BEFORE YOU START

READ INSTRUCTIONS CAREFULLY BEFORE USE

IF YOU HAVE ANY QUESTIONS ABOUT THE USE OF THIS DEVICE, CONTACT YOUR BIMMER RETROFIT REPRESENTATIVE BEFORE USE

Installation of eNBT Retrofit Adapter (all versions) should be performed by an installer with appropriate knowledge and experience in BMW vehicle electronics. We strongly recommend using services of professional installers, experienced with BMWs, for this installation. Any damage caused to installed equipment due to wrong or unprofessional installation will not be covered by our warranty!

Battery should be disconnected prior to the installation for safety reasons. Reconnection of the battery should be done only after all electrical connections are in place.

PRODUCT ACTIVATION IS REQUIRED

The eNBT Retrofit Adapter which you have purchased requires activation using a unique activation code, which will be provided by Bimmer Retrofit online via www.enbtadapter.com

Unless otherwise specified or advised by the sales team, your eNBT Retrofit Adapter delivered to you is NOT ACTIVATED. In order to make it function correctly, you have to activate it. Please see the appropriate section of this instruction.
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1. DEVICE OVERVIEW

eNBT Retrofit Adapter (Basic)

Standard PNP eNBT Retrofit Adapter, eNBT Retrofit Adapter with climate controls support, eNBT Retrofit Adapter with Dynamic Guide lines support and front camera
eNBT Retrofit Adapter with Dynamic Lines and Front and Rear Camera support

PNP harness for camera module and rear view camera cable

Front camera and front camera cable
eNBT Retrofit Adapter with MOST HUD Settings Support
If you have ordered our eNBT Retrofit Adapter with MOST HUD Settings Support, it will look like this:

**eNBT Quadlock connector**
eNBT Retrofit Adapter for NBT Evo with built in GPS Receiver (including iBus version)

This eNBT adapter specifically designed for NBT Evo which comes with no GPS receiver built in from factory. eNBT adapter with built in GPS receiver will provide NBT Evo with all required GPS positioning information for proper GPS map functionality. This version of eNBT adapter can be used for all E-Series including E39, E46, E53 as well as E6x, E7x, E8x and E9x series. eNBT adapter may also support static lines rear view camera connection.
eNBT Retrofit Adapter with Climate Controls menu support (OSD Support) or iBus support

If you have ordered our eNBT Retrofit Adapter with Climate menu support or iBus support, it will look like this:

PNP version of eNBT Retrofit Adapter (discontinued)
PNP version of eNBT Retrofit Adapter with Touch Wiring (discontinued)
If you have ordered PNP eNBT Retrofit Adapter with Touch Wiring, your eNBT Retrofit Adapter will look like this:

Non-PNP version of eNBT Retrofit Adapter (discontinued)
If you have ordered our non-PNP eNBT Retrofit Adapter, it will look like this:
All versions of the eNBT Retrofit Adapter come with a free eNBT Coding Utility, which can be downloaded on our website: www.bimmerretrofit.com/updates

1. **Micro USB port:** On one side of the box, there is a Micro USB port, which can be used for firmware update of the eNBT Retrofit Adapter. Please see appropriate section of this document for the instruction on how to complete the firmware update.

   **IMPORTANT!** Be careful when connecting or using USB plug to/with Micro USB port as excessive pressure on the connector will damage the port inside of the adapter and will make device unrepairable due to internal PCB traces damage.

2. **Control Button:** Button is used whenever manual firmware update is required.

3. **Flat ribbon cable:** is connected to the CIC front panel (fascia)

4. **Touch Wiring:** is connected to the Touch Controller and Touch Controller Module (for touch wiring version of eNBT Adapter only)

5. **Coding Utility:** can be used for coding and configuration of the NBT head unit to ensure correct operation in E-series. The eNBT Coding Utility can be downloaded from here: www.bimmerretrofit.com/updates
2. INSTALLATION INSTRUCTION FOR THE eNBT RETROFIT ADAPTER (PNP VERSION) except iBus model

STEP 1
Remove existing MASK, CIC or CCC system from your vehicle. Disconnect video cable from CID display. Remove CID display.

STEP 2
Disconnect the quad lock connector from head unit. You will need a flat screwdriver in order to remove the MOST optical connector from the main power connector harness and re-plug it in to the eNBT Retrofit Adapter’s connector. Please look at the picture below.

It is important to reconnect this cable in order to avoid loss of sound and other multimedia features.

If your vehicle does not have this optical connector (vehicle with no MOST and with no top HiFi Logic 7 or other high end amplifiers) then you will not have this cable and there is no need to reconnect it.
Gently pull the plastic lock on the connector using a screwdriver and pull up the two optical cables as shown on the pictures above.

