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model : QVL-RCD-D4-MAIN-V1 / product code : RD-1001-001

DISCOVERY 4

Specification

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1.1 Main Specification

1. Input Spec. (MULTI VIDEO INTERFACE)

- 3 x A/V Input (External video source).
- 1 x CVBS(REAR CAMERA) Input. (Rear camera source)
- 1 x Analog RGB Input (Navigation System output)
- 1 x LCD Input (Car system Input)
- 1 x GVIF Input

2. Output Spec.

- 1 x GVIF Output
- 4 x Audio Select (12V power comes out from 4wires of cable by video, Navi mode)
- 3 X 12V SEL

3. Power Spec.

- Input Power : 8VDC ~ 18VDC
- Consumption Power : 12WATT, Max

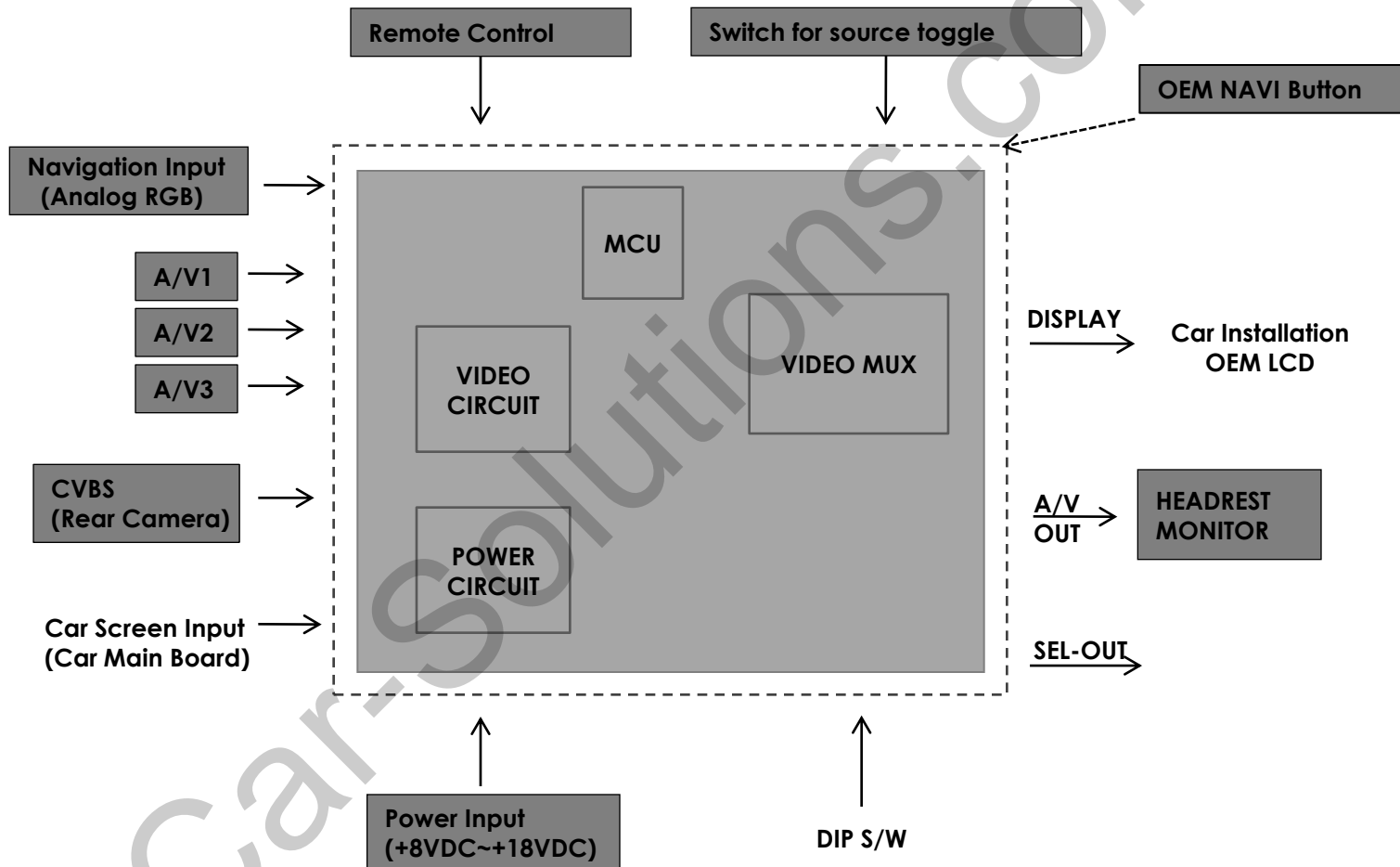
4. Switch Input mode

- Input Video MUTE Function : Possible to make each input mute by operating Dip S/W.
- Possible to switch Input mode with switch for source toggle
- Possible to switch mode through CAN

