



Installation and User Manual

PVM27CAM



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CE INFORMATION

The product must be installed according to the currently valid installation regulations for EMC to guarantee the designed use and to prevent EMC problems.

The device supplied with this manual is according to the EC, EMC Directive, 2004/108/EC & LVD 2006/95/EC

SAFETY PRECAUTIONS

1. Do not modify the three-prong grounding type monitor power plug in any way.
2. Operate this unit only from the type of power source indicated on the label.
3. Do not block or cover ventilation openings on the back or bottom of the monitor cabinet.
4. Do not place this monitor near a radiator or heating vent.
5. Do not push objects of any kind through cabinet openings. This may result in fire or electrical shock.
6. Before adding attachments always ask a service technician to perform routine safety tests to determine that equipment is in safe operating condition. Ground potential tests should be part of the routine safety check made by the service technician.
7. Do not place monitor on an unstable cart, stand, or shelf where it may fall and injure personnel or damage equipment.
8. Route power cords so that they cannot be walked upon or tripped over. Do not allow anything to rest on the power cord.
9. Do not install monitor in wet areas, or where it may be exposed to rain or water. Do not spill liquid of any kind on the unit.
10. Unplug the power cord from the unit before cleaning the display. Use only a damp cloth. Do not use alcohol, spirits, or ammonia to clean the display. **DO NOT ATTEMPT TO CLEAN THE INTERIOR OF THIS UNIT- THIS ACTION MUST BE PERFORMED BY THE SERVICE TECHNICIAN AS REQUIRED DURING NORMAL MAINTENANCE.**
11. Refer all servicing to qualified service personnel. **REMOVAL OF BACK COVER BY UNAUTHORIZED PERSONNEL MAY EXPOSE THE USER TO DANGEROUS VOLTAGES OR OTHER HAZARDS.**
12. Unplug the unit immediately and notify the service technician.
 - A. If liquid has been spilled into the display or the display has been exposed to rain or water.
 - B. If the unit has been dropped or the cabinet damaged.
 - C. If fuses continue to blow.
 - D. If the power cord is damaged or frayed.
 - E. If a distinct change from normal operation is apparent.

When replacement parts are required, be sure that the service technician uses components specified by the manufacturer which have the same characteristics as the original parts. **UNAUTHORIZED SUBSTITUTIONS MAY RESULT IN FIRE, ELECTRICAL SHOCK OR OTHER HAZARDS.**

Upon completion of any service or repairs, ask the technician to perform safety checks to determine that the equipment is in safe operating condition.

WARNING: SERIOUS SHOCK HAZARDS EXIST WITHIN THE COVERS OF THIS MONITOR. DO NOT OPEN THE COVERS UNDER ANY CIRCUMSTANCES, THERE ARE NO USER SERVICEABLE COMPONENTS INSIDE

BEFORE YOU BEGIN

Read these instructions before installing or operating this product.

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

This manual provides installation and operation information. To use this document, you must have the following minimum qualifications:

- A basic knowledge of CCTV systems and components
- A basic knowledge of electrical wiring and low-voltage electrical connections

Intended use

Only use this product for its designated purpose; refer to the product specification and user documentation.

Customer Support

For assistance in installing, operating, maintaining and troubleshooting this product refer to this document and any other documentation provided. If you still have questions, please contact Norbain Technical Support and Sales:

Vista, 210 Wharfedale Road, IQ Winnersh, Wokingham, Berkshire RG41 5TP, England.

UK +44 (0) 118 912 5000

Note: You should be at the equipment and ready with details before calling Technical Support.

Conventions Used in this Manual

Boldface or button icons highlight command entries. The following **WARNING**, **CAUTION** and **Note** statements identify potential hazards that can occur if the equipment is not handled properly:



*** WARNING:**

Improper use of this equipment can cause severe bodily injury or equipment damage.



**** Caution:**

Improper use of this equipment can cause equipment damage.

Note: Notes contain important information about a product or procedure.



This apparatus is manufactured to comply with the radio interference. A Declaration of Conformity in accordance with the following EU standards has been made. The manufacturer declares that the product supplied with this document is compliant the provisions of the EMC Directive 2004/108/EC, the CE Marking Directive 93/68 EEC and all associated amendments.



All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive: 2011/65/EU, which means our manufacture processes and products are strictly “lead-free” and without the hazardous substances cited in the directive.

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste.

* This symbol indicates electrical warnings and cautions.

