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Video Interface for RANGE ROVER cars with dual view LCD screen

Installation + User Manual

Contents

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)
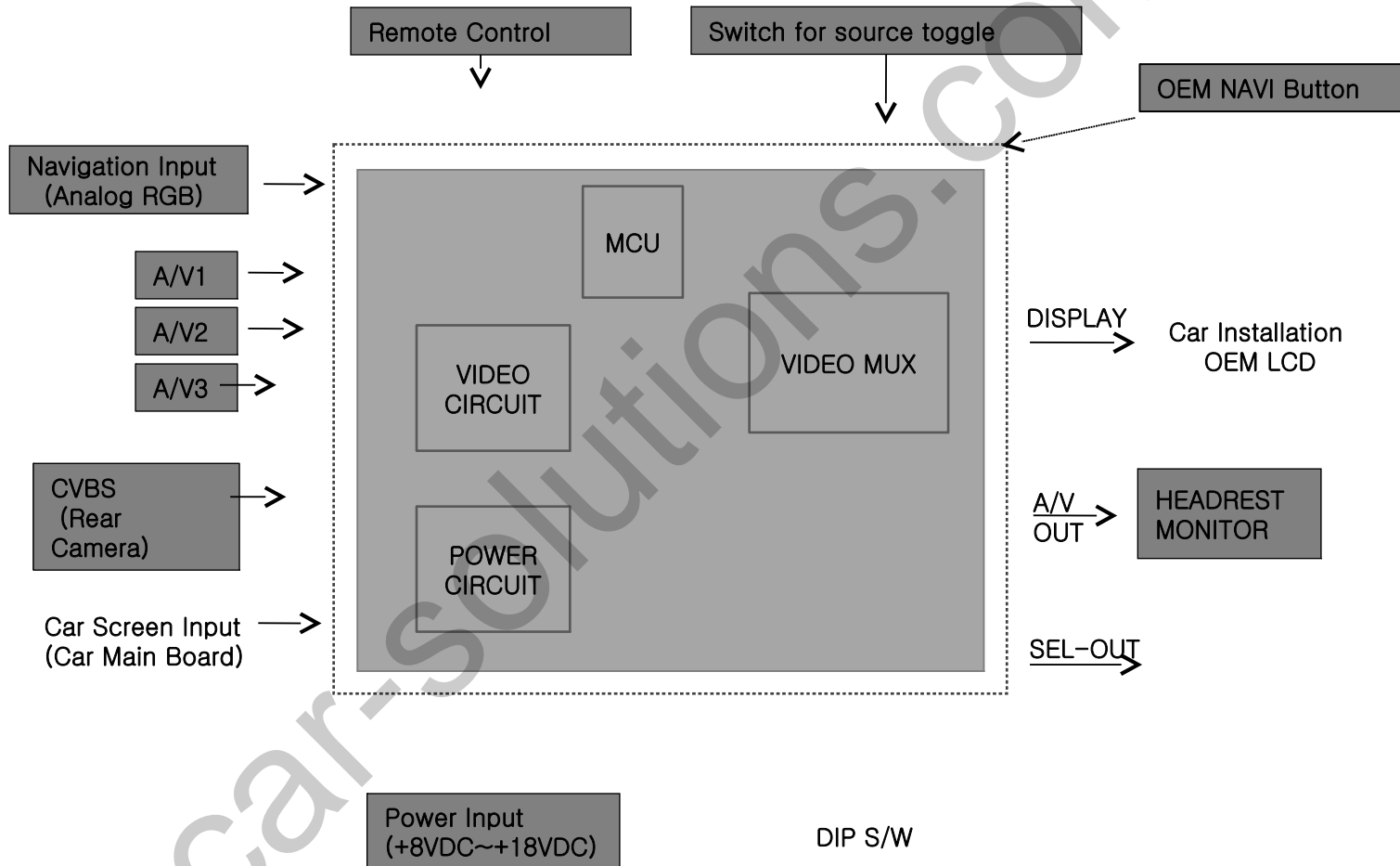   -. 3 X 12V SEL