1.2 Features

- Improved display quality
- Working on NTSC, PAL
- External Touch screen available by NAVI-SEL
- AV1-SEL, REAR-SEL are added (For Rear-CAM Power)
- Rear CAM detection by CAN
- Possible to adjust displayed RGB, AV sources in Factory Mode
- Possible to display OSD with no connection of AV sources

1.3 System Diagram



1.4 Components



AV cable * 1ea
(HAVCAB0002)



RGB cable * 1ea
(HNAVIC0002)



SEL cable * 1ea
(HSELCA0001)



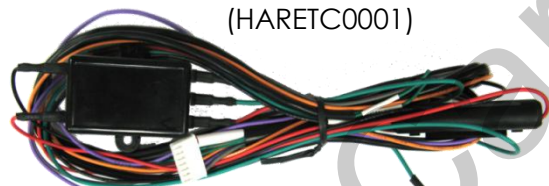
LVDS cable * 1ea
(HLVDSC0007)



IR cable * 1ea
(HIRCAB0002)



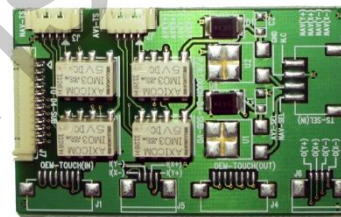
MODE cable * 1ea
(HARETC0001)



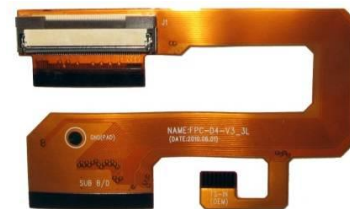
POWER cable (7P) * 1EA
(HPOWER0002)



SUB BOARD * 1ea
(QCPASS0052)



TOUCH BOARD * 1ea
(QCPASS0053)



FPC cable * 1ea
(SMTASY0076)



TOUCH cable * 2ea
(HTOUCH0003)

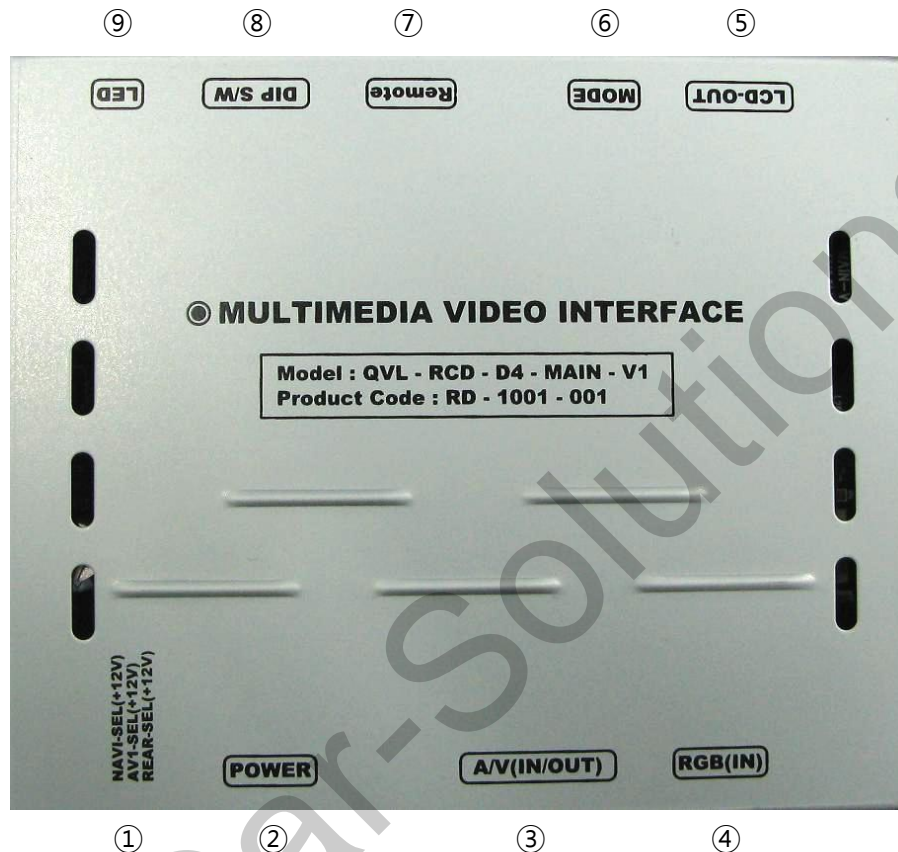


GROUND cable * 1ea
(HARETC0011)



