

V1.6

INSTALLATION
GUIDE



CAR MEDIA SYSTEMS



VN1050-MA-4G

SMART NAVICEIVER
MOBILE INTERNET READY
VISION ANDROID™ SERIES

IMPORTANT NOTES

This guide is an aid for the professional installation of the device.

Please note the following notes before installation:

- Always handle all parts of the device and the components of your vehicle with care.
- Under all circumstances observe the regulations of the vehicle manufacturer and do not make any changes to the vehicle which could impair driving safety.
- For safety reasons, disconnect the vehicle battery's ground connection before installation.
- Please always pay attention to the correct polarity of the connections.
- Please do not modify any harnesses or connections of the device or the vehicle as this may affect the warranty.
- Make sure that no cables are squashed or cause a short circuit.
- Do not lay cables in front of the airbags, e.g. in the dashboard or in a way that affects their function.

NOTE:

For many vehicle models, a vehicle-specific 1-DIN installation set is required for professional installation. In order to be able to use the existing steering wheel remote control of your vehicle, a vehicle-specific adapter may also be required. You can obtain information about this on the Internet or from your specialist dealer.

ACC BUTTON



With the ACC button next to the SD card slot, you can operate the naviceiver without the ignition switched on. Press the button for about 2 seconds and the device will turn on. To switch off, press the button again for 2 seconds.

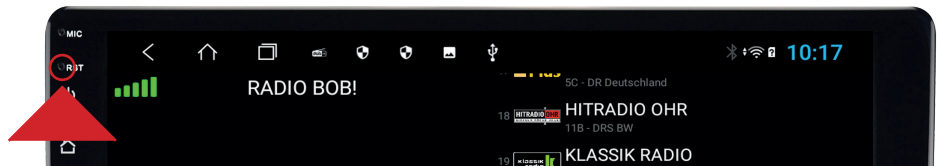
MICRO SD SLOT FOR NAVIGATION SOFTWARE



You can insert the MicroSD card of the navigation software here. Please only use the upper MicroSD card slot. The lower MicroSD card slot is only suitable for media.

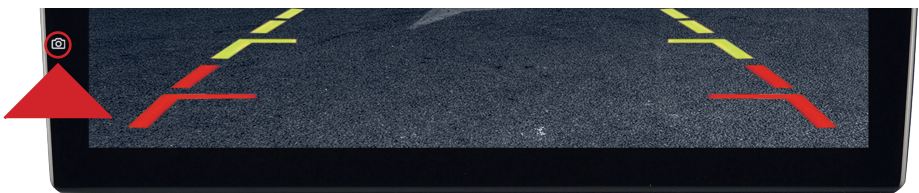
RESET BUTTON

If the device stops responding to input, the system is overloaded or crashed. Then reboot the system by pressing the reset button (RST) on the front panel. Use a suitable object, such as a paper clip or a ballpoint pen. After pressing the reset button, the system restarts without losing your previous settings.





CAMERA DIRECT BUTTON





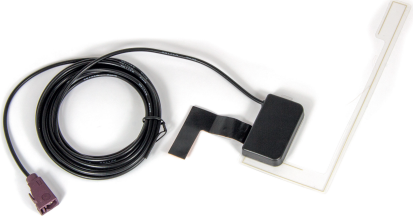

If you have connected an optional rear-view camera, you can show or hide its image signal at any time with the button marked below, regardless of whether the reverse gear is engaged.



