AV8V7
AV8V7-Pro
AV8V7-Ultra

Android Car Multimedia System
for Volkswagen/Seat/Škoda

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Preface

Thank you for choosing the AV8V7 Android Car Multimedia System by MIC GmbH . This product features a SIM slot, GPS, radio, Bluetooth, audio & video, DSP, Android Auto & Apple CarPlay, WiFi hotspot and DAB+. It supports SIM cards, 4G dongles, DVR, TPMS, OBDII, DVR-T/DVB -T2 & ISDB-T, rearview assistance, among other functions.

Before using the product, please read the user manual carefully to fully understand and utilize all functions and features of the product and keep the user manual for future questions.

Introduction

The hardware and software configurations described may vary depending on the software version. If you notice any discrepancies between the manual and your product, please contact us.
Attention: Please read the instruction manual carefully before use to ensure proper and safe usage.

Safety Instructions

Important safety precautions: The product retailer cannot accept liability for product defects, personal injury, or property damage if any of the following precautions are violated.
Please install the product properly so that it does not obstruct the driver's view or interfere with the airbag or other safety equipment.

Avoid using the device in potentially explosive areas. In these areas (e.g., gas stations, flammable or chemical transportation equipment, or storage locations with flammable gases or airborne particles), sparks can create a risk of explosion or fire, resulting in injury or even death.

This product is intended as an aid only. Please pay attention to regional traffic regulations and situations. Always obey traffic laws and be aware of your surroundings while driving.

For your safety, the driver should not operate the device while driving.

If any malfunction or abnormal behavior occurs that results in impaired operation, please contact the manufacturer or local dealer. Please do not disassemble the product yourself or make any changes.

It is recommended that the installation be carried out by a professional car stereo dealer.

This device is suitable for 12V power systems (connected to GND). Installing the device in trucks or buses with 24V power systems may result in damage to the product.

Watching TV or videos while driving can cause car accidents.

Only use fuses with the correct rating and never replace a fuse without consulting a qualified technician.

Keep the product away from humid environments or water to avoid electric shock caused by short circuits and unnecessary damage and fire.

Do not use the device in a strong magnetic environment. This can cause GPS, Bluetooth and digital TV errors.

Please turn off the ignition before installation as short circuits could occur when the engine is running.

Handle the device carefully during installation to prevent damage to cables or electronic components, as this could pose a fire hazard.

Avoid using bolts or nuts to connect the device to safety-related components like the steering wheel, fuel system, or brake system, as this could lead to a fire or accident.

Please be aware that the rearview camera serves as an auxiliary function. The manufacturer bears no responsibility for accidents resulting from reversing.

Caution: Turn off the ignition or disconnect the car battery during installation to prevent short circuits and error messages.

Installation position:
Avoid installing the product in locations where
a) it obstructs the driver's view or
b) interferes with the operation of the steering wheel, gear shift, and brake pedal.

Attention: Damages resulting from improper use are not covered by the manufacturer's warranty.

Copyright Information

MIC GmbH owns this product and its associated software. Copying or modifying the device or software without written permission from MIC GmbH is prohibited.

Product Components

Note: The images of the product components provided are for illustrative purposes only. The actual product design may vary slightly.

Front View of AV8V7:

Rear View of AV8V7:
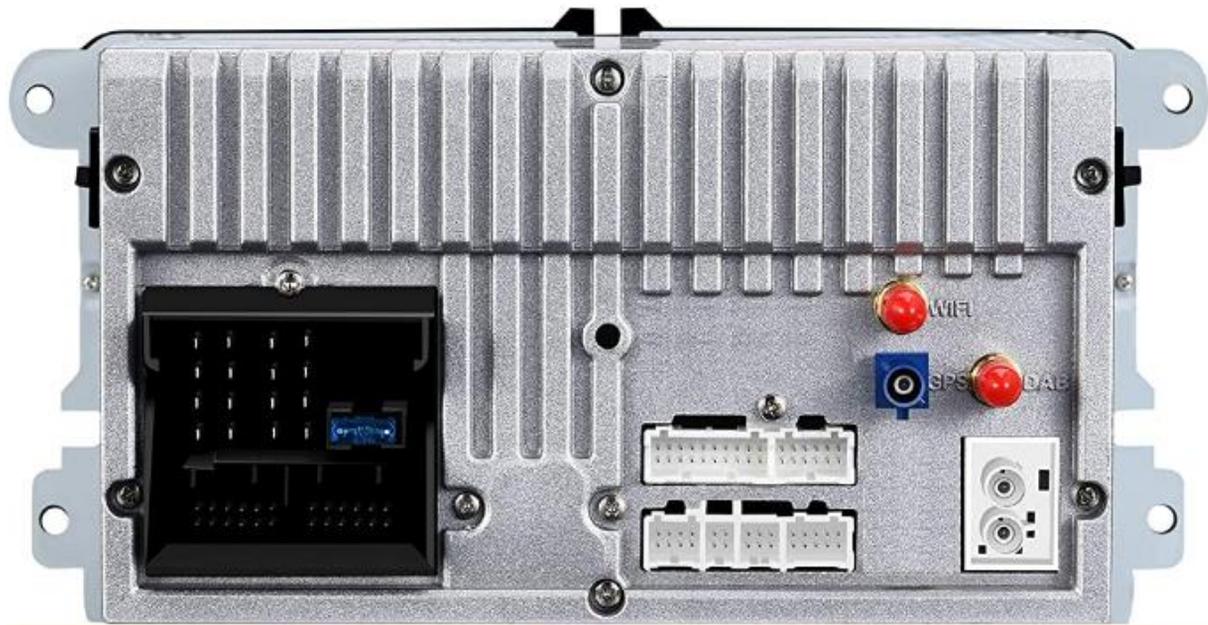
Front view:
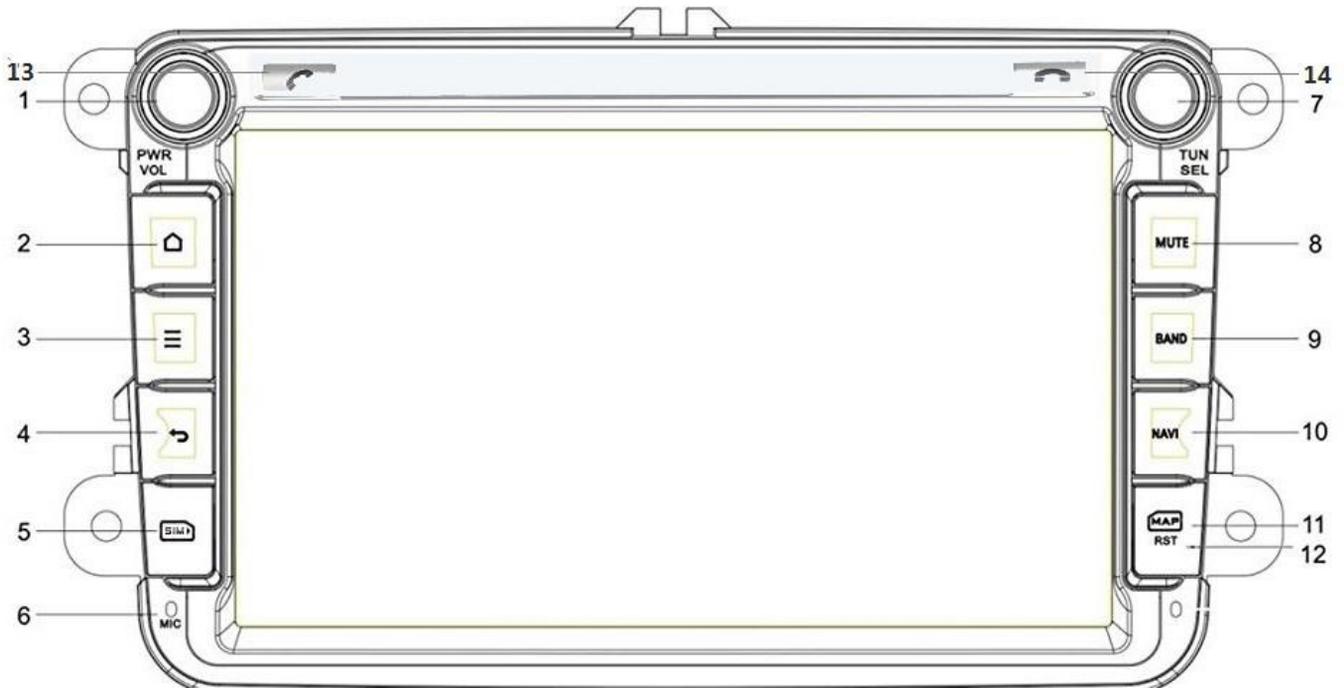
1 : POWER/VOL: Switch on/off, adjust volume	2: HOME: Access the home menu
3: MENU: Open the menu bar	4: BACK: Return to the previous menu
5 : SIM: nanoSIM card slot for Internet access	6 : MIC: Microphone
7: TUNER: access the sound menu, change radio station	8: MUTE: Mute the sound
9: BAND: Start the radio app	9: NAVI: Start the navigation app
11: MAP: mSD slot for files, media, music, and updates	12: RES: Instantly restart the device (data is not deleted)
13: CALL: Make or answer a call	14: END CALL: End a call

Note: Functions 5 (SIM), 11 (MAP), and 12 (RST) are located under a cover. To remove the cover, use a fingernail to lift it outward from the edge closest to the display.

