
Firmware: **240618-GD**
Article number: **BEG32060**

Manual AHD video interface Mercedes

Designed for Mercedes with NTG7

Brigade

Package:

1. Power cable: 1x
2. JbyJ cable: 1x
3. Dua fakra lcd cable: 1x
4. Multi AV cable: 1x
5. Remote: 1x
6. IR eye 4P: 1x
7. Toggle button: 1x
8. Interface module: 1x
9. Manual: 1x

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1: IMPORTANT INFORMATION

Installation must be done by a qualified personnel. Installation of the interface is entirely at your own risk. We accept no liability for damage to the vehicle or personal injury. If the manual is not well enforced and / or the interface is incorrectly connected, the guarantee claim as well the operating permission becomes invalid.

The guarantee claim as well the operating permission becomes invalid due to:

- a) The housing is opened*
- b) The warranty sticker is damaged or broken*
- c) The interface is damaged*
- d) Capital repairs are performed*
- e) Cable / connector is modified*
- f) Brute force to the device*

The operation of this interface may be affected by software updates from the manufacturer / dealer. In such cases, within one year of purchase, we provide a free software update for the multimedia interface. The costs for removal and de/re-installation is not included and the interface must be supplied to us.

In the supplied (service) instructions you can specify how and where the products are installed. In addition, end users are made aware of important addresses that he can consult in case of questions or problems. We advise you and the end-user to give the service record to the dealer when maintenance must be done.

Warranty must be done via a S R request. Returns without (copy) invoice, S R form and S R number will not be accepted. Returns can only be sent after agreement S R request.

General Guidelines for Maintenance:

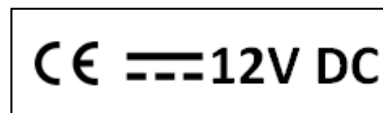
- a) For repair / maintenance end-user must always show the Service instructions to the dealer.*
- b) If the vehicle goes to a dealer for service, it may be necessarily that the interface module (s) must be temporarily removed due to a software update or reading failures.*
- c) In this case, the loop-through adapters (optional) can be used to remove easily the interface modules.*

2: INSTALLATION & SAFETY INSTRUCTIONS

Installation must be done by a qualified personnel.

Do not install this interface by yourself. For safe and reliable installation, consult a dealer having special knowledge.

- Use the device only at a +12 & +24 volt vehicle electrical system. Make sure to have a proper ground.
- The device should not be set up in direct proximity of heat sources (e. g. power amplifier).
- Please make sure that no objects or liquids can intrude the interior of the device! (Danger of short circuit!)
- Please follow all caution advises contained in the mounting guidelines.
- Please read through all safety instructions and handling directions intently before installation and startup of the device.
- Check always the compatibility of the interface for your car before installation.
- Avoid installing the unit in following places: Where it would hinder your safe driving – Where it could damage the car's fitting.
- Make sure the power is fused with 7A or 10A fuses.
- Please check all the car functions after installing the interface.
- Make sure the end customer can always reset the interface. You can reset the interface to make it powerless.



3: SCOPE OF DELIVERY

Scope of delivery

Package:

1. Power cable: 1x
2. JbyJ cable: 1x
3. Dua fakra lcd cable: 1x
4. Multi AV cable: 1x
5. Remote: 1x
6. IR eye 4P: 1x
7. Toggle button: 1x
8. Interface module: 1x
9. Manual: 1x

4: COMPATIBILITY

B-class	W247	MBUX NTG7 (10.2)
C-class	W206	MBUX NTG7 (12.8")
Sprinter	W947	MBUX NTG7 (10.2")
S-class	W223	MBUX NTG7 (12.8")

4.2 Requirement

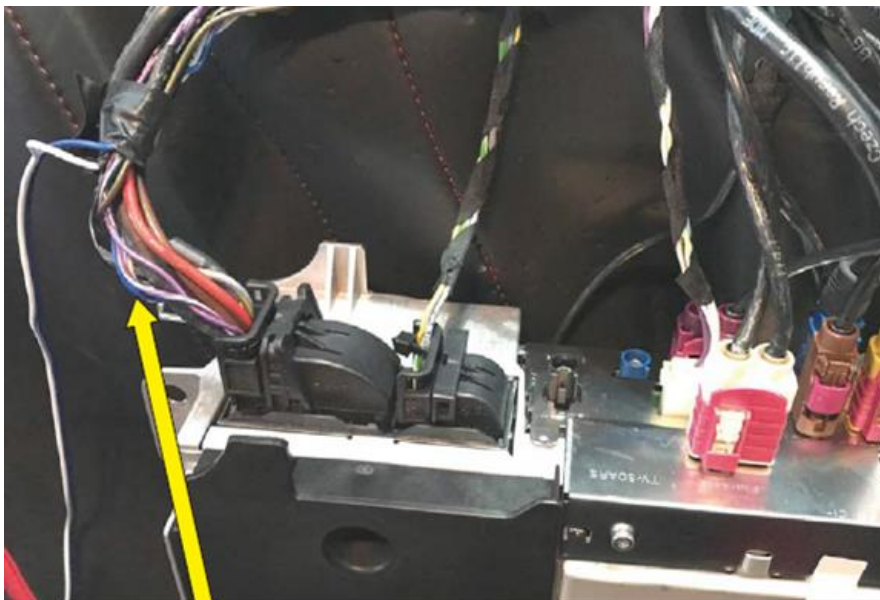
AUDIO OUTPUT	The interface inserts ONLY video signals into the infotainment. It is essential to have an Aux-in, when using audio from an external AV source.
CVBS	NTSC_PAL_AHD720_AHD1080
SCREEN	Interface is compatible with NTG7 10.2inch / 12.8inch
FRONT CAMERA	The front camera input will automatically switch after leaving the reverse gear. You can set the display time in seconds via the OSD menu (1-15 sec). It is also possible to select the FRONT camera input manually
OEM REAR CAMERA	The interface does switchback automatically to the OEM rear camera input when the reverse gear is engaged when the grey reverse wire is connected
GUIDELINES	iPAS & Static lines are available via the interface OSD menu
iPAS	iPAS option is available (moveable grid lines)
PIP	PiP option is not available for original parking sensor overlay (Picture in Picture)
REAR SELECT CAMERA INPUT	When interface won't respond on reverse CAN, please use the 12V reverse detection wire (grey wire)
INSTALLATION	We recommend that the installation will be performed by a qualified specialist
NOTE	