If you are installing eNBT Retrofit Adapter with MOST HUD support, skip to STEP 4 followed by “Additional installation steps for eNBT Adapter with MOST HUD support” after completing STEP 2.

Now re-plug this optical connector into the same position on the eNBT’s Retrofit Adapter’s connector as shown on the picture above.

STEP 3
Connect the PNP harness of the eNBT adapter module between the head unit and vehicle’s quadlock connector.

Secure control module (except PNP eNBT version) behind the dash with use of tie-ups or other type of mounting.
Ensure that control module is secured and wiring attached to it is not blocking head unit path in the dash board.

Connect rear and front cameras (only if installed) cables to PNP harness and to camera module (for front camera).
Insert Rearview camera cable 3.5mm jack to PNP harness female connector and make sure it is fully inserted. It is recommended to apply electrical tape around connection to secure it.

Insert Front camera cable connector to camera module and push it until connector locks.
Connect Easy (eNBT) Retrofit Adapter (PNP version) to the existing quadlock connector in your vehicle. Make sure that adapter is properly fitted and connected.

STEP 4

It is recommended to connect Micro USB cable to the eNBT Retrofit Adapter (if you prefer to have easy ability to update internal module’s firmware in the future).
Another end of the USB cable should be passed under the dashboard and left floating outside for future use with laptop for firmware updates.

Refer to section “INSTALLING NBT HEAD UNIT”, for more information on connecting USB cable to the eNBT Retrofit Adapter.

Additional installation steps for eNBT Retrofit Adapter with MOST HUD support only

If you are installing eNBT Retrofit Adapter with MOST HUD support you will need to perform additional steps and reconnect MOST optical wiring in a different way. See picture below:
The following installation steps are required:

1. Attach MOST adapter (included with kit) to the vehicle’s side MOST connector which you disconnected from the Quadlock connector. Note that the adapter will fit the vehicle’s side optical cable in one position only.

2. Plug vehicle’s MOST connector (connected to the adapter, STEP 1 above) to the MOST Optical Cable (included with kit). See picture below for details and better understanding.
3. Plug one end of the MOST Optical Cable to the eNBT Retrofit Adapter Module and another end to the Quadlock connector as shown on the picture below. Also plug Electrical Wiring connector to eNBT Retrofit Adapter Module.

4. Final connections should look like in the picture below:

5. Final step is to plug the vehicle’s quadlock connector directly to the unconnected eNBT quadlock connector. Note that vehicle’s side quadlock connector should not have any optical cable inserted in it at this time.

6. You have to access your HUD (under the dash board) and locate MOST connector on it. Remove MOST connector from HUD’s electrical connector and terminate it with standard MOST loop terminator. One of the possible ways to access HUD electrical connector is by removing a plastic dash trim around the HUD projection window and sliding fingers in to opening between HUD and dashboard.
Additional installation steps for eNBT Retrofit Adapter with built in GPS receiver for NBT Evo

Locate and connect OABR connector to NBT Evo OABR port in the back.

OABR cable connection is absolutely required for proper GPS system functionality. In case if you need to use OABR LAN cable for additional headunit coding you will have temporary disconnect OABR cable from PNP eNBT wiring and connect OABR LAN cable for coding.

Front camera installation

Front camera can be installed on the front bumper. Use any opening in the bumper with sufficient space to install camera. It is not recommended to install camera very low as it may get easily damaged. Secure camera mount with two screws to plastic of the bumper.
Pass front camera cable through front vehicle’s firewall and reach with cable to camera connectors. Connect both yellow and red connectors. Apply electrical tape around connectors to secure them and avoid water to be in contact with metal parts of the connectors.

Use tie-ups to secure the wiring to vehicle’s bumper grill. Any other way of securing wires can also be used.

**Warning:** Avoid routing camera cable under the hood in any areas where direct heat with excessive temperature is produced as it may damage the cable. Make sure that camera cable under the hood is routed via designated for wiring areas along with other cables (lights, sensors, etc cables).

After camera is installed it is required to adjust its horizon. Simply unscrew the camera a little and adjust it by viewing the live feed from the camera (this task may require two people) and rotating camera in its mount across the axel. Once horizon is adjusted screw and tied up the camera back in mount.

