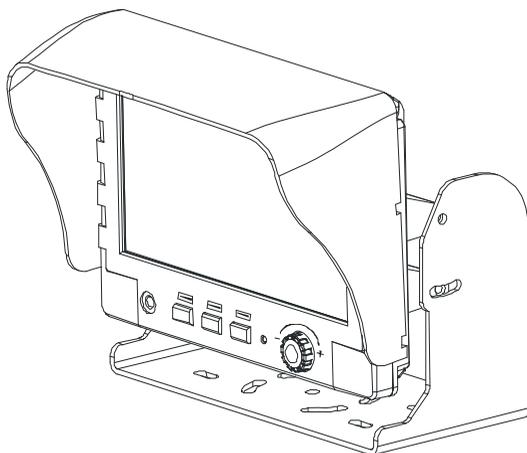Thank you for purchasing our product.
Please read this User's Manual before
using the product.
Change without Notice

AWT07MLED
7" Q TFT LCD MONITOR (LED Backlighted)
USER MANUAL

e-4 FC

SAFETY PRECAUTIONS

Federal Communications Commission (FCC) Statement

This Equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency

energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

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

This device complies with Part 15 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

TABLE OF CONTENT

FEATURE

- Advanced OSD Menu for easy use
- Support up to 4 CCD Camera inputs (Mini din connector)
- Extra RCA input for multimedia while parking (VCD, DVD, Game device)
- Provide 2 Video / 1 Audio Signal Output (Live Out)
- Support Single / Dual / Triple / Quad Screen (Cam Out)
- Signal Trigger for Side / Rear View
- Auto Day & Night Control via Photo Diode Sensor
- Auto Detection for NTSC / PAL System
- OSD Control for Individual Normal / Mirror Camera Image for every camera
- Auto power on when users are making left turn or right turn even reverse
- Able to select CAM A / B/C / R's monitoring screen
- Supported 9.6V~32V Car power system working
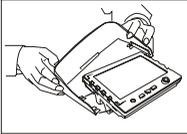- Professional Metal Case with Anti Shocking Design

1. Package Contents

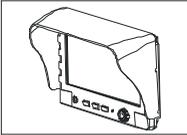| Item	Qty.
1. 7" LCD Monitor	1
2. Sun-Hood	1
3. Mounting Bracket	1
4. Accessories	1
5. Control Cable	1
6. User Manual	1

2. TFT Installation
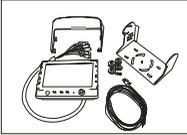
Step 1
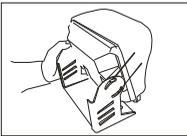Check the package and make sure all parts are included.

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
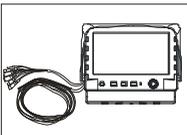Adjust the monitor to an appropriate / comfortable viewing angle before tightening the screws.
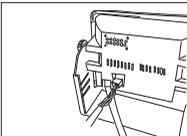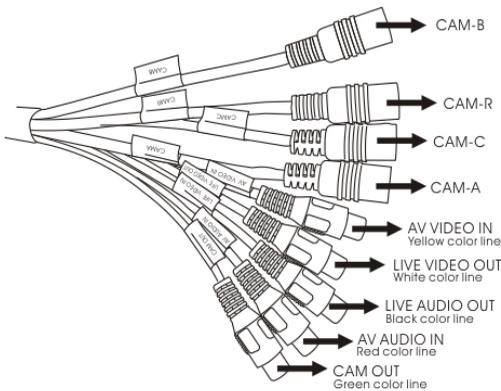
Step 6
Connect the control cable included to the power socket which located at rear side of monitor.

Step 7
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.

3. Signal Cable Description

1. CAM R (Mini din) (NTSC/PAL system presume by this car rear CCD)

   For 1st camera connection
2. CAM A (Mini din)

   For 2nd camera connection
3. CAM B (Mini din)

   For 3rd camera connection
4. CAM C (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
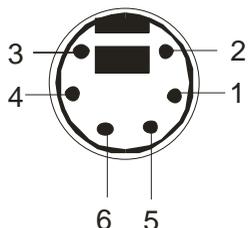
* Type 1 (Standard):

1. Video   4. +12V

2. -------   5. GND

3. Audio   6. -------

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.

