Manual Installation
(LVTX-1CH-Grand Cherokee)

Warning / Caution

Warning

- When installing the main unit, do not remove or alter existing vehicle fasteners, including nuts, bolts, screw, clips, and fittings. Never detach, move or alter existing vehicle wiring, including electrical grounds and straps. Alteration of existing vehicle components may make vehicle unsafe to operate. Should be no any electronic devices or magnetic pole around installation place.
- Air bags are vital part of a safety system. Never install main unit in a way which will alter air bag wiring or interfere with air bag deployment. Air bags must function properly in the event of an accident.
- Before installing, check the location of pipe, tank, electrical cables and others.
- Read and follow the instruction manual.
- Wiring location must not interfere driving, get in or out from car.
- Use electrical tape to insulate the ends of all wires, even if they are not used. Proper insulation prevents arcs, shocks and fires.
- When installation is complete, test all vehicle electrical systems to ensure they operate correctly, including lights, horn, brake lights, and emergency flashers.
- According to our sales policy, any problems caused by user's mistake, careless can not be guaranteed.

Caution

- All steps of installation should be done by well-trained specialist.
- During installation ignition key should be taken off and after all installation finish connect power cable with interface for the last step.
- Do not install the main unit in places where it ma be exposed to dew condensation (around the air conditioning hose, etc), or in locations where it may come in contact with water, high levels of moisture, dust or oily smoke
- Install wiring in a manner in which cables will not come in contact with metal parts. The wiring may be damaged by contact with metal parts, resulting in fire and shocks. Avoid all contact with hot surfaces when wiring the main unit. High temperatures may damage wiring, causing shorts, arcing and fires.
- Kindly check all parts are in the box, when receiving the product, if anything missing, inform to the supplier or manufacturer.

Contents

1. Specifications

1.1 Main Specification

1. Compatible Vehicle
   Jeep Grand Cherokee 2014, Dodge Durango 2014

1. Main components
   Multimedia Interface * 1EA
   Sub-board * 1EA

2. MULTIMEDIA INTERFACE input specification
   3 * A/V (NTST&PAL) input
   1 * CVBS(Rear camera) input
   1 * Analog RGB
   1 * LCD input (Car system input)

3. MULTIMEDIA INTERFACE output specification
   1 * LCD output(LCD performance)
   1 * Audio output
   2 * CVBS output

4. Power Spec
   - Input Power : 8VDC ~ 18VDC
   - Consumption Power : 4WATT, Max

5. Switch Input mode
   -AV mode skip : Able to skip or display AV mode by controlling
    DIP Switch
   -Able to switch the input mode with the remote control
   -Possible to switch Input mode with switch for source toggle
   -Possible to switch mode through OEM button on the steering
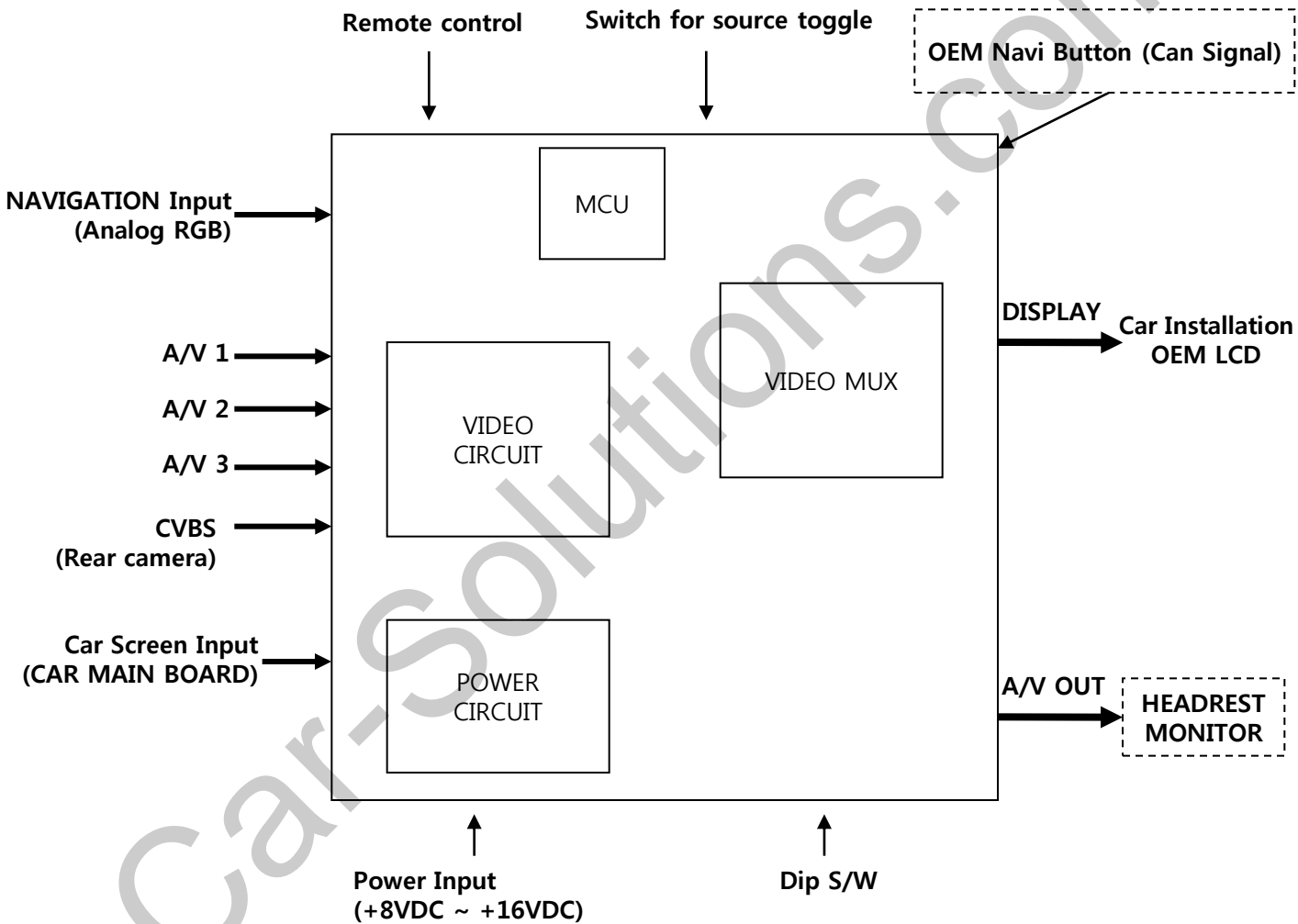   wheel due to CAN connection

