21" LCD LED MONITOR, 16:9, HDMI
ART. HMON621A

Please read this manual thoroughly before use, and keep for future reference
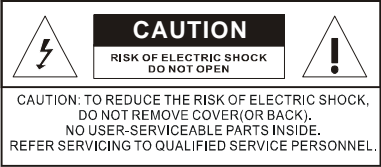
WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT
TO RAIN OR MOISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION:

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.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols

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 of electric shock to persons.

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

2

Important Information

IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated.

2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

4. FOLLOW INSTRUCTIONS

All operating and usage instructions should be followed.

5. CLEANING

Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Clean only with a dry cloth.

6. ATTACHMENTS

The manufacturer of this unit does not make any recommendations for attachments, as they may cause hazards.

7. WATER AND MOISTURE

Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

8. ACCESSORIES

Do not place this unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious injury, and serious damage to the unit. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. VENTILATION

Slots and openings at the rear cabinet and bottom are provided for ventilation, these are to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. POWER SOURCE

This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company.

11. POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

12. LIGHTNING

To protect your unit from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the unit due to lightning and power line surges.

13. POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall onto or against such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

14. OVERLOADING

Do not overload wall outlets and extension cords, as this can result in a risk of fire or electric shock.

15. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

16. HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

17. CONNECTING

When you connect the product to other equipment, turn off the power and unplug all of the equipment from the wall outlet. Failure to do so may cause a product damage. Read the owner's manual of the other equipment carefully and follow the instructions when making any connections.

18. LCD

Do not press on or jolt the LCD panel. Doing so may cause the LCD panel glass to break and injury may occur. Should the LCD panel be broken and liquid leaks out, do not inhale or swallow it. Doing so may cause poisoning. If you have got it into your mouth, wash it out and consult your doctor. If your hands or clothes have touched it, wipe them with alcohol and a cleaning cloth and then wash them well.

Safety Precautions

Federal Communications Commission (FCC) Statement

This Equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential 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 into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

● You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

> This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions:
>
> (1) This device may not cause harmful interference.
>
> (2) This device must accept any interference received including interference that may cause undesired operation

Table of Contents

Components

A.	LCD Color Monitor	x1
B.	Accessories	
	I. Power cord	x1
	II. User Manual	x1
C.	VGA cord*	x1
D.	PC audio cord	x1
E.	Adapter	x1
F.	Remote controller	x1

*VGA cord (pin4 and pin11 N/A)

Feature

1. Professional TFT LCD for surveillance.

2. Compatible with VGA (640 x 480), SVGA (800 x 600), XGA (1024 x 768), SXGA (1280 x 1024) resolution.

3. All plastic case.

4. Built-in RS485 function to operate PTZ dome or camera / DVR and monitor group management by remote controller.

5. Video input HDMI x 1 / BNC x 1 / VGA x 1.

6. Video output BNC x 1.

7. Audio input RCA x 2 (L-R) / phone jack x 1. Audio speaker x 2.

8. Picture-In-Picture feature that allow multi-picture display.

9. High brightness level and contrast ration with super wide viewing angle.

10. Built-in 3D comb filter and 3D de-interlace for crispy picture performance.

11. Fast response time and refresh rate without time lagging.

12. Provides 6500°K and 9300°K color temperature se lection for user's preference.

13. Video Inputs support NTSC / PAL standards.

14. Video looping Output supports 75 ohm auto termination.

15. VESA standards (100 x 100 mm) bracket.

16. Light detection sensor to save energy.

Exploring Your New Monitor

You can operate your monitor by using the buttons on the front panel. The side panels provide the inputs to connect other equipment to your monitor.

Front Panel

1	Menu button
2	Menu return button and exit
3	Menu enter button
4	Menu item Down button
5	Menu item Up button
6	Video source select button
7	IR receiver
8	Power button
9	Light sensor

Back   **Side**

Backside Connections

Illustration：

- 1. Power in: 12 VDC input

- 2. HDMI: HDMI input(1080p)

- 3. VGA: VGA input (VGA cord, pin4 and pin11 N/A)

- 4. RS485 connector, for camera, PTZ dome or DVR connection

     5 VDC/GND power out (5 VDC/500mA)

- 5. PC AUDIO IN: PC audio input

- 6. AUDIO IN: audio input. RCA jack.

