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Model : QVL-E65-V2 / Product code : BM-0901-652

Video Interface for BMW E65

Specification & Installation

Compatible with BMW 7 Series(E65/66)

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1.1 Main specification

1. Input Spec. (MULTI VIDEO INTERFACE)

- 1 x Analog R,G,B (Sync on Green)
- 1 x CVBS(REAR CAMERA) Input. (Rear camera source)
- 3 x A/V (NTST & PAL) Input.
- 1 x LCD Input (Car system Input)

2. Output Spec.

- 2 X CVBS OUTPUT (Video Out for installing Headrest monitor)
- 1 x Audio OUTPUT
- 1 X LCD OUTPUT(LCD Operation)

3. Electric Power Consumption

- Input Power : 8VDC ~ 24VDC
- Consumption Power : 12WATT, Max

4. Switching Mode (AV source)

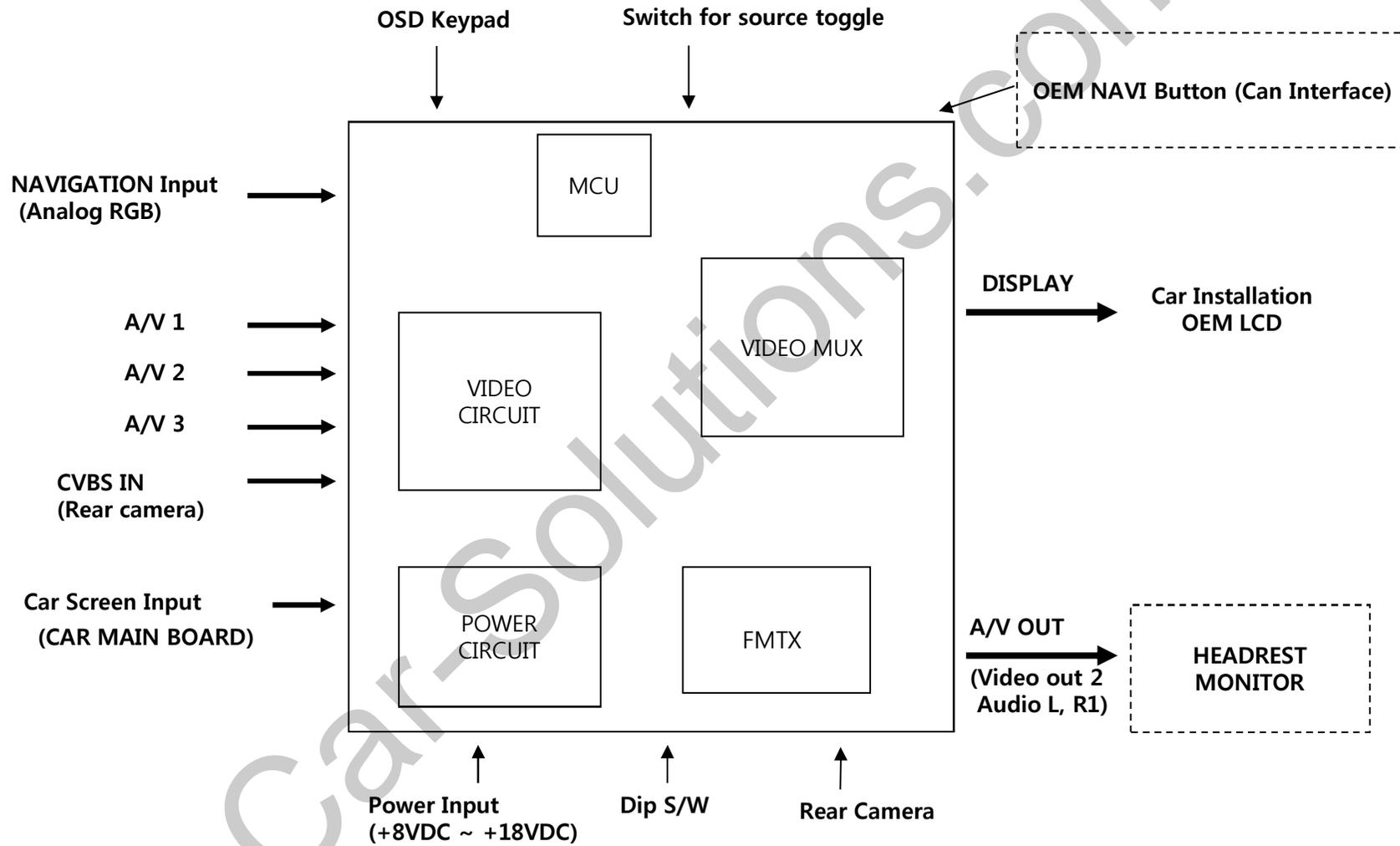
- Possible to skip AV source while switching Mode (AV source) by DIP S/W (Refer to the DIP S/W page)
- By 'SET' button of the OSD Keypad
- By Toggle Switch (Option)
- By 'Menu' button of the car through CAN

