STSM370

10.1" HD Digital LCD Color Monitor

Please read all instructions before using the product. Keep this manual for future reference.

S/W version or performance, and it may be altered without notice.

Contents

1. Precautions

● Storage

1) Storage temperature: -30°C – +80°C
   Operating temperature: -20°C – +70°C.
2) Never use this device in the environment with excessive moisture, dust, or smoke.
3) Avoid dropping or striking this device.
4) Never use this device in enclosed spaces, areas with excessive vibration, or subject to severe impacts.
5) Never puncture, scratch, or use abrasive cleaning materials on this device.
6) Do not place cables where they may be pinched or stepped on.
7) Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device.
8) The monitor is not designed to be waterproof.

● Operating Precautions

1) The device can be powered by 10V - 32V DC (e.g. 12V or 24V ACC).
2) Make sure all cables are connected properly.
3) Check the polarity, as improper cable connections may damage the monitor.
4) 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 done by authorized professionals.

⚠ **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 Rosco or the authorized dealer. The monitor is a complex device. Any disassembly or modification may lead to damage and void the warranty.

2.Features and Specifications

1) 10'' HD quad-view monitor, supports input resolution up to 1024 x 600P.

2) Support 4 HD camera inputs and split-view display mode.

3) Multiple video formats available: 1080P30, 1080P25, 720P30, 720P25, PAL, NTSC.

4) Single, Dual, Triplex, Trefoil, Y-split, Quad,4-H, and PIP view display modes available.

5) Each channel supports independent image adjustment for horizontal-mirroring and/ or vertical-mirroring of the display.

6) Capacitive touch screen with gesture detection; icon menu operation.

7) Five trigger wires, with triggered image display, and adjustable delay off & trigger priority.

8) Supports auto scanning, with scanning sequence and editable hold time.

9) Adjustable parking lines available.

10) Supports 60-level manual brightness adjustment with Day/Night mode, and 2-level automatic adjustment of the LCD backlight.

11) Multiple languages available(English, French, Spanish, Dutch, Italian, German, Russian, Portuguese, Polish, Turkish, Japanese, Chinese).

12) 1.5W speaker included.

13) Wide voltage range input: 10 – 32V; Supports 12V or 24V automobile battery; Includes short circuit protection.

14) Easy installation and convenient operation, with innovative functions.

15) Applicable to interior / exterior vehicle video systems.

16) Compliance with CE/FCC standards.

⚠ Special Notice

Vehicle accessory voltage supply may vary depending on application.

3. Accessories
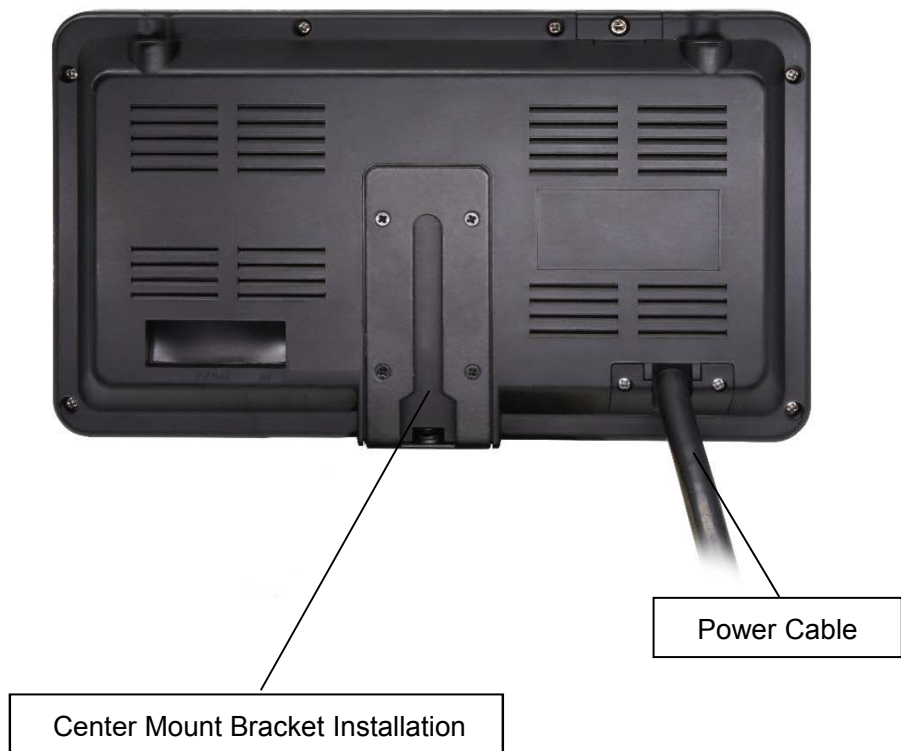
|	
U-Support Bracket	Center Mount Bracket
Sun Shield	Angle Adjustment Screws
Power & Video Input Harness	