Remote control * 1ea
(REMOTE0001)

1.5 Exterior



Dimension

Horizontal length 155mm
Vertical length 91mm
Height 20mm

- ① SEL-OUT
- ② POWER
- ③ AV(IN/OUT)
- ④ RGB(IN)
- ⑤ LDC-OUT
- ⑥ MODE
- ⑦ REMOTE
- ⑧ DIP S/W
- ⑨ LED

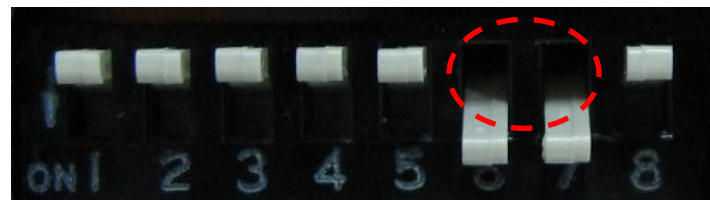
2.1 DIP switch

#PIN	FUNCTION	DIP S/W Selection
1	RGB INPUT MUTE	ON : Skipping RGB Mode OFF : RGB Display
2	A/V 1 MUTE	ON : Skipping A/V 1 OFF : A/V1 Display
3	A/V 2 MUTE	ON : Skipping A/V 2 OFF : A/V2 Display
4	A/V 3 MUTE	ON : Skipping A/V 3 OFF : A/V3 Display
5	N.C	
6	N.C	
7	Rear Mode	ON : External Rear Camera OFF : OEM Rear Camera
8	To select original NAVI	ON : For using original NAVI OFF : Not use original NAVI

※ DIP S/W Use Example

- Use Input Mode : MAIN + A/V 3
- Rear Camera : When to be installed on CVBS 4

- ▷ DIP S/W : 1,2,3 -> ON (INPUT MODE SKIP)
- ▷ DIP S/W : 4 -> OFF (enable A/V3)
- ▷ DIP S/W : 5 -> OFF
- ▷ DIP S/W : 6 -> OFF
- ▷ DIP S/W : 7 -> ON (enable CVBS4)
- ▷ DIP S/W : 8 -> OFF



※ Please make sure to disconnect the power cable of the interface and reconnect the power cable again to apply the dip switch setting whenever changing DIP switch. Otherwise, DIP switch setting will not be applied.

2.2 Remote control

Key	Function
POWER & PIP	Not for use
MENU	OSD implementation
OK	Making a selection
▲	Move upward
▼	Move downward
◀	Move leftward, press 5 seconds long-Factory mode implementation
▶	Move rightward



* FACTORY MODE (Interface setting)

: Operated with pressing ▲ -> ▼ -> ▲ -> MENU buttons on the remote control in sequence.

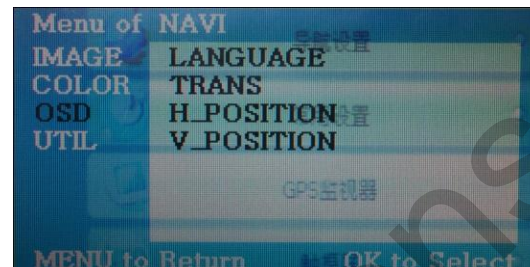
2.3 OSD (on screen display)

OSD menu: Press "MENU" button on the remote control.

Analog RGB MODE



Analog RGB MODE



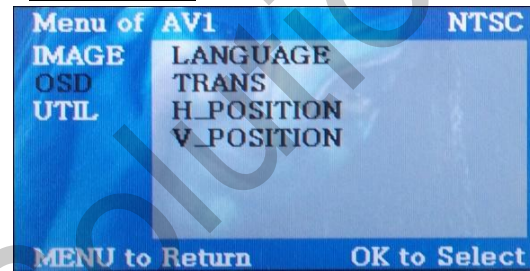
Analog RGB MODE



Video MODE



Video MODE



Video MODE



IMAGE

- BRIGHTNESS
- CONTRAST
- SATURATION
- HUE
- SHARPNESS
- USER IMAGE : To choose a option among 4 prepared color shade.