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
    - Possible to switch Input mode by an original button

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

Remote Control

Switch for source toggle

OEM NAVI Button

Navigation Input
(Analog RGB)

A/V1

A/V2

A/V3

CVBS
(Rear
Camera)

Car Screen Input
(Car Main Board)

MCU

VIDEO
CIRCUIT

VIDEO MUX

POWER
CIRCUIT

DISPLAY → Car Installation
OEM LCD

A/V
OUT → HEADREST
MONITOR

SEL-OUT

Power Input
(+8VDC~+18VDC)

DIP S/W

1.4 Components

MULTIMEDIA VIDEO INTERFACE

Model : QVL - RCD - D4 - MAIN - V1
Product Code : RD - 1001 - 001

AV cable * 1ea
(HAVCAB0002)

IR cable * 1ea
(HIRCAB0002)

RGB cable * 1ea
(HNAVIC0002)

MODE cable * 1ea
(HARETC0001)

SEL cable * 1ea
(HSELCA0001)

LVDS cable * 1ea
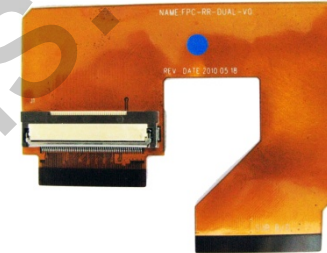(HLVDSC0007)
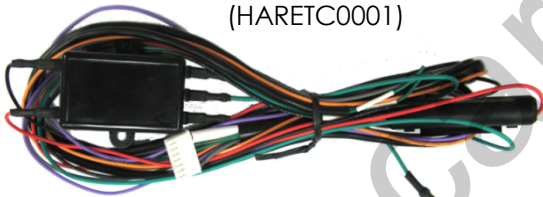
POWER cable (7P) * 1EA
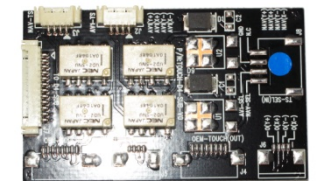(HPOWER0002)

GROUND cable * 1ea
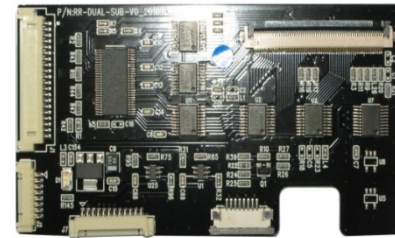(HARETC0011)

TOUCH cable * 1ea
(HTOUCH0005)

BY-PASS cable * 2ea
(HTOUCH0003)

FPC cable * 1ea
(SMTASY0080)

