V1.2

OWNER'S MANUAL

CAR MEDIA SYSTEMS



VMX900DAB

1-DIN 22,8 CM (9") MULTI-ANGLE MEDIA MONICEIVER

Works with Apple CarPlay

works with androidauto

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⚠ **IMPORTANT NOTE:**
Always follow the instructions in this manual before using the device. Keep this manual in the vehicle for future reference.

GENERAL INFORMATION

Legal notice

- All registered product names, trade marks and brands are the property of their respective owners.
- This owner‘s manual was made with the utmost care.
- Technical changes and errors reserved.

Due to the ongoing development of this device, it is possible that the information in this manual is incomplete or is not matching to the delivery status.

Please visit periodically **www.esxnavi.de** on the internet, to check if additional information and updates are available.

Care and maintenance

This device is equipped with high precision and sensitive technique and should always be treated with caution. Please note the following tips to avoid endangering the warranty and extend the life of the appliance.

- Children under 12 should not operate the device. Keep the device and all accessories away from small children.
- Keep the device and its components dry. The effects of water, liquid or moisture can cause damage to the vehicle, the device itself or injury.
- Keep the device and its components away from excessive heat. High temperatures may shorten the life of appliance of the electrical components.
- Keep the device and its components away from excessive cold. Extreme temperature changes and moisture inside the device may cause the breaking of certain components. Do not to drop the device and avoid violent shocks or excessive shaking.
- Do not use strong chemical cleaners, solvents or water to clean the device. Use a slightly moistened cotton cloth.
- Replace a blown fuse only with a new one with the same values. However, before replacing a defective fuse, first check what the cause of the short circuit is. Start with the power cable. If the fuse blows again, there is a malfunction in the device. In this case, you should contact your authorized dealer.

SCOPE OF DELIVERY

1 x Main device with attachable display
1 x 1-DIN metal installation frame including screw set and mounting rail
2 x Metal bracket
2 x Unlocking tool
1 x 20-pin system plug with ISO connection
1 x 16-pin ISO double connector with open cable ends
1 x Analog steering wheel remote control adapter
1 x External microphone including holder
1 x DAB Antenna
1 x GPS antenna including adhesive pad
2 x User Manual (English/German)

SAFETY INSTRUCTIONS

- Note any time the traffic regulations of the country in which the device is operated.
- Please ensure, that with the engine turned off the vehicle‘s battery does not discharge fully. The device is another electrical consumer which must be operated with the engine running, other-wise the vehicle‘s battery will be discharged and the vehicle can not be started.
- Set the volume of the device only as loud, that you are still be able to hear warning signals (e.g. police sirens) and traffic noise inside the vehicle.
- Operate the device as driver only if it‘s absolutely necessary and in the driving safety is not compromised. The same stands for looking at the screen. If necessary, better park your vehicle at a safe and appropriate location.
- The traffic rules of the EU prohibit to view moving pictures or movies while driving, if the screen of the device is installed within sight of the driver, as he may be distracted. View the screen as driver only for the navigation function, and then only briefly that you will not be distracted. Note at any time the local traffic regulations. In an accident, regress claims could be made by the car insurance company.
- This device is not a substitute for your personal judgment or perception. All suggested routes from the navigation system should never be taken as a reason to disregard the local traffic rules. Your personal assessment of traffic or your knowledge of safe driving practices is paramount. Always match your driving with the current traffic situation.
- Do not follow the suggested routes, if the navigation system instructs you to take an unsafe or illegal way, puts you in an unsafe situation, or directs you into an area which you consider unsafe.
- If problems occur while driving, park the vehicle in a safe and appropriate place to continue before you operate.
- Please use only the included original accessories. Ensure a sufficient mounting of the device by using the included installation accessories, as in the event of an accident enormous accelerations may occur. Poorly installed devices and equipment in accidents could represent a severe risk to the driver and the other passengers of the vehicle.
- Note under all circumstances the regulations and advice of the vehicle manufacturer and do not make any modifications to the vehicle, which could interfere with safe driving. Please treat all parts of the device and the components of your vehicle always with caution.
- Please avoid short circuits and make sure that no metal objects can get inside the device. Also make sure that all connections are properly connected and avoid the interchanging of the polarity of all connections. Complete the installation only while the ignition is turned off.
- In the event of a defect or malfunction, do not attempt to repair it by yourself or open the device, this is dangerous and could cause injury or damage to the equipment or vehicle. A repair should be done by trained and authorized personnel only. The device uses a Class 1 laser to read the disk. Eye contact with a laser is very dangerous to the human eye.
- If you connect an external device, you should first read the instruction manual of the external device and make sure that it is compatible. Avoid connecting an incompatible external device.
- Do not damage or scratch the screen with sharp objects. Do not operate the screen with hard objects.