** This symbol indicates general warnings and cautions.

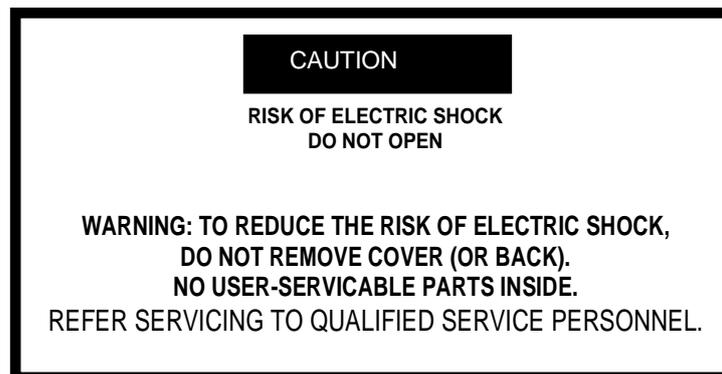
NORBAIN SD LTD reserves the right to make changes to the product and specification of the product from time to time without prior notice.

WARNINGS AND CAUTIONS:

To reduce the risk of fire or electric shock, do not insert any metallic objects through the ventilation grills or other openings on the equipment.

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.



Scope

This document is used to define the performance of the LCD Public View Monitor (PVM) series. The system supports video and PC inputs, as well as from the built-in camera. In video mode, the display automatically detects NTSC and PAL signals. The On Screen Display (OSD) menu makes the system easy to operate.

Functional Specifications

Power Supply

27" PVM Monitor Power Requirements:

Voltage: 12Vdc or 24Vdc

Current: 4 A max (12Vdc) or 2A max (24Vdc)

Use only a PSU rated at 12dc, with a minimum current rating of 4A; or 24Vdc, with a minimum current rating of 2A

Video Characteristics

Composite Video (CVBS): 1.0Vp-p (0.5 – 1.5Vpp), Automatic switching from 75 Ω unbalanced termination to Hi-Z with loop-through operation.

Composite Video (Camera output): 1.0Vp-p (0.5 – 1.5Vpp), loop-through camera signal.

VGA Input

Analog RGB: 0.707Vrms.

Support VESA Standard Timing

Controls: Back Push Buttons



CHANNEL: Select the input signal



- : Scrolling the cursor or adjust the value



+ : Scrolling the cursor or adjust the value



MENU: Select On-Screen Display (OSD)



POWER: Switch power On/Off

HDMI Input

HDMI 1.3 Compatible Interface

HDMI Timing Modes

480i / 480p

576i / 576p

720p

1080i / 1080p

Audio Input

Signal Level: 1.0Vrms

Environmental

- **Temperature:**

Operating: 0°C to +40°C

Storage: -20°C to +60°C

- **Humidity:**

Operating: 10% to 85% (non-condensing)

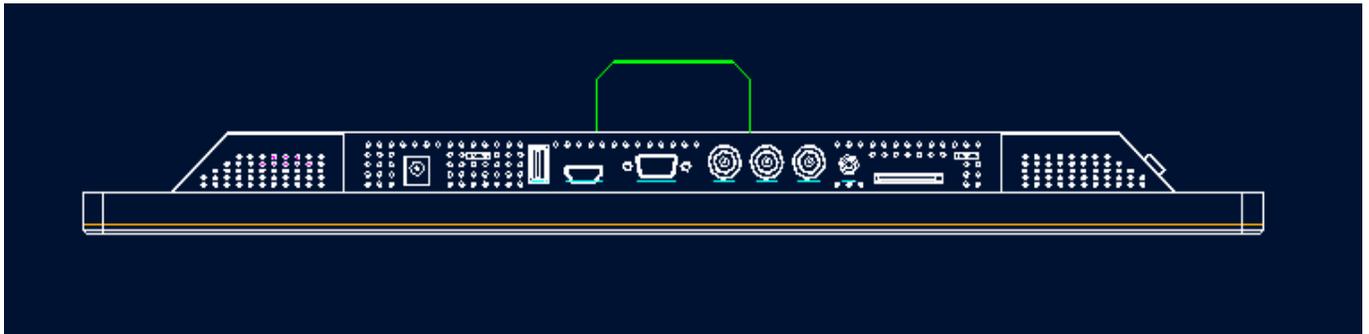
Storage: 10% to 95% (non-condensing)

EDID

This series of displays support EDID.

Controls and Indicators

Connectors



DC-In USB HDMI VGA Video-out Video-in CAM-out Audio-in SD-card
(A) (B) (C) (D) (E) (F) (G) (H) (I)