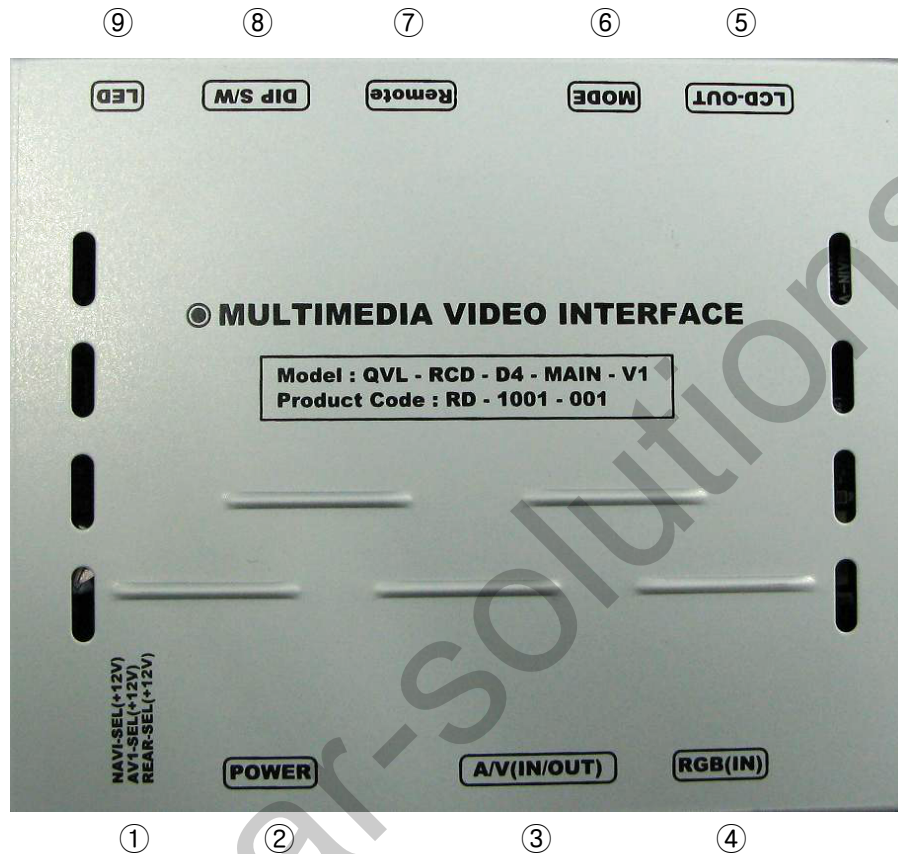TOUCH BOARD * 1ea
(QCPASS0053)

SUB BOARD * 1ea
(SMTASY0058)

Remote control * 1ea
(REMOTE0001)

FFC cable (8P) * 1ea
(FFCABL0010)

1.5 Exterior

⑨ ⑧ ⑦ ⑥ ⑤

LED | DIP S/W | Remote | MODE | LCD-OUT

⊚ MULTIMEDIA VIDEO INTERFACE

Model : QVL - RCD - D4 - MAIN - V1
Product Code : RD - 1001 - 001

NAVI-SEL(+12V)
AV1-SEL(+12V)
REAR-SEL(+12V)

POWER | A/V(IN/OUT) | RGB(IN)

① ② ③ ④

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

2.2 Remote controller

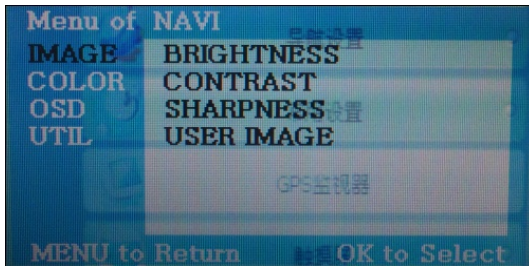| Key	Function
POWER & PIP	Not for use
MENU	OSD implementation
OK	Making a selection
▲	Move upward
▼	Move downward
◀	Move leftward, **press 5 seconds long-Factory mode implementation**
▶	Move rightward

* 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

Menu of NAVI
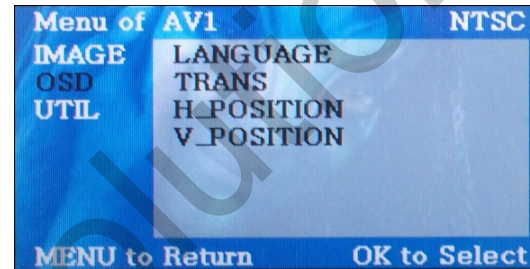IMAGE   BRIGHTNESS
COLOR   CONTRAST
OSD   SHARPNESS
UTIL   USER IMAGE
GPS监视器
MENU to Return   OK to Select

Analog RGB MODE

Menu of NAVI
IMAGE   LANGUAGE
COLOR   TRANS
OSD   H_POSITION
UTIL   V_POSITION
GPS监视器
MENU to Return   OK to Select

