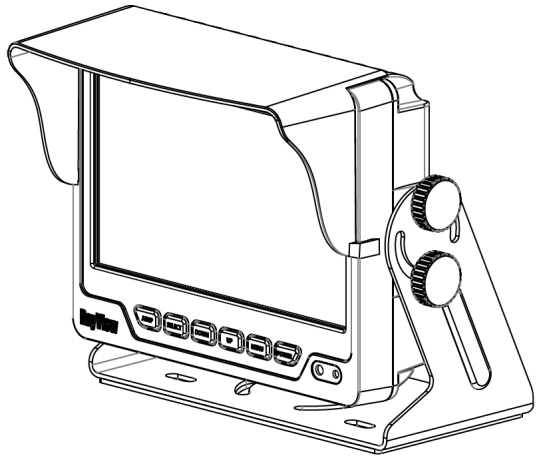


Thank you for purchasing our product.  
Please read this User's Manual before  
using the product.  
Change without Notice

# RayView

## 7" Q TFT LCD MONITOR (LED Backlight) USER MANUAL



# RayView

**Holtz Industries, INC.**  
200 South Terrace Court  
Newark Ohio 43055  
Tel: 1-800-535-0104



### 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 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference and,
- (2) This device must accept any interference received, including interference that may cause undesired operation.

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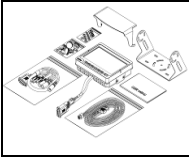
## Features

- Advanced OSD Menu for easy use
- Support up to 4 CCD Camera Inputs (Mini din Connector)
- Extra RCA Input for Multimedia (VCD, DVD, Game Device)
- Provide 1 Live Video / Audio Signal Output / Cam Out
- Auto Detection for NTSC / PAL System
- Signal Trigger for CAM A / CAM B / CAM C /CAM R / AV View
- Auto Brightness Adjustment by light sensor
- OSD Control for Individual Normal / Mirror Camera Image
- Switch Timer (2-100 sec) Step Selection via OSD (CAM A / CAM B / CAM C /CAM R / AV)
- Supported 9.6V~32V Car power system working

## Package Contents

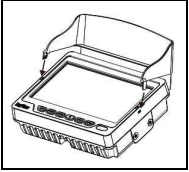
Item	Qty.
1. 7" LCD Monitor	1
2. Sun-hood	1
3. Mounting Bracket	1
4. Accessories	2
5. Control Cable	1
6. User Manual	1

# TFT Installation



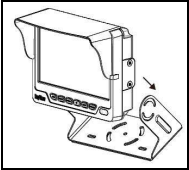
## Step 1

Check the package and make sure all parts are included



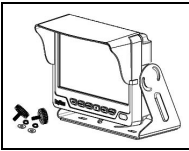
## Step 2

Clip the sun-hood on to the monitor



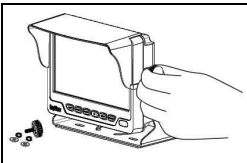
## Step 3

Make sure it is installed properly



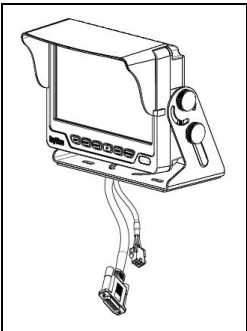
## Step 4

Install the monitor on to the bracket



## Step 5

Adjust the monitor to an appropriate / comfortable viewing angle before tightening the screws

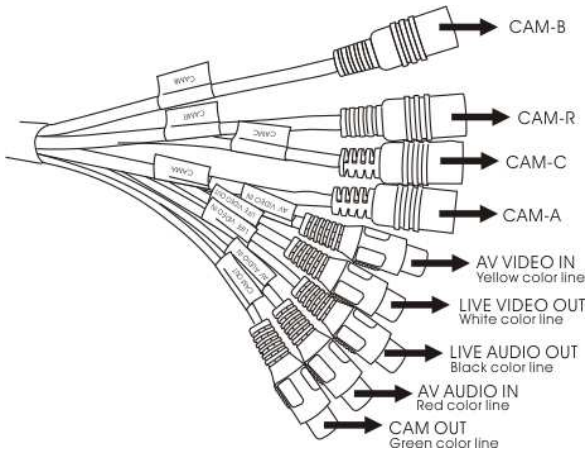


## Step 6

Monitor installation is now completed.