5: WIRE DIAGRAM

5.1 Pin connection vehicle

SIGNAL	COLOR WIRE	POSITION CAR
Ignition 12V or 24V		Fuse box

SIGNAL	COLOR WIRE	POSITION CAR – 26 pins connector
CAN-HIGH	Purple/white or White/yellow	Back of radio – pin 7
CAN-LOW	Purple or Yellow	Back of radio – pin 20
Ground	Brown	Back of radio - pin 1







5.2 Pin connection interface

Power cable

Color/pin	Label	Function
1	B+	Permanent power (fuse 3A)
2	GND	Ground
3	GEAR-H	CAN-HIGH - GEAR
4	GEAR-L	CAN-LOW – GEAR
5	JOG-H	CAN-HIGH – JOG
6	JOG-L	CAN-LOW – JOG
7	X	No function
8	X	No function
9	X	No function
10	ACC	ACC detection wire



AV cable (HAVCAB0073 K)

Color	Label	Function
	REAR	+12V REAR trigger wire
	FRONT	+12V FRONT trigger wire
	LEFT	+12V LEFT trigger wire
	RIGHT	+12V RIGHT trigger wire
	LR-PWR	+12V output when Left or Right camera is selected
	LR-PWR	+12V output when Left or Right camera is selected
	RF-PWR	+12V / +24V output when Rear or Front camera is selected
	RF-PWR	+12V / +24V output when Rear or Front camera is selected
	RCAM	Reverse camera input
	LEFT-CAM	Left camera input
	RGT-CAM	Right camera input
	F-CAM	Front camera input

5.3 Dipswitches

Dipswitch **UP**: OFF
 Dipswitch **DOWN**: ON

DIPSWITCH S/W (8)

Nr	Function	Selection
1	X	OFF
2	X	OFF
3	X	OFF
4	X	OFF
5	MONITOR	OFF = 10.2inch (B-class & Sprinter) ON = 12.8inch (C-class W206 & S-class W223)
6	FRONT CAM - SKIP	OFF = FRONT CAM input activated ON = Skip FRONT CAM input
7	REAR INPUT	OFF = Skip REAR CAM input ON = REAR CAM input activated
8	X	OFF
9	OEM TOUCH SCREEN	OFF = Touch screen bypass (not using touch function)
10	X	OFF



* Interface must be powerless, when changing the dipswitches.

5.4 LED

Check the status LED on the interface:

Led color	Description
	interface receive power via power connector
	Interface receive a video signal on the selected input


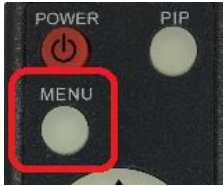


5.5 Remote

Connect the IR wire with the interface box input "KEY/IR":