Analog RGB MODE

Menu of NAVI
IMAGE   FACTORY RESET
COLOR
OSD   常用设置
UTIL
GPS监视器
MENU to Return   OK to Select

Video MODE

Menu of AV1   NTSC
IMAGE   BRIGHTNESS
OSD   CONTRAST
UTIL   SATURATION
         HUE
         SHARPNESS
         USER IMAGE
MENU to Return   OK to Select

Video MODE

Menu of AV1   NTSC
IMAGE   LANGUAGE
OSD   TRANS
UTIL   H_POSITION
         V_POSITION
MENU to Return   OK to Select

Video MODE

Menu of AV3   NTSC
IMAGE   FACTORY RESET
OSD
UTIL
MENU to Return   OK to Save

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

OSD
- LANGUAGE : To change the language displaying on navigation, DVD, CMMB OSD menu (select 1 among 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 values about navigation, DVD screen to factory default. (NOT available for reset of the position value of images, only for functions inside OSD menu)
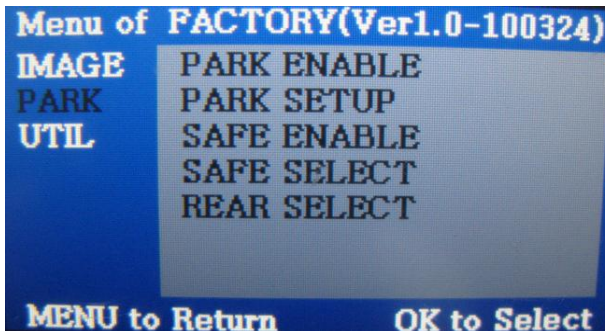
2.4 Factory mode

Factory mode: Operated with pressing ▲ –> ▼ –> ▲ –>MENU buttons on the remote control in sequence.
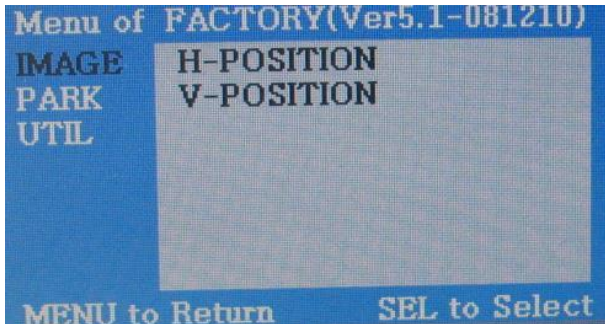
IMAGE
- H_POSITION : Horizontal movement of the OSD window
- V_POSITION : Vertical movement of the OSD window