※ This function may not support E65 old version which is without "Menu button"

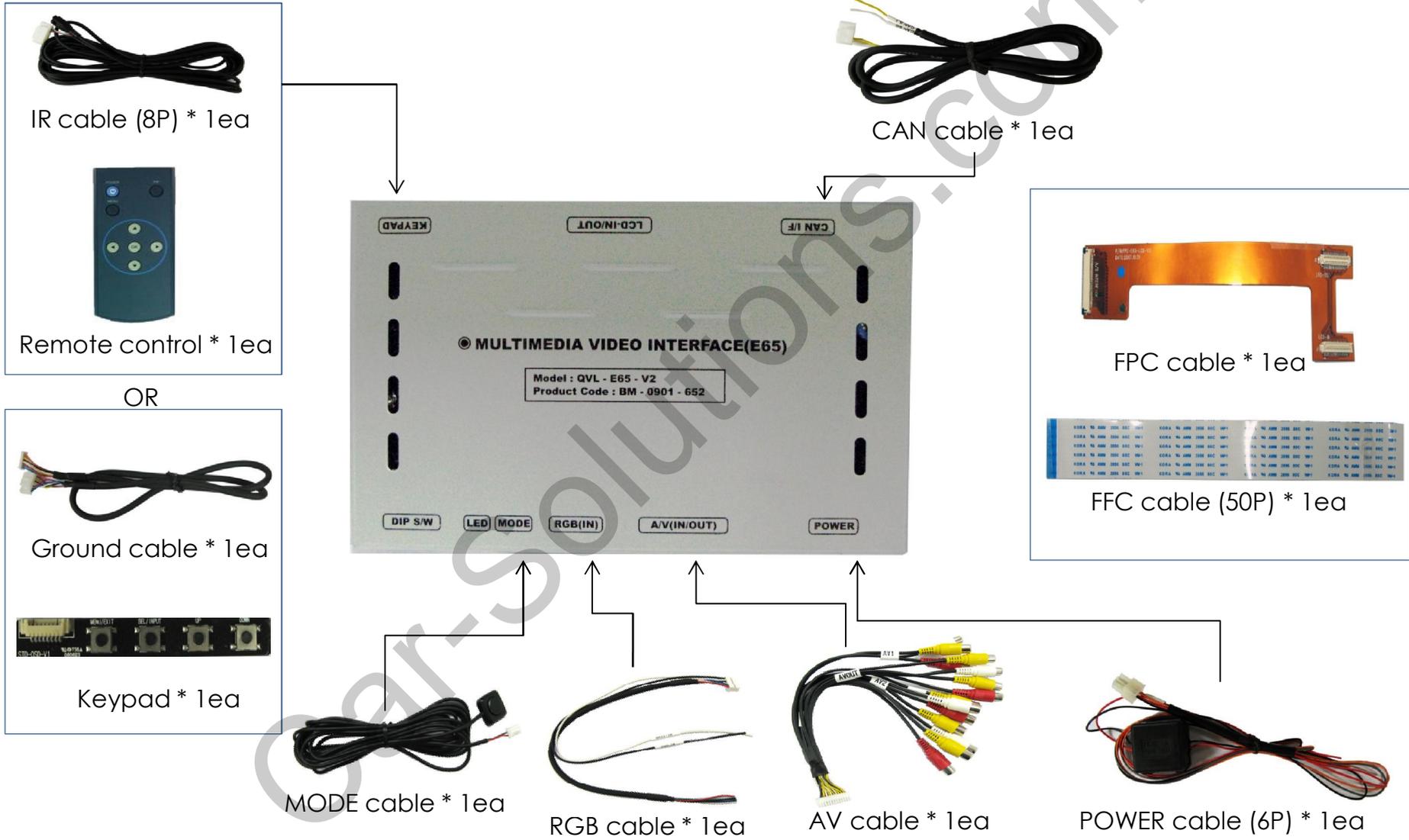
1.2 Features

- FMTX Module is added in the product. (No need additional FMTX Module for Audio)
- Offering OSD Key Pad
(The remote control is not offered anymore)
- Possible to move the displayed position of Navi (Only on RGB mode)
- Changed OSD MENU

