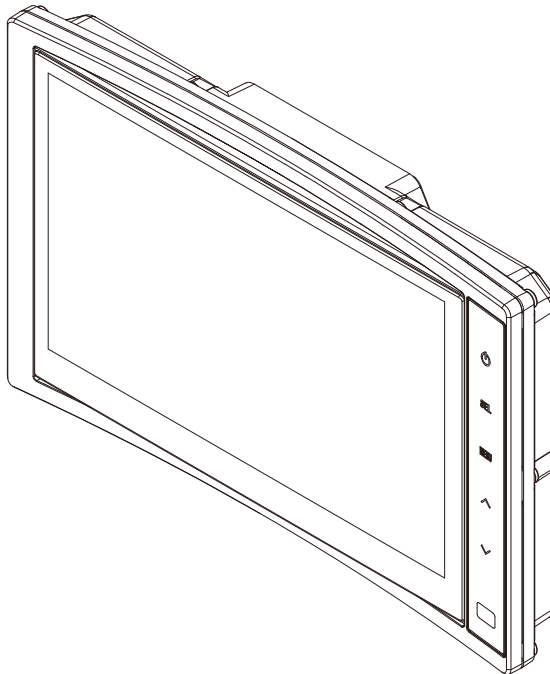


## OWNER'S MANUAL

PLEASE READ CAREFULLY BEFORE USING AND KEEP WELL.

# 7" DIGITAL WATERPROOF LCD MONITOR FOR HEAVY DUTY INDUSTRY



**Model: ControlLaser QWP 800**

Design and Specifications are subject to change without notice.

The model and serial numbers are located on the rear of the unit. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your dealer regarding this product.

**Model No. ControLaser QWP 800**

**Serial No.** \_\_\_\_\_

## WARNING

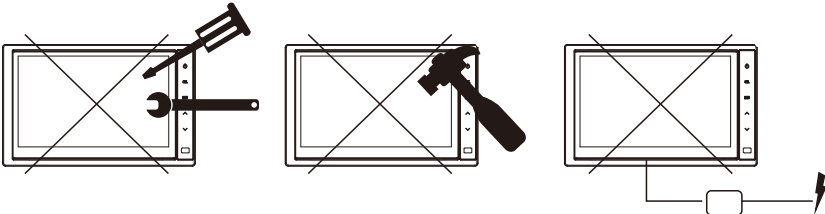
To avoid electric shock, do not open the cabinet. Refer servicing to qualified personnel only.



This symbol 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 risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the appliance.



You are cautioned that any changes or modifications which is not expressed or approved in this manual could void your warranty and cause the equipment to malfunction.

# CAUTION BEFORE USAGE



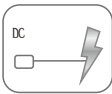
- 1. PLEASE USE THE PRODUCT AFTER READING THE MANUAL CAREFULLY FOR SAFE USAGE.**  
PLEASE INSTALL AND USE THE PRODUCT AFTER FULLY AWARE OF THE MANUAL AND PRECAUTION.



- 2. ASK EXPERIENCED TECHNICIAN FOR PRODUCT INSTALLATION.**  
INSTALLATION SHOULD BE DONE BY THE TECHNICIAN DUE TO PROFESSIONAL SKILLS AND EXPERIENCE IS REQUIRED.



- 3. DO NOT INSTALL, OPEN OR MODIFY THE PRODUCT RANDOMLY.**  
IT CAN CAUSE PRODUCT MALFUNCTION, ELECTRIC SHOCK, FIRE AND ALSO WATERPROOF PROBLEM FOR WATERPROOF PRODUCT.  
CONTACT THE SERVICE CENTER AND ASK FOR A/S, IF REPAIRS ARE NECESSARY.



- 4. USE REGULATED VOLTAGE.**  
PROTECTION CIRCUIT IS BUILT INSIDE BUT OVER VOLTAGE USAGE CAN CAUSE DAMAGE TO THE PRODUCT.  
MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR THE PRODUCT MALFUNCTION CAUSED BY OVER VOLTAGE.



- 5. DO NOT DROP OR GIVE EXTERNAL SHOCK TO THE PRODUCT.**  
THE PRODUCT SCREEN OR EXTERIOR CAN BE DAMAGED AND CAUSE MALFUNCTION OF THE INTERNAL PARTS.  
IN THIS CASE NORMAL CUSTOMER SUPPORT AND A/S CAN'T BE RECEIVED.



