

# **BMW-I INTERFACE BOARD** **(PRELIMINARY)**

Jan. 2013

# Contents

- Features
- System Specification
- Functions Usage
  - DIP Switch
  - i-Drive Buttons Usage
  - Rear Camera screen
  - Parking Adjustments
  - AV Controls
- Setup
  - Setup screen
  - Usage
  - Using the Buttons
  - Functions of Setup
    - Car Model
    - A/V Output select
    - Factory reset
    - Navigation
    - Rear Camera
    - Parking
    - Utility

# Features

- Supported BMW Series
  - Built-in LVDS QVGA/WVGA LCD monitors
  - BMW 1, 3, 5, 6, 7, X Series and Z4
  - BMW Mini-Coopers
- Supported PIP and Zoom-In/Out functions
- Supported Parking Guide Line on Rear Camera screen
- Supported Analog RGB Input and LVDS Input for Navigation
- Supported Mobile TV functions

# System Specifications

- 2 Composite Video Input (NTSC/PAL) with Stereo Audio and 2 Composite Video Input (NTSC/PAL)
- 2 Composite Video Output and 1 Stereo Audio Output
- 1 Analog RGB Input for Navigation
- 1 Channel LVDS Input/Output from/to Original LCD monitor (HSD connector)
- Built-in Touch Screen In/Out Connector
- Built-in USB Connector for charging the iPhone
- Option
  - Supported Mobile TV (T-DMB, 1/Full-Seg etc.)
  - 1 Channel LVDS Input for LVDS Navigation (HSD connector)

# System Specifications

- Power Specification
  - Input Power : +12.0VDC (+/- 10%)
  - Power Consumption
    - Under 8.0 Watt (in Maximum level)

# System Specifications

## ■ Input and Output Specifications

Item	I/O	Connector Type	Remarks
AV1	I	RCA 1 x 3	Composite Video Input with Stereo Audio Input (for Mobile TV)
AV2	I	RCA 1 x 3	Composite Video Input with Stereo Audio Input
AV3	I	RCA 1 x 1	Composite Video Input without Audio Input (for Front Camera)
Rear Camera	I	RCA 1 x 1	Composite Video Input without Audio Input
Analog RGB	I		Video Input for Analog RGB Navigation
Touch Screen	I/O		Touch In/Out
USB	O	USB x 1	For Charging the iPhone
LVDS	I	HSD x 1	Video Input from the Original LCD monitor
LVDS	O	HSD x 1	Video Output for displaying on the Original LCD monitor
DIP Switch	I		Current Car Model
LVDS	Option	HSD x 1	Video Input for LVDS Navigation
Mobile TV	Option		T-DMB, 1/Full-Seg etc

# Functions Usage

## ■ DIP Switch (for CAR model)

No	DIP Switch				CAR Model
	1	2	3	4	
0	OFF	OFF	OFF	OFF	MINI-Coopers
1	ON	OFF	OFF	OFF	F10, BMW 5/7-D Series in Korea (Dual Car, Default)
2	OFF	ON	OFF	OFF	F10, BMW 5 Series in China (Dual Car)
3	ON	ON	OFF	OFF	None
4	OFF	OFF	ON	OFF	F10, BMW 5 Series in China (Single Car)
5	ON	OFF	ON	OFF	E90, BMW 3 Series in Korea (Single Car)
6	OFF	ON	ON	OFF	BMW Z4 in Korea (Dual Car)
7	ON	ON	ON	OFF	BMW X Series in Korea (Single Car)
* ON : DOWN (BOTTOM), OFF : UP (TOP) ** Must be set before Power On Start					

# Functions Usage

## ■ DIP Switch (for CAR model)

No	DIP Switch				CAR Model
	1	2	3	4	
8	OFF	OFF	OFF	ON	None
9	ON	OFF	OFF	ON	F10/F01 ,BMW 5/7-I Series in Korea (Dual Car, 1280x480)
10	OFF	ON	OFF	ON	F10, BMW 5 Series in China (Dual Car, 1280x480)
11	ON	ON	OFF	ON	<b>None</b>
12	OFF	OFF	ON	ON	None
13	ON	OFF	ON	ON	None
14	OFF	ON	ON	ON	None
15	ON	ON	ON	ON	None
* ON : DOWN (▼ BOTTOM), OFF : UP (▲ TOP) ** Must be set before Power On Start					