Power

A – DC 12V/24V IN connector

PC

C – HDMI In

D – VGA In

Video

B – USB SLOT

E – BNC connector, CVBS Loop through out

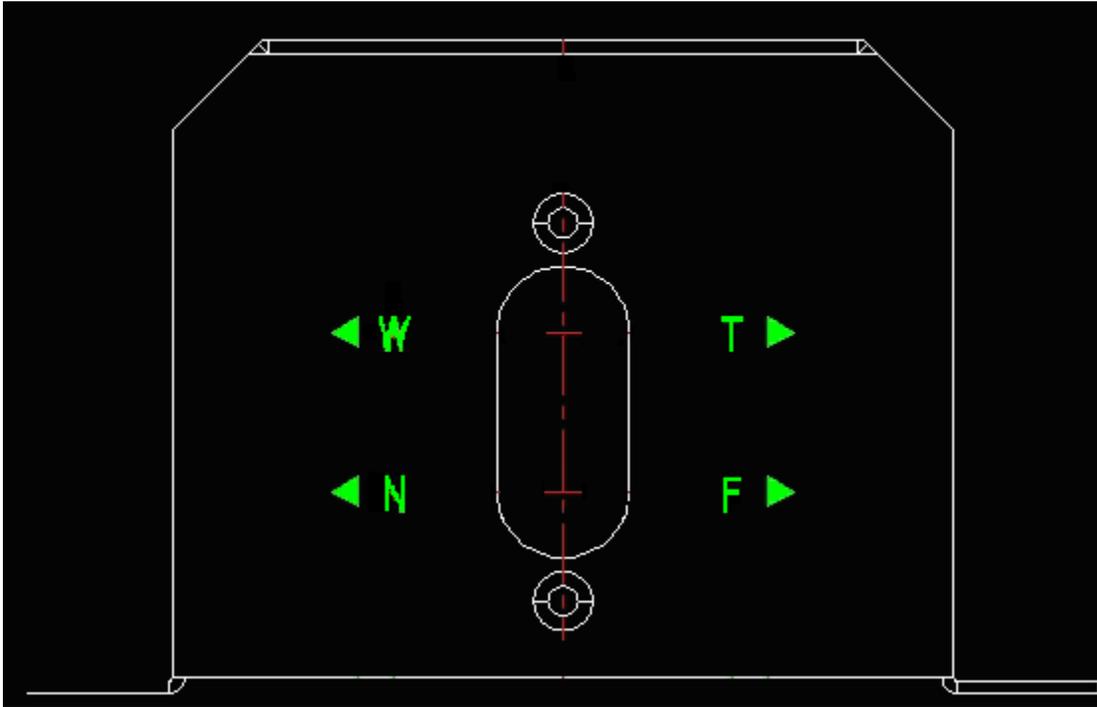
F – BNC connector, CVBS input

G – BNC connector, Camera signal out

H – AUDIO IN: Stereo Phone Jack x1

I – SD CARD SLOT

Camera Lens Adjust



W: Adjust Camera zoom to Wide.

T: Adjust Camera zoom to Tele.

N: Adjust Camera Focus to Near.

F: Adjust Camera Focus to Far.

Remote Control



Monitor and MMP Control:

- Power – Power On or Off the PVM monitor
- MUTE – Mute the audio
- CAM – Select Camera source
- VIDEO – Select Video source
- PC – Select VGA source
- HDMI – Select HDMI source
- MMP – Select MMP USB & SD source
- DVR – Select DVR source (Reserve for future use)
- Key lock – Lock and unlock push buttons
- Menu/ Left/ Right/ Up/ Down/ Exit– Monitor OSD control
- VOL+ / VOL – Hot key for volume control
- / ► ... - MMP OSD control
- INFO – Display PVM information

CAMERA Control:

- MENU – Enter to Camera OSD
- Up/ Down/ Left/ Right keys – Scrolling up, Down, left or right.
- Enter – Confirm the selection
- ECO - Reserve

DVR Control:

- Reserve for future use

Notes:

- The remote control requires 2xAAA batteries. Ensure batteries are inserted in the correct polarity according to the + and – symbols in the battery compartment.
- 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.
- Batteries should last more than 2 years with normal use.

Accessories

1. 60 Watts 12V power adapter x1
2. UK Power Cord x1
3. EU Power Cord x1
4. Remote Control x1
5. DC Terminator x1
6. Cable Tie & Terminator x1
7. AAA battery x 2
8. User manual x 1

OSD Menu

Hot key

VOLUME : Press - / + buttons to adjust the volume.



KEY LOCK : Press CHANNEL + MENU + POWER key for 6 sec to enable this function.



KEY UN-LOCK : Press CHANNEL + MENU + POWER key for 6 sec to disable this function.



Main Menu

Press Monitor MENU button to enter the sub-menu



- Main Adjust
- Color Adjust
- Scan Setting
- Image Adjust
- Information
- Language
- Setup Menu
- PVM Function
- Recall
- Audio Control
- Exit

Press - /+ buttons to select an icon, then press MENU button to confirm the selection.