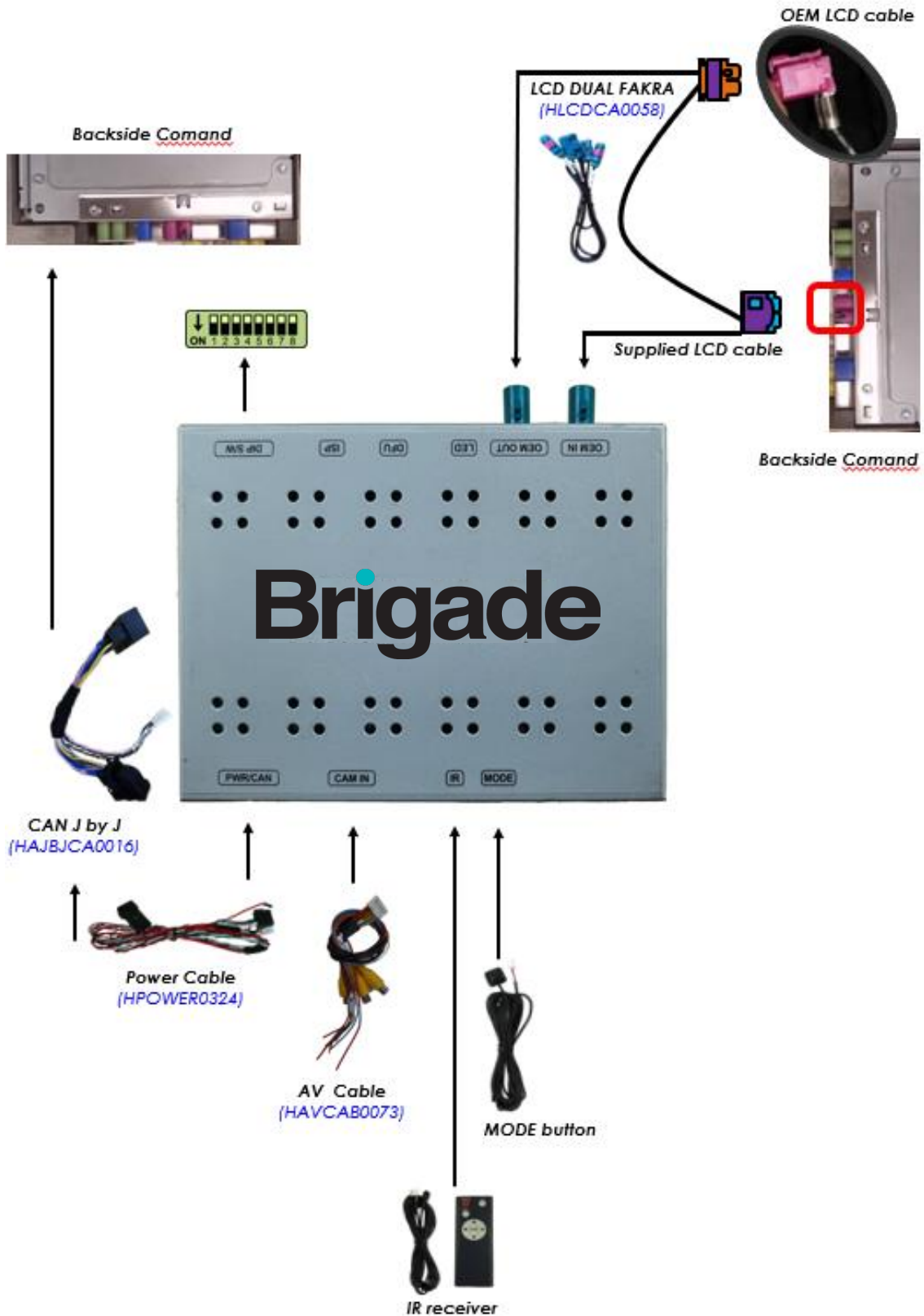
(always install IR wire so you can always service/reset the interface)

POWER	<ul style="list-style-type: none"> No function
PIP	<ul style="list-style-type: none"> Split screen function
MENU	<ul style="list-style-type: none"> Enter OSD menu Return to previous menu
UP	<ul style="list-style-type: none"> Move down from the menu Decrease the selected item value
DOWN	<ul style="list-style-type: none"> Move down from the menu Decrease the selected item value
LEFT	<ul style="list-style-type: none"> SHORT: Move left in the menu LONG: Entering OSD FACTORY MENU
RIGHT	<ul style="list-style-type: none"> SHORT: Move right in the menu LONG: Interface RESET
OK	<ul style="list-style-type: none"> Select the currently active item When OSD menu is OFF: mode change



Interface Reset	Press and hold arrow right button for 5 seconds	
Entering OSD menu	Press MENU button when interface is activated	
OSD: Factory mode:	Press and hold arrow left button for 5 seconds	
PIP	Select the rear camera mode and press and hold the remote PIP button to activate/deactivate the splitscreen function. OPTION 1 OPTION 2 OPTION 3 OPTION 4	

5.6 Overview



6: INSTALLATION

6.1 De-installation

Attention; do not install the interface when the ignition is ON.

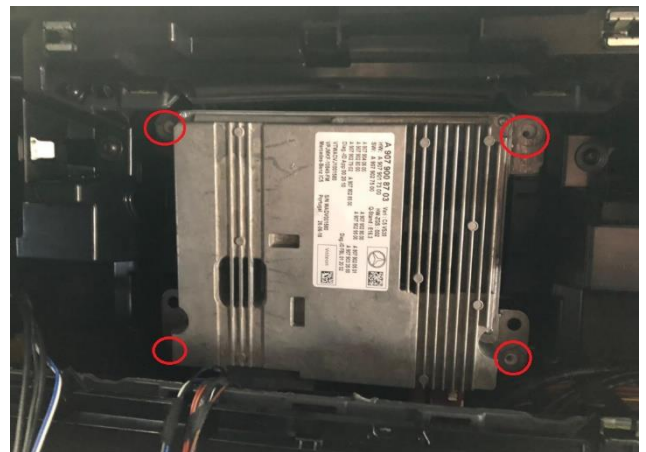
(Based on Sprinter)

1: Remove the two air intakes from Mercedes with the special Mercedes tool.



2: After removing the two air intakes, you see two torx screws. Remove the two torx screws.

3: Remove the plastic screen covers. This cover is clicked. The screen is mounted on the plastic cover.