SPECIFICATIONS

- Universal 1-DIN multi-angle media moniceiver with 22.8 cm (9”) touchscreen display
- Large rotary knob for volume and four function buttons on the control panel
- Compatible with Apple CarPlay® or Android Auto™ (wireless and USB)
- GPS receiver for optimized position determination in navigation applications
- Media player for audio, video and photo
  Compatible file formats: AVI, FLV, MOV, MKV, WMV, WMA, MP3, FLAC, JPEG, PNG, BMP
- DAB digital radio (incl. DAB antenna)
- FM/AM radio with RDS function
- Bluetooth® hands-free function including audio streaming
- USB-A port for media with charging function (1.5 A)
- USB-A port for Apple CarPlay® or Android Auto™ with charging function (1.5 A)
- 4 x 80 watts max. music output
- RCA preamplifier outputs with 4 V (FL/FR/RL/RR/SUB1/SUB2)
- RCA AUX inputs (L/R/VIDEO)
- RCA camera inputs (FRONT/REAR)
- Custom boot logo
- Selectable RGB key panel illumination with animation effect
- External microphone
- Compatible with analog steering wheel remote control (can be learned)
- Supported menu languages: GER, ENG, SWE, ITA

SPECIFICATIONS RADIO TYPE

Function	Band information	Frequency	Maximum emitted power
Satellite system	GPS	1575 MHz	–
AM Radio	Medium wave band	522 - 1620 kHz	–
FM Radio	Band II	87,5 - 108 MHz	–
DAB Radio	Band III (5A – 13F)	174,9 - 239,2 MHz	–
Bluetooth	Version 5.0	2402 - 2480 MHz	10,0 dBm
WiFi / W-LAN	IEEE802.11b/g/n/a/ac	2412 - 2484 MHz 5180 - 5825 MHz	12,0 dBm 18,0 dBm

DISPOSAL / RECYCLING



If you have to dispose the device and its components, please note that no electronic devices must be disposed in the household waste. Dispose the device and its components at a suitable recycling facility in accordance with local waste regulations. If necessary, consult your local authority or dealer.

More information at **www.audiodesign.de/english/disposal**

INTENDED USE OF THE DEVICE

This device is only suitable for operation in a vehicle with an on-board voltage of 12 volts with negative ground. In the event of misuse, incorrect installation or modification, the operating license and the warranty expire.

DECLARATION OF CONFORMITY

CE

Distribution:
Audio Design Lautsprecher Vertriebs GmbH
Am Breilingsweg 3, DE-76709 Kronau/Deutschland

The Audio Design Lautsprecher Vertriebs GmbH hereby declares that the device **VMX900DAB** complies with Directive **2014/53/EU**. The full text of the EU declaration of conformity is available at the following Internet address: **www.esxnavi.de/ce**

1. CONNECTIONS & INSTALLATION

The following instructions are an installation aid for professional installation of the device. Please note the following information 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.

⚠ IMPORTANT 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.

Please note the following steps when installing the device:

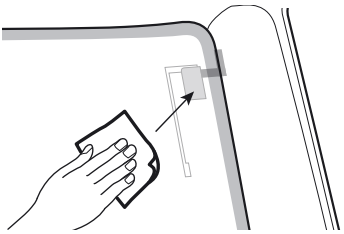
1. **Original radio / navigation system**
   If available, first remove the original radio / navigation device. Use suitable unlocking tools to pull the device out of the dashboard. Then pull the cable plug from the device and leave it accessible in the radio slot.

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 6. 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.

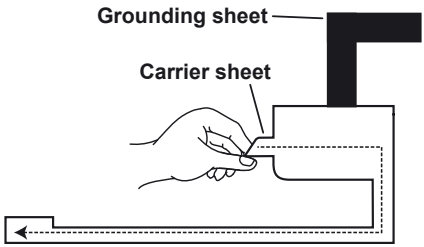
3. **Installation of the ESX main device**
   Now the ESX main device can be inserted into the 1-DIN installation slot of the vehicle.

4. **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.

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



Clean the windshield with a suitable cleaning cloth.



Remove the carrier sheet from the black amplifier unit and the foil antenna and stick the antenna onto the window.

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

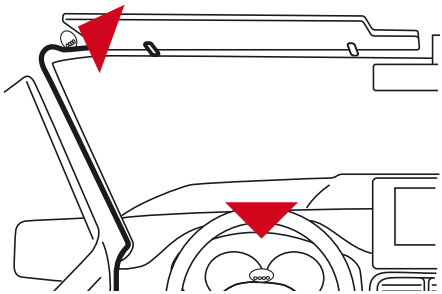
⚠ IMPORTANT NOTE:
In newer vehicles, the original vehicle antenna can usually be used for both analogue (FM/AM) and digital radio reception (DAB). If it does not have separate connections for FM/AM and DAB, a separately available antenna splitter must be used so that both connections on the ESX device can be used.

GPS antenna
The GPS antenna should be glued horizontally to the dashboard with the adhesive side down. Reception is not possible with a metal-coated pane. Choose a level spot with a clear view of the sky.

