v.LOGiC Intelligent Solution

Interface

V6-NTG6-SP2

Compatible with MBUX systems (31pin version plug&play installation) in Mercedes Sprinter vehicles

Product features

- Interactive lane lines with calibration function
- Own on-screen display and setup
- Rear-view camera input
- Automatic switching to rear-view camera input on engagement of reverse gear from all operation modes
- Front camera input
- Side camera inputs
- Side- or front camera activation via blinker signal
- Manual switching to cameras
- 2 trigger outputs (+12V max. 1A), separately adjustable switching events (CAN, ACC, camera, reverse gear)
- Compatible with all factory video accessories
- USB update-port for software-updates by consumer
- Plug&Play installation for MBUX systems with 31pin socket

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Legal Information

By law, watching moving pictures while driving is prohibited, the driver must not be distracted. We do not accept any liability for material damage or personal injury resulting, directly or indirectly, from installation or operation of this product. This product should only be used while standing or to display fixed menus or rear-view-camera video when the vehicle is moving, for example the MP3 menu for DVD upgrades.

Changes/updates of the vehicle's software can cause malfunctions of the interface. We offer free software-updates for our interfaces for one year after purchase. To receive a free update, the interface must be sent in at own cost. Labor cost for and other expenses involved with the software-updates will not be refunded.

1. Prior to installation

Read the manual prior to installation. Technical knowledge is necessary for installation. The place of installation must be free of moisture and away from heat sources.

1.1. Delivery contents

Take down the SW-version and HW-version of the interface boxes, and store this manual for support purposes.

Interface-box
V6C-M626-SP
HW_____ SW____

V6C-MBN6-SP2 harness

GMSL cable
CAB-DFF-MF075

V4C-VIDEO harness

1.2. Check compatibility of vehicle and accessories

Requirements

Brand	Compatible vehicles	Compatible systems
Mercedes	Sprinter (W907/910)	NTG6 – MBUX 7” / 10.25” screen

Limitations

Interactive lane lines	Available only for vehicles with 7inch monitor
Plug&Play installation	Available only for MBUX systems with 31pin socket

1.3. Setting the dip switches of the interface-box V6C-M626-SP

Dip switches on the back of the interface-box V6C-M626-SP are used to set the monitor type. The default setting is:

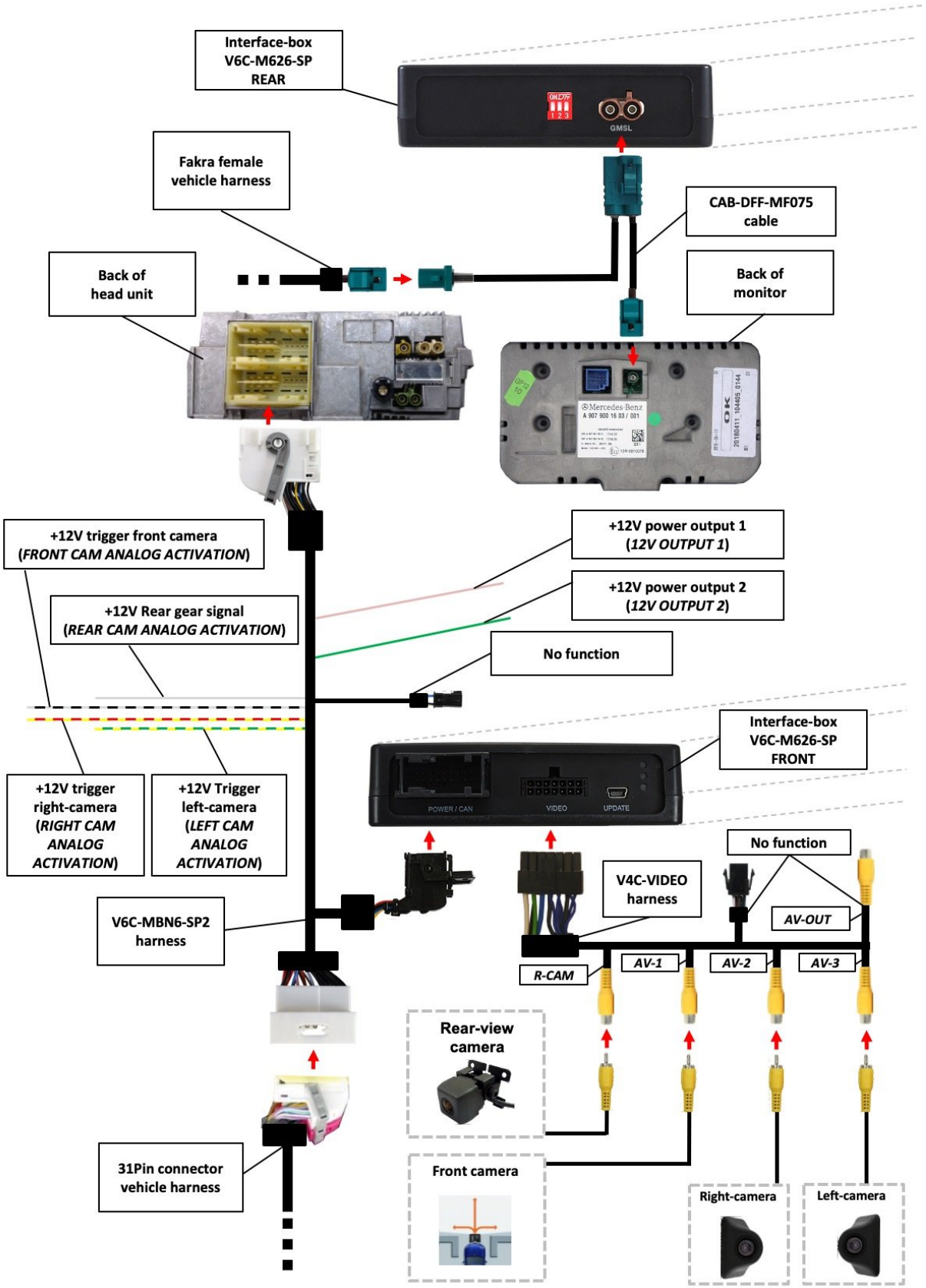
Head unit	Dip 1	Dip 2	Dip 3
7” NTG6 screen	OFF	OFF	OFF
10.25“ NTG6 screen	ON	OFF	OFF

After each change of the dip switch settings you have to execute a power reset of the interface-box!