4. Control cable Description
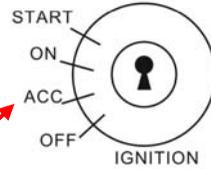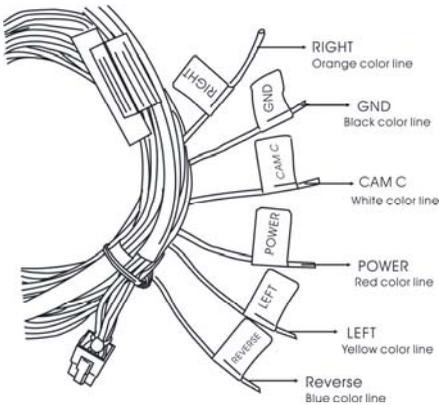
Don't connect the red wire (power wire) of this product directly to the battery. Connect the red wire of this product to the ACC of the ignition key switch. Failure to do so may result in permanent damage of the product.

ORANGE (DIR.R) 1   6 BLACK (GND)
BLUE (REVERSE) 2   5 YELLOW (DIR.L)
WHITE (PARK) 3   4 RED (ACC POWER)

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

1. The control cable sequence: Reverse > Right / Left / CAM C when Priority is ON. Right / Left / CAM C > Reverse when Priority is OFF.
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. You may push the "JUMP" button under event trigger when Priority is OFF.

5. Front Panel Control
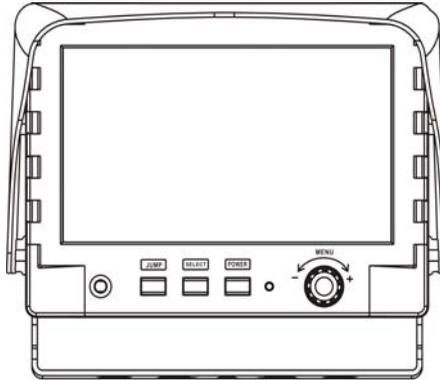
POWER   Press the power button to activate the monitor or to keep the monitor
               under stand by mode (In Red Led).

SELECT   With power on, press this button to select image sequence as below~
               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……..

                              Prerequisite：Display menu →Priority option is "ON"

JUMP   Press this button to display defined camera input, user can select
               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 via OSD as default value.
                              Prerequisite：Display menu →Priority option is "ON"

MENU   This encoder switch provides the following function:
               1. Activate OSD menu: Press the Menu switch to activate the OSD menu.
                  After the OSD menu is activated, in case users does not proceed for
                  further set up, the OSD menu will then automatically turn off within
                  20 seconds.
               2. Enter Function: Press the encoder switch to act as "Enter" function
                  under the OSD menu.
               3. Volume Value: Exit the OSD menu, user can turn this switch
                   left or right to adjust the volume value.

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OSD Menu

1. Press the MENU button to enter to the OSD Menu
2. Turn the MENU button left or right to select the setting you
   wish to proceed. The color of the content will turns YELLOW
   to identify your selection. Turn the MENU button left or right to
   adjust your setting value.
3. Press the MENU button once back to submenu and then press menu
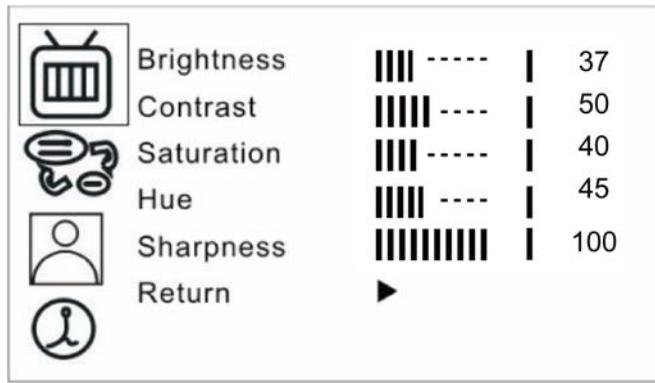   button again in order to return to OSD menu.