**Installation steps for eNBT iBus Retrofit Adapter for legacy (E39/46/53 etc) models only**

eNBT iBus adapter with support of older chassis (E39, E46, E53 and others) does not come as full PNP model. This is due to the variety of connectors and locations in the vehicle where connections needs to be done. In this instruction we will only outline primary steps which should be taken for successful NBT head unit installation using eNBT iBus adapter.
Pinout diagram of the connector on eNBT iBus adapter is provided below:

Pin out diagram:
1 - GND
2 - +12V Battery
3 - CAN1 Low (Vehicle side quadlock connector)
4 - CAN1 High (Vehicle side quadlock connector)
5 - CAN2 Low (HU side pin9)
6 - CAN2 High (HU side pin 11)
7 - RadOn (Amp en, HU side pin13)
8 - RadOn2 (only if applicable) or Acc Ign input (if applicable)
9 - iBus (for legacy models)
10 - Light power (HU side pin 14)
11 - Video input (from camera) or NC
12 - Video output (must connect to HU for climate controls)
    wire connects to HU side pin 21 of White connector in Quadlock
    also pin 24 of White connector in Quadlock connects to GND

Depending on your choice and on the vehicle’s model you may install NBT headunit in the front or in the back of the vehicle. For example in model E53 it is possible to install head unit and display in the front as the opening in dashboard allows such installation. In case of installation of the NBT head unit in the back of the vehicle you will require long (>5meters) length display and USB HSD cables and iDrive controller cable.
1. Route +12V wires from fuse box or from existing navigation or radio module to eNBT adapter and NBT head unit. In case if you ordered PNP* version of eNBT iBus adapter you will have quadlock connector for NBT head unit already prewired with eNBT adapter. Should direct power wire from Fuse box be routed it must be connected to the fuse of at least 15A which has no or almost no load on it. It is better to install additional fuse holder, separated from any other load in the vehicle and dedicated only for NBT head unit and eNBT adapter.

2. Connect pin 2 of eNBT adapter together with pin 15 of NBT quadlock (only for non PNP adapter) to constant +12V battery power (via the fuse)

3. Connect pin 1 of eNBT adapter together with pin 12 of NBT quadlock (only for non PNP adapter) to vehicle GND.

4. Pin 5 (CAN2 Low) and pin 6 (CAN2 High) of eNBT adapter must be connected to pin 9 and pin 11 of NBT quadlock (only for non PNP adapter)

5. Pin 3 (CAN1 Low) and pin 4 (CAN1 High) of eNBT adapter must be connected to cluster (KOMBI) module. Connect Pin3 of eNBT adapter to pin 34 or pin 9 of KOMBI module (vehicle CAN Low). Check to which KOMBI pin (34 or 9) wire colored Yellow/Brown is coming from vehicle. Use that wire for eNBT adapter connection.

   Connect Pin4 of eNBT adapter to pin 40 or pin 8 of KOMBI module (vehicle CAN High). Check to which pin (40 or 8) wire colored Yellow/Black is coming from vehicle. Use that wire for eNBT adapter connection.

6. Connect pin 8 (IGN Input) of eNBT adapter to Ignition (IGN) wire. This wire must have +12V whenever ignition lock switch is in accessory or ignition or starter position.

7. Use pin 7 (AUX1+) of eNBT adapter as an auxiliary power output to power up FM antenna or to turn on amplifier. This is low current output (<500mA current).

8. Connect pin 12 (Video output) of eNBT adapter to pin 21 on the NBT quadlock and also pin 24 of NBT quadlock to eNBT adapter GND (or pin 12 or NBT quadlock).

9. Connect pin 9 (iBus line) of eNBT adapter to your vehicle iBus line. In the vehicle iBus line wire usually has white color with grey stripe and yellow dots/bands. This wire is available across vehicle in multiple connectors including radio, phone, navigation system, CD changer and other connectors and plugs.

   Should iDrive touch module and iDrive touch controller be installed together with eNBT iBus module refer to connection diagram provided below in this document.
Pinout information for legacy BMW models used for eNBT iBus adapter connection

**BMW**

1-Speaker LF+
2-Speaker RF+
3-Speaker LR+
4-TEL MUTE
5-+12 VOLT IGNITION WIRE
6-Speaker RR+
7-iBus line
8-Speaker LF-

9-12 VOLT BATTERY WIRE
10-DCTRL/TEL ON
11-Speaker RF-
12-Speaker LR-
13-Dash Light Dimmer Wire
14-Speaker RR-
15-GND
16-Power Antenna Turn On