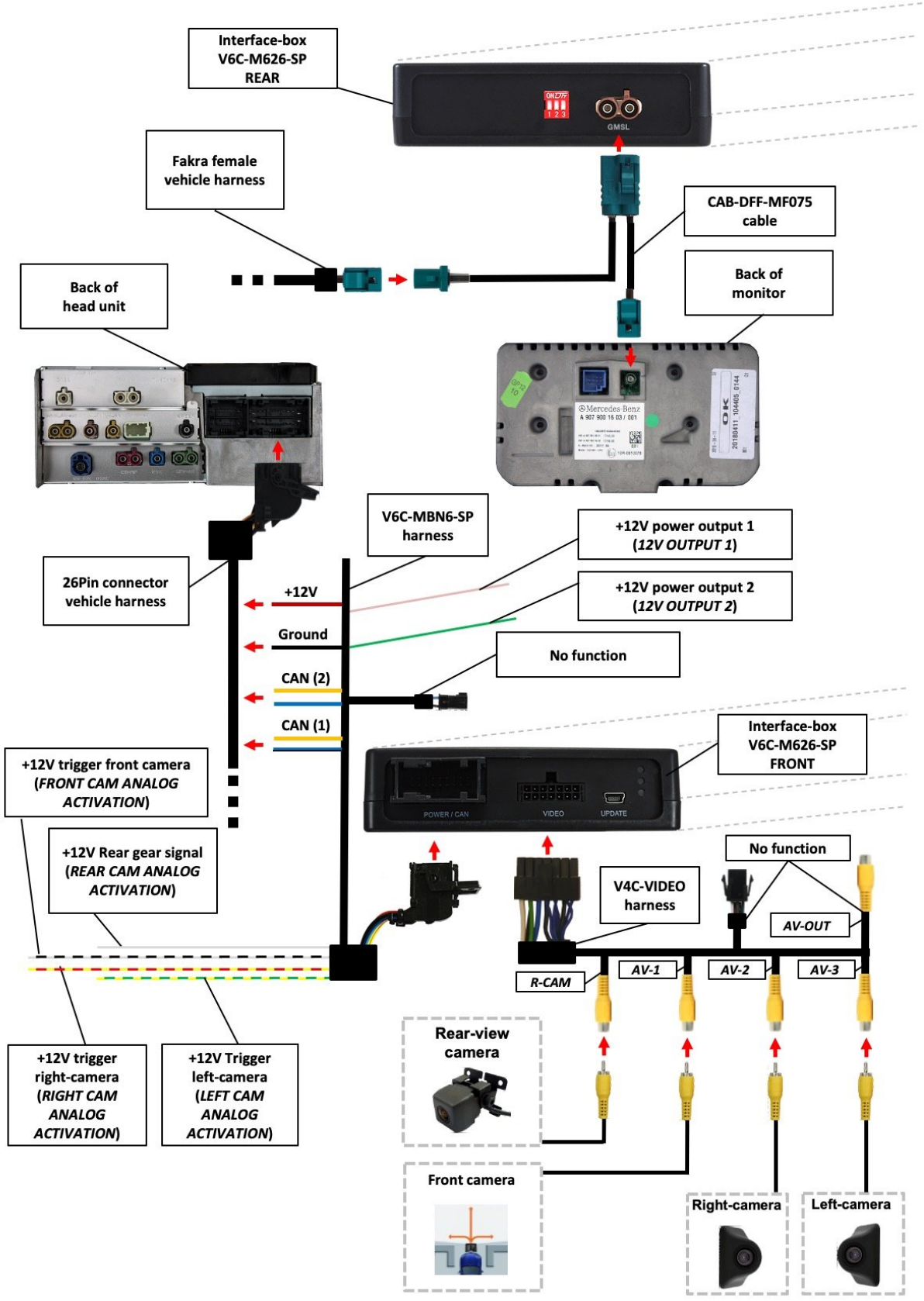
1.4. LED‘s of the interface-box V6C-M626-SP

2. Connection scheme

Version 1 (MBUX systems with 31 pin socket)



Version 2 (MBUX systems with 26 pin socket)

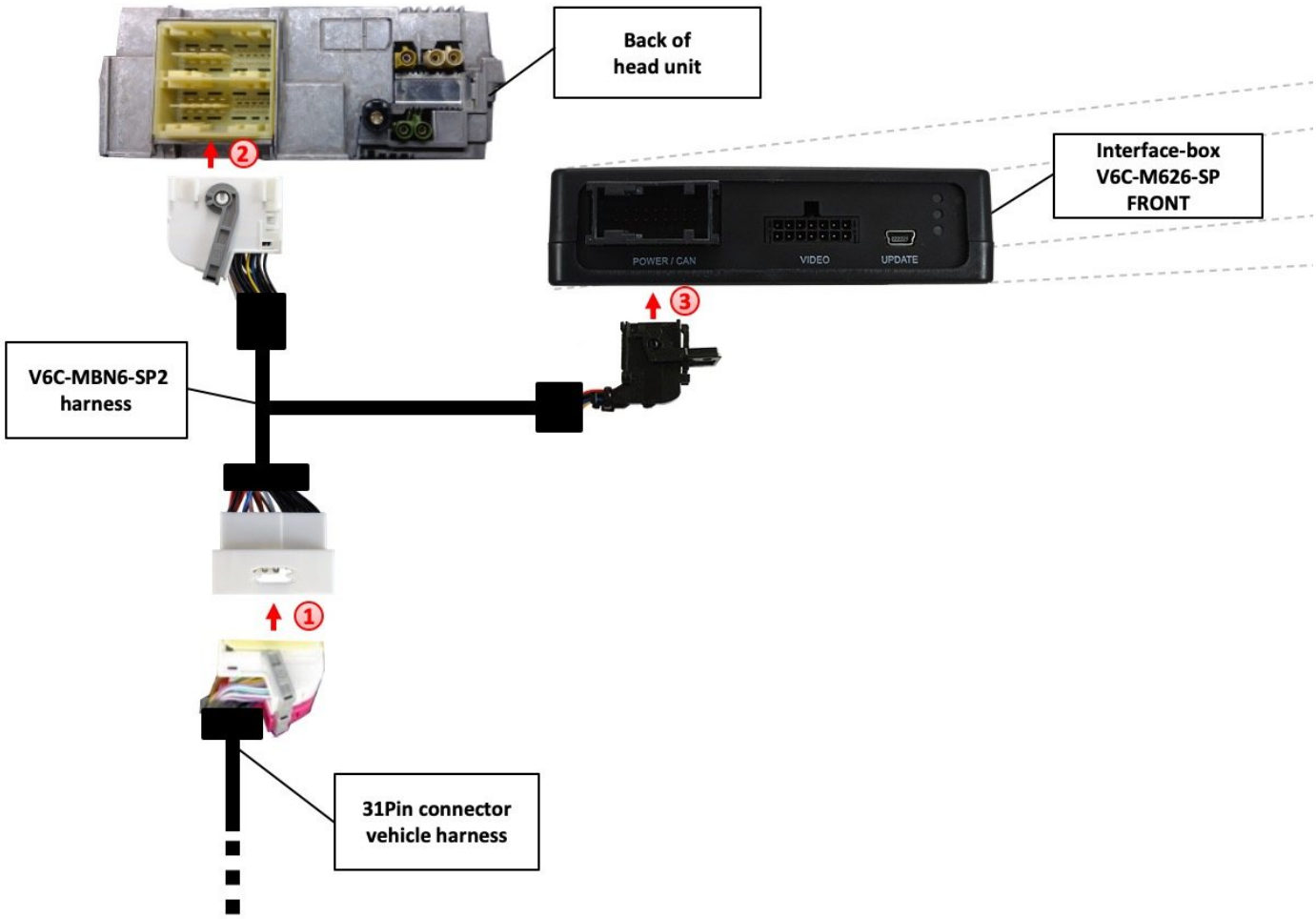


3. Installation

Switch off ignition and disconnect the vehicle's battery! The interface needs a permanent 12V source. If according to factory rules disconnecting the battery is to be avoided, it is usually sufficient to put the vehicle is sleep-mode. In case the sleep-mode does not show success, disconnect the battery with a resistor lead.
If power source is not taken directly from the battery, the connection has to be checked for being start-up proven and permanent.
Prior to wire and device installation we suggest to connect and test correct function of all after-market and factory infotainment equipment!