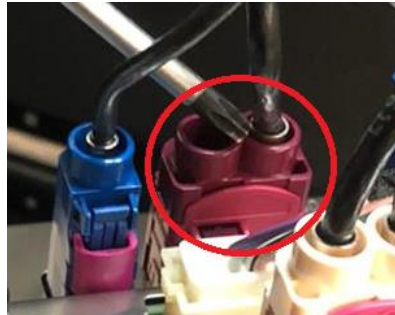


4: Remove the cluster instrument with the Mercedes tool (*location of the interface will be behind the cluster instrument*).

6.2 LCD connector

1: Remove the original LCD cable (**pink or green**) from the original MBUX head-unit.

Pink LCD cable



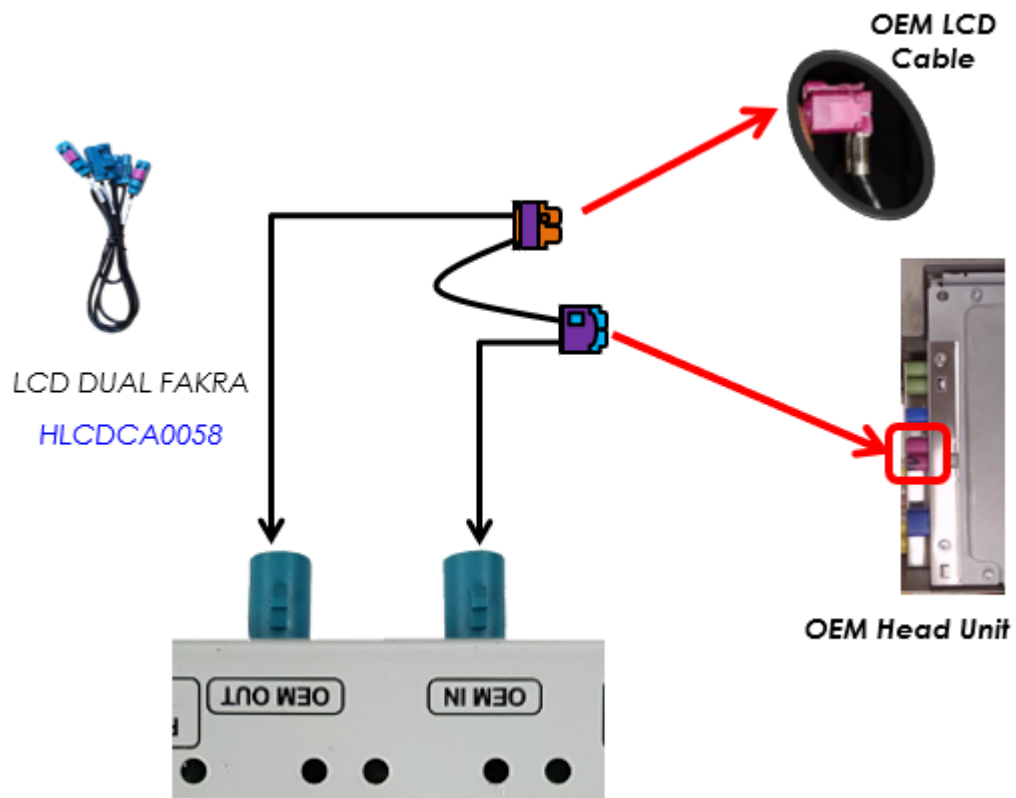
Green LCD cable



2: Connect the original LVDS cable with the interface Y-cable and the other side with the MBUX head-unit.

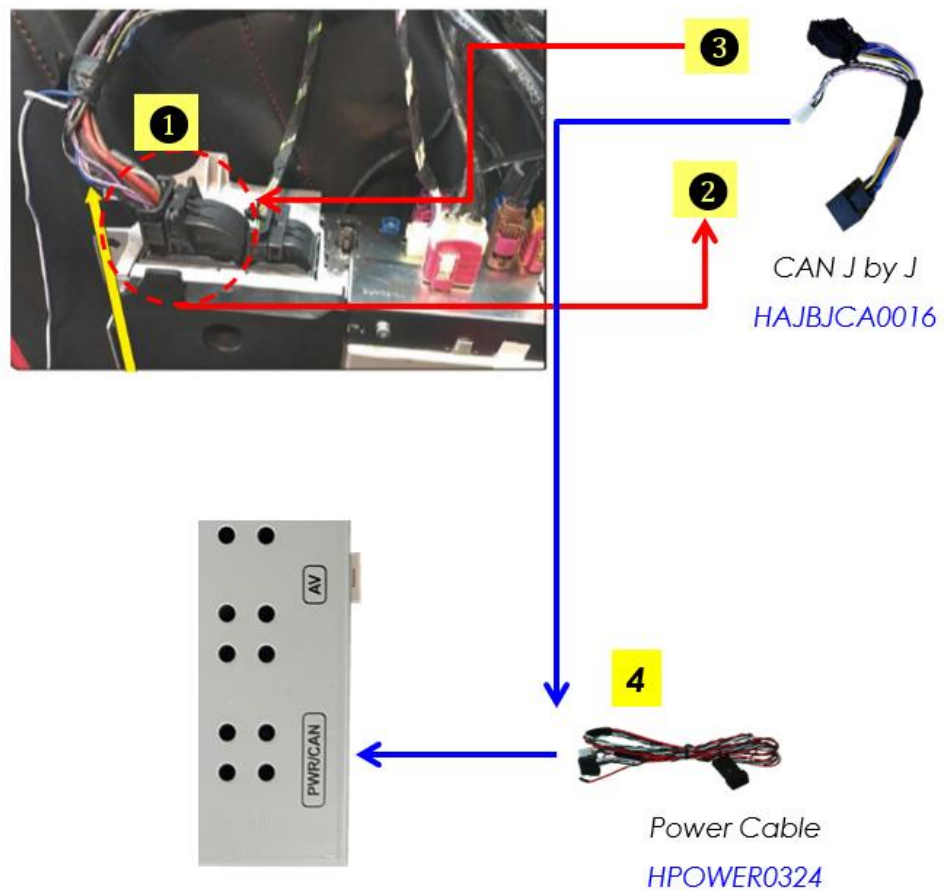
3: Connect the Y-cable single fakra (**which is connected with OEM LCD cable**) with "LVDS OUT"