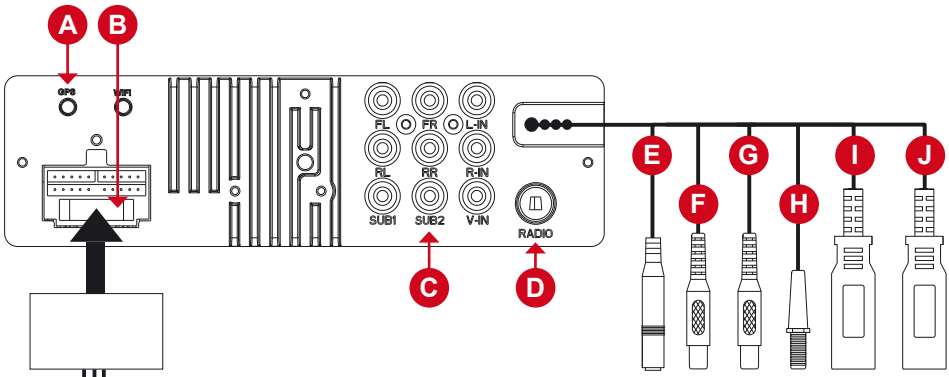


Remove the foil on the bottom of the GPS antenna

External microphone
The external microphone should be positioned in an easily accessible place, e.g. next to the sun visor or on the steering column.



USB port
Route the USB ports to the desired location, such as the glove box.



Power connections (ISO standard)

Yellow	Power supply (+12V)
Red	ACC ignition (+12 V)
Black	Ground (–)
Orange	Connection for headlights
Purple/White	Connection for reverse gear signal
Blue	+12 V for electrical antenna (500 mA)
Blue/White	+12 V remote signal REM (500 mA)
Green	Connection for handbrake signal
Red/Purple	+12 V for front camera (500 mA)
Red/White	+12 V for rear camera (500 mA)

Speaker outputs 4 - 8 Ω

White	front / left (+)
White/Black	front / left (–)
Grey	front / right (+)
Grey/Black	front / right (–)
Green	rear / left (+)
Green/Black	rear / left (–)
Purple	rear / right (+)
Purple/Black	rear / right (–)

K

If your vehicle does not have a suitable ISO system plug, you must use the included 16-pin ISO double plug and connect the corresponding connections to the open cable ends as described above.

⚠ IMPORTANT NOTE:
The handbrake signal must be connected to the device and must be grounded when the handbrake is applied. According to legal regulations, the device may only display a video signal on the main screen when the handbrake is applied. The connection cable must therefore not be permanently connected to ground.

A **Connection for the included GPS antenna**

B **Fuse 15A** (In the event of a defect, only exchange it for an equivalent one)

C **AV-Anschlüsse**

If necessary, connect the appropriate RCA plugs here:

FL (white)	Pre-amplifier output front / left
FR (red)	Pre-amplifier output front / right
RL (white)	Pre-amplifier output rear / left
RR (red)	Pre-amplifier output rear / right
SUB1 (blue)	Pre-amplifier output subwoofer
SUB2 (blue)	Pre-amplifier output subwoofer
L-IN (white)	Audio input AUX / left
R-IN (red)	Audio input AUX / right
V-IN (yellow)	Video input AUX

D **Connection for the vehicle's antenna plug (an adapter may be required)**

E **Ø 3.5 mm jack for the included external microphone**

F **RCA connection for the input signal of the rear camera**

G **RCA connection for the input signal of the front camera**

H **Connection for the included DAB antenna**

I **USB port for Apple CarPlay®, Android Auto™ and media with charging function 1.5A**

J **USB port for media with charging function 1.5A**

K **Ø 3.5 mm jack for the included steering wheel remote control adapter**

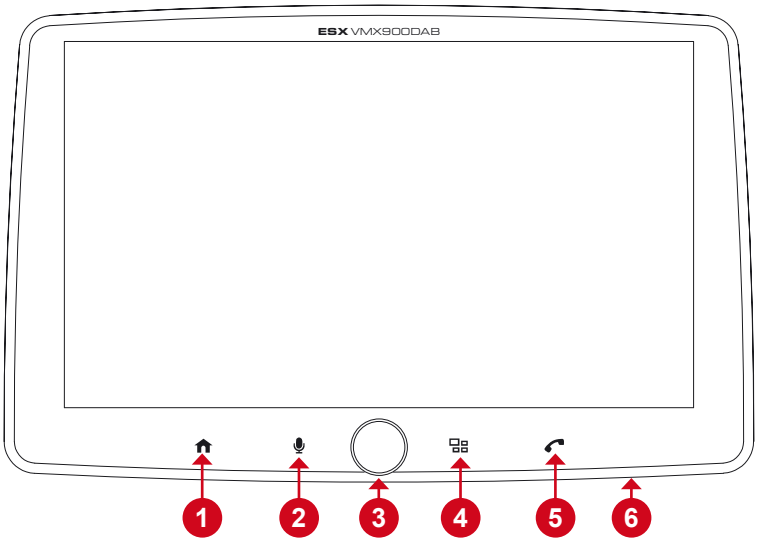
If necessary, connect the appropriate cables to the adapter here:

SWC Gnd (yellow)	Ground connection of the analog steering wheel remote control
SWC 1 (grey)	Connection of the analog steering wheel remote control / left
SWC 2 (red)	Connection of the analog steering wheel remote control / right

You can then teach the corresponding function keys on your analogue steering wheel remote control in the device. More about this on page 15.

