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

DISCOVERY 4

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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)

2. Output Spec.

- 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

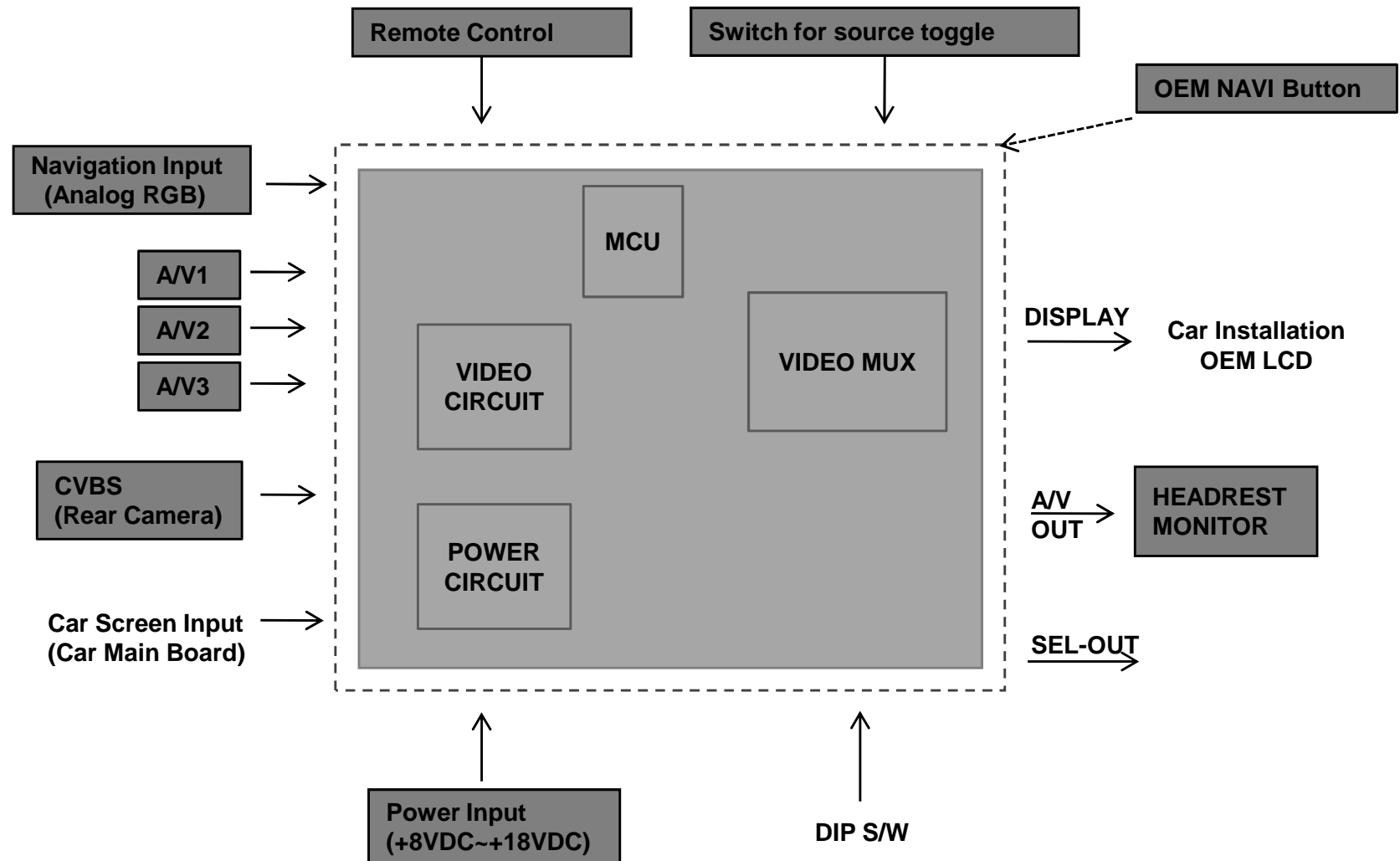
4. Switch Input mode

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

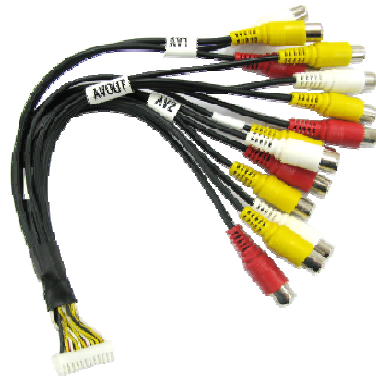
1.2 Features