MAIN ADJUST

Press MENU button to enter the sub-menu

MAIN ADJUST	
VIVID MODE	USER
BRIGHTNESS	44
CONTRAST	52
SHARPNESS	55
SATURATION	55
TINT	50
NR	MIDDLE
EXIT	

1. Press - / + buttons to select an icon
2. Press MENU button to confirm the selection.
3. Press - / + buttons to adjust the value
4. Press MENU button to return

VIVID MODE : Select Vivid mode

BRIGHTNESS : Adjust the brightness value

CONTRAST : Adjust the contrast value

SHARPNESS: Adjust the sharpness

SATURATION : Adjust the saturation

NR : Select the NR mode

EXIT : Press MENU button to return to the main menu

COLOR ADJUST

Press MENU button to enter the sub-menu



COLOR ADJUST	
COLOR TEMP.	USER
RED	128
GREEN	128
BLUE	128
COLOR RANGE	0~255
EXIT	

1. Press - / + buttons to select an icon
2. Press MENU button to confirm the selection.
3. Press - / + buttons to adjust the value
4. Press MENU button to return.

COLOR TEMP. : Select Monitor color temperature USER/ 6500K / 7500K / 9300K

RED: Adjust the RED value

GREEN : Adjust the GREEN value

BLUE : Adjust the BLUE value for

EXIT : Press MENU button to return to the main menu

SCAN SETTING

Press MENU button to enter the sub-menu

SCAN SETTING	
ASPECT RATIO	16:9
UNDERSCAN	USER
H.START	-18
H.SIZE	+48
V.START	-2
V.SIZE	+2
EXIT	

1. Press - / + buttons to select an icon
2. Press MENU button to confirm the selection.
3. Press - / + buttons to adjust the value
4. Press MENU button to return.

ASPECT RATIO : Select aspect ratio 4:3 / 16:9 / AUTO

IMAGE ADJUST (VGA ONLY)

IMAGE ADJUST	
AUTO ADJUST	
H. POSITION	50
V. POSITION	50
CLOCK	50
PHASE	5
EXIT	

1. Press - / + buttons to select an icon
2. Press **MENU** button to confirm the selection.

3. Press - / + buttons to adjust the value
4. Press **MENU** button to return

AUTO ADJUST : Press MENU buttons to auto adjust Image Settings

H. POSITION : Adjust the horizontal position value

V. POSITION : Adjust the vertical position value

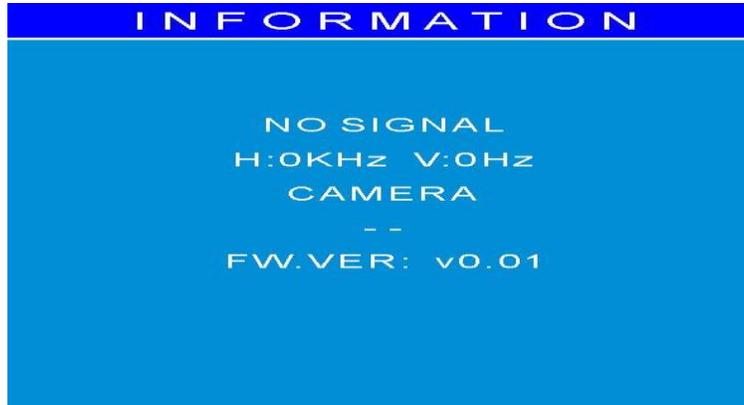
PHASE : Adjust the phase value

CLOCK : Adjust the clock value

EXIT : Press MENU button to return to the main menu

INFORMATION

Press MENU button to enter the sub-menu



LANGUAGE

Press MENU button to enter the sub-menu



1. Press - / + buttons to select an icon
2. Press MENU button to confirm the selection.
3. Press - / + buttons to adjust the value
4. Press MENU button to return.

SETUP MENU

Press MENU button to enter the sub-menu



1. Press - / + buttons to select an icon
2. Press MENU button to confirm the selection.

3. Press - / + buttons to adjust the value
4. Press MENU button to return

OSD TIMEOUT : Adjust the OSD timeout

OSD BLENDING : Adjust the OSD blending

BACKLIGHT SENSOR : Adjust the backlight sensor

LED FLASH : LED FLASH 1sec(on)/1sec(off) - - OFF/ON

LED SWAP : Adjust LED color GREEN or RED

FW. UPDATE (USB) : Plug USB with update FW and select this icon to update PVM Monitor FW

EXIT : Press MENU button to return to the main menu

PVM FUNCTION (Video only)

Press MENU button to enter the sub-menu

PVM FUNCTION	
DISPLAY MESSAGE	OFF
WARNING MESSAGE	0
USER EDIT	--
IMAGE MODE	OFF
SWITCH TIMER	--
MOTION SOURCE	CAMERA
MOTION SENSITIVITY	HIGH
MOTION DURATION	10Sec
CAMERA POWER	OFF
EXIT	

1. Press UP / Down buttons to select an item.
2. Press Menu button to select adjust item.
3. Press Left / Right buttons to adjust the value.
4. Press Menu button to return.

DISPLAY MESSAGE : Setting the warning message display (OFF / ON).