The interface is installed on the backside of the head unit.

3.1. Connecting interface box and harnesses on MBUX systems with 31 pin socket



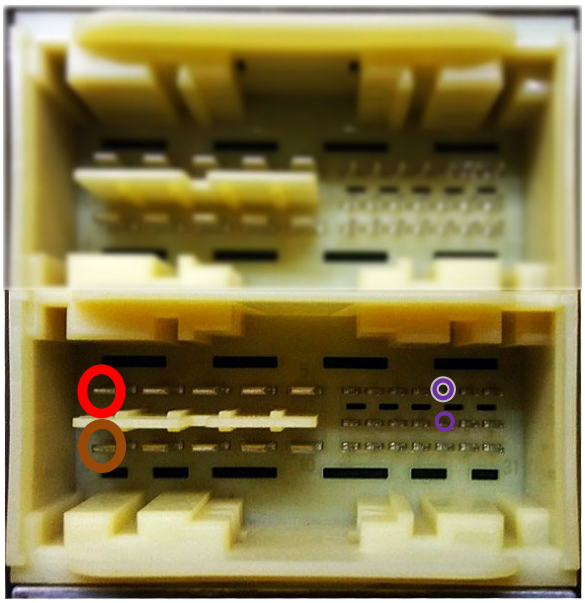
1. Remove the female 31pin connector of the vehicle harness from the rear of the navigation computer and connect it to the male 31pin socket of the V6C-MBN6-SP2 harness.

2. Connect the female 31pin connector of V6C-MBN6-SP2 harness to the male 31pin socket of the navigation computer.

3. Connect female 18pin AMP connector of the harness V6C-MBN6-SP2 to the front site of the V6C-M626-SP interface box.

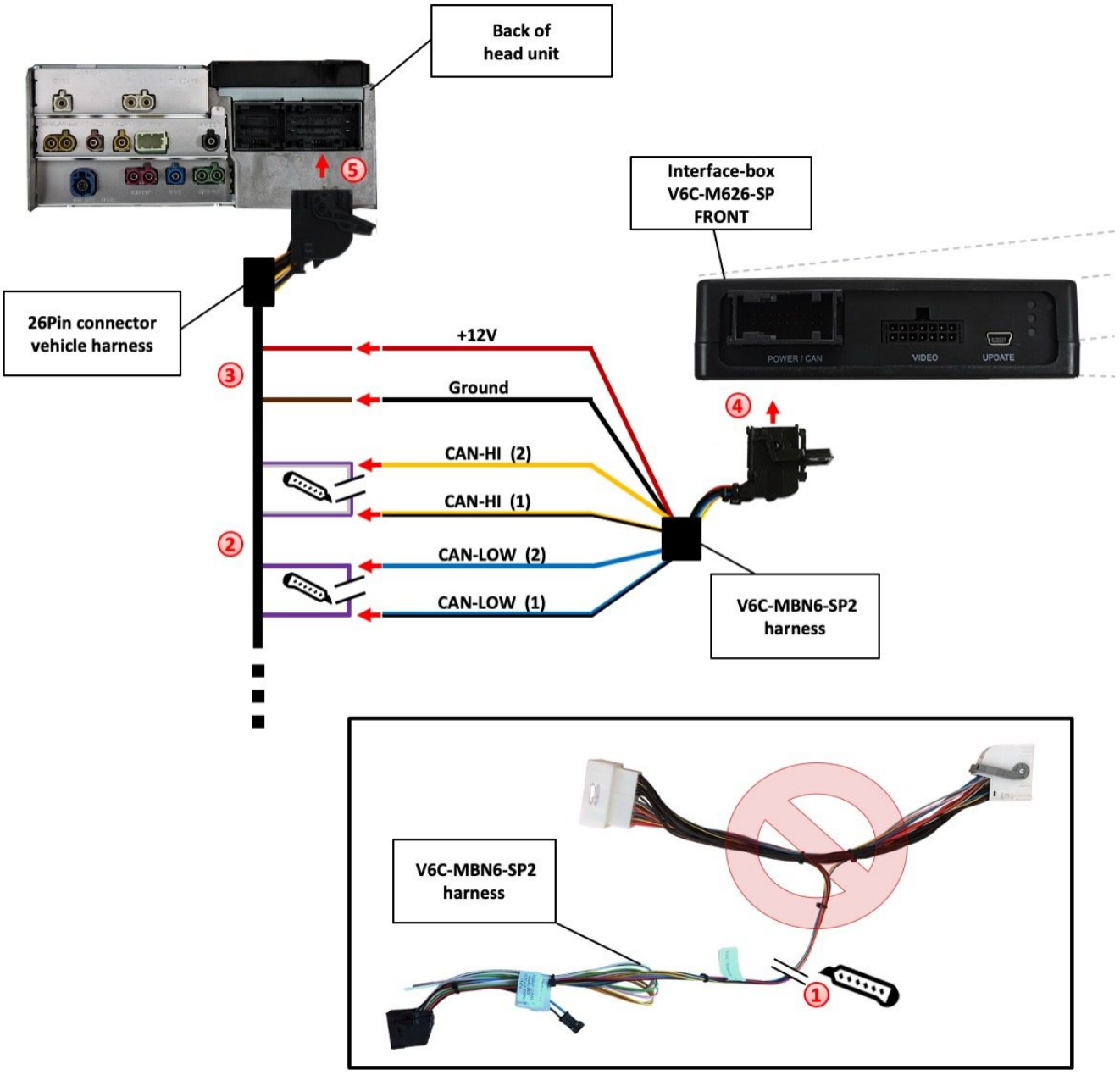
Connection assignment 31pin head unit connector:

Assignment head unit
+12V permanent - Pin 1 (● Red)
Ground - Pin 6 (● Brown)
CAN HIGH - Pin 15 (●● Purple/White)
CAN LOW - Pin 22 (● Purple)



31pin head unit connector

3.2. Connecting interface box and harnesses on MBUX systems with 26 pin socket



1 Cut of the 26pin male and 26pin female plugs from the V6C-MBN6-SP2 harness (these plugs cannot be used in this installation).

2 Cut the CAN bus wires of the vehicle harness and connect them in series according to the assignment (see next page) with the CAN bus wires from the V6C-MBN6-SP2 harness.

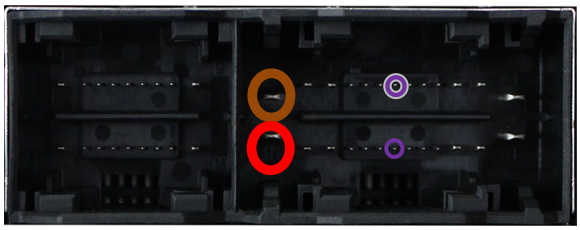
3 Connect red wire with +12V (pin 1) and black wire with ground (pin 6).