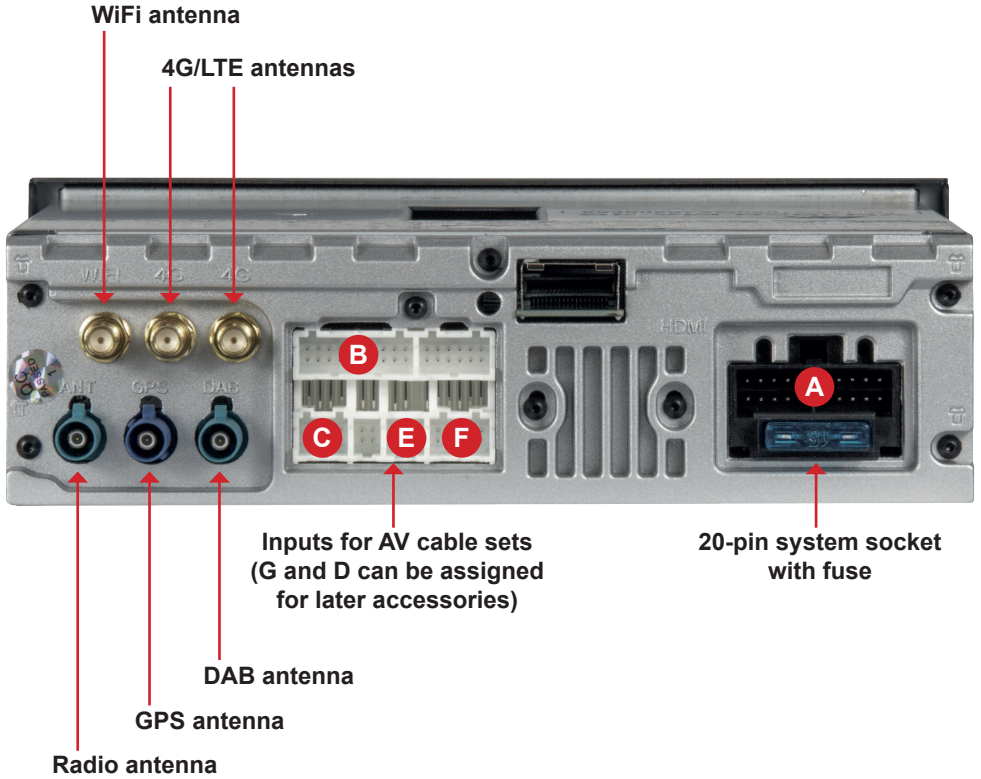
SCOPE OF DELIVERY

ITEM	FIGURE	QUANTITY
Main device		1
Monitor		1
ISO system cable set		1
AV cable set 1 with all audio and video connections as well as connection for external microphone (20-pin connector)		1
AV cable set 2 with video outputs 1 and 2, power supply for camera (10-pin connector)		1
Camera / microphone cable set with camera outputs and connection for external microphone, easy-to-install alternative for AV cable set 1 (Optionally enclosed depending on the equipment)		1
Power supply for camera, easy-to-install alternative for AV cable set 2 (Optionally enclosed depending on the equipment)		1

SCOPE OF DELIVERY

ITEM	FIGURE	QUANTITY
<p>USB ports (8-pin connector)</p>	<p>C</p> 	<p>1</p>
<p>4G/LTE dongle (6-pin connector)</p>	<p>E</p> 	<p>1</p>
<p>GPS antenna</p>		<p>1</p>
<p>WIFI antenna</p>		<p>1</p>
<p>DAB antenna</p>		<p>1</p>
<p>4G/LTE antennas</p>		<p>2</p>

WIRING DIAGRAM



Connection assignment

① 20P Power socket	② RCA output socket	2N → + N+1 N → + 1	1 AUX-R 2 AUX-L 3 GND 4 R-CAM 5 GND 6 S-CAM 7 GND 8 RCA-RR 9 F-CAM 10 MIC- 11 GND 12 RCA-FL 13 RCA-FR 14 GND 15 NC 16 GND 17 RCA-RL 18 SUB 19 AUX-V 20 MIC+	1 CVBS-OUT1 2 CVBS-OUT2 3-4 NC 5 C-POW 6 INC 7 GND 8 NC 9 GND 10 NC
A ↓ FUSE 15A	F E D C G B	① 20P Power socket	B C D E	F G
		1 GND 2 RR- 3 FR- 4 RL+ 5 FL+ 6 BRAKE 7 CAN-TX 8 KEY1 9 GND 10 ILL 11 B+(12V) 12 RR+ 13 FR+ 14 RL- 15 FL- 16 ACC+ 17 REVERSE 18 ANT-AMP 19 KEY2 20 CAN-RX	C 1 5V 2 DM1 3 DP1 4 GND 5 5V 6 DM2 7 DP2 8 GND D 1 S-OUT 2 5V 3 GND 4 S-IN	1-2 GND 3 NC 4 TV-12V 5 TV-CVBS 6 TV-AR 7 GND 8 NC 9 GND 10 DTV-IR 11 NC 12 TV-AL
		② RCA output socket	E	
			1 SHIELD 2 CLK 3 DA 4 RST 5 SIMO 6 GND	

⚠ NOTE:

The handbrake signal must be connected to the enclosed cable. When the handbrake is applied, the signal must be at ground. According to legal regulations, the device may only play a DVD or video playback on the main screen when the handbrake is on. The connection cable must therefore not be permanently connected to ground. While driving, the screen is switched off to avoid accidents caused by carelessness.