OSD

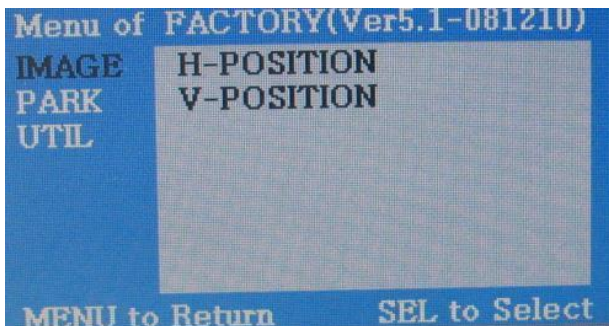
- LANGUAGE : Choosing OSD language while using Touch OSD (English, Chinese only)
- TRANS : Transparency control of the OSD background
- H_POSITION : Horizontal movement of the OSD window
- V_POSITION : Vertical movement of the OSD window

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)

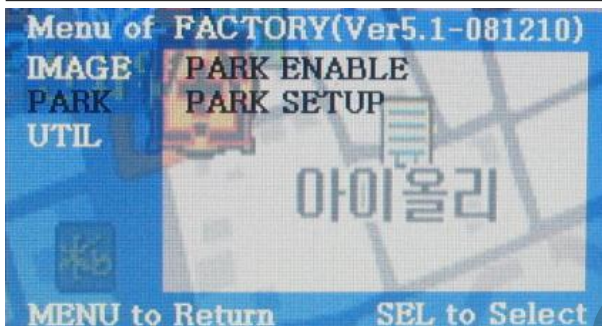
2.4 Factory mode

Factory mode: Operated with pressing ▲ -> ▼ -> ▲ ->MENU buttons on the remote control in sequence.



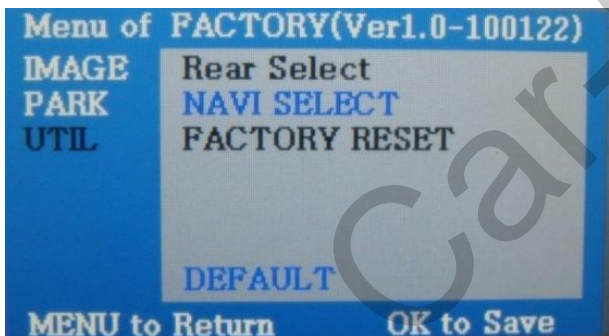
IMAGE

- H_POSITION : Horizontal movement of the OSD window
- V_POSITION : Vertical movement of the OSD window



PARK

- PARK ENABLE : Setup of rear view parking guide line
- PARK SETUP : Control over position of rear view parking guide line.
(Refer to page 12)

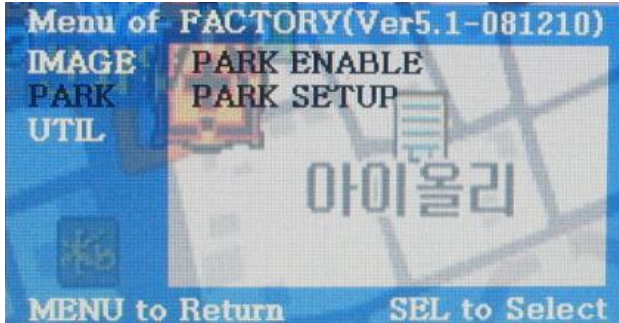


UTIL

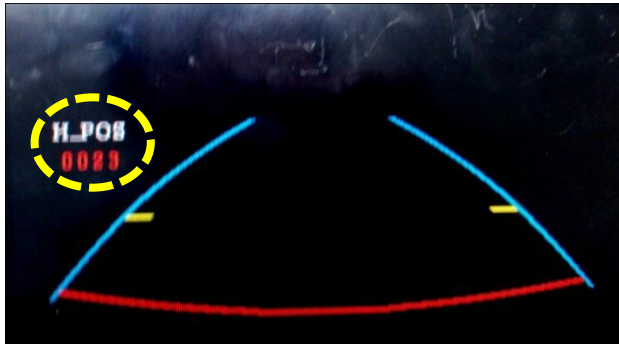
- REAR SELECT : 12V Detect – LAMP, CAN Detect – CAN
- NAVI MODEL : KD680_NEW – For China (Upgrade version)
NAV N GO, ITURAN – For Europe
DEFAULT
- FACTORY RESET : To reset all the value in factory mode