1. Specifications

1.2 Features

- Able to adjust DVD, NAVI display on screen

- Improved Screen Display (user-oriented interface)
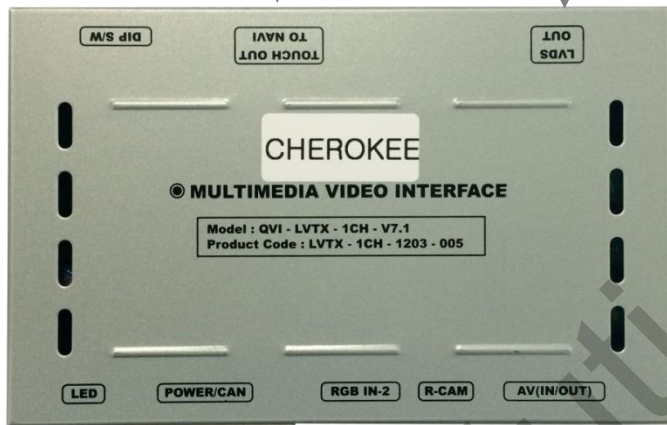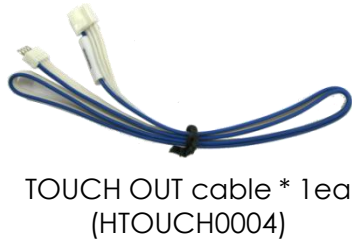
- Add SAFE function (Displaying the main page while driving)

1. Specification

1.3 System Diagram

Remote control

Switch for source toggle

OEM Navi Button (Can Signal)

NAVIGATION Input (Analog RGB)

MCU

A/V 1

A/V 2

A/V 3

VIDEO CIRCUIT

VIDEO MUX

DISPLAY **Car Installation OEM LCD**

CVBS (Rear camera)

Car Screen Input (CAR MAIN BOARD)

POWER CIRCUIT

A/V OUT **HEADREST MONITOR**

Power Input (+8VDC ~ +16VDC)

Dip S/W

1. Specification

1.4 Components

TOUCH OUT cable * 1ea
(HTOUCH0004)

LVDS cable * 1ea
(HLVDSC0020)

REMOTE CONTROL * 1ea
(REMOTE0001)

CHEROKEE

◉ MULTIMEDIA VIDEO INTERFACE

Model : QVI - LVTX - 1CH - V7.1
Product Code : LVTX - 1CH - 1203 - 005

DIP S/W

TOUCH OUT
TO NAVI

LVDS
OUT

LED | POWER/CAN | RGB IN-2 | R-CAM | AV(IN/OUT)

SUB BOARD* 1ea
(QCPASS0581)
+ LABEL
(LABELS0160)

DRG-SUB-V3.1(141110)

8P FFC Cable * 1ea
(FFCABL0018)

60P FFC Cable * 1ea
(FFCABL0012)

POWER cable (24P) * 1ea
(HPOWER0011)

REAR CAMERA POWER cable * 1ea
(HARETC0002)

A/V cable * 1ea
(HAVCAB0002)

IR cable * 1ea
(HIRCAB0002)

MODE cable * 1ea
(HARETC0001)

RGB cable * 1ea
(HNAVIC0004)
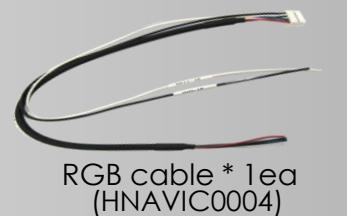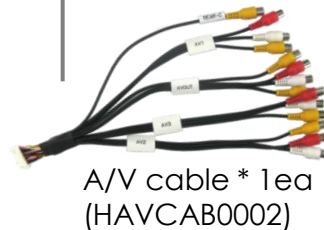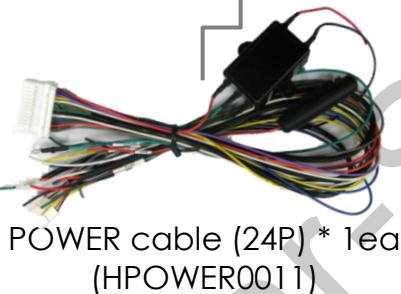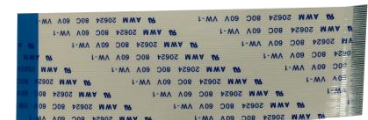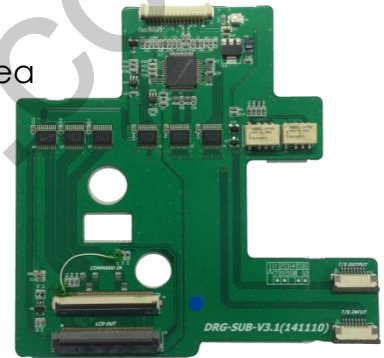
1. Specifications

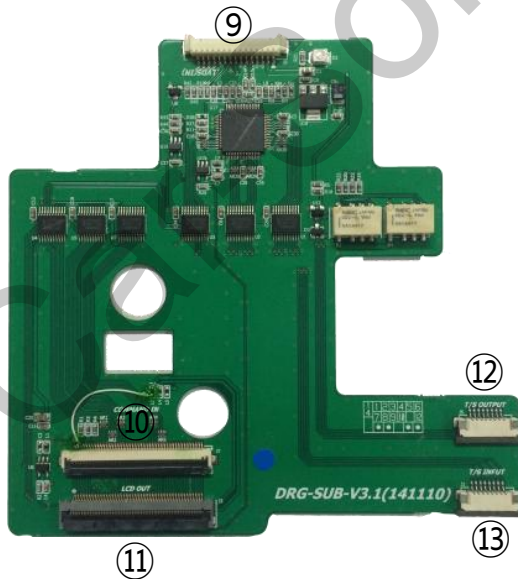## 1.5 Exterior

Dimension

Width 125mm
Length 105mm
Height 21mm

① LED

② POWER

③ RGB IN-2

④ R-CAM

⑤ AV(IN/OUT)