- Improved picture 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 * 1pc.



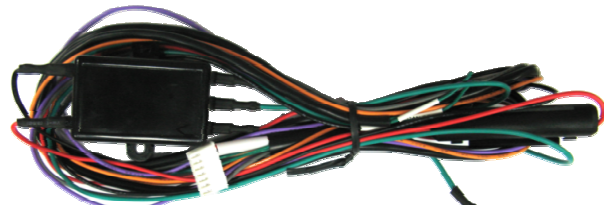
RGB cable * 1pc.



MODE Button cable * 1pc.



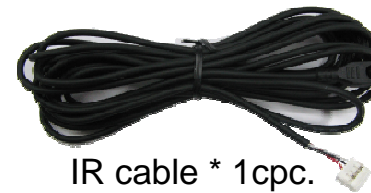
SEL cable * 1pc.



POWER cable (7P) * 1pc.



LVDS cable * 1pc.



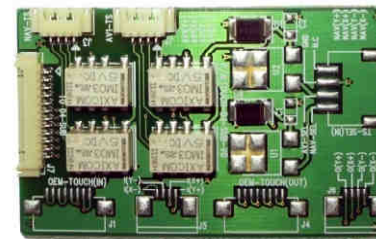
IR cable * 1pc.



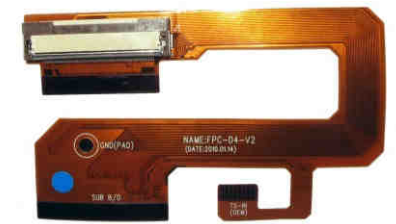
Ribbon cable * 1pc.



SUB BOARD * 1pc.



TOUCH BOARD * 1pc.