- 6. CONNECT THE MAIN POWER AFTER INSTALLATION.**  
IT CAN CAUSE PRODUCT MALFUNCTION, FIRE AND ELECTRIC SHOCK.



- 7. USE AUTHORIZED ACCESSORY & COMPONENTS.**  
USING UNAUTHORIZED ACCESSORY & COMPONENTS CAN CAUSE PRODUCT MALFUNCTION AND THE MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR THE MALFUNCTION.



- 8. THE PRODUCT IS DESIGNED FOR NORMAL CONDITION USAGE.**  
PLEASE FULLY CONSULT AND DISCUSS WITH YOUR DEALER OR MANUFACTURER IF YOU NEED TO USE THE PRODUCT IN SPECIAL CONDITION.  
**OTHERWISE, IT CAN CAUSE PRODUCT MALFUNCTION IN ABNORMAL CONDITION USAGE.**

# SAFETY&CAUTION DURING USAGE



- **DO NOT CUT OR DAMAGE THE CABLE RANDOMLY. IT CAN CAUSE PRODUCT MALFUNCTION OR WATERPROOF FUNCTION DEFECT. MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR THE MALFUNCTION.**



- **TIGHTEN THE CONNECTORS WHEN CONNECTING THE EXTENSION CABLE. OTHERWISE, IT CAN CAUSE CONNECTION PROBLEM OR WATERPROOF FUNCTION DEFECT OF THE PRODUCT.**



- **CHECK THE FIXED CONDITION OF THE BRACKET AND PRODUCT BEFORE DRIVING. IT CAN CAUSE DAMAGE WHILE DRIVING IN UNSTABLE CONDITION BY PHYSICAL PHENOMENONS. MANUFACTURER WILL NOT TAKE RESPONSIBILITY FOR USER'S NEGLIGENCE.**



- **DO NOT USE THE PRODUCT IMMEDIATELY AFTER LEAVING ALONE FOR A LONG PERIOD IN SUMMER OR WINTER. IT CAN CAUSE SERIOUS DAMAGE TO THE PRODUCT WHEN USING IN INAPPROPRIATE TEMPERATURE.**



- **STOP USING THE PRODUCT IMMEDIATELY IF BURNING SMELL, SMOKE OR SEVERE OVERHEATING OCCURS WHILE USAGE AND VISIT THE A/S CENTER.**



- **MAKE SURE TO CONNECT POWER CABLE AND CAMERA CABLE IN RIGHT DIRECTION. WRONG WIRE CONNECTION CAN CAUSE DAMAGE TO THE PRODUCT.**



- **DO NOT APPLY EXCESSIVE PRESSURE TO THE LCD. DUE TO PRESSURE THERE COULD BE SPOTS ON THE LCD SURFACE AND GET DAMAGED. EXCHANGE FOR THE DAMAGE IS PROVIDED AT A COST.**



- **WHEN USING TOUCH KEY EQUIPPED PRODUCT THE WATERPROOF FUNCTION WILL NORMALLY OPERATE, BUT IF THERE IS WATER ON THE TOUCH KEY PANEL IT COULD CAUSE MALFUNCTION. SO PLEASE REMOVE THE MOISTURE BEFORE USAGE.**



- **DO NOT DROP THE PRODUCT IN THE WATER OR KEEP IN HUMID PLACE FOR A LONG TIME. IT WILL BE CLASSIFIED AS INUNDATION REASON AND WON'T BE ABLE TO GET FREE A/S SERVICE. (NON-WATERPROOF MONITOR)**



## SAFETY&CAUTION DURING USAGE



- **DO NOT WRAP THE PRODUCT WITH ANY FABRIC WHILE OPERATING. DUE TO INTERNAL TEMPERATURE RISING, IT CAN CAUSE PRODUCT MALFUNCTION OR FIRE.**



- AVOID SEVERE ELECTROSTATIC CONDITION. IT CAN CAUSE PRODUCT MALFUNCTION.



- DO NOT PILE UP HEAVY STUFF ON THE PRODUCT. IT CAN CAUSE PRODUCT PROBLEMS OR DAMAGE.



- DO NOT PRESS SEVERAL BUTTONS AT THE SAME TIME.



- IF ANY DEBRIS IS FOUND INSIDE OF THE PRODUCT, DISCONNECT THE POWER CABLE AND VISIT THE A/S CENTER. IT CAN CAUSE ELECTRIC SHOCK OR MALFUNCTION WHEN USED CONTINUOUSLY.