4. Part Identification

Power Switch /
Power Indicator

Light level sensor

Loudspeaker

Digital Color LCD Screen, Touch Screen

Power Cable

Center Mount Bracket Installation

5. Connections
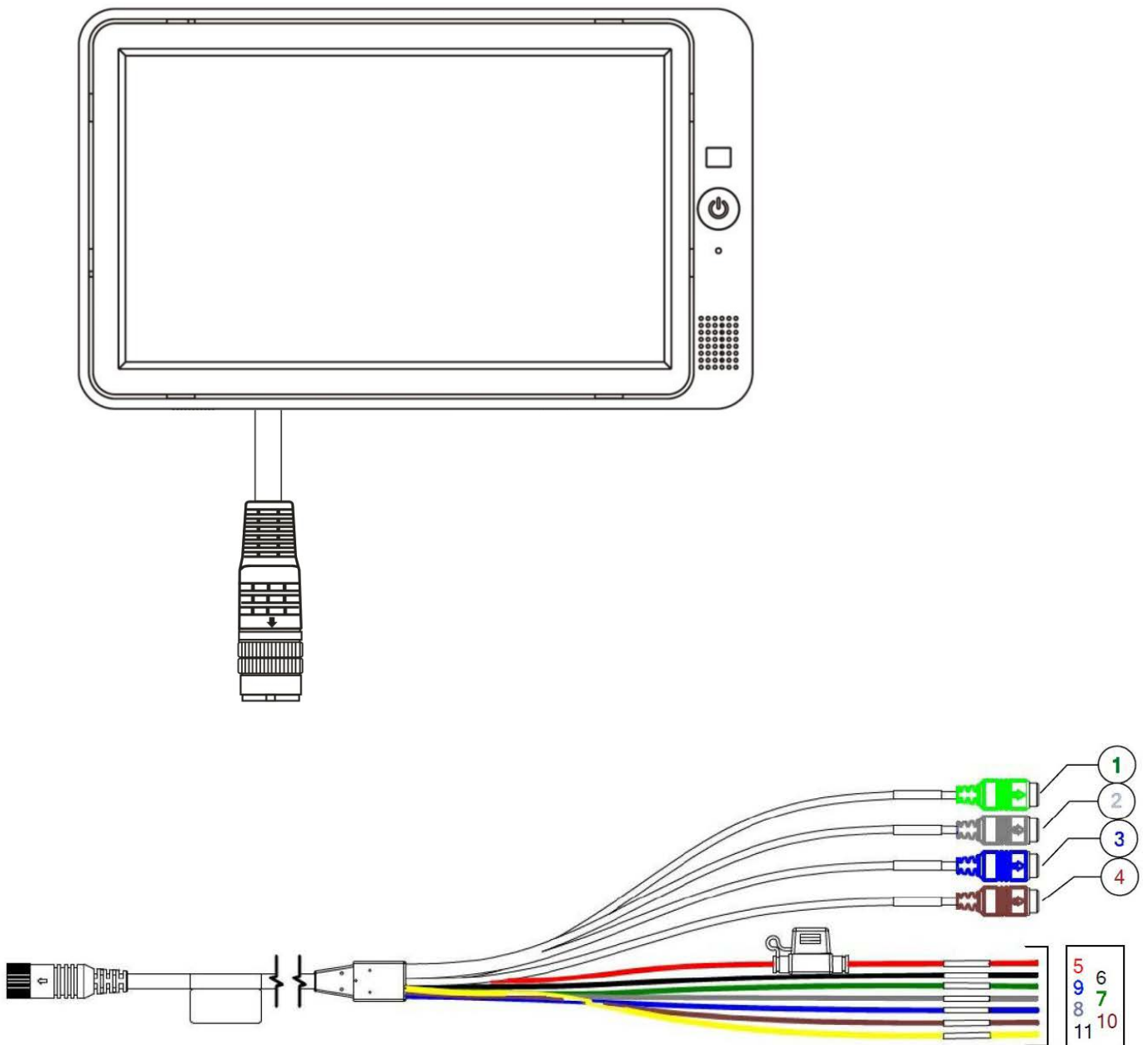
(1)   Green 4 Pin male: Camera 1.

(2)   White 4 Pin male: Camera 2.

(3)   Blue 4 Pin male: Camera 3.

(4)   Brown 4 Pin male: Camera 4.

(5)   Red wire: 10 – 32V DC.

(6)   Black wire: Vehicle GND.

(7)   Green wire: Camera 1 Trigger.

(8)   White wire: Camera 2 Trigger.

(9)   Blue wire: Camera 3 Trigger.

(10) Brown wire: Camera 4 Trigger.

(11) Yellow wire: Split View Trigger.