Enter to Main menu:
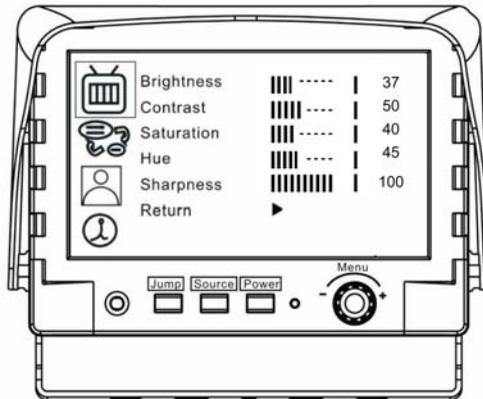
SCREEN Menu

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

Brightness	‖‖ -----	|	37
Contrast	‖‖‖ ----	|	50
Saturation	‖‖ -----	|	40
Hue	‖‖‖ ----	|	45
Sharpness	‖‖‖‖‖‖‖‖	|	100
Return	▶		

Brightness
Provide adjustment for shade and brightness level of TFT display.
Setting value from 0 ~ 100. Default value is 37.

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 40.

Hue
Provide adjustment for the lightness and colorfulness level of TFT display.
Setting value from 0 ~ 100. Default value is 45.
(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 100.

Return
Return to OSD menu selection screen.

DISPLAY Menu

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

```
┌─────────────────────────────────────────────┐
│  ┌───┐     Auto Day& Night        OFF       │
│  │▥▥▥│     Display                 ON        │
│  └───┘                                       │
│  ⊜?      Distance Gauge          ON        │
│  ↩◎       OSD Lock               ▶         │
│  ┌───┐                                       │
│  │ ○ │     PRIORITY               OFF       │
│  │ ╱╲│     Reverse Mode           4:3       │
│  └───┘                                       │
│  (⊥)      Return                 ▶         │
└─────────────────────────────────────────────┘
```

Auto Day&Night

Select "ON" to activate the auto day & night function or "OFF" to deactivate it. Default value is OFF.

Display

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

Distance Gauge

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

OSD Lock

This function provides protection when an unauthorized person tries to access the OSD settings. JUMP and SELECT 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.

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PRIORITY

If Priority is ON

a. Press SOURCE button to select image sequence as below~
  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…….
b. Triggered mode priority: Reverse > Right/Left / CAM C
c. JUMP mode: QUAD
d. OSD Lock mode: OFF

If Priority is OFF

a. Press SOURCE button to select image sequence is as below~
  AV→ CAM A→CAM B→CAM C→CAM R →AV……..
b. Triggered mode priority: Right/Left/CAM C > Reverse
c. JUMP mode: CAM R
d. OSD Lock mode: ON

Default value is "ON".
Notice：When you choose "OFF" mode also enable OSD Lock function.

REVERSE MODE
When reversing select LCD profile ratio 4:3 the display show in size
4:3(default), select LCD profile ratio 16:9 the display show in size 16:9

Return
Return to OSD menu selection screen.

CAMERA Menu

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

Mirror	▶
Dir Image	SINGLE
Rear Setup	R
Jump	SEQ
Cam Out	QUAD
SEQ Time Setup	|---------- | 02
Return	▶

Mirror

CAM A	OFF
CAM B	OFF
CAM C	OFF
CAM R	ON
Return	▶

Select "ON" to activate the mirror function for different cameras or
"OFF" for a normal image. Default values are following below setting.

CAM A	"OFF"
CAM B	"OFF"
CAM C	"OFF"
CAM R	"ON"

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<u>Dir Image</u>

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.

Default value is SINGLE.

<u>Rear Setup</u>
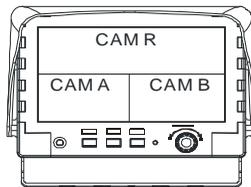
The screen image setting of this panel during reverse gear:
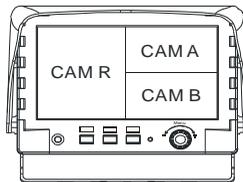
R: Screen will display single image for Cam R only.
R+A: Screen will display dual image for both Cam R and Cam A.
R+B: Screen will display dual image for both Cam R and Cam B.
R/AB Screen will display triple image from Cam R、Cam A、Cam B.

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

Default value is R.

<u>Jump</u>

By pressing this button, the driver will be able to obtain the image selected under this setting.