# Functions Usage

## ■ i-Drive Buttons Usage



Mode	Key	Descriptions		Remarks
All	MENU	Short	Getting back to Original screen	
		Long	Changing the Video Inputs (Navigation -> AV1 -> AV2 -> AV3)	1280x480 only
	JOG ▼	Long	Changing the size of Video screen (Normal -> 4:3 -> 16:9)	1280x480 only
Remote Control	JOG ◀▶	Short	Changing the Remote Control functions	China Only
	JOG ENTER	Short	Execute to Remote Control function	
	BACK	Short	Return to previous AV screen	
* Long means that the button press 2 seconds long.				

# Functions Usage

## ■ i-Drive Buttons Usage

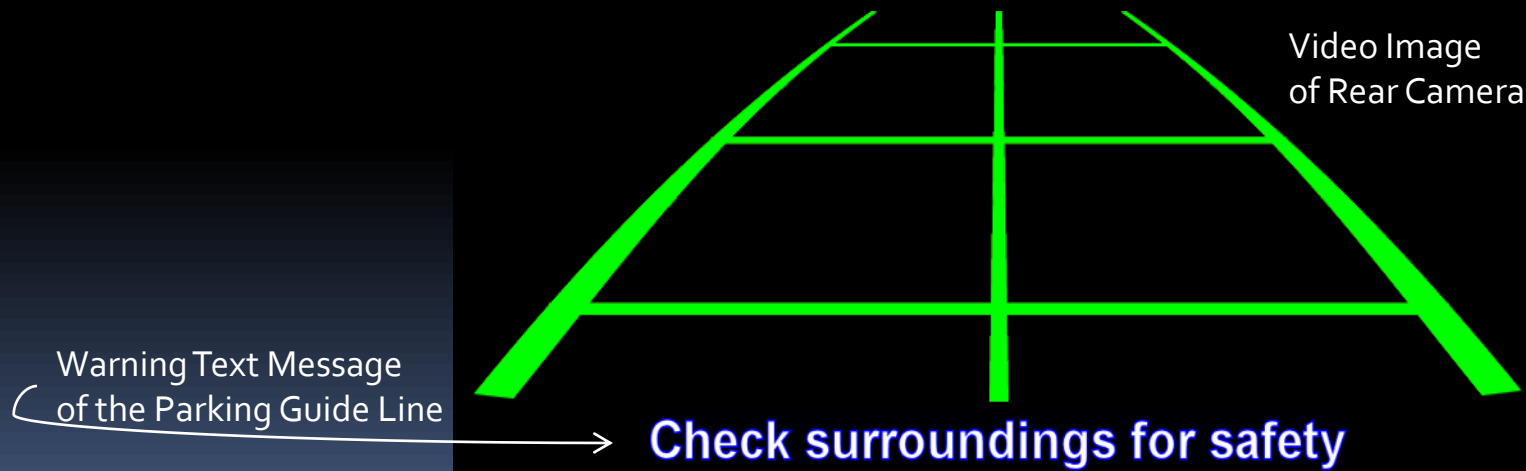


Mode	Key	Descriptions		Remarks
Rear Camera	MENU	Long	Enter the Parking Adjustment Mode	
	BACK	Long	Enter the Setup Mode	
Parking Adjustments	JOG ◀ ▶	Short	Adjusting the position of Parking Guide Line	
	JOG ▲ ▼	Short		
	JOG ENTER	Long	Save the current position of Parking Guide Line and return to Rear Camera screen	
	BACK	Short	Don't save the current position of Parking Guide Line and return to Rear Camera screen	
Setup	JOG ◀ ▶	Short	Changing the Sub items of Setup menu	
	JOG ▲ ▼	Short		
	JOG Rotary TURN		Adjusting the value of Image or Color menu only	
	MENU	Short	Selecting the item of Setup menu	
* Long means that the button press 2 seconds long.				