WARNING MESSAGE : Setting the message text select (0~5, USER). The default message text 0-5 is:

0- RECORDING IN PROGRESS	1- RECORDING	2- WELCOME
3- CAMERA OPERATING	4- CAMERA ON DUTY	5- VIDEO SURVEILLANCE

USER EDIT : Left and Right to change the position, Up and Down to select the character, Menu to exit.

IMAGE MODE : Select OFF / MOTION / SWITCH

Motion : In Motion mode, Motion source can select Camera, USB, SD, VG or HDMI.

Motion : In Motion mode, Motion sensitivity can select LOW, MIDDLE or HIGH.

Motion : In Motion mode, Motion duration can select (10Sec – 60Sec). This is to set while motion it turns to MOTION SOURCE time

Switch : In Switch mode, Switch source can be any combination of VGA,HDMI, CVBS, Camera, USB, SD Card.

RECALL

Press MENU button to recall PVM Monitor to factory default setting mode.

AUDIO CONTROL

Press MENU button to enter the sub-menu



1. Press UP / Down buttons to select an item.
2. Press Menu button to select adjust item.
3. Press Left / Right buttons to adjust the value.
4. Press Menu button to return.

VOLUME : Adjust the PVM Monitor volume.

MUTE : Select Audio MUTE.

Multi Media Player OSD Menu

The Multi Media Player (MMP) allows viewing of digital photo, music, movie and text from USB or SD card. It is operated by Remote Control

The MMP software has five main components:

- Digital Photo Playback—display digital photos.
- Digital Music Playback—playback music.
- Digital Movie Playback—view movies.
- File Browsing— review content of memory card.

The MMP support following format

1. Video Decoding - MPEG2, MPEG4,H.264,Realmedia,AVS
2. Video Format – avi, asf, mp4
3. Audio Decoding - MPEG-1,MPEG-2,MP3,AAC-LC,WMA
4. Digital Picture – JPEG
5. Memory Card – 16G SD card

REMOTE CONTROL



MMP Control:

1. ■ Stop key
2. ►/|| Play key & Pause key
3. ►► Fast play key
4. VOL+ / VOL – Hot key for volume control

CAMERA OSD Menu

The Camera OSD is controlled by Remote Controller. The definition of Remote Controller is defined as below.

REMOTE CONTROL

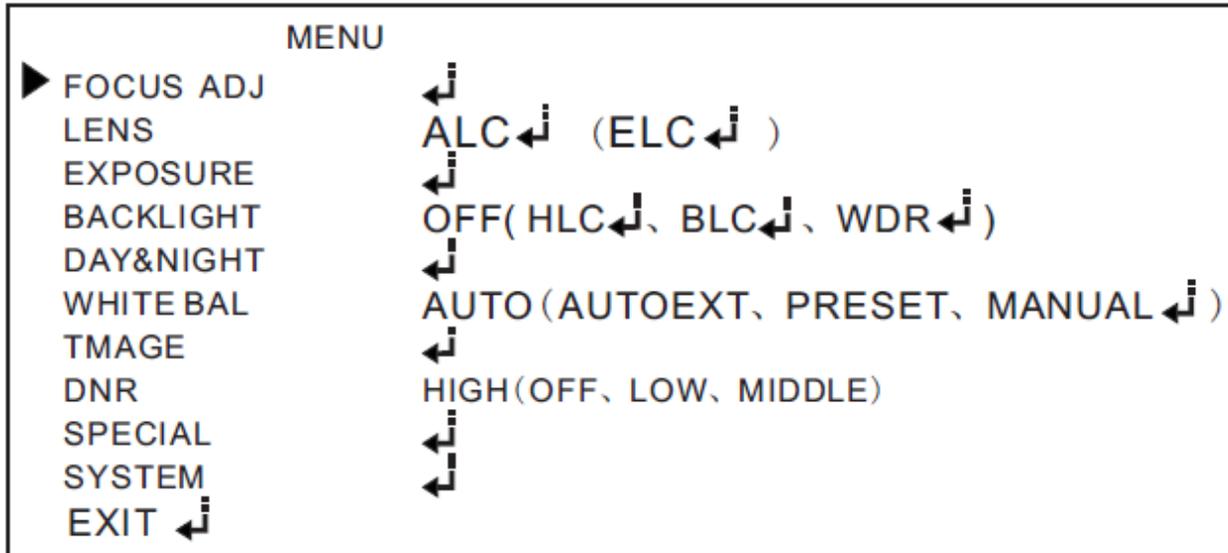


Camera Control:

5. Press Menu button to enter to Camera OSD
6. Press Enter button to confirm the selection
7. Press Up / Down buttons to select an item.
8. Press Left / Right buttons to adjust the value.
9. ECO button for future use

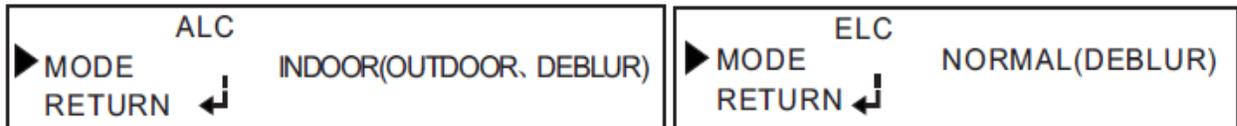
OSD Menu

Press the MENU button to display MENU. You can set the LENS, EXP-OSURE, BACKLIGHT, DAY&NIGHT, WHITE BALTMAGE, DNR, SPECIAL and SYSTEM to ensure the image quality.