QUAD	Obtain image from all camera input in quad picture while pressing the JUMP button and press again to return the default screen.
SEQ.	Corresponding with "SEQ. Timer Step" setting to jump channel by time sequence.
CAM A	Obtain image from camera A while pressing the JUMP button and press again to return the default screen.
CAM B	Obtain image from camera B while pressing the JUMP button and press again to return the default screen.
CAM C	Obtain image from camera C while pressing the JUMP button and press again to return the default screen.
CAM R	Obtain image from camera R while pressing the JUMP button and press again to return the default screen.
CAM A+B	Obtain image from camera A+B in dual picture while pressing the JUMP button and press again to return the default screen.
CAM C+R	Obtain image from camera C+R in dual picture while pressing the JUMP button and press again to return the default screen.
CAM A+R	Obtain image from camera A+R in dual picture while pressing the JUMP button and press again to return the default screen.
CAM R+B	Obtain image from camera R+B in dual picture while pressing the JUMP button and press again to return the default screen.
CAM A+C	Obtain image from camera A+C in dual picture while pressing the JUMP button and press again to return the default screen.
CAM C+B	Obtain image from camera C+B in dual picture while pressing the JUMP button and press again to return the default screen.
CAM R/AB	Obtain image from camera R+A+B in triple picture while pressing the JUMP button and press again to return the default screen.
CAM R+AB	Obtain image from camera R+A+B in triple picture while pressing the JUMP button and press again to return the default screen.

Default value is QUAD.

<u>Cam Out</u>

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.

<u>SEQ Time Step</u>

Select Cam A/B/C/R switching time setting value from 02~100
Default value is "02"

<u>Return</u>

Return to OSD menu selection screen.

Information
This menu set up contains Recall & Exit function.

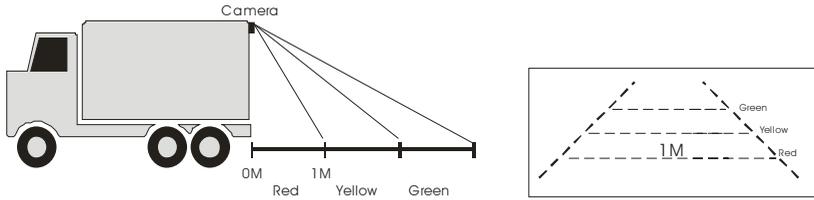|		
📺	Recall	▶
	Exit	▶
🗨		
👤	VER A1.6	
⊘		
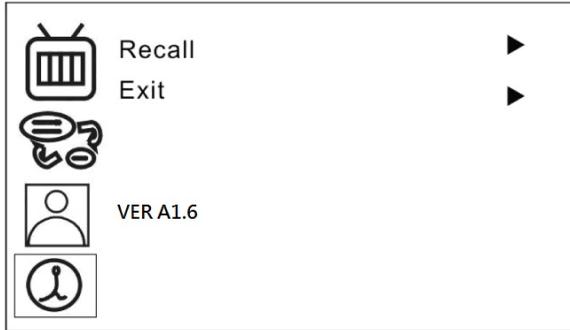
Recall
Recall factory default.

Exit
Exit OSD menu.

Notice：Firmware version has shown on last column.

6. Vehicle Installation


(This " DISTANCE GAUGE" is for user's reference only)

    a.   Install Camera R (for rear view)

    b.   Use a measuring tool to mark out the distance behind the vehicle.

    c.   Adjust the viewing angle of the camera so that the distance gauge shown from the TFT match to the distance marks behind the vehicle.

Switch to Rear view with SELECT button, the screen always display on 16:9
While rear viewing, the screen always display on 4:3 to correct size percentage

   SELECT button: Rear viewing:

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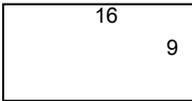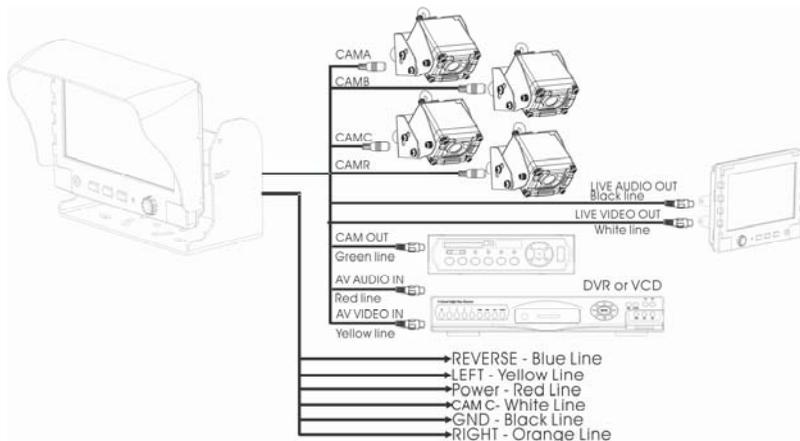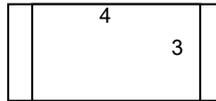
7. Specification