2. CONTROL ELEMENTS

2.1 FUNCTION BUTTONS & CONTROLS

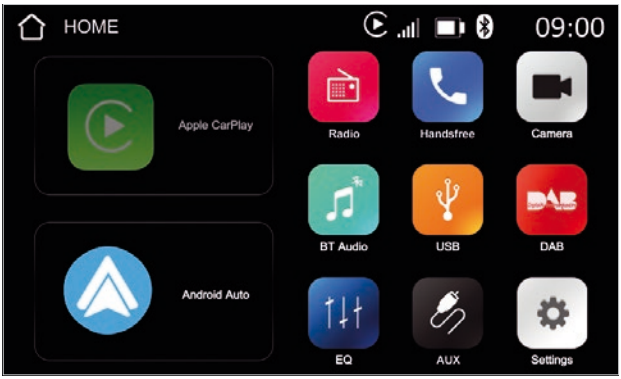


Number	Function	Description
1	Home menu	Press short to go to the home menu.
2	Voice assistant	Press here to activate the voice assistant of your connected smartphone.
3	Volume	Turn the knob to adjust the volume.
	Mute	Press short to activate mute.
	Stand-by	Press and hold the button to switch the device to standby mode.
4	Source	Press here to switch between applications.
5	Phone	Press here to open the phone application or to answer an incoming call.
6	Reset	If the device no longer responds to inputs, you can reset the device using the small opening below the display. Press the button for more than 3 seconds to restart the system and reset it to factory settings. All your settings will be lost during the reset. Use a suitable pointed object, such as a paper clip, to do this.

2. CONTROL ELEMENTS

2.2 HOME MENU

This device has a very clear home menu, which you can operate by simply tapping the touchscreen screen. You can find more information about the individual applications and functions of the device starting on page 21.



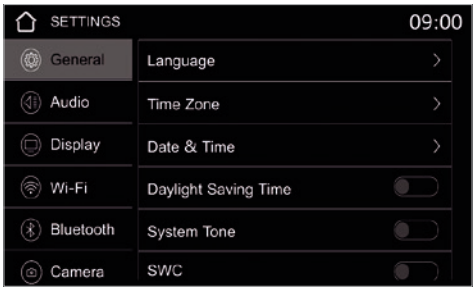
2.3 STATUS BAR

At the top of the screen is the device's status bar. The information and symbols shown there have the following meaning:

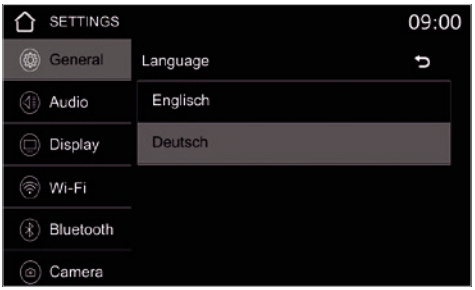
Symbol	Function	Description
	Home menu	Tap it to go back to the Home menu.
	CarPlay or Android Auto	Tap it to open CarPlay or Android Auto if the device is connected to a smartphone.
	Time	Current time.
	Signal strength	The current signal strength of the cellular connection of the smartphone connected to the device is displayed here.
	Battery level	The current battery level of the smartphone connected to the device is displayed here.
	Bluetooth	As soon as the device is connected to a smartphone via Bluetooth, this symbol will be displayed.
	GPS	This symbol only appears if the device has no or very weak GPS reception, which can occur in tunnels or in remote areas. The symbol disappears again as soon as a sufficiently strong GPS signal is received again. If the symbol continues to appear, the connection and function of the GPS antenna must be checked.

3. SETTINGS

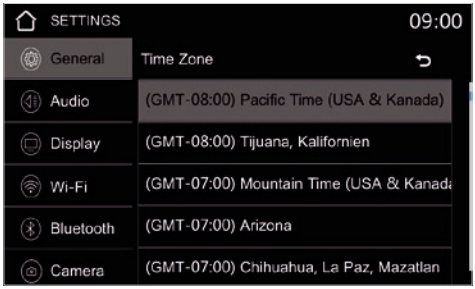
3.1 GENERAL



Under **General** you can make various settings for the device.



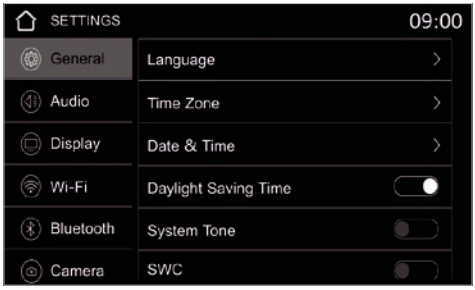
You can set the menu language under **Language**.



Under **Time Zone** you can set the desired time zone if you want to change the time zone automatically determined by GPS.