INSTALLATION HINTS

Please note the following steps when installing the device:

- 1 Original radio / navigation system**
If available, first remove the original radio / navigation device. Use suitable unlocking tools to pull the device out of the dashboard. Then pull the cable plug from the device and leave it accessible in the radio slot.
- 2 Cabling of the ESX main device**
Lay the supplied cable sets and antennas in the vehicle. Please note the information on the next page. Then connect all cable sets, antennas and dongles to the ESX main device as described on page 7. Then plug in the cable plug from the radio slot of the vehicle on the ESX main unit or on its vehicle-specific system cable set.
- 3 Installation of the ESX main device**
Now the ESX main device can be inserted into the 1-DIN installation slot of the vehicle.
- 4 Installation of the ESX monitor**
Now mount the enclosed monitor on the ESX main device as described on page 9.
- 5 Functional test**
Before you complete the installation, you should perform a function test. Check all functions of the ESX naviceiver including the steering wheel remote control of the vehicle.

RECOMMENDED TOOLS

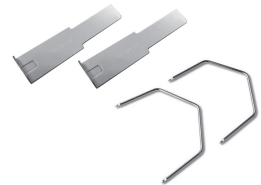


T25

Torx T25 screwdriver / bit



Phillips screwdriver



Unlocking tools



Cable ties



Plastic mounting wedges



VNA-USB-TOOL

Plastic drill Ø19.5 mm

GENERAL INSTALLATION INSTRUCTIONS

GPS antenna

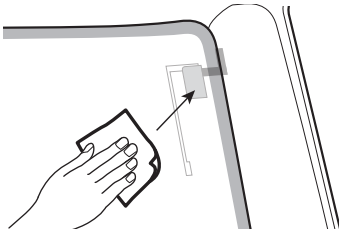
The GPS antenna must be glued horizontally to the front of the dashboard. No reception is possible if the window is metallized. Choose a flat spot with a clear view of the sky. The location must be about 50 cm away from the main unit, otherwise the GPS measurement accuracy will be reduced. When installing the GPS antenna in the vehicle, the GPS accuracy is determined by the installation position and body shape of the vehicle. The accuracy is usually lower when the GPS antenna is installed in the vehicle.

Remove the film on the underside of the GPS antenna



DAB antenna

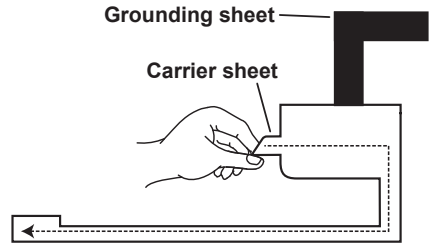
Route the DAB antenna to the windshield and attach it there.



Clean the windshield with a suitable cleaning cloth.

NOTE:

In newer vehicles, the original vehicle antenna can usually be used for both analogue and digital radio reception. The enclosed DAB window antenna should only be used if no fender or roof antenna is available.



Remove the carrier sheet of the black amplifier unit and the foil antenna and stick the antenna to the window.

Glue the copper-colored metal surface of the grounding sheet to a bare metal part of the vehicle.

USB ports

Route the USB ports to the desired location, e.g. to the glove compartment. If you want to install the USB socket from cable set C in the dashboard, you will need a corresponding drill (19.5 mm diameter), e.g. **VNA-USB-TOOL**.