# Functions Usage



- Rear Camera screen
  - Go to the Rear Camera screen, must be changed to Drive-R from Drive-D, Drive-P and Drive-N
  - Return to the Original screen, changed to Drive-D, Drive-P and Drive-N from Drive-R



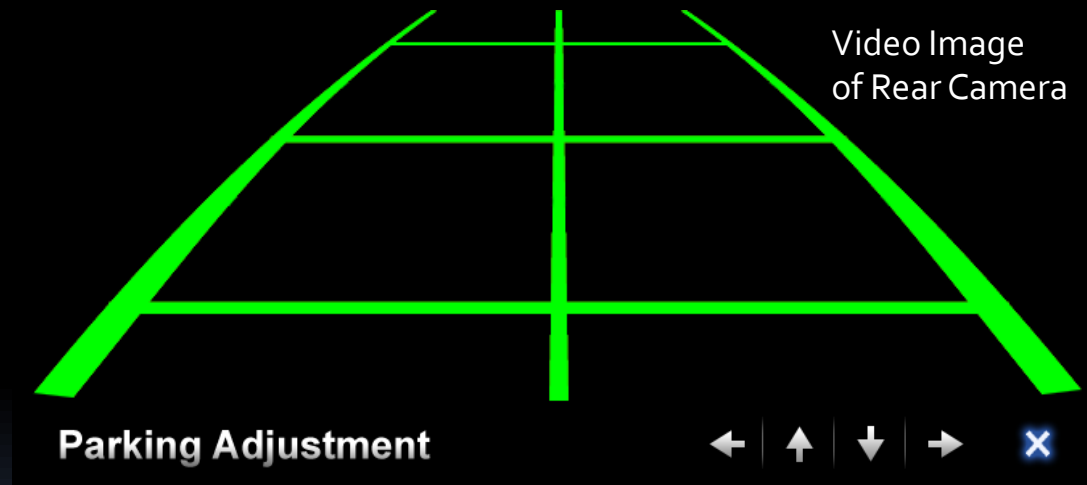
# Functions Usage

- Parking Adjustments
  - Go to the Parking Adjustments screen, must be changed to Drive-R from Drive-D, Drive-P and Drive-N and press long MENU button on the Rear Camera screen
  - Return to the Rear Camera screen, must be press short BACK button or long JOG ENTER button on the Parking Adjustments screen
  - Using the Buttons
    - Short JOG ►◄▲▼ buttons
      - Moving the position of Parking Guide Line
    - Short BACK button
      - Return to the Rear Camera screen without saving the modified position of Parking Guide Line
    - Long JOG ENTER button
      - Save the changed position of Parking Guide Line and return to the Rear Camera screen