- DO NOT CLEAN THE PRODUCT WITH CHEMICAL PRODUCT (ALCOHOL, BENZENE, ACETONE AND ECT). IT CAN CAUSE DAMAGE OF THE PRODUCT SURFACE OR PRODUCT MALFUNCTION.



## SUGGESTIONS

### 7" DIGITAL TFT LCD COLOR ALL ROUND VISION MONITOR

#### 1 Safety

Use only DC 10V ~ DC 32V.

If liquid or dust leaks into the case, turn off power to the unit and consult an experienced technician before using.

#### 2 Installation

Do not install the units in an extremely hot or humid place (radiator, air duct, etc.) or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock. If your vehicle has been parked in direct sun light resulting in a considerable rise in temperature inside the vehicle, allow the unit to cool off before operating.

#### 3 General cleaning information

Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.



## FEATURES

**ControLaser QWP800 (7" Digital TFT LCD Monitor) is especially designed as automotive all round vision system.**

Water Proof (IP65)

7" Digital LCD Wide Panel

Auto NTSC/PAL Detection

Auto DAY/NIGHT Detection

Multiple display modes (SINGLE, SPLIT, TRIPLE, PIP, QUAD)

Adjustable Speed switch

Vandal Resistance (Al Housing)

Support Various Divide Modes

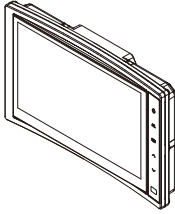
Parking Distance Marker Setting Available

Capacitive Touch Key

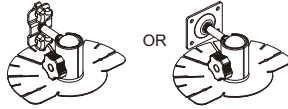
Support Multi-Functional Camera (CAM1 &CAM2): Normal/Shutter/Tilt

# PACKAGE CONTENTS

Please check that you have the correct contents before using this product. If any items are missing, please contact your dealer.



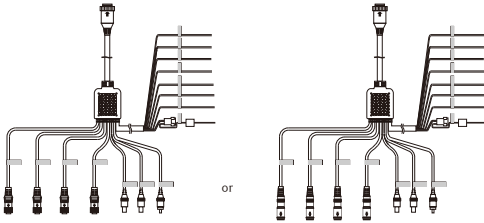
ControlLaser QWP 800 MONITOR



STAND BRACKET  
OPTIONAL



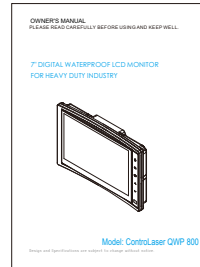
SCREW KITS



4P IP TYPE  
CAMERA CONNECTOR

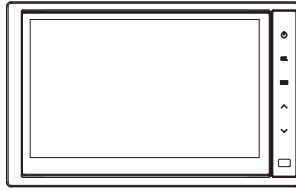
4P DIN TYPE  
CAMERA CONNECTOR

POWER CORD

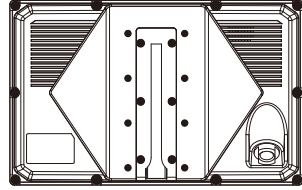


INSTRUCTION  
MANUAL

- 1 POWER
- 2 SELECT
- 3 MENU
- 4 UP
- 5 DOWN
- 6 DAY/NIGHT SENSOR






- 1
- 2
- 3
- 4
- 5
- 6



## 1 POWER



- Touch  to turn the monitor on.
- Touch  to turn the monitor off.

 **NOTE** Monitor start mode will follow “AUTO POWER SETTING”

## 2 SELECT



- Touch **SEL** to select CAMERA.
- Touch **SEL** to select the option in SET UP MENU.





## 3 MENU



- Use **MENU** to enter Display Menu(Short key) and Main Menu(Long key).
- Touch once to enter menu mode.
- Touch again to exit from menu mode.
- Selectable OSD Menu Disappears within 7 sec if there's no new button pressed.
- Touch menu button over 2 sec to go back to main menu from submenu.

## 4 UP 5 DOWN



- While in Menu mode  and  navigate though the available menu options.
- Touch   to adjust Bright, Contrast, Color, Tint Volume and other setting values.

## 6 DAY/NIGHT SENSOR



- Automatic Brightness Control  
The brightness of the monitor is adjusted automatically with the DAY/NIGHT SENSOR accordingly to the circumstance.