4 Connect female 18pin AMP connector of the harness V6C-MBN6-SP2 to the front site of the V6C-M626-SP interface box.

5 Connect the 26pin connector of the vehicle harness on the rear side of the head unit.

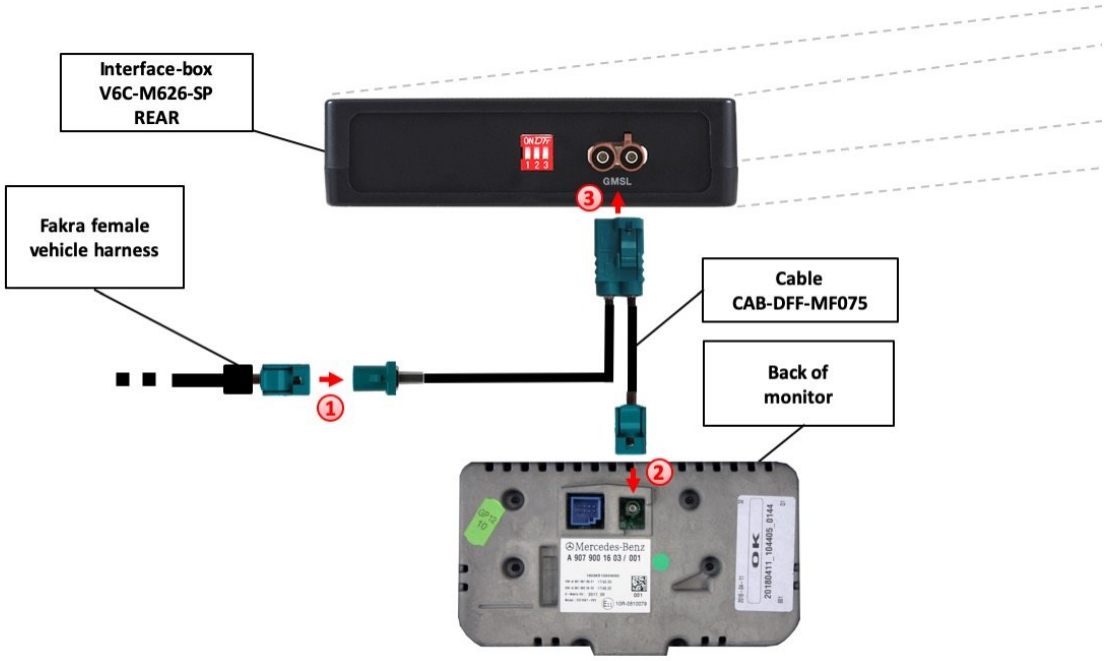
Connection assignment 26pin head unit connector:

Cable colours interface harness	Assignment vehicle/head unit
● Red	+12V permanent - Pin 14 (● Red)
● Black	Ground - Pin 1 (● Brown)
●● Yellow/Black	CAN HIGH - Pin 7 (●● Purple/White) - to the vehicle side
●● Blue/Black	CAN LOW - Pin 20 (● Purple) - to the vehicle side
● Yellow	CAN HIGH - Pin 7 (●● Purple/White) - to the head-unit side
● Blue	CAN LOW - Pin 20 (● Purple) - to the head-unit side



26pin head unit connector

3.3. GMSL connection



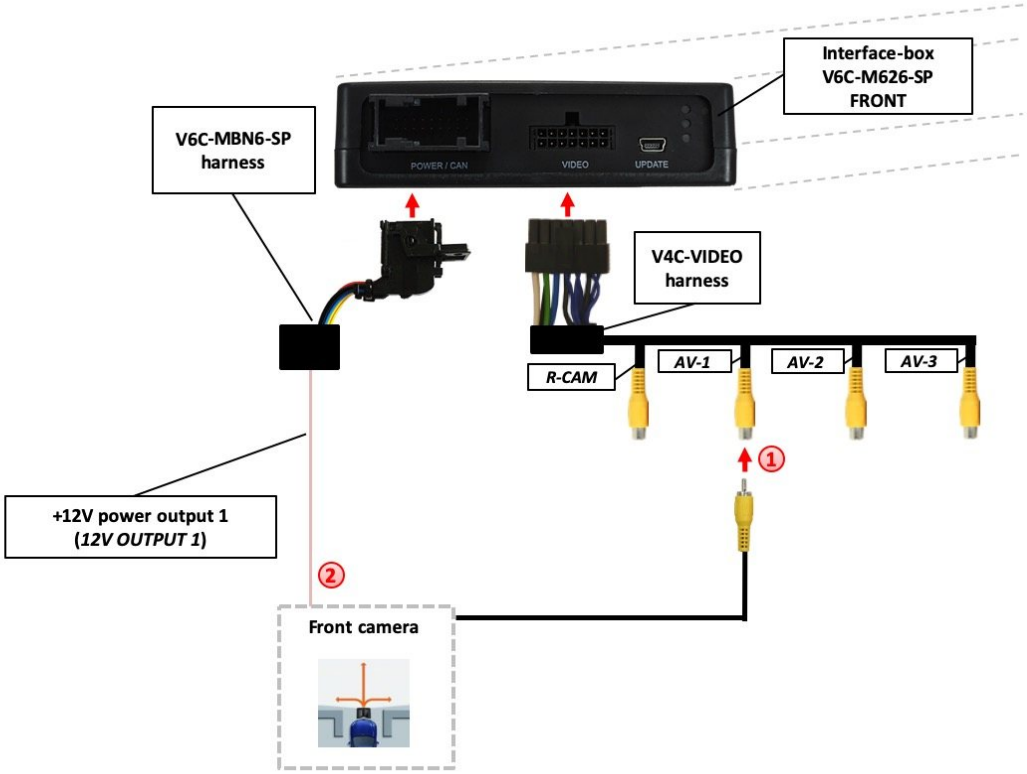
1. Remove the female Fakra GMSL connector of the vehicle harness at the back of the monitor and connect it to the male Fakra socket of the CAB-DFF-MF075 GMSL cable.

2. Connect the female Fakra connector of the GMSL cable CAB-DFF-MF075 to the male Fakra GMSL socket on the rear of the monitor.

3. Connect the double female Fakra connector of the GMSL cable CAB-DFF-MF075 to the double male Fakra socket (GMSL) on the rear of the interface box V6C-M626-SP.

3.3.1. After-market front camera

3.3.1.1. Connection to the after-market front camera



1 Connect the video RCA of the after-market front camera to the female RCA connector “AV-1” of the V4C-VIDEO harness.

2 The pink wire (12V OUTPUT 1) of harness V6C-MBN6-SP2 can be used for +12V electric power supply (max. 1A) of the after-market front camera. Configure in the OSD-menu “Option 1”, menu item “Power Out 1” the setting “CAM” (see also chapter “Configurable switching outputs”).