6. Menu
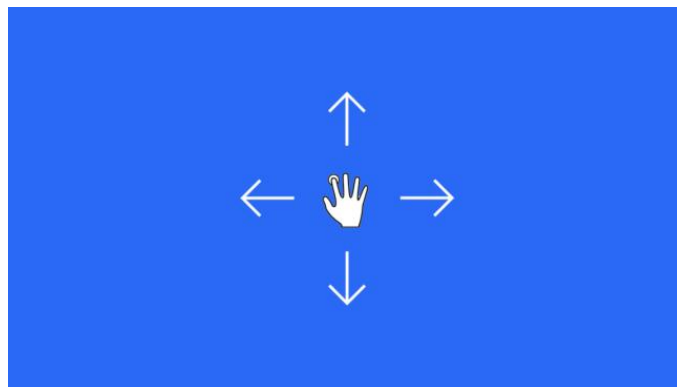
6.1 Menu Operation

### 6.1.1 Desktop
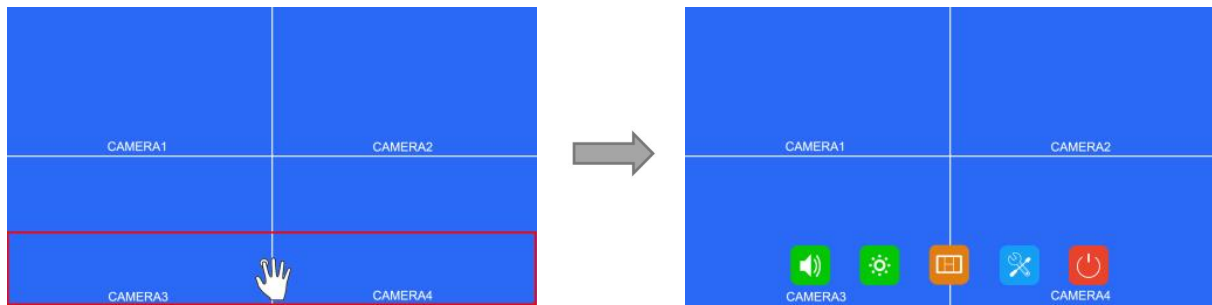
Pic. 6.1.1-1

Touch Screen Instructions:

● Touch the area in the red box (the lowest 1/4th of the screen) as pictured above to open the settings menu.


Pic. 6.1.1-2

● While no special modes are active, such as Auto-scan or any of the camera triggers, you can change channels by swiping to the left or right on the touch screen. The channels switch in the following order:
CAM1<->CAM2<->CAM3<->CAM4<->DUAL<->TRIPLE<->TREFOIL<->Y-SPLIT<->H.SPLIT<->QUAD<->PIP1<->PIP2<->PIP3<->SP<->CAM1.

● Swipe up/down to exit/enter the standby mode.
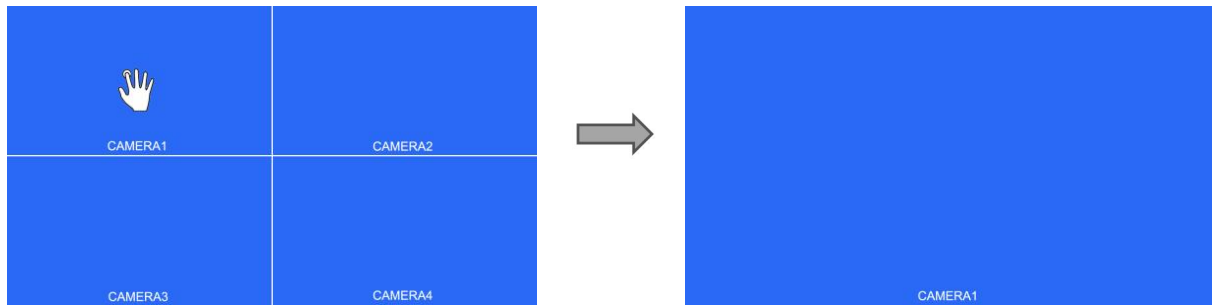
Pic. 6.1.1-3

● While no special modes are active, such as Auto-scan or any of the camera triggers, and while viewing any of the split view displays (excluding PIP1/2/3 or SP):

  o Touch one of the channels to enter a single view display of the channel, and touch the screen again to return to split view.

  o You can switch the camera view positions by holding your finger down on one channel and then touching another channel with another finger. The camera views that are to be switched will be highlighted green while both fingers are touching the different channels. If the channel that you want for switch is not displayed, you may drag your finger(s) to the top of the screen, and the hidden channel will appear.

  o You can change which channel is broadcasting audio by tapping on that channel with two fingers. The selected channel will be highlighted red while your fingers are still touching the screen. If the channel that you want for audio output is not displayed, you may drag your finger(s) to the top of the screen, and the hidden channel will show up.