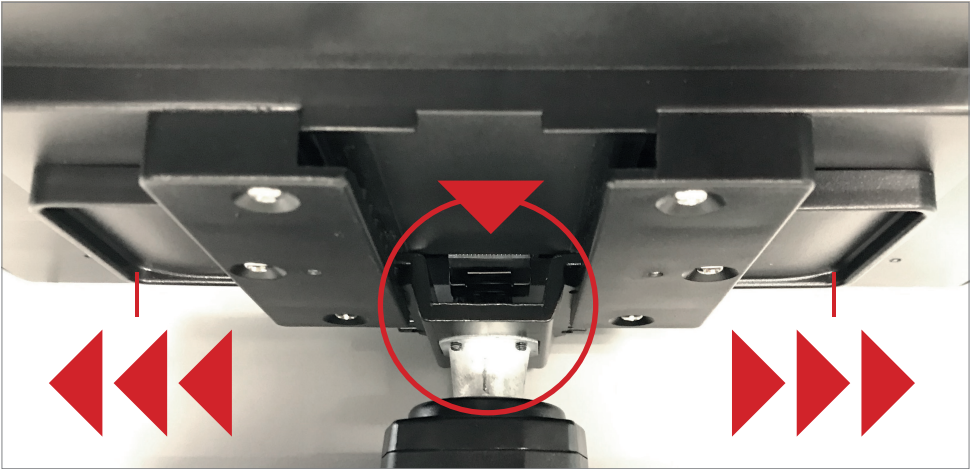


WiFi antenna

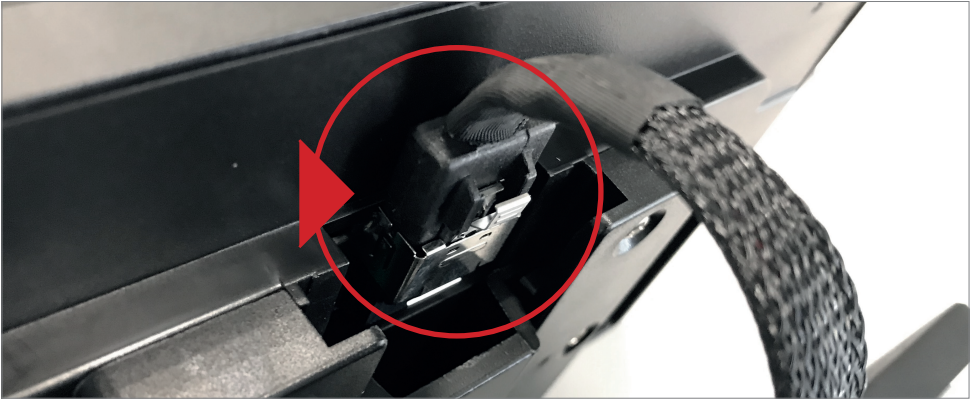
The WiFi antenna can be laid in the vehicle's radio slot. The WiFi signal can be received within a radius of about 5 meters.

5 Meter





Slide the monitor onto the bracket on the main unit and release the two retaining brackets on the side by sliding them outwards.



Plug in the connector of the monitor to the main unit.

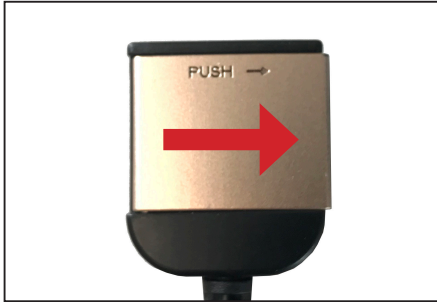
⚠ IMPORTANT NOTE:

If the monitor does not work after connecting it to the main device, the connector of the connecting cable may not be properly engaged.

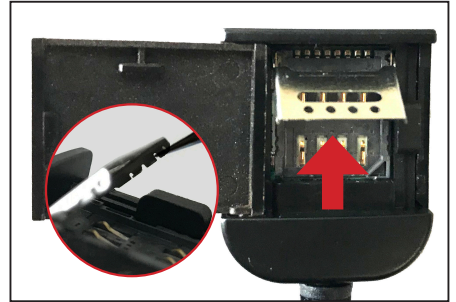
Then pull at the monitor the connector of the cable away from the connector until it clicks into place correctly without pressing the release button.