# Functions Usage

- Parking Adjustments screen



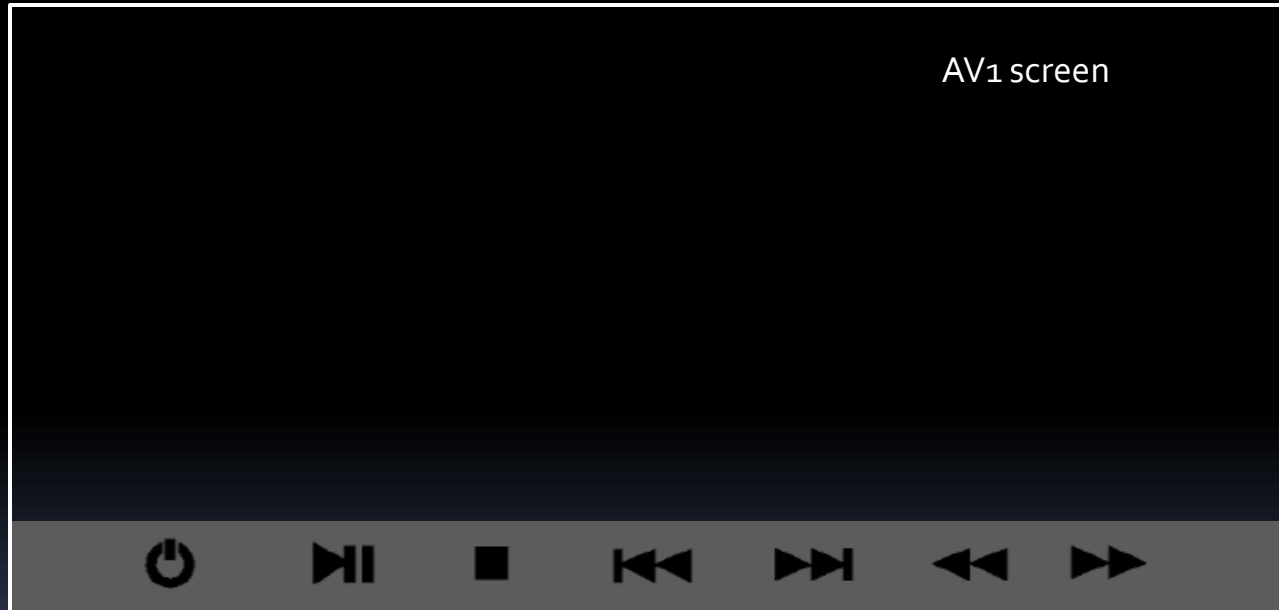
# Functions Usage

- Remote Controls (supported for China only)
  - If DVD Players (PDP1302A, DC-010) or CMMB Receiver (AT202) connected to AV1 or AV2, used to Remote control functions at AV1 or AV2 video screens.
  - Go to the Remote control screen, must be press short JOG ENTER button on the AV1 or AV2 screen
  - Using the Buttons
    - Short JOG ◀▶ buttons
      - Selecting of Remote functions
    - Short BACK button
      - Return to the previous AV screen
    - Short JOG ENTER button
      - Executing of selected Remote function



# Functions Usage

- Remote control screen (DVD Player)



# Functions Usage

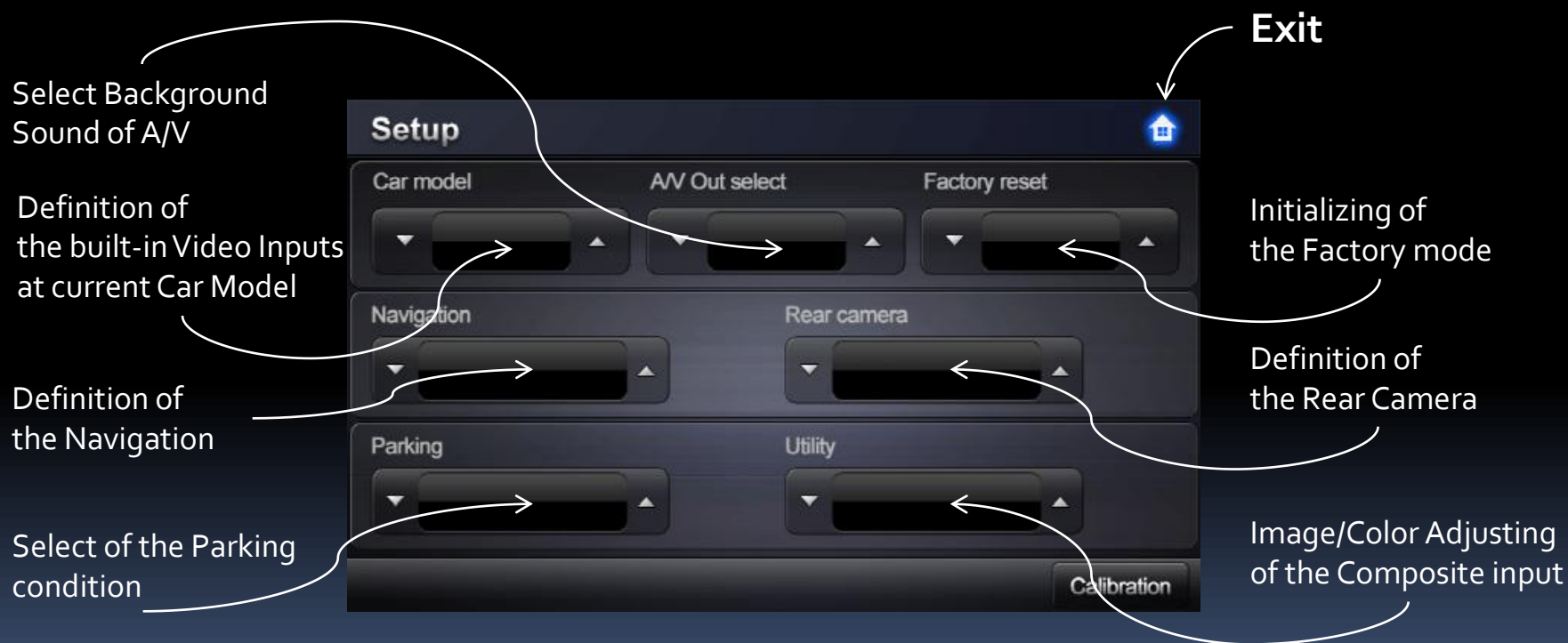
- Remote control screen (CMMB)