⑥ DIP Switch

⑦ TOUCH OUT TO NAVI

⑧ LVDS OUT

⑨ LVDS-IN
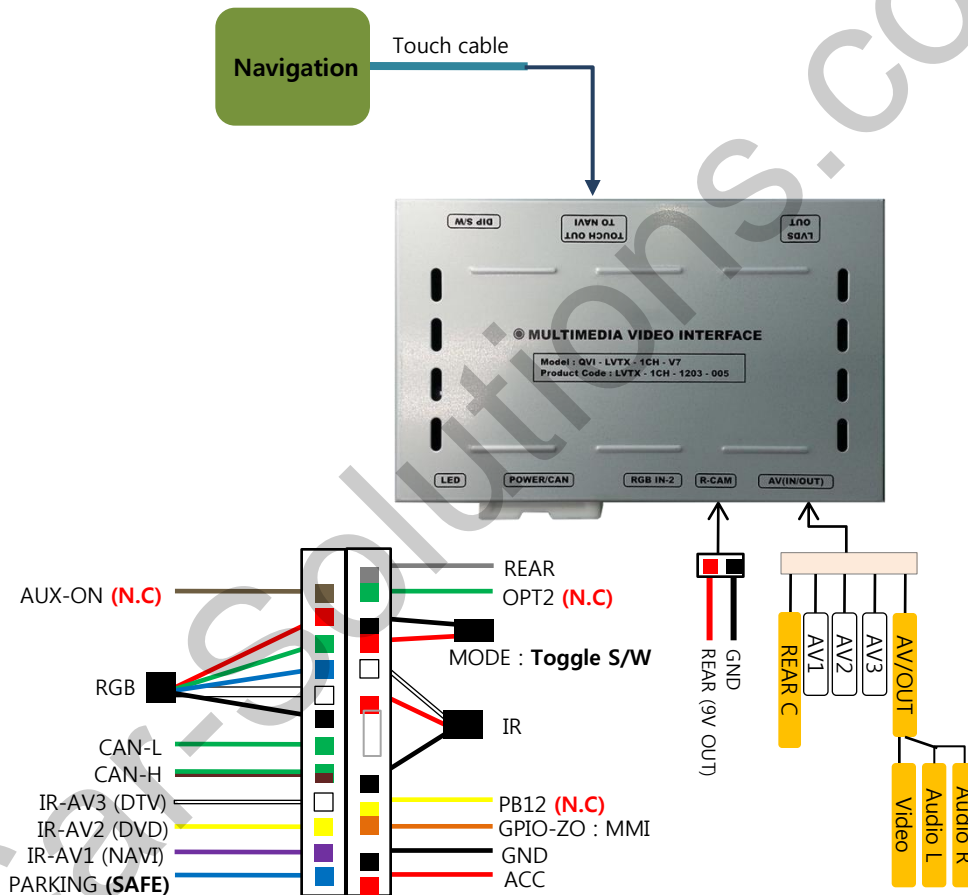
⑩ COMAND IN

⑪ LCD OUT

⑫ T/S OUTPUT

⑬ T/S INPUT

- SUB BOARD -

2. Installation

2.1 Installation Diagram

Navigation — Touch cable

MULTIMEDIA VIDEO INTERFACE

Model : QVI - LVTX - 1CH - V7
Product Code : LVTX - 1CH - 1203 - 005

DIP S/W · TOUCH OUT TO NAVI · LVDS OUT

LED · POWER/CAN · RGB IN-2 · R-CAM · AV(IN/OUT)

AUX-ON **(N.C)**
RGB
CAN-L
CAN-H
IR-AV3 (DTV)
IR-AV2 (DVD)
IR-AV1 (NAVI)
PARKING **(SAFE)**

REAR
OPT2 **(N.C)**
MODE : **Toggle S/W**
IR
PB12 **(N.C)**
GPIO-ZO : MMI
GND
ACC

GND
REAR (9V OUT)

REAR C · AV1 · AV2 · AV3 · AV/OUT
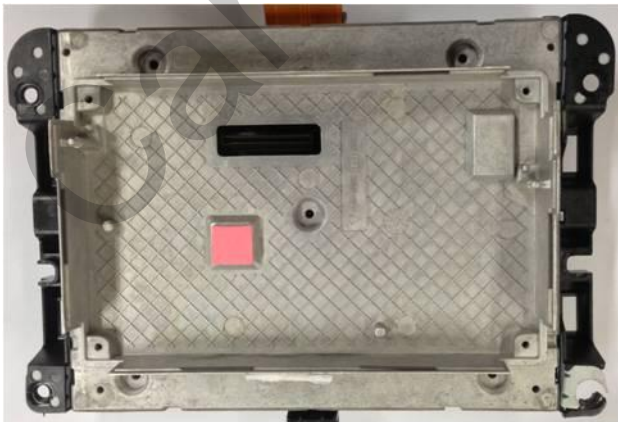
Video · Audio L · Audio R

2. Installation

2.3 Installation

The back side of
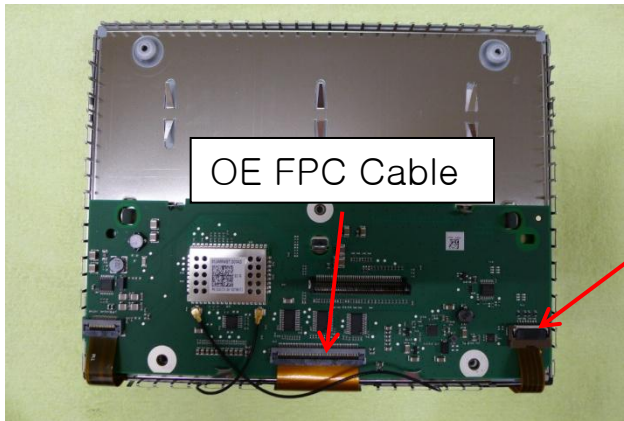OE monitor looking is like
this picture .