- 7. VIDEO IN: camera or DVR source input

     VIDEO OUT: video looping output

RS485

RS485 A+

RS485 B-

Configuration
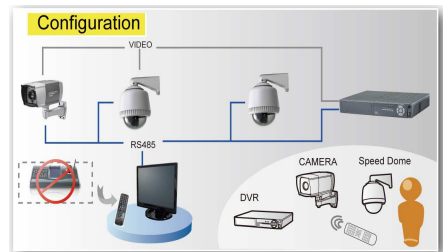
MENU: OSD menu ON / OFF control (EXIT Item)

RETURN: Return to last page

ENTER: Auto-optimize displaying picture under PC mode.
Enter: this " Auto" Button can be either "Enter" function in OSD Menu

ADJUST: Increase or decrease the value on OSD menu.
Up: Increase value or turn ON / OFF function.
Down: Decrease value or turn ON / OFF function

SOURCE: Select input signal from HDMI / AV1 or VGA (PC).

POWER: Monitor power ON / OFF. At OFF mode, monitor will be at standby status.
Green Light: ON Mode
Red Light: OFF Mode

9

Before device control, please set the RS485 setup. Press RS485 set button into RS485 menu.
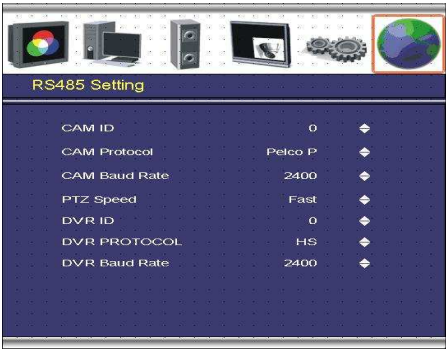
LCD/DVR/CAM

Press ( ) to change control mode

LCD mode
User operates the function by control remote. See LCD key define

DVR mode
User operates the function by control remote. See DVR key define

CAM mode
User operates the function by control remote. See Cam key define

Key	Define
⏻	LCD power on / off
RS485 SET	RS485 menu setup
⬆⬅ENTER➡⬇	LCD / DVR / CAM OSD item select Up / Down / Left / Right key DVR playback status

LCD/DVR/CAM	LCD / DVR / CAM control mode switch
MENU	Call desired LCD / DVR / CAM device menu
DISPLAY	Displays the LCD source information
VOL (-) (+) VOL	LCD volume setup
MUTE	LCD audio soundless
AUTO	VGA mode auto adjust
ESC	Quit desire DVR OSD setup or number wrong typing

LCD

AV1	Select the AV1 source input directly
AV2	For SDI switch (depends on model)
VGA	Select the VGA source input directly
DVI	For HDMI / DVI switch (depends on model)
PIP MODE	Jump to Picture in Picture screen display

PIP SOURCE	Picture in Picture screen source selection
PIP SWAP	Picture in Picture screen source exchange
SCALE	Picture ratio Under / Full / Over selection

DVR

SEQ	Channel sequence
4P	Quad screen selection
9P	9 split screen selection
16P	16 channel selection
PLAY	Jump to playback mode
REC	Manual record
T-SRH	Jump to time search of playback mode
BACKUP	Jump to backup mode

CAM(P/T/Z dome)

⌐○⌐○⌐○ ⌐○⌐○⌐○ ⌐○⌐○⌐○ ⌐○	PTZ dome ID select / Set, Call, Clear Preset DVR full channel select

FOCUS

(NEAR)	Control PTZ dome's lens manual focus
(FAR)	Control PTZ dome's lens manual focus

IRIS

(OPEN)	Control PTZ dome's lens manual Iris
(CLOSE)	Control PTZ dome's lens manual Iris

ZOOM

ZOOM (IN OUT)	Control PTZ dome's lens zoom in and out

PRESET

(SET)	Set a Preset point
(CALL)	Call a Preset point
(CLEAR)	Clear a Preset point

14

Brightness		0
Contrast		0
Saturation		0
Hue		0
Sharpness		0
Dynamic Contrast	0	◆
Image H Position	▶	
Image V Position	▶	
Default	▶	

Brightness: Adjusts the overall picture shade and brightness.