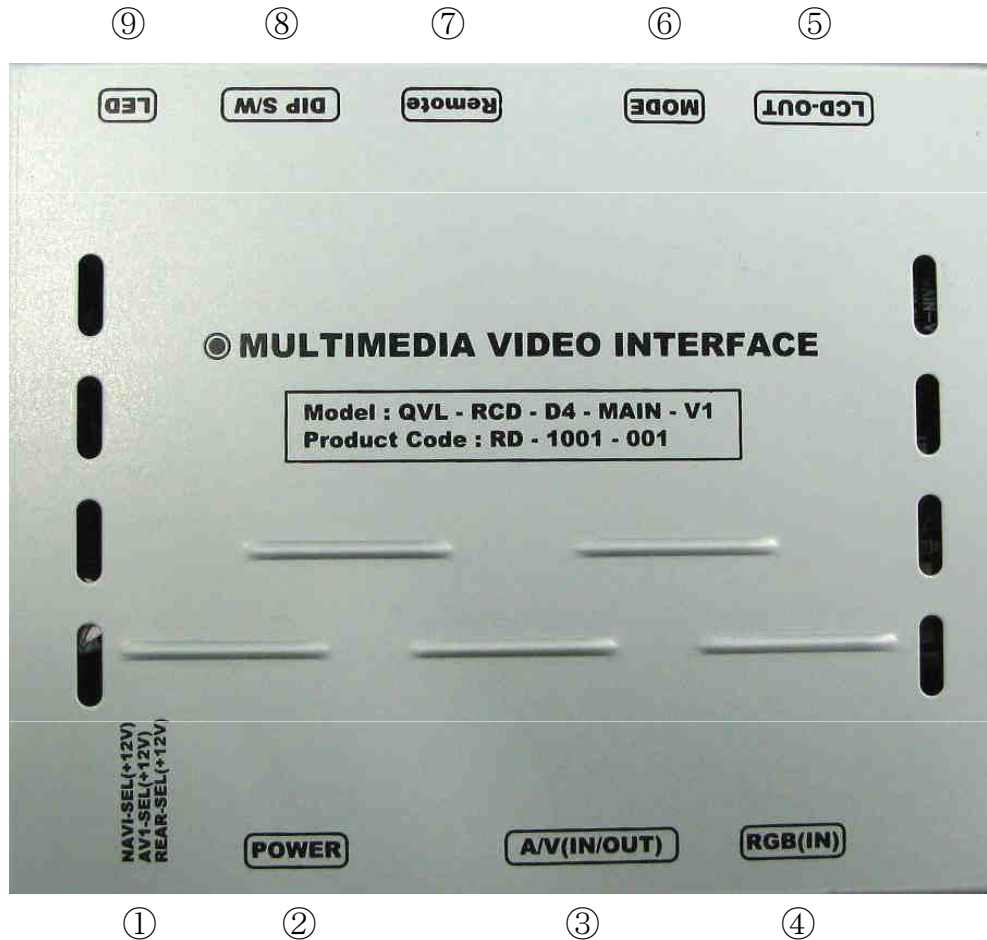


FPC cable * 1pc.



TOUCH cable * 1pc.

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

DIP #	FUNCTION	DIP S/W Selection
1	RGB input	ON : RGB input is OFF OFF : RGB input is ON
2	AV1 input	ON : A/V 1 input is OFF OFF : A/V1 input is ON
3	AV2 input	ON : A/V 2 input is OFF OFF : A/V2 input is ON
4	AV3 input	ON : A/V 3 input is OFF OFF : A/V3 input is ON
5	NOT USED	
6	NOT USED	
7	REAR MODE	ON : External Rear Camera (REAR-C) OFF : OEM Rear Camera
8	OEM PICTURE	ON : OEM PICTURE is OFF OFF : OEM PICTURE is ON

※ ON : DOWN / OFF : UP

※DIP S/W Use Example

- Use Input Mode : OEM PICTURE + A/V3
- Rear Camera : Installed on **REAR-C**
- ▷ DIP S/W : 1,2,3 -> ON (INPUTs are OFF)
- ▷ DIP S/W : 4 -> OFF (enable A/V3)
- ▷ DIP S/W : 5 -> OFF
- ▷ DIP S/W : 6 -> OFF
- ▷ DIP S/W : 7 -> ON (enable **REAR-C**)
- ▷ DIP S/W : 8 -> OFF



2.2 Remote controller

Buttons	Function
POWER & PIP	NOT USED
MENU	OSD Menu
OK	Making a selection
▲	Move UP
▼	Move DOWN
◀	Move LEFT (Or press 5 seconds - Factory mode)
▶	Move RIGHT