Please remove the back cover .

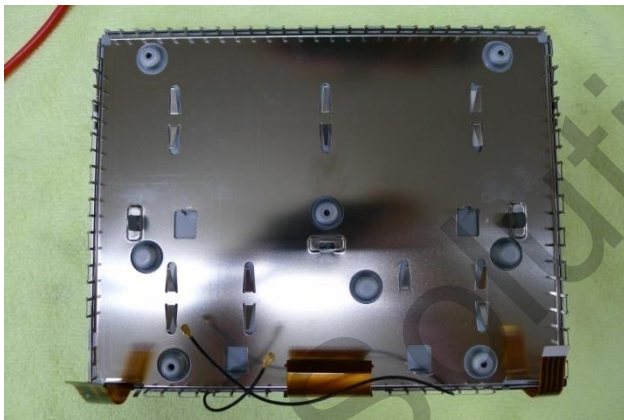Please remove OE board inside
and please disconnect
the OE steel plate.

2. Installation

2.3 Installation

Please find out OE FPC cable and OE touch cable.

OE FPC Cable

OE Touch cable

① Please disconnect the cables. After that, please remove OE board .

2. Installation

2.3 Installation

① Please mount provided sub-board as like the below picture
(please use a kind of double tape.) And please connect OE FPC cable
to "LCD-OUT"connector and OE touch cable to "T/S INPUT connector.
② Please connect provided 60P FFC cable to "COMMAND IN" and
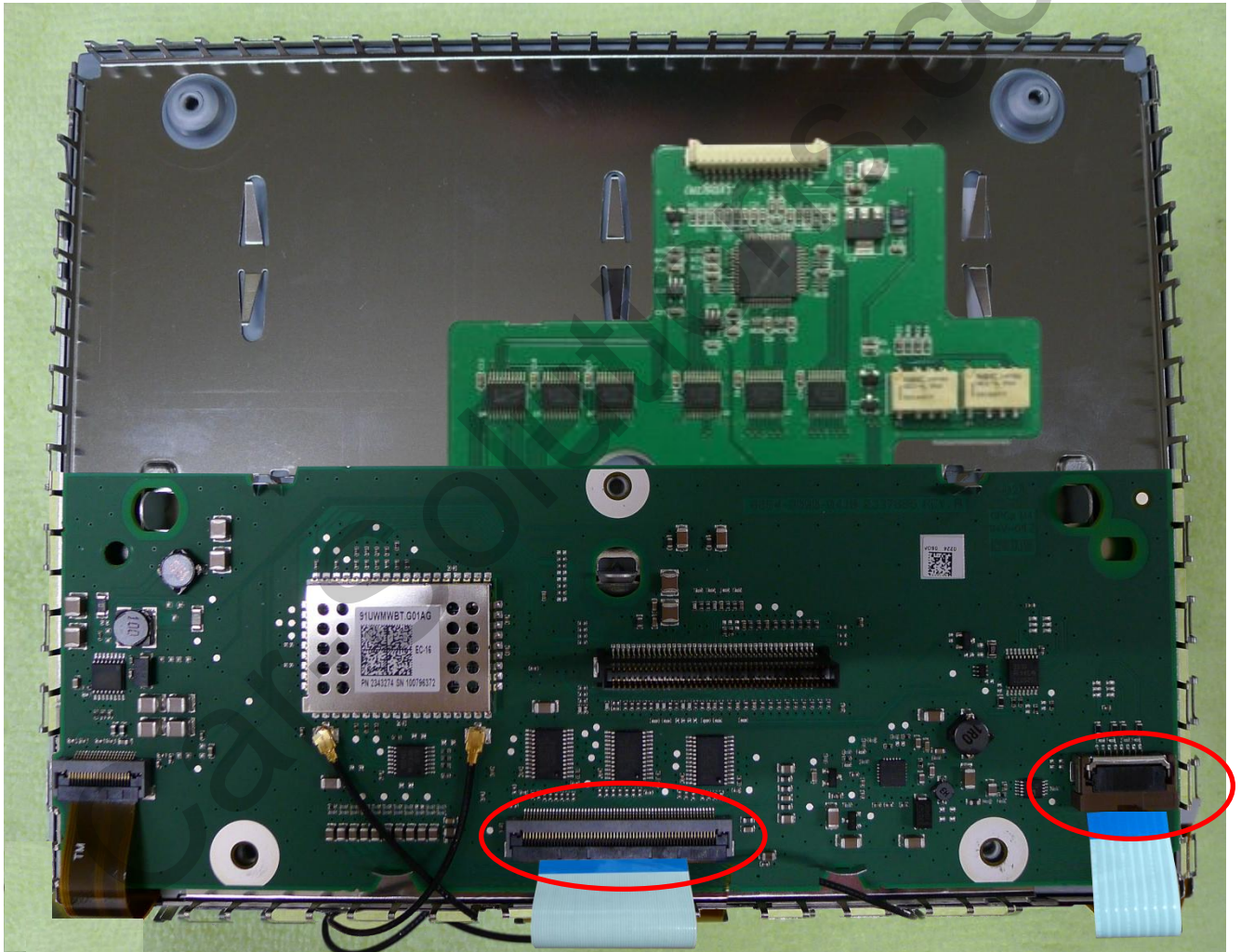8P FFC cable to "T/S OUTPUT" connector.
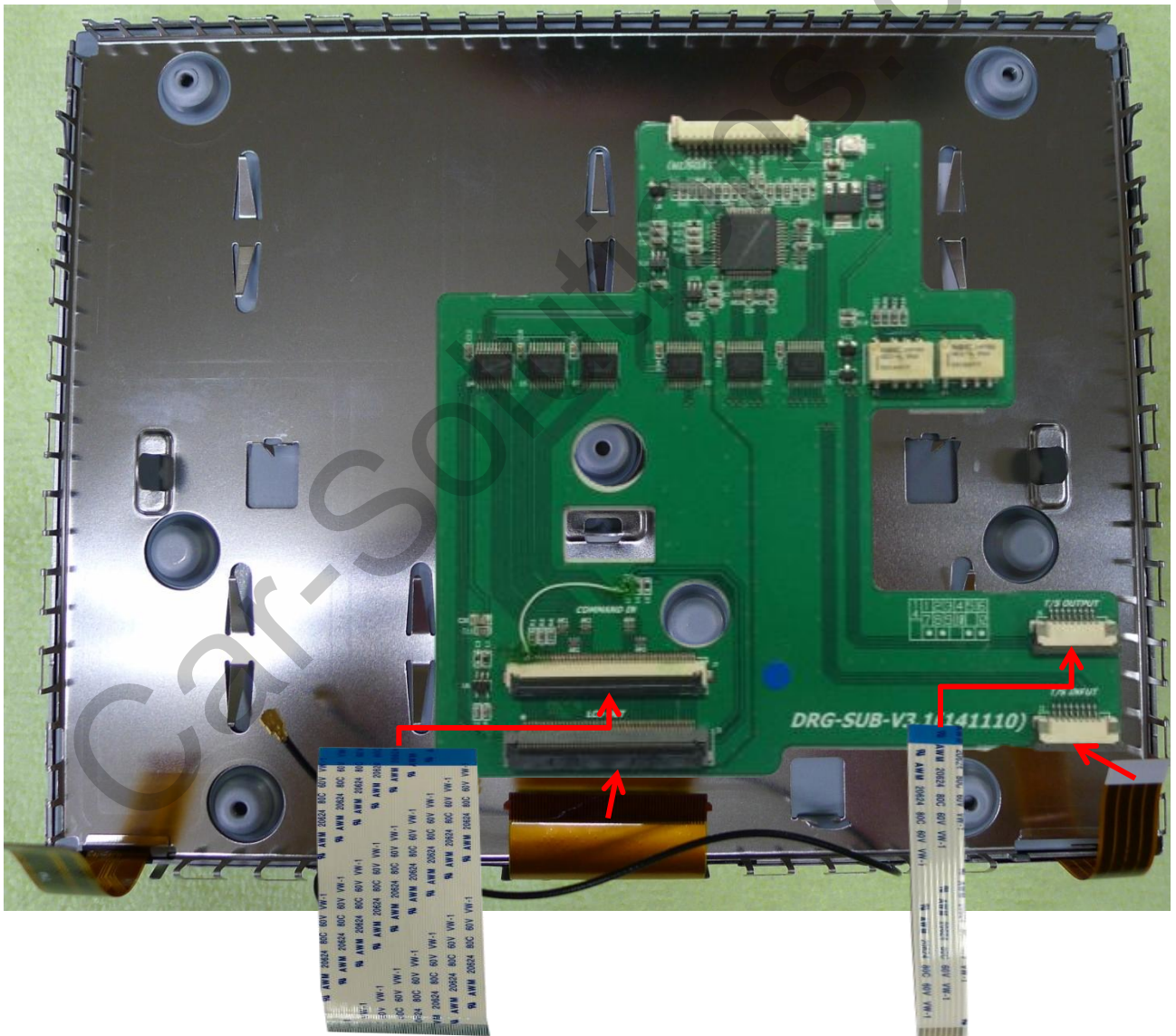
2. Installation