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)
- SAFE ENABLE : To select whether to use SAFE function (NOT to allow watch video
                    while driving) or not. (Default : off)
- SAFE SELECT : GND Detect –WIRE setting, CAN Detect –CAN setting
- REAR SELECT : 12V Detect – LAMP setting, CAN Detect – CAN setting
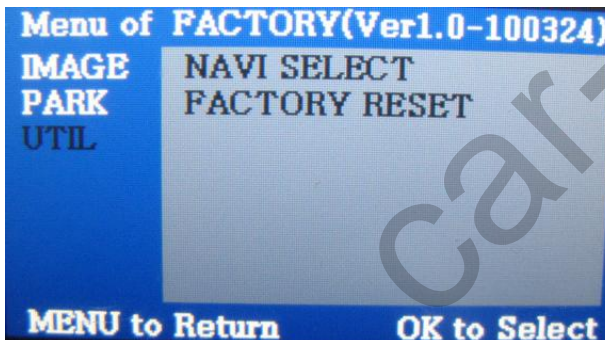
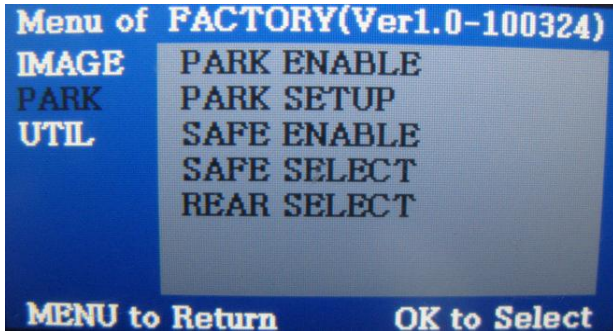UTIL
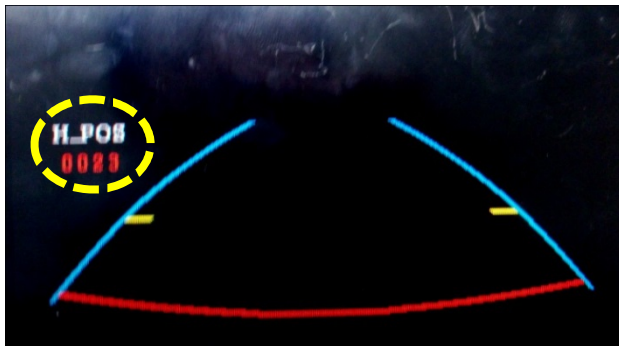- NAVI MODEL : MD 7000
              KD-918
              ITURAN
              NAV N GO, ITURAN
              NEW KD600
              DEFAULT
- FACTORY RESET : To reset all the value in factory mode

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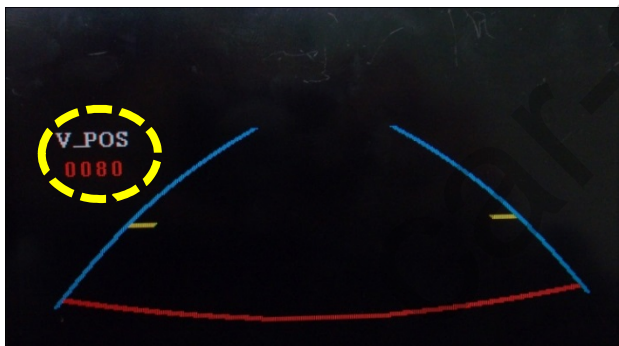
③ After adjusting horizontal position, press "OK" on the remote controller. Then you can see "V–POS" on the left of screen. At that time you can adjust vertical position of the guide line.
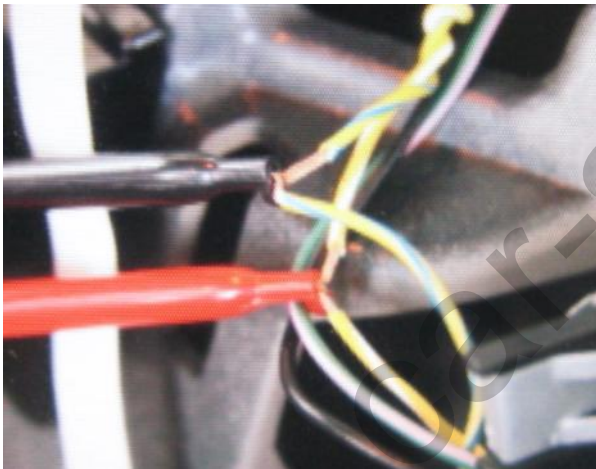
2.6 Original button

MODE button (on the steering wheel)