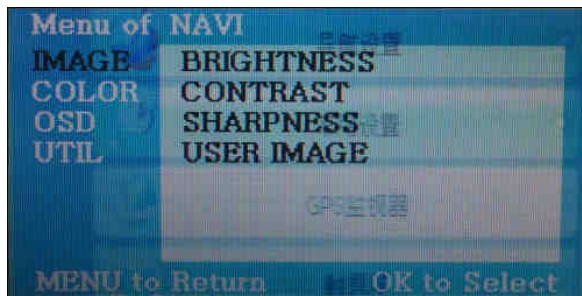
* **FACTORY MODE (Interface setting)**

: Operated by 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



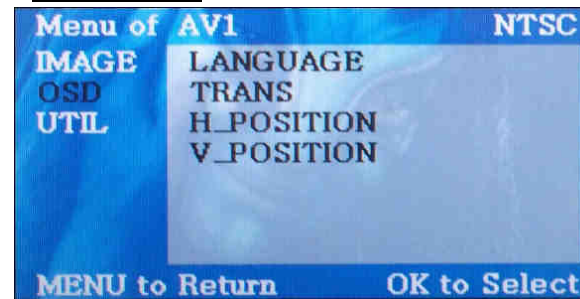
Analog RGB MODE



Video MODE



Video MODE



Video MODE



IMAGE

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

OSD

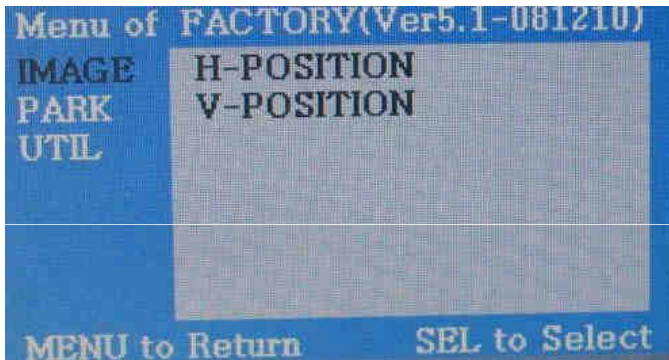
- LANGUAGE : To change the language displayed in navigation, DVD, CMMB OSD menu (select 1 between English or Chinese)
- TRANS : Transparency control of the OSD background
- H_POSITION : Horizontal movement of the OSD window
- V_POSITION : Vertical movement of the OSD window

UTIL

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

2.4 Factory mode

Factory mode: Operated by 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

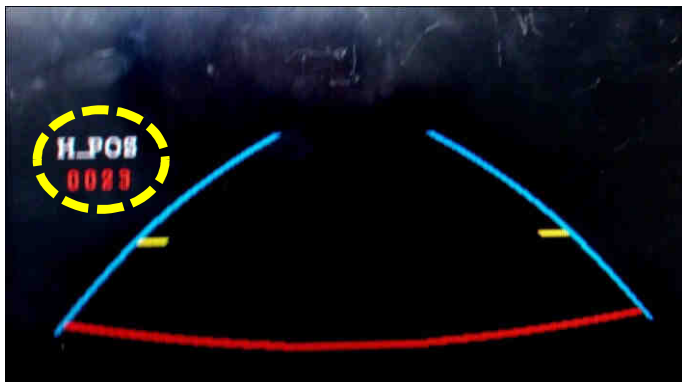
- REAR SELECT : 12V Detect – LAMP, CAN Detect – CAN
- NAVI MODEL : KD680_NEW – Resolutions 800x480
NAV N GO, ITURAN – Resolutions 480x234
DEFAULT – Resolutions 480x234
- FACTORY RESET : To reset all values to factory mode.

2.5 Rear view parking guide line

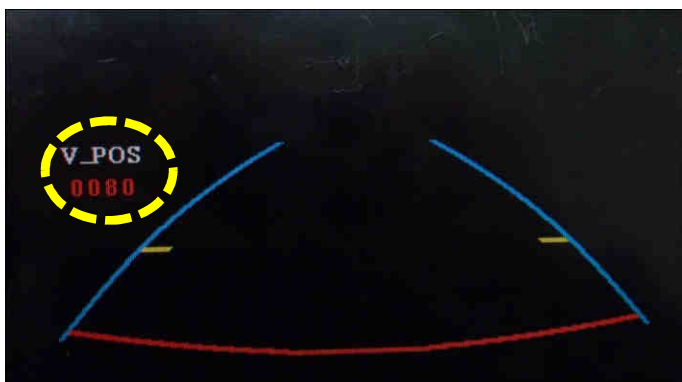
Factory mode: Operated by pressing ▲ -> ▼ -> ▲ ->MENU buttons on the remote control in sequence.



① Fix the value needed on the “PARK ENABLE” as “ON” in the PARK section as shown left.



② If you set 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 the screen. Then adjust horizontal position of the guide line.



