Installation Instructions

for the BIMMERTECH Multi Media Interface with HDMI inputs and additional video sources like front/rear cameras and SmartView mirroring devices
Introduction

Thank you for purchasing Bimmer Tech products! We strive to deliver the most functional, reliable and high quality BMW retrofit upgrades on the market. Our kits are do it yourself friendly, but if you're not fond of working on your car don't worry. You can always take your kit along with these installation instructions to one of our recommended installers or to any other professional installer in your area. If you will be handing the installation over to a shop from outside our recommended list ideally it should specialize in BMW vehicles.

If you will be installing the kit by yourself then it is recommended to do so in a clean, spacious, well lit and climate controlled garage without pressing time constraints. It's also possible to perform the installation in a driveway or parking lot if you prepare the correct tools.

The installation does involve disassembling many areas of your vehicle so it's best to take your time, be gentle, careful and diligent in keeping track of which screw and clip came from where in order to reinstall the parts correctly.

This installation guide contains information on how to install the MMI, Front Camera, Rear Camera and SmartViewHD. If you will not be installing one or more of the components from the above list simply skip the respective installation steps specific to them.

In case of any questions with regards to the installation process please contact our technical support team via e-mail: support@bimmer-tech.net
Kit Contents

1. 3.5mm stereo minijack to 2x RCA cable
2. MMI HD
3. Video output cable from MMI to BMW screen
4. PnP Harness
5. RCA harness
Rear view camera:

Front view camera + adaptor cable + tap-in connectors
SmartView HD (based on a modified Apple TV)

SmartView HD FLEX
Front View Camera installation tools

- BimmerTech Trim Tool Kit (Highly Recommended)
- T-20, T-25, and T-30 Bits
- Phillips Head Screw Driver
- Drill with an 8mm or 5/16 Drill Bit
- Electrical Tape
- Zip Ties
- Pliers
- 8mm and 10 mm Socket and Ratchet
- 3mm Allen Key
- Double Sided Mounting Tape (Recommended)
- Sturdy Wire or Thin Hanger for Feeding wire
- Flashlight

Rear View Camera installation tools

- BimmerTech Trim Tool Kit (Highly Recommended)
- T-20, T-25, and T-30 Bits
- Phillips Head Screw Driver
- Drill or bit driver
- Electrical Tape
- Zip Ties
- Pliers
- 8mm and 10 mm Socket and Ratchet
- Double Sided Mounting Tape (Recommended)
- Sturdy Wire or Thin Hanger for Feeding wire
- Flashlight

Smart View installation tools (Assumes you are also installing MMI)

- Pliers
- Double Sided Mounting Tape Recommended
- Flashlight
Setting the DIP switches on the MMI

The Multi Media Interface (MMI) included in your kit is the central piece equipment that allows to transfer additional video signals different from the original iDrive display to your BMW’s factory screen. In order for the MMI module to work correctly in your vehicle along with the various video feeds coming from the additional video sources you will have to set up the DIP switches according to your vehicle’s screen type and additional video input sources being connected (e.g. cameras and SmartView).

One important thing to keep in mind: every time you change DIP switch settings make sure to disconnect the MMI module’s POWER connector for 10 seconds. This will allow the new DIP switch settings to take effect. After that you can reconnect the power.

DIP switches 1, 2, 3, 4 and 7:

DIP switches 1, 2, 3, 4 and 7 must be set up in alignment with the additional video sources being installed corresponding to the appropriately marked RCA or HDMI inputs. If you will not be connecting a video signal source to a certain video input then it is best to disable this video input from being displayed. You can have all of the additional inputs enabled, but that will result in the need to toggle through empty (black screen) inputs which isn’t pleasant or elegant. The information below will explain how to enable and disable the various inputs appropriately to your installation. Please pay close attention, as the settings can be counterintuitive.

