

## **TV-Free** Video-in-motion Interface

### **TF-NTG3**

**Compatible with Mercedes Benz COMAND  
NTG 3, NTG 3.5 and NTG 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.

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## 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 \_\_\_\_\_



## 1.2. Check compatibility of vehicle and accessories

Requirements	
<i>Vehicle</i>	Mercedes Benz S-class (W221) from 10/05, CL-class (W216) from 2006, CL-class (W216) with Dual-View, S-class (W222, C217)
<i>Navigation</i>	NTG 3, NTG 3.5

## 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
Video-in-motion permanent	ON	OFF	OFF	OFF	ON	ON
Video-in-motion selective*	OFF	OFF	OFF	OFF	ON	ON
S-Klasse (W221) with factory rear-view camera and video-in-motion permanent	ON	ON	OFF	OFF	ON	ON

\* With dip1 to OFF 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; S-Class (W221) rear-view camera existing

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

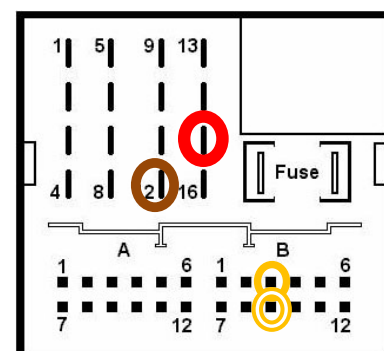
## 1.4. Pin-assignments

### Pin-assignment vehicle connector NTG3 / NTG3.5

Cable colour	Assignment
● Yellow/White	CAN-HIGH Pin 1
● Yellow	CAN-LOW Pin 11

### Pin-assignment vehicle connector NTG5 / NTG5.1

Cable colour	Assignment
● Red	+12Volt Permanent 15
● Brown	Ground Pin 12
● Yellow/White ; ● Brown/Red ; ● Purple/White	CAN HIGH Chamber B -Pin 9
● Yellow ; ● Brown ; ● Purple	CAN LOW Chamber B - Pin 3



## 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)

## 2. Installation on COMAND NTG3 / NTG3.5 systems

**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 in sleep-mode. In case the sleep-mode does not show success, disconnect the battery with a resistor lead.**

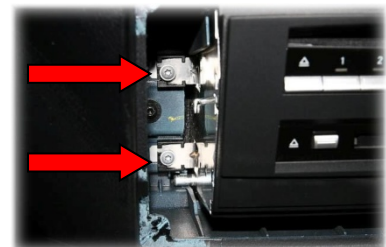
The interface is assembled in the centre stack directly behind the DVD unit (Comand). For this purpose, it must be dismantled and disconnected from the mains.



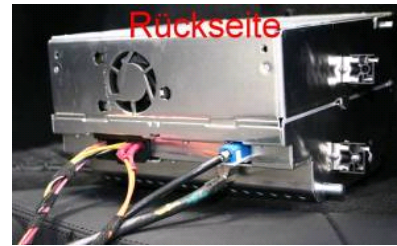
Remove the panel under the drawer (panel is slotted).



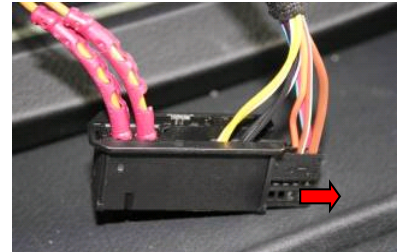
Open the drawer. Loosen the 4 Comand torx screws (2 respectively on each side).



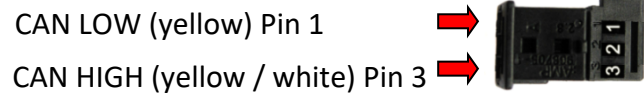
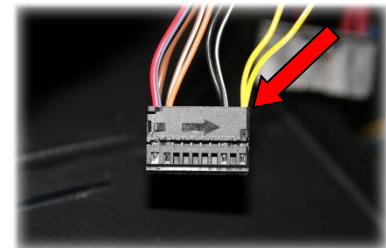
Unplug the Comand and unplug the 20-pin socket.