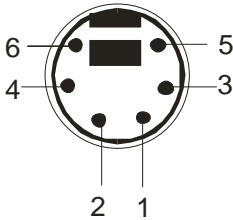
Each control cable wire is attached with a sticker to indicate its signal function. Referred to the identification sticker for further installation.

# Signal Cable Description



1. CAM A (Mini din)  
For 1st camera connection
2. CAM B (Mini din)  
For 2nd camera connection
3. CAM C (Mini din)  
For 3rd camera connection
4. CAM R (Mini din)  
For 4th camera connection
5. LIVE VIDEO OUT (White Color RCA Jack)  
On screen video loop out (for recording, second monitor or other device)
6. LIVE AUDIO OUT (Black Color RCA Jack)  
On screen audio loop out (for recording, second monitor or other device)
7. AV VIDEO IN (Yellow Color RCA Jack)  
Connection for any Video signal (DVD, VCD, Game)
8. AV AUDIO IN (Red Color RCA Jack)  
Connection for any Audio signal (such as DVD, VCD, Game)
9. CAM OUT (Green Color RCA Jack)  
Video loop out (for recording, second monitor or other device)

● **Mini Din Pin Assignment**



**\* Type 1 (Standard):**

- 1. ----- 4. GND
- 2. ----- 5. +12V
- 3. Audio 6. Video

**\*Type 2 (Optional):**

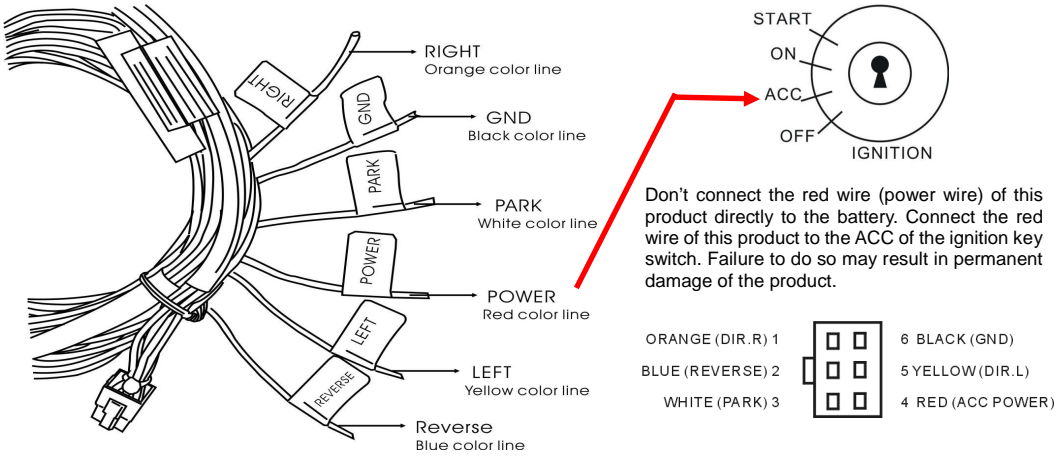
- 1. GND 4. +12V
- 2. ----- 5. -----
- 3. Video 6. Audio





● **Function of the Audio**

Cam A	Audio from Cam A
Cam B	Audio from Cam B
Cam C	Audio from Cam C
Cam R	Audio from Cam R
Cam A + Cam B	Audio from Cam A
Cam C+ Cam R	Audio from Cam R
Cam A+ Cam R	Audio from Cam R
Cam R+ Cam B	Audio from Cam R
Cam A + Cam C	Audio from Cam A
Cam C+ Cam B	Audio from Cam C
Cam R / Cam AB	Audio from Cam R
Quad	Audio from Cam R
AV	Audio from AV

- ※ Cam Out: Composite video loop out signal to recorder, monitor or other device.
- ※ Live Video/Audio Out: On screen video/audio signal loop out to recorder, monitor or other device.