# Setup

- Setup screen



# Setup

## ■ Usage

- Go to the Setup screen, must be press long BACK button on the Rear Camera screen
- To exit the Setup screen, press MENU button at HOME Icon and save the modified values of Setup (waiting for about 60 seconds)
- After exit the Setup screen, execute Power-On-Reset and restart

## □ Using the Buttons

- Short JOG Left/Right buttons
  - Moving the menu at the Setup screen
  - Moving the OK or Cancel buttons at the Sub-menu screen
- Short JOG ▲▼ buttons
  - Selecting the Sub-menu on the Setup screen
  - Selecting the Sub-item on the Image and Color menu
- JOG Rotary TURN buttons
  - Adjusting the value of Image and Color menu on the Navigation/Utility menus
- Short MENU button
  - Selecting the current items or menus

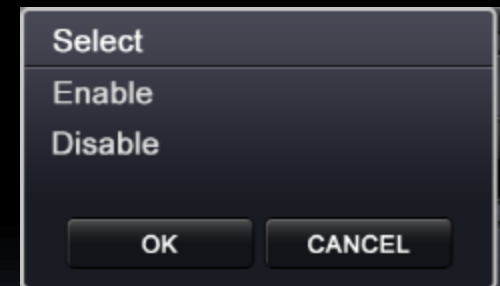


# Setup

- Functions of Setup

- Car Model

- Definition of the Video Inputs at the current Car Model
    - Selecting whether to built-in Video Inputs (AV1, AV2, AV3 and Navigation) or not
    - Selecting the Video Inputs
      - Video Inputs
        - AV1 (Composite for Mobile TV)
        - AV2 (Composite)
        - AV3 (Composite for Front Camera)
        - NAVI (Analog RGB or LVDS)
      - Enable (Default)/Disable
        - Enable means to connect the Video Input at RCA connector
        - Disable means to not connect the Video Input at RCA connector

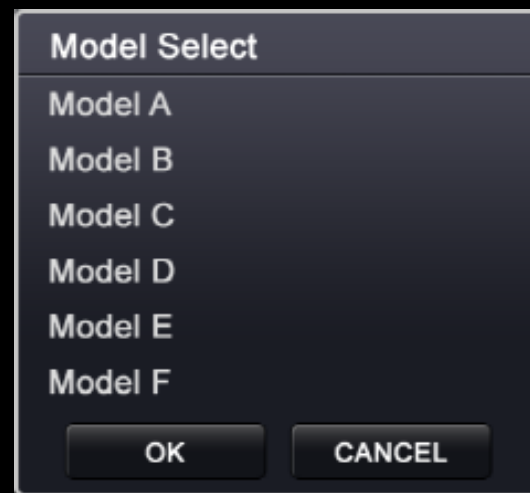


# Setup

- A/V Output select
  - Selecting Background sound while Navigation is displayed on the Video Input screens
    - Default
      - Sound of previous Video Inputs (AV1, AV2 and AV3) before displaying Navigation
    - A/V
      - Sound of A/V Input Source
- Factory reset
  - Resetting all the data to Factory mode
    - No (Default)/Yes