3.3.1.2. Settings for connecting an after-market front camera

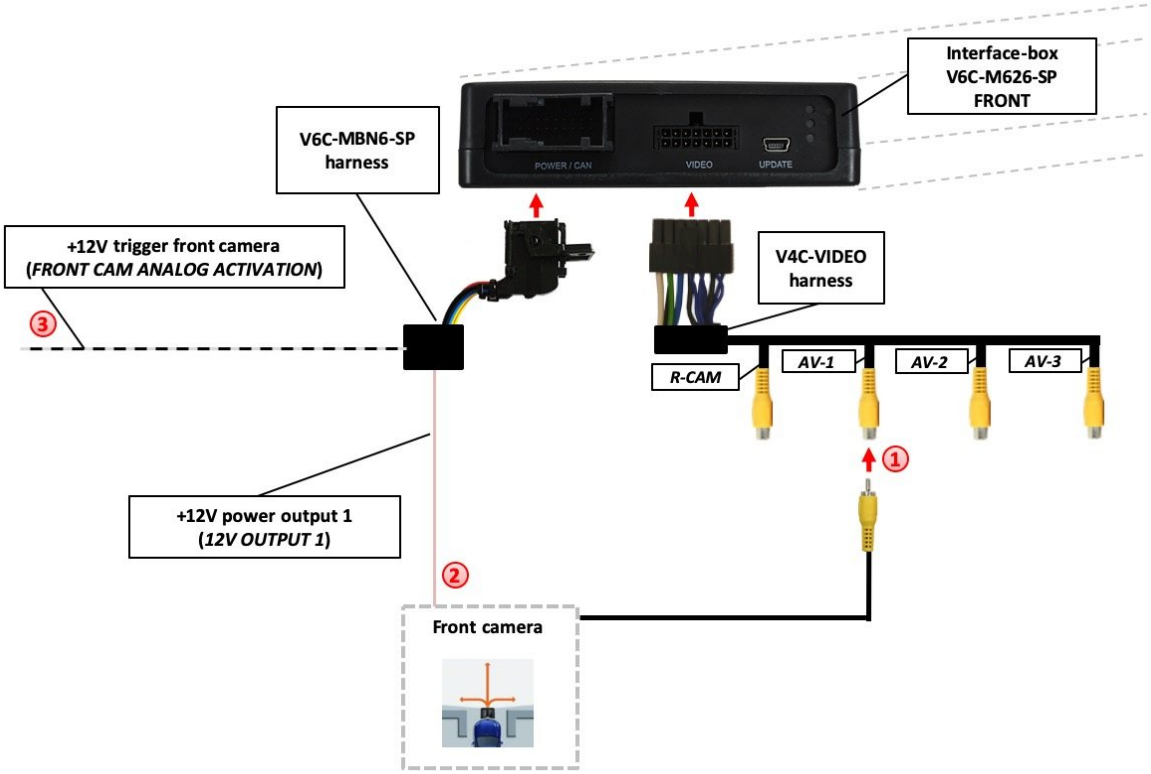
You have to configure some settings in the OSD-menus Inputs, Option 1 and Option 2 if you want to connect an after-market front camera (Operation of the OSD: see chapter “OSD-Operation”).

OSD-menu	Menu item	Setting	Explication
Input	FVC	OFF	Front camera deactivated
		ON	Switches to front camera if parking process is enabled and reverse gear is released
Option 1	Park Logic	RGearOnly	Enabled while parking process (not suitable for front camera operation)
		RGearSpeed	Enabled while parking process and up to e.g. 10km (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 second
Option 2	R/F Cam Till	XX	Speed setting for deactivating of the camera image

Note: You can deactivate the camera image by short pressing the “Back” button on steering wheel (right steering wheel side).

3.3.2. After-market wide view front camera

3.3.2.1. Connection to the after-market wide view front camera



1 Connect the video RCA of the after-market wide view front camera to the female RCA connector “AV-1” of the V4C-VIDEO harness.

2 The pink wire (12V OUTPUT 1) of harness V6C-MBN6-SP2 can be used for +12V electric power supply (max. 1A) of the after-market front camera. Configure in the OSD-menu “Option 1”, menu item “Power Out 1” the setting “CAM” (see also chapter “Configurable switching outputs”).

3 **Exception**: Connect the white/black wire of harness V6C-MBN6-SP2 to the right and left analogue blinker signals (triggered +12V blinker power) and make the menu setting - Option 2 / Cam Trigger - „Analogue“, if the system doesn’t switch to the aftermarket wide view front camera automatically after the described OSD-setup (Option 2 / Cam Trigger - „CAN“, see next chapter).

3.3.2.2. Settings for connecting an after-market wide view front camera

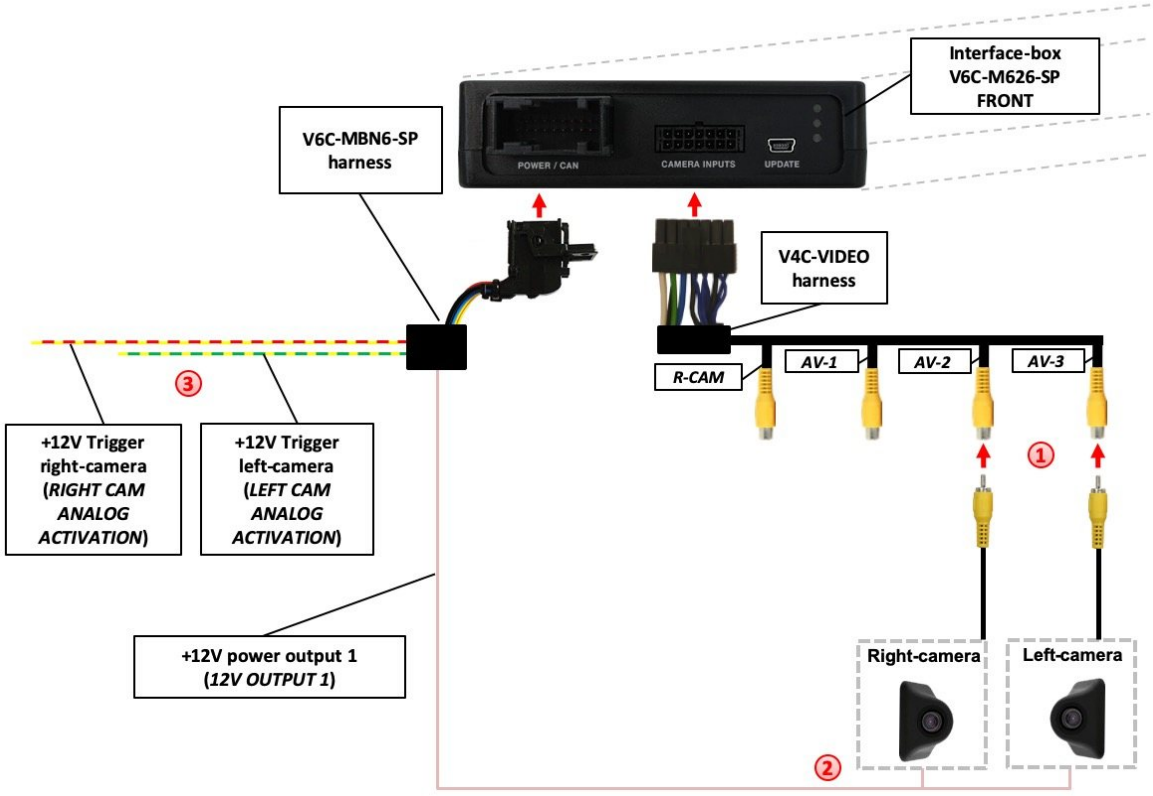
For the use of a wide view front camera, the interface offers not only manual activation, but also activation via the blinker function. Note: via CAN bus blinker signal detection (menu: Option 2 / Cam Trigger - "CAN“), the activation does not take place in "blinker comfort mode" (brief touch of the blinker lever).
You have to configure some settings in the OSD-menus Inputs, Option 1 and Option 2 if you want to connect an after-market front camera (Operation of the OSD: see chapter “OSD-Operation”).

