



SMARTRUCK
smart...for a reason **HD**

M394QHD

9" HD Digital LCD Monitor

Installation & User Manual



Please read all instructions before using the product, and keep the manual for future reference.
The product may differ from the manual description according to upgrades. S/W version or performance, may be altered without notice.

FEATURES

- Supports 4CH camera inputs
- Image can be adjusted for Horizontal, Vertical, Mirror, Normal
- Supports AUTO DIM
- Supports 10-32V Wide Power Input
- Multiple video formats
- Supports Automatic Brightness Adjustment
- Touch Control Available

SPECIFICATIONS

LCD Size	9"
Resolution	1024 x 3(RGB) x 600
Outer Dimension	234mm (W) x 158mm (H) x 39.75mm (T)
Power Supply	10-32V
Dot Pitch	0.192 (W) x 0.19025 (H) mm
Contrast	800:1
Brightness	650 cd/m ²
Viewing Angle	U: 85° / D: 85°, R/L: 85° / 85°
Loud Speaker	One 24x15x4.5mm
Audio Output	1W
Operating Temperature	-20 ~ +70°C, RH 90%
Storage Temperature	-30 ~ +80°C, RH 90%
Power Consumption	Appr. 8 W
Video Inputs	4
Audio Inputs	4
Trigger Signal	5 Trigger Wires

ACCESSORIES



U-Support Bracket



Center Mount Bracket



Sun Shield



IR Remote Control



Angle Adjustment Screws

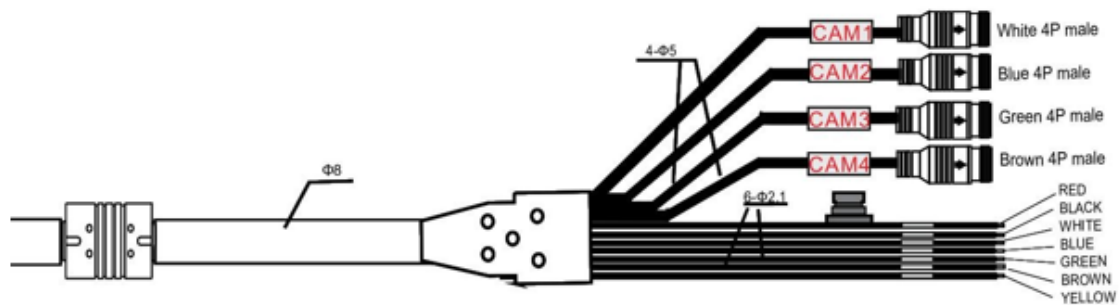


Power Cable

Parts Identification



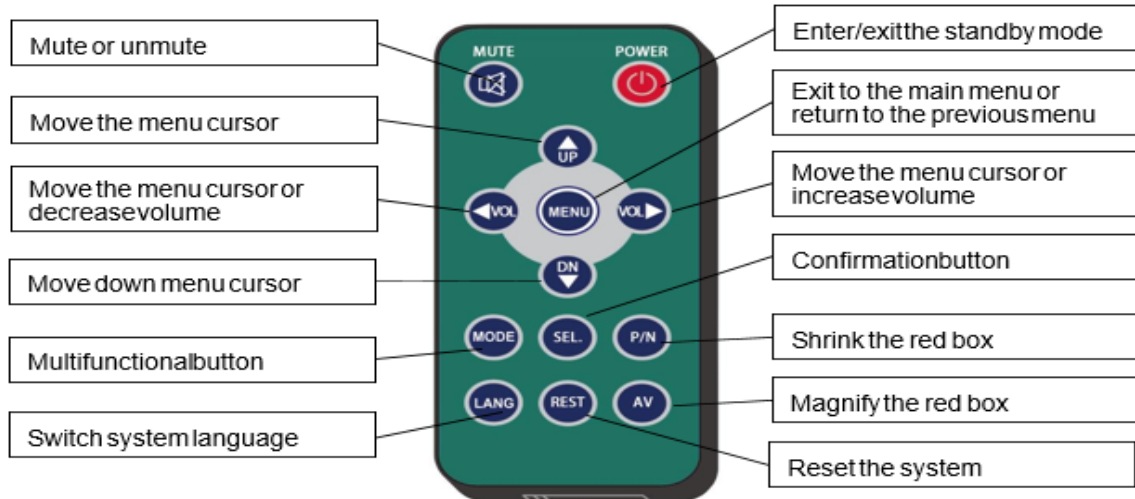
Connections



- White 4p Male for Camera 1
- Blue 4p Male for Camera 2
- Green 4p Male for Camera 3
- Brown 4p Male for Camera 4
- Single red wire to power wire of DC: 10-32V
- Single black wire to GND
- Single white wire to positive power wire of Camera 1
- Single blue wire to positive power wire of Camera 2
- Single green wire to positive power wire of Camera 3
- Single brown wire to positive power wire of Camera 4
- Single yellow wire to positive power wire of Camera Split