# Control cable Description

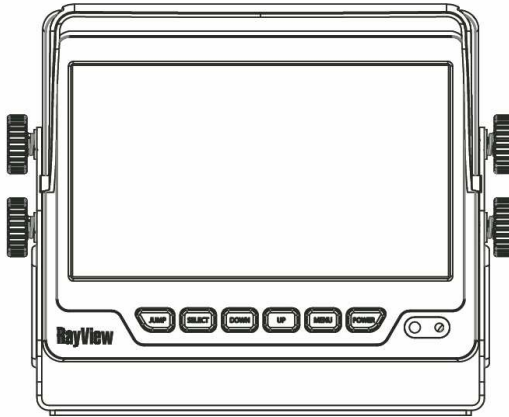


WIRE COLOR	FUNCTION	REMARK	ON SCREEN VIEW
RED	ACC POWER		
BLACK	GND		
WHITE	Parking Control	Active GND	
YELLOW	Left turn Control (Correspond to CAM A)	Active Power Level Connect to Direction Light(Left Turn Light)	
ORANGE	Right turn (Correspond to CAM B)	Active Power Level Connect to Direction Light(Right Turn Light)	
BLUE	Reverse Control (Correspond to CAM R)	Active Power Level Connect to Reverse	

1. The control cable sequence: Reverse > Right / Left > Park (AV)
2. With car power is on, the monitor power is off, when making a reverse / right / left turn, the monitor will display default screen.
3. \*When pull the hand break, user need to press SOURCE button again to display AV IN picture.



## Front Panel Control



**POWER** Press the power button to activate the monitor or to keep the monitor under stand by mode. Red light for stand by, Green light is turn on.

**MENU** Press the menu button to pop up OSD menu.

**UP** Scroll up the function item or increase value.

**DOWN** Scroll down the function item or decrease value.

**SELECT** With power on press this button to select image sequence.

CAM A→CAM B→CAM C→CAM R →CAM A+B →CAM C+R →  
CAM A+R→CAM R+B→CAM A+C→CAM C+B →CAM R/AB →  
CAM R+AB→CAM A.....

With pull hand break, press this button to select image sequence  
AV→CAM A+B→CAM C+R→CAM A+R→CAM R+B→CAM A+C→  
CAM C+B→CAM R/AB→CAM R+AB→CAM A→CAM B→CAM C→  
CAM R →AV.....

## **JUMP**

Press this button, it can switch CAM A, CAM B, CAM R recurrently.

With pull hand break and check the **Jump** option is ON, press

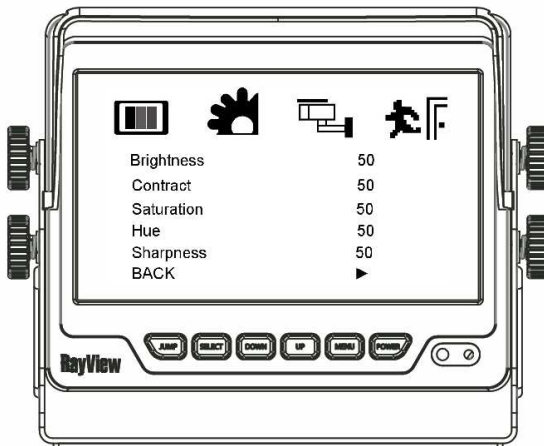
this button to select image sequence

QUAD→SEQ→CAM A+B→CAM C+R→CAM A+R→CAM R+B→  
CAM A+C→CAM C+B→CAM R/AB →CAM R+AB →CAM A →  
CAM B CAM C→CAM R, The default value is QUAD.

## **OSD Menu**





1. Press the MENU button to enter to the OSD Menu
2. Press UP & Down button to select the setting you wish to proceed.  
The picture of the content will turn rise high to identify your selection.  
Press UP & Down button to adjust your setting value.
3. Press the MENU button once back to submenu and then select the BACK item in order to return to OSD menu.

## **Enter to Main Menu**



## Video Setting Menu

This menu set up contains different setting for the TFT LCD.

			
Brightness		50	
Contract		50	
Saturation		50	
Hue		50	
Sharpness		50	
BACK			▶

### Brightness

Provide adjustment for shade and brightness level of TFT display. Setting value from 0 ~ 100. Default value is 50.

### Contrast

Provide adjustment for the light and dark level of the TFT display. Setting value from 0 ~ 100. Default value is 50.

### Saturation

Provide adjustment for the light intensity level of TFT display. Setting value from 0 ~ 100. Default value is 50.

### Hue

Provide adjustment for the lightness and colorfulness level of TFT display. Setting value from 0 ~ 100. Default value is 50.  
(Only in NTSC system is available.)