Contrast: Permits adjustment of contrast between light and dark areas of the
                              picture.

Saturation: Adjusts the intensity of the color.

Hue: To determine the lightness and colorfulness of the picture.

Sharpness: Sets the desired sharpening enhancement to the picture.

Dynamic Contrast: To determine the luminosity of motions of an object

Image H Position: Allows adjustment for horizontal position.

Image V Position: Allows adjustment for vertical position.

Default

15

Brightness:	Adjusts the overall picture shade and brightness.
Contrast:	Permits adjustment of contrast between light and dark areas of the picture.
Auto Adjustment:	Picture adjustment automatic correction, like clock and phase.
Image H Position:	Allows adjustment for horizontal position.
Image V Position:	Allows adjustment for vertical position.
Phase :	Is used to adjust best picture quality. It adjusts the sampling phase across one pixel time. When the phase is not adjusted properly, the picture will be unclear. Therefore this value should be carefully adjusted. *Note: improper adjustment will cause image failure.*
Clock / Line :	Is used to adjust best picture quality. It adjusts the numbers of the pixel clock across one line time. Therefore it can affect the picture position and size. *Note: improper adjustment will caused image failure.*
Default	

16
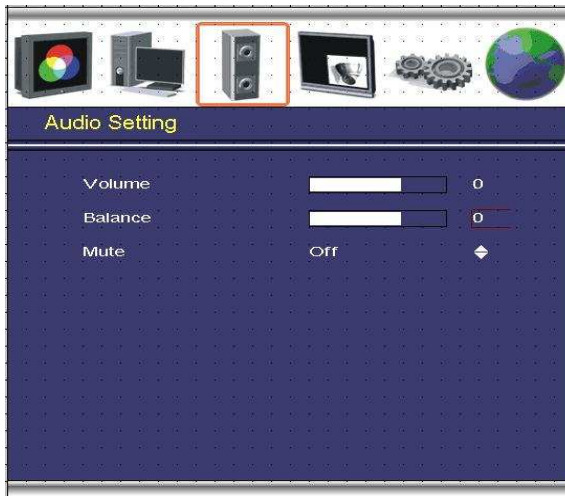
Audio Setting

Volume: Controls built-in speakers' output volumes.

Balance: Adjusts the softness of loudness of notes in the sound.

Mute: To disable the audio function. To enable, press MUTE again.

PIP Setting
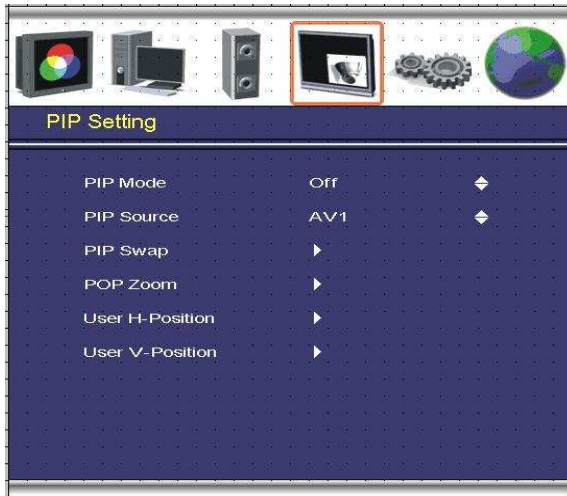
PIP Mode:	This function allows the PIP mode to be selected.
PIP Source:	This function allows the source of the PIP to be selected.
PIP Swap:	This function allows the position of PIP to be exchanged.
POP Zoom:	Only Operate under POP (Side By Side) mode.
User H-Position:	Allows adjustment for horizontal position.
User V-Position:	Allows adjustment for vertical position.