Menu Operation & Functional Specification

6.1 IR Remote Control



1. MUTE:

- Mute or unmute the monitor, and open the volume adjustment menu

2. POWER:

- Enter or exit the standby mode

3. VOL ▷

- Open the volume adjustment menu
- Move the red box in the magnified mode
- Move the displayed place of the magnified image
- Move the menu cursor

4. VOL ◁

- Open the volume adjustment menu
- Move the red box in the magnified mode
- Move the displayed place of the magnified image
- Move the menu cursor

5. UP ▲

- Switch the channel without auto scan and trigger function turned on
- Move the red box in the magnified mode
- Move the displayed place of the magnified image

6. DOWN ▼

- Switch the channel without special mode such as auto scan and trigger function turned on
- Move the red box in the magnified mode
- Move the displayed place of the magnified image

7. P/N:

- Shrink the red box if the red box is shown in the magnified mode

8. LANG:

- Switch to different languages on some menus

9. REST:

- Reset the system

10. AV:

- Magnify the red box if the red box is shown in the magnified mode

11. SEL:

- Enter the menu which the cursor selects
- Show/hide a red box to magnify the displayed area when in single view display mode and without special mode such as auto scan or trigger function on
- Magnify the image to full screen when the red box is shown in the magnified mode

12. MENU:

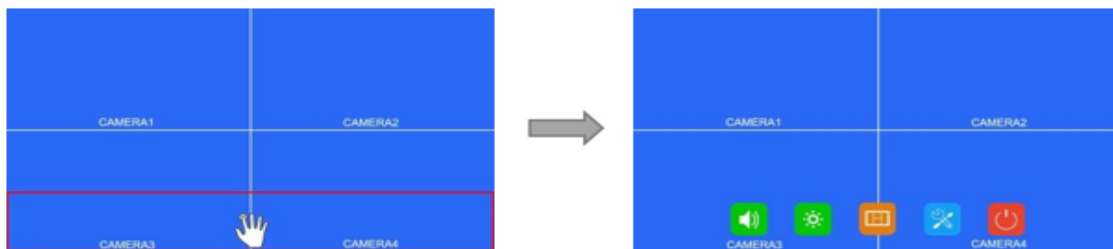
- Exit to the main menu or return to the previous menu
- Return the magnified image to normal size when the green box is shown in the magnified mode

Menu Operation & Functional Specification

6.2.1 Desktop

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Increase/reduce the volume
- ▼ : Switch display mode
- M: Press for 3secs to enable/disable the menu lock; short press to open home menu



Pic 6.2.1-1

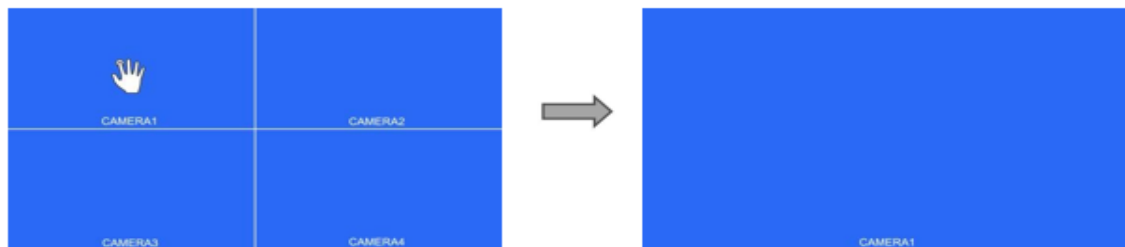
Touch Screen Instructions:

- Click the area in the red box as the pic above to open home menu (Pic 6.2.1-1)



Pic 6.2.1-2

- Without special mode such as auto scan or trigger function turned on, the swiping to the left and right of the touch screen can switch the display mode following the order: CAM1 → CAM2 → CAM3 → CAM4 → DUAL → TRIPLE → TREFOIL → Y-SPLIT → H.SPLIT → QUAD → PIP1 → PIP2 → PIP3 → SP → CAM1
- Support swiping up/down to exit/enter the standby mode



