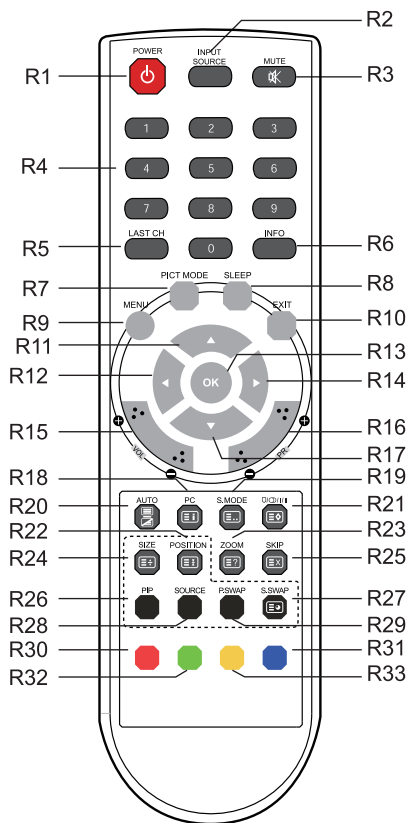
- Turns the OSD window off and moves from sub Menu to top menu in the OSD window.

R11 / R17 UP/DOWN ▲ / ▼ Button

- Press UP/DOWN button to get into Fuction menu.

R12 / R14 LEFT/RIGHT ◀ / ▶ Button

- Press LEFT/RIGHT Button to adjust the volume.(Optional)



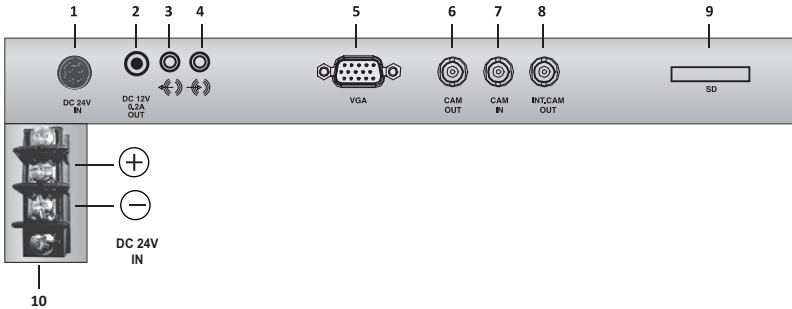
R13 OK	R23 ZOOM
· Select menu items.	· Select the Screen format (CAM/HDMI mode only)
R15 VOL +/-	R24 SIZE
· Adjust the sound level (Optional)	· Select the size of PIP display. (Optional)
R16 PR +/-	R25 SKIP
· Not used.	· Not used.
R18 PC	R26 PIP
· Select the VGA mode directly	· Activate or cancel the PIP function. (Optional)
R19 S MODE	R27 S. SWAP
· Choose different preset sound mode or your own customized sound. (Optional)	· Change the sound source of the main or sub display.(Optional)
R20 AUTO	R28 SOURCE
· Choose automatically the proper horizontal Position and vertical position & size of the screen image. (VGA MODE ONLY)	· Select the signal source of the sub display. (Optional)
R21 □/○/□/□	R29 P. SWAP
· Not used.	· Change the picture of the main or sub display. (Optional)
R22 POSITION	R30, R31,R32,R33
· Select the position of PIP display. (Optional)	· Not used.

Inserting batteries into the Remote Control unit

To load the batteries turn the remote control handset over and open the battery compartment. Insert the batteries (2x 1.5v type R03 or AAA). Make sure that the polarity matches with the (+) and (-) marks inside of the battery compartment.

Note : To avoid damage from possible battery leakage, remove the batteries if you do not plan to use the remote control handset for an extended period of time.

SETUP

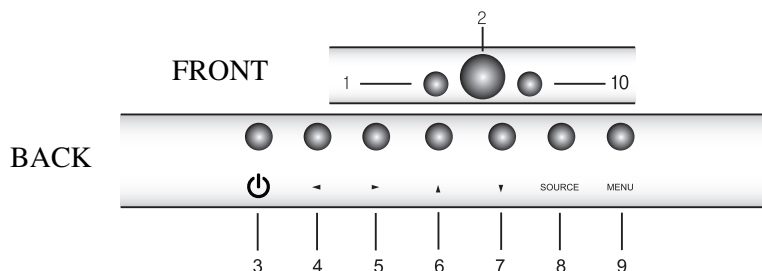


1. DC 24V IN(4pin Din Jack)
2. DC 12V/0.2A OUT
3. HEAD PHONE OUTPUT
4. PC STEREO INPUT
5. VGA
RGB signal Input
6. CAM OUT
External Camera Output
7. CAM IN
External Camera Input
8. INT.CAM OUT
Internal Camera Output
9. SD
SD Card slot with media file(Optional)
10. DC 24V IN
Screw Terminal (+/-)

CAUTION

Be careful with the polarity

OPERATION & ADJUSTMENT



1 LIGHT SENSOR

Screen brightness according to ambient brightness is controlled automatically.

2 IR SENSOR

Receives signal from the remote controller.

3 POWER Switch

Switches the PVM on and off.

4 ◀ (*)

Primary Function: Used to DECREASE the volume.
Secondary Function: Moves cursor to the left in the OSD window and decreases the value of any selected menu.

5 ▶ (*)

Primary Function : Used to INCREASE the volume.
Secondary Function: Moves cursor to the right in the OSD window and increases the value of any selected menu.

6 ▲ (*)

Primary Function : Choose automatically the proper horizontal position and vertical position & size of the screen image.(VGA MODE ONLY)
Secondary Function : Allows for Vertical scrolling in the OSD Menu, and to INCREASE the value of the selected menu.

7 ▼

Allows for Vertical scrolling in the OSD Menu, and to DECREASE the value of the selected sub menu function.

8 SOURCE (*)

Used to select from different input sources. Press the UP or DOWN arrow to scroll through the available sources, and press LEFT or RIGHT arrow to confirm selection.

9 MENU

Turns the OSD window on.
Turns the OSD (On-Screen Display) window off and moves from sub menu to top menu in the OSD window.

10 Flashing LED

Designed to attract attention to the PVM.
Can be turned on or off through the OSD function.