2.3 Installation

① Please re-mount OE board and please connect provided FFC cables
to OE board. (Please refer to below picture.)
After that, please connect LVDS cable to cub-board of "LVDS-IN" connector.

2. Installation

2.4 CAN connection

Find OEM LCD cable back of the monitor

Power cable

CAN-Low

CAN-High
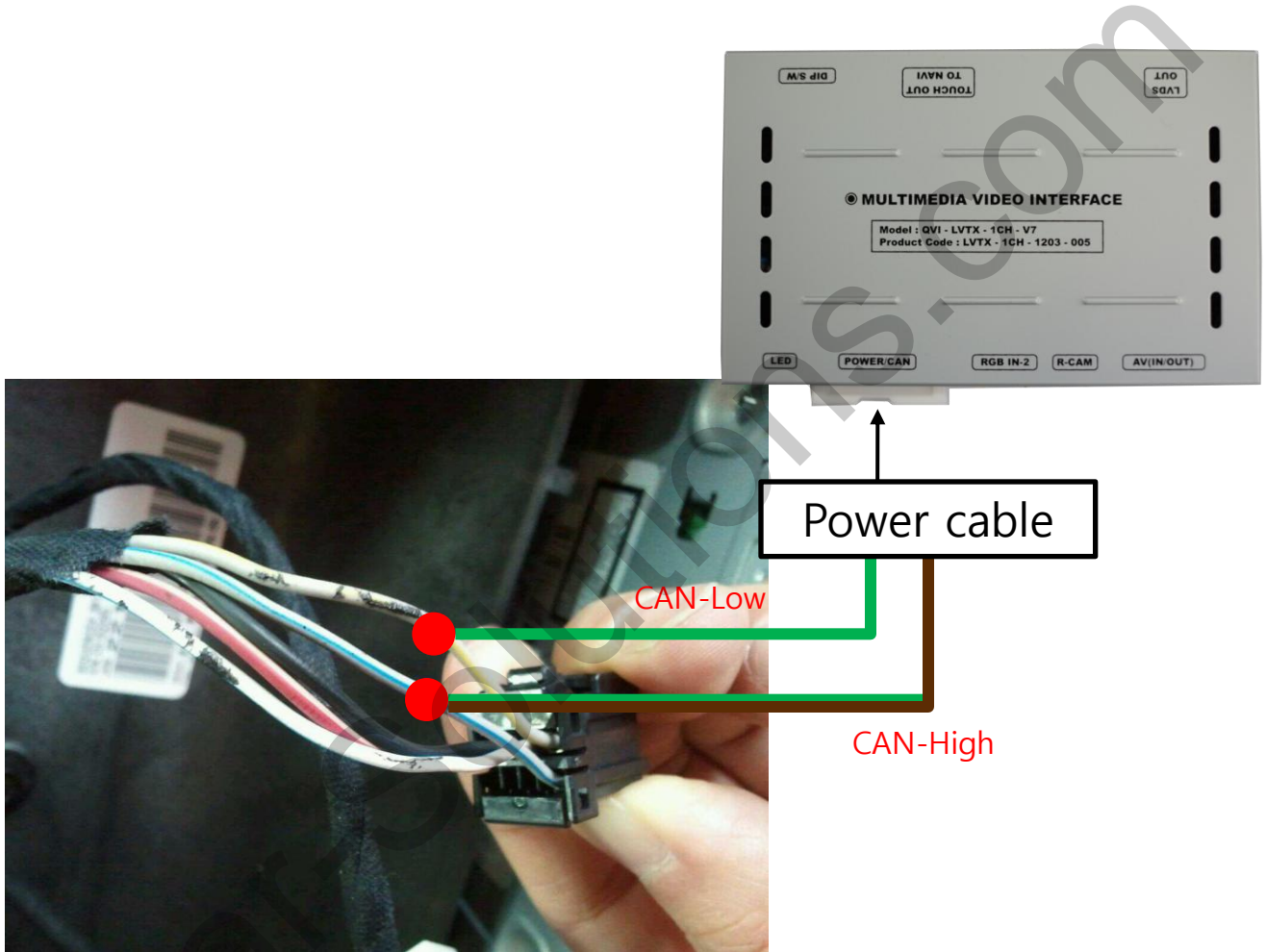
As shown above, connect the provided CAN-H wire(green+brown) to original CAN-H wire(white+blue) and connect provided CAN-L wire(green) to original CAN-L wire(white+yellow)