Long press the button : MODE Change
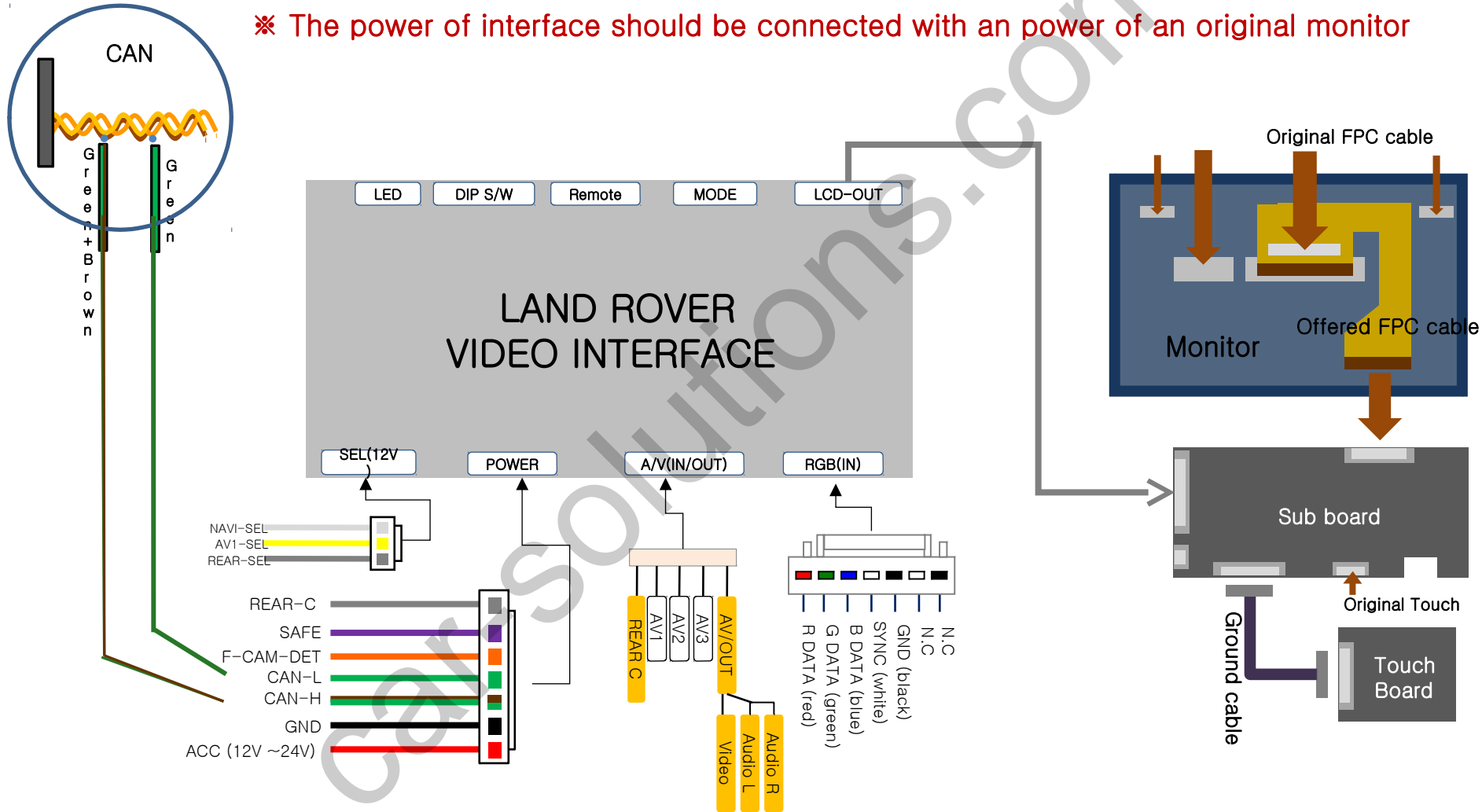Press the button shortly : Change to Main display