1.3 System diagram



1.4 Components



1.5 Exterior

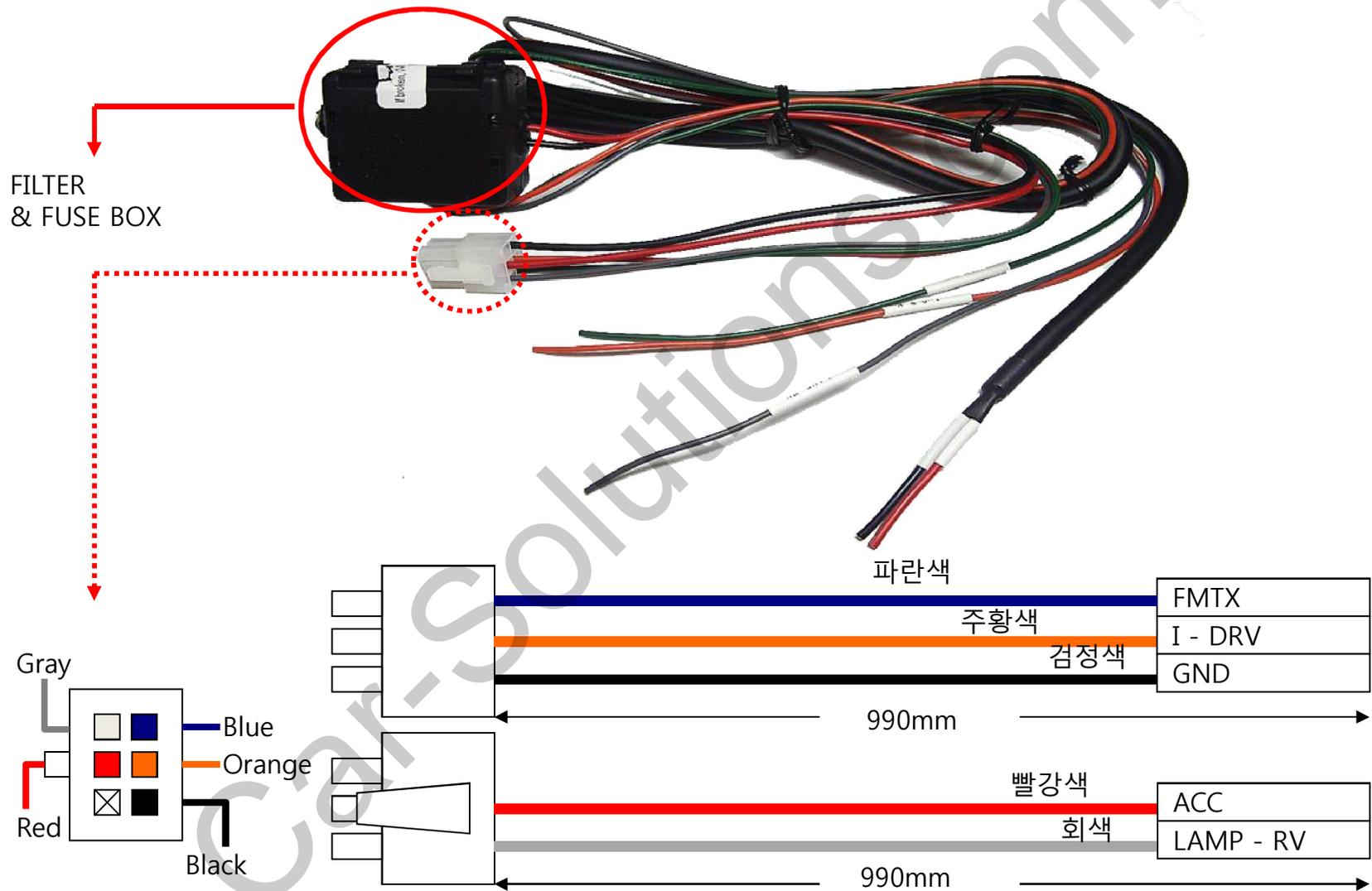


Dimension

Horizontal length 149mm
Vertical length 91mm
Height 19mm

- ① DIP switch
- ② LED
- ③ MODE
- ④ RGB IN
- ⑤ A/V(IN/OUT)
- ⑥ POWER
- ⑦ KEYPAD
- ⑧ LCD IN/OUT
- ⑨ CAN I/F

1.6 POWER cable



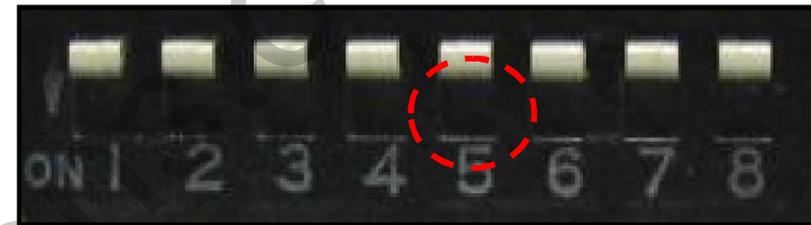
2.1 DIP switch

※ ON : DOWN / OFF : UP

#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	To select monitor size	ON : 6.5" LCD Setting OFF : 8.8" LCD Setting
6		N.C
7	Rear Mode	ON : External Rear Camera OFF : OEM Rear Camera
8		N.C

2.1 DIP switch

Type of monitor	#PIN	5
E65 8.8"		OFF
E65 6.5"		ON



[E65 8.8 Inch]

※DIP S/W Use Example

[BMW E65-6.5 Inch]

- Use Input Mode : A/V3(DVD), Navigation (RGB)
- Rear Camera : When to be installed on CVBS 4