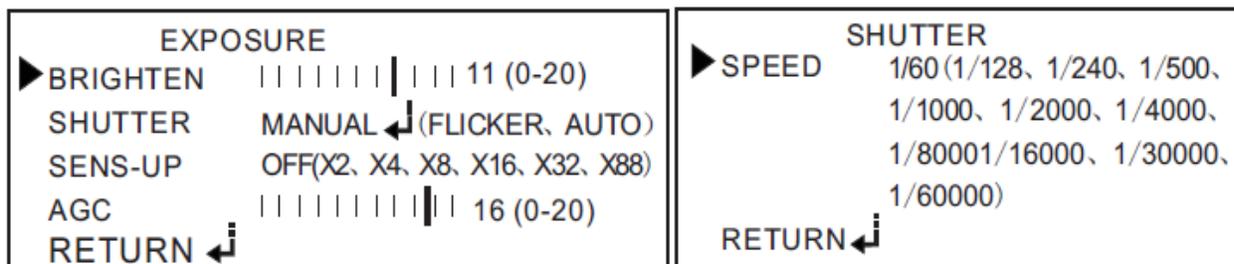
LENS :

According to the lens type, you can enter the submenu and setup the MODE to what you need.



EXPOSURE :

Press the MENU button into the exposure submenu, and can setup the BRIGHT, SHUTTER, SENS-UP, AGC to what you need.



1.BLACKLIGHT-HLC :

Press the MENU button into the HLC submenu, can adjust HLC's level and MODE.

2.BLACKLIGHT-BLC :

Press the MENU button into the BLC submenu, can adjust BLC area's position and size.

3.BLACKLIGHT-WDR :

Press the MENU button into the WDR submenu, can adjust WDR MODE to: HIGH, MIDDLE and LOW.

<p>▶ LEVEL HLC MODE RETURN ↵</p> <p> 10 (0-20) ALL DAY (NIGHT ONLY)</p>	<p>BLC</p> <p>▶ H-POS 7(0-20) V-POS 5(0-20) H-SIZE 6(0-20) V-SIZE 4 (0-20) RETURN ↵</p>
<p>WDR</p> <p>▶ WEIGHT RETURN ↵</p> <p>HIGH(LOW, MIDDLE)</p>	

DAY&NIGHT

Press the MENU button into the DAY&NIGHT submenu, can adjust MODE, IR-LED, ANTI-SAT, AGC etc

<p>▶ MODE IR-LED ANTI-SAT. EXTERN S/W AGC THRES AGC MARGIN DELAY RETURN ↵</p>	<p>DAY&NIGHT</p> <p>EXTERN(AUTO, COLOR, B&W) OFF (ON) 0 (0-20) LOW(HIGH) 11 (0-20) 8 (0-20) MIDDLE(HIGH, LOW)</p>
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MANUAL (WHITE BALANCE)

Press the MENU button into the MANUAL submenu, can adjust KELVIN (LOW, MIDDEL, HIGH), R-GAIN and B-GAIN.