Package Contents AV8V7:

USB-Kabel (2 Anschluss)
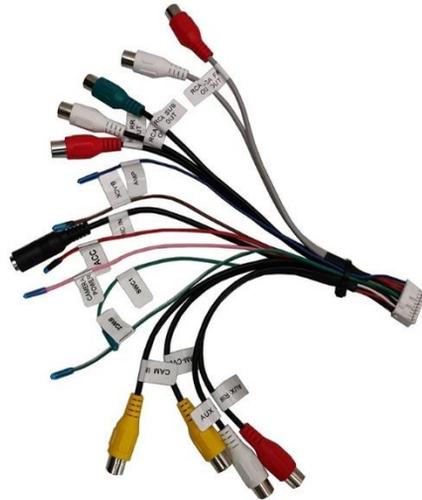
Kabelbund: (AUX-IN, CAM-IN, Mikrofon-IN, SUB-OUT, 4 x Audio-Out, ACC, Kamera Power, Back, AMP)

Aktiv DAB+ Antenne

WIFI Antenne

GPS Antenne

Specifications
Operating voltage : 9V-16V DC
Maximum operating current: ＜ 11A @14.5V
Standby operating system current: 6MA
Operating temperature: -25 ℃ to +65 ℃
Storage temperature: -40 ℃ to +80 ℃
Relative humidity: 5% to 95%(frost-free)
Positioning mode: GPS
Positioning accuracy: ≤15M
Positioning accuracy by speed: ≤0.1M/ S
Speaker output power: 4x45W (Peak), 4x28W (RMS)

Package Contents

Standard specification	Quantity
Naviceiver with integrated CAN bus and DAB+	1 piece
GPS antenna	1 piece
WIFI antenna	1 piece
DAB+ antenna	1 piece
USB cable	1 piece
Audio/video cable bundle	1 piece
Quick Start Guide	1 piece

Rear Connection Diagram
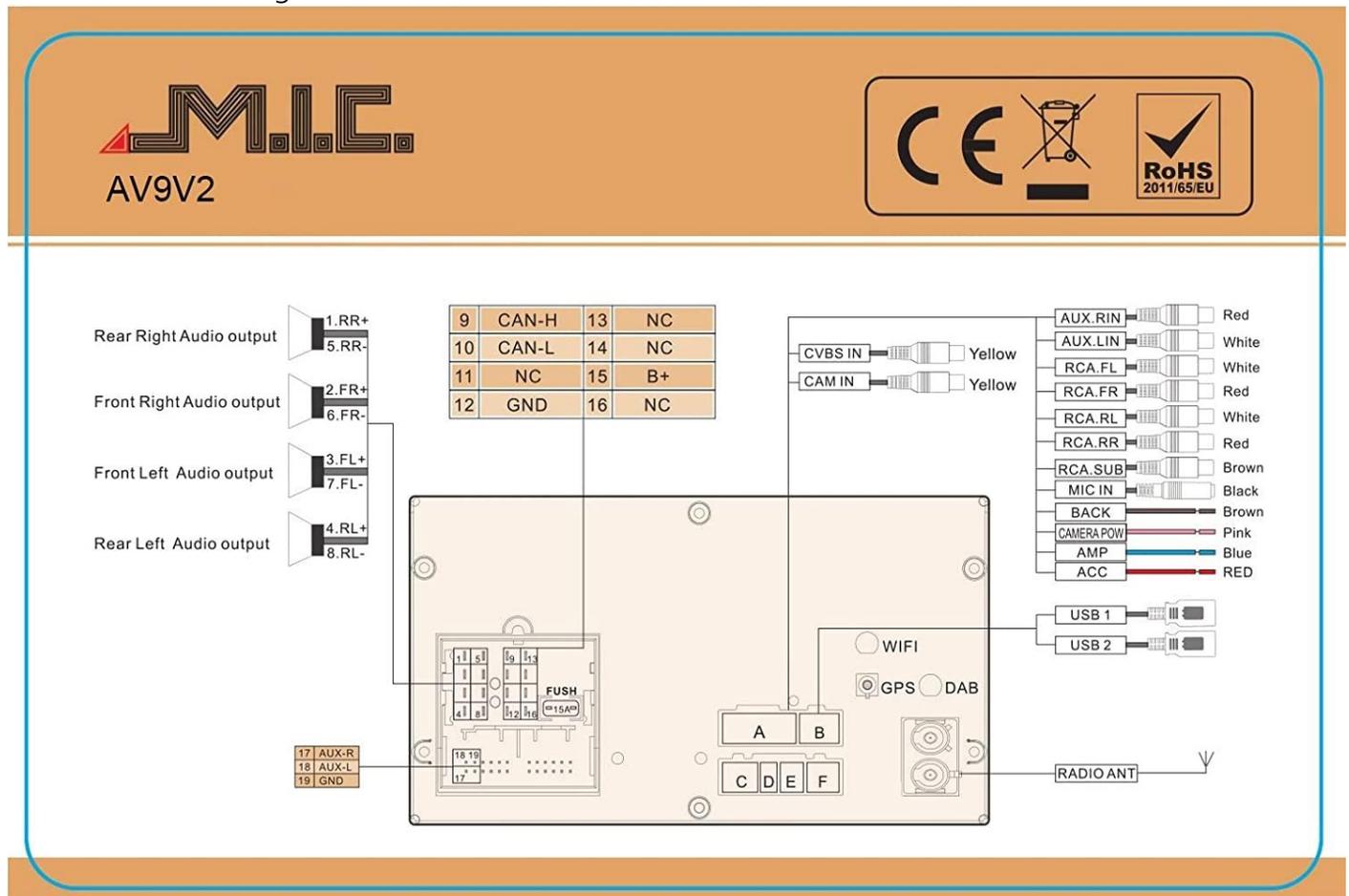
Quadlock connector
CAN-H – CAN bus pin high
CAN-L – CAN bus pin low
NC – Not used
GND – Ground
B+ - Continuous positive

For operation, the radio requires a working CAN signal on CAN-H/CAN-L, 12V on B+, and a ground on GND.
As an alternative to the CAN signal, you can also manually give the radio a 12V ignition signal via the red "ACC" cable from the cable bundle supplied, but then do not use the CAN bus communication (e.g. ignition signal, reverse gear, steering wheel control, parking sensors, etc.). .
If the red "ACC" cable is connected to permanent plus, the device can be put into operation even without the ignition running. However, we recommend only using this with a switch that allows you to turn off the power supply when you don't need it so that the car battery is not put under excessive strain.

Antenna connections and phantom voltage
WIFI - WIFI antenna (SMA connection)
GPS - GPS antenna (Fakra connection, original antennas are usually also compatible): 3V
DAB - DAB+ antenna (SMA connection): 5V
RADIO ANT - FM radio antenna (Double Fakra connection): 12V

Connection A: Cable Bundle

Cable labeling/color	Designation
Camera Power - Pink	Power output for rear view camera. Providing a 12 V output only when in reverse gear.
AMP - Blue	12 V remote output ignition current, for example to power an external subwoofer or DAB+ splitter
ACC - Red	Optional ignition signal input for operation on a power supply
CAM IN	Video input for rear camera. The input is only accessed in reverse gear. Both PAL, NTSC and AHD are supported.
CVBS-IN	Video input for other video sources. The input can be accessed through the "AV IN" app
AUX.RIN/LIN	Audio input for external sound sources
RCA.FL/FR/RL/RR	Audio output for external playback devices (only required for aftermarket sound systems)
RCA.SUB	Audio output for external retrofit subwoofer
MIC IN	Audio input for external microphone

Back - Brown	Signal input for reverse gear. The radio activates the reversing screen whenever 12V is present here (e.g., from the reversing light). Only necessary for vehicles without a CAN bus system.
SWC1/SWC2	Connection cable for a wired steering wheel control. Usually not needed for the AV8V7.

Connector B: Dual USB Cable
USB1/USB2 – USB ports for USB sticks (only limited charging capacity for phones)
SWC-GND – Ground output for external devices

Connections C to F
Ports C and D are not in use. A special SKAA-63 front camera connection, which supports automatic switching between the front and rear view cameras when maneuvering, can be added to port E (not included in the package),
The included SIM card cable should be connected to port F.

Installation

Installation procedures vary slightly between vehincles; therefore, there are no standardized instructions. Video instructions on how to remove the original radio are available on YouTube for almost all vehicles. Generally, for most vehicles, you need to pry off the cover, loosen the fastening screws of your original radio, pull the radio out of the slot, and simply reconnect the plug to the new device. If you have an existing GPS or DAB antenna, you can continue using it and avoid using the included GPS or DAB antenna. The Quadlock connector, the GPS (if available), and the radio antenna connect directly. If you have an original DAB antenna, you can connect it using the "SMA-Fakra" adapter (also available from us). Please ensure not to mix up the DAB and WLAN antennas.
The optimal position for the WiFi antenna depends on whether you aim to connect to a hotspot inside the vehicle or to WiFi outside the vehicle. For WiFi networks outside the vehicle, we recommend positioning the antenna near the window; for hotspots inside the vehicle, you can also conceal the antenna directly in the installation slot or glove compartment. The WiFi antenna also serves for LTE reception, so placing it near a window is also beneficial, especially if you plan to operate the device with its own SIM card.
In theory, a clear view of the outside is beneficial for the GPS antenna, but in most cases, the GPS antenna can be concealed in the glove compartment while still maintaining good reception performance. You can assess the reception performance under Settings > CAR > Navi > GPS monitor.
The DAB+ antenna is ideally installed on the top right of the windshield with the black copper strip connected to the body (it is recommended to scrape off a bit of paint at one spot).

For comprehensive and detailed videos on DAB+ installation, refer to:
1. Retrofit DAB antenna Connect RADICAL Android radio
2. https://www.youtube.com/watch?v=EnD47tC8Tdk
For a shorter video, check here:
https://www.youtube.com/watch?v=GF6RMr0PQdA

If you need to disconnect an airbag light during installation, do not turn the ignition back on until it is reconnected. Otherwise, the vehicle might generate an error message.

HOME

When you turn on the device, you are first directed to the home menu.
You can slide the menu left or right with your finger. You can return to the home menu at any time by pressing ⌂. You can independently add and remove apps and widgets on the home screen (2).

HOME(1)
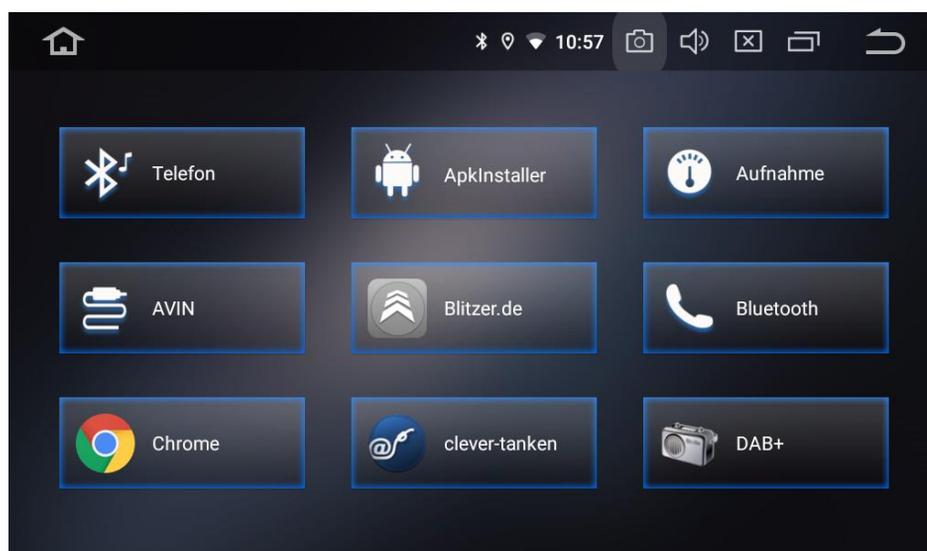
HOME(2)

This product offers navigation, radio, Bluetooth, DAB+, DVR, WiFi, and many other features. Tapping an app icon navigates you to the respective function/operation.