OSD-menu	Menu item	Setting	Explication
Input	FVC	OFF	Front camera deactivated
		ON	Switches to front camera if parking process is enabled and reverse gear is released
Option 1	Park Logic	RGearOnly	Enabled while parking process (not suitable for front camera operation)
		RGearSpeed	Enabled while parking process and up to e.g. 10km (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 second
Option 2	R/F Cam Till	XX	Speed setting for deactivating of the camera image
Option 2	F/S Cam From	XX	Speed range setting for front- and side cameras (minimum)
Option 2	F/S Cam Till	XX	Speed range setting for front- and side cameras (maximum)
Option 2	Blinker Mode	Front Cam	Activation of the front camera image when the blinker is activated
Option 2	Cam Trigger	CAN	Rear gear and blinker signal detection over CAN Bus
		Analogue	Rear gear and blinker signal detection over analogue +12V signals

Notes: You can deactivate the camera image by short pressing the “Back” button on steering wheel (right steering wheel side).
The camera activation via the blinker mode is only available for front camera or for the side view cameras. A parallel use of this function for all cameras is not possible.

3.3.3. After-market side view cameras

3.3.3.1. Connection of the after-market side view cameras



1 Connect the video RCA of the right side view camera to the female RCA connector “AV-2” and the video RCA of the left side view camera to the female RCA connector “AV-3”of the V4C-VIDEO harness.

2 The pink wire (12V OUTPUT 1) of harness V6C-MBN6-SP2 can be used for +12V electric power supply (max. 1A) of the after-market side cameras. Configure in the OSD-menu “Option 1”, menu item “Power Out 1” the setting “CAM” (see also chapter “Configurable switching outputs”).

3 **Exception**: Connect the yellow/red wire to the right analogue blinker signal and the yellow/green wire to the left analogue blinker signal of harness V6C-MBN6-SP2 (triggered +12V blinker power) and make the menu setting - Option 2 / Cam Trigger - „Analogue“, if the system doesn’t switch to the aftermarket side view camera automatically after the described OSD-setup (Option 2 / Cam Trigger - „CAN“, see next chapter).

3.3.3.2. Settings for connecting of after-market side view cameras

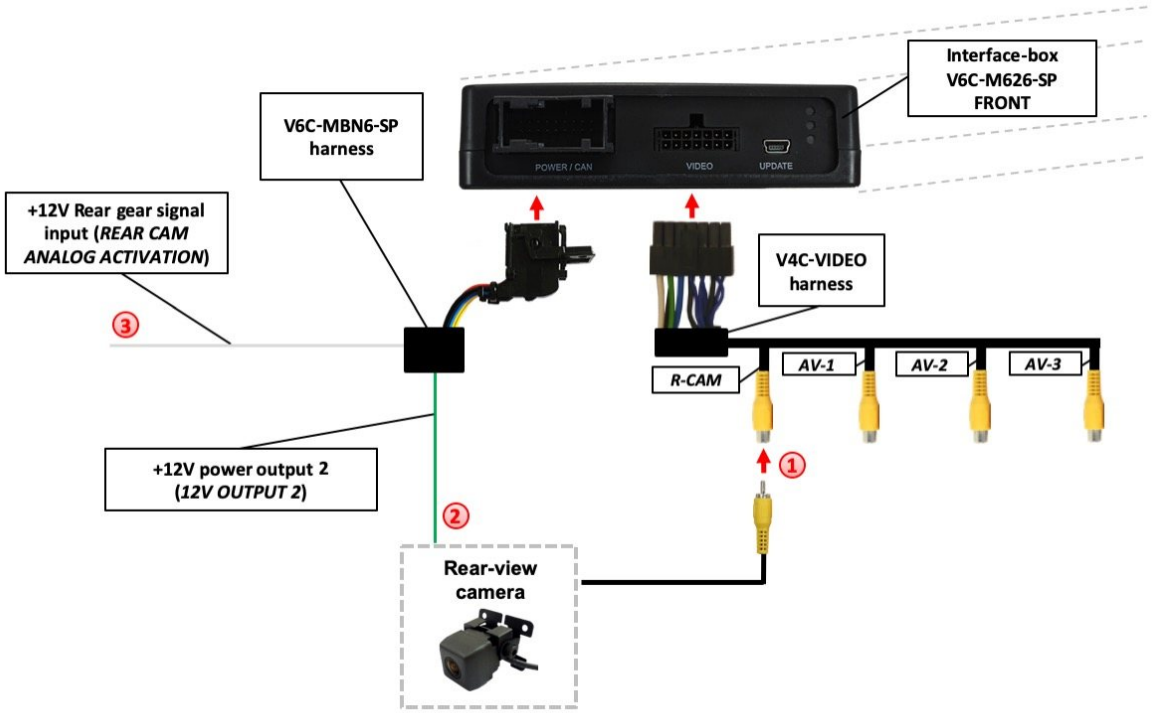
For the use of side view cameras, the interface offers not only manual activation, but also activation via the blinker function. Note: via CAN bus blinker signal detection (menu: Option 2 / Cam Trigger - "CAN“), the activation does not take place in "blinker comfort mode" (brief touch of the blinker lever).
You have to configure some settings in the OSD-menus Inputs, Option 1 and Option 2 if you want to connect an after-market front camera (Operation of the OSD: see chapter “OSD-Operation”).

OSD-menu	Menu item	Setting	Explication
Input	Right VC	ON	Right camera input activated
	Left VC	ON	Left camera input activated
Option 1	Park Logic	RGearOnly	Enabled while parking process (not suitable for front camera operation)
		RGearSpeed	Enabled while parking process and up to e.g. 10km (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 second
Option 2	R/F Cam Till	XX	Speed setting for deactivating of the camera image
Option 2	F/S Cam From	XX	Speed range setting for front- and side cameras (minimum)
Option 2	F/S Cam Till	XX	Speed range setting for front- and side cameras (maximum)
Option 2	Blinker Mode	Side Cam	Activation of the side view cameras image when the blinker is activated
Option 2	Cam Trigger	CAN	Rear gear and blinker signal detection over CAN Bus
		Analogue	Rear gear and blinker signal detection over analogue +12V signals

Notes: You can deactivate the camera image by short pressing the “Back” button on steering wheel (right steering wheel side).
The camera activation via the blinker mode is only available for front camera or for the side view cameras. A parallel use of this function for all cameras is not possible.

