

Backup Camera and Video Interface for 2017 and up BMW & Mini Vehicles with Evo2 iDrive5 Systems

## **PRODUCT FEATURES:**

- Adds front and rear aftermarket camera inputs.
- Retains functionality of the OEM backup camera if present.
- Front camera automatically shows on the screen after changing the gear from reverse to drive.
- Provides power and ground for the cameras.
- Adds 1 A/V Input.
- Adds 2 video and 1 audio outputs.

### **PARTS INCLUDED:**







MRVBM-77Q Power Harness



LVDS Cable



MRVBM-77Q Module

Push Button Switch



I/O Cable



**Remote Control** 



IR Cable



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### **DIP SWITCH SETTINGS:**

### **4 POSITION SWITCH**

Set all DIP switches DOWN



## **8 POSITION SWITCH**



#### DIP switches 1 to 3:

DIP	STATUS	FUNCTION	
1	UP	AV1 ON	
	DOWN	AV1 OFF	
2	UP	Front Camera ON	
	DOWN	Front Camera OFF	
3	UP	Set to OFF	
	DOWN		

#### DIP switches 4 and 5:

DIP	DIP #4	DIP #5	FUNCTION
STATUS	UP	UP	1440 x 540 (5, 7, X5 Series) (10.25" screen)
	UP	DOWN	1280 x 480 (8.8″ screen)
	DOWN	DOWN	800 x 480 (6.5" screen)
	DOWN	UP	1280 x 480 (Mini with Touch)

DIP switches 6 to 8:

DIP	STATUS	FUNCTION	
6	UP	5, 7 Series	
	DOWN	1, 2, 3, 4, 6, X Series, Mini	
7	UP	Use OEM Backup Camera	
	DOWN	Use Aftermarket Backup Camera	
8	UP	CAN in/out mode	
	DOWN	CAN bypass mode	

Please make sure to power cycle the interface (unplug power harness then plug back in) after changing the DIP switch settings.





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#### **REMOTE CONTROL:**

	KEY	FUNCTION
	POWER & PIP	No Function
	MENU	Activate OSD Menu
	ОК	Make the selection / Change the image display
		Move UP
	$\mathbf{V}$	Move DOWN
		Move LEFT (Press for 2 seconds to Access Factory Mode)
		Move RIGHT (Press for 2 seconds to Reset User Data)

### **ON SCREEN DISPLAY (OSD) SETTINGS:**

Make sure the IR receiver is connected to the module and is in a clear view for the IR Remote to contact.

There are two menus on the interface. "Menu of Navi" and "Menu of FACTORY". In order to access the Menus you must be in the AV source. *Tap the PURPLE wire (SAFE) to ground and* use the OK button on the IR remote to switch sources (same function as momentary switch included). Press the "MENU" button on the remote control to enter Menu of NAVI.

## Adjusting Screen Settings (Menu of NAVI)



In this menu, user can set the image BRIGHTNESS, CONTRAST, SHARPNESS and set a USER IMAGE.

## Setting the Rear View Camera (Menu of FACTORY)

To access the "Menu of FACTORY", exit the Menu of NAVI, press and hold the left arrow for 3 seconds while in the same AV source. Use the arrows to navigate the menu.



H-POSITION : Move the image horizontally V-POSITION : Move the image vertically H-SIZE(NAVI) : Adjust the size of navigation image horizontally



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Menu of	FACTORY	
IMAGE PARK UTIL1 UTIL2 INFO	PAS TYPE PAS SETUP REAR TYPE SAFE ENABLE RADAR ENABLE	
MENU to	Return SEL to Select/Save	

## PAS TYPE: Parking Guide Line Setting

- NOT USED: No use parking guide line
- PAS ON: Selecting Dynamic parking guide line
- PAS OFF: Selecting fixed parking guide line

### PAS SETUP: Adjusting the position of the parking guide line

#### **REAR TYPE: Choose Rear Camera Recognition**

- CAN: Reverse Camera is triggered by CAN when shifting into reverse. CAN wire of module must be connected to CAN wire of car.
- LAMP: Reverse Camera is triggered when the reverse light turns on. Connect "Rear-C" cable of the power cable the reverse light.