◆ KEY PROCESS

- ① To select OSD press the MENU button.
- ② Use LEFT-RIGHT button to select the menu.
- ③ Use DOWN button to select the sub menus.
- ④ Press SOURCE button, then using LEFT-RIGHT buttons you can make adjustments as necessary
- ⑤ To press MENU button, Turns the OSD (On-Screen Display) window off and moves from sub menu to top menu in the OSD window.

◆ HOT KEY

SOURCE

- Selects signal in order.
VGA-CAM-INT.CAM-MM.PLAYER
or VGA-CAM-INT.CAM



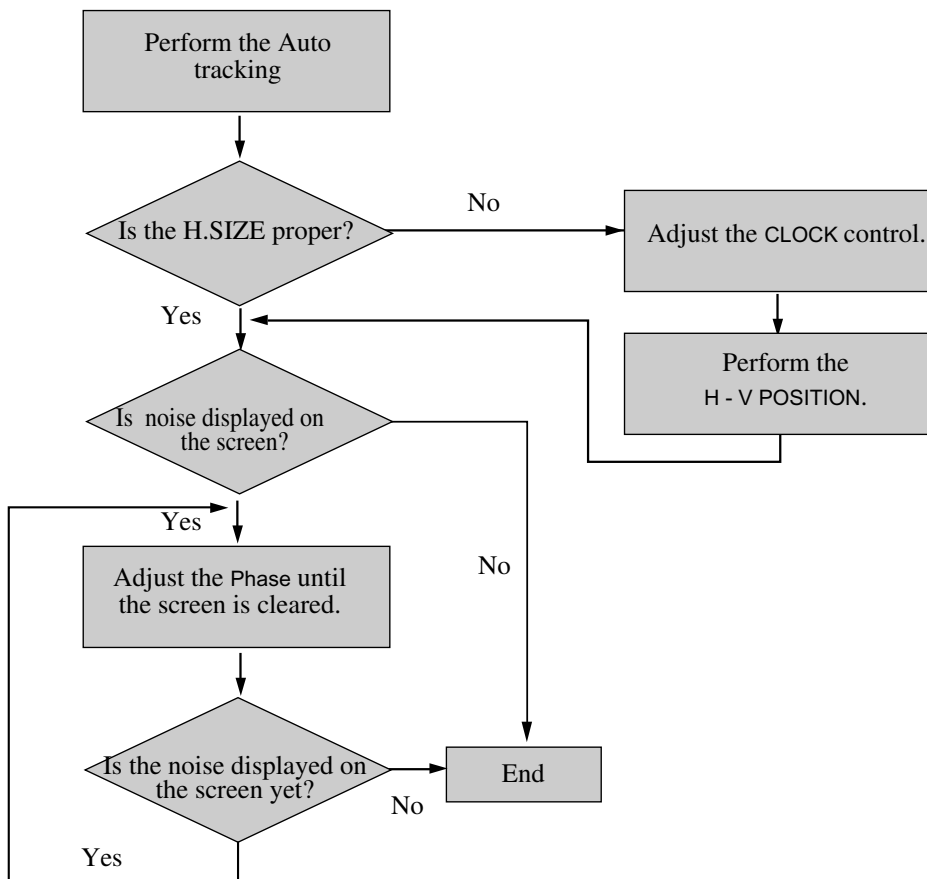
- When there is no OSD, if you press this ▲ (AUTO/UP) button, you can use the best displayperformance fit for a current mode. (VGA MODE ONLY)



- When there is no OSD, you can adjust the volume directly.

◆ ADJUSTMENT PROCEDURE

< VGA Mode >

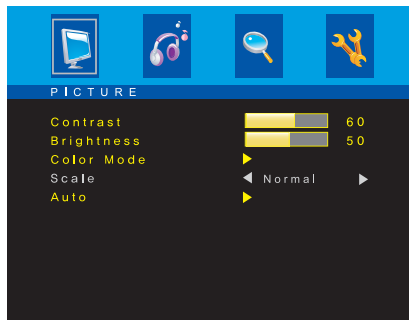


OSD FUNCTION

◆ VGA Mode OSD Menu

PICTURE

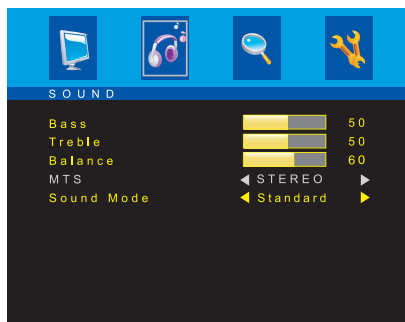
1. Contrast
Adjust the contrast of image, the difference between light and dark areas on the screen.
2. Brightness
Adjust the brightness of image.
3. Color Mode
Choose different preset color temperatures or set your own customized color parameters.
(Normal/Warm/Cool/User)
4. Scale
Select the full when the VGA screen and the normal when CAM screen. (HDMI mode only)
5. Auto
Choose automatically the proper horizontal Position and vertical position & size of the screen image.



SOUND

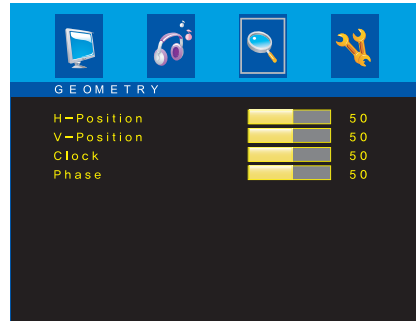
This feature is enabled in the MMP Model.

1. Bass
When you select the user mode, adjust the bass sound.
2. Treble
When you select the user mode, adjust the treble sound.
3. Balance
Adjust the sound balance of the left and right speakers.
4. MTS
This function is currently unavailable for this model.
5. Sound Mode
Choose different preset sound mode or your own customized sound.(Standard/Movie/Music/User)



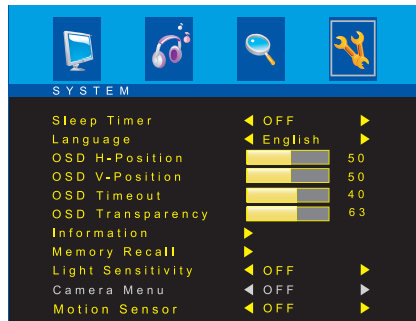
GEOMETRY

1. H-Position
Adjust the position of the display horizontally (left or right).
2. V-Position
Adjust the position of the display vertically (up or down).
3. Clock
Adjust the width (horizontal size) of the Screen image.
4. Phase
Remove any horizontal noise and clear or sharpen the image of characters.