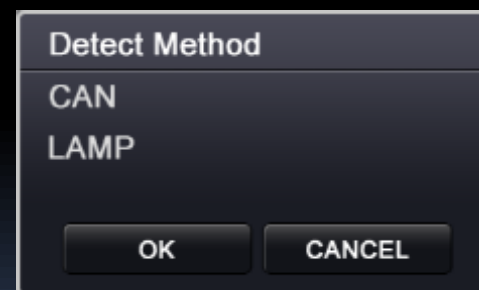
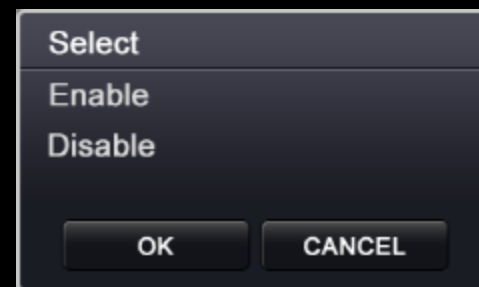
# Setup

- Navigation
  - Definition of the Navigation
  - Model Select
    - Selecting the Navigation model
    - Model A : ADIDAS (800x480)
    - Model B : MYVI (800x480)
    - Model C : LCKT (LC-260, 400x234)
    - Model D : LCKT (LC-260H, 800x480)
    - Model E : LCKT (KD-900, 800x480)
    - Model F : AHN (800x480) / Default
  - Image/Color
    - Adjusting the values of Image and Color in the Navigation Inputs
    - Image
      - Brightness
      - Contrast
      - Sharpness
      - User Image (Not support)
    - Color
      - Red
      - Green
      - Blue
      - User Color (Not support)



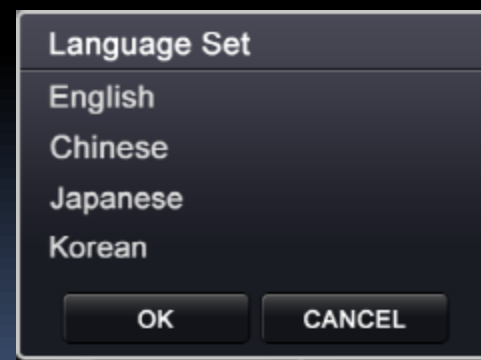
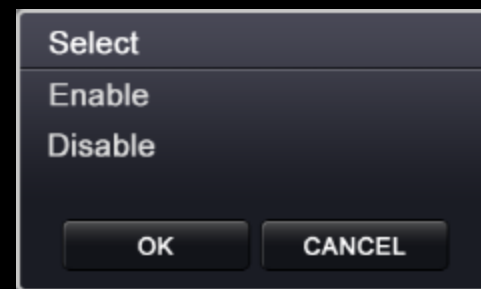
# Setup

- Rear Camera
  - Select
    - Selecting whether to built-in User Rear Camera or not
    - Enable (Default)/Disable
  - Detect Method
    - Define to detect the Rear Camera
    - CAN (Default)
      - Detecting the Rear Camera via CAN signal
    - LAMP
      - Detecting the Rear Camera via Rear LAMP



# Setup

- Parking
  - Select
    - Selecting whether to display the Parking Guide Line or not on Rear Camera screen
    - Enable (Default)/Disable
  - Language Set
    - Choosing the language of Warning Text Message on the bottom of Parking Guide Line
      - English (Default)
      - Chinese
      - Japanese
      - Korean



# Setup

## □ Utility

- Adjusting the values of Image and Color menu in the Composite Inputs (AV1, AV2, AV3 and Rear Camera)
- Image
  - Brightness
  - Contrast
  - Sharpness
  - User Image (Not support)
- Color
  - Red
  - Green
  - Blue
  - User Color (Not support)