● While no special modes are active, such as Auto-scan or any of the camera triggers, while not in the menu, and when in single view display, you can magnify the image on screen.
  o Pinch or un-pinch an area on screen to create a view window (red box).
  o After creating the view window, you can move it any part of the screen by dragging it from the inside of the view window. You can resize the view window by pinching or un-pinching inside the view window.
  o You can expand the view window to full-screen, (zooming in), by tapping on the inside of the view window, and tapping again to zoom back out.
  o Tap outside the view window to exit magnify mode. Magnify mode will automatically time out after 30 secs.
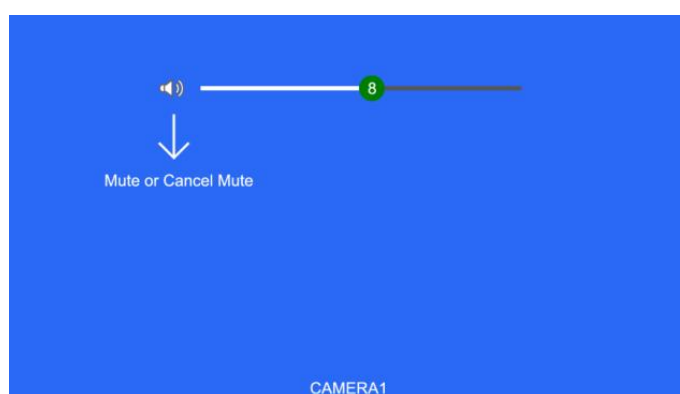
6.1.2 Home Menu
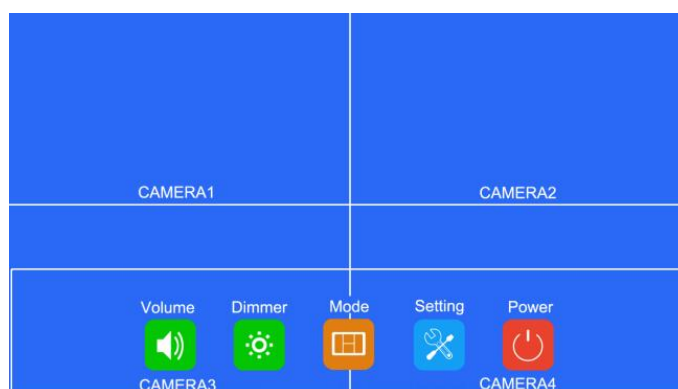
Pic.6.1.2

Feature Instructions:
● Touch the icon to enter the corresponding menu. Touch the area outside the white box (the lowest 1/4th of the screen) to exit home menu.

6.1.3 Volume

Pic.6.1.3

Feature Instructions:
● Touch and drag the volume scroll bar to adjust the volume.
● Touch the speaker icon to mute/un-mute the monitor.
● Touch the screen outside of the volume controls to return to the settings menu.

Other Instructions:
● While muted, adjusting the volume bar will un-mute the monitor.

6.1.4 Brightness

When auto dimmer is off:

Pic.6.1.4-1

When auto dimmer is on:

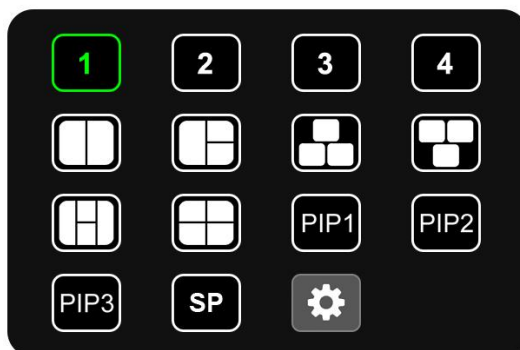Pic.6.1.4-2

Feature Instructions:
● Drag the brightness scroll bar to adjust the brightness.

Other Instructions:

: Brightness in the day.

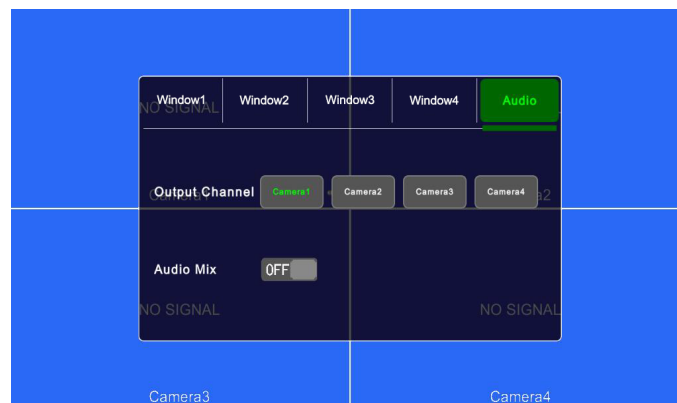: Brightness at night.

6.1.5 Mode

Pic.6.1.5

Feature Instructions:

● Touch the icon to switch to the corresponding display mode; press the ⚙ while in Split-view mode to bring up the Split-view settings menu..

● Touch the area outside the menu to exit.

6.1.5.1 Split Setup

Pic.6.1.5.1-1

Pic.6.1.5.1-2

Feature Instructions:

● Touch Window 1 – 4/Audio to switch the page.

● When setting up Window 1-4: Tapping one of the camera options will open the options list for corresponding feature; click the option to change the feature, or long press the list and drag it to the option.

● When setting up the audio, you can enable multi-channel audio. 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 is available when none of these channels are selected.

6.1.6 Source

Features Description:
● Source: The camera channel being displayed of the window.
● Enable: If the window is displayed.

The following features are only available when in PIP1/2/3 or SP view display mode. Specially, 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 window.

● Height Scale Ratio: The vertical down scale ratio of the window.

● X Position Type: The horizontal position of the window.

● Y Position Type: The vertical position of the window.

● Output Channel: Audio output channel.