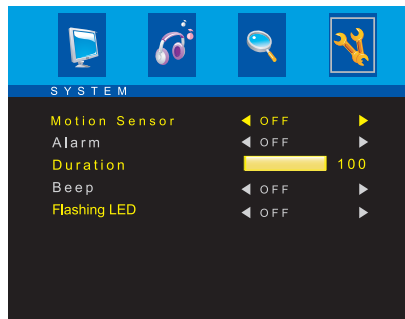
SYSTEM

1. Sleep Timer
Select time to turn off the PVM.
(Off/15/30/45/60 Minutes)
2. Language
Select language for OSD.
3. OSD H-Position
Adjust the OSD position of the display horizontally (left or right).
4. OSD V-Position
Adjust the OSD position of the display vertically (up or down).
5. OSD Timeout
Adjust the display OSD Menu.
(5~60 Second)
6. OSD Transparency
Adjust the OSD Transparency.
7. Information
Display horizontally and vertically frequency of PVM.
8. Memory Recall
Reset the screen to the Factory Preset Display Settings.
9. Light Sensitivity
If the sensed light level is below the set level, the PVM is turned off.
Choose range from "LOW" (for darker environments) and "MIDDLE" (for normal environments) upto "HIGH" (for brighter environments). Default is "OFF".
10. Camera Menu
This function is currently unavailable for this mode.
11. Motion Sensor
Select Motion Sensor menu items (ON/OFF)



SYSTEM

1. Motion Sensor
Select motion sensor menu items (ON/OFF)
2. Alarm
This function is currently unavaible for this model.
3. Duration
Adjust the duration
4. Beep
This function is currently unavaible for this model.
5. Flashing LED
Select the flashing LED (ON/OFF)



◆ CAMERA MODE OSD MENU

PICTURE

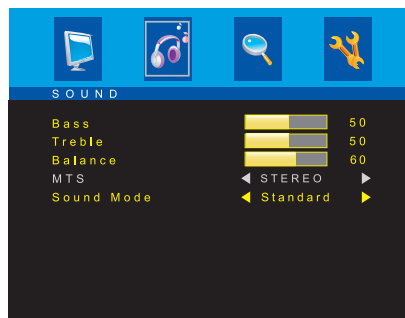
1. Contrast
Adjust the contrast of image, the difference between light and dark areas on the screen.
2. Brightness
Adjust the brightness of image.
3. Tint
Adjust the Tint of image.
4. Color
Adjust color of image.
5. Sharpness
Adjust the display image quality (if the screen proceed to scaling up).
6. Color Tone
Choose different preset color temperatures or set your own customized color parameters. (Normal/Warm/Cool)
7. Picture Mode
Select the picture mode. (Standard/Movie/Dynamic/User)
8. Screen Format
Select the aspect ratio. (Full/Zoom1/Zoom2/Subtitle/4:3/Panorama)



SOUND

This feature is enabled in the MMP

1. Bass
When you select the user mode, adjust the bass sound.
2. Treble
When you select the user mode, adjust the treble sound.
3. Balance
Adjust the sound balance of the left and right speakers.
4. MTS
This function is currently unavailable for this model.
5. Sound Mode
Choose different preset sound mode or your own customized sound. (Standard/Movie/Music/User)



FUNCTION

1. 3D NR.

Reduce the noise in the picture due to poor reception or poor picture quality.

(OFF/LOW/MIDDLE/HIGH)

2. MADi

Generation advanced color engine automatic picture enhancement gives.

(2D/3D)

3. H-Size

Adjust the width (horizontal size) of the Screen image.

4. V-Size

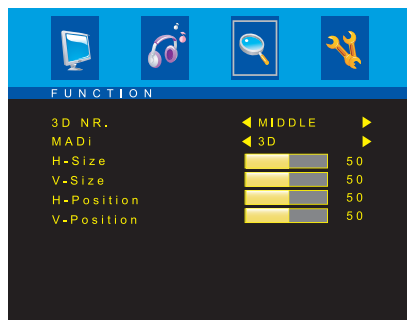
Adjust the height (vertical size) of the Screen image.

5. H-Position

Adjust the position of the display horizontally (left or right).

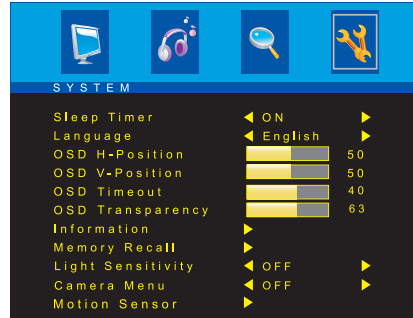
6. V-Position

Adjust the position of the display vertically (up or down)

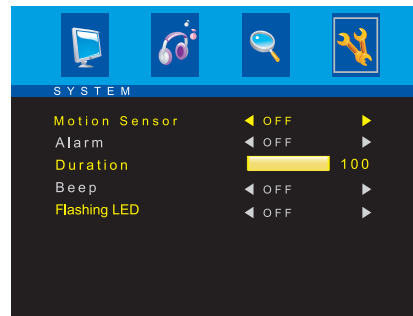


SYSTEM

1. Sleep Timer
Select time to turn off the PVM.
(Off/15/30/45/60 Minutes)
2. Language
Select language for OSD.
3. OSD H-Position
Adjust the OSD position of the display horizontally (left or right).
4. OSD V-Position
Adjust the OSD position of the display vertically (up or down).
5. OSD Timeout
Adjust the display OSD Menu.
(5~60 Second)
6. OSD Transparency
Adjust the OSD. Transparency
7. Information
Shows the status of the current Display settings.
8. Memory Recall
Reset the screen to the Factory Preset Display Settings.
9. Light Sensitivity
If the sensed light level is below the set level, the PVM is turned off.
Choose range from "LOW" (for darker environments) and "MIDDLE" (for normal environments) upto "HIGH" (for brighter environments).
10. Camera Menu
Select camera menu items. When the INT.CAM. input mode, Choose "ON" mode, display a menu for camera. Adjust using control buttons.
11. Motion Sensor
Select Motion Sensor menu items.
(ON/OFF)



1. Motion Sensor
Select motion sensor menu items (ON/OFF)
2. Alarm
This function is currently unavailable for this model.
3. Duration
Adjust the duration
4. Beep
This function is currently unavailable for this model.
5. Flashing LED
Select the flashing LED (ON/OFF)



◆ SELF DIAGNOSIS

If there is no image, the Self Diagnosis screen will be displayed.
Self Diagnosis function checks if the status of the PVM screen is
No Signal, Out of range.