Under **Date & Time** you can set the desired time format (12H/24H) as well as the date and time manually if you want to change the time and date display determined by GPS.



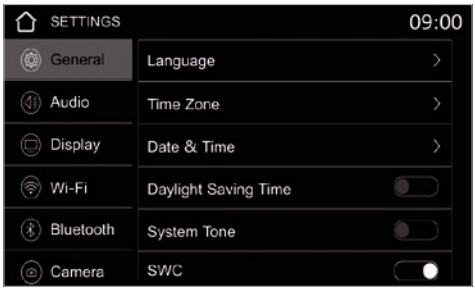
The slider next to **Daylight Saving Time** activates the daylight saving time display and the current time is advanced by 1 hour.



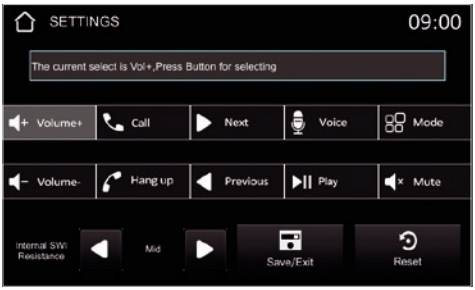
The slider next to **System Tone** activates the acoustic confirmation tone that sounds as soon as you tap one of the controls.

3. SETTINGS

3.1 GENERAL



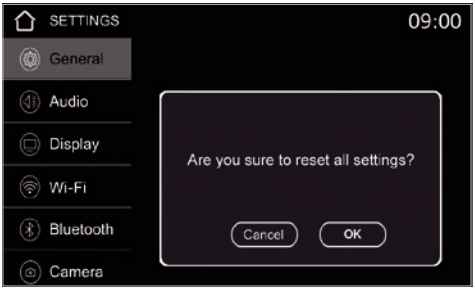
The slider next to **SWC** opens the steering wheel remote control learning menu.



If your steering wheel remote control has been correctly connected to the device, you can teach the individual functions to the device here. As soon as you have assigned all functions, leave the menu with **Save/Exit**.



Under **Power Off Delay** you can use **– / +** to set the seconds for how long the device should remain switched on after the ignition has been switched off.

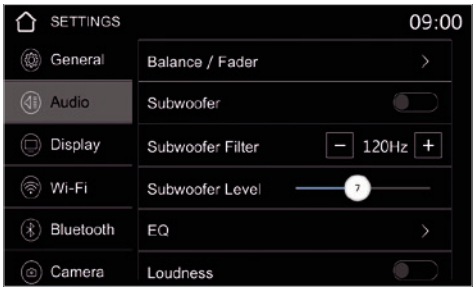


Under **Factory Reset** you can reset all settings of the device to the factory settings. **Be careful**, this will delete all your saved settings.

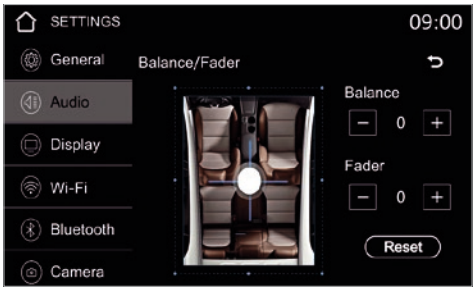


Under **Change logo** you can save your own boot logo. To do this, save a JPG (1024 x 600 px) with the file name **changelogo.jpg** in the root directory of the connected USB stick (max. 32 GB).

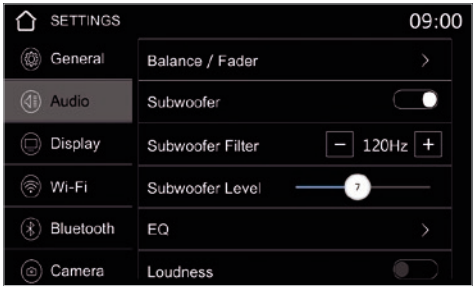
3.2 AUDIO



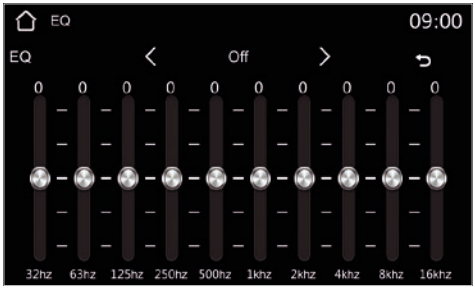
Under Audio you can make various audio settings.



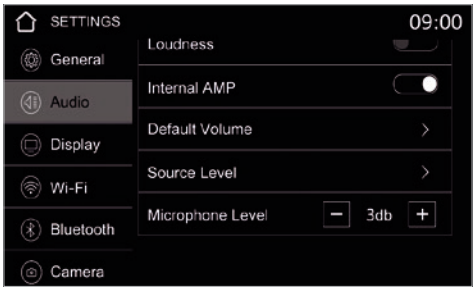
Under Balance/Fader you can adjust the balance of the acoustic stage between left and right and front and back.