Reassign Keys

On the home screen, you can reassign the "Music", "Navigation", and "DAB+" buttons. For music and DAB+, press and hold the button icon (i.e., the music note or the DAB+ icon) and select your preferred app from the list that appears.

Note that pressing the graphic part of the button is necessary for the app list to appear. Pressing the other half of the button will not display the list.

The navigation button can be configured under Settings > CAR > Navi > "Set navigation app".

Install Launcher / Change User Interface

As with a typical smartphone or tablet, you can customize the user interface of your AV8V7 to your liking by installing other launchers, which can completely alter the design of the home screen. To do this, open the Google Play Store, search for "Launcher", and install your preferred launcher.

You can revert back to the preinstalled look ("Overview") at any time under Settings > Apps > Default apps > Start app.

Radio

Tap the radio button to access the radio menu. The radio supports both AM and FM reception, which can be toggled between by tapping the switch button (see pictures).
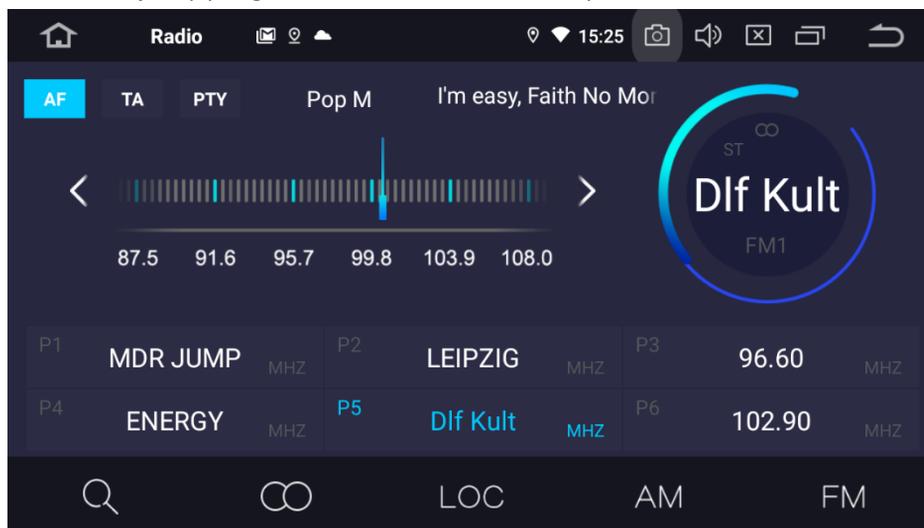
The following functions are available:

AF Alternative Frequencies: When activated (indicated by the light blue), the device automatically switches to a stronger frequency of the selected station's reception weakens.

TA Traffic Announcements: If this function is activated, the car radio automatically switches to a radio station that is currently broadcasting traffic information.

PTY Program Type: If you prefer specific program content such as pop, news, sports, or classical, and the exact channel is of lesser importance to you, the PTY function enables you to select the desired genre. The radio then solely searches for stations that broadcast the desired genre and automatically switches to a different station if the selected station does not match the desired program type.

< Briefly tap to pre-search for a radio station; hold down for reverse search (0.05 MHz)

> Briefly tap to continue searching for a radio station; hold down to advance 0.05 MHz

Q Briefly tap for an automatic station search; tap again to stop it.

∞ At FM frequencies, tap this button to toggle the stereo effect on/off; The FM radio signal is typically strongest in the city center, usually in stereo. In other areas, the radio signal might not be stable and may switch to mono to enhance the radio effect (Note: When stereo is off, mono is on.)

LOC Tap to automatically toggle between local and distant radio modes on FM frequencies, depending on the strength of the radio signal.

AM Tap to select the desired AM frequency from AM1, AM2; up to 12 radio stations can be saved.

FM Tap to select the desired FM frequency from P1, P2, P3, P4, P5, P6; up to 18 radio stations can be saved.

If the signal quality is adequate, station names and title information are displayed. You can save your preferred station to the favorites by holding down the desired station position while tuned into the desired frequency.
If you experience disruptive interruptions while listening to the radio, we recommend deactivating the "AF" function.

Bluetooth

Tap the Bluetooth app to access the Bluetooth menu. This app allows you to pair your phone with the car radio and manage phone calls directly from the car radio. To do this, enable Bluetooth on your mobile phone, search for the "CAR-KIT" device, and connect to it. When pairing with your mobile phone, enter the universal code "0000" if required and confirm. After Bluetooth has successfully connected to your phone, the ⚹ icon will appear on the right in the header of the screen.
Bluetooth pairing is limited to one mobile phone at a time. To pair with a new device, you must first disconnect the previously paired device.

Upon successful pairing, you can access the contacts screen:
On this screen, you can import the phone contacts from your mobile phone by tapping the icon at the bottom right (confirmation on the mobile phone is required, see page 14).

Call screen
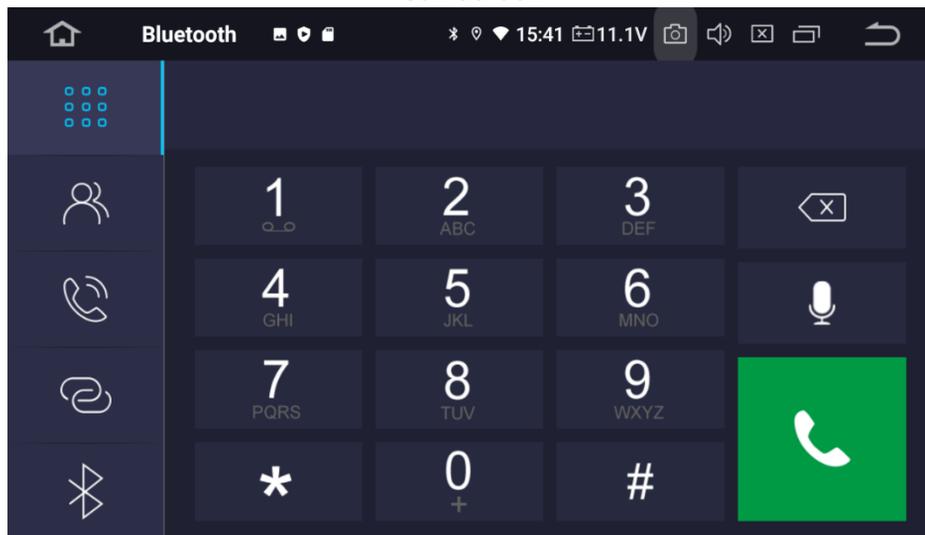
⊞ Numeric Keypad

👤 Contacts

📞 Call History

🔍 Bluetooth Pairing

⚙ Bluetooth Settings

📞 Answer Call

⌫ Delete Last Digit; hold down to delete the entire entry

Contacts
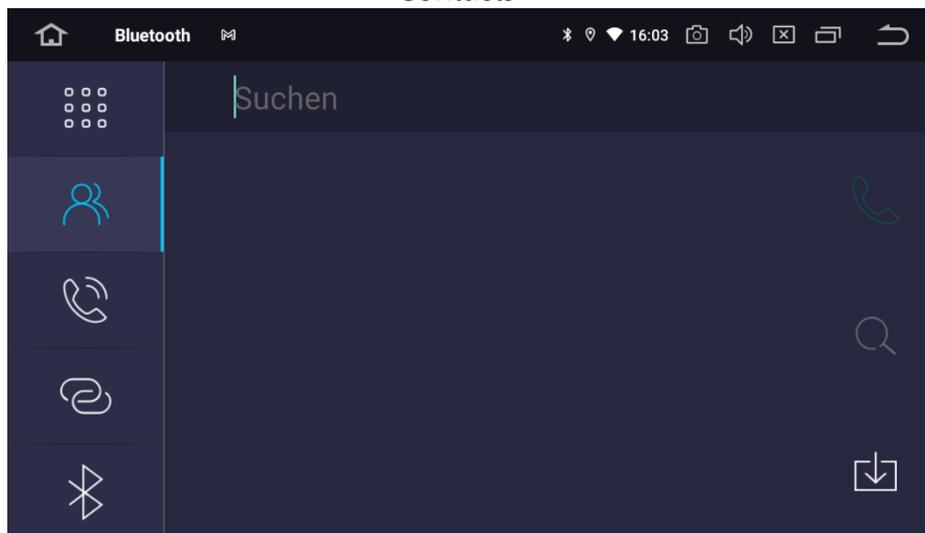
📞 Initiate a Phone Call (select a contact beforehand)

🔍 Search for Contact

⊡ Import Contacts (confirmation required on mobile phone)