NO SIGNAL

No Signal screen is displayed when the
VGA signal connector is connected but the
status of the PVM is on DPMS mode.

OUT OF RANGE

Out of Range screen is displayed when the
applied frequency is under or over normal
range.

- Normal range
(Non-interlaced mode only)
H : 30 - 80 KHz
V : 56 - 76 Hz

ANALOG CHECK CABLE

Check cable screen is displayed when the
Analog signal cable is disconnected.

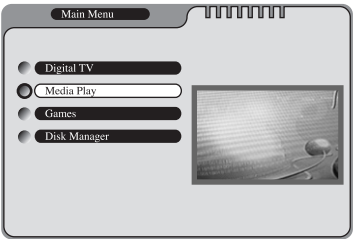
MULTI MEDIA PLAYER(Optional)

1. Specification

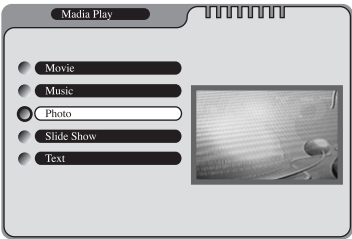
Video Decoding	MPEG-1, MPEG-2 MP@ML MPEG-4 D1 Resolutio"
Audio Decoding	MPEG-1/2 Layer I,II&III WMA
Picture Decoding	JPEG Rendering
SD CARD	YES

2. Opration method

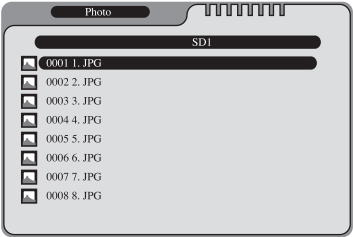
① Select the Media Play



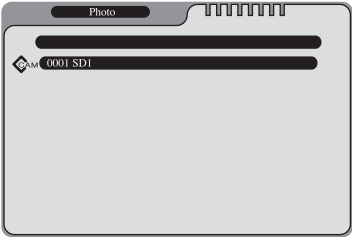
② Select the Photo



④ Select the JPG. Files



③ Select the SD Card



Features (CAMERA)

■ Features (CAMERA)

High Resolution Color for Crisp, Clear Video

- Progressive image capture
- 690TVL Effective

Motion Detection

Since the camera detects motion without any additional external sensor, you can monitor activity more efficient.

Wide Dynamic Range (WDR)

The camera delivers clear high quality pictures, even when backlit, by increasing exposure in dark areas while decreasing it in bright areas; a corrected image with clear details results.

- 120dB maximum dynamic range

Programmable GAMMA Processing

RS-485 Communication Control Support (optional)

Remote OSD menu control via an RS-485 interface is supported.

DNR (Digital Noise Reduction)

The amount of low illuminance noise has been significantly reduced, and the signal-to-noise ratio (S/N ratio) as well as horizontal resolution, have been improved resulting in a clear and sharp image even in low light.

Controlled by OSD Menu

The camera can be controlled by selecting text displayed on the monitor screen.

Day & Night

The camera identifies whether it is day or night and automatically switches to the appropriate mode, depending on its environment. By day, the camera switches to color mode in order to maintain optimal color. At night, it switches to B/W mode so as to obtain better picture definition.

Additional Functions

SYNC (INT/LL), SENS-UP, FREEZE, FLIP (H/V-REV), D-ZOOM, SHARPNESS and PRIVACY functions are provided.

High Sensitivity for low-light images

The built-in high sensitivity PIXIM SEAWOLF Sensor enables a clear image even at 0.1Lux

3 Axis built-in 100mm Dome Housing

■ How to Use the Camera

■ Menu

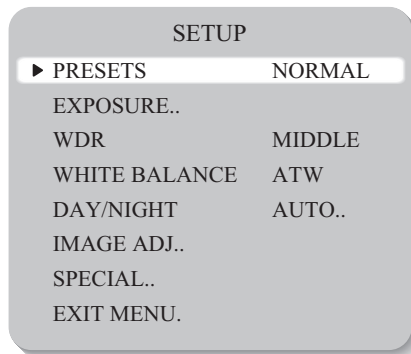
SETUP menu			
PRESETS	· NORMAL	· INDOOR	· OUTDOOR
EXPOSURE	· LENS · EXPOSURE MODE · DNR · COLOR ROLL	· FOCUS · AGC · HIGHLIGHT · SENS-UP	
WDR	· MIDDLE · LOW	· HIGH	· USER
WHITE BALANCE	· ATW · AWB	· INDOOR · MANUAL	· OUTDOOR
DAY/NIGHT	· AUTO	· COLOR	· BW
IMAGE ADJ.	· FREEZE · COLOR GAIN	· FLIP · GAMMA	· SHARPNESS
SPECIAL	· CAMERA ID · MOTION · RS485 SETUP	· VIDEO OUT · PRIVACY SETUP · RESET	· DZOOM · SYNC · RETURN
EXIT MENU			

■ How to Use the Camera

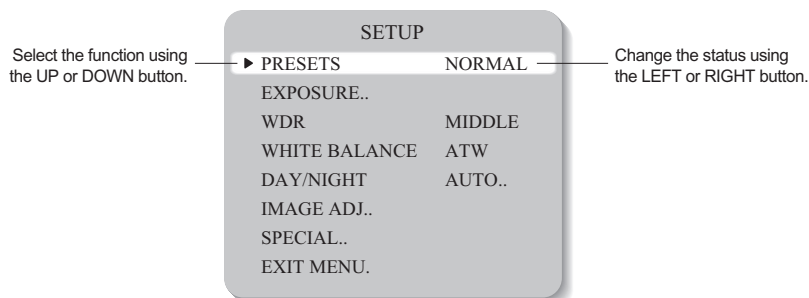
■ Settings

Press the OK button on the remote (Please hold 1 second this button to access the camera menu)

1. The SETUP menu is displayed on the monitor.



2. Select a menu item from the list available by using the UP and DOWN buttons.
 - Functions are selected using up and down buttons.
 - The selected position is displayed in blue.