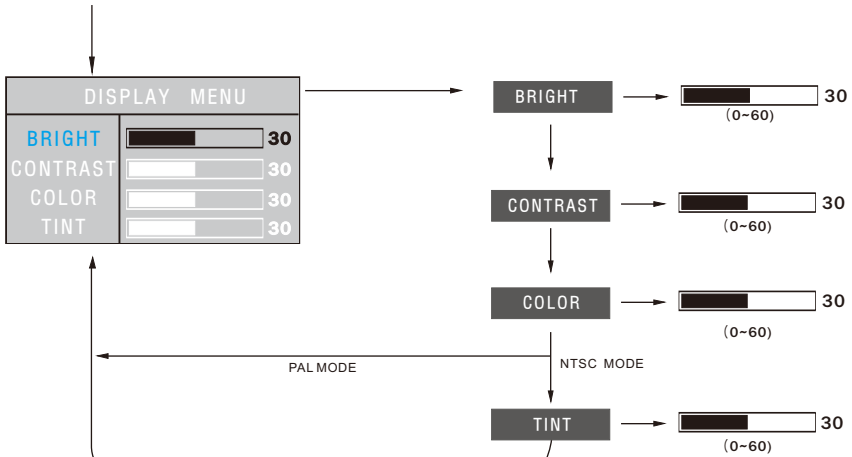


## DISPLAY MENU



Short Key  
(more than 0.5 sec)

Option setting

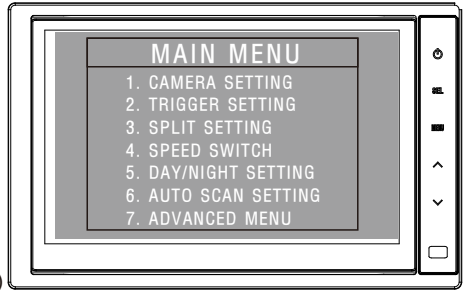
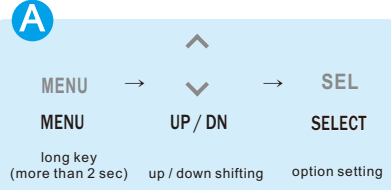


\* **TINT** menu is displayed in NTSC only.

## SETUP MENU

Touch MENU button for a while (over 2 secs) to enter MAIN MENU.

Selectable OSD MENU disappears within 7 secs if there is no new button pressed.



- \*\* SEL ► Enter to Sub Menu of Previous one or Value adjustment.
- \*\* UP/DN ► Shifting menu or Value adjustment
- \*\* MENU ► Exit to upper menu (Value is saved)

### Ex ) Setting Cam2 as normal view

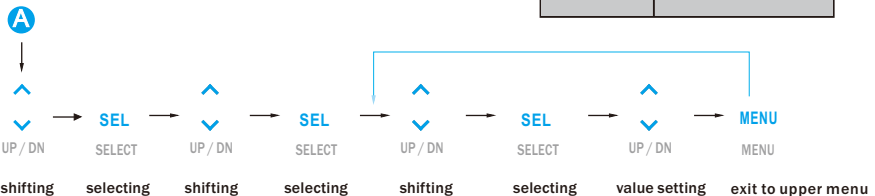
**A** →UP/DN to CAM2 → SEL → UP/DN to Nor/Mir →  
Adjust value with SEL → MENU to save and quit to upper MENU

## 1 CAMERA SETTING

1. CAMERA SETTING	
CAM1	SUBDIVISION MENU
CAM2	NOR/MIR : [MIRROR;NORMAL]
CAM3	UP/DOWN : [UP;DOWN]
CAM4	NAME:[CAM1 ]
AUX	SORT:[NORMAL;SHUTTER; TILT.AT;TILT.MT]

SUBDIVISION MENU	
BRIGHT	<input type="range" value="30"/> 30
CONTRAST	<input type="range" value="30"/> 30
COLOR	<input type="range" value="30"/> 30

### SUBDIVISION MENU



**NOTE** • Bright, Contrast and Color value for each channel(CAM1~4, AUX) can be controlled in SUBDIVISION Menu

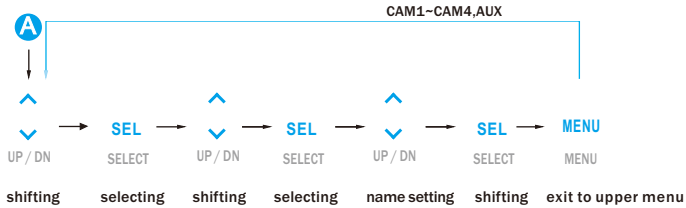
NOR/MIR: [MIRROR;NORMAL]