### Sharpness

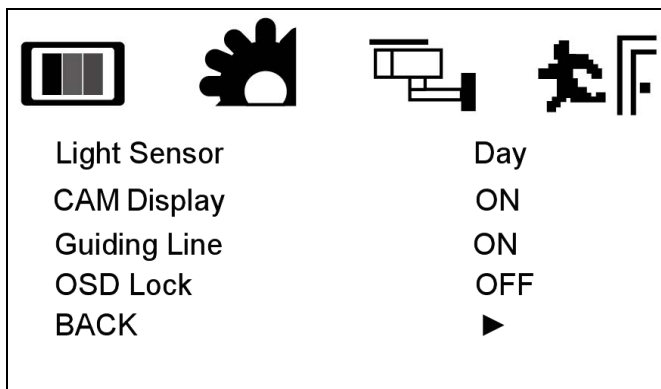
Provide adjustment for the edge contrast (acutance) level of TFT display. Setting value from 0 ~ 100. Default value is 50.

### Back

Return to OSD menu selection screen.

## Display Setting Menu

This menu set up contains the on screen identification and the activation of the distance gage.



### Light Sensor

Select "Auto" to activate the auto brightness adjustment function for screen. Or select "Night" to reduce the brightness for screen. Default value is Day.

### CAM Display

Select "ON" to show the source of video input title on screen or "OFF" to keep it invisible. Default value is ON.

### Guiding Line

Set the distance gauge "ON" to show the distance gauge on screen while reserving or "OFF" to deactivate. Default value is ON.  
(This "Guiding Line" is for user's reference only)

### OSD Lock

This function provides protection when an unauthorized person tries to access the OSD settings. UP and DOWN key press simultaneously for over 5 seconds to unlock. Default value is OFF.

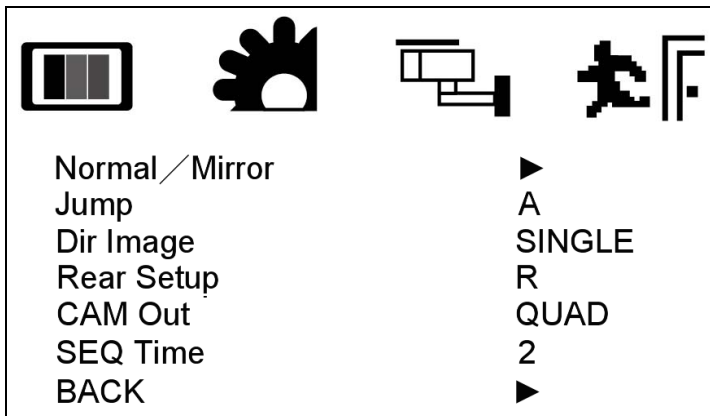
※Users must turn on LCD in order to run unlock process. All function buttons are still working during OSD Menu lock up period.

### Back

Return to OSD menu selection screen.

## Camera Setting Menu

This menu set up contains the on Camera and Jump setting.



### Normal/Mirror

Set the all camera's display mode. ▶

#### CAM A

Select "Mirror" to activate the mirror function for different cameras or "Normal" for a normal image.  
Default value is Normal.

#### CAM B

Select "Mirror" to activate the mirror function for different cameras or "Normal" for a normal image.  
Default value is Normal.

#### CAM C

Select "Mirror" to activate the mirror function for different cameras or "Normal" for a normal image.  
Default value is Normal.

#### CAM R

Select "Mirror" to activate the mirror function for different cameras or "Normal" for a normal image.  
Default value is Mirror.

## Jump

Jump provide automatically channel switch function.

Setting value from SEQ, A+B, C+R, A+R, R+B, A+C, C+B, R/AB, R+AB, A, B, C, R, QUAD. Default value is QUAD.

## Dir Image

The screen image setting of this panel during left / right turn:

**TRIPLE:** When you are making a right turn or left turn, the screen of panel will display triple images for left hand side, right hand side and rear view when you are making a right turn or left turn.

**DUAL:** With proper wiring, the screen will display dual image for both rear and right hand side view when making a right turn. While left turning, the screen will show dual image for both rear and left hand side view.

**SINGLE:** Screen of touch panel shows only single picture on direction turn. The screen will show only left side view on left turn and only right side view on right turn.