Call History
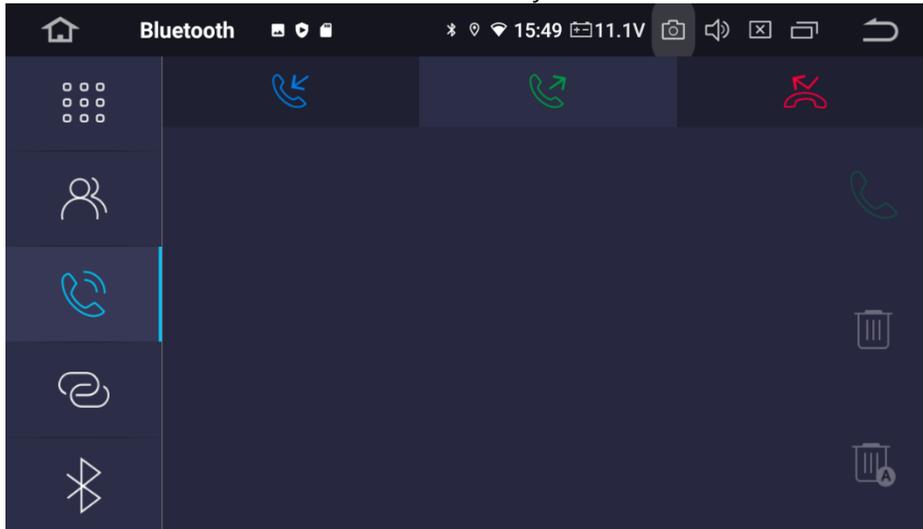
📞 Incoming Calls

📞 Outgoing Calls

📞 Missed/Rejected Calls

📞 Automatic Callback

Bluetooth Pairing
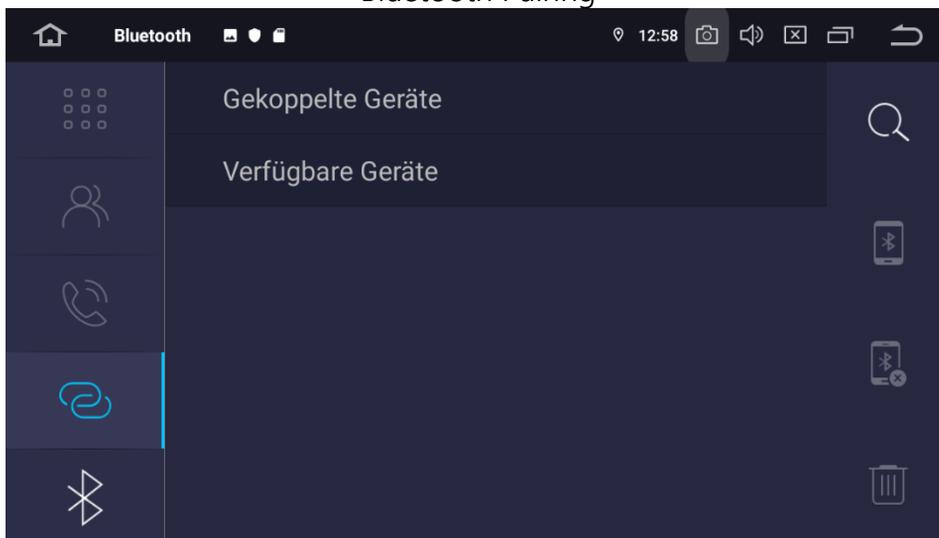
🔍 Search for Nearby Bluetooth Devices

📱 Pair with Selected Device

📱 Disconnect from the Selected Device

🗑 Remove Selected Device from Overview

Bluetooth Settings
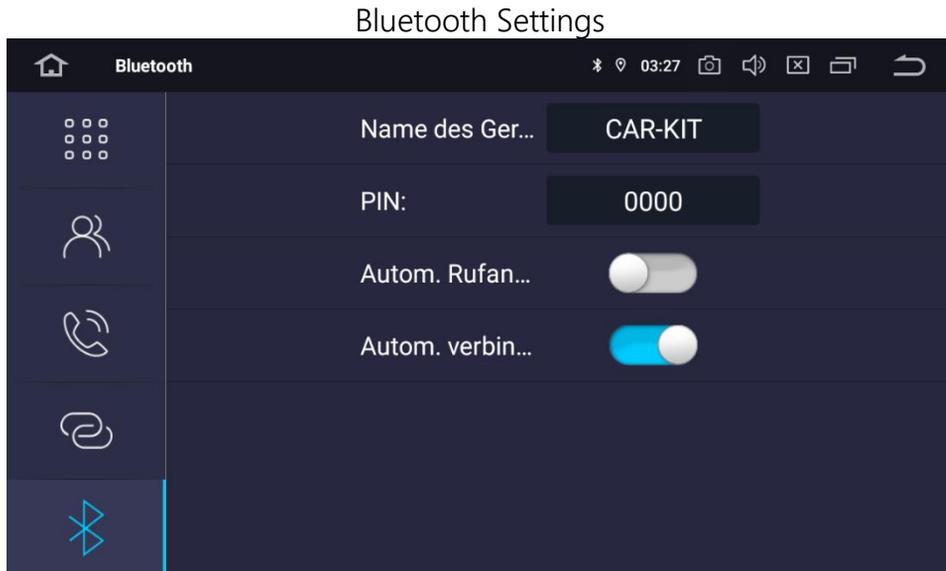
In the Bluetooth settings, you can modify the display name and Bluetooth PIN of the AV8V7. Additionally, you can also configure whether the AV8V7 should automatically accept or reject connection requests.

Import Contacts

Once your mobile phone is connected to the device via Bluetooth, you can import the contact data from your mobile phone into the device. Please proceed as follows to do this:

Android devices
1. First, tap the 👤 icon.
2. Tap the 🔄 icon in the bottom right corner.
3. A security prompt will appear on your mobile phone, please confirm it.
4. The contacts should now be successfully imported.

iOS devices
1. In your iPhone's Bluetooth settings, enable the "Sync" setting.

2. Tap the ![icon] icon.

3. Tap the ![icon] icon in the bottom right corner.

4. The contacts should now be successfully imported.

Bluetooth Music

Tap the Phone app. After opening the app, a large play button appears, allowing you to start the music directly.
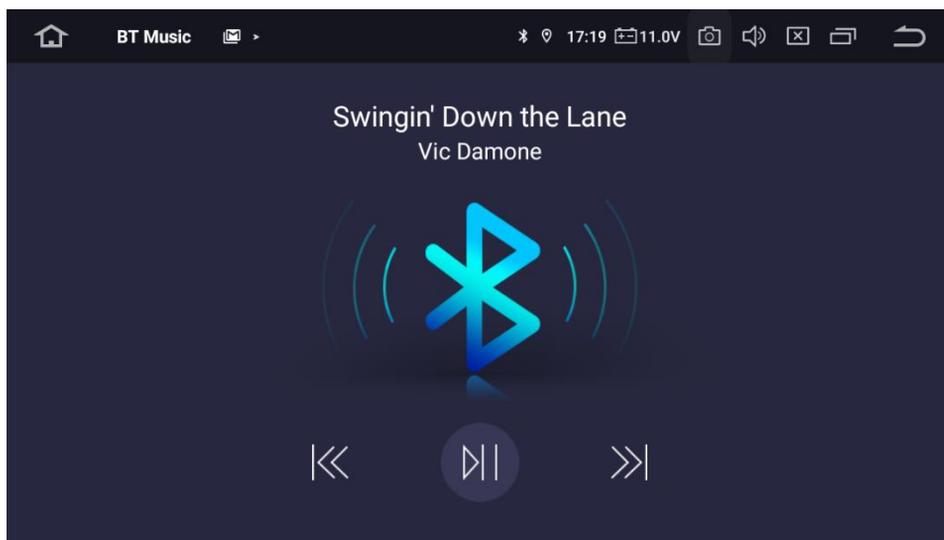
Tap the Music app to access the music menu. Here, you can play audio files from the device's hard drive, your mSD card (slot on the front), or your USB stick (double USB cable included). WMA, MP3, and many other formats are supported.
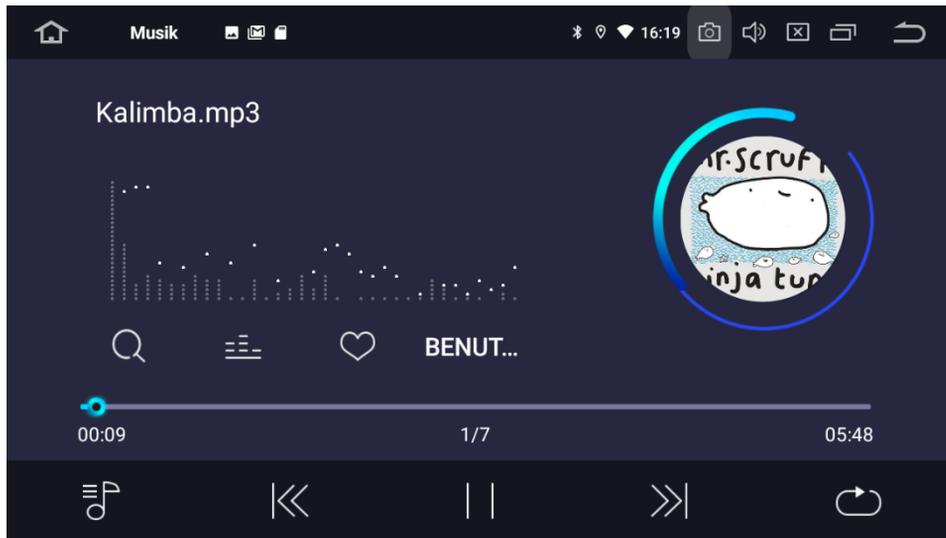
 Playlist

 Back

 Stop/Play

 Forward

Equalizer mode

Playback loop

Slide the menu to the right or tap the note at the bottom left to select your preferred music source. Slide left to individually select all titles in the current playback folder.

We recommend the following specifications for your storage device:

MicroSD Card

Size: 64GB or less
Format: Fat32 or NTFS
Manufacturer: Preferably well-known brands such as SanDisk or Kingston

USB Stick

Size: 1TB or less

Formatting: Fat32 or NTFS

Manufacturer: No specific recommendations

Sound

The AV8V7 already incorporates an integrated digital sound processor (DSP), which further enhances the audio signal in real time. You can utilize this to make various sound adjustments:

The Loudness function automatically adjusts bass and treble, compensating for volume changes. In psychoacoustics, it's a well-known phenomenon that music sounds different at significantly louder or quieter volumes than it was mixed at. This is because the settings of the original mix are no longer fully suitable for the altered volume.

With the ECHO function, reverberation can be adjusted to simulate a spatial impression.

The HIGH PASS setting allows you to establish a frequency filter that only permits sounds above the specified frequency to pass through and filters out the other frequencies. This allows for a clear division of sound between the subwoofer, woofers, mid-range speakers, and tweeters.

The BASS setting allows you to establish a frequency filter that only permits sounds below the specified frequency to pass through and filters out the other frequencies. This allows the sound to be clearly divided between the subwoofer, woofers, mid-range speakers and tweeters.

The volume of the subwoofer can be adjusted using the SUB function.