SETUP THE 4G/LTE INTERNET CONNECTION

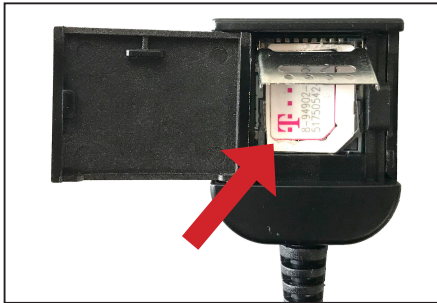
1. First lay the two 4G/LTE antennas inside the dashboard towards the windshield, one antenna for the left and one for the right.
2. Ideally, you should stick the antennas to the windshield to ensure optimal reception.
3. Then insert your SIM card in the 4G/LTE dongle:



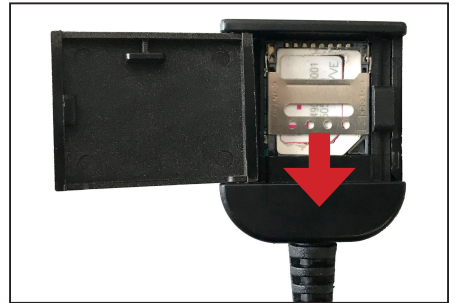
Open the dongle by pushing the flap to the right.



Now open the metal flap carefully with a suitable tool by pushing the flap up.



Then insert your SIM card with the contacts facing down.



Close and lock the metal flap carefully by pushing the flap down.

Compatible SIM cards:



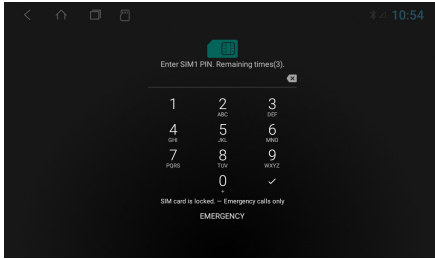
Micro SIM



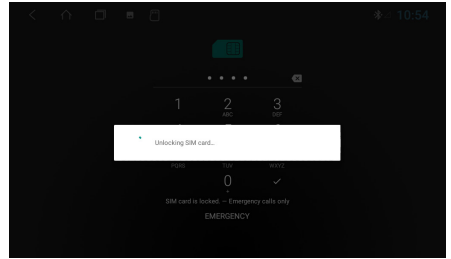
Nano SIM with adapter for Micro SIM

SETUP THE 4G/LTE INTERNET CONNECTION

4. Then turn on the device to test the 4G/LTE connection.



After the device has started, enter your 4-digit PIN code of the SIM card here. Confirm the entry with the tick.



After successful entry, the SIM card is unlocked. If the device is successfully connected to the mobile Internet, the „4G“ symbol appears in the status bar at the top right.

- After a successful test, install the 4G/LTE dongle in the radio slot or dashboard.
- If the device is turned off, you have to enter the PIN code of the SIM card again after each restart, just like with a smartphone. The SIM card's PIN query can be deactivated in standard smartphones. To do this, insert the SIM card in a smartphone and deactivate it accordingly. The steps involved vary depending on the smartphone.

TECHNICAL DATA / RADIO SYSTEM TYPE

Function	Band Information	Frequency Range	Max. emitted power
GPS	GLONASS	1.575 MHz / 1.602 MHz	–
AM Radio	Medium wave	520 - 1.700 Hz	–
FM Radio	Band II	87,5 - 108 MHz	–
DAB Radio	Band III (5A – 13F)	174,9 - 239,2 MHz	–
4G / LTE	FDD (Band 1 / 3 / 5 / 7 / 8 / 20) TDD (Band 38 / 39 / 40 / 41)	800 - 2.100 MHz 1.900 - 2.600 MHz	21,9 dBm 21,7 dBm
3G	WCDMA (Band 1 / 5 / 8)	900 - 2.100 MHz	22,8 dBm
Bluetooth	Version 5.0	2.400 MHz - 2.484 MHz	8,5 dBm
WiFi / W-LAN	IEEE802.11b/g/n	2.400 MHz	16,0 dBm



CAR MEDIA SYSTEMS



ESX Car Media Systems · Audio Design GmbH
Am Breilingsweg 3 · D-76709 Kronau/Germany
Tel. +49 7253 - 9465-0 · Fax +49 7253 - 946510
www.esxnavi.de - www.audiodesign.de

© All rights reserved. Subject to technical changes and errors.