※ 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
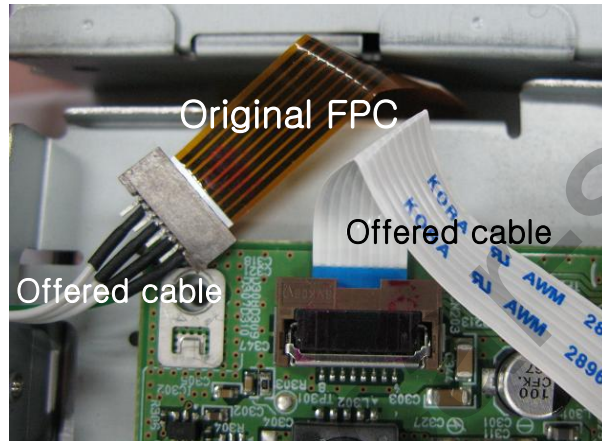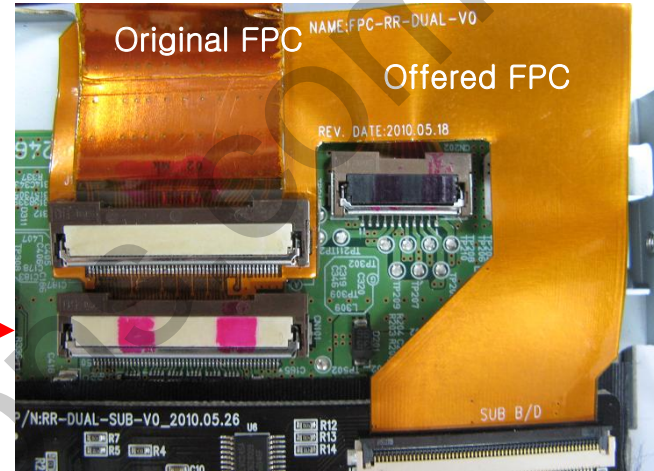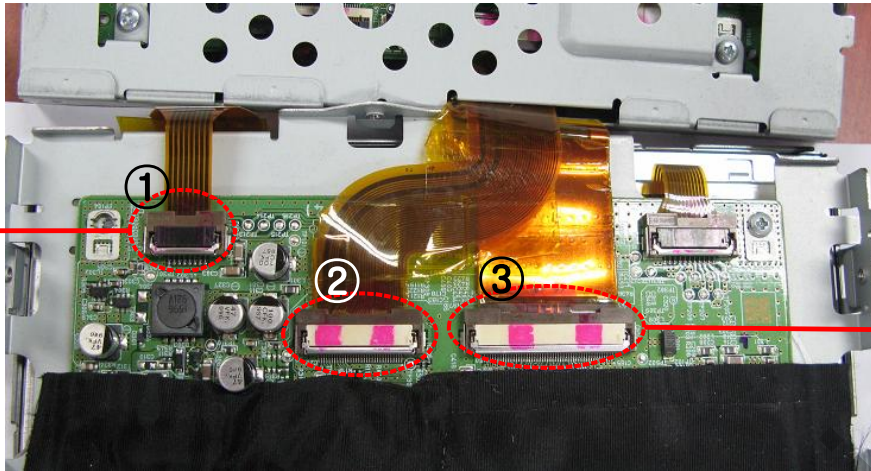
3.1 Installation diagram

※ The power of interface should be connected with an power of an original monitor

CAN

Green+Brown

Green

LAND ROVER VIDEO INTERFACE

| LED | DIP S/W | Remote | MODE | LCD-OUT |

| SEL(12V) | POWER | A/V(IN/OUT) | RGB(IN) |

NAVI-SEL
AV1-SEL
REAR-SEL

REAR-C
SAFE
F-CAM-DET
CAN-L
CAN-H
GND
ACC (12V ~24V)

REAR C
AV1
AV2
AV3
AV/OUT

Video
Audio L
Audio R

R DATA (red)
G DATA (green)
B DATA (blue)
SYNC (white)
GND (black)
N.C
N.C

Monitor

Original FPC cable

Offered FPC cable

Sub board

Ground cable

Original Touch

Touch Board

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.