Sound Output Delay

The sound is emitted simultaneously from all speakers without any delay. This implies that the sound waves from the driver's side speakers reach the driver's ear quicker than those from the passenger's side speakers. It might therefore be sensible to establish a delay so that the sound from all speakers reaches the listener's ears at exactly the same time.
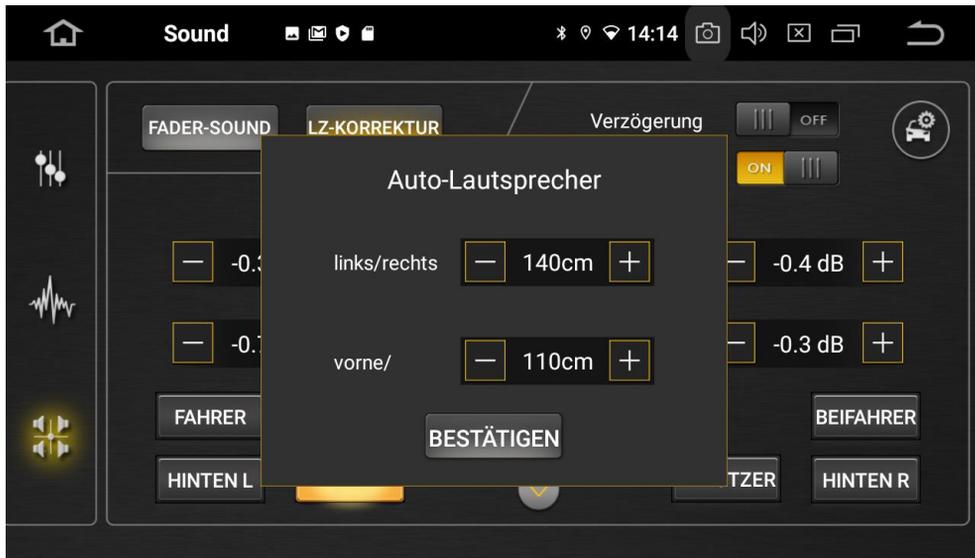
The sound output delay can be set in the menu shown above. Enter the exact distance between the left/right and front/rear speakers.
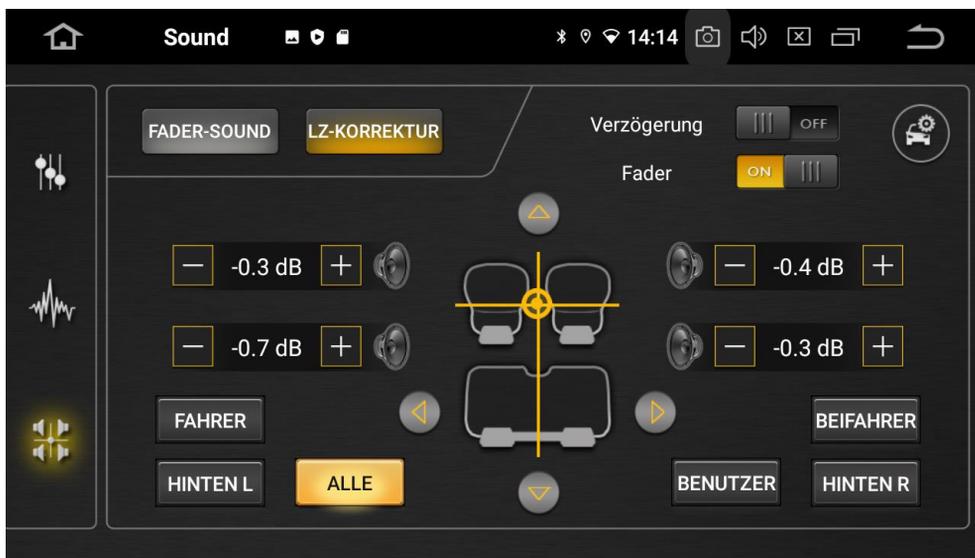
Then position the crosshairs at the location where you want the sound to be directed. The device will then automatically calculate the appropriate delay time.
You can also individually adjust the volume for all speakers in the menu.

Speed-Dependent Volume Adjustment (GALA)
You can configure the Speed-Dependent Volume Adjustment (GALA) using the following app:
https://github.com/rumburake/AutoVolume/files/10827476/AutoVolume-Android10-320%2Bfix.zip

Copy the file to a USB stick or a microSD card and connect it to the device. Open the File Manager app and then tap the file from the USB stick/microSD card. The app will subsequently be installed. Instructions for use can be accessed here:
https://www.youtube.com/watch?v=TfpKTiuSHe4&feature=youtu.be

![M.I.C. logo]

Video

Tap the Video app to access the video menu. The app supports 1080P video playback.
By default, video playback is disabled while driving for safety reasons. You can enable playback in Settings > CAR > Driving Settings > "Watch Video".
Warning! Watching TV or videos while driving can lead to car accidents.
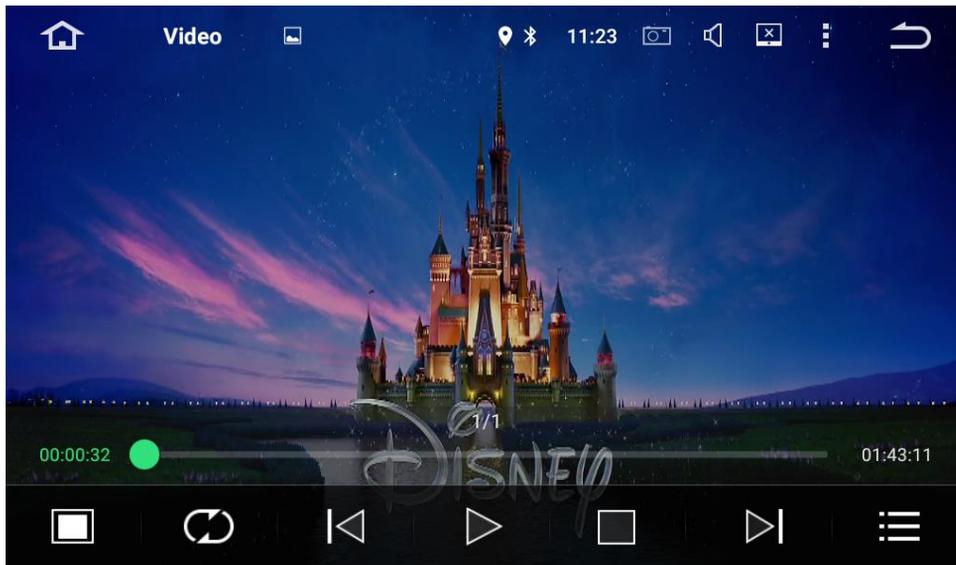
⛶ Full Screen Mode

⟳ Continuous Loop

◁| Back

|| Play/Pause

▢ Stop

|▷ Next

☰ Video List

AV - IN

Switch to AV-IN mode by tapping the AV-IN app. Here, you can display video and audio output from external video sources connected to the RCA plug 'CVBS IN'.

File Manager

Tap the File Manager app to access file management. Here, you can access, delete, copy, cut and paste all files stored on the device and connected removable media.
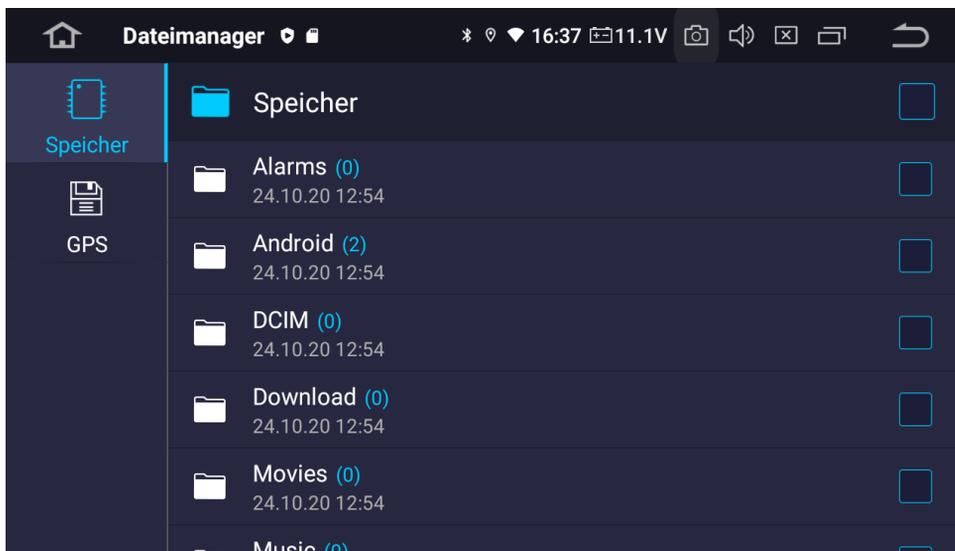
Select a file or folder by tapping the checkbox ■ next to it. Copy files by tapping 🗐, and paste copied files using the icon 🗐. To delete a file, tap the 🗑 icon.

The function ✂ not only copies the files to a new location, but also deletes them from the original location. You can use the icon ⊘ to abort the process.

Internet

To establish an internet connection on your AV8V7, you have two options:

1) Create a Wi-Fi hotspot on your smartphone and select it on the radio under „Settings > Network > Wi-Fi/Internet".
The exact procedure for initiating the Wi-Fi hotspot on the smartphone varies depending on the mobile phone. The menu item is typically labeled "Mobile Hotspot" or "Personal Hotspot" and is located in the mobile phone settings. If you're unsure, it's advisable to check your smartphone's manual.
Once you've activated the hotspot on your mobile phone, it will appear on the radio under „Settings > Network & Internet > WiFi/Internet". Enter the password there, and then you can connect directly.
2) Insert a nanoSIM card with a data plan into the SIM slot on the left side of the device. Ensure that the beveled edge points toward the device/windshield and the gold contacts face to the left. Then restart the device using one of the following methods:
a) Go to Settings > CAR > "Factory Settings" and enter "hctreboot" as the password.
b) Remove the cover of the right mSD slot and press into the small hole labeled"RST". The device will restart completely without deleting any data.

After restarting, a new triangle symbol will appear in the status bar, and you will have a direct internet connection (mobile communication standards: 2G, 3G, 4G/LTE).