#### **RADAR ENABLE: Setting up the parking Distance Alarm Sensor**

SAFE ENABLE: ENABLE to enter OSD Menu

## UTIL1



AVOUT SELECT: Select background sound via car AUX	Ľ
- Plug in Audio Output to Car's Aux input	

FCAM FUNC: Front Camera Function after a Reverse Process - 15x: Displays front camera for 15, 10, 5 or 3 seconds -OFF: Front camera will not be displayed

ARGB MODEL: Not used

FACTORY RESET: Reset unit to factory defaults

Menu of FACTORY			
IMAGE PARK UTIL1 UTIL2 INFO	IDRV REMOTE IDRV CONTROL VOICE KEY MEMORY KEY CALIBRATE		
MENU to Return SEL to Select/Save			

**VOICE KEY:** Enable/disable the OEM voice button on the steering wheel for more changes on select vehicles. Default is OFF.

**MEMORY KEY:** Enable/disable the use of the OEM memory buttons. Default is OFF.





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#### **OEM BUTTON FUNCTIONS:**

The MRVBM-77Q allows the user to control the unit using vehicle's steering wheel controls, iDrive knob or the memory buttons on the dashboard.







Steering Wheel Controls

iDrive

**Memory Buttons** 

SECTION	BUTTON	OPERATION	FUNCTION
Steering Wheel	Vaica	Short Press	Mode Switch
	voice	Short Press	PIP Mode Choice
Memory	#7	Short Press	Mode Switch
	MAD	Long Press (3 sec.)	Mode Switch
	IVIAP	Short Press	Return to OEM
	СОМ	Long Press (7 sec.)	Safe ON / OFF
	OPTION	Short Press	
iDrive	MEDIA	Short Press	Return to OEM
	RADIO	Short Press	
	DACK	Long Press (7 sec.)	Factory Mode: ON
	DACK	Short Press	Factory Mode: BACK
		Long Press (3 sec.)	Mode Switch
	MENU	Short Press	Return to OEM screen
			(On FCAM screen, turn off FCAM screen
	Knob UP	Short Press	OSD Menu Up
	Knob DOWN	Short Press	OSD Menu Down
	Knob Press	Short Press	OSD Menu Select





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### WIRING DIAGRAM:



## WIRING AT THE HEADUNIT

1. Remove the headunit and unplug the Quadlock connector. Unplug the Fiber Optic cable connector from the main connector housing.	2. Plug in the fiber optic cable connector to the female Quadlock connector supplied on the MRVBM-77Q power harness.
3. Plug the male Quadlock connector of the MRVBM-77Q power harness to the headunit.	4. Plug the OEM Quadlock connector to the mating connector on the MRVBM-77Q power harness.
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- 5. Plug the cameras to be used to the corresponding video RCAs on the I/O harness. Use the power and camera ground wires supplied on the same harness.
- 6. Test the cameras for functionality. Put the gear in reverse and confirm that the backup camera image shows up on the screen. Put the gear to drive and the front camera image should show on the screen (confirm front camera setting on the OSD on page 2).
- 7. If using the AV input, plug in an AV source to test for functionality. Use the selector buttons as stated on pages 4 an 5.
- 8. Once functionality tests are completed, reinstall the headunit.

### **VEHICLE APPLICATIONS:**

BMW & Mini with 8.8" or 10.2" Monitors and Evo2 iDrive5 Systems

## BMW

2017 – 2018	1 Series
2017 – 2018	2 Series
2017 – 2018	3 Series
2017 – 2018	4 Series
2017 – 2018	5 Series
2017 – 2018	6 Series
2017 – 2018	7 Series
2017 – 2018	X3
2017 – 2018	X4
2017 – 2018	X5

**Mini** 2017-2018 Mini





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