TV-Free

Video-in-motion Interface

TF-NTG2

compatible with Mercedes Benz Comand APS NTG2, NTG2.5, NTG4-204, NTG4-212 and Comand Online NTG4.5 navigation systems

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.

Contents

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!

CAN-box TV-500
HW_____ SW_____

Harness
TV-NTG2

1.2. Check compatibility of vehicle and accessories

Requirements

brand	compatible vehicles	navigation system
Mercedes Benz	**A-Class** (W169) from 09/2004 til 06/2008, **B-Class** (W245) from 09/2004 til 06/2008, **C-Class** (W203) from 04/2004 til 02/2007, **CLC-Class** (CL203) from 06/2008 til 09/2008, **CLK-Class** (C209 W209) from 06/2004, **G-Modell** (G463) from 04/2007 til 08/2008, **GL-Class** (X164) til 06/2008, **ML-Class** (W164) til 06/2008, **R-Class** (W251) til 06/2008, **Sprinter**, **Viano**	Comand APS NTG2
	A-Class (W169) from 07/2008, **B-Class** (W245) from 07/2008 til 10/2011, **CLS-Coupe** (W219) from 04/2008 til 12/2010, **E-Class** (W211) from 06/2008 til 03/2009, **G-Modell** (G463) from 09/2008, **GL-Class** (X164) from 07/2008, **ML-Class** (W164) from 07/2008 til 10/2011, **R-Class** (W251) from 07/2008, **SL-Class** (R230) from 04/2008, **SLK-Class** (R171) from 04/2008 til 02/2011, **Viano**	Comand APS NTG2.5
	C-Class (W204) from 03/2007 til 02/2011, **CLC-Class** (CL203) from 09/2008, **GLK-Class** (X204) from 09/2008, **SLS** (C197) from 03/2010	Comand APS NTG4-204
	E-Class (W212) from 04/2009 til 05/2011, **E-Class Coupe** (W207) from 05/2009 til 05/2011, **CLS-Coupe** (C218) from 01/2011 til 05/2011	Comand APS NTG4-212
	B-Class (W246) from 11/2011, **C-Class** (W204) from 03/2011, **C-Class Coupe** (C204) from 06/2011, **E-Class** (W212) from 06/2011, **E-Class Coupe** (C207) from 06/2011, **CLS-Coupe** (C218) from 06/2011, **GLK-Class** (W204) from 01/2011, **ML-Class** (W166) from 11/2011, **SLK-Class** (R172) from 03/2011, **SL-Class** (R231) from 2012	Comand Online NTG4.5
VW	**Crafter**	Comand APS NTG2

Limitations

Comand APS NTG2.5   While the video-in-motion function is active, the navigation will not work!

Comand Online NTG4.5   On some vehicles the navigation will not work while the video-in-motion function is active. This can only be detected by a test drive with built-in TV-free!

1.3. Setting the Dip-switches of the Can-Box TV-500

Vehicle/ navigation	Dip 1	Dip 2	Dip 3	Dip 4	Dip 5	Dip 6
Vehicles with NTG2/NTG4-xxx*	**ON**	OFF	OFF	OFF	OFF	OFF
Vehicles with NTG2.5	OFF	OFF	OFF	OFF	OFF	OFF

* With dip1 to OFF on vehicles with NTG2/NTG4-xxx the included green cable is used to activate the video-in-motion function.

Note: Dip switch functions of the TV-500
Dip 1 – activation TV-free
Dip 2 – no function
Dip 3 – no function
Dip 4 – no function
Dip 5 – CAN-bus termination resistor on the vehicle side
Dip 6 – CAN-bus termination resistor on the head-unit side

1.3.1. Exception: Vehicles with Comand Online NTG4.5

On some vehicles with Comand Online NTG4.5 the navigation performance is affected as long as the video-in-motion function is activated. This can only be detected by a test drive with built-in TV-free with Dip 1 to ON!

If the navigation performance is affected you have to set Dip 1 to OFF. As long as the video-in-motion function is activated, the navigation will NOT be working! You can activate and deactivate the video-in-motion function by pressing a button (see chaper "Activation of the video-in-motion function").
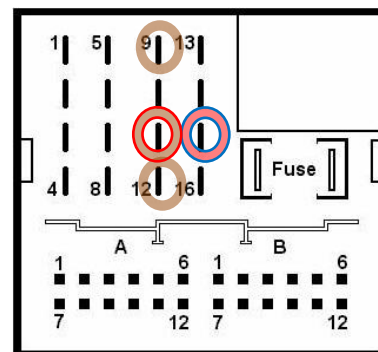
Vehicle/ navigation	Dip 1	Dip 2	Dip 3	Dip 4	Dip 5	Dip 6
NTG4.5 with TV-free pemanent	**ON**	OFF	OFF	OFF	OFF	OFF
NTG4.5 with TV-free selective (hang-up button)	OFF	OFF	OFF	OFF	OFF	OFF

Note: It is possible to install the TV-free on vehicles with Comand Online NTG4.5 with selective activation generally.