Chrome

Using the "Chrome" app, you can browse the Internet just like you would on your PC, smartphone, or tablet. Please note that you must first establish an internet connection as described in the "Internet" section.
By selecting and entering the URL in the address bar, you will be directed to the desired website.
Clicking on the three dots, ⋮ , allows you to open a new tab, incognito tab, access bookmarks, and view recently opened tabs and browsing history.
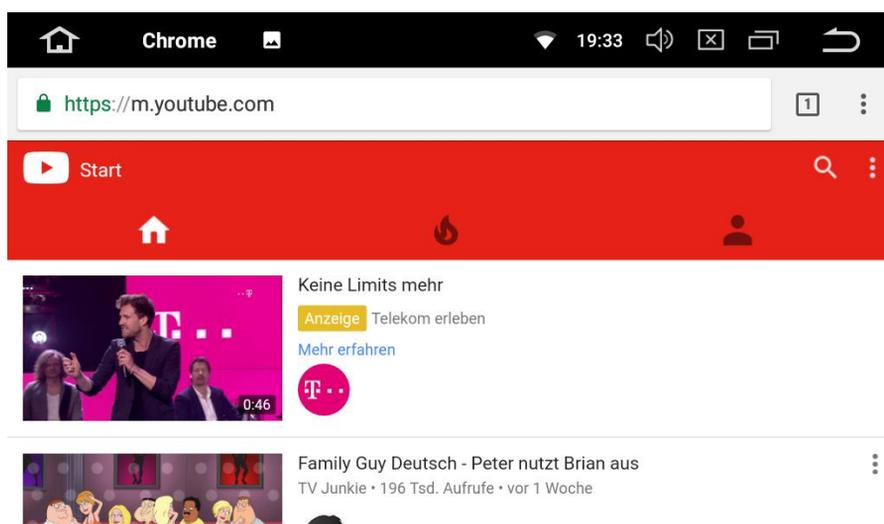
Upon delivery, Google Maps is already pre-installed on your device, and an installation file for the latest version of HERE WeGo is included. With both apps, you can navigate worldwide, download maps for offline navigation, and respond to current traffic jams and traffic reports with an internet connection.

Google Maps
Google Maps is already pre-installed among your apps and operates in the same way as on a mobile phone. You can also download offline maps from Google Maps for free, so that you can use the app even without an internet connection if necessary.

Download Offline Maps
To download offline maps in Google Maps, tap the letter icon right in the search box to access your account information:
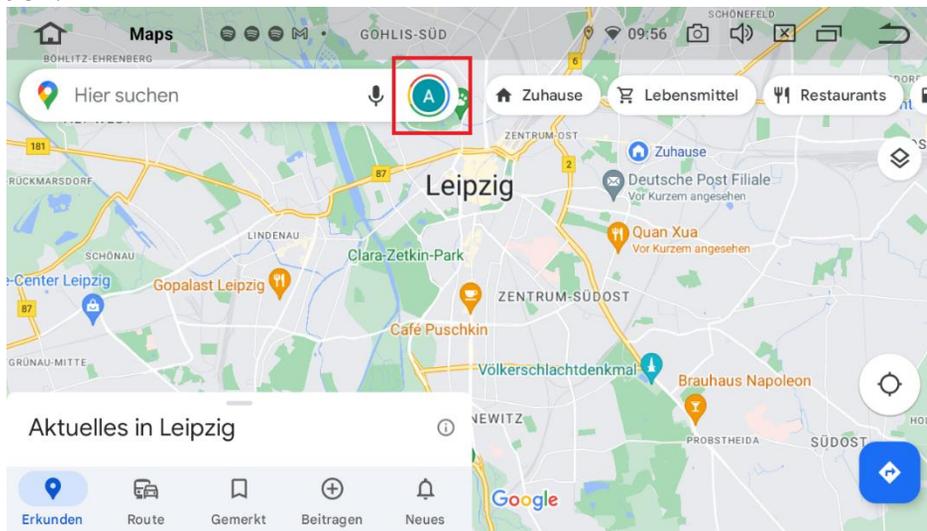
In the menu that now appears, navigate to "Offline maps" and then "Select your own map". Now, you can select the desired map section that you would like to download as an offline map. Next, go to "Download", and the selected map area will be downloaded, making it accesible even without an internet connection.

HERE WeGo
The package also includes the installation file for HERE WeGo navigation software. If needed, install it by opening the pre-installed "ApkInstaller" app, selecting "Install", and choosing the HERE WeGo installation file under "oem". Follow the instructions. After that, you can fully utilize HERE WeGo.

Download Offline Maps

To download offline maps in HERE WeGo, tap "Download Maps" under "Offline Maps" in the Start menu. Here, select the desired countries and tap "Download maps". The desired map area will be downloaded, making it available even without an internet connection.

Offline Mode

HERE WeGo offers the option to access only downloaded offline maps, avoiding the use of mobile data even when you have an internet connection. This can be activated by moving the "Use app offline" slider to the right under "Offline Maps" in the start menu.

Reassign the Navigation Button

If you would like to link a different app instead of the navigation button, you can change this as per your preference under Settings > CAR > Navigation > "Set navigation app".

Adjust Navigation Volume

There are two options for adjusting the navigation volume:

1. Under „Settings > CAR > Navi > Navi volume", you can set the dynamic volume ratio between music and navigation voice. To increase the navigation voice, select a higher value.
If there is no volume reduction at all despite activating this option, there could be two reasons:
a) The voice used is not "natural" (Open HERE WeGo - three lines at the top left - Settings - Options for voices - select "natural" voice (without saying the street names)
b) The navigation app used is not set as the standard navigation app (Settings - CAR - Navi - Set navigation app)

2. Under Settings > CAR > Factory settings (password 126) > Voice > Radio, you can reduce the radio volume and increase the general system volume (including navigation, without radio) under "SYS". Then confirm with "Apply" and "Exit".

3. A third option would be to select "Navi only" under Settings > CAR > Navi. This means that no music is played when the navigation voice is activated, and the volume remains constant.

DAB+

The AV8V7 comes with an integrated digital radio system, Digital Audio Broadcasting (DAB+). This offers a variety of radio stations in CD sound quality. When installing the DAB+ antenna, ensure that the copper L is connected to the body. You can find a detailed instructional video for optimal positioning by searching for "AV8V4 DAB" on YouTube.
If an "Allow notification access" screen appears at startup, grant permission to link to Overview (the internal name of the default interface). To do this, tap "Overview" > "Allow notification access" > "Allow" on the screen that appears.
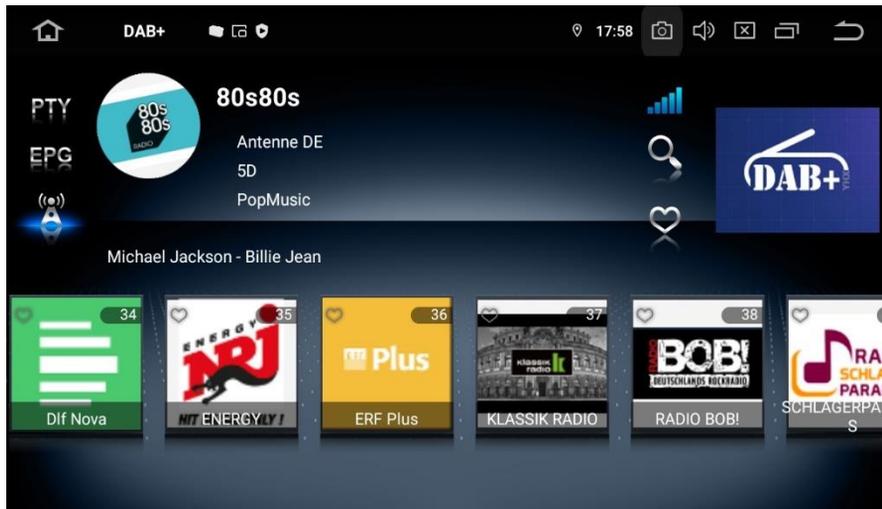
When you start the DAB+ app for the first time, a station search is required, which you can initiate by tapping the magnifying glass symbol.

You can save a channel as a favorite by selecting the small heart symbol in the top right corner of the channels. You can access these favorites using the heart icon in the left sidebar. Please note that you select the channels in the favorites menu by tapping the channel name. Tap the station logoto remove stations from the favorites menu.

You can use the "PTY" icon to filter and display stations by program content (information, rock music, pop music, classical, etc.).

Under "EPG", you can display the program data of the current station. However, this is not yet supported by many broadcasters. You can activate the "Service Following" function using the radio mast symbol. This function automatically searches for a different frequency from the same station when the frequency weakens.

Photo

Select the Gallery app to open the photo gallery. Here, you can access all images stored on the device or connected removable media.
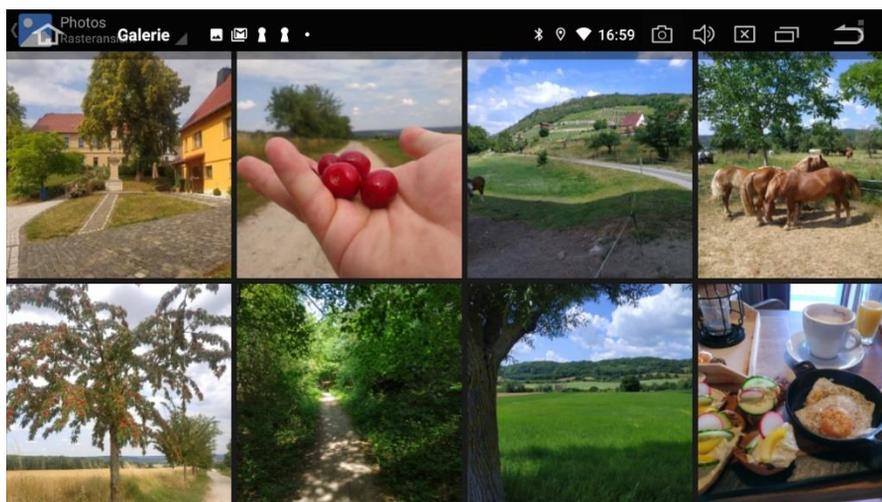
Tap the "Albums" button to open a selection menu, allowing you to organize your saved images by albums, locations, times, people, or tags.

Install Apps

You can install any compatible Android app of your choice on the AV8V7. There are two options:

Installation via the Google Play Store
As with your Android smartphone or tablet, there is a fully functional PlayStore on the device, which gives you access to all Android-compatible apps. Search for the app you want and install it directly tapping the "Install" button.

Installation via an APK File
Installing apps via an installation file (file format: *.apk) is also supported. To do this, connect a storage device with the file and open the "ApkInstaller" app on the Naviceiver. Go to "Install" and select the desired APK file. Follow the instructions.

All newly installed files will be stored under your apps (Home screen > Apps).

Android Auto/Apple CarPlay

With Android Auto/Apple CarPlay, you can control your smartphone conveniently from your car radio.

