Updated date: 2013.06.18

**PIP-BMW V4**

Specification

For 3/5/6 series, X5, X6
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.
   - 3 x A/V (NTST & PAL) Input.
   - 1 x LCD Input (Car system Input)

2. Output Spec.
   - 2 X CVBS OUTPUT
   - 1 x Audio OUTPUT
   - 1 X LCD OUTPUT(LCD Operation)
   - 4 X Audio Select Output

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

4. Mode change
   - Input Video skip : able to skip each input source via adjusting DIP switch
   - Control by using the remote control
   - Able to change a mode by using toggle switch
   - Able to change a mode by button on the steering wheel in the car via CAN
1.2 Features

- PIP (picture in picture) Function *(Only available in 8.8” model)*
- Controlling PIP function by “★” button on the steering wheel
  *(The products which are shipped to Japan are different)*
- Switching AV source by “▼” on the steering wheel
  *(The products which are shipped to Japan are different)*
- Easier operation with remote control.
- Displaying External AV sources through composite, RGB
- Controlling AV sources (DVD, Navi) by I-DRV – Optional

![PDP - Rear Camera](image1)

![PIP - A/V mode](image2)
1.3 System diagram

- **NAVIGATION Input (Analog RGB)**
- **A/V 1**
- **A/V 2**
- **A/V 3**
- **CVBS In (Rear camera)**
- **Car Screen Input (CAR MAIN BOARD)**
- **Power Input (+8VDC ~ +18VDC)**

- **MCU**
- **VIDEO CIRCUIT**
- **VIDEO MUX**
- **Dip S/W**
- **A/V OUT (Video out 2 Audio L, R1)**

- **OSD keypad Or Remote control**
- **Switch for source toggle**
- **OEM Navi Button (Can Interface)**

- **DISPLAY**
- **Car installation OEM LCD**

- **Dip S/W**

- **HEADREST MONITOR**

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1.4 Components

IR cable (8P) * 1ea (HIRCAB0002)

Remote control * 1ea
(REMOTE0001)

OR

Ground cable * 1ea
(HGROUN0001)

Keypad * 1ea
(PCBOSD0001)

POWER cable (10P) * 1ea
(HPOWER0005)

MODE cable * 1ea
(HARETC0001)

LVDS cable (F-TYPE) * 1ea
(HLVDSC0005)

AV cable * 1ea
(HAVCAB0002)

REAR CAMERA POWER cable * 1ea
(HARETC0002)

RGB cable * 1ea
(HNAVIC0004)

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1.5 Exterior

**Dimension**
- Horizontal length 154mm
- Vertical length 94mm
- Height 20mm

1. MODE
2. POWER
3. RGB(IN)
4. R-CAM
5. AV(IN/OUT)
6. LCD-OUT
7. LCD-IN
8. KEYPAD/IR
9. DIP S/W
10. LED
### 2.1.1 DIP switch

<table>
<thead>
<tr>
<th>PIN</th>
<th>Function</th>
<th>DIP S/W selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RGB INPUT Skip</td>
<td>ON: Skipping RGB Mode&lt;br&gt;OFF: RGB Display</td>
</tr>
<tr>
<td>2</td>
<td>A/V 1 Skip</td>
<td>ON: Skipping A/V 1&lt;br&gt;OFF: A/V1 Display</td>
</tr>
<tr>
<td>3</td>
<td>A/V 2 Skip</td>
<td>ON: Skipping A/V 2&lt;br&gt;OFF: A/V2 Display</td>
</tr>
<tr>
<td>4</td>
<td>A/V 3 Skip</td>
<td>ON: Skipping A/V 3&lt;br&gt;OFF: A/V3 Display</td>
</tr>
<tr>
<td>5</td>
<td>Monitor Size</td>
<td>ON: 6.5” LCD Setting (Possible to use BMW 1 series)&lt;br&gt;OFF: 8.8” LCD Setting</td>
</tr>
<tr>
<td>6</td>
<td>Type of monitor (Refer to next page)</td>
<td>ON: Siemens setting (only when to tum on the 5th pin)&lt;br&gt;OFF: Alpine setting (only when to tum on the 5th pin)&lt;br&gt;ON: 3 series 2009 year(only when to tum off the 5th pin)&lt;br&gt;OFF: 8.8” Setting</td>
</tr>
<tr>
<td>7</td>
<td>Rear Mode</td>
<td>ON: External Rear Camera&lt;br&gt;OFF: OEM Rear Camera</td>
</tr>
<tr>
<td>8</td>
<td>N.C</td>
<td></td>
</tr>
</tbody>
</table>

※ 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.
2.1.2 DIP switch

<table>
<thead>
<tr>
<th>Monitor</th>
<th>#PIN</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>E60 8.8”</td>
<td></td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>E60 Alpine 6.5”</td>
<td></td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>E60 Siemens 6.5”</td>
<td></td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

※ DIP S/W Use Example

[BMW E60-6.5” Alpine]

- 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” Alpine)
▷ DIP S/W : 6 → OFF
▷ DIP S/W : 7 → ON (enable CVBS4)
▷ DIP S/W : 8 → OFF
## 2.2 Remote control