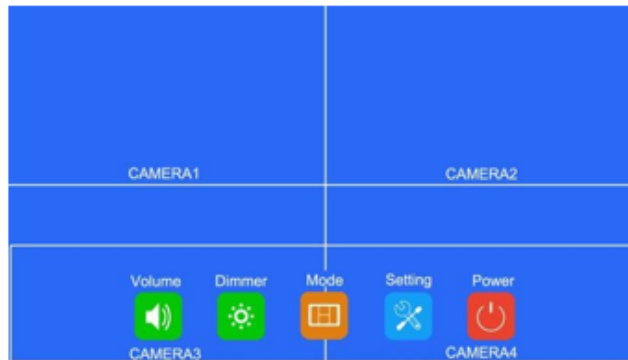
- Without special mode such as auto scan or trigger function turned on, and when in split view display (no PIP1/2/3 or SP), single touch one of the channel to enter single view display of the channel, and touch again to enter split view
- Without special mode such as auto scan or trigger function turned on, and when it's split view display (not PIP1/2/3 or SP), double touch different channels will pop up a green semitransparent box, and when the fingers leave the screen, the two channels will exchange the position. If the channel that you want for exchange is not displayed, you may move the touch point to the top of the screen, and the hidden channel will show up.
- Without special mode such as auto scan or trigger function turned on, and when it's split view display (not PIP1/2/3 or SP), double touch same channels will pop up a red semitransparent box for choosing audio output channel
- Without special mode such as auto scan or trigger function turned on, without menu, and when in single view display, double touch the screen to pop up the red box, increase or shorten the distance between the two points to enlarge/shrink the red box
- Click the area inside the red box to magnify the selected area. When entering the amplified image, the single point dragging can move the image. Single click the magnified image to go back to the normal size. Click the area outside the red box to exit the magnified mode.

Menu Operation & Functional Specification

6.2.2 Home Menu

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼: Enter the chosen menu
- M: Exit home menu



Pic 6.2.2

Touch Screen Instructions:

- Click the icon to enter the corresponding menu. Click the area outside the white box to exit home menu

6.2.3 Volume

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Increase/reduce the volume
- ▼: Enter/Exit the mute mode
- M: Return to the previous menu



Pic 6.2.3

Touch Screen Instructions:

- Touch and drag the volume scroll bar to adjust the volume
- Click the speaker icon to enter/exit the mute mode
- When under mute mode, the operation of scroll bar adjustment will cancel the mute

Menu Operation & Functional Specification

6.2.4 Brightness

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Increase/reduce the brightness
- ▼: Switch the brightness scroll bar when the auto dim is on
- M: Return to the previous menu

When Auto Dim is off:



Pic 6.2.4-1

When Auto Dim is on:



Pic 6.2.4-2

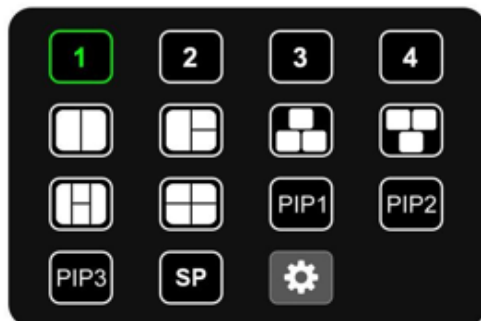
Touch Screen Instructions:

- Drag the brightness scroll bar to adjust the brightness
- ☀ Brightness in the day
- 🌙 Brightness at night

6.2.5 Mode

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼: Use cursor to select the display mode. If ⚙ icon is selected, enter the Split Setup menu when in split-view display mode
- M: Return to the previous menu



Pic 6.2.5

Touch Screen Instructions:

- Click the icon to switch to the corresponding display mode; if ⚙ is selected, enter Split Setup menu when in split-view display mode
- Click the area outside the menu to exit

Menu Operation & Functional Specification

6.2.5.1 Split Setup

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: To change the corresponding features of the layer when setting up Layer 1-4; to move the cursor when setting up Audio
- ▼: Cursor switch
- M: Return to the previous menu
- S: Select the camera channel and audio output channel



Pic 6.2.5.1-1



Pic 6.2.5.1-2

Touch Screen Instructions:

- Click Layer 1-4/Audio icon to switch the page
- When setting up Layer1-4: click the bottom setting to adjust the position and size of the screen display or whether to turn on this layer
- Set Audio mix status in Audio menu setting. Turn on/off the audio mix mode and select audio output channels. Multiple audio output channels can be selected when set ON. No audio output available when none of these channels are selected