**A+B, B+A :** With proper wiring, When you are making a left turn the screen will display Cam A + Cam B image. When make a right turning, the screen will show Cam B + Cam A image on the screen.

Default value is SINGLE.

## Rear Setup

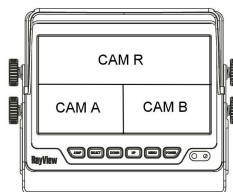
The screen image setting of this panel during reverse gear:

**R:** Screen will display single image for Cam R only.

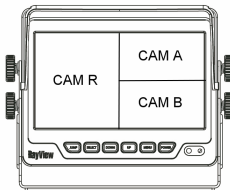
**R+A:** Screen will display dual image for both Cam R and Cam A.

**R+B:** Screen will display dual image for both Cam R and Cam B.

**R/AB:** Screen will display triple image from Cam R · Cam A · Cam B.



R+AB: Screen will display tripe image from Cam R 、Cam A 、Cam B.



Default value is R.

### CAM Out

Composite video loop out to recorder, monitor or other device.

- QUAD Recording or viewing from the output device in quad mode
- CAM A Recording or viewing from the output device for CAM A image
- CAM B Recording or viewing from the output device for CAM B image
- CAM C Recording or viewing from the output device for CAM C image
- CAM R Recording or viewing from the output device for CAM R image

Default value is QUAD.

### SEQ Time

Setting Jump dwell value from 2~100.

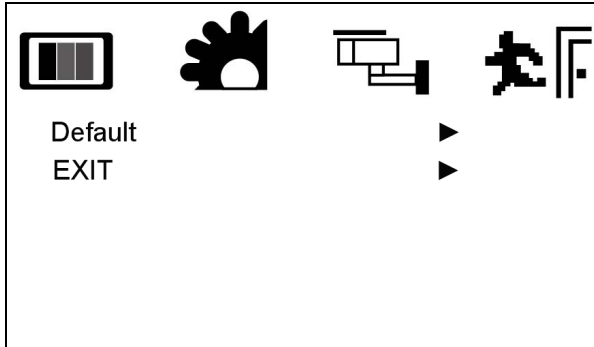
Default value is "2".

### Back

Return to OSD menu selection screen.

## Information Menu

This menu can set device to default value and leave the OSD menu.



### Default

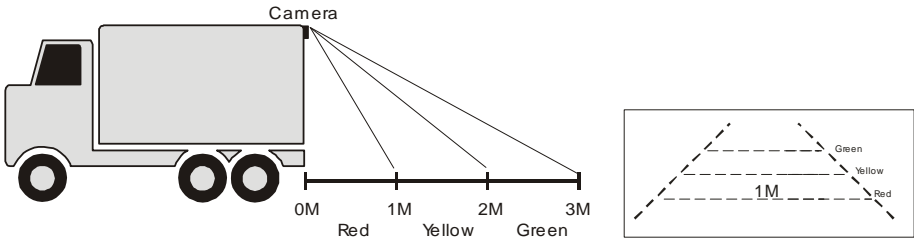
Recall factory default.

### Exit

Exit OSD menu to live screen.



# Vehicle Installation



- Install Camera R (for rear view)
- Use a measuring tool to mark out the distance behind the vehicle.
- Adjust the viewing angle of the camera so that the distance gage shown from the TFT match to the distance marks behind the vehicle.
- Switch to Rear view with source button, the screen always display on 16:9  
While rear viewing, the screen always display on 16:9.

SOURCE button:

16



9

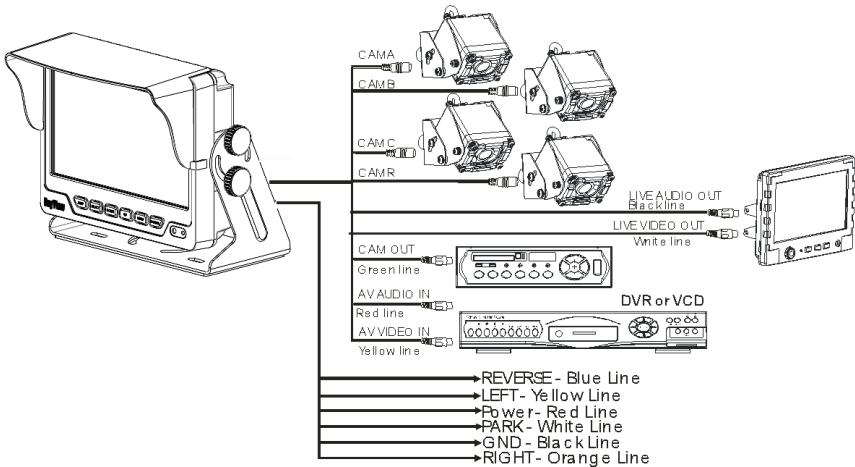
Rear viewing:

16



9

e.