1.4. Pin-assignments

Pin-assignment vehicle connector

Cable colour	Assignment
●● Red/Blue	+12Volt Permanent 15
● Brown	Ground Pin 12
●● Brown/Red	CAN HIGH Pin 11
● Brown	CAN LOW Pin 9

Pin-assignment of the CAN-Box TV-500 (Molex 8pin)

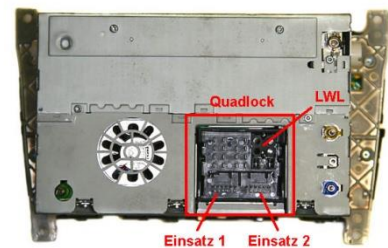| Cable colour	Pin-No.	Assignment
● Yellow	Pin 4	CAN-HIGH – connection to the head-unit
● Blue	Pin 3	CAN-LOW – connection to the head-unit
●● Yellow/Black	Pin 8	CAN-HIGH – connection to the vehicle
●● Blue/Black	Pin 7	CAN-LOW – connection to the vehicle
● Red	Pin 1	+12V permanent
● Black	Pin 5	Ground
● Green	Pin 6	Activation of the video-in-motion function (+12V = TV-free activated)
● White	Pin 2	Trigger output (+12V DC 500mA)

TF-NTG2

2. Installation

Switch off ignition and disconnect the vehicle's battery! If according to factory rules disconnecting the battery has 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.

Instruction for vehicles with NTG2:

1. Remove all covers of the navigation computer.

2. Remove the 4 screws of the navigation computer and pull it out.

3. RemoveQuadlock connector from the navigation computer and connect it to Harness TV-NTG2.

4. Remove the both 12pin inserts from the original Quadlock connector and connect them together with the optical leads to the Harness TV-NTG2. Connect the TV-NTG2 to the navigation computer.

NTG2

Instruction for vehicles with NTG2.5:

1. Remove the navigation computer from the centre console.

2. RemoveQuadlock connector from the navigation computer and connect it to Harness TV-NTG2.

3. Remove the both 12pin inserts from the original Quadlock connector and connect them together with the optical leads to the Harness TV-NTG2. Connect the TV-NTG2 to the navigation computer.

NTG2.5

CARAUDIO-SYSTEMS

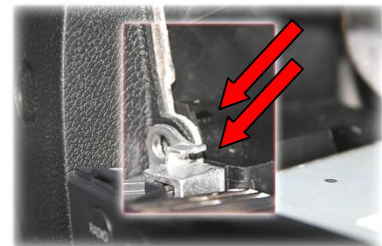**Instructions for vehicles with NTG4-2xx (NTG4.5 similar):**

1. Remove the centre air nozzle unit with the accordant tool kit.
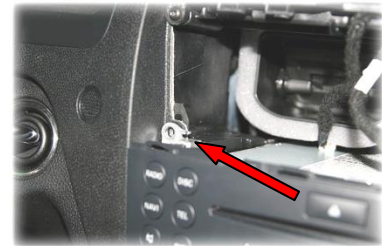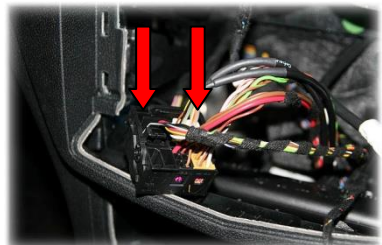

2. Remove both TORX-screws.

3. Slide upward the interlock behind the removed TORX screws and pull out the navigation computer.
   (In the right picture the interlock is closed!)

….In this picture the interlock is open.

4. Remove Quadlock connector from the navigation computer and connect it to Harness TV-NTG2.

5. Remove the both 12pin inserts from the original Quadlock connector and connect them together with the optical leads to the Harness TV-NTG2. Connect the TV-NTG2 to the navigation computer.

3. Activation of the video-in-motion function

On vehicles with **Comand APS NTG2/NTG4-2xx** and on some vehicles with **Comand Online NTG4.5** the video-in-motion function is activated permanently without disturbing the navigation performance.

On vehicles with **Comand APS NTG2/NTG4-2xx** the video-in-motion can be activated and deactivated by Dip 1 or alternatively by the included loose green cable in connection with a switch (not included in delivery).

Video-in-motion permanent
With dip1 to ON the video-in-motion function is activated permanently without disturbing the navigation performance.

Video-in-motion selective
With dip1 to OFF the included green cable is used to activate the video-in-motion function.

Connect a switch to the green cable and connect the green cable to +12V ACC.
● +12V   = TV-Free is activated
● 0V   = TV-Free is not activated

Note: The loose white cable is not required and must be isolated.

On vehicles with **Comand APS NTG2.5** and on some vehicles with **Comand Online NTG4.5** select the "navigation mode" on the instrument and press the "hang-up"-button on the steering-wheel for more than 3 seconds to activate/deactivate the video-in-motion function. When the ignition is off, the video-in-motion interface will be automatically disabled.
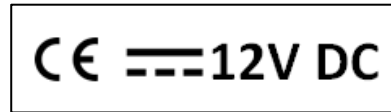

Note: *As long as the video-in-motion function is activated, the navigation of the command will NOT be working! The loose white and green cable are not required and must be isolated.*

4. Specifications

Operation voltage	10.5 – 14.8V
Stand-by power drain	<2mA
Operation power drain	~60mA
Power consumption	~0,08W
Temperature range	-30°C to +80°C
Weight	44g
Measurements (box only) W x H x D 76 x 27 x 54 mm	

5. Technical support

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