3. Installation

3.1 DIP Switch

※ ON : DOWN / OFF : UP

※ For example : DIP S/W
- input mode: in case of using AV3, Navi(RGB
- No use for OEM navigation
- Rear Camera : in case of connecting toCVBS4

▷ DIP S/W : 1 → OFF
▷ DIP S/W : 2,3 → ON (input mode skip)
▷ DIP S/W : 4 → OFF (A/V3 possible)
▷ DIP S/W : 5 → ON
▷ DIP S/W : 6 → ON
▷ DIP S/W : 7 → ON (CVBS4 possible)
▷ DIP S/W : 8 → OFF

PIN	*Function*	Dip S/W choice
1	RGB input skip	ON : RGB mode skip OFF : RGB display
2	A/V 1 skip	ON : A/V 1 skip OFF : A/V1 display
3	A/V 2 skip	ON : A/V 2 skip OFF : A/V2 display
4	A/V 3 skip	ON : A/V 3 skip OFF : A/V3 display
5		No USE
6		No USE
7	Rear Camera	ON : External(A/S) rear camera OFF : OEM rear camera
8		No USE

※ After changing the settings for DIP switch, reboot the power by disconnecting the power cable.
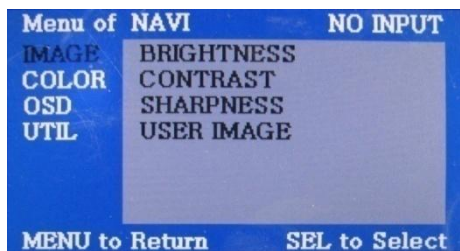
3. Settings

3.2 Remote Control

| Key	Function
POWER	Unavailable
PIP	A/V 1~2 Mode : Remote control UI Display A/V 3 Mode : Mode switching UI Display
MENU	Activating OSD menu
OK	Making a selection, changing image display
▲	Moving upward
▼	Moving downward
◄	Moving leftward (If you press this button 2 seconds long, you can access the factory mode.)
►	Moving rightward (If you press this button 2 seconds long, you can reset all the data about user environment.)

3. Setting
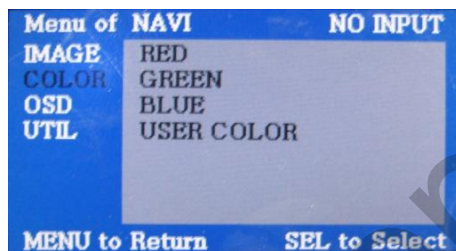
3.3 OSD (On Screen Display) / Analog RGB Mode

Menu of NAVI	NO INPUT
IMAGE	BRIGHTNESS
COLOR	CONTRAST
OSD	SHARPNESS
UTIL	USER IMAGE
MENU to Return	SEL to Select

Menu of NAVI	NO INPUT
IMAGE	RED
COLOR	GREEN
OSD	BLUE
UTIL	USER COLOR
MENU to Return	SEL to Select

❑ **IMAGE**

* BRIGHTNESS

* CONTRAST

* SHARPNESS

* USER IMAGE

  : To choose the option
among 4 prepared color
shade.
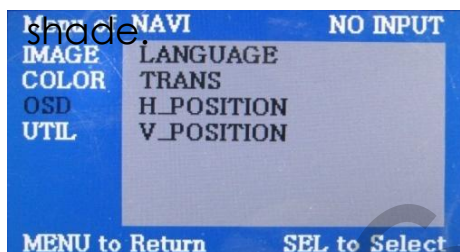
❑ **COLOR**

* RED : Adjusting red

* GREEN : Adjusting green

* BLUE : Adjusting blue

* USER COLOR

  : To choose the option by user

Menu of NAVI	NO INPUT
IMAGE	LANGUAGE
COLOR	TRANS
OSD	H_POSITION
UTIL	V_POSITION
MENU to Return	SEL to Select

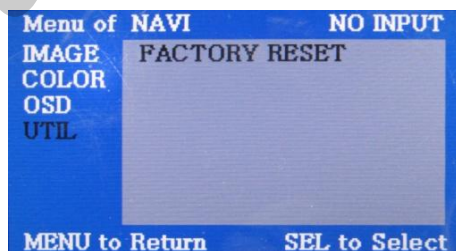| Menu of NAVI	NO INPUT
IMAGE	FACTORY RESET
COLOR	
OSD	
UTIL	
MENU to Return	SEL to Select