DIP switch 1 corresponding to input HDMI-1:

- set to OFF if you will be installing SmartViewHD device
- set to ON if you will not be installing a SmartViewHD device

*(You might need to have one additional video input enabled to access the MMI’s internal menu. If this is indicated later on in the instructions set DIP switch 1 to OFF for the time of setup. After setting everything up you can revert the setting to ON if you will not be connecting HDMI)*
DIP switch 2 corresponding to input HDMI-2:
set to OFF if you will be installing a second HDMI device
set to ON if you will not be installing a second HDMI device

DIP switch 3 corresponding to input AV IN:
set to OFF if you will be installing a SmartView device (without HDMI)
set to ON if you will not be installing a SmartView device (without HDMI)

DIP switch 4 has no function. It can be set to ON or OFF with no effect

DIP switch 7 corresponding to input R-CAM (Rear View Camera):
set to ON if you will be installing a Rear View Camera
set to OFF if you will not be installing a Rear View Camera

DIP switches 5 and 6:
DIP switches 5 and 6 are responsible for correct cooperation between the MMI module and your factory screen, ensuring that the image is displayed correctly with our device connected between the original head unit and screen.

Cars with Navigation System Professional (big panoramic 8.8” screen) require DIP switch number:
5 set OFF
6 set ON

Cars with a smaller 6.5” screen will require number:
5 set ON
6 set OFF

DIP switch 8: Always OFF
Installing the MMI

Begin the installation by disconnecting the negative battery terminal of the car battery to reduce the risk of damage to electrical components. To disconnect the negative battery terminal first please remove the cover in front right luggage compartment:

Release cover (1) from Dual Lock tape (2) and feed out towards front from guides (3).

Now you can disconnect the battery negative lead:

Important!
Before disconnecting the negative lead, it must be ensured that the vehicle goes to sleep. Observe a waiting period of at least 2 minutes.

Important!
Do not under any circumstances detach or lever off intelligent battery sensor (2) from battery by force.

Loosen nut (1).
Tightening torque 61 21 1AZ.
Remove intelligent battery sensor (2) from battery and fix negative wire to side.
Next remove the head unit so that you can plug the PnP harness into it. The first step to access the head unit is to remove the rear seat:

Unclip rear seat (1) upwards on left and right.

*Installation note:*
Feed seat belt buckles (2) into recesses in rear seat.

At this point you are able to access the head unit:

Release screws (1).
Unlock and disconnect all plug connections on headunit (2).
Remove headunit (2) with holder (3) upwards.

*Installation note:*
Remember ground cable on two screws.

Next please remove the Car information Display:

Release screws (1).
Remove holder (2) from headunit (3).

Lift off covers (1).
Release screws underneath.
Remove CID (2) towards top.
Once the iDrive screen is out, gently remove the video cable by pressing on the purple tab and sliding the clip off. Plug this cable into the Multimedia Interface where it is labeled “LVDS-IN”.

Clip the new included video cable with green plugs into the iDrive screen and clip the other end into the Multimedia Interface under “LVDS Out”.

Disconnect the original large black square connector from the radio head unit.

Remove the fiber optic cable plug from the original large black square connector and insert it into the provided PnP harness with two large black square connectors.

Remove fiber optic cable (1) from CIC main connector and plug it into PnP harness connector (2). Lock tab (3) and make sure fiber optic cable (1) is securely fasten.
Next you will need to run the long wire loom branching out from the PnP harness (ending with the MMI Power plug) all the way to the front dashboard area of the car to install the MMI there and connect it to the BMW screen. It's recommended to run this cable under the passenger side door sill cover up to behind the glovebox.

**More trim removal instructions are shown in the next chapter as it is preferred to run the power cable alongside the camera cable all at the same time.**

Connect the Power plug from the PnP harness to the MMI module.

Connect the RCA harness into AV IN/OUT on the MMI

The MultiMedia Interface shall be installed inside the dashboard as space permits. Please search for the best spot and make sure to take into consideration moving the module to the right or left to find sufficient space. Make sure to tie it down with zip-ties and double-sided tape or velcro to prevent it and the cables from moving.

Carefully reinsert the head unit, being careful of the new harness and reinsert the securing screws.

Connect the Power plug from the PnP harness to the MMI module.

Connect the RCA harness into AV IN/OUT on the MMI

The MultiMedia Interface shall be installed inside the dashboard as space permits. Please search for the best spot and make sure to take into consideration moving the module to the right or left to find sufficient space. Make sure to tie it down with zip-ties and double-sided tape or velcro to prevent it and the cables from moving.

Carefully reinsert the head unit, being careful of the new harness and reinsert the securing screws.
Installing the Rear View Camera (RVC)

Attached are instructions how to take apart the trunk lid and various trim pieces. To mount the camera it will be necessary to drill a hole above the rear license plate on the rear bumper between the license plate lights. Installed it will look like this:
Test fitting is recommended before drilling the final mounting location but if you install the camera as pictured above you should get the following field of view on your screen:

![Camera View](image)

The camera cable should be routed all the way to the Multi Media Interface.