To do this, follow these steps:
1. Make sure that under Settings > CAR > Factory settings > 126 > CarPlay > "ZLINK" is activated and confirm with Apply > Exit > Ok.
2. Make sure Settings > CAR > "Apple CarPlay / Android Auto" is enabled (slider is on the right).
3. Establish a Bluetooth connection between cell phone and radio.
4. Start the "Android Auto" or "Apple CarPlay" app on the Radio
5. If it still doesn't work, restart the radio completely. There are two ways to do this:a) In Settings > CAR > "Factory Settings" enter "hctreboot" as the password
b) Press into the small hole labeled "RST"/"RES" at the bottom right. The radio restarts completely, nothing is deleted.
6. If a connection is not yet established, make sure that a hotspot has been started on the radio under Settings > Network & Internet > "Hotspot & Tethering" and that the cell phone is connected to this hotspot.

Updates

You can download the latest updates for your AV8V7 from our homepage at any time. We especially recommend performing updates in the event of specific problems to avoid potential complications. The system update manages the user interface and functions of the device. The MCU update is the firmware of the microcontroller and manages technical properties such as current flows, communication between the hardware components, and switch-on/off behavior. It is advisable to keep the MCU and system update on the same level as both are coordinated with each other.

To update, follow these steps:
1.   Download the desired update file.
2.   Extract the zip file to the root of a micro SD card,
3.   Connect the micro SD card to the SD card slot on the AV8V7.

MCU Update
4.   Select Settings > System > MCU Updates and allow the device to restart.

System/Launcher
4.   Select Settings > System > System updates and allow the device to restart.

After the update has been completed, you may receive another message box indicating that an update was found by the radio. This is the same update; the radio does not perform a date check when the message appears. Therefore, you can ignore the message and remove the storage device from the device.

Voice Control

Your AV8V7 can receive and process voice commands using "Ok Google". To do this, enable Settings > Google > Account services/Google app settings > Google Search, Google Assistant, and voice input > Voice input/Voice > Voice Match and follow the instructions.
You can now use "Ok Google" to perform voice commands from any screen.
Two useful voice commands:

Calls
You can make calls using voice command using the "MTC Dialer" app. To do this, follow these steps:
1. Download the APK file and copy it to a USB stick/mSD card:
https://github.com/scorillo/MtcDialer/releases/download/1.2.3/com.f1x.mtcdialer-1.2.3.apk
2. Open the "ApkInstaller" app, select "Install", and choose the APK file. The APK file will be installed.
3. Start the "MTC Dialer" app and say the desired contact. Please ensure that the contact is saved as a synchronized contact in the Bluetooth app.

Open App

You can open a specific app with the following Google command:
"Ok Google Open app [app name]"

Picture-in-Picture & Split Screen

These functions allow you to view two apps at the same time. For example, you can view your navigation app and your music player simultaneously. You can view a list of apps that support this feature in Settings > Apps & notifications > Special app access > Picture-in-picture.
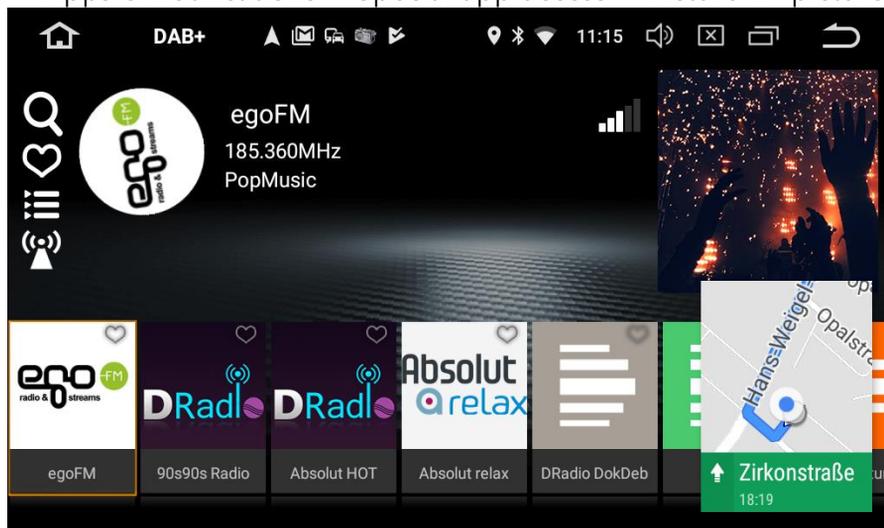
Picture-in-Picture

You can activate the function by briefly tapping the symbol in an open app. You can then select which other app you want to operate simultaneously and move the app window to the desired position. This function is currently only supported by selected apps (e.g., Google Maps).

Split Screen

To set up a split screen, open the desired app that you want to be visible on the left side of the split screen view. Then, press and hold the icon with the two offset rectangles in the top status bar. The home screen will open. Now, select the app that should be visible on the right side of the screen. Both apps will then be displayed side by side in a split screen.

Connect Rear View Camera (Not Included)

The RCA video input "CAM-IN" can be used to connect a rear view camera. All common cameras and video formats (PAL, NTSC, AHD) are supported on retrofit cameras. The only important thing is that the camera has a suitable RCA plug. If you have an original rear view camera without an RCA plug, you will still need an adapter/decoder (available for most vehicles in our range).
Please note that your rear view camera also requires a power connection. Since the power supply via the reversing light causes image interference in some vehicles when the engine is running, we recommend using the pink "Camera Power" cable from the radio cable bundle for the power supply

![M.I.C. logo]

instead. Many reversing cameras have an outgoing red power cable from the RCA video plug, which can be used for this purpose. The radio automatically receives the reverse gear signal from the vehicle and switches to the reversing screen accordingly.

If you would like to view the rear view camera image while driving, you can activate "On" under Settings > CAR > Factory settings > 126 > Other > Front camera, and confirm with "Apply" and "Exit". You will then get a new app called "Front Cam". With this, you can view the front and rear camera images while driving. You can use the small camera icon in the app to select the camera you want.

Please note that the rear view camera image can only be displayed while driving if the camera also provides an image, for which it must be powered. The pink "Camera Power" cable also supplies 12V voltage for the camera when the camera image is accessed via the "Front Cam" app.

Settings

Select the Settings app to access System Settings.
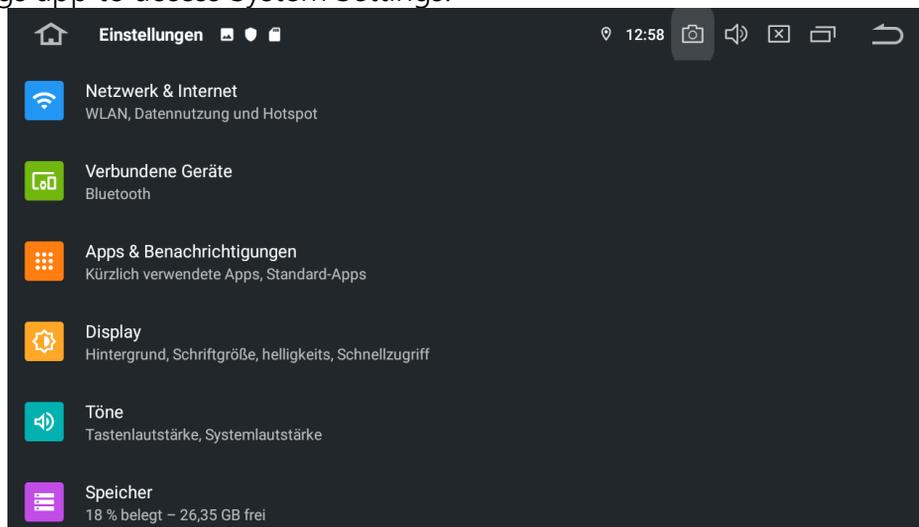
1.   Network & Internet
WiFi & Internet:

Here, you can connect to the WiFi network of your choice. Once connected, the WiFi symbol ![symbol] will appear in the top status bar.
Hotspot and Tethering :
Under this menu item, you can set up your car radio as your own hotspot and share the Internet via WLAN or Bluetooth tethering.
VPN :
This feature allows you to set up a Virtual Private Network (VPN). VPNs allow you to connect to secure networks on the go.

Airplane Mode :
As with your smartphone, you can use this function to deactivate the sending and receiving of WiFi, mobile network, and Bluetooth data.

2.   Connected Devices
Under „Connected Devices", you can view all devices connected to this device and manage Bluetooth settings.

3.   Apps and Notifications :
App Info:
Under „App Info", you can view all installed apps, their status, and memory usage.
Notifications:
Here, you can set which apps you want to receive notifications from and in what form.
App Permissions:
Here, you can manage permissions for individual apps. Permissions specify what features or data an app is allowed to access. For example, you can allow an app to access your contacts list or your location information. Permissions can be changed after installing the app.
Default Apps:
If you have several apps with the same functionality (e.g., browser or navigation software), you can select here which of the apps should be used by default.
Special App Access:
Here, you can individually regulate the access of individual apps to certain functions.

4.   Display:
Auto Screen Timeout:
Under this menu item, you can specify the period of time after which the screen saver should be activated or deactivate it completely.
Brightness:
Here, you can adjust the brightness of the screen.
Background:
Here, you can select between different background images for the home screen.
Font Size:
If you want a smaller or larger font size, you can set it here.
Night Display:
The AV8V7 can automatically dim the screen brightness for night driving when the lights are on. You can set here how much the brightness should be dimmed.
Touch Assistant:
Here, you can activate the multifunction point described on page 22.

5.   Tones:

Key Tone:

Here, you can adjust the volume of the touch tone.

Volume:

Here, you can adjust the overall volume of the system.

Default Notification Tone:

Here, you can choose your preferred notification tone from various tones.

Default Alarm Tone:

For alarm functions, you can select your preferred signal tone here.

6.   Screenshot Settings

Select Photo Delay:

Choose whether you want the screenshot to be taken immediately after you press the shutter button or with a delay of 15 seconds to four minutes

Screenshots Location:

Select the location where you want the screenshots to be saved

Show Screenshot Button in Status Bar:

After activation, a camera symbol appears in the top status bar. You can select this from any screen and a screenshot will be created automatically.

7.   Storage:

Here, you can manage the internal memory and flash memory as well as the details of the used and available capacity.

8.   Security & Location:

Location:

Here, you can make all GPS tracking settings, activate/deactivate them, and allow them for certain apps.

Device Management Apps:

Here, you can manage your tracking tools.

Encrypt Tablet:

Under this menu item, you can activate data encryption and set a security check when switching on the radio.