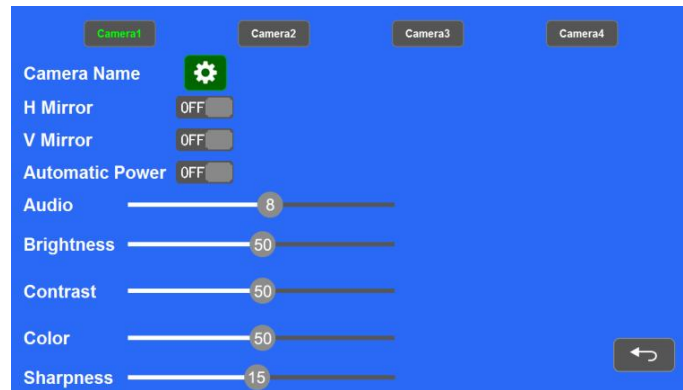● Audio Mix: Audio mix switch.

6.1.7 Setting
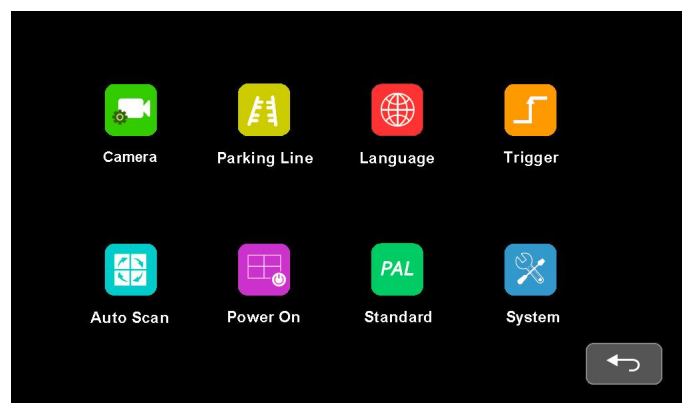
Pic.6.1.7

Feature Instructions:
● Click the icon to enter the corresponding menu.

6.1.7.1 Camera

Pic.6.1.7.1

Feature Instructions:

● Touch the camera channel icons on the top to show the parameters of the corresponding channel.

● Touch the ON/OFF icons or drag the scroll bars to change the features.

● Touch the icon 🛠 to edit the camera channel name.

Features Descriptions:

● Camera Name: Camera channel name.

● H Mirror: Horizontal mirror.

● V Mirror: Vertical mirror.

● Automatic Power: When set to ON, the cameras will be powered only when displayed on screen. When it's OFF, the cameras will be constantly powered on except in standby mode. When it`s CONSTANT, the cameras will be constantly powered on even in standby mode.

● Audio: Volume of the camera channel. Each camera channel has its own volume setting (when muted, the adjustment of audio will un-mute the monitor.

● Brightness: Brightness of the channel.

● Contrast: Contrast of the channel.

● Color: Saturation of the channel.

● Sharpness: Sharpness of the channel.

6.1.7.1.1 Keyboard (Appears when editing the camera channel name)
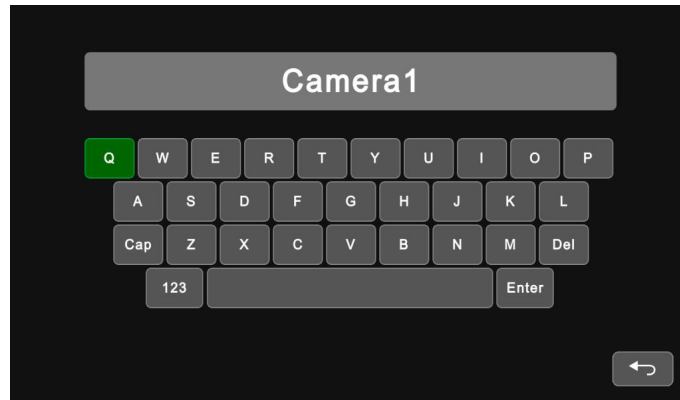
Pic.6.1.7.1.1

Feature Instructions:
● Touch the letter icons to edit the channel name.
● Touching the letter edit box can move the cursor and change the cursor position.

Other Instructions:
● The following keys are special for:
1) Caps: Switch between capital/low-case letters.
2) 123: Switch to special numerical character 1 and 2.
3) Del: Delete the last letter before the edit cursor.
4) Enter: Save the revised channel name, and go back to Camera menu.

6.1.7.2 Parking Line

Pic.6.1.7.2

Feature Instructions:

● Touch 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 grid calibration menu "Calibrate".
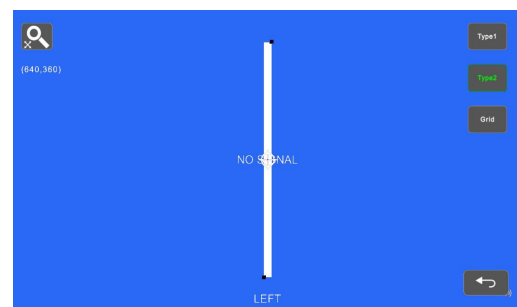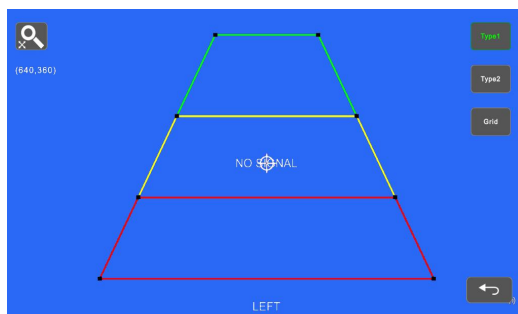
6.1.7.2.1 Calibrate

🔍 Grid Scale

● +/-: Change to button ↻ .