- ▷ DIP S/W : 1 → OFF
- ▷ DIP S/W : 2,3 → ON
(INPUT MODE SKIP)
- ▷ DIP S/W : 4 → OFF (enable A/V3)
- ▷ DIP S/W : 5 → ON (6.5 Inch)
- ▷ DIP S/W : 6 → OFF
- ▷ DIP S/W : 7 → ON (enable CVBS4)
- ▷ DIP S/W : 8 → OFF



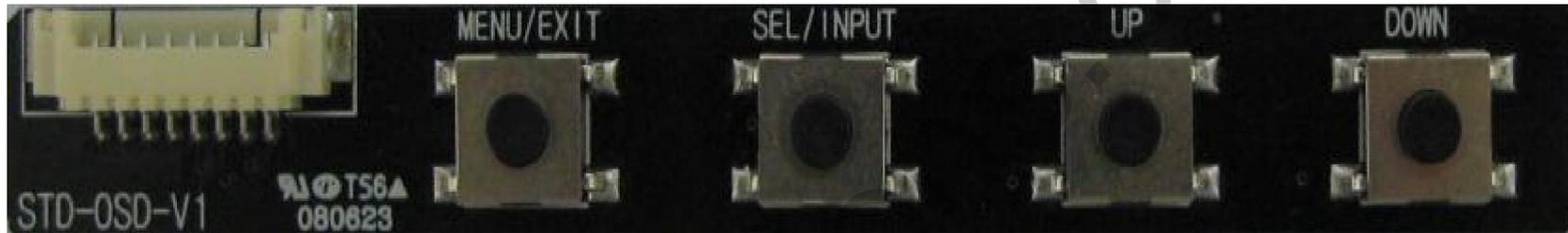
[E65 6.5 Inch]

2.2 Keypad usage

Select one between the remote controller and the keypad

FACTORY MODE (Interface setting) :

Press these buttons on OSD keypad in the following sequence; UP→DOWN→UP →MENU



<i>Key</i>	<i>Function</i>
MENU/EXIT	Activating OSD menu and Getting back to the previous state after setting mode
SEL/INPUT	Making a selection and hanging modes
UP	Moving leftward or upward (If you press this button 2 seconds long, you can get access to HOT KEY function.)
DOWN	Moving rightward or downward (IF you press this button 2 seconds long, you can reset all data.)

2.3 Remote control usage

<i>Key</i>	<i>Function</i>
POWER & PIP	Unavailable
MENU	Activating OSD menu
OK	Making a selection, changing image display
▲	Moving upward (If you press this button 2 seconds long, "Hot key" function will activate/ deactivate.)
▼	Moving downward
◀	Moving leftward (If you press this button 2 seconds long, you can get access to the factory mode.)
▶	Moving rightward (If you press this button 2 seconds long, you can reset all the data about user environment.)

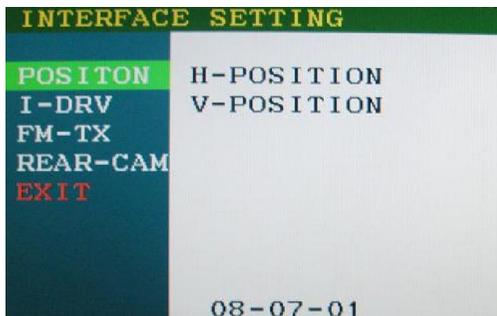


▪ What is Hot Key function ?

You can use this function via pressing number "1" button next to the radio button. You can change audio source to the external AUX with this function. (original function of BMW) Our device let it change to an external video source for driver to use this function via this button. So, you can change sources (audio<->video) by pressing this button without any other install process.

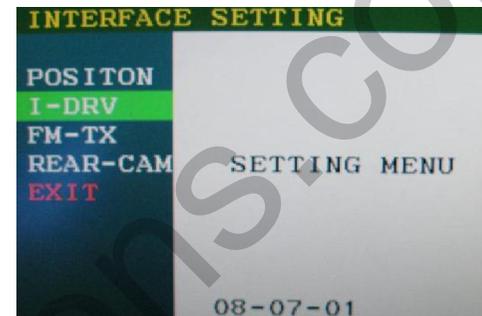
2.4 FACTORY mode

FACTORY mode : Operated with pressing UP->DOWN->UP->MENU keys on the keypad in sequent or Press ◀ button 2 seconds long on the remote control.



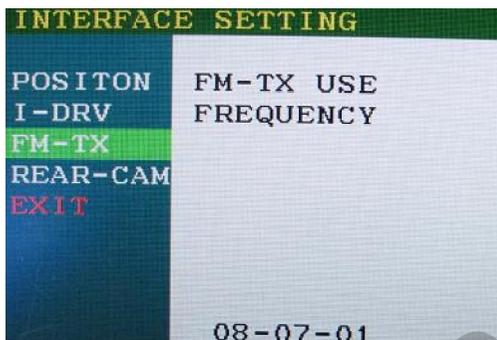
POSITION

- H-POSITION : moving in horizontal direction
- V-POSITION : moving in vertical direction



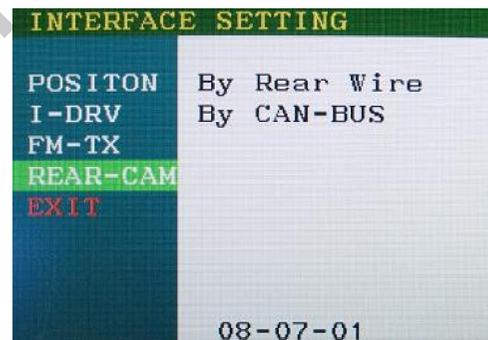
I-DRV

- To control DVD, Navi by I-DRV (Optional)
Refer to the "BMW Handle button NAVI setting" page.