IR Instructions:

- LANG: Switch system language
- UP / DOWN: Same as ▼ on the button panel
- SEL: Same as S on the button panel

Feature Instructions:

- Source: The camera channel being displayed of the layer
- Enable: if the layer is displayed

► The following features are only available when in PIP1/2/3 or SP view display mode. Specifically, when in SP view display mode, the setting uses scroll bars for high precision adjustment:

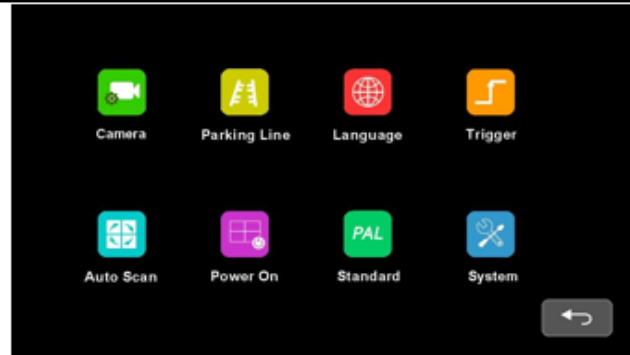
- Width Scale Ratio: The horizontal down scale ratio of the layer
- Height Scale Ratio: The vertical down scale ratio of the layer
- X Position Type: The horizontal position of the layer
- Y Position Type: The vertical position of the layer
- Output Channel: Audio output channel
- Audio Mix: Audio mix switch

Menu Operation & Functional Specification

6.2.6 Setting

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼: Enter the chosen menu
- M: Return to the previous menu



Pic 6.2.6

Touch Screen Instructions:

- Click the icon to enter the corresponding menu

IR Remote Instructions:

- LANG: Switch system language

6.2.6.1 Camera


Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Set up the features the cursor selects
- ▼: Move the menu cursor
- M: Return to the previous menu



Pic 6.2.6.1-1

Touch Screen Instructions:

- Click the camera channel icons on the top to show the parameters of the corresponding channel
- Click the ON/OFF icons or drag the scroll bars to change the features
- Click the icon  to edit the camera channel name

IR Instructions:

- LANG: Switch system language
- UP / DOWN: Same as ▼ on the button panel

Feature Instructions:

- Camera Name: Camera channel name
- H Mirror: Horizontal mirror

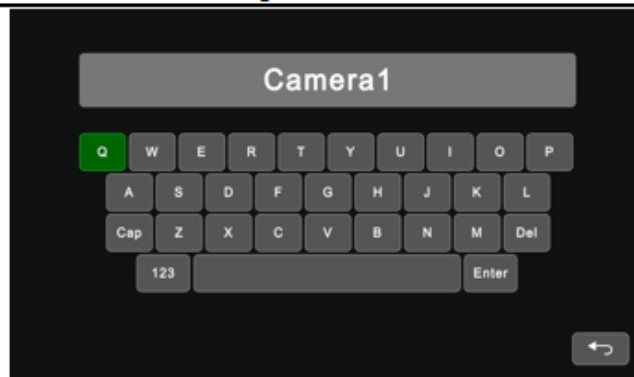
6.2.6.1 Camera Continued

- H Mirror: Horizontal mirror
- V Mirror: Vertical mirror
- Automatic Power: When it's ON, the cameras will be powered only when displayed. When it's OFF, the cameras will be constantly on except in standby mode. When it's CONSTANT, the cameras will be constantly on even in standby mode
- Audio: Volume of the camera channel. Each camera channel has its own volume setting (when under mute mode, the operation of Audio Adjustment will cancel the mute)
- Brightness: Brightness of the channel
- Contrast: Contrast of the channel
- Color: Saturation of the channel
- Sharpness: Sharpness of the channel

Keyboard

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼: Click the chosen icon
- M: Go back to the camera menu without saving



Pic 6.2.6.1-2

Touch Screen Instructions:

- Click the letter icons to edit the channel name
- Clicking the letter edit box can move the cursor and change the cursor position

IR Remote Instructions:

- MODE: Switch the keyboard mode, lower case letters → special numerical character 1 → special numerical character 2 → capital letters → lower case letters
- SEL: Same as ▼ on the button panel
- SYS: Delete one character before the cursor in the character edit box

Feature Instructions:

- The following keys are special for:
 1. CAPS: Switch between capital/lower case letters
 2. 123: Switch to special numerical character 1 and 2
 3. DEL: Delete the last letter before the edit box
 4. ENTER: Save the revised channel name, and go back to the camera menu

Menu Operation & Functional Specification

6.2.6.2 Parking Line


Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼ : Enter the chosen menu or change the state of ON/OFF/AUTO icons
- M: Return to previous menu



Pic 6.2.6.2-1

Touch Screen Instructions:

- Click the ON/OFF/AUTO icons to select the display methods of parking lines: AUTO (display when triggered) / ON (constantly on) / OFF. Click the  icon to enter parking lines calibration menu "Calibrate"

IR Remote Instructions:

- LANG: Switch system language

Calibrate

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- M: Return to the previous menu
- S: Turn on/off the adjustment assistance grids
- ▼ : Short press to switch the button panel adjustment mode, and the icon representing the button panel adjustment mode on the top left will switch. Long press for 3secs to switch parking line types

Button Panel Adjustment Mode Instructions:



Zoom Horizontally

- +/-: Horizontally magnify/shrink the parking lines



Zoom Vertically

- +/-: Vertically magnify/shrink the parking lines



Move Horizontally

- +/-: Parking lines move to the left/right



Move Vertically

- +/-: Parking lines move up/down



Zoom Integrally

- +/-: Integrally magnify/shrink the parking lines



Parking Lines Reset

- +/-: Reset

Menu Operation & Functional Specification

Calibrate Continued



Pic 6.2.6.2-2


Touch Screen Instructions:

- Drag the black vertexes of the parking line to adjust the shape. Drag the area besides the vertexes to move the whole parking line.
- Use double touch to enlarge or lessen the whole parking lines
- Tapping the icon on the top left will pop up the reset icon and tap it to resume the default config. Tap TYPE1/2 icon on the top right to switch the parking line types. Tap GRID icon to turn on/off the adjustment assistance grids.

IR Remote Instructions:

- MODE: Magnify the whole parking lines
- LANG: Shrink the whole parking lines
- SEL: Turn on/off adjustment assistance grids
- P/N: Switch the current focuses
- SYS: Resume the default config
- AV: Switch the parking line types

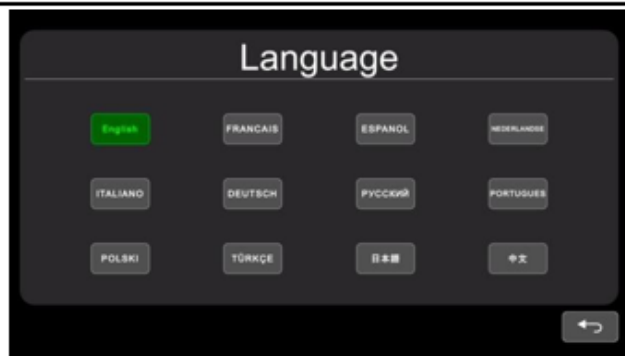
Other Instructions:

- There will show the coordinate of the current focus on the top left
- The  icon indicates which one the touch operation focuses on

6.2.6.3 Language

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼ : Confirm and switch system language
- M: Return to previous menu



Pic 6.2.6.3

Touch Screen Instructions:

- Touch icons to switch system language

Menu Operation & Functional Specification

6.2.6.4 Trigger

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼ : Pop up the edit menu
- M: Return to previous menu



Pic 6.2.6.4

Touch Screen Instructions:

- Touch any of "Delay" line to activate digital input box
- Touch any of "Priority" line to activate digital selection box
- Touch any of "Display" line to activate interface to select display images

IR Remote Instructions:

- LANG: Switch system language

Feature Instructions:

- Delay: Trigger display image duration after trigger signal is disappeared, ranging from 0-60 seconds
- Priority: Settings of trigger priorities. Trigger in higher priority can interrupt lower priority trigger. The range of the priorities is 1 to 5. The smaller the number, the higher the priority.
- Display: Settings of corresponding trigger display image

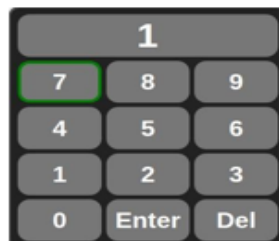
Other Instructions:

- Trigger function can interrupt auto scan function
- When the trigger signal is received, the monitor will switch into the trigger display image automatically and resume the previous state before the trigger occurs after delay time
- Support trigger detection in standby mode

6.2.6.4.1 Input Panel

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼ : Select the chosen icon
- M: Return to previous menu without saving