4: Connect the Y-cable single fakra (**which is connected with MBUX head-unit**) with "LVDS IN"



6.3 Power cable

- 1: Disconnect the OEM power cable from the backside of the head-unit
- 2: Connect the OEM cable to the supplied interface JbyJ cable (HAJBJCA0016).
- 3: Connect the supplied male jbyj cable (HAJBJCA0016) to the backside of the head-unit.
- 4: Connect supplied JbyJ cable (HAJBJCA0016) to the supplied power cable (HPOWER0324) and the other end with the interface input "POWER/CAN".



6.4 Rear camera

Take the following steps when connecting an aftermarket rear camera:



1: Connect the rear camera RCA plug with the interface RCA plug on the multi cable "R-CAM" (HAVCAB0073 K).

2: Put dipswitch **7** in the **ON** position (DOWN).

REAR DET (grey wire)

When the interface does not respond on reverse CAN-BUS (happens with manual gear box), connect the grey "Rear Detection" wire:

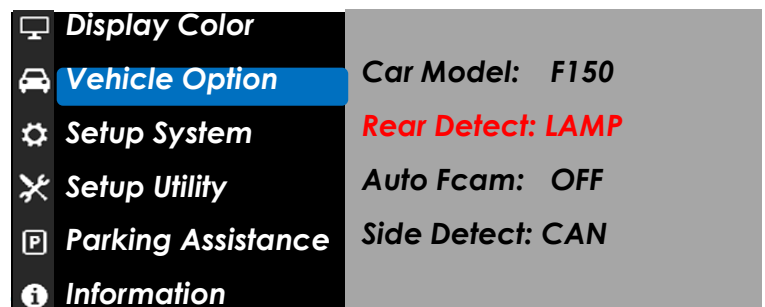
1: Connect grey wire (REAR DET) with +12V reverse signal.

Color	Label	Function
	REAR DETECT	+12V / +24V REAR trigger wire

2: Change the REAR SELECT option in the OSD menu to LAMP.

- Put dipswitch **6** in **OFF** position (*to activate front camera input*)
- Press the **OK** button (interface switch to front camera input)
- Press and hold the remote **arrow left** button (*to activate factory OSD mode*)
- Go to "**VEHICLE OPTION**"
- Go to "**REAR DETECT**"
- Select "**LAMP**"
- Press **OK** button (save setting)
- Press **2x MENU** button (to leave OSD menu)
- Press **OK** button to go back to the OEM screen

Press & Hold
Arrow left button



Power output wire

When the rear camera input is selected, below wire send out a 12/24V signal.

Color	Label	Function
	RF-PWR	+12V / +24V output when Rear or Front camera is selected

6.5 Front camera

Do the following steps when installing front camera



1: Connect the camera RCA plug with the interface RCA plug on the multi cable "F-CAM" (HAVCAB0073 K).

2: Put dipswitch **6** in the **OFF** position (UP).

3: It is possible to adjust the time delay of the front camera via the OSD menu:

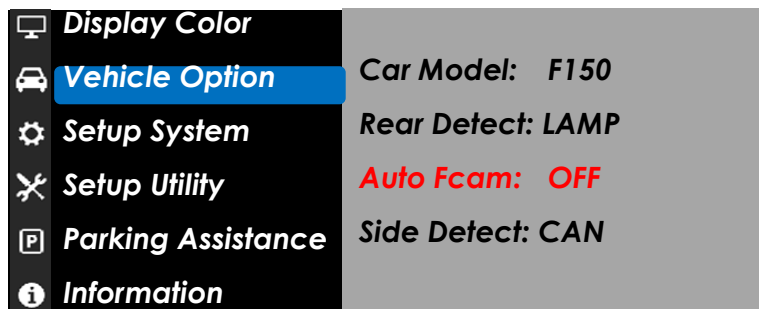
Select the Time delay via the OSD menu:

- Put dipswitch **6** in **OFF** position (to activate front camera input)
- Press the **OK** button (to activate front camera input)
- Press and hold **arrow left** button (to activate factory OSD mode)
- Go to "**VEHICLE OPTION**"
- Select "**AUTO F-CAM**"
- Select the time delay you want.