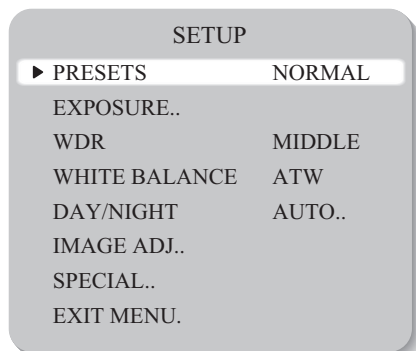
3. Set up a selected item by using the Left and Right buttons.
4. To finish and save the settings, select 'EXIT' and press the SET button.



Note

- An item with the .. icon also has sub-menus. To select a sub-menu, press the SET button.

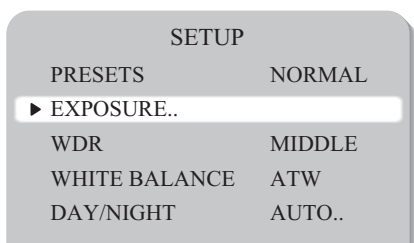
PRESETS



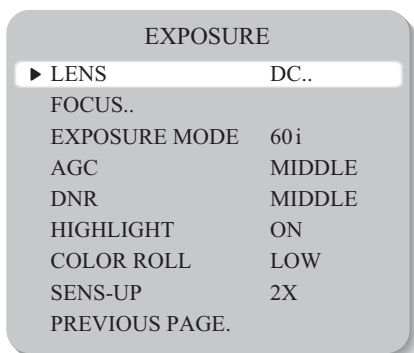
- **NORMAL** : Normal environment.
- **INDOOR** : Indoor environment.
- **OUTDOOR** : Outdoor environment.

■ How to Use the Camera

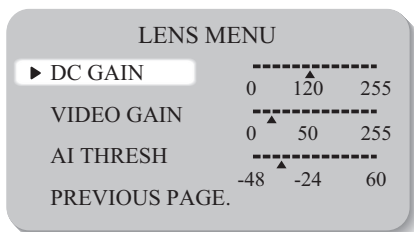
EXPOSURE



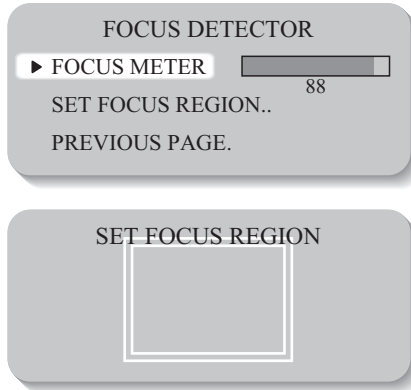
When the SETUP menu screen is displayed, select 'EXPOSURE' by using the Up and Down buttons so that the arrow indicates 'EXPOSURE'.



- **LENS** : Using this function, you can control the screen brightness.
 - DC / Manual : Select Lens Type



-
- **FOCUS** : To adjust the DC and VIDEO lens focus

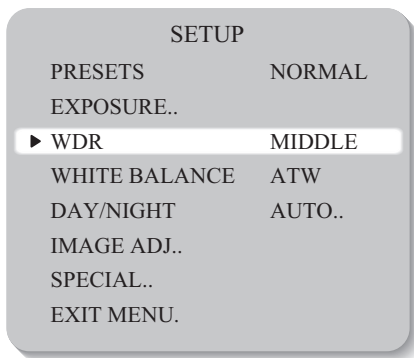


- **EXPOSURE MODE** : To select the number of fields and number of exposure cycles.
 - 60i/30p selectable
- **AGC (AUTO GAIN CONTROL)** : In the dark situation, the higher the gain level, the brighter the screen but the higher the noise.
 - OFF / LOW / MIDDLE / HIGH selectable
- **DNR (Digital Noise Reduction)** : The level of background noise in low light decreases automatically as the level of gain changes.
 - OFF / LOW / MIDDLE / HIGH selectable
- **HIGHLIGHT** : To optimize the scene when high dynamic range lighting is detected.
 - ON : bright parts of the image are most visible.
 - OFF : dark parts of the image are most visible.
- **COLOR ROLL** : To control a detector that finds color fluorescent roll.
 - OFF / LOW / MIDDLE / HIGH selectable

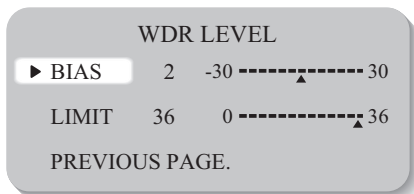
■ How to Use the Camera

- **SENS-UP** : When it is night or dark, the camera automatically detects the light level and maintains a clear picture if this mode is activated.
 - 2X, 4X, 8X, 16X, 32X
 - OFF : Deactivates the SENS-UP function.

WDR



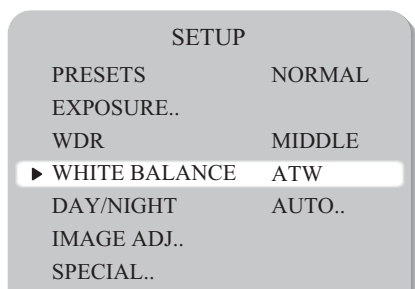
- **WDR** : When the image has simultaneous bright and dark areas, the Wide Dynamic Range makes both areas distinct.
 - LOW / MIDDLE / HIGH / USER selectable



WHITE BALANCE

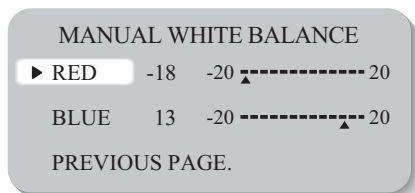
Use the White Balance function to adjust the screen colors.