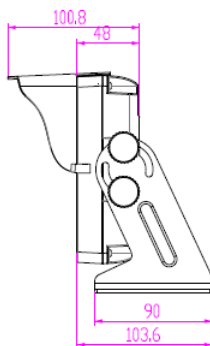
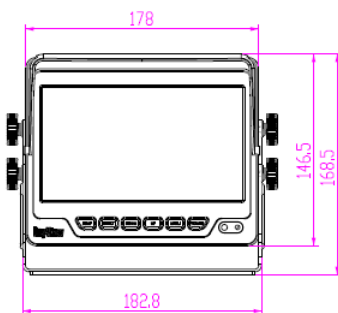
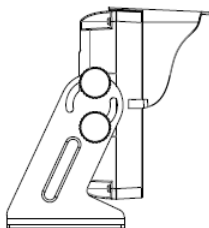
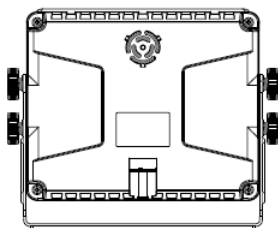
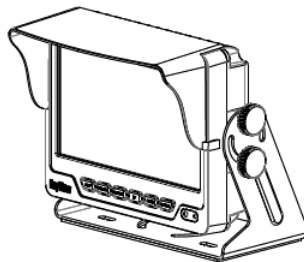
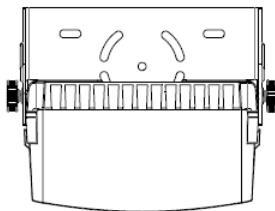
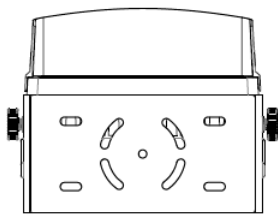


# Specification

Channel Display	Full Only
Screen size	7 inch
Active area	153.6(H) x 86.64(V)
Pixel Pitch	0.192(H) x 0.1805(V)
Resolution	800(H) x 480(V)
Viewing angle	UP:70° / Down:60° / Left: 75° / Right:75°
Power source:	DC9.6V ~DC32V
Contrast ratio	500:1※
Brightness	450 cd/m <sup>2</sup> ※
<b>AV Video In</b>	
Connector	RCA Type
Input Signal	1Vpp
Impedance	75 Ohms
<b>Camera MINI DIN In</b>	
Connector	6 PIN MINI DIN Type (Standard)
Input video signal level	1Vpp
Impedance	75 Ohms
Input audio signal level	1Vpp
Power output for camera	DC12V (300mA Max)
<b>AV Audio In</b>	
Connector	RCA Type
Input audio signal level	1Vpp
Impedance	1K Ohms
<b>Composite Video Live Out</b>	
Connector	RCA Type
Output signal level	1Vpp
Impedance	75 Ohms
<b>Audio Live Out</b>	
Connector	RCA Type
Input signal level	1Vpp
Impedance	1K Ohms
<b>CAM Out</b>	
Connector	RCA Type
Input signal level	1Vpp
Impedance	75 Ohms
<b>Dimension</b>	
W x H x D :	182.8 x168.5 x 103.6mm
Weight	N.W./G.W.: 1.5kg / 2.1kg
<b>Environmental:</b>	
Operation temperature	-20°C ~ 70°C (14°F ~ 158°F)
Storage temperature	-30°C ~ 80°C (-22°F ~ 176°F)
Humidity	20%-80%
Weatherproof	IPX1

※The brightness and contrast ratio specifications are from panel specification. Design and Specifications are subject to change without notice.

## Attachment 1: Dimension Chart



# Attachment 2: Installation Chart