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

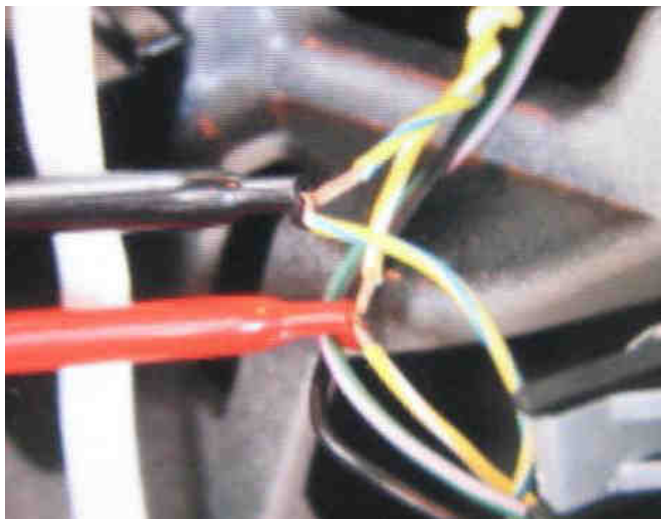
2.6 Original button



NAV button (under an original monitor)

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

(CAN wiring needed)

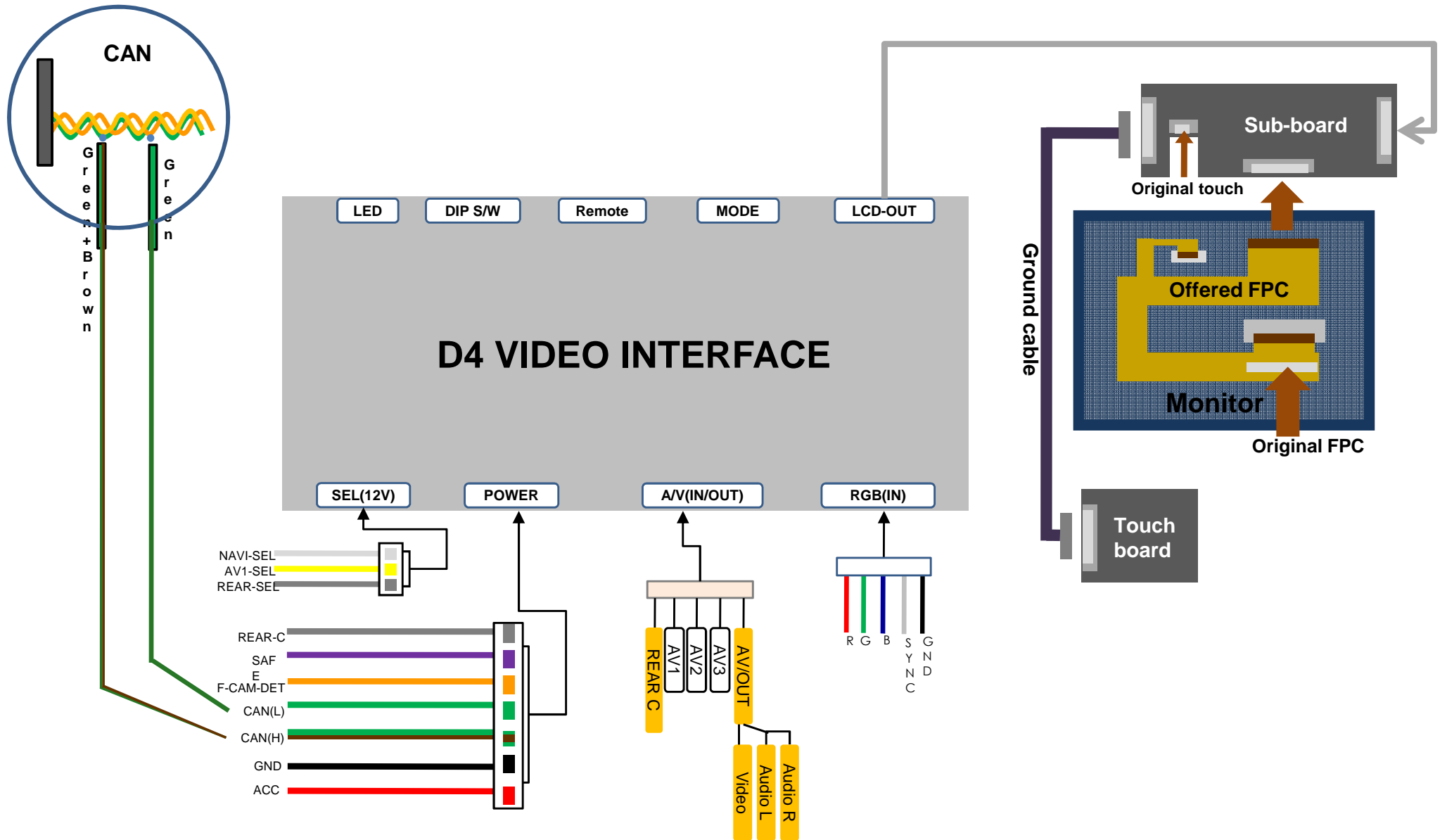


❌ CAN Wiring!