1. Position the cursor to point to WHITE BAL on the SETUP menu screen, select using the Up and Down buttons.
2. Select the desired mode using the Left and Right buttons.



※ Select one of the following 5 modes, as appropriate.

- **ATW** : The ATW mode continuously monitors.
- **INDOOR** : Select when the color temperature is between 4000°K and 8500°K
- **OUTDOOR** : Select when the color temperature is between 2000°K and 11000°K
- **AWB** : To obtain the optimum state under the current luminance levels, direct the camera to point toward a sheet of white paper and press the SET button. If the environment changes, including the light source, the white balance will require re-adjustment.
- **MANUAL** : Select to "fine-tune" the White Balance manually. Set White Balance first using the ATW or AWB mode. Afterwards switch to MANUAL mode, fine-tune the White Balance and then press the SET button.



■ How to Use the Camera

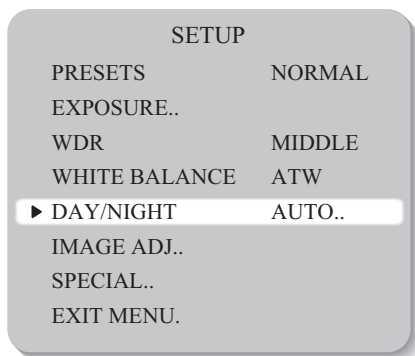


Note

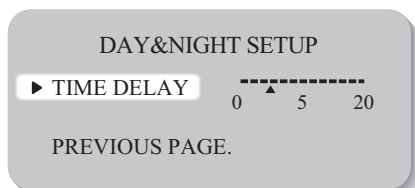
- Under the following conditions White Balance may not work properly. In such cases, select the AWC mode.

- ① When the color temperature of the subject environment has a very high temperature range (e.g. clear sky, or sunset)
- ② When the ambient illumination of the subject is low.
- ③ If the camera is directed toward a fluorescent light, or is installed in a place where illumination changes dramatically, the White Balance operation may become unstable.

DAY/NIGHT



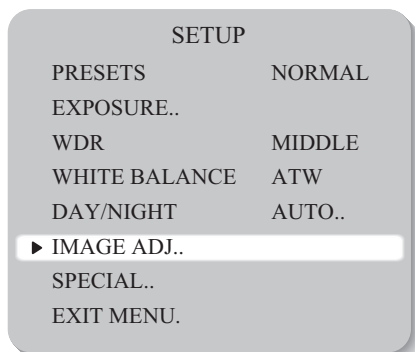
- **AUTO** : This camera has a function which automatically changes to the appropriate mode according to lighting levels. To set up the switching time and switching speed for the AUTO mode press the SET button.



- **COLOR** : The picture is displayed in color.
- **B/W** : The picture is always displayed in black and white.

IMAGE ADJ.

When the SETUP menu screen is displayed, select 'IMAGE ADJ.' using the Up and Down buttons.



■ How to Use the Camera

CAMERA ID	
► ID	CAM-001
POSITION	UP-LEFT
PREVIOUS PAGE.	

- ① Move the cursor to the letter required by using the Set-Up button.
- ② Select an ID from A,B~Y,Z, a,b~y,z, 0,1~8,9 by using the LEFT and RIGHT buttons.
- ③ Repeat the above steps until the ID is complete.

CAMERA ID	
ID	CAM-001
► POSITION	UP-LEFT
PREVIOUS PAGE.	

- ① Select the position where the ID is to be displayed by using the LEFT and RIGHT buttons.

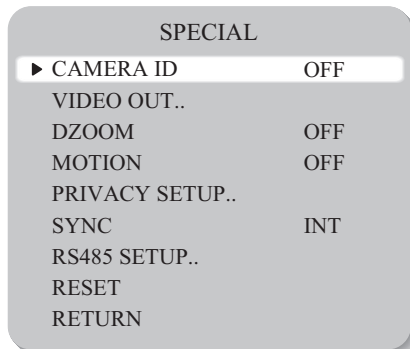
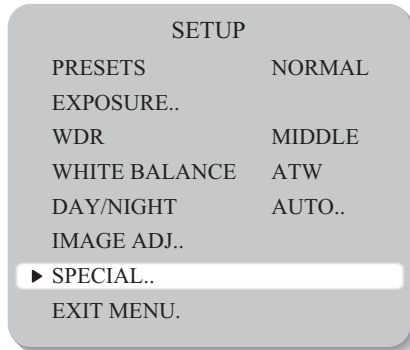
● VIDEO OUT : Move the cursor to select the video system

- VIDEO STANDARD : You can control NTSC / PAL, Video level, Sync level, Burst level.

VIDEO STANDARD	
► VIDEO SELECT	NTSC
VIDEO LEVEL	80 110 150
SYNC LVL 0 -16	15
BURST LVL 0 -16	15
COLOR BAR	OFF
PREVIOUS PAGE..	

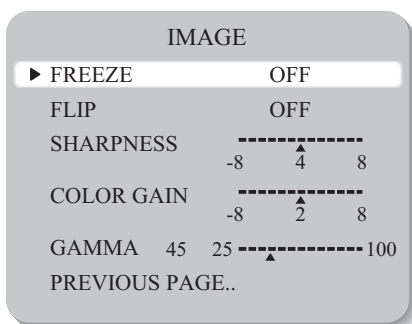
SPECIAL

When the SETUP menu screen is displayed, select 'SPECIAL' by using the Up and Down buttons so that the arrow indicates 'SPECIAL'.

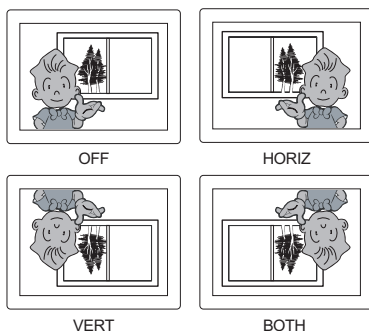


- **CAMERA ID** : User can enter a unique name for the respective camera. The maximum length of the ID is ten characters.
 - You can choose the ON and OFF with the selector. If you select ON, the entered camera ID is displayed at the selected position in the video picture (normal operation).
 - Please select the setup button while in ON mode.
 - Select the desired position with the selector.