Unplug the insert from the 20-pin socket.



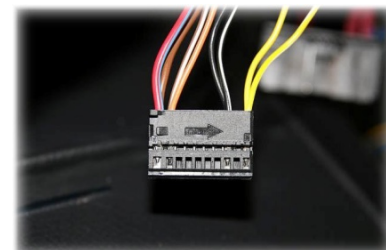
Loosen Pin 1 (yellow / white cable, CAN HIGH) and Pin 11 (yellow cable, CAN LOW) from the 20-pin socket and, as shown in the right-hand-side illustration, pin it in the included 3-pin socket.



Connect the 3-pin socket with the counterpart on the cable set.



Pin the yellow / black cable from the cable set TV-NTG3 into Pin1 chamber and blue /black cable into the Pin11 chamber of the 20-pin socket. Connect the black cable from the cable set TV-NTG3 to Pin20 (earth), connect the red cable parallel to Pin10 (+12V) of the 20-pin socket.



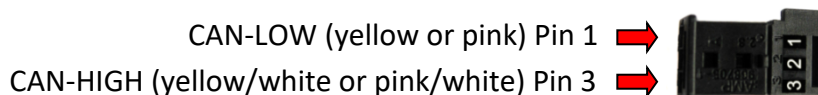
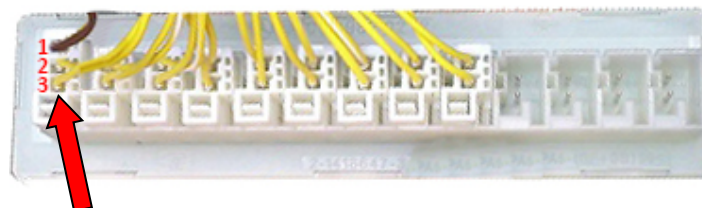
### 3. Installation on COMAND NTG5 system in Mercedes W222 / C217

**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 in sleep-mode. In case the sleep-mode does not show success, disconnect the battery with a resistor lead.**

The interface is assembled in the driver's foot space area (close to the OBD connector) on the CAN distributor (behind plastic flap).



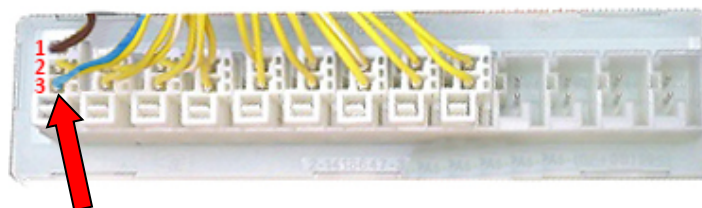
Loosen from the 3 pin connector (with brown wire) of the CAN distributor the yellow/white (or pink/white) cable (pos.2, CAN HIGH) and yellow (or pink) cable (pos.3, CAN LOW) and as shown in the right hand side illustration, pin it in the included 3-pin socket.



Connect the 3-pin socket with the counterpart on the cable set.



Pin the yellow / black cable from the cable set TV-NTG3 into pos.2 and blue / black cable into pos.3 of the CAN distributor.  
Connect the black cable from the cable set TV-NTG3 to ground and the red cable to power +12V (on the OBD connector).



## 4. Activation of the video-in-motion function

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.

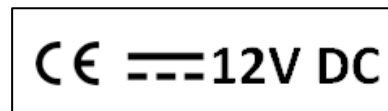
Connect a switch to the green cable and connect the green cable to +12V ACC.

- +12V = TV-Free is activated
- 0V = TV-Free is not activated

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

## 5. 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



## 6. Technical Support

**Caraudio-Systems Vertriebs GmbH**  
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