**BMW models after 2000**

<table>
<thead>
<tr>
<th>pin</th>
<th>connector main</th>
<th>connector A</th>
<th>connector B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Speaker FR+</td>
<td>line out L</td>
<td>tape in L+</td>
</tr>
<tr>
<td>2</td>
<td>Speaker RR+</td>
<td>cd-changer line in gnd</td>
<td>tape in L-</td>
</tr>
<tr>
<td>3</td>
<td>Speaker RL+</td>
<td>line out GND</td>
<td>AUX L</td>
</tr>
<tr>
<td>4</td>
<td>Speaker FL+</td>
<td>vcr line in R+</td>
<td>AUX R</td>
</tr>
<tr>
<td>5</td>
<td>Speaker FR-</td>
<td>vcr line in L-</td>
<td>navi/tv in +</td>
</tr>
<tr>
<td>6</td>
<td>Speaker RR-</td>
<td>vcr line in gnd</td>
<td>telefon +</td>
</tr>
<tr>
<td>7</td>
<td>Speaker RL-</td>
<td>line out R</td>
<td>tape in R+</td>
</tr>
</tbody>
</table>

>>> Go back to the Table of Contents <<<
Navigation module connectors (trunk area)

Blue 18pin connector:
- Pin1 - +12V Battery
- Pin3 - iBus
- Pin 10 - GND

USB/AUX in armrest, USB in glove box, microphone, BT antenna

NBT head unit incorporates inside both multimedia platform and a Combox (USB and BlueTooth).

In order to be able to use AUX input and microphone, as well as USB connectors you will have to connect all of the existing wires (microphone, AUX, USB) to the back of the NBT. For pin out and other information (related to the existing modules: TCU, MULF or Combox) refer to the Appendix 1 at the end of the document.

If your vehicle is not equipped with a microphone, you may install it at this time and pass two wires from it to the back of the NBT. Pin out information for NBT is provided below.

If your vehicle is equipped with USB in the armrest or USB in the glove box (or both) you will need to pass wires from these USB connectors to the back of the NBT as well.

You need to connect BT antenna to the NBT unit. If you installing NBT Evo unit you also need to connect WiFi antenna to it. The BT antenna port has tan color and WiFi antenna port has dark red color. Same type of antenna can be used for both Bluetooth and WiFi.
TCU, MULF, Combox
If your vehicle is equipped with TCU, MULF or Combox you need to REMOVE these modules completely or fully disconnect these from MOST optical and electrical wiring.

Also in this case, it is absolutely required to either add MOST loop terminator or disconnect and terminate any unused MOST connectors in the MOST hub.

If you prefer to terminate (not disconnect them in the MOST hub) the MOST connectors using MOST loop terminators, contact the seller to see if MOST loop terminators are available as part of the wiring kit for your vehicle. These MOST loop terminators are not the part of the standard kit and usually NOT supplied with the eNBT kit.

If any MOST connectors are not properly terminated, your multimedia system in the vehicle will not work!
Do not terminate more than one MOST connector in a row with use of MOST loop terminators. Instead disconnect these in the MOST hub.

3. DIAGRAM OF CONNECTORS AT THE BACK OF THE NBT

![Diagram of Connectors at the Back of the NBT](image)
The back of your NBT (NBT Evo) head unit may look like on the picture above. You can see the assignment of the connectors in the back of the NBT there.

You may connect USB from the armrest (if available) to USB1 connector on NBT and USB from the glove box (if available) to USB2 connector on NBT.

If your vehicle is equipped with one USB ONLY (armrest or glove box), USB1 on NBT (NBT Evo) should be used.

4. NBT PIN-OUT INFORMATION
Below is the information about NBT quadlock pin-out for the different connections:

**Microphone1 pins:**
- Pin17 – Mic+
- Pin22 – Mic-

**Auxiliary Input:**
- Pin30 – Aux In L
- Pin35 – Aux In R
- Pin36 – GND

**Rearview camera input (if available):**

  - **Video Input1** *(by default eNBT adapter uses this input for BR camera and for OSD information)*
    - Pin 21 – Signal+
    - Pin 24 – Signal GND

  - **DVD Changer or TV or other video source input (if available and also if camera is installed):**

    1. **Video Input2** *(if vehicle has OEM RFK or TRSVC camera it should be re-connected to this input)*
    2. Pin 28 – Signal+
    3. Pin 27 – Signal GND

### 5. IMPORTANT INFORMATION ABOUT NBT (Evo) CODING AND CONFIGURING:

NBT head unit must be properly coded (configured) for proper operation of NBT retrofit in E-series vehicle. This is absolutely required in order for the NBT retrofit to properly work in E-Series vehicle environment.

NBT head unit can be coded either prior to installing it in the E-series vehicle or after installation of it in the E-series vehicle.

Coding of NBT head unit prior to installation can be done if you have access to special tools, which make such tasks possible (an example, is a table kit, called CAN Bridge Module), however the proper way to code the NBT head unit is on the vehicle.