3.3 Installation

1. Take apart the indicated Original touch cable and FPC cable from monitor as shown left. (For easier installation, disconnect the FPC② for a while) . Connect the offered FPC cable to the indicated Original connector as shown right.
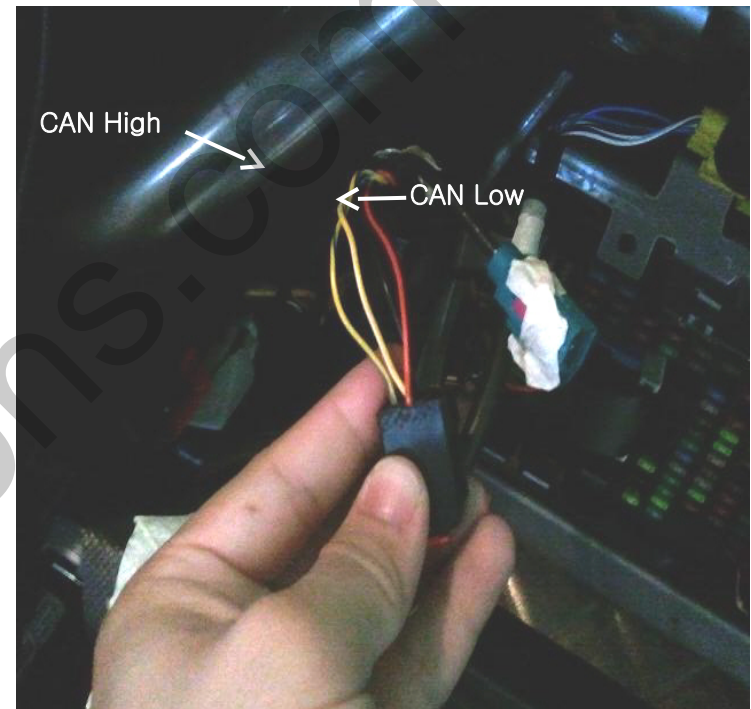

2. After taking apart an original touch cable, connect offered cable to head unit as shown left.

3.4 Connecting CAN cable

Offered FPC

LVDS cable

Touch cable

GROUND cable
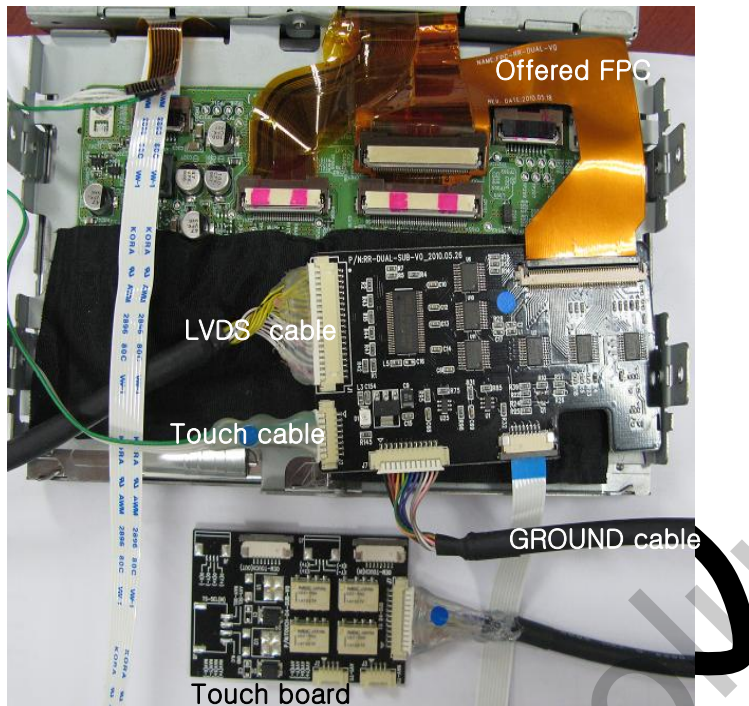
Touch board

Original touch out cable

3. Connect the Sub-board and Touch board.

CAN High

CAN Low

4. 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 cable is connected well, if this status keeps, inform the manufacturer.