BMW-PIP
Specification

For 3/5/6 series, X5, X6
1.1 Main specification

1. Input Spec. (MULTI VIDEO INTERFACE)
   - 1 x Analog RGBCs (or Sync by Green)
   - 1 x REAR-C Input (Rear camera source)
   - 3 x A/V Input (NTST & PAL auto detection)
   - 1 x LCD Input (OEM video input)

2. Output Spec.
   - 2 x CVBS OUTPUT (Video Out for installed headrest monitors)
   - 1 x Audio OUTPUT
   - 1 x LCD Output (OEM video output)
   - 4 x Audio Select Output (12V power comes out from 4wires of cable by AV1, AV2, AV3 & Navi modes)

   - 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 controller
   - 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 Function *(Picture In Picture available only for cars with 8.8” LCD type)*

- Higher Quality

- 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 new remote control.

- Upgraded OSD Menu

- Displaying External AV sources through composite, RGB

- Controlling AV sources (DVD, Navi) by I-DRV – *Optional*

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1.3 System diagram

- NAVIGATION Input (Analog RGBCs)
- A/V 1
- A/V 2
- A/V 3
- REAR-C In (Rear camera)
- Car Screen Input (OEM video input)
- OSD keypad
- Switch for source toggle
- OEM Navi Button (Can Interface)
- POWER CIRCUIT
- VIDEO MUX
- VIDEO CIRCUIT
- POWER CIRCUIT
- Dip S/W
- A/V OUT (Video out 2 Audio L, R1)
- HEADREST MONITOR
- Car installation OEM LCD
- NAVIGATION Input (Analog RGBCs)
- DISPLAY
- Power Input (+8VDC ~ +18VDC)
- www.car-solutions.com
1.4 Components

- LVDS cable (F-TYPE) * 1pc.
- IR cable (8P) x 1pc.
- Remote control x 1pc.
- OR
- Cable for OSD Keypad x 1pc.
- OSD Keypad x 1pc.
- POWER cable (10P) * 1pc.
- MODE button * 1pc.
- RGB cable * 1pc.
- AV cable * 1pc.
- www.car-solutions.com
1.5 Exterior

Dimensions

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

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

<table>
<thead>
<tr>
<th>DIP #</th>
<th>Function</th>
<th>DIP S/W selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>RGB Input</strong></td>
<td>ON : RGB input is OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : RGB input is ON</td>
</tr>
<tr>
<td>2</td>
<td><strong>A/V1 Input</strong></td>
<td>ON : A/V1 input is OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : A/V1 input is ON</td>
</tr>
<tr>
<td>3</td>
<td><strong>A/V2 Input</strong></td>
<td>ON : A/V2 input is OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : A/V2 input is ON</td>
</tr>
<tr>
<td>4</td>
<td><strong>A/V3 Input</strong></td>
<td>ON : A/V3 input is OFF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : A/V3 input is ON</td>
</tr>
<tr>
<td>5</td>
<td>Monitor Size</td>
<td>ON : For Cars with 6.5” LCD (Possible to use BMW 1 series)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : For Cars with 8.8” LCD</td>
</tr>
<tr>
<td>6</td>
<td>Type of monitor (Refer to next page)</td>
<td>ON : Siemens LCD (only when DIP #5 is turn ON)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : Alpine LCD (only when DIP #5 is turn ON)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ON : 2009 model’s 3series (only when DIP #5 is turn OFF)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : Cars with 8.8” LCD</td>
</tr>
<tr>
<td>7</td>
<td>Rear Mode</td>
<td>ON : External Rear Camera</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF : OEM Rear Camera</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td><strong>NOT USED</strong></td>
</tr>
</tbody>
</table>
### 2.1.2 DIP switch

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

※ Remote or Keypad *(Optional)*

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td><strong>NOT USED</strong></td>
</tr>
<tr>
<td>PIP</td>
<td>Activating PIP <em>(Picture in Picture, only for cars with 8.8&quot;)</em></td>
</tr>
<tr>
<td>MENU</td>
<td>OSD Menu</td>
</tr>
<tr>
<td>OK</td>
<td>Making a selection</td>
</tr>
<tr>
<td>▲</td>
<td>Move UP</td>
</tr>
<tr>
<td>▼</td>
<td>Move DOWN</td>
</tr>
<tr>
<td>◀</td>
<td>Move LEFT <em>(Or press 2 seconds - Factory mode)</em></td>
</tr>
<tr>
<td>▶</td>
<td>Move RIGHT <em>(Or press 2 seconds - Factory Reset)</em></td>
</tr>
</tbody>
</table>
2.3 Keypad

※ Remote or Keypad (Optional)

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>MENU/EXIT</td>
<td>OSD Menu or switching to previous mode</td>
</tr>
<tr>
<td>SEL/INPUT</td>
<td>Selection in menu or switching AV sources</td>
</tr>
<tr>
<td>UP</td>
<td>Move LEFT or UP</td>
</tr>
<tr>
<td>DOWN</td>
<td>Move RIGHT or DOWN</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

**Video mode**

- LANGUAGE
- TRANS
- H_POSITION
- V_POSITION

**IMAGE**

- BRIGHTNESS
- CONTRAST
- SATURATION
- HUE
- SHARPNESS
- USER IMAGE

**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)

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2.5.1 Factory mode

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

**PARK**
- PARK ENABLE: Setup of rear view parking guide line
- H-POSITION: Control over horizontal movement of screen
- V-POSITION: Control over vertical movement of the screen

**UTIL**
- CAR MODEL selection
  - : E60 – When to install BMW 5 series (E60)
  - : E60_OLD – When there is a offset problem on E60
  - : E70 – When to install BMW X5 (E70)

※Selecting / Choosing function is by “SEL” button on the Keypad
2.5.2 Factory mode

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

**UTIL**

- **I-DRIVE**
  - NEW I-DRV – When there is a New I-Drive on the car like the picture as shown
    - <2009 model I-DRIVE>
  - OLD I-DRV – When there is a Old I-Drive on the car like the picture as shown
    - <=2008 model I-DRIVE>

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

**UTIL**

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

※Selecting / Choosing function is by “SEL” button on the Keypad
2.6 Rear view parking guide line

Factory Default : DISPLAY - DISABLE

When the car gear is in reverse, register the value needed on the “PARK ENABLE” as “ON” in the PARK section as shown left. Then, the left image will be displayed on the screen.

Able to move the line with H-Position on the factory mode. Then adjust horizontal position of the guide line.

Able to move the line with V-Position on the factory mode. Then adjust vertical position of the guide line.
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 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.
※ 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.