18

System Setting
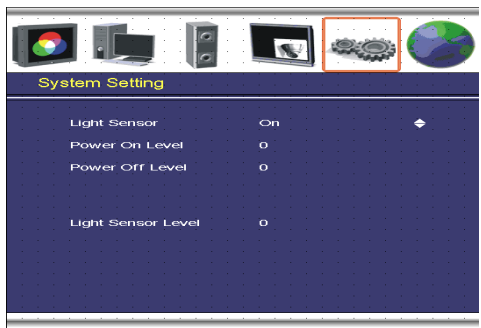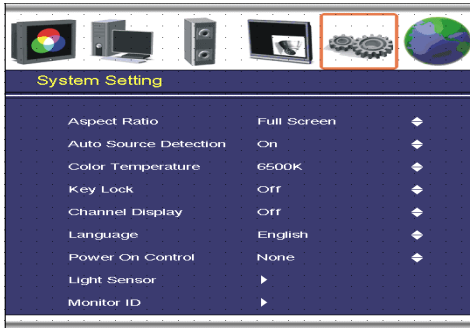
Aspect Ratio:	To change the display mode.	
Auto Source Detection:	The monitor will auto detect the video source when power ON.	
Color Temperature:	Selects color temperature of either 6500°K or 9300° K.	
Key Lock:	The Key-Lock function is provided to prevent tempering.	
	To unlock, press ⟲ and ▽.	
Channel Display:	This function is to allow the channel title to be displayed on the monitor.	
Language:	English.	
Power On Control:	This function is to assign a specific video signal when power ON.	
Light Sensor:	LCD monitor brightness will vary with the environment brightness. Light sensor on / off, power on level 50~80, power off level 0~30	
Monitor ID:	Monitor group ID set for management and remote controller button key lock. Back to live, press remote button "0" to active lock function.	

19

RS485 Setting

CAM ID	0	⬍
CAM Protocol	Pelco P	⬍
CAM Baud Rate	2400	⬍
PTZ Speed	Fast	⬍
DVR ID	0	⬍
DVR PROTOCOL	HS	⬍
DVR Baud Rate	2400	⬍
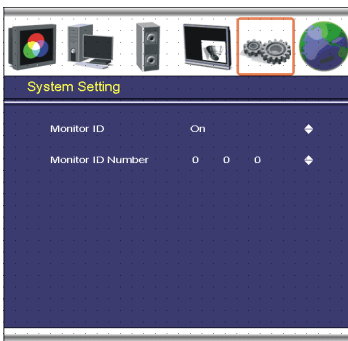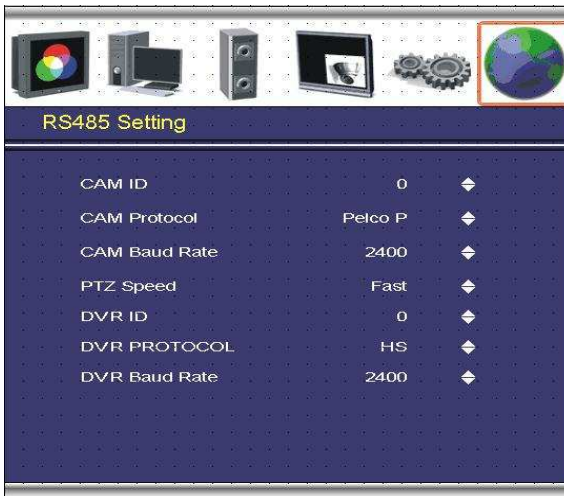
CAM ID: Select PTZ dome ID address.

CAM Protocol: Select PTZ dome protocol.

CAM Baud Rate: Select PTZ dome baud rate.

PTZ Speed: Select PTZ control command speed.

DVR ID: Select DVR ID address.

DVR Protocol: Select DVR protocol. (now only HS)
                       And customized protocol.

DVR Baud Rate: Select DVR baud rate.

Troubleshooting

Before calling a service technician, please check the following table for a possible cause of the problem and some solution.