Then connect the yellow RCA cable from the rear camera extension cable to the yellow RCA socket marked (R-CAM) in the RCA harness and also connect the rear camera power connector to the respective R-CAM power socket on the RCA Harness.

It will be the easiest to route the camera cable alongside the previously laid out power cable.

It might be necessary to drill a small hole in a recessed point on the left or right corner of the trunk to allow the camera cable into the interior of the vehicle.

Some of the trim disassembly instructions shown below might not be necessary to complete the installation.
Removing the rear bumper cover:

63 26 000  Removing and installing/replacing left or right number/license plate light

Special tools required:
- 64 1 020

Warning!
Follow instructions for handling light bulbs (exterior lights).

Lever out number plate light (1) from bumper panel (2) in direction of arrow using special tool 64 1 020.
Disconnect corresponding plug connection and remove number plate light (1).

Replacement:
- Note bulb type.

51 12 156  Removing and installing (replacing) rear bumper panel

Necessary preliminary tasks:
- Remove license plate lights
- Removing number plate or number plate baseplate

Release screws (1).
Tightening torque 51 12 3AZ.
Removing the trim from the rear right or left roof pillar:

Lever out trim (1) and release screw underneath.
Release trim panel (2) at clip (3).
Release trim panel (2) upwards out of latch mechanisms in area (4).

**Installation note:**
Make sure trim panel (2) edge protection is correctly seated.

**Installation note:**
The following parts of the trim panel (1) must not be missing or damaged:
(2) Clip
(3) Foam material
(4) Catches

Release screws (1).
Tightening torque 51 12 1AZ.

**Note:**
The following tasks must be carried out with a second person assisting:
Release left/right latch mechanisms (3) from inside and unclip bumper panel (2) outwards.
Disconnect corresponding plug connections and remove bumper panel (2).

**Installation note:**
Latch mechanisms (3) must be properly fed into corresponding holder.
Adjustment, see body gap dimension.
To remove the rear left or right side trim panel, first please remove the inner door sill cover strip and the rear seat:

Fully adjust front seat upwards.
Release door sill cover strip (1) upwards out of clamps (2) using special tool 009 325.
Release door sill cover strip (1) inwards out of clips (3).

*Installation note:*
Replace defective clips (2) and catches (3).

To remove the rear right or left side trim panel:

Detach trim panel (1) from clamps (2) towards inside.
Feed out trim panel (1) toward the bottom from guides in area (3).

*Installation note:*
Replace faulty clamps (2).

Release expansion rivet (1).
Release trim (2) at clips (3) and remove.

*Installation note:*
Replace faulty clips (3).
Remove trim (2) with preassembled clips (3).

Detach edge protection (1) in area of side trim panel (3).
Release screw (2).
Release side trim panel (3) from clips (4).
Feed out side trim panel (3).

*Installation note:*
Replace faulty clips (4).
To remove the trim panel for pedal mechanism:

Unclip trim panel (1) out of clamps (2).
Lower trim panel (1) slightly and disconnect plug connections behind.
Pull out trim panel (1) towards rear.

Installation note:
Clamps (2) and guide (3) on trim panel (1) must not be damaged.
Insert guide (3) correctly into corresponding holder on vehicle.

When replacing, remount the following parts depending on the version:
- Hands-free system speaker
- Footwell light

To remove the side trim panel in the footwell area on the A-pillar (left side):

Detach edge protection (1) in area of side trim panel (2).
Release screws (3).
Release side trim panel (2) from clip (4) in direction of arrow and remove.
Unlock and disconnect plug connections, according to the equipment.

Installation note:
Make sure edge protection (1) is correctly seated.
If necessary, lever out clip (4) remaining in bore hole and attach to side trim panel (2).

To remove the bottom right instrument panel trim:

Unfasten screws (1) and take off trim (2).
To remove the center instrument panel trim:

Pull trim panel (1) out of clamps (2) in direction of arrow.

Installation note:
Replace faulty clamps (2).

To remove the glove box with housing, first please remove the right fresh air grille:

Lever out fresh air grille (1) from dashboard (2) using special tool 00 9 325.

