PRODUCT FEATURES:

- Adds front, right, left and rear camera inputs.
- Uses the steering wheel control buttons to toggle between the camera sources.
- Turn signals automatically trigger the corresponding side camera.
- With OEM type interactive parking guide lines with calibration function.
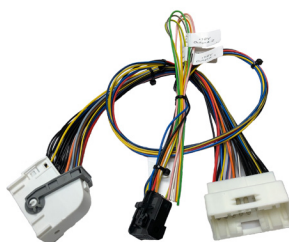- On Screen Display set up.

RADIO COMPATIBILITY:

7" MBUX Systems *without* Navigation.

PARTS INCLUDED:

| RFM-MB2 Module | RFM-MB2 Harness | GMSL Video Cable | Video Harness |

OPTIONAL ADD-ON CAMERAS:

Optional add on cameras are available to complete the multi-view capability of the RFM-MB2. Cameras available and **sold separately** include: (More cameras can be found at www.cruxinterfacing.com)

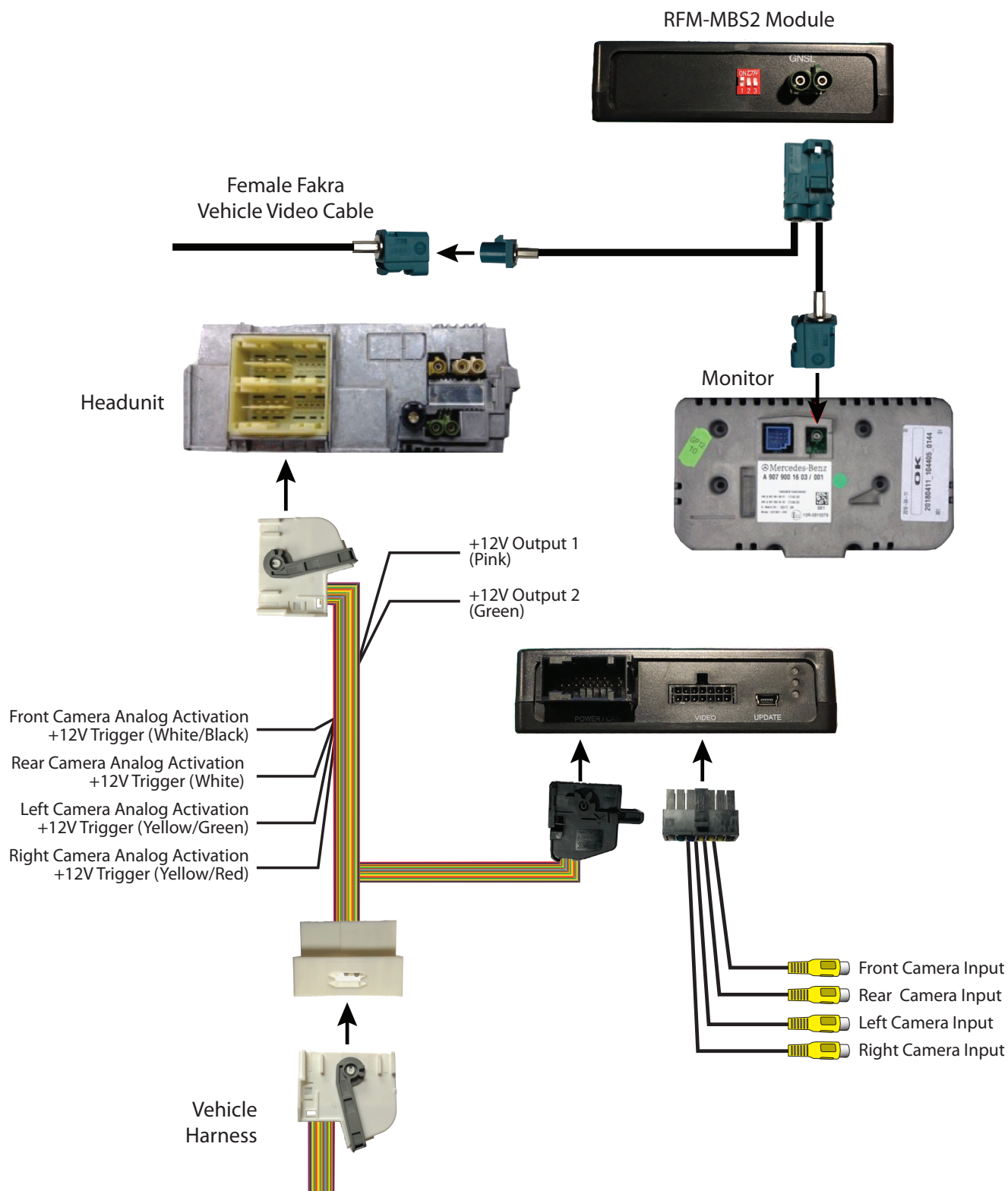CMB-18S Third Brake Light Camera

CFF-01 Bullet Type Front Camera   CFF-02 Square Body Front Camera   CSV-01 Fender Mount Camera

INSTALLATION DIAGRAM:

RFM-MBS2 Module

Female Fakra
Vehicle Video Cable

Headunit

Monitor

+12V Output 1
(Pink)

+12V Output 2
(Green)

Front Camera Analog Activation
+12V Trigger (White/Black)

Rear Camera Analog Activation
+12V Trigger (White)

Left Camera Analog Activation
+12V Trigger (Yellow/Green)

Right Camera Analog Activation
+12V Trigger (Yellow/Red)

Front Camera Input
Rear Camera Input
Left Camera Input
Right Camera Input

Vehicle
Harness

rev.092820

DIP SWITCH SETTINGS:

SCREEN SIZE	DIP 1	DIP 2	DIP 3
7" NTG6	OFF	OFF	OFF

NOTE: Unplug the module power harness before setting the DIP switches.

LED INFORMATION:

Blue   = (ON) Valid Input Source
Green = (ON) CAN OK
Red   = (ON) Power

INSTALLATION:

The RFM-MB2 is installed at the headunit and monitor. Refer to the installation diagram on page 2 for a visual reference on the connections.

OSD OPERATION:

The RFM-MB2 adds front, rear, left and right camera inputs that can be configured using the built-in OSD (On Screen Display) menu. The next steps will help you setup the cameras to seamlessly integrate to the factory MBUX System. Use the Steering Wheel Control buttons to enter and exit the OSD menu.

Press for 3 seconds to enter or exit the OSD menu

Use the rotary control to navigate through the OSD settings. Press it to enter the selection.
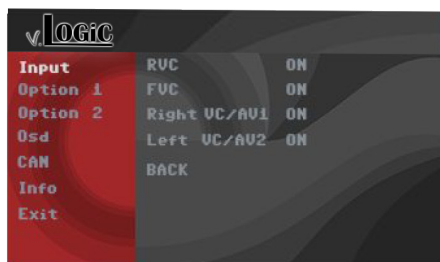
SETTING UP THE CAMERAS:

FRONT CAMERA

Plug the camera's video RCA to the female RCA labeled "Front Camera" on the RFM-MB2 video harness. Use the PINK wire labeled "12V Output 1" to power the camera. In the OSD menu, go to "Option 1" and set "Power Out 1" to "CAN". Set "Car Type" to Sprinter. Below are more settings for the front camera.

OSD Menu	Menu Item	Setting	Description
INPUT	FVC	OFF	No Front camera deactivated
		ON	Switches to front camera if parking process is enabled and reverse gear is released
OPTION 1	PARK LOGIC	RGearOnly	Not suitable for front camera use
		RGearSpeed	Enabled after parking process and up to speed (adjustable, see Option 2 below)
		RGearTime	Enabled after parking process and up to 20 seconds
OPTION 2	F/R Cam Till	XX	Speed setting to deactivate front camera after parking process

NOTE: You can manually deactivate the front camera immediately after a parking process by a short press of the "Back" button on the right side steering wheel control buttons.

LEFT and RIGHT SIDE CAMERAS

Plug the left and right camera's video RCA to the female RCAs labeled "Left Cam" and "Right Cam" on the RFM-MB2 video harness. Use the same PINK wire labeled "12V Output 1" that was used to power the front camera to power the side cameras. "Power Out 1" on the OSD menu should already be set to "CAN". This setting automatically triggers the respective camera when the turn signal lever is engaged. Other OSD menu settings are outlined below.