↻ Parking lines reset

● +/-: Reset.

Pic.6.1.6.7.1

Feature Instructions:

● Drag the black vertexes on the parking grid to adjust the shape. Drag the icon in the center of the parking grid to move the whole parking grid.

● Pinch or un-pinch an area on screen to enlarge or shrink the parking lines.

● Tap TYPE1/2 icon on the top right to switch the parking line types. Tap the GRID icon to turn on/off the adjustment assistance grids.

● Tapping the 🔍 icon in the top left will bring up the ↻ icon; tap the ↻ icon to reset the parking grid you are currently adjusting to its default configuration.

Other Instructions:

● The coordinates of the current focus will be shown on the top left.

● The icon ⊕ indicates which one the touch operation focuses on.
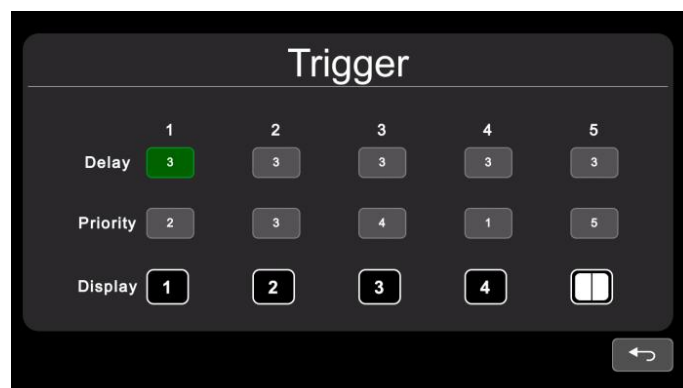
15
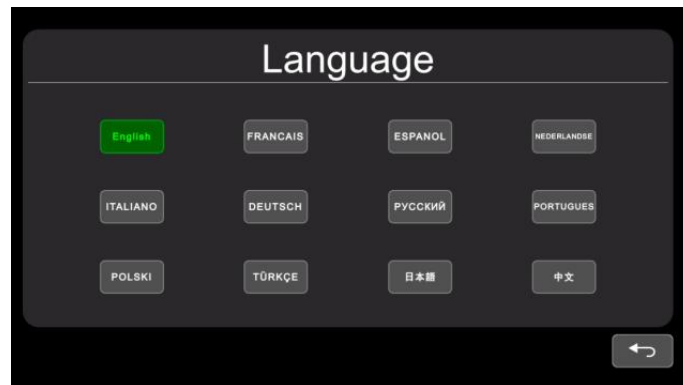
6.1.7.3 Language

Pic.6.1.7.3

Feature Instructions
● Touch the appropriate icon to switch the system language.

6.1.7.4 Trigger

Pic.6.1.7.4

Feature Instructions
● Tap any of the "Delay" boxes to set the delay off time for that trigger.
● Tap any of the "Priority" boxes to swap the trigger priority for that trigger.
● Tap any of the "Display" boxes to select the camera output for that trigger.

Feature Descriptions:
● Delay: Duration after the trigger signal disappears, that the image remains on screen, ranging from 0 to 60 seconds.

● Priority: Settings of trigger priorities. Triggers of higher priority will override lower priority triggers. The range of the priorities is 1 to 5. The smaller the number, the higher the priority.

● Display: Chosen video display for that trigger.

Other Instructions:

● Trigger function can override the auto scan function.

● When the trigger signal is received, the monitor will switch to the trigger display image automatically and return to the previous state before the trigger occurs after delay time.

● Triggers can be activated from standby mode.

6.1.7.4.1 Input panel
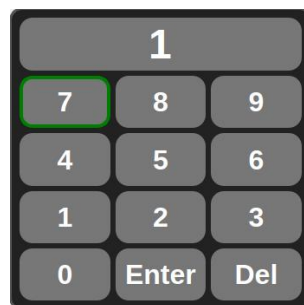
Pic.6.1.7.4.1

Feature Instructions

● Touch the icons to edit the value, and "Enter" to confirm. Settings will reverted back to their original value if you exit the menu without pressing enter. (e.g., Touch outside the panel.)

Other Instructions:

● Input number will turn to 60 if larger than 60.

● Enter: Save input. Number input in "Delay" can be saved by returning to the previous menu screen.