2.5 Rear view parking guide line

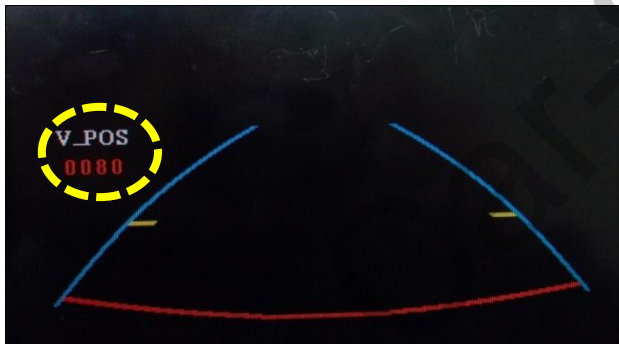
Factory mode: Operated with pressing ▲ -> ▼ -> ▲ -> MENU buttons on the remote control in sequence.



① Register the value needed on the "PARK ENABLE" as "ON" in the PARK section as shown left.



② If you get rear gear after setup, parking guide line will appear on screen as shown left. Now that you push "OK" button, you can see "H-POS" on the left of screen. Then adjust horizontal position of the guide line.



③ After adjusting horizontal position, press "OK" on the remote control. Then you can see "V-POS" on the left of screen. At that time you can adjust vertical position of the guide line.

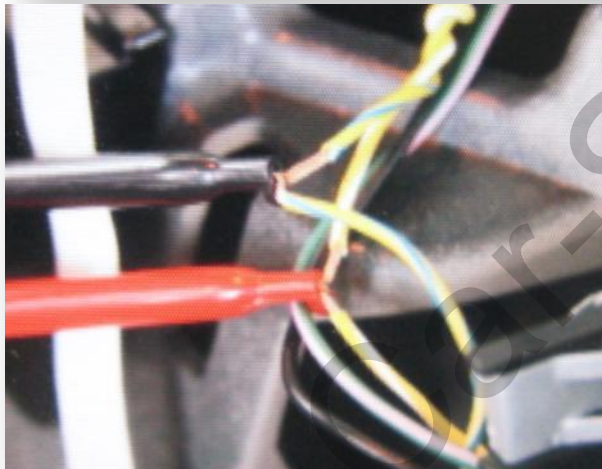
2.6 Original button



NAV button (under the original monitor)

NAV button : MODE Change
Other buttons : Change to Main display
(Mode button included)