FM-TX

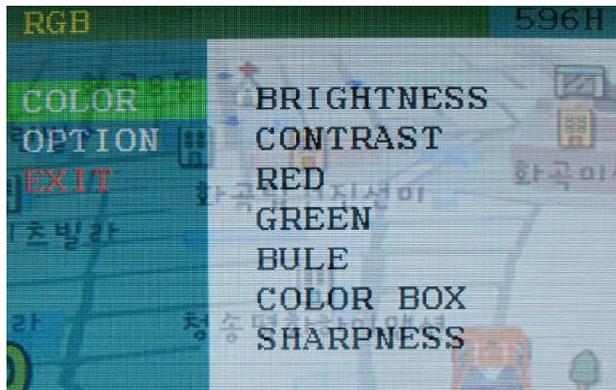
- FM-TX USE : Set up for FMTX
- FREQUENCY : FMTX Frequency Setting.
(Refer to the next 'FMTX frequency setting' page)



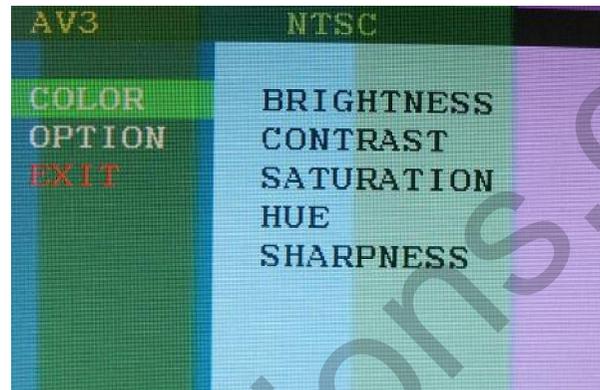
REAR-CAM

- By Rear Wire : When to install Back-up Cam by rear wire of power cable (Same with previous version)
- By CAN-BUS : When to install Back-up Cam by CAN wiring.
When the car is in reverse, the CAM is detected automatically.

2.5 OSD (on screen display)



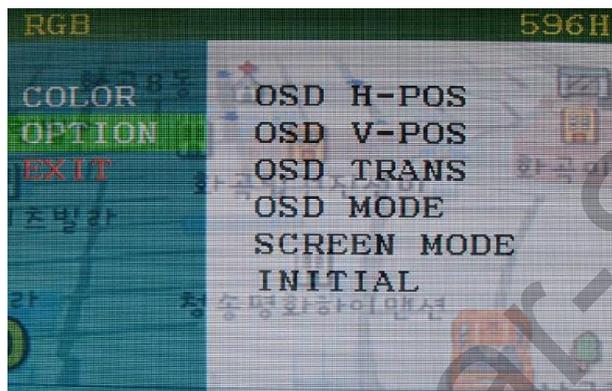
Analog RGB Mode



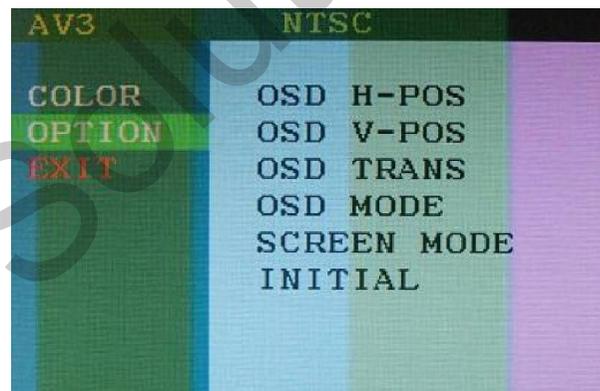
Video mode

COLOR

- BRIGHTNESS
- CONTRAST
- RED
- GREEN
- BLUE
- COLOR BOX : Selecting one among 3 color options
- SATURATION
- SHARPNESS