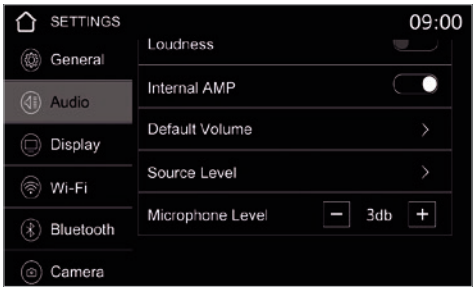
Subwoofer activates the SUB1/SUB2 preamp outputs. Thea cut-off frequency can be set under the **Subwoofer Filter**, i.e. all frequencies above are filtered out. Below you can adjust the **Subwoofer Level**.



Under **EQ** you can adjust the equalizer settings manually or use the **< / >** buttons to select one of the presets. **Loudness** increases the highs and mids to make the sound louder and more powerful.

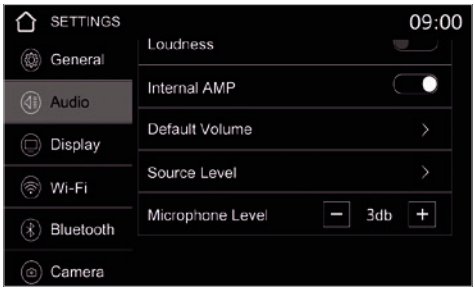


Under **Internal AMP** you can switch the device's integrated audio amplifier on or off. If you are using the device's preamp outputs to drive an external audio amplifier, turn off the amplifier.



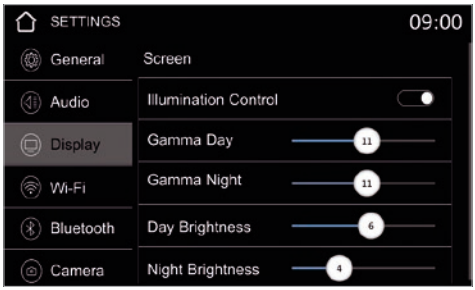
With **Default Volume** and **Source Level**, you can tune and adjust the levels for each application and signal source as desired.

3.2 AUDIO

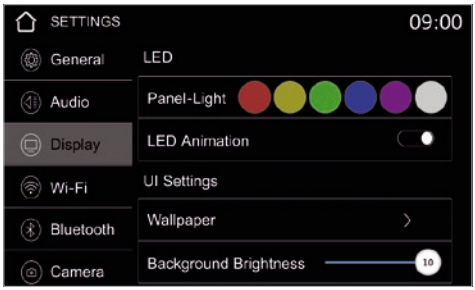


Under **Microphone Level** you can adjust the volume of the hands-free microphone with **– / +**.

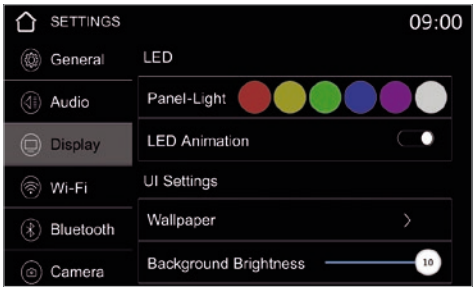
3.3 DISPLAY



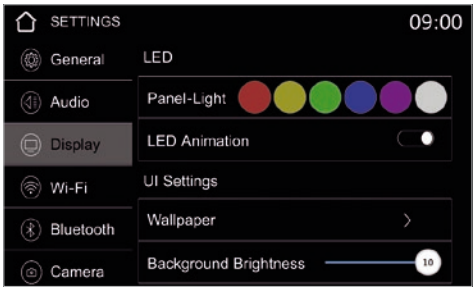
With **Illumination Control** you can activate the control function for the day and night light mode via the connected headlight signal.



With **LED Animation** you activate the changing, colored LED illumination of the function keys on the control panel.

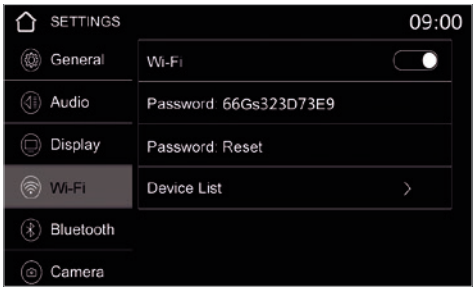


If **LED Animation** is deactivated, you can select the color that should light up permanently under **Panel-Light**.

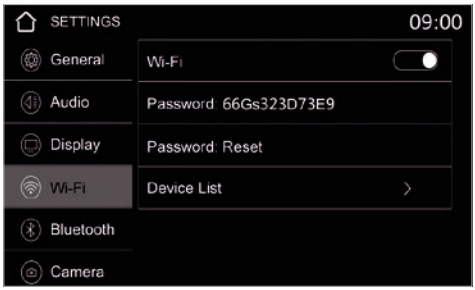


Under **UI Settings** you can set a different wallpaper color for the home menu as well as its brightness.