*CAN Wiring needed

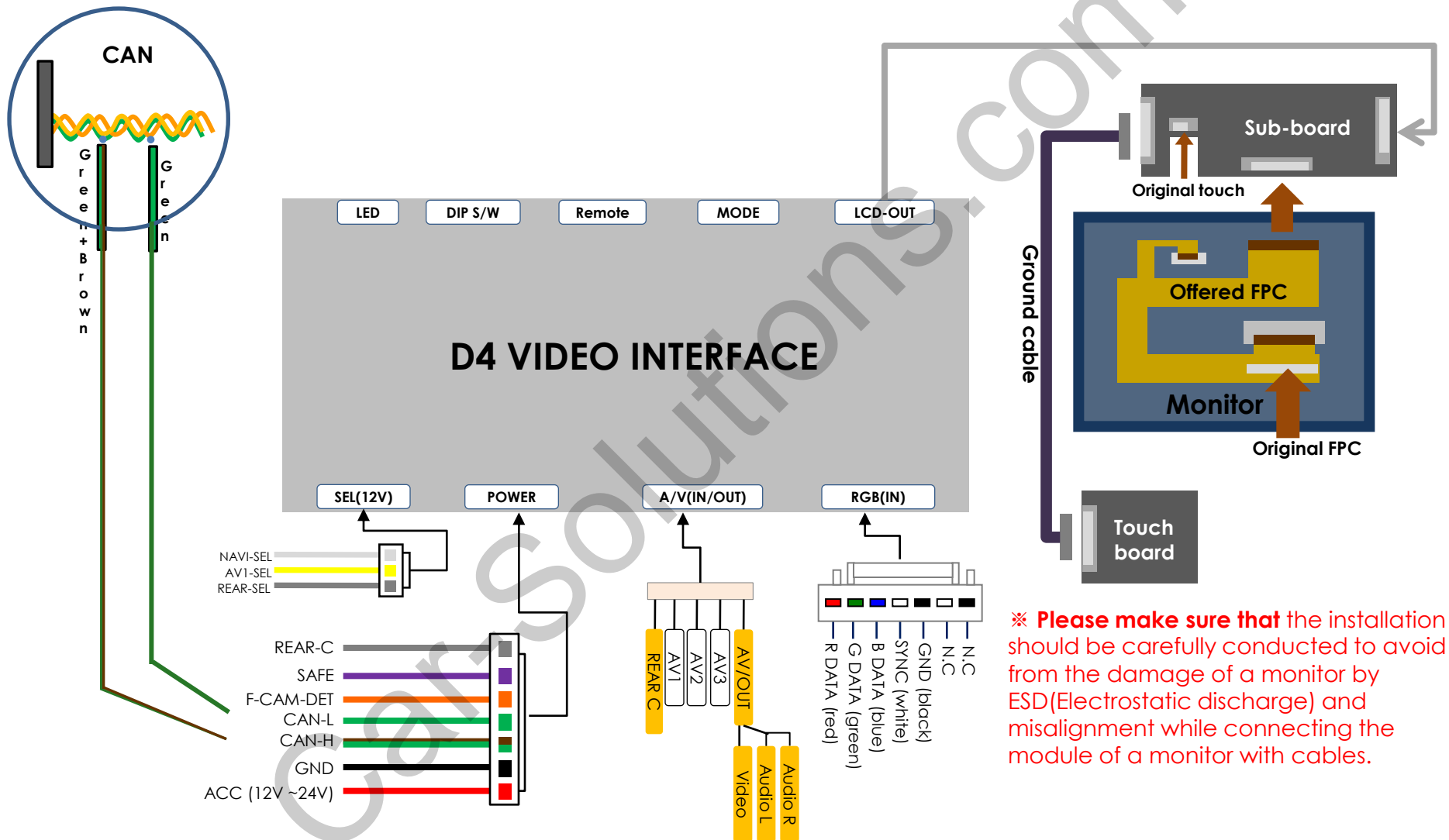


※ CAN Wiring!

Connect the Brown+Green wire of offered CAN cable to Yellow+Green wire of the car, the Green wire of offered CAN cable to Yellow wire of the car as shown left.

CAN High – Yellow+Green
CAN Low - Yellow

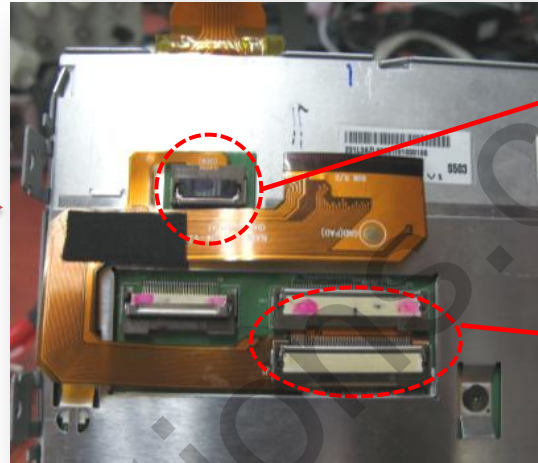
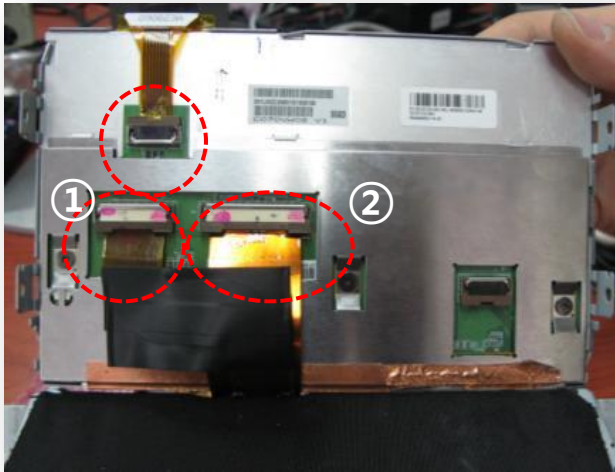
3.1 Installation diagram