● Del: Delete number.
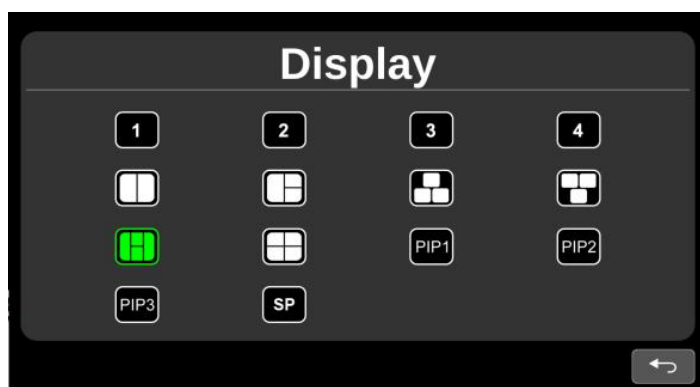
6.1.7.4.2 Priority

Pic.6.1.7.4.2

Feature Instructions:

●Touch the number to select. Save and return previous menu by touching on screen outside of the box.
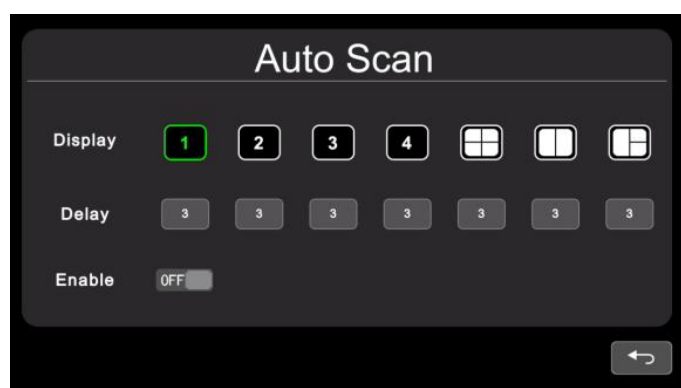
6.1.7.4.3 Display

Pic.6.1.7.4.3

Feature Instructions:

● Touch to select the preferred image icon and return to previous menu by touching [icon]. icon

6.1.7.5 Auto Scan

Pic.6.1.7.5

Feature Instructions:

● Touch the icons in the top row "Display" to select which images will be added to the Auto Scan playlist. The "Delay" number under each view icon determines how long the selected view will be displayed. Toggling the "Enable" slider will activate or deactivate Auto Scan mode.
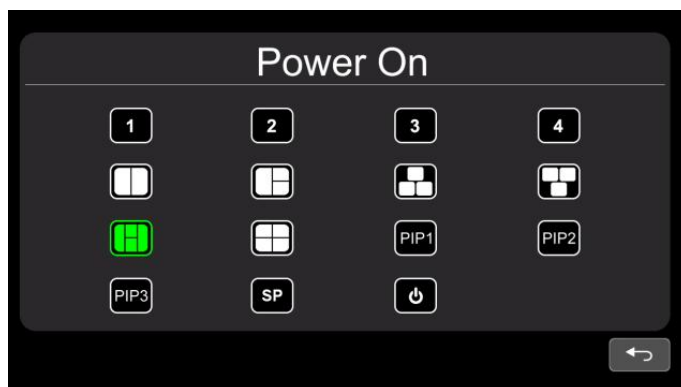
Other Instructions:

● Display: to set the preferred display image when in auto scan mode. For more details, please refer to "6.1.7.4.3 Display" part.
● Delay: Set the duration that the camera view will remain on screen, ranging 0-60s. If the delay of certain channel is set to 0, then auto scan will skip to another channel whose delay is longer than 0 second. Operation of delay is same as chapter 6.1.7.4.1 "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. Toggling the enable slider off then back on will cause any changes to take effect immediately. Camera Triggers will override Auto Scan mode.

### 6.1.7.6 Power On

Pic.6.1.7.6

Touch Instructions:

● If the icon is not highlighted, touch to highlight it or to cancel its highlight status.
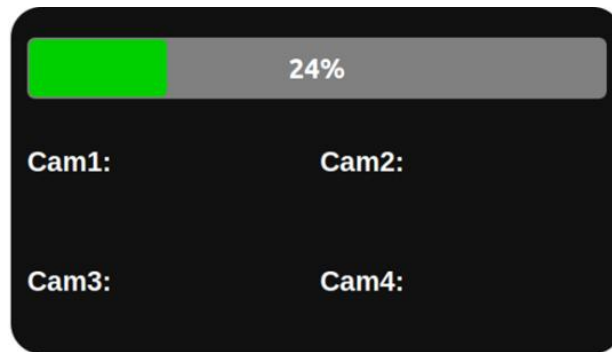
Other Instructions:

● The highlighted icon is the corresponding display image of monitor upon start up. ⏻ once While the last icon is highlighted, monitor will enter screen off/ standby mode directly upon power on.

● When no icon is green highlighted, it goes automatically to last camera view that was displayed prior to the monitor entering standby mode/ screen off.

● If the standby icon is highlighted, monitor will display start up logo if any, then go to standby mode.