3.3.4. After-market rear-view camera

3.3.4.1. Connection to the after-market rear-view camera



1 Connect the video RCA of the after-market rear-view camera to the female RCA connector “R-CAM” of the V4C-VIDEO harness.

2 The green wire (12V OUTPUT 2) of harness V6C-MBN6-SP2 can be used for +12V electric power supply (max. 1A) of the after-market rear-view camera. Configure in the OSD-menu “Option 1”, menu item “Power Out 2” the setting “CAM” (see also chapter “Configurable switching outputs”).

3 **Exception**: Connect the white wire of harness V6C-MBN6-SP2 to analogue rear gear signal (+12V) and make the menu setting - Option 2 / Cam Trigger - „Analogue“, if the system doesn’t switch to the aftermarket rear-view camera automatically after the described OSD-setup (Option 2 / Cam Trigger - „CAN“, see next chapter).

3.3.4.2. Settings for connecting an after-market rear-view camera

You have to configure some settings in the OSD-menus Inputs, Option 1 and Option 2 if you want to connect an after-market rear-view camera (Operation of the OSD: see chapter “OSD-Operation”).

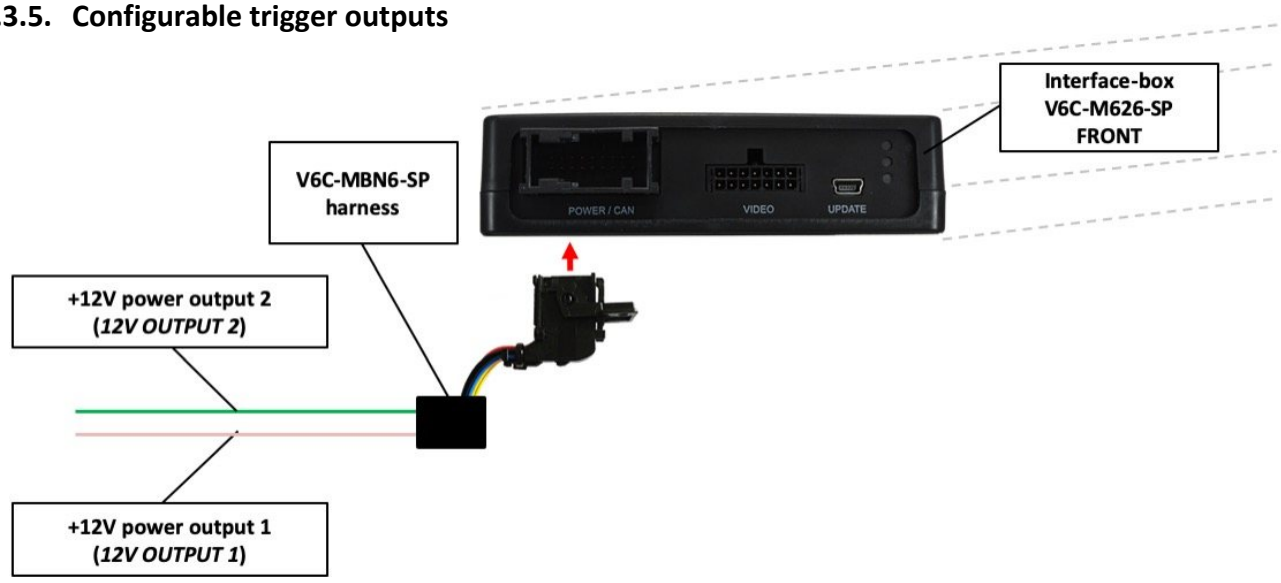
OSD-menu	Menu item	Setting	Explication
Input	RVC	OFF	Rear-view camera deactivated
		ON	Switches to rear-view camera if reverse gear is engaged or PDC is activate
Option 1	Park Logic	RGearOnly	Enabled while parking process (not suitable for front camera operation)
		RGearSpeed	Enabled while parking process and up to e.g. 10km (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 second
Option 1	RVC Lines	ON	Interactive lane lines activated
Option 2	R/F Cam Till	XX	Speed setting for deactivating of the camera image
Option 2	Cam Trigger	CAN	Rear gear and blinker signal detection over CAN Bus
		Analogue	Rear gear and blinker signal detection over analogue +12V signals

Note: You can deactivate the camera image by short pressing the “Back” button on steering wheel (right steering wheel side).

3.3.4.3. Settings for OEM rear-view camera

OSD-menu	Menu item	Setting	Explication
Input	RVC	OEM	If a factory rear-view camera is existing! The interface turns off, if reverse gear is enabled and it displays factory rear-view camera
Option 1	Park Logic	RGearSpeed	Enabled while parking process and up to e.g. 10km (speed adjustable)
		RGearTime	Enabled while parking process and up to 20 second
Option 2	R/F Cam Till	XX	Speed setting for deactivating of the camera image

3.3.5. Configurable trigger outputs



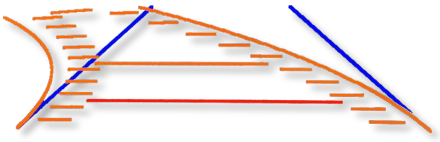
You can configure the both +12V trigger outputs separately. The pink wire is (12V OUTPUT 1) is Power Out 1 and the green wire is (12V OUTPUT 2) is Power Out 2.

Note: You can configure the both trigger outputs in the OSD-menu Option 1 separately (Operation of the OSD: see chapter “OSD-Operation”).

OSD-menu	Menu item	Setting	Explication
OPTION	Power Out 1 (pink)	CAN	+12V when the interface is on (red LED on)
		ACC	+12V when ignition is on
		Cam	+12V when camera input is activated (manually or automatically)
	Power Out 2 (green)	RGear	+12V when reverse gear is engaged
		AVS	+12V when camera / video input was manually activated
		OFF	Trigger output deactivated

Tip: We recommend for all camera modes the power out setting “Cam” and for AV source the power out setting “AVS” or “ACC”.

3.4. Interactive lane lines



You have to configure some settings in the OSD menu Option 1 if you want to activate interactive lane lines (Operation of the OSD: see chapter “OSD-Operation”).

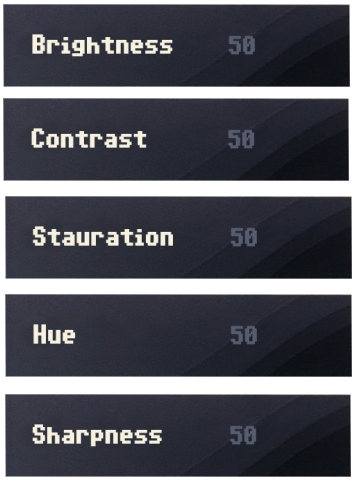
OSD-menu	Menu item	Setting	Explication
Option 1	RVC Lines	OFF	Interactive lane lines deactivated
		ON	Interactive lane lines activated
	Car Type	Sprinter / Others	Vehicle type selection

Note: Interactive lane lines are ony available for vehicles with 7inch monitor.