If you want to code NBT (Evo) head unit, while it is installed in the vehicle, it is absolutely required to add ENET wiring for OBDII diagnostic connector in the E series vehicle (see next section). In case of NBT...
Evo headunit you may also keep OABR-LAN cable connected to headunit and keep LAN RJ45 jack end secured somewhere under the dash panel.

**If NBT system is not properly coded to work with your specific E-series BMW, these are the most common problems which you may see:**

- No time information is shown on display (--:--),
- No vehicle service intervals
- No vehicle information
- iClick technology mode is not accessible
- Malfunctioning of the rear view camera
- DVD changer not working
- Etc.

### 6. ENET WIRING FOR OBDII DIAGNOSTIC CONNECTOR

If your vehicle is pre-LCI model, and does not have ENET portion of the wiring in the OBDII diagnostic connector it is strongly suggested to add these wires for future NBT and NBT Evo coding.

*Note that this step is NOT mandatory but highly recommended.*

**For NBT only:** You may easily verify if your vehicle is equipped with this option already. Find OEM quadlock connector at the back of your ORIGINAL head unit and verify if you have wires in pins: 29, 31, 32, 37 and 38 of the quadlock’s small black connector (refer to NBT pin out information diagram above).

If you have wires in these pins then skip the next step altogether.

In case if you only have 1 or 2 wires in the designated pins (29,31,32,37 or 38) and these are NOT routed to the OBDII connector you may remove these wires from occupied positions and isolate these. They will not be used with NBT system.

If you do not have these wires (for NBT only) and plan to do coding of the NBT or NBT Evo in your E series while it is installed in the vehicle, we strongly suggest to add that wiring, as described below:

**For NBT Evo only:** In NBT Evo head units the network connector is separated from the main quadlock and located under the main Quadlock connector. By looking from the back of the NBT Evo head unit you will find small black connector under the Quadlock connector. This is a NBT Evo OABR network connector.
Adding ENET Wiring to the OBDII Diagnostic Connector
This step should be completed by a professional electrical installers with good knowledge of the vehicle electrical system:
Verify with Bimmer Retrofit whether a wiring kit for OBDII <-> ENET NBT is available for purchase. If not, follow instructions below.

a. Prepare five (5) wires (NBT Evo 4 wires) which are long enough to reach from the back of the NBT (Evo) to the OBDII diagnostic connector. Wires should be about 23AWG (a bit thinner or thicker is acceptable). These wires are not included with the basic kit but can be ordered as a part of additional kit wiring. Each wire should be approximately 1.5 meters long.

b. Prepare required metal pins for NBT quadlock connector or special connector plug with pins for NBT Evo and also pins for OBDII diagnostic connector (OBD connector pins can be ordered from local BMW dealer or purchased elsewhere).
Part number for the OBDII connector pin is 61 13 8 366 598.
Part numbers for NBT Evo connector and pins will provided upon request.

For NBT head unit only:
c. Since eNBT Retrofit Adapter already has these pins with short wires in the required positions, you may simply splice these existing wires and connect to them wires from the OBDII connector which you prepared.

d. Connect as follows (pin numbers for OBDII and NBT Quadlock connectors):

<table>
<thead>
<tr>
<th>OBDII port connector pin</th>
<th>NBT Quadlock connector pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>29</td>
</tr>
<tr>
<td>12</td>
<td>31</td>
</tr>
<tr>
<td>13</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>11</td>
<td>38</td>
</tr>
</tbody>
</table>

For NBT Evo head unit only:
e. Connect as follows (pin numbers for OBDII and NBT Evo OABR network connector):

<table>
<thead>
<tr>
<th>OBDII port connector pin</th>
<th>NBT Evo OABR network connector pin</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>13</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>11</td>
<td>20</td>
</tr>
</tbody>
</table>
This setup should let you use standard ENET cable for NBT (Evo) coding while installed in the E series vehicle. ENET cable must be used for coding of the NBT head unit ONLY; all other ECUs in the vehicle should be coded using original E series BMW interfaces and software.

Should you decide not to use OBDII port and connect your NBT (Evo) directly to LAN RG45 cable you may use the following diagram for both NBT and NBT Evo systems:

<table>
<thead>
<tr>
<th>RG45 LAN connector</th>
<th>NBT Quadlock connector</th>
<th>NBT Evo OABR Network connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>37</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>38</td>
<td>20</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>17</td>
</tr>
<tr>
<td>6</td>
<td>32</td>
<td>19</td>
</tr>
</tbody>
</table>

For NBT only you must also connect Quadlock connector pin 29 to +12V via 510 Ohm resistor. That will activate network adapter inside of NBT unit.

There is no need to connect additional 5th wire for NBT Evo connection.