Analog RGB Mode



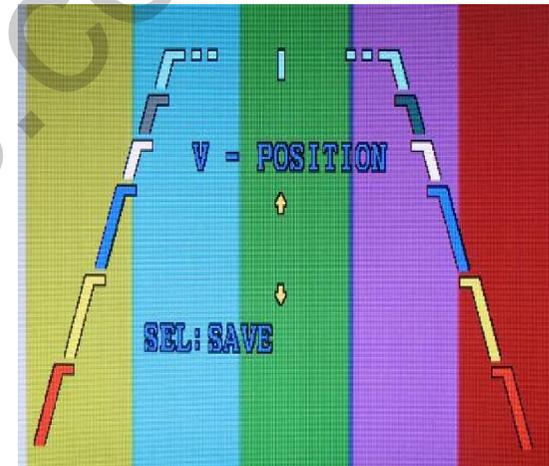
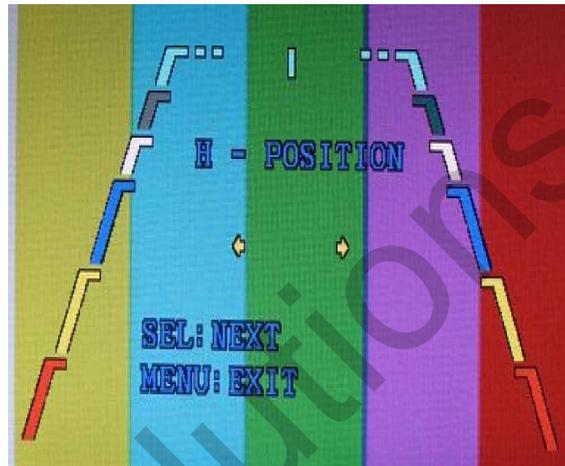
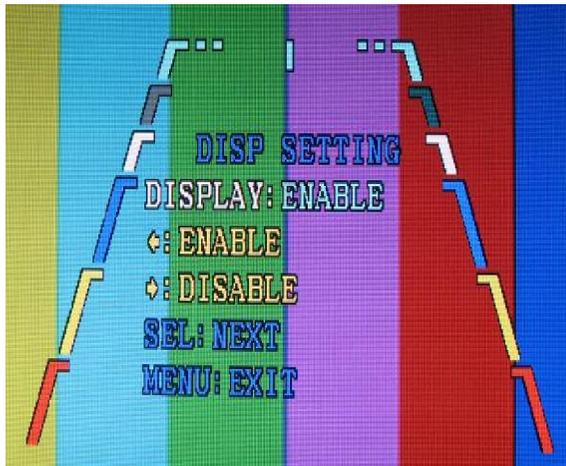
Video mode

OPTION

- OSD H_POS
: Move of OSD window to Left, Right
- OSD V_POS
: Move of OSD window to Up, Down
- OSD TRANS
: OSD window transparency setting
- SCREEN MODE
: Screen Rate setting (4:3, 16:9)
- INITIAL : Initializing OSD setting value

2.6 Parking guide line

Factory Default : DISPLAY - DISABLE



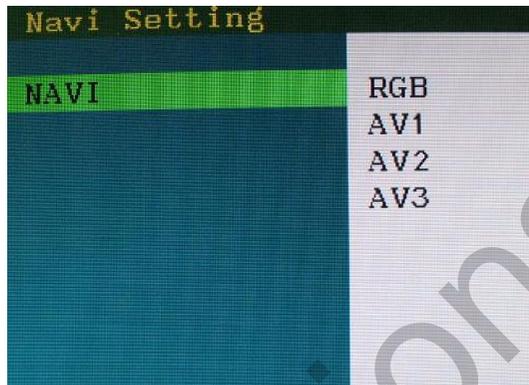
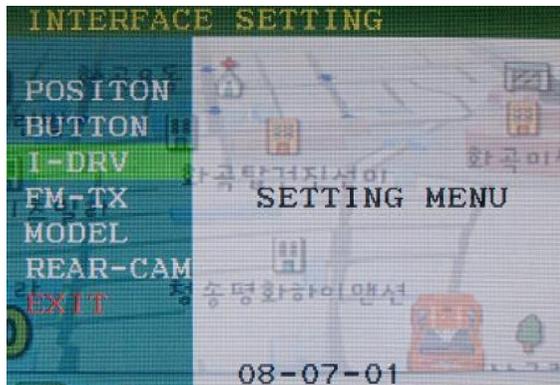
① When the car is in reverse, if press 'UP' key for 2 sec, the guide line appears on the screen.

② If you need to move the line position, press 'SEL' key on the above step.
(Use 'Up', 'Down' Key of Keypad)

③ On step no.2, once press "SEL" key again, you can move the line vertically by "UP", "Down" keys.