Press & Hold
Arrow left button



- OFF
 - 3sec
 - 5sec
 - 10sec
 - 15sec
- Press **OK** button (save setting)
 - Press **2x MENU** button (to leave OSD menu)
 - Press **OK** button to go back to the OEM screen



F DET (blue wire)

It is also possible to trigger the FRONT camera input via the F-DET wire.

Color	Label	Function
	FRONT	+12V / +24V FRONT trigger wire

Power output wire

When the rear camera input is selected, below wire send out a 12/24V signal.

Color	Label	Function
	RF-PWR	+12V / +24V output when Rear or Front camera is selected

6.6 Left and Right camera

Do the following steps when installing left camera

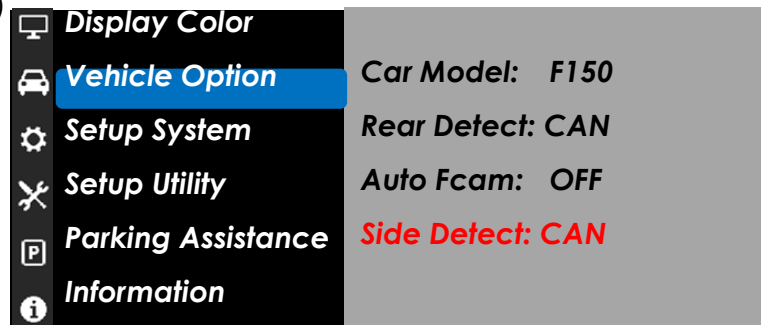


1: Connect the camera RCA plug with the interface RCA plug on the multi cable "LET-CAM" and/or RGT-CAM (HAVCAB0073 K).

2: Select the OSD setting:

- a) Put dipswitch **6** in **OFF** position (to activate front camera input)
- b) Press the **OK button** (to activate front camera input)
- c) Press and hold **arrow left** button (to activate factory OSD mode)
- d) Go to "**VEHICLE OPTION**"
- e) Select: **SIDE DETECT**:
 - a. OFF: Left/Right camera input deactivated
 - b. CAN: detection by CAN (blinker L/R)
 - c. LAMP: detection by wire (white/orange)
- f) Press **OK button** (save setting)
- g) Press **2x MENU button** (to leave OSD menu)
- h) Press **OK button** to go back to the OEM screen

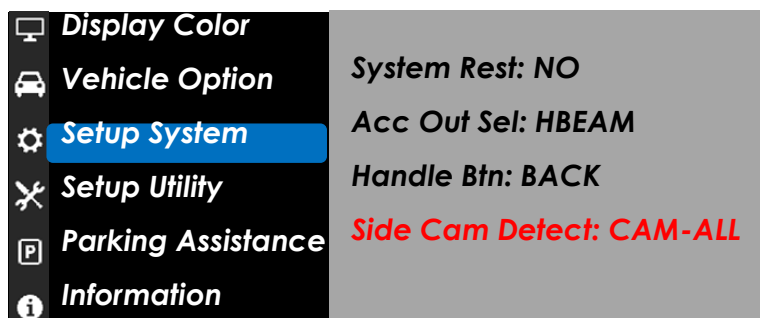
Press & Hold
Arrow left button



3: Select the OSD setting:

- a) Put dipswitch **6** in **OFF** position (to activate front camera input)
- b) Press the **OK button** (to activate front camera input)
- c) Press and hold **arrow left** button (to activate factory OSD mode)
- d) Go to "**VEHICLE OPTION**"
- e) Select: **SIDE CAM DETECT**:
 - a. LEFT: Left input activated
 - b. RIGHT: Right input activated
 - c. CAM ALL: Left & Right input activated
 - d. OFF: Left & Right input deactivated
- f) Press **OK button** (save setting)
- g) Press **2x MENU button** (to leave OSD menu)
- h) Press **OK button** to go back to the OEM screen

Press & Hold
Arrow left button



3: Interface switch by CAN or you can connect the LEFT or RIGHT indicator wire*.

Color	Label	Function
	LEFT	+12V / +24V LEFT trigger wire

Color	Label	Function
	RIGHT	+12V / +24V LEFT trigger wire

*Make sure the SIDE FUNC setting is: CAM (L) or CAM (R) or ALL

Power output wire

When the left camera input is selected, below wire send out a 12/24V signal.

Color	Label	Function
	RF-PWR	+12V / +24V output when Rear or Front camera is selected

7: ACTIVATION

7.1 Activation Video-interface:

There are different ways to activate the interface.

MODE BUTTON

Press switch to toggle between different inputs.



REMOTE

Press "OK" button to toggle between different inputs.