3.4.1. Interactive lane lines settings

The height and width of the interactive lane lines can be set in the OSD menu. For this setting you must at first activate the rear-view camera level and push then the „**HOME**“ steering wheel button for 3sec. (right steering wheel side) to activate the settings menu. With the „**VOL**“ volume steering wheel button you can select the menu point "Line Height" to change the height of the interactive lane lines and with menu point "Line Width" the width of the lines. Over the menu point "Exit" you can leave this settings menu.

3.5. Picture settings



The camera picture settings can be set in the OSD menu. For this setting you must at first activate the camera level and push then the „**HOME**“ steering wheel button for 3sec. (right steering wheel side) to activate the settings menu. With the **VOL**“ volume steering wheel button you can select and change the "Brightness", "Contrast", "Saturation", Hue" and "Sharpness" menu points. Over the menu point "Exit" you can leave this settings menu.

Note: The picture settings will be retained for every camera input separately.

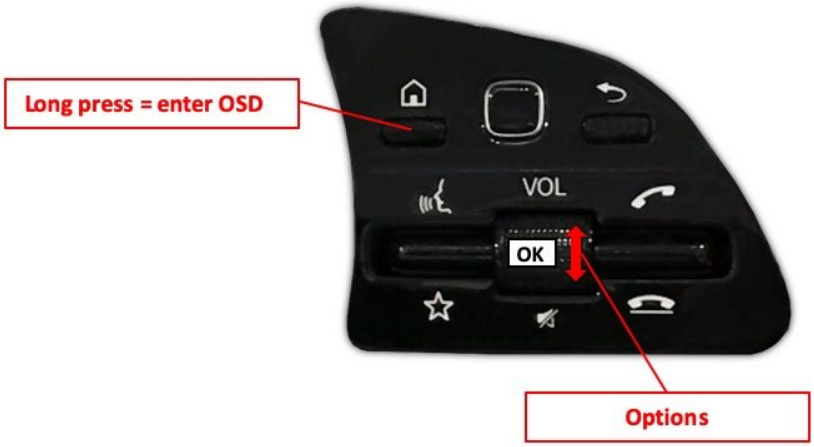
4. Operation

4.1. Main OSD On-screen display

You can change the basic configurations of the interface in the OSD (on screen display).

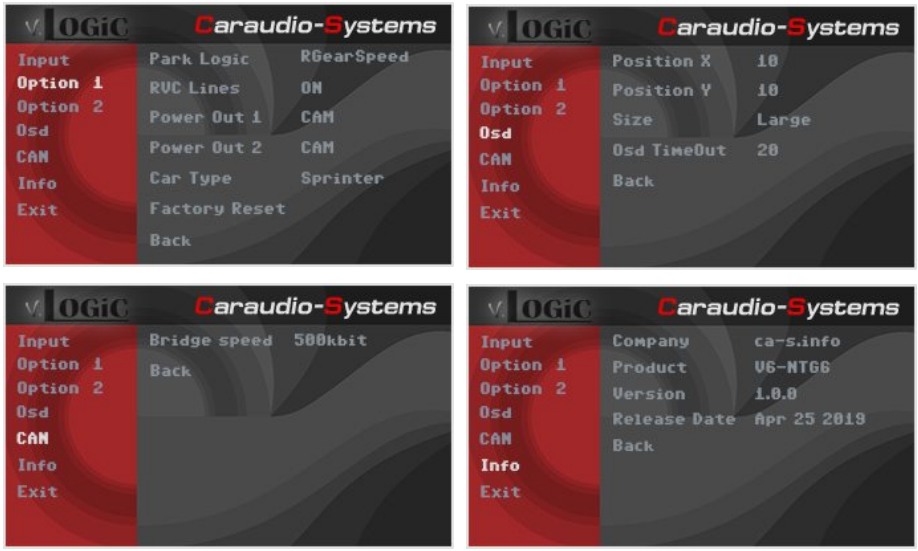
4.1.1. OSD – Operation

The OSD menu can be controlled via the following buttons:



4.1.2. OSD – Additional setting options

The following settings in the OSD menus Option 1 and OSD can be configured over and above the described settings in this manual (Operation of the OSD: see chapter “OSD-Operation”):



OSD-menu	Menu item	Setting	Explication
Osd	POS. X	0-xxx	Horizontal position of the OSD
	POS. Y	0-xxx	Vertical position of the OSD
	Size	Small	Small OSD menu windows
		Large	Large OSD menu windows
	Osd TimeOut	2-20	Time setting for automatic OSD shutoff
CAN	Bridge speed		CAN bus connection status
Info	Version	X.XX.XX	Displays the current SW-version
Option 1	Factory Reset		Resetting to factory settings

4.2. Selecting the interface as current video source

Press long "STAR" button to choose the interface as current video source.

Short press "STAR" button switch the video sources (cameras/AV sources). Each short press will switch to the next enabled input. If all inputs are enabled the order would be as follows:

Rear CAM → Front CAM → Right Cam/AV1 → Left Cam/AV2 → …

Inputs which are not enabled are skipped.

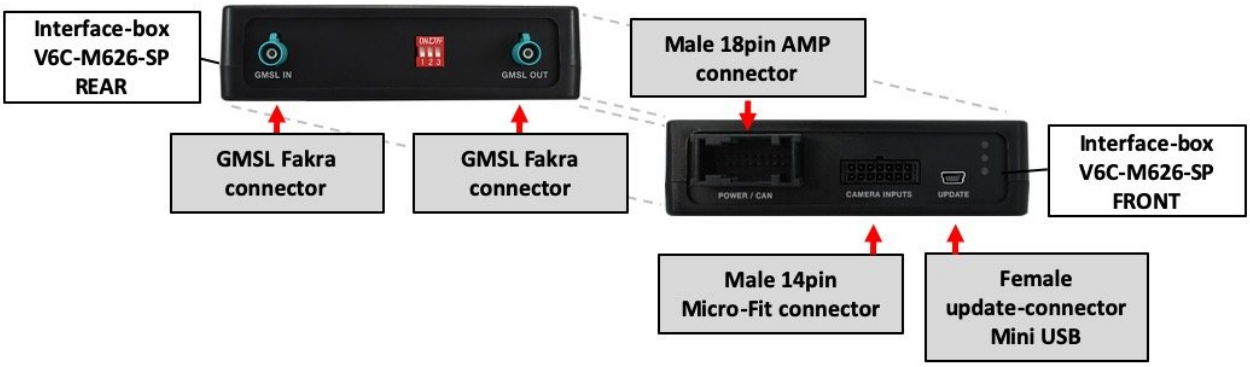
The exiting of the interface camera/video level is achieved by **long press** of "**STAR**" button.

5. Specifications

Operation voltage	10.5 – 14.8V DC
Stand-by power drain	1mA
Operation power drain	190mA
Power consumption	2,6W
Temperature range	-20°C to +80°C
Weight (box only)	285g
Measurements (box only) B x H x T	141 x 30 x 105 mm

CE ⎓12V DC

6. Connections (interface-box)



7. Technical Support

Caraudio-Systems Vertriebs GmbH
manufacturer/distribution
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