2.7 BMW Handle Button NAVI setting

Oversea

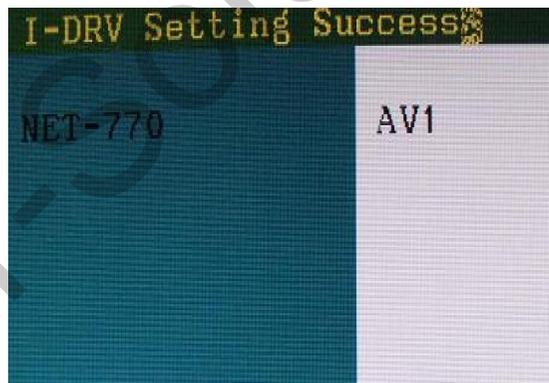
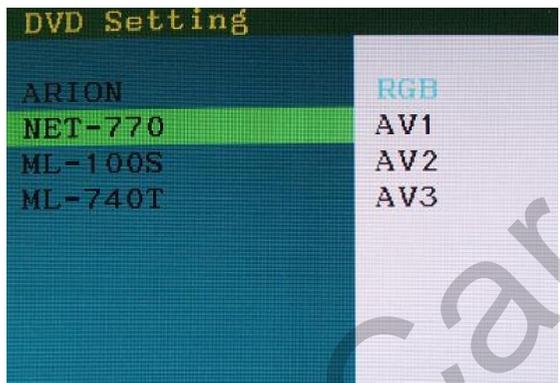


After implementing FACTORY MODE (Interface setting), select I-DRV and press the Sel button of Keypad, and then Navi Setting window is displayed as shown right.

After selecting the one among RGB, AV1~3, press the Sel button of keypad. (It is fine to select any channel, because the selecting of RGB, AV1~3 is useless. But, the channel selected on this step will be exempted on next channel selecting step.)

※This function is not supported at domestic NAVI, but this setting is necessary for implementation of Domestic DMB.

Domestic



When the above steps is finished, the window is displayed as shown left. ARION, NET-770, ML-100S, ML-740T are Domestic DMB model. Select the model you want to use, after that select the channel of RGB, AV1~3.

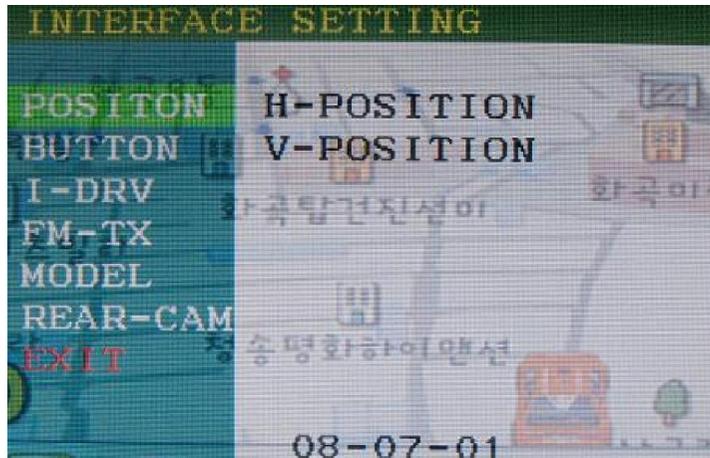
(The channel selected on the above steps is exempted.)

NET-770 (DMB model) is designated AV1 as shown right.

※When DVD-IR (Black) wire of RGB-IN cable is connected to IR input wire of DMB, able to operate via handle buttons.

2.8 FMTX Frequency Setting

Factory Default : FMTX USE – ON, FREQUENCY – 87.5MHz



Get the Factory Mode Operated with pressing UP->DOWN->UP->MENU keys of the keypad in sequent.



Set "FM-TX USE" to "ON" as shown left. ('ON' is Default).

Control the frequency by "UP", "Down" keys.

At the bottom, you can see present frequency and control it from 87.5MHZ to 108MHZ. (1MHZ per each time to press)