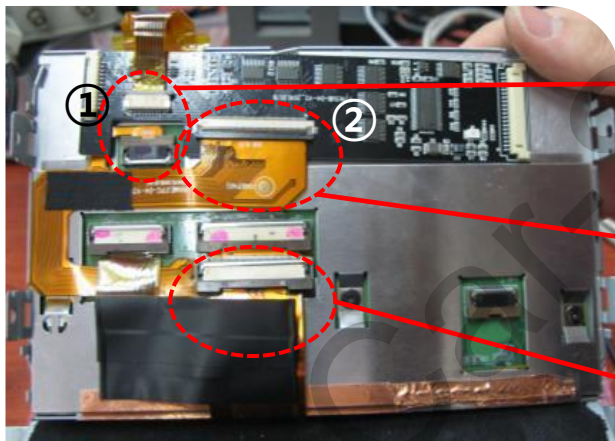
3.2 Cautions on installation

- Ignition key should be taken off before starting installation, interface power connection must be the last step in installation.
- Power cable should be separated when connecting interface.
- Should be no any electronic devices or magnetic pole around installation place.
- All steps of installation should be done by well-trained specialist.
- Dismantling without manufacturer's permission can not be guaranteed, (No permission to break attached label on the board.)
- Kindly check all parts are in the box, when receiving the product, if anything missing, inform to the supplier or manufacturer.
- According to our sales policy, any problems caused by user's mistake, careless can not be guaranteed.
- It may not work on a camera with 12V

3.3 Installation

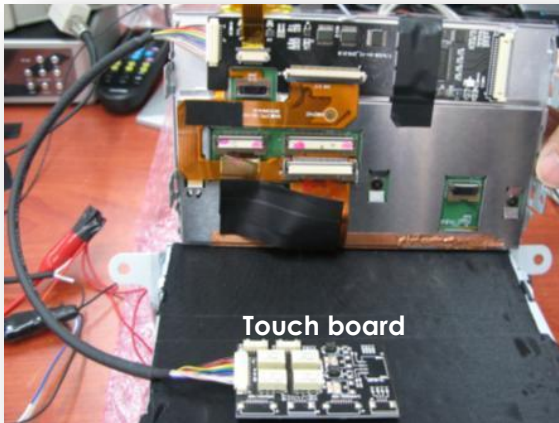


1. Take apart the indicated Original touch cable and FPC cable from monitor, connect the offered FPC cable to the indicated Original connector. (For easier installation, disconnect the FPC(①) for a while)



2. Connect the Original touch cable (①) to a offered sub-board and the offered FPC cable and sub-board (②) as shown left. Also connect Original FPC cable to the offered FPC cable (③).

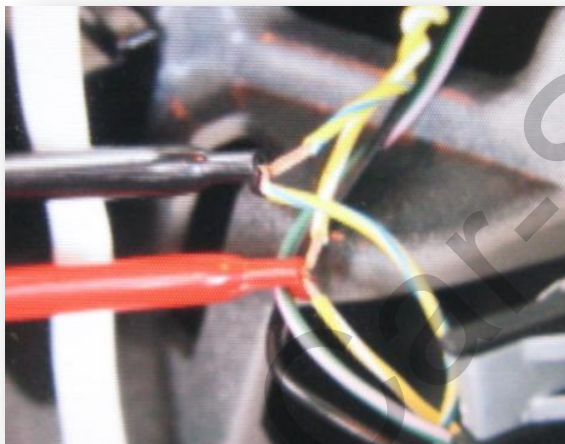
3.4 Connecting CAN cable



3. Connect Sub-board and Touch board via Ground cable.



4. Connect Sub-board and interface board via LVDS cable.



5. Connect the Brown+Green wire of offered CAN cable to Yellow+Green wire of the car, the Green wire of offered CAN cable to Yellow wire of the car as shown left.

CAN High – Yellow+Green
CAN Low - Yellow

4. Troubleshooting

Q. I can not switch A/V sources.

A. Check IR or Ground cable connection. Check LED lamps in the interface, if it is not on, check power cable.

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. Try to select "INITIAL" in OSD menu, if it does not work, inform the manufacturer.)

Q. Rear camera image does NOT appear.

A. Set DIP switch #7 in "ON"

Q. Unwanted A/V mode is displayed. (A/V source switching order : OEM->RGB->AV1->AV2->AV3)

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, inform 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.