**NOTE** • Normal/Mirror image can be switched (CAM1~4;AUX)

UP/DOWN: [UP;DOWN]

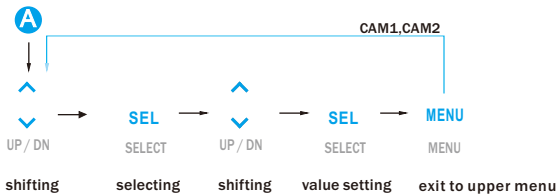
**NOTE** • Up/Down image can be switched (CAM1~4;AUX)

NAME: [CAM1 ]



**NOTE** • Each camera can be named.

SORT: [NORMAL;SHUTTER;TILT.AT;TILT.MT]



**NOTE** • Select camera type between NORMAL, SHUTTER, TILT AUTOMATIC or TILT MANUAL.

- How to control TILT MANUAL:

- Select "TILT.MT". Exit from all menu.

- Guidance OSD(see below) will be shown after double touch on Menu key.

- TILT CONTROL:

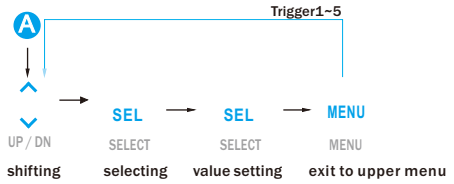
- Touch key for TILT UP.

- Touch key for TILT DOWN.

## 2 TRIGGER SETTING

2. TRIGGER SETTING	
TRIGGER1	SOURCE:[CAM1~4;AUX;SPLIT1~3;SKIP]
TRIGGER2	
TRIGGER3	DELAY:[0~20sec]
TRIGGER4	MARKER:[ON;OFF]
TRIGGER5	MARKER SETTING

SOURCE:[CAM1~4;AUX;SPLIT1~3;SKIP]

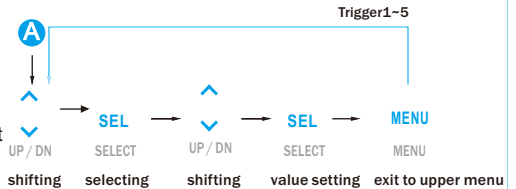


- User can use up to 5 triggers and each trigger source(CAM1~4;AUX;SPLIT1~3;SKIP) can be selected.
- When certain trigger is activated, image from matched source will be displayed by set delay time.

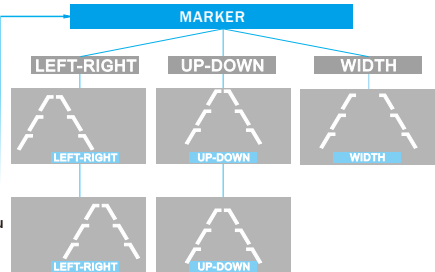
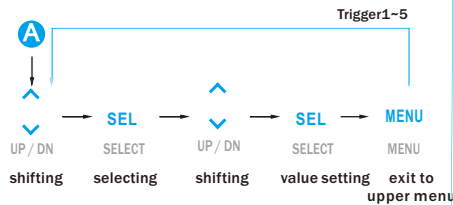
DELAY:[0~20SEC]

- Delay time of each trigger is adjustable from 0 sec to 20 secs.

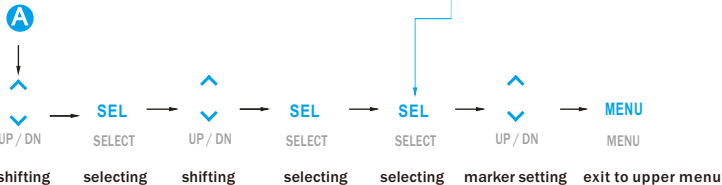
**NOTE** • If one camera is activated by an intermittent or wave signal (e.g like directional lights), the delay should be set enough longer than wave length to prevent flickering picture.