OEM BUTTON



Section	Button	Operation	Function
NTG7	PARK	Long Press	Back to OEM parking sensors




Section	Button	Operation	Function
NTG7	MUTE button	Long Press	Mode switch
	MUTE button	Short Press	Back to OEM

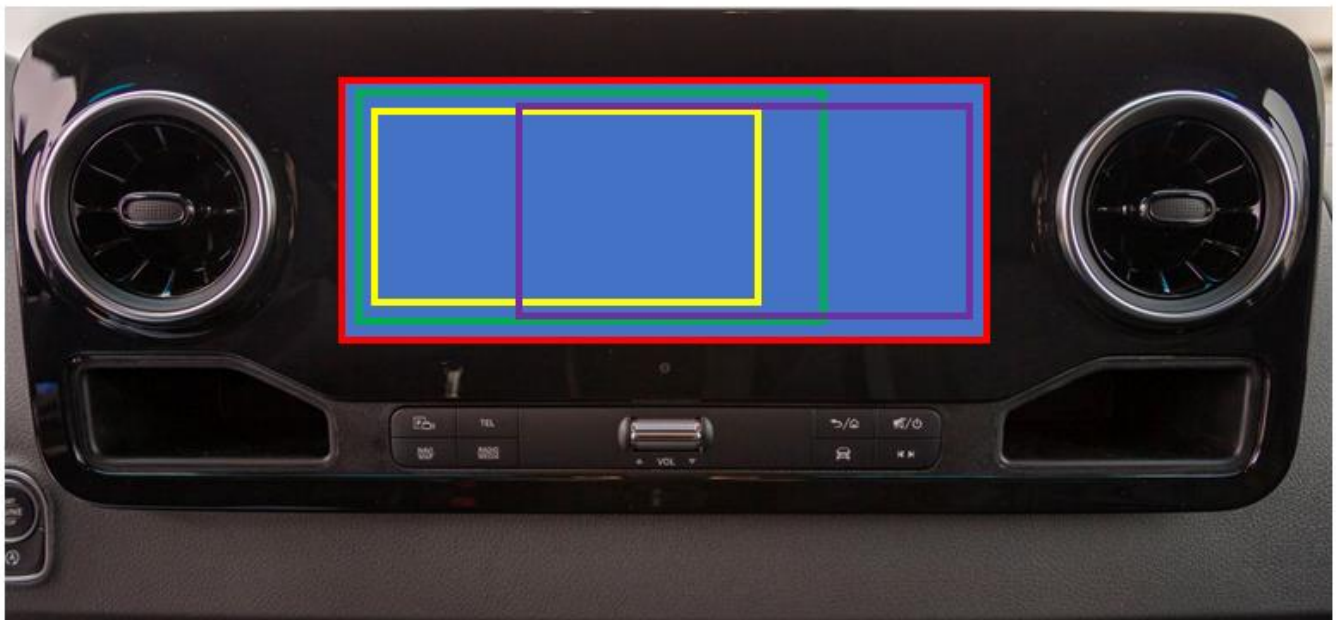


Section	Button	Operation	Function
NTG7	BACK button	Long Press	Mode switch
	BACK button	Short Press	Back to OEM
	HOME button	Short Press	Back to OEM

7.2 Picture in Picture

Use the PiP function on the remote control to change the camera picture.

<p>PIP</p>	<p>Select the rear camera mode and press and hold the remote PIP button to activate/deactivate the splitscreen function.</p> <p style="text-align: center;"> OPTION 1 OPTION 2 OPTION 3 OPTION 4 </p>	
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	OSD MENU	SETTING	Function
NTG7 PIP	PIP	OPTION 1	<u>Splitscreen</u> LEFT type 1 (green)
	PIP	OPTION 2	<u>Splitscreen</u> LEFT type 2 (yellow)
	PIP	OPTION 3	Full screen camera (red)
	PIP	OPTION 4	Split screen RIGHT type 1 (purple)

8: OSD SETTINGS

8.1 FACTORY-MODE

Press and hold arrow left button to activate OSD menu.

The interface OSD menu has the following chapters:

- DISPLAY COLOR Menu
- VERHICLE OPTION Menu
- SETUP SYSTEM Menu
- PARKING ASSISTANCE Menu
- INFORMATION menu

**Press & Hold
Arrow left button**



DISPLAY COLOR

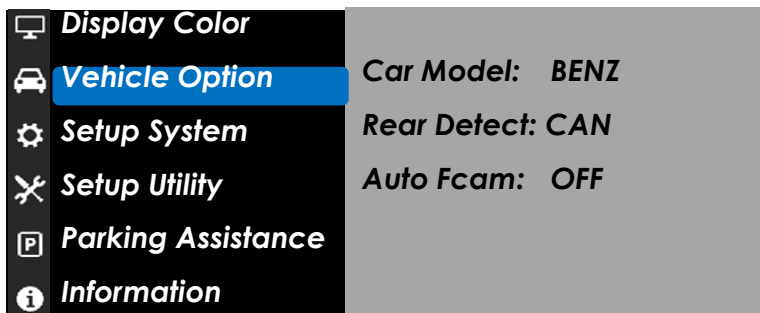
 Display Color	
 Vehicle Option	Brightness: 40
 Setup System	Contrast: 43
 Setup Utility	Saturation: 45
 Parking Assistance	
 Information	

BRIGHTNESS: setting for brightness level
0 - 100 (DEFAULT 40)

CONTRAST: settings for contrast level
0 - 100 (DEFAULT 40)

SATURATION: settings for saturation level
0 - 100 (DEFAULT 40)