7. INSTALLING CID DISPLAY, TOUCH WIRING AND OTHER WIRING

1. Install CID display for NBT and pass the CID video cable in the back of the NBT head unit.

2. If your eNBT Retrofit Adapter is equipped with iDrive touch wiring, pass that wiring to the iDrive touch controller and to the Touch controller module.

   **Important:** Use only eNBT Retrofit Adapter (only iDrive Touch ready version) connectors to connect. E series BMW iDrive controller wiring is NOT compatible with iDrive touch controller in terms of data transfer speed and may cause errors in vehicle electrical system. In case you need to add wiring for the iDrive Touch Controller, please check information in the end of this document related to the iDrive Touch wiring.

3. Once all required wires are passed to the back of the NBT head unit, you need to connect these to head unit. We recommend that you first connect USB cables and antennas. Connect PNP adapter cable at the end and make sure that connector is locked and secured in the quadlock socket of the NBT.
8. PIN OUT DIAGRAMS FOR TCU, MULF AND COMBOX

If your vehicle is equipped with MULF, TCU or Combox module(s) you need to remove these ECUs, because NBT head unit has a Combox built in, and does not require any of these modules (MULF, TCU, Combox).

Below is the pin out information for the TCU, MULF and Combox pins which may be required to reroute the wires and to connect to the back of the NBT head unit:

<table>
<thead>
<tr>
<th>Signal name</th>
<th>TCU (54 pin connector)</th>
<th>MULF (54 pin connector)</th>
<th>Combox (26 pin connector)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUX GND</td>
<td>22</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>AUX L</td>
<td>23</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>AUX R</td>
<td>5</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>MIC +</td>
<td>1</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>MIC -</td>
<td>19</td>
<td>19</td>
<td>12</td>
</tr>
</tbody>
</table>

Example:

1. **Vehicle is equipped with both TCU and MULF:**
   Both modules must be removed. MOST optical lines need to be terminated with MOST loop isolator or disconnected at MOST hub. From TCU connector microphone wires needs to be extracted (pins 1 and 19) and wired to the back of the NBT head unit (see appropriate pin numbers in this instruction above, page 7). From MULF connector, AUX wires needs to be extracted (pins 22, 4 and 5) and wires to the back of the NBT.

2. **Vehicle is equipped with TCU only:**
   Module must to be removed. MOST optical line needs to be terminated with MOST loop isolator or disconnected at MOST hub. Microphone wires from TCU connector needs to be extracted (pins 1 and 19) and rerouted to the back of the NBT head unit (see appropriate pin numbers in this instruction above, page 7).

3. **Vehicle is equipped with MULF only:**
   Depending on the configuration of the vehicle, you may or may not have microphone installed (if the vehicle has option 620 or 644, the vehicle is equipped with microphone). You have to remove the module and terminate MOST connector with MOST loop isolator or disconnect at MOST hub. AUX and Microphone (only if installed in the vehicle) needs to be extracted and rerouted to the back of the NBT.

4. **Vehicle is equipped with Combox:**
   Module must to be removed. MOST connector needs to be terminated with MOST loop isolator or disconnected at MOST hub. Both Microphone and AUX wires needs to be rerouted to the back of the NBT head unit.
9. iDRIVE TOUCH CONTROLLER INFORMATION

WARNING: Do not use or connect the iDrive Touch Controller to the original vehicle’s iDrive Controller connector wiring.

eNBT adapter is offered with or without iDrive Touch support wiring. If for any reason your eNBT adapter does not have iDrive touch wiring you may use the diagram below to made it on your own. We, however strongly suggest to order eNBT adapter with iDrive touch wiring since if you are not familiar with wires reconnection or not have appropriate connectors for both iDrive touch and Touch modules you may short the wires and get eNBT adapter damaged and automatically void the warranty on it.
10. INSTALLING NBT HEAD UNIT

1. Insert NBT into the dashboard slot.

2. Keep some part of the flat ribbon cable with red connector in the front of the NBT (not very long).
3. This flat cable will be connected to the faceplate.

4. Pass this flat cable on the left side of the NBT as shown on the pictures below.

5. Secure NBT in the dashboard slot with two screws. Since NBT has a bit different mounting plates (from CCC/CIC), it is suggested to drill two extra holes in the plastic of the dashboard and secure NBT using these holes.

6. It is important to secure NBT in the dashboard and make sure that it is firmly mounted prior to assembling the rest of the dashboard parts.

7. At this point you should have all the wires connected to the back of the NBT head unit. If you want to simplify any future firmware updates for eNBT Retrofit Adapter we strongly suggest to connect USB cable to the eNBT Retrofit Adapter and pass the other end to the outside of the dashboard. This step will ensure that you will not need to disassemble dashboard every time that new firmware update is released.