Installation note:
Latch mechanisms (1) on fresh air grille (2) must not be missing or bent.

Now the glove box with the housing may be removed:

Important!
Risk of damage!
Mask dashboard in area (1) above glove box.
To remove the side trim panel in the foot well are on the A-pillar (right side):

Open glove box cover.
Lever out protective caps and release screws underneath.

Pull out glove box by approx. 10 cm.
Unlock plug connections (1) and disconnect.
Remove glove box in direction of arrow.

Detach edge protection (1) in area of side trim panel (3).
Release screws (4).
Pull side trim panel (3) off clip (2) in direction of arrow.
Release clip (2) from body and insert in side trim panel (3).

*Installation note*
Make sure edge protection (1) is correctly seated.
Replace the faulty clip (2).
Installing the Front View Camera (FVC)

First please remove the passengers foot well area trim:

Once the nuts are removed, use a trim tool to gently pry down and pop the remaining clips. Run the wires under the plastic by the foot well of the driver’s seat or passengers seat, being careful not to interfere with the airbag. Pull off the plastic panel to expose the firewall and the grommet that we will be drilling through.

The simplest and most efficient way to route the Front View Camera wire through the firewall is to drill a hole in the existing grommet, as shown below. Be sure to drill a large enough hole (yellow dot), so that the plastic clip will easily fit through, while being extremely careful not to make contact with any other wires.

Once you’ve drilled through the grommet, use a sturdy wire or a thin hanger to route the wire through the grommet.
If vehicle has a mesh grille, simply unscrew the camera and install it through the grille mesh from the inside and screw it back together. Then connect the camera to the extension cable and heat shrink the connection. You should be able to do this without removing the bumper cover. Please remember the battery must be disconnected – we don't want fans to turn on while you're working under the hood.

Route the camera cable around the engine bay all the way to the rubber grommet in the firewall as space permits, and proceed to run it up to the MMI module, connecting it via the camera connecting cable to the F-CAM video input and F-CAM power socket on the RCA harness.

Make sure the front camera picture is unobstructed by the grille and not upside down. If the camera works fine you can now secure the camera cable with cable ties to prevent it from moving around. After the cable is in its final location seal the hole you made in the grommet with black silicone.

To remove the front bumper panel, first please remove the front wheel arch cover (front section) left and right:

*Note:* Figure without front wheel for purposes of clarity.

Release screws/nuts.
Feed out wheel arch cover.
Now the front bumper panel may be removed:

Release screws.

Release screws (1).
Tightening torque 51111AZ.

Unlock plug connections (1) and disconnect.

Note:
Carry out work on the right side in the same way as for the left side illustrated here.

Release screws (1) on left/right.
Tightening torque 51112AZ.

Note:
The following tasks must be carried out with a second person assisting:

Lift bumper panel (2) over guide (3).
Remove bumper panel (2) towards front.
If necessary, unlock associated plug connections and disconnect.
Installing the SmartView HD or HD FLEX

**SmartView HD**

[https://www.youtube.com/watch?v=7h_b8z7qxGk](https://www.youtube.com/watch?v=7h_b8z7qxGk)

Plug the AppleTV USB cable into the USB socket on the MMI harness.

Connect the supplied HDMI cable from the AppleTV to HDMI-1 on the MMI.

Place the AppleTV IR sensor in the center console area possibly just aside the new screen to provide good visual connectivity to the Apple Remote.

Turn on your 3G/LTE Hotspot on your Apple or Android device.

Activate SmartView HD by holding the iDrive Controller Menu button for 3 seconds. This will bring you to the Apple TV start Menu. On your first use, connect to your Wi-Fi/Hotspot through the settings menu.

For Apple users, swipe up on your iOS device and select AirPlay. Your Apple/iOS device is now mirrored.

For Android users, download the Mirroring360 Sender Basic app through the Google Play Store. Then, follow the in-app instructions to mirror your Android device. Mirroring360 does not allow audio streaming at this time, but alternative apps offering Android compatibility with AirPlay may be available. Android devices can also be connected directly to the AUX port in the car via cable using a standard 3.5mm phone jack to transmit sound through your car’s audio system. Otherwise, it may be possible to stream audio wirelessly via Bluetooth if both the car and phone support this.
SmartView HD FLEX

Connect the SmartView module to the MMI HDMI-1 port. Connect the microUSB plug to the SmartView 5V microUSB socket and the USB type A plug to the MMI RCA harness USB socket.