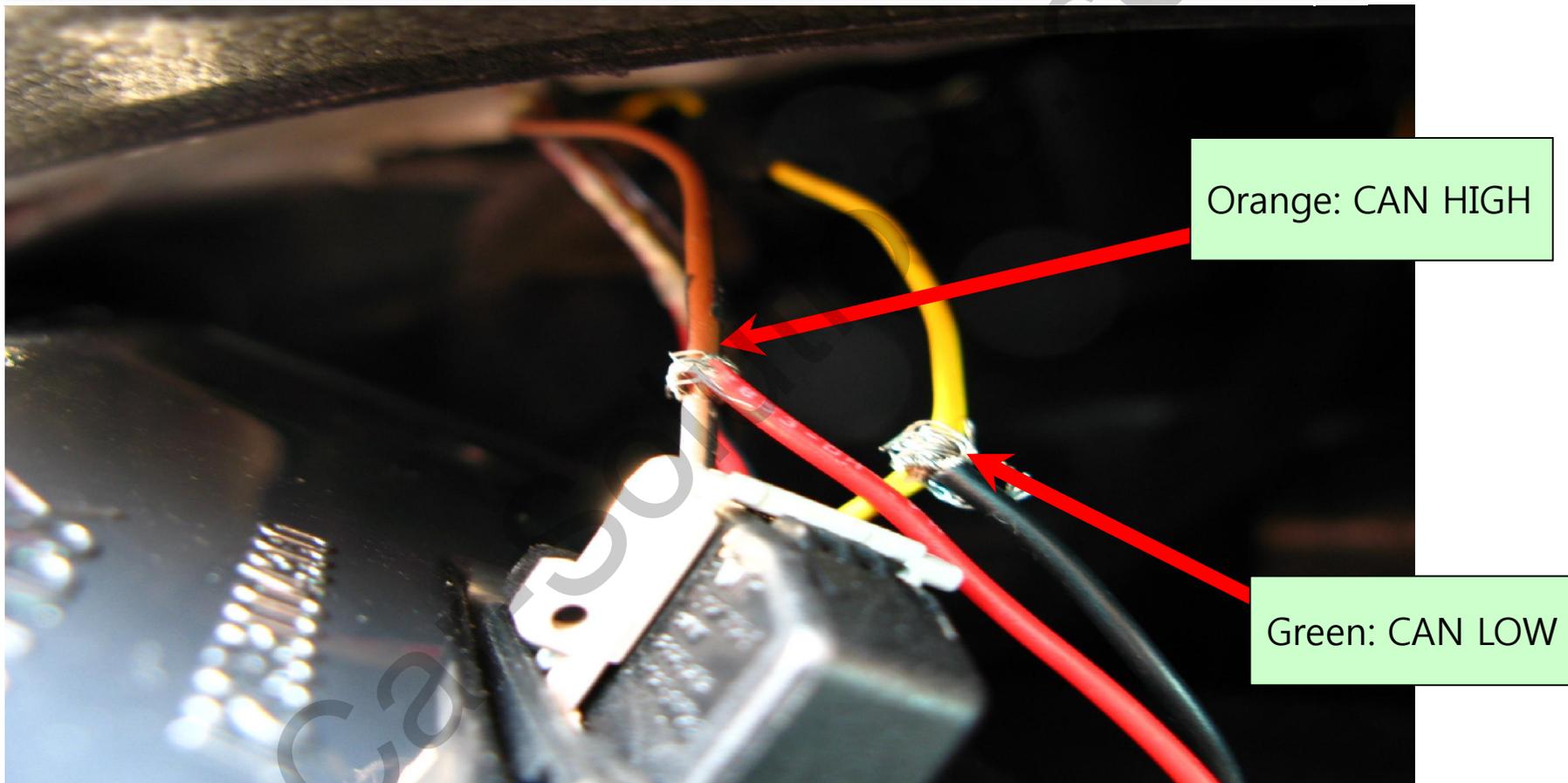
※If you do not want this function, should set "FM-TX USE" to "OFF"

3.1 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.

3.2 CAN Installation

E65 CAN Wiring Diagram



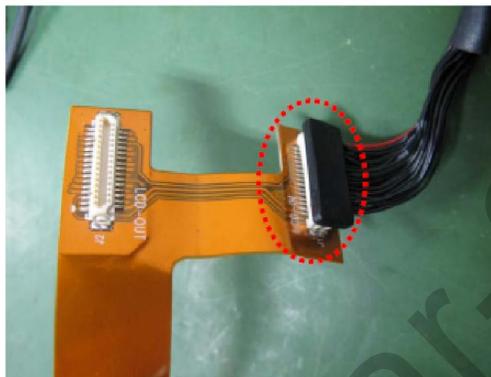
3.3 Installation



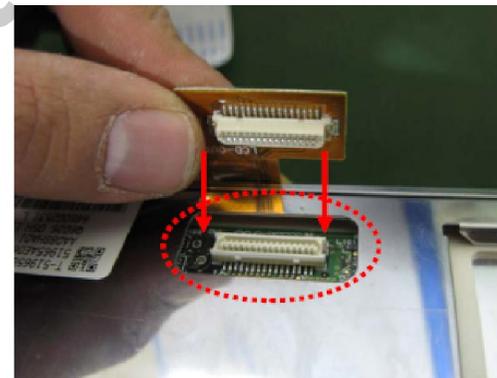
1. Connect the FFC cable to FPC cable as shown above.



2. Connect the FFC cable to the LCD-IN/OUT connector of the board as shown above.



3. Connect the LVDS cable of head unit to FPC cable as shown above.



4. Connect the FFC cable to the connector of head unit as shown above.

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 to manufacturer.)

Q. I can watch the rear camera on the screen

A. Set the DIP switch #7 as state "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 to manufacturer.

Q. Screen only displays white color.

A. Check LCD out cable is connected well, if this status keeps, inform to manufacturer.

Q. After setting PIP function, I got only half OEM image at the right in the screen.

A. This is not an error, just caused by user's setting mistake, user should set to "Split Screen" in the OEM menu.

Q. Rear CAM does not appear, when car is in reverse after CAN wiring.

A. Operate "FACTORY MODE" like left picture, then select "UTIL → Rear Select" If it is set as "LAMP", change it to "CAN" by remote or keypad.

※ LAMP : In case of connecting "Rear-C" wire of Power Cable to Rear Lamp in vehicle.

CAN : In case of detecting Rear Cam thru CAN signal. (CAN must be wired)

Q. After moving gear to "P" or "D" from "Reverse", I can't get navigation, but half PDC Image in the screen.

A. Once, you starts driving, the screen displays navigation right away, this is not an system error.