When installing eNBT Retrofit Adapter (with USB cable connected) at the back of the NBT head please be careful, as you may accidentally break USB connector inside of the eNBT Retrofit Adapter. Make sure that the USB cable is angled at 90° to the eNBT Retrofit Adapter and/or that no obstacles are pushing on the USB connector, which may cause USB plug to break inside of the eNBT Retrofit Adapter. Simply use common sense when installing eNBT Retrofit Adapter under the dash.

Usually at the back of the head unit tunnel in the dash board on the right or left side, there will be some sort of opening. You may use that opening to install the eNBT Retrofit Adapter. This will let you install NBT head unit until completely, to the end of the tunnel.

8. Once your NBT is installed and all connections are in place, reconnect the battery. Make a quick ‘Power On’ test. Turn ignition on and make sure that the display lights up. We assume that your NBT head unit is fully working and was tested prior to the installation.
11. CONNECTING FASCIA PANEL

1. Connect your **existing CIC** front fascia (front panel) to the flat ribbon cable. **Pay attention to the proper position of red connector. Do not reverse it as this will cause permanent eNBT damage not covered by warranty.** Install front panel into the face plate slot. This can be done via iClick option menu of the eNBT Retrofit Adapter, as described below in the appropriate section.

We currently support only CIC front fascia panels with our eNBT Retrofit Adapter. No other panels (CCC or MASK) are supported at this time.

**Warning! Red connector has special security pin. If that pin is broken during installation or due to reversed connection of the red connector to the fascia panel we will automatically void warranty for the eNBT adapter and fascia panel.**
12. INSTALLING FACEPLATE
1. Install faceplate with your front panel to the dashboard slot and secure it there with the screws (if required by construction).

2. It may require some additional modification of the plastic or adding some mounting screws to keep the front panel firmly in the plastic faceplate.

NOTE: in case of E7x series vehicle there will be a gap between faceplate and actual NBT head unit due to the mechanical limitations of the construction. This should not however prevent CD or DVD disc usage. Try to align NBT headunit with the front fascia panel slot for disc and ensure that disc may be inserted and ejected via the slot.

13. COMPLETION OF THE INSTALLATION

Assemble the remaining parts of the dashboard and install all of the plastic parts. At this point installation of the NBT retrofit in to E series vehicle is completed.

Next step is to configure your eNBT Retrofit Adapter. Please read carefully all instructions below.

Configuring of eNBT adapter can be performed via built in iClick Technology OR using our free eNBT Coding Utility. For any case when you have access to the computer with utility installed it may be more convenient and faster to perform configuration using utility. This will be described in the steps below.
14. eNBT RETOFIT ADAPTER configuration using iClick

1. Your eNBT Retrofit Adapter has a built-in logic which allows you perform configuration using the iDrive controller of your vehicle. Clock in the head unit is used for results output and for interaction. This configuration mode is called eNBT iClick Mode.

2. In order to switch your eNBT Retrofit Adapter to the iClick Mode, you have to make sure that your head unit is turned on and you can see Main Menu on the display.

3. Configuration can be performed using iDrive controller rotation clicks. To select any desired function, you need to enter the 3 digit code value, associated with the desired function. A list of available functions and associated 3 digit codes are provided in the next section.

Below it is explained how you can enter this 3 digit code value using the iDrive controller:

a. For example we need to select option called: Video in Motion (VIM) activation or deactivation. Code 3-1-2 is assigned to this function.

b. Press ‘Menu’ button and hold it for approximately 5-7 seconds. While holding the “Menu” button down keep an eye on the clock in the head unit. As soon as you see time 0:00, that means you have entered the iClick Mode.

c. Now rotate your iDrive controller clockwise (to the right) very slowly – one click by one – and watch your clock on head unit display. You will see that as you turn the iDrive controller to the right, hours increase from 0 to 5 with each click (0:00 → 1:00 → .... → 5:00). You need to make the ‘hour’ value equal to 3 (since our VIM option code is 3-1-2 and first digit is 3). The clock on the display should display 3:00.

d. Now rotate your iDrive controller counter-clockwise (to the left) very slowly – just for 1 click. You will see that the second value on the clock (minutes) will become 1 (3:00 → 3:10) Now you have selected second digit from VIM option code which is 3-1-2.