VEHICLE OPTION



CAR MODEL : select the right car model for CAN communication
BENZ

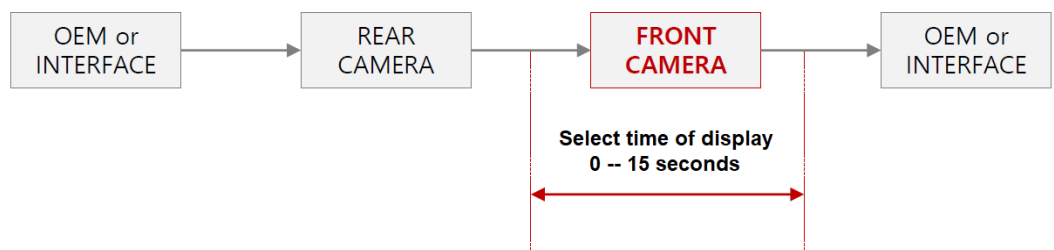
REAR DETECT : detection rear camera input

LAMP: detecting the rear view camera via "Grey Rear" wire
(Installer must connect "Rear-C" cable of the power cable to the rear lamp of the car.)







CAN: detecting the rear view camera by CAN signal
(Installer must connect "CAN" cable of the power cable to the "CAN" cable of the car.)

AUTO FCAM: Time delay setting for activation the front camera after leaving the reverse gear.

OFF
3sec
5sec
10sec
15sec



SETUP SYSTEM

 Display Color	
 Vehicle Option	<i>System Rest: NO</i>
 Setup System	<i>Side Cam Detect: CAM-ALL</i>
 Setup Utility	
 Parking Assistance	
 Information	

SYSTEM REST : put back factory settings

YES: reset will be activated

NO: no reset

SIDE CAM DETECT: Activation side camera input







LEFT: Left camera input activated

RIGHT: Right camera input activated

CAM ALL: Left & Right camera input activated

OFF: Left & Right camera input deactivated

SETUP UTILITY

 Display Color	Fcam Format: NTSC
 Vehicle Option	Rcam Format: NTSC
 Setup System	Auto Detect: ON
 Setup Utility	Left cam Format: NTSC
 Parking Assistance	Right cam Format: NTSC
 Information	

FCAM FORMAT : front camera format setting (AUTO DETECT must be OFF)

1080P25: AHD 1080P 25 frames

720P30: AHD 720P 30 frames

NTSC: CVBS NTSC

PAL: CVBS PAL

RCAM FORMAT : rear camera format setting (AUTO DETECT must be OFF)

1080P25: AHD 1080P 25 frames

720P30: AHD 720P 30 frames

NTSC: CVBS NTSC

PAL: CVBS PAL

AUTO DETECT : auto camera signal selection.

ON: auto selection camera signal

OFF: manual selection camera signal

LEFT CAM FORMAT :left camera format setting (AUTO DETECT must be OFF)

1080P25: AHD 1080P 25 frames

720P30: AHD 720P 30 frames

NTSC: CVBS NTSC

PAL: CVBS PAL

RIGHT CAM FORMAT :left camera format setting (AUTO DETECT must be OFF)







1080P25: AHD 1080P 25 frames

720P30: AHD 720P 30 frames

NTSC: CVBS NTSC

PAL: CVBS PAL

PARKING ASSISTANCE

 Display Color	
 Vehicle Option	<i>Guide H-Offset : 20</i>
 Setup System	<i>Guide V-Offset : 20</i>
 Setup Utility	<i>Guide Display : NONE</i>
 Parking Assistance	<i>Guide Option : WIDE2</i>
 Information	







GUIDE H-OFFSET: adjusting the horizontal guide lines (left/right)
1 - 40 (DEFAULT = 20)

GUIDE V-OFFSET: adjusting the vertical guide lines (up/down)
1 - 40 (DEFAULT = 20)

GUIDE DISPLAY: select your IPAS view
NONE: no parking lines
PAS ON: selecting Dynamic parking guide lines
PAS OFF: Static park lines activated

GUIDE OPTION: option for 3 different Guide line widths
WIDE1
WIDE2
WIDE3

INFO

 Display Color	
 Vehicle Option	
 Setup System	<i>H/W Version : A0</i>
 Setup Utility	<i>S/W Version : 230707</i>
 Parking Assistance	
 Information	

H/W VERSION: hardware version of the interface
S/W VERSION: software version of the interface

9: WARRANTY

The product is designed for automotive use and his environment. The warranty of the product is one year.

No warranty:

- not break the labels attached on the board.
- Damaged of the interface
- Own reparations
- Modified cables

10: TECHNICAL DATA

Head-unit	NTG7 10.2" & 12.8"
Rear camera input	Yes
Front camera input	Yes
RGB input	No
LVDS input	No
HDMI input	No
AV input	No
AV output	No
Activation	OEM & Trigger
Open head-uni	No
CVBS signal	PAL/NTSC (CVBS & AHD)
Guidelines	Yes
iDrv	No
PiP	No
iPAS	Yes
Rear select	Lamp & CAN
Touch support	No
Coding needed	No
Voltage supply:	12V DC
Voltage-operating capacity:	10,5 – 40V
Standby current:	>1 mA
Operating current:	60mA
Power input:	0,72 W
Weight:	750g
Dimensions W x H x D:	90 x 20 x 140 mm
CE mark:	Yes