Screen size	7 Inch Touch Panel (diagonal)
Active area	154.08(H) x 86.58(V)
Pixel configuration	0.107 x 0.370
Resolution	1440(W) x 234 (H)
Viewing angle	UP:40° / Down:60° / Left: 60° / Right:60°
Power source:	DC9.6V ~DC32V
Contrast ratio	300:1 ※
Brightness	450 cd/m^2 ※
AV Video In	
Connector	RCA
Input Signal	1Vpp
Impedance	75 Ohms
Camera MINI DIN In	
Connector	6 PIN MINI DIN (Standard)
Input video signal level	1Vpp
Impedance	75 Ohms
Input audio signal level	1Vpp
Power output for camera	DC12V 350mA
AV Audio In	
Connector	RCA
Input video signal level	1Vpp
Impedance	1K Ohms
Live Video Out	
Connector	RCA
Input signal level	1Vpp
Impedance	75 Ohms
CAM OUT	
Connector	RCA
Input signal level	1Vpp
Impedance	75 Ohms
LIVE Audio Out	
Connector	RCA
Input signal level	1Vpp
Impedance	1K Ohms
Dimension	
W x H x D :	192 x140.5 x 51.8mm
Weight	N.W./G.W.: 2kg/ 2.28kg
Environmental:	
Operation temperature	-10℃~70℃
Storage temperature	-30℃~80℃
Humidity	20%-80%

※The brightness and contrast ratio specifications are from panel specification.
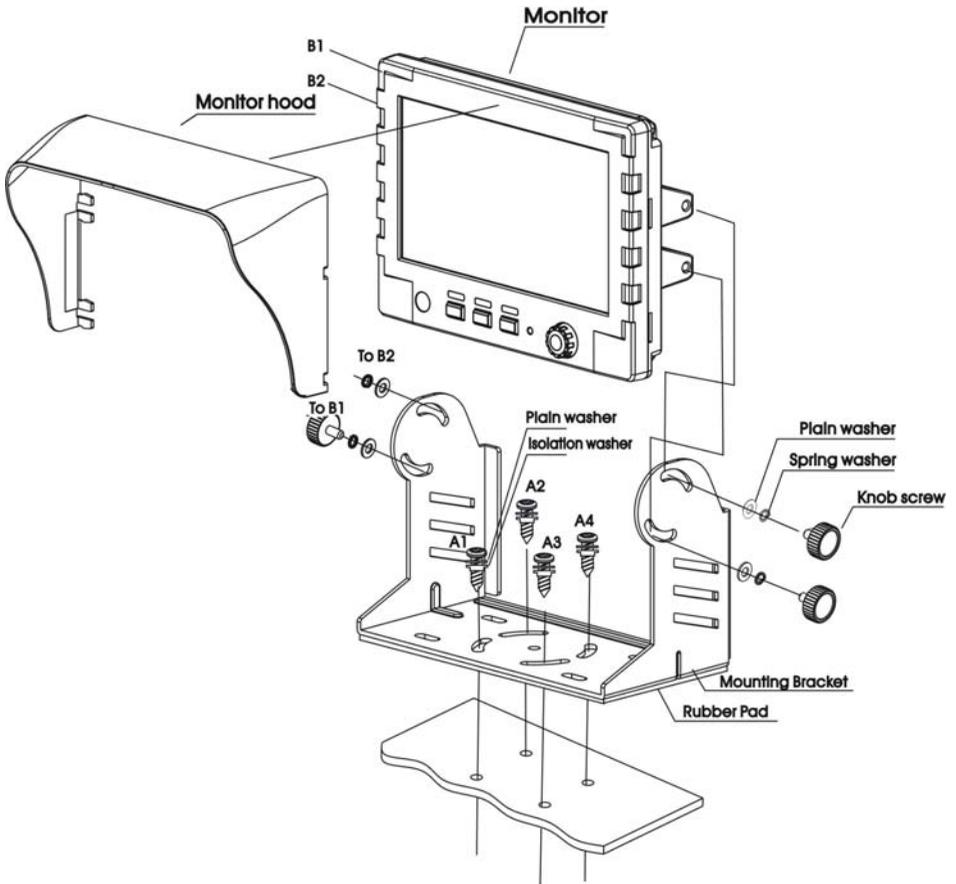**Design and Specifications are subject to change without notice.**
A1.6