■ How to Use the Camera

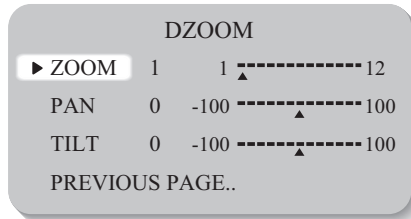


- **FREEZE** : View still pictures.
- OFF / ON selectable
- **FLIP** : OFF / HORIZ / VERT / BOTH selectable

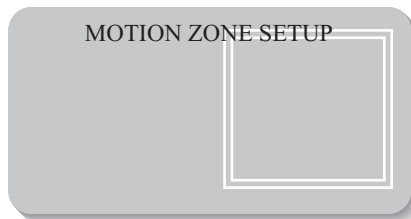
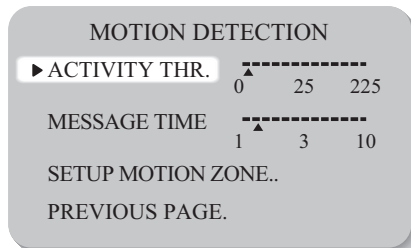


- **SHARPNESS** : The outline of the video image becomes cleaner and more distinctive as the level of SHARPNESS increases. If the level goes up excessively, however, it may affect the video image and generate noise.
- The available range of level is -8 ~ 8
- **COLOR GAIN** : To control the color level in the video.
- The available range of level is -8 ~ 8
- **GAMMA** : Users can change the gamma setting between 25 and 100

- **DZOOM** : Digital P/T/Z are used to create a zoom lens effect.
Zoom Factor (1X to 8X), Pan($\pm 100\%$, center of image can be moved to left and right edges of screen), Tilt($\pm 100\%$, center of image can be moved to top and bottom edges of screen)



- **MOTION** : This product has a feature that allows you to observe movements of objects in on the screen, hence a single individual can conduct supervision efficiently.
The camera detects an object's movement by sensing disparity of outline, and level of brightness and color.



■ How to Use the Camera

- White : MOTION ZONE Position movement
Green : MOTION ZONE Size enlargement
Red : MOTION ZONE Size reduction
- For MOTION ZONE Confirm, long press SET button

- **PRIVACY SETUP** : Hide an area you want to hide on the screen.

PRIVACY MASK SETUP

▶ PRIVACY MASK OFF

MASK COLOR WHITE

PREVIOUS PAGE.

ENABLE MASKS (1 to 6)

▶ MASK 1 ON

MASK 2 OFF

MASK 3 OFF

MASK 4 OFF

MASK 5 OFF

MASK 6 OFF

PREV. NEXT.

ENABLE MASKS (7 to 12)

▶ MASK 7 OFF

MASK 8 OFF

MASK 9 OFF

MASK 10 OFF

MASK 11 OFF

MASK 12 OFF

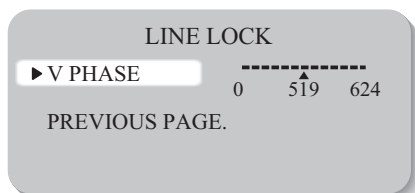
PREV.



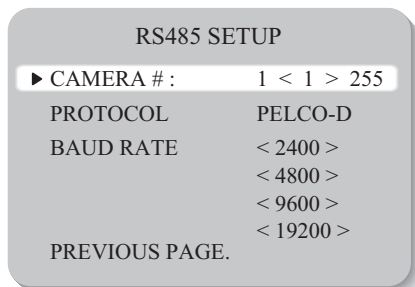
- White : PRIVACY-ZONE
Position movement
- Blue : PRIVACY-ZONE Size
enlargement or reduction
- For PRIVACY-ZONE Confirm,
long press SET button

- **SYNC** : Two synchronization modes are available, INTERNAL and EXTERNAL LINELOCK. In LINE-LOCK mode, it synchronizes the video signal between cameras without a synchronous generator. The line-lock synchronization is only used in areas of 60Hz (NTSC) / 50Hz (PAL).

- INT : Internal synchronization
- LL : External line-lock synchronization
 - If 'LL' is selected, it can be adjusted to the desired phase. Press the SET button.



- Adjust to the desired phase from 0 to 624.
- **RS485 SETUP** : This function sets up the camera communication status when controlling the camera through an external control device.



EXIT MENU.

Saves all the setting menus and then exits.

■ Specifications(Camera)

ITEM	NTSC		PAL	
Power Consumption	AC24V / DC12V	DC12V	AC24V / DC12V	DC12V
	170mA(AC24V)/250mA(DC12V)	160mA	170mA(AC24V)/250mA(DC12V)	160mA
Image Sensor	PIXIM 1/3" High Sensitivity Digital Sensor			
Effective Pixels	758(H) x 540(V)			
Dynamic Range	120dB(Max), 102dB(Typical)			
Horizontal Resolution	690TVL Effective			
Min. Illumination	0.1Lux			
Day & Night	Auto / Color / B/W			
White Balance	Auto / AWB / Indoor / Outdoor / Manual			
WB Range	2000°K~11,000°K			
Shutter Speed	up to 1/30, 720 sec			
Sens-up	Auto / Off (Selectable x2 ~ x32)			
Privacy Masking	12 Zones			
Remote Control	RS-485			
AGC	Low / Auto / High / Off			
Image Flip	Horizontal and Vertical			
Camera ID	On / Off			
S/N Ratio	More than 50dB			
Video Output	Composite video output 75 ohm terminated			
OSD	Built-in			
Sync. System	Internal / Line Lock			
Operating Humidity	30% ~ 90% RH			
Operating Temp.	-10°C to 50°			

SPECIFICATIONS(PVM)