MARKER:[ON;OFF]

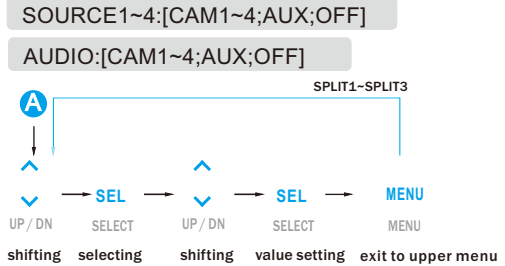


MARKER SETTING

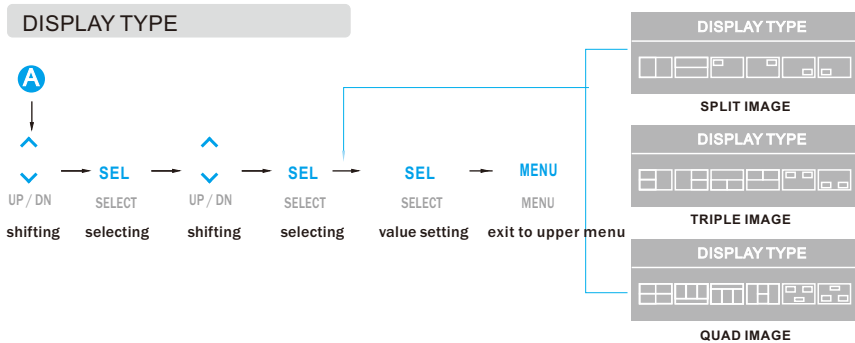


## 3 SPLIT SETTING

3. SPLIT SETTING	
SPLIT1	SOURCE1:[CAM1~4;AUX;OFF]
SPLIT2	SOURCE2:[CAM1~4;AUX;OFF]
SPLIT3	SOURCE3:[CAM1~4;AUX;OFF]
	SOURCE4:[CAM1~4;AUX;OFF]
	AUDIO:[CAM1~4;AUX;OFF]
	DISPLAY TYPE



- NOTE**
- Factory setting for SPLIT1 is SPLIT IMAGE, SPLIT2 is TRIPLE IMAGE and SPLIT3 is QUAD IMAGE. However, SPLIT1 ~ 3 can be changed to desirable image type according to number of selected camera.  
EX.) In SPLIT1, SPLIT IMAGE, TRIPLE IMAGE & QUAD IMAGE can be displayed according to selected number of camera.  
SPLIT2 & SPLIT3 are same as above.
  - Selected camera can not be selected again in same split mode.
  - Audio function is only available on selected channel.



- NOTE**
- Display type is automatically changed to SPLIT / TRIPLE / QUAD image according to selected number of camera.
  - Display type is automatically changed to first image type in SPLIT / TRIPLE / QUAD image in case of changing selected number of camera.

## 4 SPEED SWITCH

4. SPEED SWITCH

**SPEED SWITCH:[ON;OFF]**


FREQUENCY:[10~1000Hz]

UNDER FREQUENCY CH:[CAM1~4;  
AUX;SPLIT1~3]

OVER FREQUENCY DISPLAY:[ON;OFF]

OVER FREQUENCY CH:[CAM1~4;  
AUX;SPLIT1~3]

SPEED SWITCH:[ON;OFF]


-  **NOTE** • Select "ON" for entering the function.
- Select "OFF" for getting out of the function.

FREQUENCY:[10~1000Hz]


-  **NOTE** • Select activated frequency 10~1,000Hz.

- Pressing "SELECT" button short for 1Hz frequency steps change.
- Pressing "SELECT" button long for 10Hz frequency steps change.

UNDER FREQUENCY CH:[CAM1~4;AUX;SPLIT1~3]

-  **NOTE** • Select channel when input lower frequency than standard frequency.

OVER FREQUENCY DISPLAY:[ON;OFF]

-  **NOTE** • Select "On" or "OFF" for displaying image when input higher frequency than standard frequency.

OVER FREQUENCY CH:[CAM1~4;AUX;SPLIT1~3]



shifting   value setting   exit to upper menu

-  **NOTE1** • Select channel image when input higher frequency than standard frequency.

 **NOTE2** • EXAMPLE OF SPEED SWITCH FUNCTION:

\*The purple wire needs to be connected with the vehicle's tacho signal and via MENU the SPEED SWITCH needs to be selected ON. **(Wire color can be changed, check the named sticker on wire)**

\*Adjust FREQUENCY to 67Hz. At this setting (and most common used tacho signal), the selected camera will be displayed during a speed of 0~33km/h.

\*Select the concerning camera via "UNDER FREQUENCY CH:" (At different type tacho signals, the FREQUENCY needs to be adjusted into higher or lower value than this example)

\*Over 33km/h (72Hz), the selected camera will be switched OFF automatically. When the speed slows down, then the selected camera will be switched ON automatically again at 30km/h.

Instead of automatic switch OFF at a speed over 33km/h it is also possible to activate another video source, such as a navigation picture from an optional navigation computer. In this case, user needs to select "OVER FREQUENCY DISPLAY: ON" and user needs to select "OVER FREQUENCY CH:"

\*In case of TRIGGER activation during "SPEED SWITCH ON" mode, then TRIGGERS 1~5 will overrule "SPEED SWITCH" function.