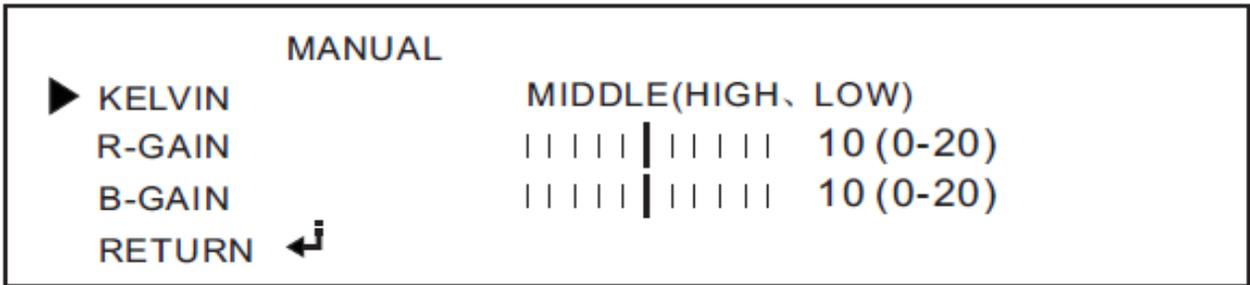
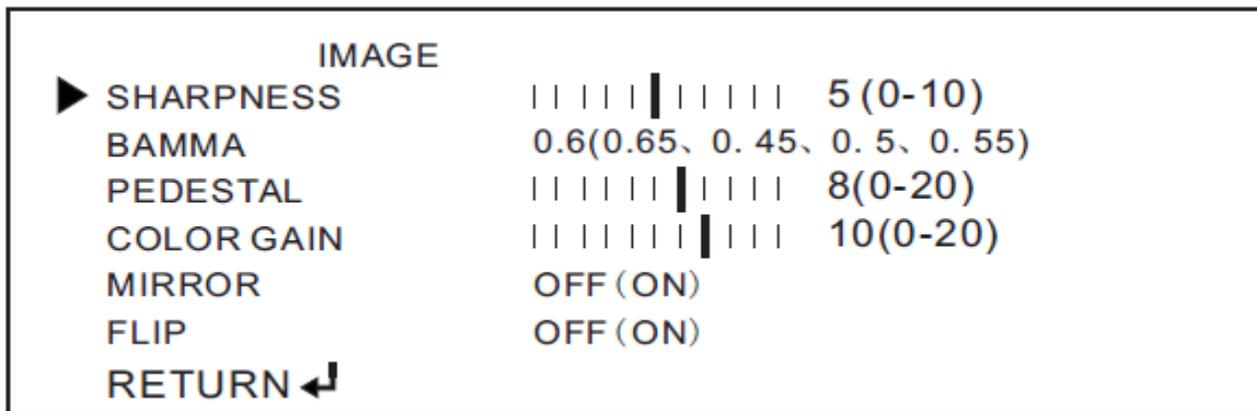


IMAGE:

Press the MENU button into the IMAGE submenu, can adjust SHARPN -ESS, BAMMA, COLOR GAIN, MIRROR, FLIP as needed



SPECIAL :

Press the MENU button into the SPECIAL submenu. You can adjust D-ZOOM, ACE (D-WDR), DEFOG, SHADING, PRIVACY, and INTELLIGENT to ensure the image quality.

DEFOG :

Setup the DEFOG MODE to AUTO or MANUAL, also can adjust the LEVEL to MIDDLE, HIGH or low as needed.

SHADING :

Enter the SHADING submenu; adjust the WEIGHT to ensure the image.

PRIVECY :

Press the button display the PRICACY submenu, you can set up to 15 areas, and chose difference color to set difference area, also can change area size as needed.

INTELLGENT :

Press the button display the INTELLGENT submenu, can set MOTION, ALARM and QUICK ZOOM as needed. But if camera has no motion function, this set has no effect.

SPECIAL

▶ D-ZOOM 1.0X(1.0X-8.0X)
 ACE OFF (LOW, MIDDLE, HIGH)

DEFOG OFF (ON ←_i)
 SHADING OFF (ON ←_i)
 PRIVACY OFF (ON ←_i)
 INTELLIGENT OFF (ON ←_i)
 RETURN ←_i

DEFOG

▶ MODE AUTO(MANUAL)
 LEVEL MIDDLE(HIGH, LOW)
 RETURN ←_i

SHADING

▶ WEIGHT 99% (0-100%)
 RETURN ←_i

PRIVACY

▶ ZONE NUM 0 (0-15)
 ZONE DISP ON(OFF)
 H-POS 12(0-60)
 V-POS 2(0-40)
 H-SIZE 3(0-40)
 V-SIZE 3(0-40)
 Y LEVEL ||||| | ||||| 10 (0-20)
 CR LEVEL ||||| | ||||| 10(0-20)
 CB LEVEL ||||| | ||||| 10(0-20)
 RETURN ←_i

INTELLIGENT

▶ MOTION OFF(ON ←_i)
 ALARM ←_i
 QUICK ZOOM OFF(ON ←_i)
 RETURN ←_i

QUICK ZOOM

▶ MOVING 30/60 ces (0-240)
 ZOOM IN 30/60 ces (0-240)
 STANDBY 30/60 ces (0-240)
 SYNCHRONOUS OFF (ON)
 TRACKING OFF(ON)
 PEPEAT OFF(ON)
 RETURN ←_i

MOTION

▶ DET.SETTING ←_i
 WINDOW TONE 0 (0-6)
 WINDOW ZONE 0 (0-3)
 WINDOW USE OFF (ON)
 DET H-POS 1(0-60)
 DET V-POS 2(0-40)
 DET H-SIZE 16(0-41)
 DET V-SIZE 12(0-33)
 RETURN ←_i

ALARM

▶ SHAKING ON (OFF)
 SHAKE SCALE ||||| | ||||| 10 (0-20)
 BRIGHT CHG. OFF(ON)
 BRIGHT SCL. || | ||||| ||||| 3 (0-20)
 RETURN ←_i