3.3 WI-FI

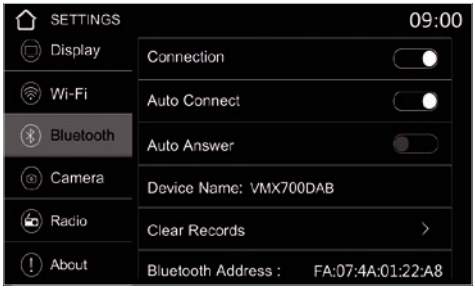


Under **Wi-Fi** you can turn the Wi-Fi function on or off. This function is required for Apple CarPlay and Android Auto.

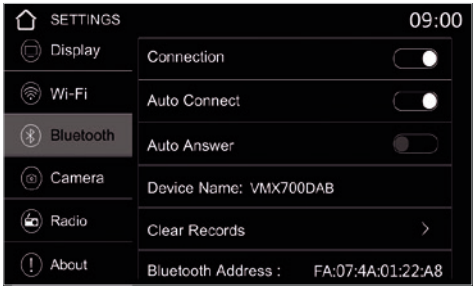


With **Password Reset** you can delete the device's password and reassign it. Under **Device List** you can select a connectable smartphone that you would like to connect to the device. You can also delete devices that have already been registered there.

3.4 BLUETOOTH



Under **Bluetooth**, you can connect your smartphone to the device for hands-free calling. This function is also required for Apple CarPlay and Android Auto.

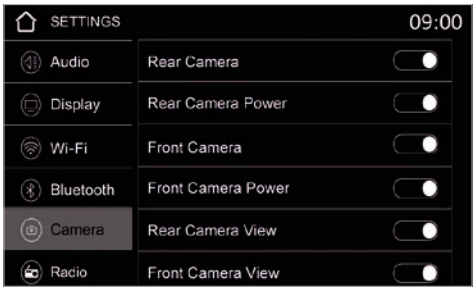


Under **Auto Connect** and **Auto Answer** you can specify whether your smartphone should be automatically connected to the device after a restart and whether calls should be answered automatically. Under **Clear Records**, you can delete devices that have already been registered.

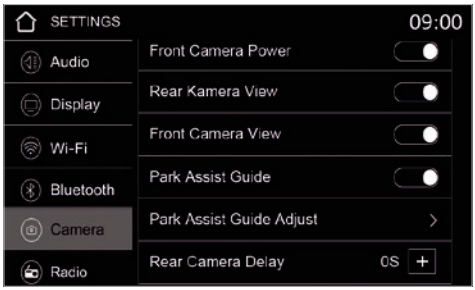
⚠ IMPORTANT NOTE:

1. To ensure a secure Bluetooth connection, you should be in a safe and non-public location.
2. Do not start the initial connection while driving, otherwise the driver could be distracted.

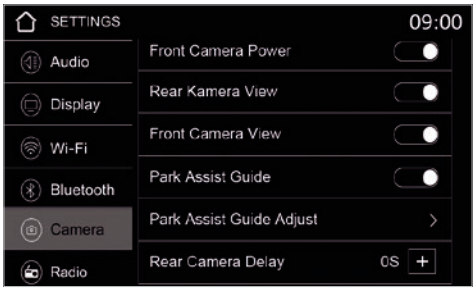
3.5 CAMERA



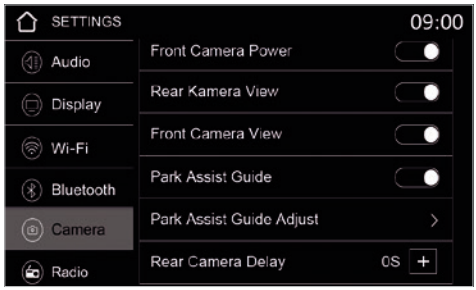
Under **Camera** you can make various settings for the connected cameras.



Here you can switch on the rear or front camera, switch on the respective power supply via the device and activate the respective view in the camera menu.



You can use the **Park Assist Guide** slider to turn on the rear view camera guidelines. With **Park Assist Guide Adjust** you can adjust the guidelines.



Under **Rear Camera Delay** you can set the delay in seconds with + with which the rear camera should be displayed on the monitor when engaging reverse gear.

3.6 RADIO



Under **Radio** you can set various settings for analogue radio reception.



Under **Region** you can set the reception area. With **RDS** you activate the transmission of additional digital information such as station names or messages from FM radio stations.



With **TA** you allow traffic announcements from the most recently listened to FM station while playing other media.



With **AF**, the radio switches to an alternative, better frequency of the station in the network if the reception signal is too weak and an alternative frequency is available.

3.7 ABOUT



Under **About** you will find information about the software version of the device

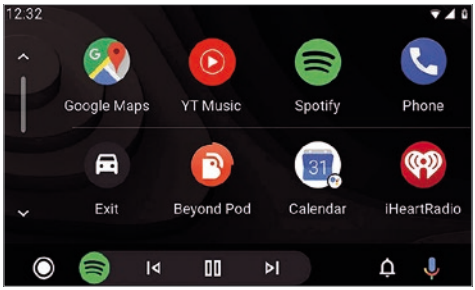
4. APPLICATIONS & FUNCTIONS

4.1 APPLE CARPLAY & ANDROID AUTO



In order to use **Apple CarPlay**, you must first connect your iPhone to the device using a USB charging cable or Bluetooth (see page 18). Bluetooth and Wi-Fi must be activated on both devices. You may still need to activate the CarPlay function for this connection in your iPhone.