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

CAN High – Yellow+Green
CAN Low - Yellow

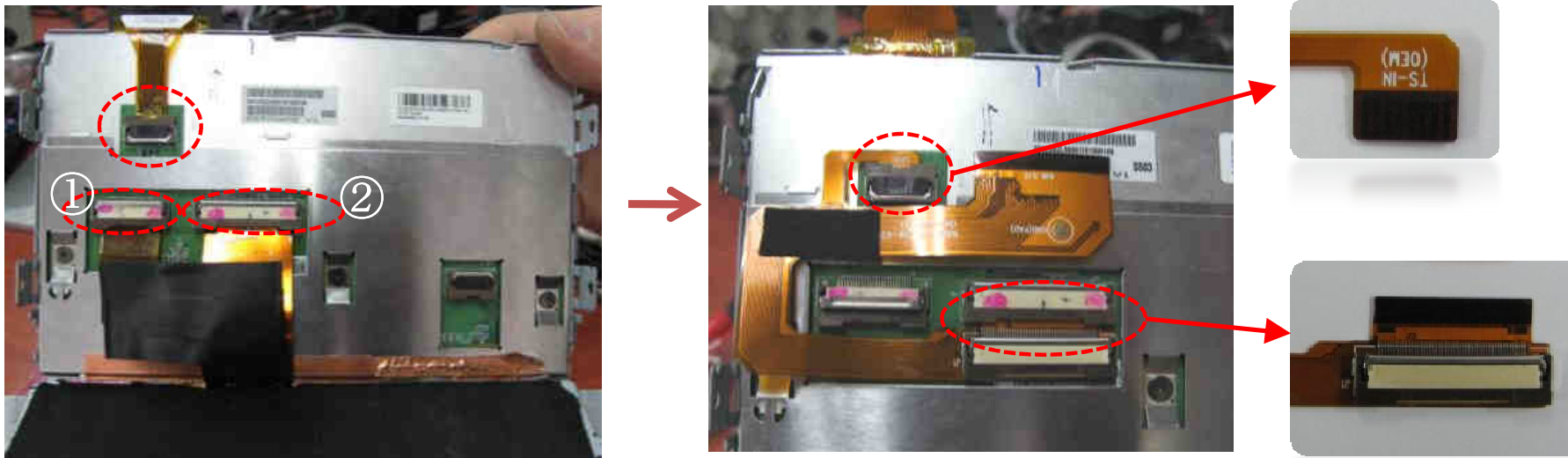
3.1 Installation diagram



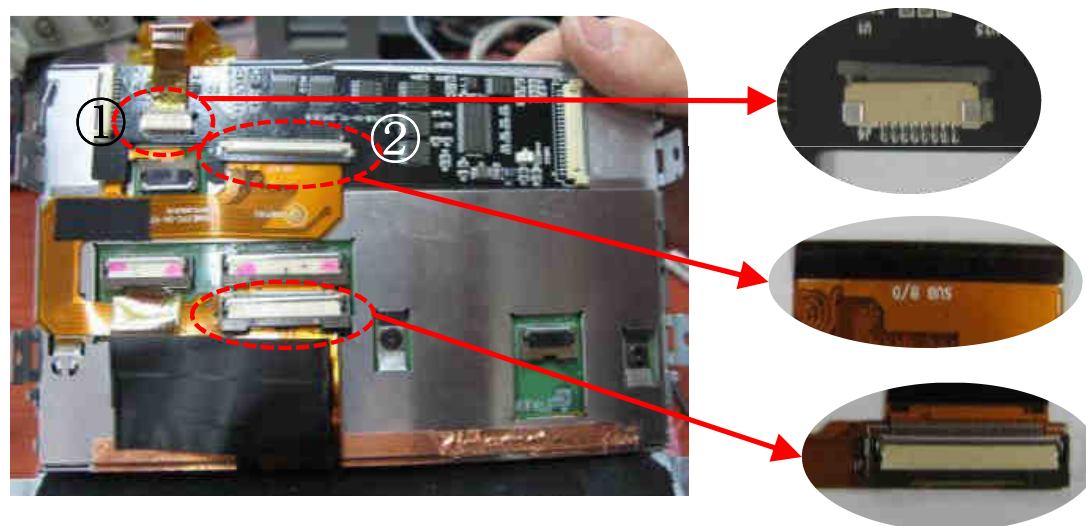
3.2 Cautions on installation

- 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.
- There should be no 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 whether all parts are in the box when receiving the product, if anything is missing, inform the supplier or manufacturer.
- According to our sales policy, any problems caused by user's mistake or carelessness can not be guaranteed.