Apps with usage data access:

Here, you can manage which apps can access your system usage data.

9.   Users & Accounts :

Add Accounts:

Under this option, you can grant the AV8V7 access to your user accounts that are necessary for the operation of various apps. For example, the prerequisite for many Android functions is to be linked to your Google account.

Automatically Sync Data:
Choose whether to automatically update the data in your Google apps and receive notifications about updates.

10.   Accessibility:
Text-to-Speech:
Use this feature to have text read aloud on the screen.
Font Size:
Here, you can adjust the font size on the screen to make it easier to see content on the screen.
Display Size:
Here, you can adjust the display size of screen content to make it easier to see content on the screen.
Magnification:
You can zoom in or enlarge the screen of your AV8V7 to better view content.
High Contrast Text:
This feature increases the contrast of text with the background, thereby enhancing readability.
Color Correction:
This feature allows your device to compensate for the effects of color blindness.
Color Reversal:
This involves swapping color values. For example, black text on a white screen becomes white text on a black screen.

11.   CAR:
Key Lighting:
Here, you can freely set the color of the key lighting.
Sound:
Here, you can use an equalizer to select different sound profiles (such as pop, jazz, classical, rock, etc.) and select the desired listening position.
Navi:
Set the navigation mode and decide whether music playback should be turned off or dimmed during navigation.
Driving Settings:
Here, you can activate or deactivate video playback while driving and choose whether block notifications should be displayed while driving and which applications can access an internet connection.
Extra Settings:
Select whether the AV8V7 should remain in standby mode by default or automatically shut down after a certain time, whether it should automatically start music playback when the USB/SD is connected, whether it should automatically use a brighter design during the day, whether the view of the rear view camera should be mirrored, whether the volume should be dimmed when reversing, and whether the curve display, parking sensors, and distance lines should be activated.

Factory Settings (password 126):

The settings are very sensitive and therefore password protected. Please refrain from changing any factory settings without instructions.

Here, you can set an individual start logo and make various other advanced settings. You will find more detailed information on this in the following pages. Please only make changes as instructed..

12.   Google:

Here, you can make all the settings for your Google account.

13.   System:

Languages & Input:

Your AV8V7 supports many languages. Here, you can select different languages and input methods depending on your needs.

Date/Time :

Set the time and date as well as the time display format depending on your time zone. It is recommended to let the date and time update automatically and select the time zone manually.

Backup:

Under „Backup", you can create a backup file of the installation and program data as well as other settings and account information in your Google Drive.

MCU Updates:

When connecting a micro SD card with an MCU update, you can run the file by pressing „MCU updates". You can find more details on page 20 under "Updates".

System Updates:

When connecting a micro SD card with a system update, you can run the file by pressing „System Updates". You can find more details on page 20 under "Updates".

Reset Options:

In the event of software errors, it may be advisable to reset the device to the factory state once. Please note that this will delete your installed apps and data.

14.   About Device:

Here, you will find all system information.

Factory Settings

In the factory settings, you have access to further settings. The most important functions are presented below. Please do not try out other settings yourself, as some functions are critical for correct use of the system.

The password to access the factory settings is "126". Any value change must be confirmed with „Apply" > „Exit" > „Ok".

Set Your Own Boot Logo

You can add your own boot logo under Settings > CAR > Factory Settings > 126 > Boot Logo. Select "User" and then set the boot logo of your choice.
The boot logo should meet the following requirements:
Image format: 1280x720
File Type: PNG

Adjust Key Lighting

Both the button color and the lighting mode can be flexibly adjusted.

Changing the Button Color

You can adjust the color of the button lighting as desired under "Settings > CAR > Element". In addition to the preset colors, you can also customize the color using the sliders.

Change Lighting Mode

By default, the button illumination is only activated when the low beam is switched on. However, you can also activate this permanently under "Settings > CAR > Factory settings (PW: 126) > other > Panel LED control > By power". Then confirm with "Apply" and "Exit". The radio is restarted and the lighting is then continuously active. You can change this at any time by changing the above setting to "By headlight" and confirming again with "Apply" and "Exit".

Microphone Volume

The input level of the microphone can be set higher under Settings > CAR > Factory settings > 126 > Volume > "MIC". Confirm with „Apply" > „Exit" > „Ok" and then you can be heard louder.
If the setting does not seem to have any effect, please first install the latest firmware from our homepage.

Calibrate Touchscreen

If the touchscreen responds imprecisely, you can recalibrate it under Settings > CAR > Factory settings (126) > Teach buttons > "Teach touch buttons". Now touch the red "+1" at the top left and "+2" at the bottom right in the corner and save using "Save Exit".
If you are unable to open the menu path due to touch problems, you can connect a USB mouse and use it to access the menus. To calibrate, use your finger again instead of the USB mouse.

Reassign Hardware Keys

You can reassign the hardware keys at the bottom as desired. If you want to assign a system app, proceed as follows:
1. Open „Settings > CAR > Factory settings (password 126) > Teach buttons > Teach keys control panel".
2. Press the desired button twice.

3. You can double assign any key (except the volume keys). Select the desired short press function in the left column and if you want to set up a second long press function, select it in the right column. Confirm with „OK".
4. Continue like this with each additional desired key.
5. Press "Save Exit".

The newly assigned function is then taken over. If a non-system app is desired, the external app MTCDTools is available. You can download it from the provided link:
https://forum.xda-developers.com/attachments/mtcdtools-v1-10-apk.5090739/

Reassign Steering Wheel Buttons
You can use the AV8V7 to change your steering wheel button assignments. To do this, go to "Settings > CAR > Factory settings > 126 > Other > Assign steering wheel buttons > CAN Key". Confirm with "Apply" > "Exit" > "Ok". After restarting, you will see a new menu item "Steering wheel buttons" under "Settings > CAR". Using this function, you can now assign a new assignment for each of your steering wheel buttons.
To do this, press the desired steering wheel button on the steering wheel. A new two-column menu will appear on the radio. Select the desired function in the left column and confirm with "Ok". Continue like this with each additional steering wheel button. After assigning all the desired keys, go to "Save" at the top right, confirm again with "Ok" if necessary, and finally click "Apply" > "Exit" at the bottom.
The steering wheel buttons can now be used.

Turn Off the Backup Screen
If your car doesn't have a backup camera, you can turn off the backup screen to prevent the device from displaying a black screen when you put the car in reverse. Open „Factory Settings" (Password 126) > „Other" and select "Disable" under "Prohibit reverse", then confirm with "Apply" and "Exit". After rebooting, the backup screen is disabled.

Change Brightness/Contrast/Saturation and Hue
You can further adjust the brightness, contrast, saturation and color tone of the display in the password-protected factory settings. To do this, open „Settings > CAR > Factory settings > 126 > Other". You can make the desired adjustments under „Brightness", „Contrast", „Saturation", and „Hue". Confirm each change with „Apply" > „Exit" > „Ok".

Sound After Engine Start
By default, the sound is briefly deactivated after starting the engine, as in some vehicles a noise can be heard in the speakers due to the voltage drop that occurs when the engine is started. However, in vehicles with an automatic start/stop system, this sound suppression can be annoying. You can adjust this yourself under „Other" > „Customer Version."
Customer Version 1 is the default.

Customer Version 2 reduces the detection voltage. This can help with the following behavior:
a) With an older vehicle, the device is completely restarted every time the vehicle is started.
b) On a newer vehicle with an automatic start/stop system, the sound is interrupted every time.
Customer Version 3 hides the sound for eight seconds after a warm boot. This can help if there is a noise when starting the engine.

Troubleshooting

Please read the following error table carefully and correct the problem as instructed. Please contact a workshop or us if the problem has not been sufficiently resolved after following the table.

Problem	Solution
The device doesn't turn on.	1. Press the RST/RES hole to force a restart 2. Disconnect the Quadlock connector for about 20 seconds and reconnect it 3. Send in the device.
There are scratches/air pockets on the display.	There is most likely another protective film on the device without any markings. Check the corners of the display to see if you notice any starting points. You can easily remove the film.
The display reflects.	Set the normal display brightness to maximum under „Settings > Display > Brightness".
	Make the font more readable in „Settings > Accessibility > High Contrast Text".
	Activate day/night mode under „Settings > CAR > Extra settings > Brightness mode > Automatic".
	Under „Settings > CAR > Factory Settings > 126 > Other > "Contrast" and "Brightness".
	Use an anti-reflection film (not in our range).
Touch reacts imprecisely.	Recalibrate the touchscreen under: „Settings > CAR > Factory settings (126) > Key Study > Touch Key Study". Touch the red "+1" at the top left and "+2" at the bottom and save using "Save Exit".
Touch no longer responds at all.	Reboot the device using the RST hole.
	Unplug the device for approximately 20 seconds.
WiFi cannot be switched on.	Please check the following settings: 1) "Settings > CAR > Apple CarPlay / Android Auto (if available) > Disable" (slider to left) 2) "Settings > Network & Internet > Hotspot & Tethering > Disable"
	Install the latest firmware from the MIC homepage
	Go through all pending updates in the PlayStore.

A video file cannot be played.	Supported formats include WMV, AVI, RMVB, etc.
	The correct file size is 1080P H.264 (max).
GPS is not working properly.	Check the connection.
	Drive to areas where GPS signals penetrate.
	Place the GPS antenna on the A-pillar.
	Use the included GPS antenna.
mSD card is not recognized.	Use an mSD card with the following configuration: Card size: Preferably 64 GB or less Formatting: Fat32 or NTFS Manufacturer: Preferably brand manufacturers such as SanDisk
Update is not recognized.	Unzip the zip file (only once).
	Please do not unpack "Update.zip" additionally.
	Copy the update file to the root directory of the micro SD card (no subfolders).
DAB+ is not working properly.	To counter-test, install the DAB app "DAB-Z" or „DABdream" from the PlayStore.
	Check that the blue voltage LED is solid.
	Check the positioning of the DAB+ antenna using the YouTube video (page 18).
	Check the ground connection to the body (remove some paint).
	As a test, unplug all devices/sticks connected via USB.
	Test DAB+ reception in a big city.
Software problems	Restart the device by pressing a thin object into the hole labeled "RST"/"RES" at the bottom right.
	Clear app storage in „Settings > Apps & notifications > Select app > Storage > Clear storage".
	Check the Google PlayStore to see if a new update is available for the app.
	Install the latest system updates from our homepage.
	Reset the device to factory status („Settings > System > Reset").

If you have any further questions, please contact the following address:

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