OSD Menu	Menu Item	Setting	Description
INPUT	Right VC	ON / OFF	Activate or deactivate right camera
	Left VC	ON /OFF	Activate or deactivate left camera
OPTION 2	Blinker Mode	Side Cam	Activate side camera when turn signal lever is engaged
	Cam Trigger	CAN	Turn signal detection over CAN Bus
		Analog	Turn signal detection over analog +12V signal

If for some reason the cameras are not triggered automatically by engaging the turn signal lever using CAN detection, tap the Analog Blinker trigger wires as follows:

Yellow/Green to Left Turn Signal +12V wire | Yellow/Red to Right Turn Signal +12V wire

Go to the "Options 2" in the OSD menu and set "Cam Trigger" to "Analog". The respective side camera will now be triggered when the turn signal lever is engaged.

REAR CAMERA

Plug the aftermarket rear camera's video RCA to the female RCA labeled "R CAM" on the RFM-MB2 video harness. Use the GREEN wire labeled "12V Output 2" to power the camera. In the OSD menu, go to "Option 2" and set "Power Out 2" to "CAN".
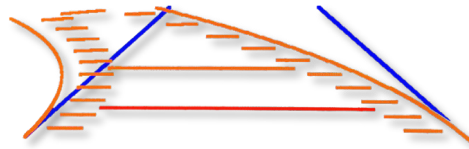
OSD Menu	Menu Item	Setting	Description
INPUT	RVC	ON	Activate aftermarket rear camera when reverse gear is engaged or PDC is activated
		OFF	Deactivate rear camera
		OEM	Select if vehicle is equipped with a factory rear view camera
OPTION 2	RVC Lines	ON / OFF	Activate or deactivate interactive parking guide lines*
	Cam Trigger	CAN	Reverse gear signal detection over CAN Bus
		Analog	Reverse gear signal detection over analog +12V signal

NOTE: Interactive Parking Guide Lines is ONLY available on 7" screen.

If for some reason the rear camera is not triggered automatically when the reverse gear is engaged using CAN detection, tap the Rear Camera Analog Activation (White wire) to reverse light +12V wire.

Go to the "Options 2" in the OSD menu and set "Cam Trigger" to "Analog".

INTERACTIVE PARKING GUIDE LINES SETTINGS:

When the Interactive Parking Guide Lines is activated. You can calibrate the Line Height and Line Width in the OSD menu.
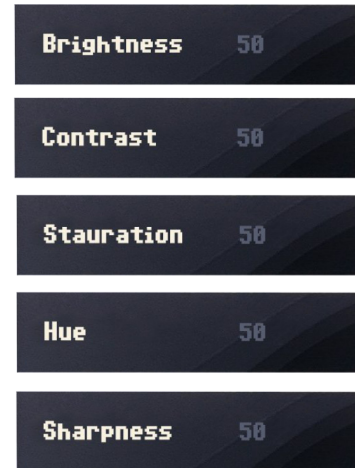
Set the parking brake and put the gear in reverse to show the interactive parking guide lines. Press the "HOME" button (right side steering wheel controls) for 3 seconds to activate this menu. Use "Volume" rotary knob to change the Line Height and Line Width of the Interactive Parking Guide Lines. Press the rotary knob to enter the selection. Select "Exit" to leave the menu.

Line Height   15

Line Width   -5

CAMERA SETTINGS:

You can calibrate individual camera image in the OSD menu.

Activate one of the cameras. Press the "HOME" button (right side steering wheel controls) for 3 seconds to activate this menu. Use "Volume" rotary knob to change the Brightness, Contrast, Saturation, Hue, and Sharpness of the camera image. Press the rotary knob to enter the selection. Repeat the steps above for the other cameras connected. Select "Exit" to leave the menu.

Brightness	50
Contrast	50
Stauration	50
Hue	50
Sharpness	50

FORCE VIEWING THE FRONT CAMERA:

Use the steering wheel controls to force view any of the cameras that are enabled.

Press the ★ button for 3 seconds to enter forced camera view mode. Each short press thereafter toggles to the next camera that is enabled. If all cameras are enabled, the order will be as follows:

Rear CAM → Front CAM → Right CAM → Left Cam → ...

Cameras that are not enabled are skipped.

Press the ★ button again for 3 seconds to exit this mode.

VEHICLE APPLICATIONS:

Mercedes Benz

2019 – 2020   Sprinter with MBUX System - 7" screen (without Navigation)

rev.092820

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