3.3 Installation



1. Disconnect 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 the 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).

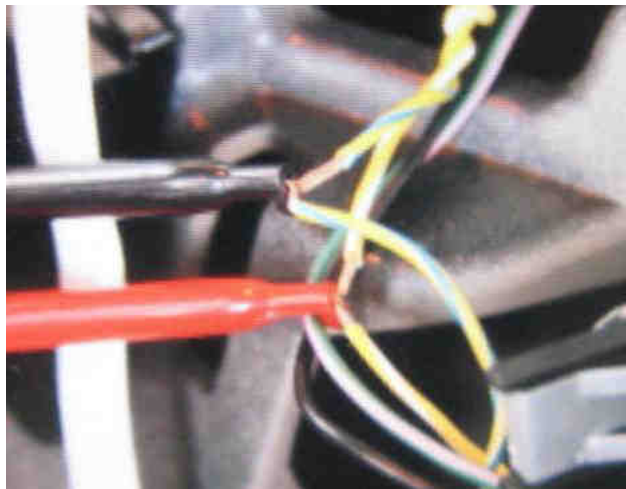
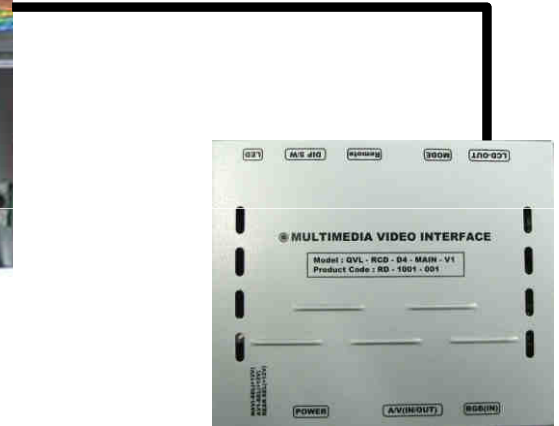
3.4 Connecting CAN cable



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 CAN cable offered to Yellow+Green wire of the car, the Green wire of CAN cable offered 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 whether cable is connected well, if this status remains, inform the manufacturer.