6.1.7.7 Standard
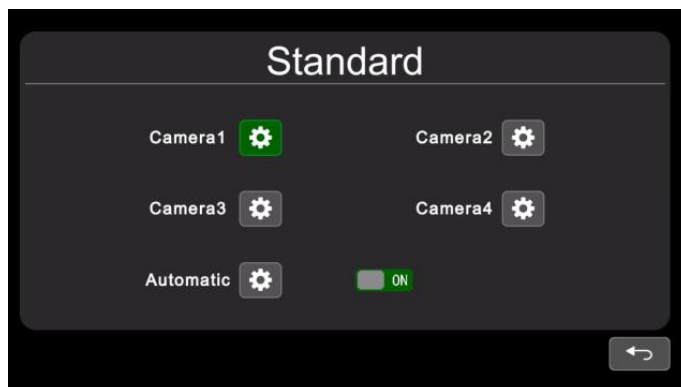
Pic.6.1.7.7-1

When automatic is on, multiplexer will automatically update format to fit input cameras. If automatic is off, the multiplexer will configure with user inputted settings. User is able to set input formats of corresponding cameras via gear icon for each channel or turn on automatic to enter automatic configuration. The multiplexer will run a diagnostic scan to obtain camera information, which will then be displayed upon completion. If the camera can't be recognized in the diagnostic scan, the information display will be empty.
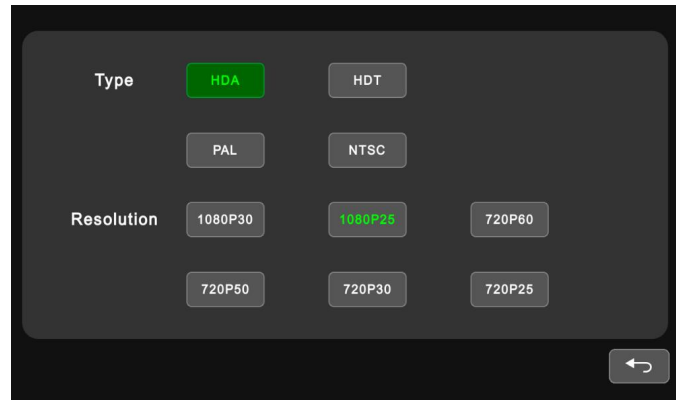

Pic.6.1.7.7-2

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 gear icon in "Automatic" menu.
- Monitor controls will be frozen while scan is in progress. Menu controls will be re-enabled onces progress bar is complete.

6.1.6.7.1 Format menu
The Format menu is split into two inputs.

- Input 1<Type selection>: If PAL or NTSC is selected, system won't enter input 2.
- Input 2<Resolution selection>: If user enters this interface from "Standard" menu, it enters input 1 by default.
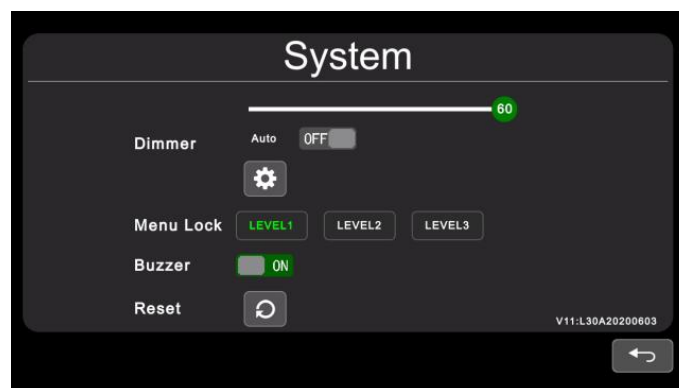
Pic.6.1.7.7.1

Feature Instructions:
● If PAL or NTSC is selected in TYPE, touch operation won't respond on Resolution selection.

6.1.7.8 System

Pic.6.1.7.8

Feature Instructions:
● Drag scroll bar of Dimmer to adjust screen backlight under day mode. When Auto Dimmer is ON, backlight adjustment of Day/Night mode will be accessible by touching the gear icon .
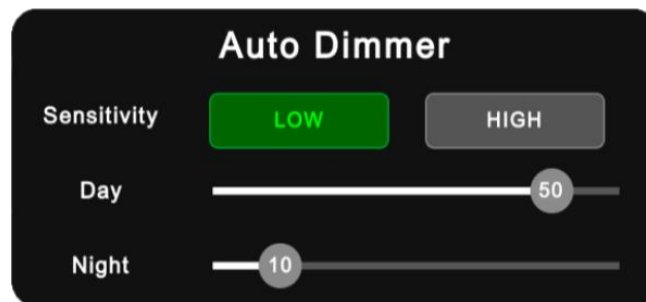
Feature Instructions:
● Dimmer: Scroll bar adjusts backlight under Day mode. When Auto of Dimmer is ON, monitor will automatically toggle between Day and Night mode. In bright environments, the monitor will

turn on it's backlight (Day mode), and in dim lights it will turn of it's backlight (Night mode)
Degree and sensitivity of backlight of day or night mode can be set from the gear menu icon.

● Menu Lock: Degree of menu lock. Hold on the power button for 3 seconds to enable/disable
menu lock and touch operation.

● There are 3 levels of menu lock:

1)   LEVEL1: No buttons respond to touch. If setting of POWER ON menu is set to standby
mode, system can be turned on by power button.
2)   LEVEL2: No buttons respond to touch except for POWER, VOL+ or VOL-.
3)   LEVEL3: No response to power button.

● Buzzer: When it's on, it will shortly alarm if the screen is touched, or the button pressed.

6.1.7.8.1 Auto Dimmer

Pic.6.2.7.8.1

Feature Instructions:
● Drag the scroll bar to adjust backlight of screen in corresponding Day/Night
mode.

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.

rosco
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