Pic 6.2.6.4.1

Touch Screen Instructions:

- Touch the icons to edit the value. Settings will return back to previous menu without saving if touch beyond the panel

Other Instructions:

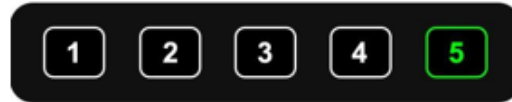
- Input number will turn to 60 if larger than 60
- Enter: Save input. Number input in "Delay" will be saved if return to previous menu
- Del: Delete number

Menu Operation & Functional Specification

6.2.6.4.2 Priority

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- M: Return to previous menu and save



Pic 6.2.6.4.2

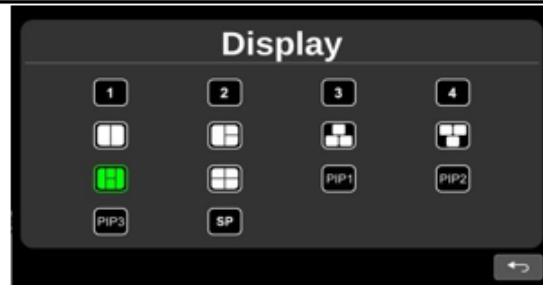
Touch Screen Instructions:

- Touch number to select. Save and return previous menu by touching places out of the frame

6.2.6.4.3 Display


Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- M: Return to previous menu and save



Pic 6.2.6.4.3

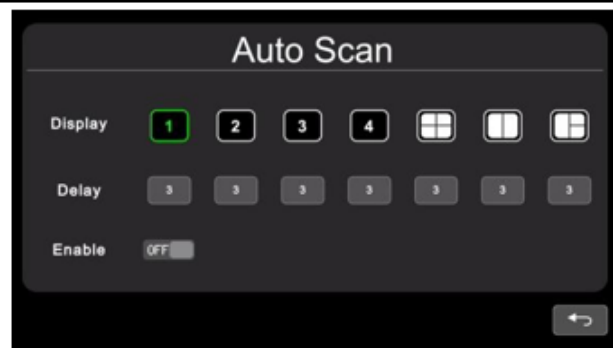
Touch Screen Instructions:

- Touch to select preferred image icon and return to previous menu by touching  icon

6.2.6.5 Auto Scan

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼ : Pop up the edit menu or change the state of ON/OFF icon
- M: Return to previous menu



Pic 6.2.6.5

Menu Operation & Functional Specification

6.2.6.5 Auto Scan Continued

Touch Screen Instructions:

- Touch any of "Delay" line to activate digital input box. Touch "Enable" to turn on/off auto scan function.
- Touch any of "Display" line to activate interface to select display images

IR Remote Instructions:

- LANG: Switch system language

Feature Instructions:

- Display: To set preferred display image when in auto scanning. Details please refer to 6.2.6.4.3 "Display" part
- Delay: To set duration time of scanning image, ranging 0-60secs. If delay of certain channel is set to 0, then auto scan will skip to another channel whose delay is longer than 0secs. Operation of delay is same as chapter 6.2.6.4.1 "Input Panel" Part
- Enable: Turn on/off auto scan function

Other Instructions:

- If parameters of "Display" or "Delay" are changed during auto scan, they will take effect on next cycle. User can also validate parameters immediately by turning off and on again the auto scan function. Auto scan can be interrupted by trigger function.

6.2.6.6 Power On

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor and highlight the selected icon
- ▼: Highlight/cancel the icon selected
- M: Return to previous menu and save




Pic 6.2.6.6

Touch Screen Instructions:

- If the icon is not highlighted, touch to highlight it or to cancel its highlight status

Other Instructions:

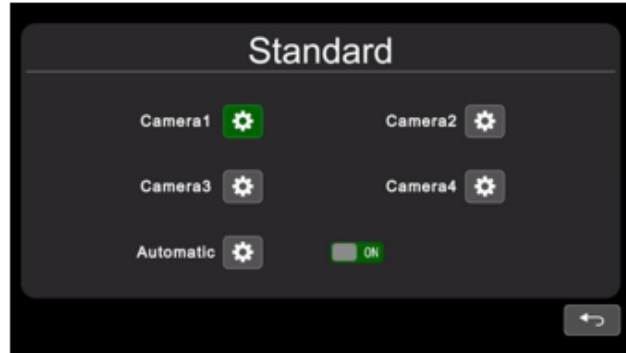
- Highlighted icon is corresponding display image of monitor upon start up. Once  icon has been highlighted, monitor will enter screen off standby mode directly upon power on
- When no icon is green highlighted, it goes automatically to LAST mode, i.e. display image upon power on will be the last image of monitor when it's powered off last time
- If the standby icon is highlighted, monitor will display start up logo if any, then go to standby mode