Activate the SmartView by holding the iDrive Controller Menu button for 3 seconds. This will bring you to the Welcome Screen on your iDrive display. Simply connect to the WiFi network shown on the Welcome Screen and activate AirPlay/Miracast mode on your smart device to mirror your iPhone or Android phone to your iDrive screen.

If we delivered a dedicated wiring harness for the SmartView HD Flex please do not use it as the HDMI and microUSB cables are all that is needed to operate it. Connecting both the USB 5V cable and red and black power wires from the FLEX harness at the same time are prohibited as the power supply in the SmartView FLEX might fail.

Audio connections for either of the SmartView devices

Connect Audio OUT RCA connectors from the MMI RCA harness to the 2x RCA to 3.5mm stereo minijack cable and plug it into the AUX input in your center console. Make sure the vehicles audio mode is set to AUX.
Final tests and settings

Once all of cables have been connected as described you can reconnect the earth lead to the negative battery terminal, power up the car and set the system up according to the check if everything works before you reassemble your car.

If you installed the rear view camera and set up the DIP switch 7 to ON the rear camera is going to engage soon after inserting reverse gear.

Split Screen Modes
When in reverse gear or any other auxiliary MMI video input like HDMI or AV it is always possible to toggle through a variety of split screen modes.

By default you can toggle between the various split screen modes by pulling and holding the iDrive controller knob in the left arrow (9 o’clock) direction for 3-4 seconds until a change happens on the screen. Repeat this step until you achieve the desired display mode.

If you changed the I-DRV TYPE setting in the MMI menu front the default LOW to HIGH try the same procedure but this time with the down arrow (6 o’clock) direction.

The same procedure shall be used if your rear view camera image no longer comes up when reverse is engaged and instead you only get a short flicker on the screen – this means your reverse camera is in one of the split screen modes. To fix it simply engage reverse gear and follow the split screen mode toggling procedure to fix the reverse camera.
**Front Camera setup and operation**

To engage and disengage the front view camera input onto the screen manually you will have to adjust a setting in the MMI’s factory menu.

You can access it by entering one of the MMI modules auxiliary video inputs like the rear view camera mode or HDMI/AV by pressing MENU on your iDrive controller for 3s (a black screen will appear if you do not have an HDMI signal source plugged into the MMI – which is fine).

Once you have one of the MMI video feeds on the screen press and hold the iDrive controllers BACK button for 3s. The internal MMI menu will appear on screen. In the menu navigate to UTIL → FCAM KEY and change the setting to ON.

It is also possible to have the front camera engage automatically after shifting into D gear for a set period of time which is useful when parallel parking into a tight spot.

To set it up navigate to FUNCTION → FCAM ENABLE and select YES.

The below FCAM TIME is useful setting will allow you to select for how many seconds the automatically engaged front camera image will remain on your screen. 3-4s is usually the optimal setting.
Differences between iDrive controllers

If your vehicle has an iDrive controller with arrows in 4 directions it is recommended to set the I-DRV TYPE setting in the MMI factory menu to HIGH. By default it is set to LOW. This setting changes which iDrive controller arrows are responsible for selecting the front camera. In LOW the front camera will be engaged by quickly tapping the iDrive controller to the right side in the 3 o'clock direction. In HIGH it will be engaged by quickly tapping the iDrive controller forward in the 12 o'clock direction which is more intuitive. Disengaging the front camera is done the same way as engaging it.

By default after installing the MMI module pressing the voice command button on your steering wheel will cause the MMI to toggle between various video inputs (e.g. iDrive screen and HDMI-1 if it is activated with the DIP switches). This can be problematic if you also use the voice command button to control bluetooth functionality. This issue can be amended by entering the MMI factory menu, navigating towards UTIL → HANDLE KEY and changing the default YES to NO and saving the setting by pressing the iDrive controller.

![](image)

The factory menu disappears on its own after a few seconds. To exit the HDMI input and return to the regular iDrive press the MENU button on the iDrive controller.

If your tests confirm the installation was successful secure the MMI module inside your dashboard as space permits with cable ties, double sided tape or velcro tape. Also secure the cables to prevent them from disconnecting or moving around. Now you can reassemble your car.

We hope you will enjoy the use of our devices.