8. ATTACHMENT

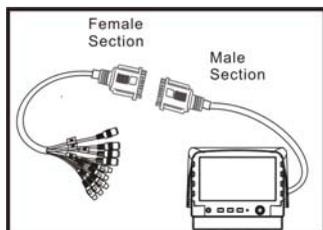## Attachment 1:   Dimension Chart
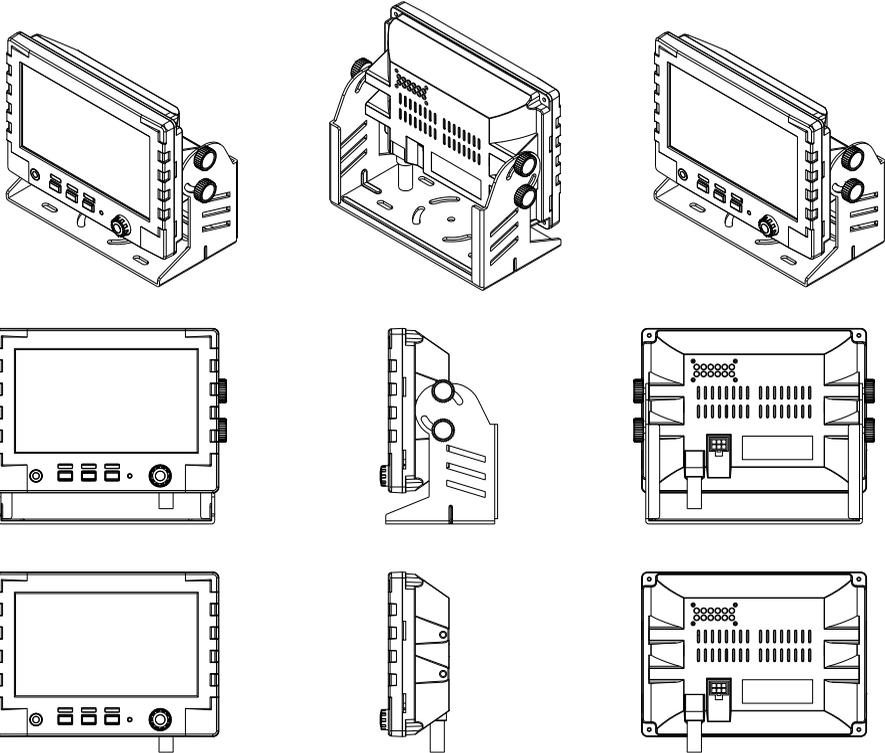
Attachment 2: Installation Chart

Notice:

Please proceed with suggested installation instruction according to above picture to avoid any

malfunction of the product.

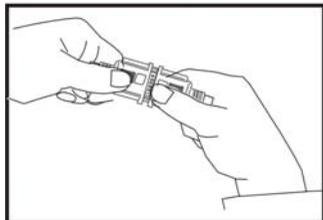## Connecting Steps for Cable of Two-Sections-in-One.

A. The first part of the cable which connected with the LCD Monitor, herewith we called the Male Section

B. The second part of the cable which ended with the RCA/MINI DIN connectors, herewith we called the Female Section.
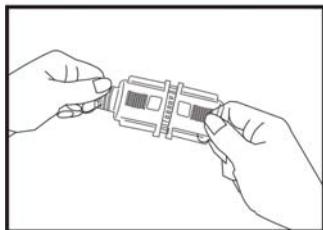
Connection Steps are:

1. Please connect the "Male Section" to the "Female Section.

2. Please tight up the side screws.

The Cable should be stored in a dry place and please try to avoid the water and humidity, otherwise, it may cause problem of the product itself or even more dangerous.

85-ML072Q-A003G - D