Menu Operation & Functional Specification


6.2.6.7 Standard

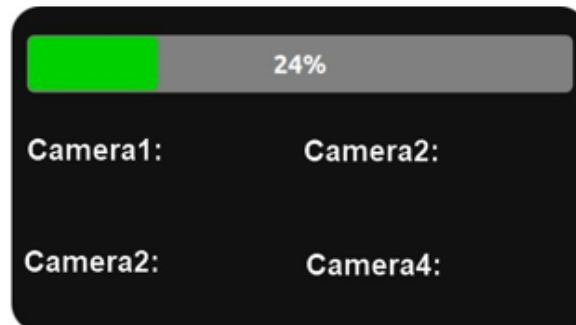
Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼: Select the chosen icon
- M: Return to previous menu



Pic 6.2.6.7-1


When automatic is on, monitor will automatically fit for input cameras. If automatic is off, the monitor will configure with user inputted settings. User is able to set input formats of corresponding cameras via touching  icon for each channel or turn on automatic to enter automatic configuration. There will be progressing of automatic configuration, and it will display information of recognized camera after 100% finished. Or the information will be empty if camera can't be recognized in automatic process.



Pic 6.2.6.7-2

- LANG: Switch system language
- MENU: Return to previous menu. System can exit after progress bar reaches 100% in automatic interface

Other Instructions:

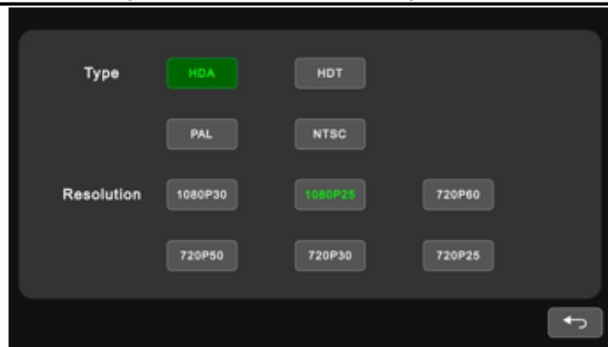
- When "Automatic" is turned ON, HD monitor will adjust to display cameras automatically. At this time, system setting in CAMERA 1 ~ CAMERA 4 and auto configuration of "Automatic" doesn't work
- When "Automatic" is turned OFF, HD monitor will respond to fixed system settings in menu of CAMERA1 ~ CAMERA4. It allows the user to manually set each camera's input format or auto configure by touching the  icon in "Automatic" menu.
- HD monitor won't response to any press or touch operation before progress bar reaches 100%. It's able to exit by press or touch only after 100% finished.

Menu Operation & Functional Specification

Format Menu

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Move the cursor
- ▼ : Select the chosen icon. If PAL or NTSC is selected in phase 1, system won't enter phase 2.
- M: When on phase 1, return to the previous menu. When on phase 2, return to phase 1.



Pic 6.2.6.7-3

Touch Screen Instructions:

- If PAL or NTSC is selected in TYPE, touch operation won't respond on Resolution selection

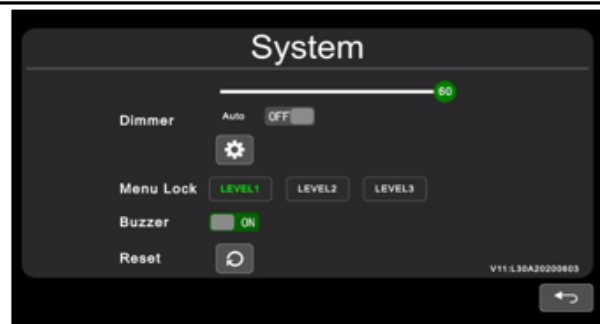
IR Remote Instructions:

- LANG: Switch system language
- ▶ While using IR or Button Panel, the operation includes 2 selection phases.
- Phase 1 <Type Selection>: If PAL or NTSC is selected, system won't enter phase 2
- Phase 2 <Resolution Selection>: If user enters this interface from "Standard" menu, it enters phase 1 by default

6.2.6.8 System


Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Confirm or make settings on features
- ▼ : Move the cursor
- M: Return to the previous menu