❑ **OSD**

* LANGUAGE : To change the
  language displaying on touch
  OSD (Chinese, English only)

* TRANS : Transparency
control of the OSD

* H_POSITION

  : Horizontal movement
    of the OSD window

* V_POSITION

  : Vertical movement
    of the OSD window

❑ **UTIL**

* FACTORY RESET

- To reset all the values about
navigation, DVD screen to
factory default. (NOT
available for reset of the
position value of images, only
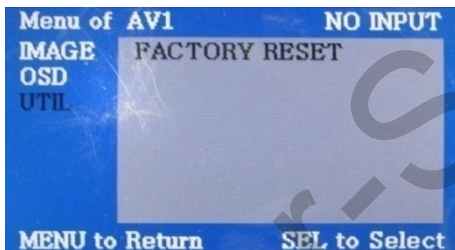for functions inside OSD menu)

3. 설정

## 3.3 OSD (On Screen Display) / Video Mode

Menu of AV1	NO INPUT
IMAGE	BRIGHTNESS
OSD	CONTRAST
UTIL	SATURATION
	HUE
	SHARPNESS
	USER IMAGE
MENU to Return	SEL to Select

Menu of AV1	NO INPUT
IMAGE	LANGUAGE
OSD	TRANS
UTIL	H_POSITION
	V_POSITION
MENU to Return	SEL to Select

❑ IMAGE

* BRIGHTNESS

* CONTRAST

* SATURATION

* HUE

* SHARPNESS

* USER IMAGE

  : To choose the option
among 4 prepared color

Menu of AV1	NO INPUT
IMAGE	FACTORY RESET
OSD	
UTIL	
MENU to Return	SEL to Select

❑ OSD

* LANGUAGE : To change the
  language displaying on touch
  OSD (Chinese, English only)

* TRANS : Transparency
control of the OSD

* H_POSITION

  : Horizontal movement
   of the OSD window

* V_POSITION

  : Vertical movement
  of the OSD window

❑ UTIL

* FACTORY RESET

- To reset all the values
about navigation, DVD
screen to factory default.
(NOT available for reset of
the position value of images,
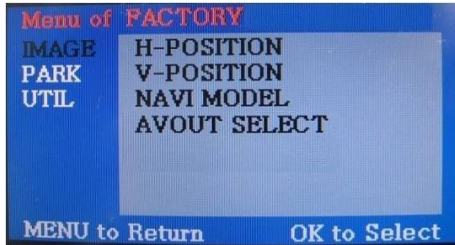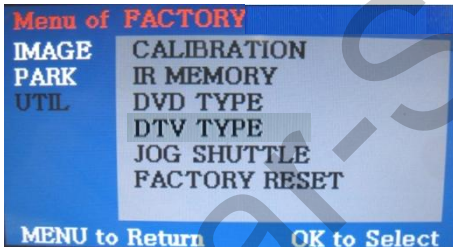only for functions inside OSD
menu)
)
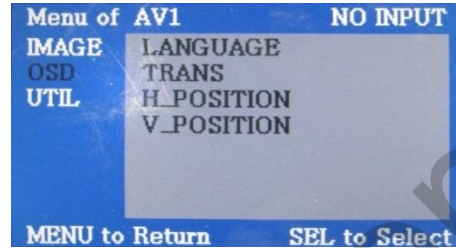
3. Setting

3.4 Factory Mode

FACTORY mode – Factory mode: press ◄ button 5 seconds long

❑ IMAGE

* H-POSITION : Control over horizontal movement of screen
* V-POSITION : Control over vertical movement of the screen
* NAVI MODEL : DEFAULT, KD900(WVGA), MD7000(WVGA), MYVI(WVGA),PAPAGO(WVGA) GN3000(WVGA), ICUBE(WVGA) MYVI(WVGA), I-ONN(WVGA)
* AVOUT SELECT : DEFAULT, AV1, AV2, AV3

❑ PARK

* PARK ENABLE : Setup of rear view parking guide line
•PARK SETUP : Control over position of rear view parking guide line
* SAFE ENABLE : To select whether to use SAFE function (NOT to allow watch video while driving) or not

❑ UTIL

* CALIBRATION : Touch calibration
•IR MEMORY : To register value of buttons on the remote controller
•DVD TYPE : Setup for the type of DVD
•DTV TYPE : Setup for the type of DTV
* JOG SUTTLE : Setup for use of JOG SUTTLE DVD, DTV control OSDmenu ON/OFF setting
* FACTORY RESET : reset

3. Setting

3.5 Parking guide line setting

FACTORY mode – Press ◄ button 5 seconds long on the remote control

❑ **PARK**

* PARK ENABLE : Selecting whether to
display the parking guide line or not
on rear gear (default : OFF)
* PARK SETUP : Adjusting the position of
the parking guide line (available in
PARK SETUP -> V-POSITION, H-POSITION)
* SAFE ENABLE : In case of Connecting
"Safe" wire from the power cable to
the hand break,
ENABLE – OEM Picture displays in Drive
gear position
DISABLE – No display locked in any
gear position

❑ **PARK - ENABLE**
A. Press the OK button of remote
control one more, ''V_POS'' will
be shown on the right and control
moving in vertical direction.

❑ **PARK - ENABLE**
A. If you set 'PARK ENABLE' as
"ON" state, there will be the rear
view parking guide line.
(as shown above picture)

B. Press the OK button of remote
control, ''H_POS'' will be shown
on the right and control moving
in horizontal direction.