Symptom	Solution
Monitor will not turn on	● Make sure the power cord is plugged in, then press POWER button
No picture, no sound	● Check cable connections.
No sound, picture OK	● Check audio Cable Connections ● Try pressing Volume up button in the Menu.
Poor color, sound OK	● Check cable connections ● Adjust Video set up menu.
Poor color or no color	● Adjust Color and / or TINT (NTSC only)

Applicable Timing

VGA Timing

There are a total of 11 timing modes that can be saved in memory by FIFO detecting architecture.
VGA Support Timing

Mode	Resolution	H Freq. (kHz)	V Freq. (Hz)	Pixel clock (MHz)	21.5" 1920*1080 60Hz
VGA	640x480@60	31.469	59.940	25.175	ˇ
	640x480@72	37.861	72.809	31.500	ˇ
	640x480@75	37.500	75.000	31.500	ˇ
SVGA	800x600@60	37.879	60.317	40.000	ˇ
	800x600@72	48.077	72.188	50.000	ˇ
	800x600@75	46.875	75.000	49.500	ˇ
XGA	1024x768@60	48.363	60.004	65.000	ˇ
	1024x768@70	56.576	70.069	75.000	ˇ
	1024x768@75	60.023	75.029	78.750	ˇ
SXGA	1280x1024@60	63.980	60.000	108.000	ˇ
	1280x1024@75	79.976	75.025	135.000	ˇ
Full HD	1920x1080@60	67.500	60.00	148.500	ˇ

HDMI Timing

Format	Resolution	Type	Vertical frequency
480i/p	720x480	SD	60Hz
720p	1280x720	HD	60Hz
1080p	1920x1080	Full HD	60Hz

PC RGB Input

Input Signal	Analog RGB 0.7 Vp-p
Input Impedance	75 Ohm ± 2%
Polarity	Positive, Negative
Amplitude	0 ~0.7 ± 0.05Vp
Multi-mode Supported	Horizontal Frequency: 30~80KHz Vertical Frequency: 50~75Hz

Power Supply

Input Voltage	100~240VAC, 50/60Hz
Output Voltage	+12V DC, 5A

Environment

Operation Condition	Temperature	0°C to 50°C / 32°F to 122°F
	Relative Humidity	20% to 85%
Storage Condition	Temperature	-10°C to 60°C / 14°F to 140°F
	Relative Humidity	5% to 85%

LCD Color Monitor Specification

Model	21.5
Button Control	Power / OSD Control / Source
Display Resolution	1920 x 1080 @ 60 Hz
Active Area	476.64.1(H) x 268.11 (V)mm
LCD Panel Type	TN mode, Normally white
Dot Pitch	0.24825 (H) x 0.24825 (V) mm
Display Ratio	16:9
Display Color	16.7M colors
Brightness (Central)	400 cd/m2
Contrast Ratio	1000:1
Viewing Angle	Left 85°/ Right 85°/ Up 80°/ Down 80°CR>10
Response Time	5ms
Input Voltage	DC12V
Input Signal	1Vp-p composite video
Input Impedance	75 ohm
Output Signal	1.0Vp-p±0.2Vp-p composite video (Auto Termination)
Scanning system	NTSC:525 lines, 60 fields / sec ; PAL:625 lines, 50 fields / sec
Video Input / Output	HDMI x 1, Video In x 1 (BNC), Video Out x 1 (BNC), VGA x 1,
Audio Input	RCA jack x 2 (L-R), PC-Audio In x 1
RS485 jack	Built-in. Pin jack x 2, +/-
Protocol	Pelco P / Pelco D / customized protocol

Control device	Operate PTZ dome or camera / DVR and monitor group management by remote controller
Control ID	PTZ dome or camera 1 ~ 255 / DVR 1 ~ 255 / Monitor 1 ~ 255
Speaker	1W + 1W
Power Consumption	35W
Operating Temperature	0°C ~ 50°C (14°F ~ 122°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Dimension	516 (W) x 411.4 (H) x 55 (D) mm
Weight	N.W./G.W.: 2.8KG / 4.1KG

(1) The brightness specification is from panel spec.
   Design and Specifications are subject to change without notice.

(2) It is not guaranteed for all the specified range.

*VESA mount M4x10L

Dimensions