## 5 DAY/NIGHT SETTING

### 5. DAY/NIGHT SETTING

SENSOR:[ON;OFF]  
 SENSITIVITY:[0~60]  
 NIGHT BRIGHT:[0~60]

SENSOR:[ON;OFF]

**NOTE** • Select "ON" for enter into the function.  
 Select "OFF" for get out the function.

SENSITIVITY:[0~60]

**NOTE** • Adjust the sensitivity of day/night level

NIGHT BRIGHT:[0~60]



shifting value setting exit to upper menu

**NOTE** • Adjust BRIGHTNESS level.

## 6 AUTO SCAN SETTING

### 6. AUTO SCAN SETTING

AUTO SCAN:[ON;OFF]  
 AUTO SCAN DELAY SETTING

AUTO SCAN:[ON;OFF]



shifting value setting exit to upper menu

**NOTE** • Select "ON" for enter into the function.  
 • Select "OFF" for get out the function.

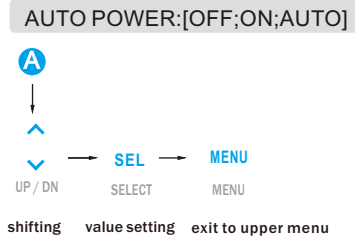


shifting selecting shifting value setting exit to upper menu

**NOTE** • Each channel is displayed sequential according to time in "AUTO SCAN DELAY SETTING".

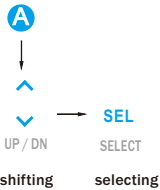
- Touch "SEL" key for holding channel.
- Selected channel is skip if you set "AUTO SCAN DELAY TIME" to "0".

## 7 ADVANCED MENU



- NOTE**
- Auto Setting Monitor keeps the last setting in memory: Monitor will start up “Power-on” mode or “Stand-by” mode according to its last mode before the ignition key off.
  - Off Setting Monitor keeps “Stand-by” setting regardless of the last mode before the ignition key off.
  - On setting: Monitor will be turned on automatically when ignition key on regardless of the last mode of the monitor before the ignition key off.

### FACTORY RESET



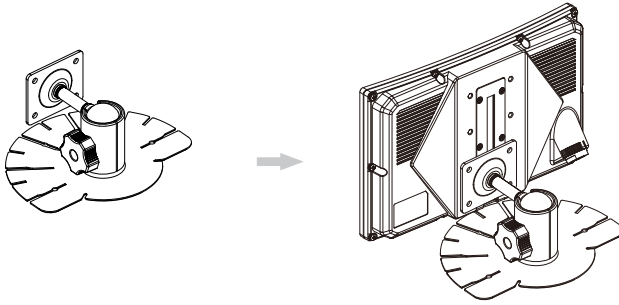
- NOTE**
- Reset for factory setting.



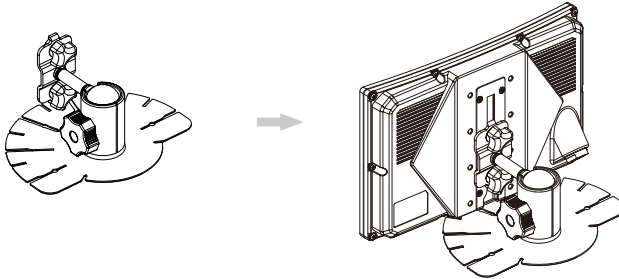
# INSTALLATION

## 1 DASH BOARD → SCREW → MONITOR

### 1-1. STAND BRACKET(SCREW FIXING TYPE)



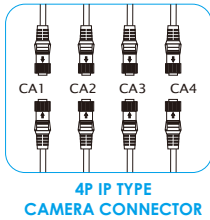
### 1-2. STAND BRACKET(RAIL TYPE)