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Not for use</td>
</tr>
<tr>
<td>PIP</td>
<td>Activating PIP (Picture in Picture)</td>
</tr>
<tr>
<td>MENU</td>
<td>OSD implementation</td>
</tr>
<tr>
<td>OK</td>
<td>Making a selection</td>
</tr>
<tr>
<td>▲</td>
<td>Move upward</td>
</tr>
<tr>
<td>▼</td>
<td>Move downward</td>
</tr>
<tr>
<td>◀</td>
<td>Move leftward, <em>press 2 seconds long</em> Factory mode implementation</td>
</tr>
<tr>
<td>▶</td>
<td>Move rightward, <em>press 2 seconds long</em> Factory mode Reset</td>
</tr>
</tbody>
</table>

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### 2.3 Keypad

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU</td>
<td>OSD Menu, switching to previous mode.</td>
</tr>
<tr>
<td>SEL</td>
<td>Selection in menu, switching AV sources.</td>
</tr>
<tr>
<td>UP</td>
<td>Move leftward, upward</td>
</tr>
<tr>
<td>DOWN</td>
<td>Move rightward, downward</td>
</tr>
<tr>
<td>UP+DOWN at once</td>
<td>SAFE MODE implementation</td>
</tr>
</tbody>
</table>

*FACTORY MODE (Interface setting) : Operated by pressing ▲ → ▼ → ▲ → MENU of remote or keypad in order.*
**2.4 OSD (on screen display)**

OSD menu: Operated by pressing MENU button of remote control.

**Analog RGB mode**

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

**Video mode**

- BRIGHTNESS
- CONTRAST
- SATURATION
- HUE
- SHARPNESS

**OSD**

- LANGUAGE: To change the language displaying while using Touch OSD (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)
2.5.1 Factory mode

*FACTORY MODE : Operated by pressing ▲ → ▼ → ▲ → MENU of remote control or keypad in order.

Setup for navigation

UTIL – NAVI MODEL
Definition of the navigation

DEFAULT: 400X234, low definition

IMAGE
Adjusting the position and the size of navigation

H-POSITION : moving in horizontal direction
V-POSITION : moving in vertical direction
H-SIZE : adjusting the horizontal size of the navigation

Setup for car model

UTIL - CAR MODEL
Selecting model of the car

E60 : When to install BMW 5 series
E60_NEW : If not work with E60, Use this
E60_OLD : When there is a offset problem on E60
E70 : When to install BMW X5 (E70)
2.5.2 Factory mode

*FACTORY MODE: Operated by pressing ▲ → ▼ → ▲ → MENU of remote control or keypad in order.

**UTIL - REAR SELECT**
Selecting how to detect the rear view camera

LAMP: Detecting the rear view camera via rear lamp (Installer must connect “Rear-C” cable of the power cable to the rear lamp of the car.)
CAN: Detecting the rear view camera via CAN signal (Installer must connect “CAN” cable of the power cable to the “CAN” cable of the car.)

**UTIL - AVOUT SELECT**
Selecting background sound while navigation is displayed on the screen

DEFAULT: default, the sound of previous image before displaying navigation
DTV: sound of DTV
A/V: sound of A/V source

**UTIL - FACTORY RESET**
Resetting factory mode

YES: resetting factory mode
NO: undoing reset of the factory mode
2.5.3 Factory mode

*FACTORY MODE: Operated by pressing ▲ → ▼ → ▲ → MENU of remote control or keypad in order.

I-DRI TYPE

-NEW I-DRV – When there is a New I-Drive on the car as shown below

OLD I-DRV – When there is a Old I-Drive on the car as shown below

※ 328i, 335i 2009 model: OLD I-DRIVE, 5 series: NEW I-DRIVE
2.5.4 Factory mode

*FACTORY MODE: Operated by pressing ▲ → ▼ → ▲ → MENU of remote control or keypad in order.

<table>
<thead>
<tr>
<th>I-DRV - REMOTE</th>
<th>I-DRV - CONTROL</th>
<th>I-DRV - AUX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selecting model of navigation and DMB respectively to control I_DRV function</td>
<td>Selecting whether to use I_DRV function or not</td>
<td>Selecting whether to use I_DRV AUX</td>
</tr>
<tr>
<td>PIONEER</td>
<td>ON/OFF</td>
<td>ON/OFF</td>
</tr>
<tr>
<td>ALPINE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YCR-900</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.6 Rear view parking guide line

Factory Default: DISPLAY - DISABLE

PARK

PARK ENABLE: Selecting whether to display the parking guide line or not on rear gear (default: ON)

PARK SETUP: Adjusting the position of the parking guide line (available in PARK SETUP -> V-POSITION, H-POSITION)

SAFE ENABLE: If your car is connected with CAN cable and it is in "ON" state, you can NOT watch DVD or A/V except original image or navigation while driving. At that time the screen get back to the main (default: OFF)

a. If you want to get to the FACTORY mode, set the gear as rear state and press "LEFT" button 2 seconds long on the remote control or the keypad. (as shown left top)

b. If you set ‘PARK ENABLE’ as ‘ON’ state, there will be the rear view parking guide line. (as shown right top)
2.7 CAN Wiring & Steering wheel button

☆ : PIP Mode
⬇️ : Switching AV source with long press
※ The products which are shipped to Japan are different

Orange+Black: CAN HIGH
Yellow: CAN LOW
3.1 Pre-installation Notices

- 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 cannot 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 Installation diagram

※ Wiring CAN High (White) of the interface with the CAN High (Orange+Black) of the car.
※ Wiring CAN Low (Yellow) of the interface with the CAN Low (Yellow) of the car.
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.