If you have enabled **Auto Connect** in the Bluetooth settings (see page 18), your iPhone will connect automatically every time until you delete the iPhone's registration or turn off CarPlay. To exit the CarPlay menu, tap **Exit**.



In order to use **Android Auto**, you must first connect your smartphone to the device using a USB charging cable or Bluetooth (see page 18). Bluetooth and Wi-Fi must be activated on both devices. You may still need to install the Android Auto app and activate it for this connection.

If you have enabled **Auto Connect** in the Bluetooth settings (see page 18), your smartphone will connect automatically every time until you delete the phone's registration or turn off Android Auto. To exit the Android Auto menu, tap **Exit**.

⚠ IMPORTANT NOTE:
Please note that using some apps requires a mobile internet connection and may result in high data consumption.

4.2 RADIO



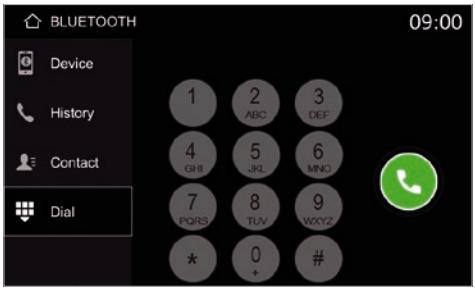
By tapping on **Radio** in the home menu you open the menu for analog radio reception.

First, carry out a channel search, which you can start with the magnifying glass symbol at the bottom right. You can mark the current station as a favorite using the star symbol below the frequency display.

Below you will find further controls such as station list, FM/AM switching, stereo/mono switching, DX/local switching and radio settings.

4.3 HANDSFREE





By tapping on **Handsfree** in the home menu you open the phone menu. Please make sure that the corresponding microphone must be activated for the hands-free function (see page 17).

It is not possible to operate Apple CarPlay or Android Auto and the handsfree function at the same time. One of the two functions must be deactivated if necessary.

If your cell phone is not yet connected to the device via Bluetooth, please follow the instructions on page 18.

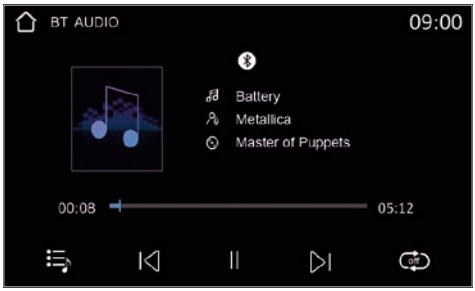
Once the device is connected to your phone, you can tap **History**, **Contact** and **Dial** on the left panel.

If necessary, agree to download your contacts from your phone.

⚠ IMPORTANT NOTE:

1. To ensure a secure Bluetooth connection, you should be in a safe and non-public location.
2. Do not start the initial connection while driving, otherwise the driver could be distracted.

4.4 BT AUDIO



By tapping on **BT Audio** in the home menu, you open the Bluetooth audio streaming application.

If your cell phone is not yet connected to the device via Bluetooth, please follow the instructions on page 18.

The controls and playback options of the audio player are located on the bottom control bar.

⚠ IMPORTANT NOTE:

Some cell phones require you to manually start your music player and manually select the playlist and tracks.

4.5 CAMERA



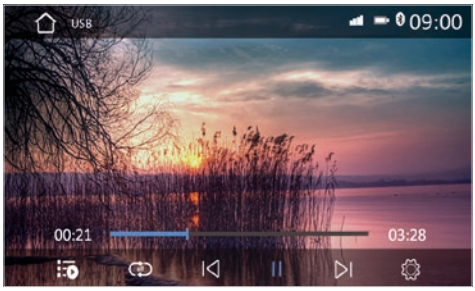
By tapping on **Camera** you open the camera display if you have connected a rear camera or a front camera to the device.

If you have two cameras connected, you can select the respective view on the control bar at the bottom.

Please note the information about the camera settings on page 19.

If no camera is connected, this view will show **No Signal**.

4.6 USB



By tapping on **USB** in the home menu, you open the USB media player, which you can use to play compatible media such as music, videos and photos that are on a USB medium connected to the device.

The controls and playback options of the media player are located on the bottom control bar.

Compatible file formats: AVI, FLV, MOV, MKV, WMV, WMA, MP3, FLAC, JPEG, PNG, BMP

⚠ IMPORTANT NOTE:
No videos or moving images may be played while driving, otherwise the driver could be distracted.

4.7 DAB



By tapping on **DAB** in the home menu you open the menu for digital radio reception.

The station search starts automatically.

The controls and the DAB settings are located on the bottom control bar and the frequency band selection below.

4.8 AUX



By tapping on **AUX** In in the home menu you open the view of the external playback device connected to the AUX inputs.

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