ITEMS		PVM 20"	PVM 22"
PANEL	Screen Size(H/V)	20 inch	22 inch
	Pixel Pitch	0.27675x0.27675mm	0.282x0.282mm
	Viewing Angle(H/V)	170°/160°	170°/160°
	Contrast Ratio	1000:1 (typ)	1000:1 (typ)
	Response Time	5ms	8ms (G-to-G)
	Brightness	250cd/m2 (Typ)	300cd/m2 (Typ)
	Recommend Resolution	1600x900@60Hz	1680x1050@60Hz
AUDIO (Optional)	Speaker Power	3Wx2	3Wx2
	Speakers	Built-IN	Built-IN
	Sound Features	Stereo R/L	Stereo R/L
INTERFACE	VGA IN (15Pin D-Sub)	1	
	Camera In/Out	1/1	
	Internal Camera Out	1	
	PC Stereo In	YES	
	Head Phone Out	YES	
	DC 12V/0.2A Out	1	
MMP (Optional)	Video Decoding	MPEG-1, MPEG-2 MP@ML MPEG-4 D1 Resolution	
	Audeio Decoding	MPEG-1/2 layer I,II&III WMA	
	Picture Decoding	JPEG Rendering	
	SD Card	YES	
WDR CAMERA	Image Sensor	PIXIM 1/3" High Sensitivity Digital Sensor	
	Horizontal Resolution	690TVL Effective	
	Effective Pixels	758(H) x 540(V)	
	Scanning System	2:1 Intelace	
	S/N Ratio	More than 50dB	
	Min Illumination	0.1Lux	
	Shutter Speed	up to 1/30,720sec	
	Video Output	1.0Vp-p, 75Ω	
	Motion Detection	YES	
TRANSMITTER	Remote Control	YES	
POWER	Consumption	< 30W	< 50W
	Source	DC 24V/3.75A	DC 24V/3.75A
SPECIAL FEATURE	Multi Display Function	PIP/POP/PBP (Optional)	PIP/POP/PBP (Optional)
	Filter Type	3D Combfilter Deinterlace	3D Combfilter Deinterlace
DIMENSION	W x H x D (inch)	18.82x15.17x3.83 (478.0x385.4x97.2mm)	20.04x16.50x3.86 (509.0x419.0x98.0mm)
VESA Mount Specifications Hole Pattern	VESA Standard(Inch)	3.94x3.94 and 7.87x3.94 (100x100 and 200x100mm)	3.94x3.94 and 7.87x3.94 (100x100 and 200x100mm)
	Spacing Screw Size	M4 Screw	M4 Screw
	Length	10.0mm	10.0mm
OPERATING EMPEPERATURE		0 ~ 40 °C / 50 ~ 104 °F	

- The specification can be changed without any prior notice to improve the quality of the product.
- The panel may have some defective pixels (ex. slightly light or dark) due to a characteristic of the panel. But there is no defect in your panel product itself.

SPECIFICATION(PVM)

ITEMS		PVM 26"	PVM 32"
PANEL	Screen Size(H/V)	26 inch	32 inch
	Pixel Pitch	0.4215x0.4215mm	0.51075x0.51075mm
	Viewing Angle(H/V)	178°/178°	178°/178°
	Contrast Ratio	4000:1 (typ)	4000:1 (typ)
	Response Time	8ms (G-to-G)	8ms (G-to-G)
	Brightness	400cd/m2 (Typ)	400cd/m2 (Typ)
	Recommend Resolution	1366x768@60Hz	1366x768@60Hz or 1920x1080@60Hz
AUDIO (Optional)	Speaker Power	3Wx2	3Wx2
	Speakers	Built-IN	Built-IN
	Sound Features	Stereo R/L	Stereo R/L
INTERFACE	VGA IN (15Pin D-Sub)	1	
	Camera In/Out	1/1	
	Internal Camera Out	1	
	PC Stereo In	YES	
	Head Phone Out	YES	
	DC 12V/0.2A Out	1	
MMP (Optional)	Video Decoding	MPEG-1, MPEG-2 MP@ML MPEG-4 D1 Resolution	
	Audio Decoding	MPEG-1/2 layer I,II&III WMA	
	Picture Decoding	JPEG Rendering	
	SD Card	YES	
WDR CAMERA	Image Sensor	PIXIM 1/3" High Sensitivity Digital Sensor	
	Horizontal Resolution	690TVL Effective	
	Effective Pixels	758(H) x 540(V)	
	Scanning System	2:1 Interlace	
	S/N Ratio	More than 50dB	
	Min Illumination	0.1Lux	
	Shutter Speed	up to 1/30.720sec	
	Video Output	1.0Vp-p, 75Ω	
	Motion Detection	YES	
TRANSMITTER	Remote Control	YES	
POWER	Consumption	< 100W	< 100W
	Source	DC 24V/5A	DC 24V/5A
SPECIAL FEATURE	Multi Display Function	PIP/POP/PBP (Optional)	PIP/POP/PBP (Optional)
	Filter Type	3D Combfilter Deinterlace	3D Combfilter Deinterlace
DIMENSION	W x H x D (inch)	24.91x17.80x4.05 (632.8x452.2x102.9mm)	30.17x20.83x4.15 (766.4x529.0x105.3mm)
VESA Mount Specifications Hole Pattern	VESA Standard(Inch)	3.94x3.94 and 7.87x3.94 (100x100 and 200x100mm)	3.94x3.94 and 7.87x3.94 (100x100 and 200x100mm)
	Spacing Screw Size	M4 Screw	M4 Screw
	Length	10.0mm	10.0mm
OPERATING TEMPERATURE	0 ~ 40 °C / 50 ~ 104 °F		

- The specification can be changed without any prior notice to improve the quality of the product.
- The panel may have some defective pixels (ex. slightly light or dark) due to a characteristic of the panel. But there is no defect in your panel product itself.

TROUBLESHOOTING

Symptom	Check
Picture is jitterd.	Adjust CLOCK to set the screen position and adjust CLOCK fine until a noise isn't displayed.
No picture.	Check if power switch and computer power switch are in the on position. ↓ Check if the signal cable is correctly connected to the video card. ↓ Check if the pins of D-sub connector are not bent. ↓ Check if the computer is in the power- saving mode.
POWER LED is not lit.	Check if power switch is in the on position. ↓ Check if the power cord is correctly connected.
Image is unstable.	Check if the signal cable is suitable to the video card.
Image is not centered, too small or too large.	Adjust Clock or H&V Center to get the proper image.
Picture bounces or a wave pattern is present in the picture.	Keep the devices that may cause electrical interference away from the pvm. ↓ See the FCC information at the front cover of the manual.
Picture is blurred.	Adjust Contrast and Brightness.

Memo

Memo