※**In case of installing rear
camera : Put DIP S/W 7 down
to set "ON"(Page 9)**

3. Setting

3.6 Touch Cablibration

Factory mode: press ◀ button 5 seconds long
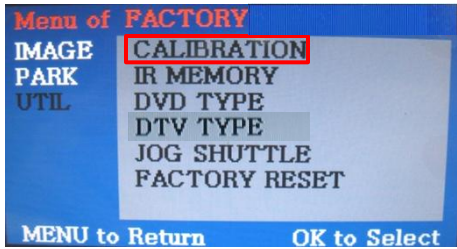
① press ◀ button long on the remote to run FACTORY MODE

② As shown above, go to UTIL-Calibration to set "YES" on Factory mode

③ Then you can see "touch calibration" on screen **about 2 seconds long** as shown above. After the word "touch calibration" disappear, touch calibration function will implement. (Just touch "╅" shape on screen.) If you succeed, you can see "success". If not, you will see "failure".
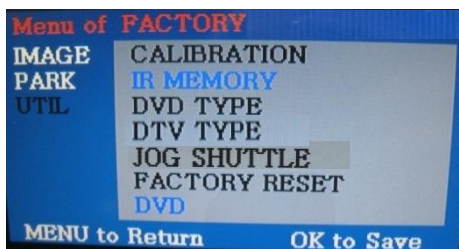
3. Setting

3.7 Remote Control

FACTORY mode – Press ◀ button 5 seconds long on the remote control

Registering value of remote control buttons?

When you want to control DVD and DTV via touch screen (using OSD menu) with other models besides already registered option-SANYO and NECVOX, you can register value of DVD and DTV' s remote control which you have.
Then you can control DVD and DTV via touch screen.

Menu of FACTORY	
IMAGE	CALIBRATION
PARK	IR MEMORY
UTIL	DVD TYPE
	DTV TYPE
	JOG SHUTTLE
	FACTORY RESET
	DVD
MENU to Return	**OK to Save**

① Press ◀ button long or press UP→DOWN→UP→MENU to run Factory mode. Then, go to UTIL-IR MEMORY

There are two options in IR MEMORY as shown above; DTV and DVD.
Then you select AV source that you want to set among them.

② This is a window for register of DVD' s remote control button value. At the moment just select a menu that you want to save.
(Select "DTV in options of IR MEMORY" if you want to save values of DTV' s remote control. And follow the instruction below.)

Instruction>
a. Select "POWER" in OSD menu, then press "OK" on remote control. (as shown above)
b. If the marked area flickers as shown above, press "POWER" button on the remote control of DVD that you want to use.
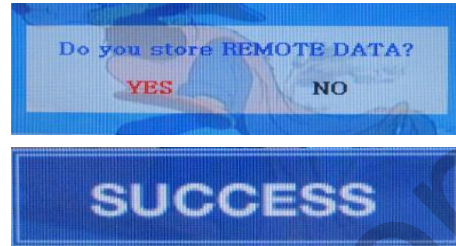(continued in the next page)

3. Setting

3.7 Remote control

Instruction> continued…
c. The values that you registered will appear as green text in the marked area on pressing the button. And the values will be saved automatically.
d. Register remain buttons' value in OSD menu like the above-mentioned.

③ After register, select "INPUT" in OSD menu and press "OK". Then you can see confirmation window as shown above. At the moment, if you choose "YES", all the values that you entered will be saved.
If you select "NO", the values won't be saved.

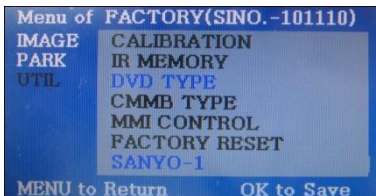(If data is saved, DVD TYPE and DTV TYPE will be changed to "USER" automatically.)

If you see "SUCCESS" on screen, the data is saved clearly and you can control DVD via touch screen. BUT, you MUST change the option in DVD(DTV)/UTIL/FACTORY to "USER".

3. Setting

3.8 DVD, DTV model

FACTORY mode – Press ◀ button 5 seconds long on the remote control.

❑ DVD TYPE

❑ DTV TYPE

UTIL – DVD/DTV TYPE
If DVD/DTV type that you want to use is not NECVOX or SANYO, you have to register values of the remote control that you want to use in the "IR MEMORY" section and set the "DVD TYPE"/"DTV TYPE" to "USER".
Unless you do this process after saving the data, you can NOT control DVD/DTV via touch screen.

DVD TYPE : NEC/SANYO, DV-108, SANYO-1, SANYO-2, USER
DTV TYPE : PIONEER/PANASONIC, USER, CMMB

※ If you enter data in "IR MEMORY" section in FACTORY mode, "DVD TYPE"/ "DTV TYPE" will *automatically* be saved to "USER".
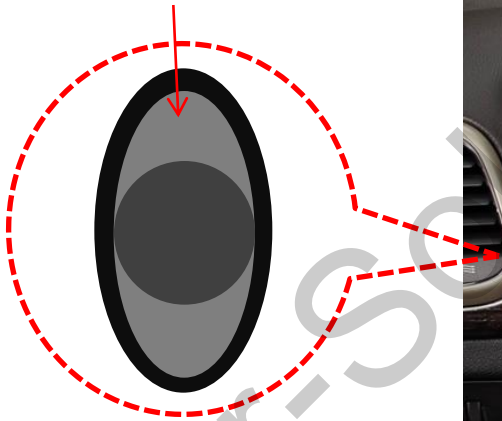
3. Setting

3.9 Switching mode by CAN wire

※ **find this button from back of the steering wheel.**

Mode Switching

In case of CAN
connection, Driver can
switch modes with
the this button

Press long : mode switch
Press short : return to
            main image

4. Trouble Shooting

Q. Unable to switch the mode
A. Check whether Ground cable or IR cable is connected
Check whether LED is on, if not, check POWER cable is
connected properly.

Q. All I got on the screen is black.
A. Check second LED lamp of the interface is on, if not, check
A/V sources connected are working well.
(Second lamp indicates AV sources connected works well.)
Check interface connection has been done well

Q. Displayed image color is not proper. (too dim or not suitable color)
A. Factory Mode -> Unit and try Factory reset, if it still does not
work, contact the manufacturer for the further instruction.

Q. Rear camera image does NOT appear.
A. Set DIP switch #7 in "ON"

Q. Unwanted A/V mode is displayed.
A. Check DIP Switch Setting.

Q. OEM image is not displayed.
A. Check interface's LCD In/Out cable connection. If the status
keeps on, contact the manufacturer.

Q. Screen only displays white like left picture.
A. Check LCD out cable is connected well, if this status keeps,
inform the manufacturer.