Pic 6.2.6.8-1


Touch Screen Instructions:

- Drag scroll bar of Dimmer to adjust screen backlight under day mode. When Auto of Dimmer is ON, backlight adjustment of Day/Night mode will be accessible by touching  icon

IR Remote Instructions:

- LANG: Switch system language

Feature Instructions:

- Dimmer: Scroll bar adjusts backlight under Day mode. When Auto of Dimmer is ON, monitor will turn on auto backlight function, which is, screen will turn bright in bright environments (Day mode) and turn dark in dim circumstances (Night mode). Degree and sensitivity of backlight of day or night mode can be set from menu  icon
- Menu Lock: Degree of menu lock. Continuously press M key of Button Panel or MENU button of IR remote for 3 seconds under Desktop status can enable/disable menu lock and touch operation

Menu Operation & Functional Specification

6.2.6.8 System Continued..

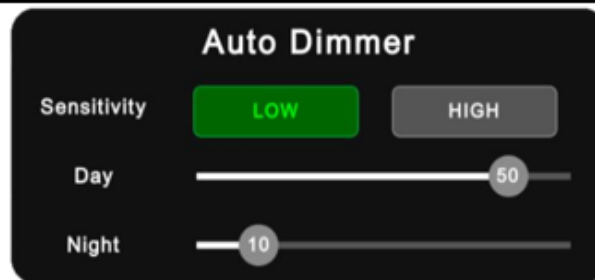
There is 3 levels of menu lock:

- Level 1: All buttons fail to respond. If setting of POWER ON menu is set to standby mode, system can be turned on by power button
 - Level 2: All buttons fail to respond except for POWER, VOL+ or VOL-
 - Level 3: No response to M key of Button Panel and MENU button of IR Remote
- Buzzer: When it's on, it will shortly alarm if release buttons or touch

Auto Dimmer

Button Panel Instructions:

- Power: Enter/Exit Standby Mode
- +/-: Make settings on features
- ▼ : Move the cursor
- M: Return to the previous menu



Pic 6.2.6.8-2

Touch Screen Instructions:

- Drag scroll bar to adjust backlight of screen in corresponding Day/Night Mode

IR Remote Instructions:

- LANG: Switch system language

Feature Instructions:

- Day: Backlight degree of Day mode is always higher than that of Night mode, ranging from 0-60
- Night: Backlight degree of Night mode is always lower than that of Day mode, ranging from 0-60

PRECAUTIONS

► Storage and Keeping

- Do not expose the monitor to excessive heat or cold. The storage temperature of this device is $-30 \sim +80^{\circ}\text{C}$, and the operating temperature is $-20 \sim +70^{\circ}\text{C}$.
- Never use this device near a bathtub, wash basin, kitchen, damp basement, swimming pool or similar places.
- Never use this device in the environment with excessive moisture, dust or smoke
- Avoid dropping or striking this device
- Avoid using this device in enclosed spaces, areas with excessive vibration or subject to severe impacts
- Never puncture, scratch or use abrasive cleaning materials on this device
- Do not place cables where they may be pinched or stepped on
- Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device
- The monitor is not designed to be waterproof

► Operating Precautions

- The device can be powered by DC power 10V - 32V (e.g. 12V or 24V ACC)
- Make sure all cables are connected properly, and check the polarity, as improper cable connections may damage the monitor. Remove the power cable connections when you do not intend to use the device

WARNING!

- High voltage is present within the monitor. The opening of the case should be by professionals
- Do not watch the video while driving unless you are monitoring the display

SPECIAL NOTICE

Occasionally, a few highlights or dark spots may occur on the LCD screen. This is a very common phenomenon in active matrix display technology, and doesn't necessarily indicate any defects or faults

Never try to repair this device by yourself. In case of any problems, please turn off the display at once and notify our company or the authorized dealer. The monitor is a complex device, and any disassembly or modification may lead to damage and void the warranty.

MAINTENANCE

- Remove all the cable connections from the monitor before cleaning the device.
- Use a mild household detergent and clean the unit with a slightly damp, soft cloth.
- Never use strong solvents such as thinner or benzene, as they might damage the finish of the device



CAUTION!!!

Risk of Electrical 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

You are cautioned that any changes or modifications not expressly approved in this manual could void your warranty and necessitate expensive repairs

[FCC COMPLIANCE STATEMENT]

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - This device may not cause harmful interference
 - This device must accept any interference received, including interference that may cause undesired operation