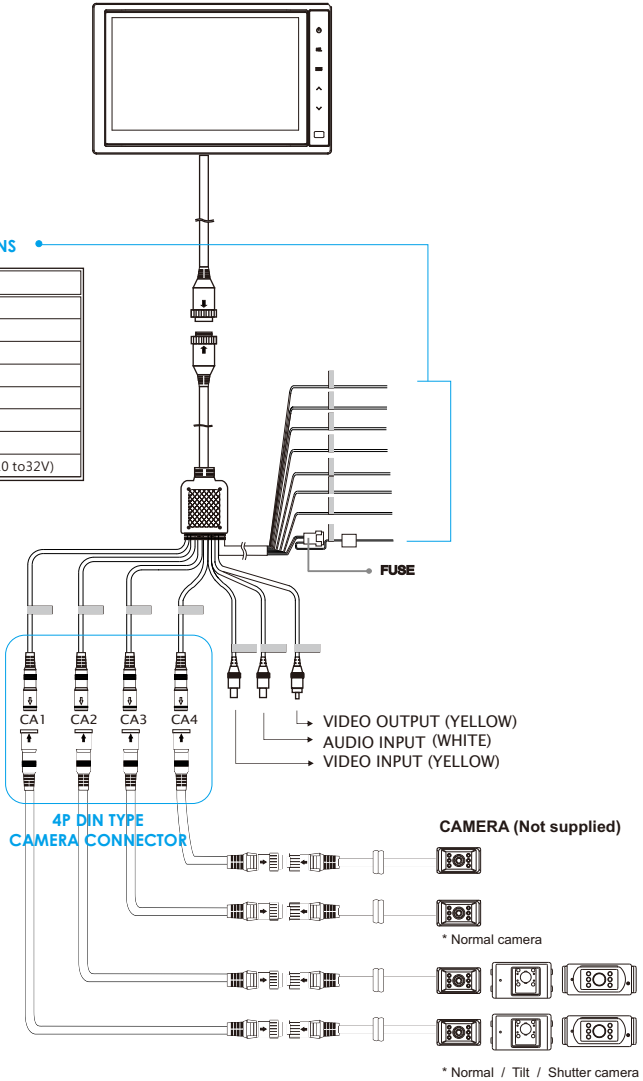
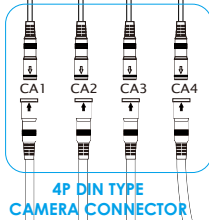
# SYSTEM CONNECTIONS

## POWER/TRIGGER WIRE FUNCTIONS

REF #	WIRE COLOR	DESCRIPTION
1	PURPLE	SPEED PURSE
2	YELLOW	TRIGGER5
3	ORANGE	TRIGGER4
4	GREEN	TRIGGER3
5	BROWN	TRIGGER2
6	BLUE	TRIGGER1
7	BLACK	GROUND
8	RED	POWER IN DC (10 to 32V)



OR



## Model: Controlaser QWP 800

<b>Power Input</b>	DC 10V~32V	
<b>Power Consumption</b>	Max. 30Watt	
<b>Video System</b>	NTSC / PAL compatible	
<b>Panel</b>	7" Digital	
<b>Resolution</b>	800 (H) X3(RGB) X 480 (V) pixels	
<b>Format</b>	16:9 wide	
<b>Display Mode</b>	Single/Split/Triple/Pip/Quad	
<b>Camera input(4CH)</b>	Mini 4P DIN CONNECTOR or 4P IP CONNECTOR , 1Vp-p 75Ω	
<b>Operating Temp.</b>	-25℃ ~ +75℃ (-13°F ~ 167°F)	
<b>Storage Temp.</b>	-30℃ ~ +85℃ (-22°F ~ 185°F)	
<b>Vibration</b>	5G	
<b>I.P Factor</b>	IP 65	
<b>OSD Control</b>	Day & Night Sensor Bright, Contrast, Color, Tint Mirror/Normal, Day/Night Mode/Scale *Individual Control per Channel available	
<b>Dimension</b>	196(W) X 124(D) X 45(H) mm 7.7(W) X 4.8(D) X 1.8(H) inch	
<b>Weight</b>	Approx. 580g	
<b>Supplied acc'y</b>	Power Cord	(1)
	Screw Kit	(1)
	Stand Bracket	(1)
	Instruction Manual	(1)



THIS SYMBOL MEANS DO NOT DISPOSE OF  
AS MUNICIPAL WASTE.  
RE-USE OR RECYCLE WHEREVER POSSIBLE.  
ELECTRICAL / ELECTRONIC COMPONENTS MAY  
CONTAIN SUBSTANCES WHICH ARE HARMFUL TO  
THE ENVIRONMENT.  
FOR ENVIRONMENTALLY SOUND METHODS OF  
DISPOSAL, PLEASE CONTACT YOUR LOCAL  
GOVERNMENT AUTHORITY.

**"Perfect Quality, On-time Delivery & Speedy A/S"**

Part no. ControLaser QWP 800  
printed in korea