DET. SETTING

▶ SENSITIVITY ||| | ||||| ||||| 5 (0-20)
 OBJ.KEEP LV 0(0-60)
 MOTION EST. | ||||| ||||| ||||| 0(0-60)
 SIGNAL OUT OFF (ON)
 RETURN ←_i

SYSTEM:

Press the MENU button into the SYSTEM submenu, set the CAMERA ID,

SYSTEM	
▶ COM.	↵
VIEW ANGLE	WIDE 4:3 (WIDE16: 9 、 NORMAL)
CVBS	NTSC (PAL)
LANGUAGE	ENG(CHN、 CHN[S]、 JPN、 KOR)
CAM TITLE	ON↵ (OFF)
RESET	ON
RETURN↵	

COM.	
▶ CAM	1(0-255)
BAUDRATE	9600(57600、 115200、 2400、 4800)
RETURN↵	

SYSTEM, LANGUAGE, RESET as needed.

Regulatory Agency

Safety Approvals

This series design shall meet the standards of the following domestic and foreign agencies:

CE LVD : EN60950-1

EMI/EMS Emission Approvals

This series design shall meet following EMI/EMS specifications:

CE COMPLIANCE: EN55022 Class B.

EN55024.

EN50130-4

Reliability

Mean Time Between Failures (MTBF):

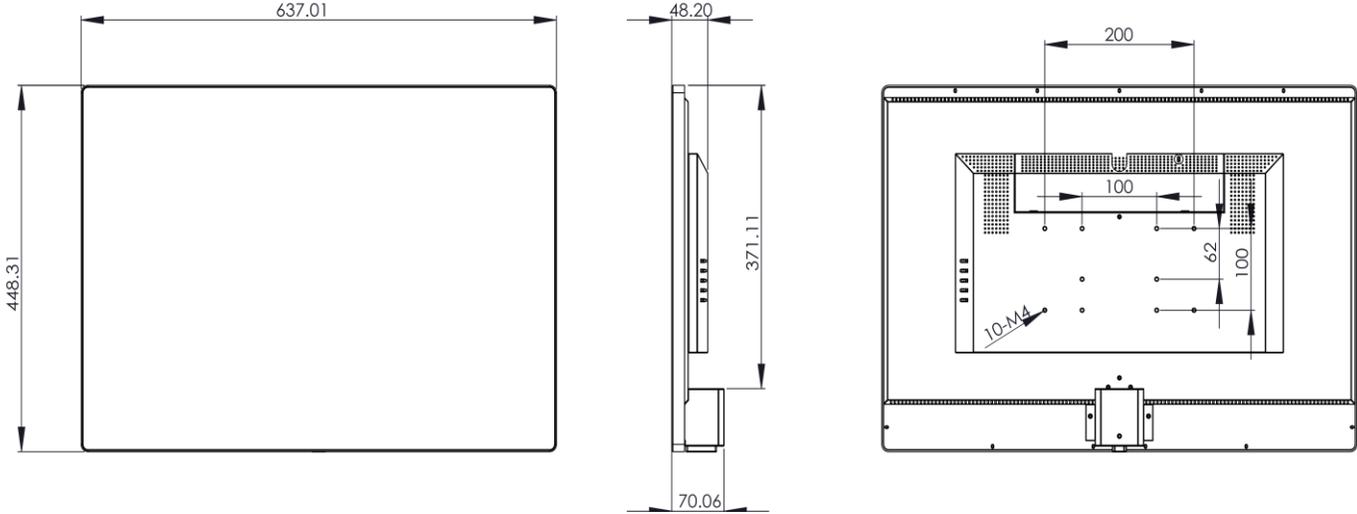
MTBF shall be 30,000 hours minimum at 90% confidence level and 100% duty cycle continuous operation at 25⁰C. The calculation does not include LCD panel.

Mechanical

Cabinet

Material: Metal. Finish: Black

Dimensions



Net Weight: 7.95Kg /17.49 lb,

Shipping Weight: 10.5Kg / 23.1lb

Packing material: Carton and EPE.

VESA mounting

Model	VESA	Length of screw
PVM27CAM	100x100 mm 200x100 mm	M4 x 10mm

- Use only M4 x 10mm screws to mount VESA bracket, failure to do so may cause serious injury.
- Ensure that the VESA bracket has an adequate size mounting plate, screws and/or fixings to support the weight of the monitor and bracket to the surface to which it is being attached. Failure to do so may cause serious injury.
- If there is any doubt of the suitability of a mount or fixing method, a qualified technician should be consulted.



Caution

This 27" PVM is intended to be fixed to a surface during use. Use a bracket rated for the weight of the unit. Follow the bracket instructions for fixing to a surface.