e. Now rotate your iDrive controller clockwise (to the right) very slowly – one click by one – and watch your clock on head unit display. Once you turned the iDrive controller to the right for 2 clicks, you will see that you the third value on the clock (minutes) will increase from 0 value to 2 (3:10→3:11→3:12). Once you see that the value on the clock of head unit matches the VIM option code 3-1-2 (on display it should be 3:12) you are done with selection.
f. Now you have to push the iDrive controller knob down and hold it for a little bit more than a second, until you see the value **11:00** or **11:01** or --:--

g. These values may show up only for a second or two and disappear after. Value 11:00 means that the option which you just chose is Deactivated (00 in minutes value means Turned OFF). Value 11:01 means that the option which you just selected is Activated (01 in minutes value means Turned ON). This is true when you select the options which can be left ON or OFF for long period of time. Video In Motion option can be kept ON or OFF for any amount of time. However if the option which you choose is a service option (for example Firmware Update) you may see the message like: --:-- instead of **11:00** or **11:01**

h. In case if during selection of the option code, you jumped over the desired value you may easily reset to **0:00**. Simply rotate iDrive controller to the left until you see **0:00** in clock of the NBT display.

i. In order to return back to the normal mode without selecting any option, push down iDrive knob while selecting code **0:00** which means: No option selected.

Example of code selection in iClick Mode:
Desired option code is 4-3-4 (Factory Default Settings)

1. Push and hold ‘Menu’ button for approx. 7 seconds to enter the iClick Mode
2. Once you see 0:00 time in NBT you’ve entered the iClick Mode.
3. Rotate iDrive controller to the right (clockwise) click by click until you see the time as: 4:00

4. Now rotate iDrive controller to the left (counter clockwise) until you see the time as: 4:30
5. At last rotate iDrive controller to the right again (clockwise) until you see the time as: **4:34**

6. Now push and hold iDrive controller knob down for approximately 1-2 seconds until you see --:-- appeared instead of time.

7. Your option has been selected. Normal time information will be available on the display within 1 minute.

If you selected some option which can be either Disabled or Enabled you may also see the confirmation message as: **11:00** (Disabled) or **11:01** (Enabled).
List of available configuration option codes

(This list is constantly updated with new features. You may contact your Bimmer Retrofit representative periodically to see if any new features are available).

2-1-1 Activate / Deactivate NBT Evo BR Camera Color mode (no PDC on display)
2-4-5 Activate / Deactivate RAD ON pin based on ID130
3-1-2 VIM Video in Motion ON/OFF
3-1-3 BR Camera installed/not installed
3-1-4 PDC Emulation for BR camera ON/OFF

3-1-5 Sport Displays data source (Driver’s Desired, Actual, Direct from DME)
3-2-1 Switch display brightness control mode (Ambient brightness / Headlights switch)
3-2-3 Request IP from NBT HU to VCOM USB
3-3-3 Switch front vents temperature for E7x and E6x (Cold/Med/Warm) (not used for climate eNBT
3-4-1 Top steering wheel button dedicated for M-Drive only
3-4-2 Bottom steering wheel button dedicated for Line deviation warning only
3-5-5 Virginize NBT (Complete SWT reset, FSC clear)
4-3-2 Factory Default Settings with Activation Reset
4-3-3 Firmware Update Mode
4-3-4 Factory Default Settings
4-3-5 Send current settings to VCOM USB
5-5-4 PNP Module Reboot
7-2-1 Switch head unit to Application Mode
7-2-2 Switch head unit to Flash Mode (test mode, support is not provided)
**Firmware Update Mode** – used to update firmware in the eNBT Retrofit Adapter. Detailed description of the update process is provided at the end of this document.

**Factory Default Settings** – set all settings of the eNBT Retrofit Adapter to factory defaults.

**Send current settings to VCOM USB** – send all current eNBT Retrofit Adapter settings to the USB port available via Terminal emulator on PC. Please note that you should have USB cable connected to your computer and some terminal emulation software running. Port settings: 115200 8N1

**PNP Module Reboot** – reboots internal processor of the eNBT Retrofit Adapter.

**Activate or Deactivate Radio ON pin** – it activates or deactivates Radio power pin in NBT’s quadlock connector. It senses ignition signal and activates power if set to Activate.

**VIM Video in Motion ON/OFF** – turn ON or OFF video in motion speed signal filter in the eNBT Retrofit Adapter

**BR Camera Installed/Not installed** – enable or disable Bimmer Retrofit eNBT rear view camera functionality (only if ordered from Bimmer Retrofit and installed)

**PDC Emulation for BR camera ON/OFF** – In case when only BR camera is installed (no PDC in vehicle) this option will show some PDC graphics around vehicle on display when in Rear view camera mode.

**Sports display data source** – this setting let you choose the source for the torque and power data obtained (Engine, transmission, mixed). Setting has (3) positions: 11:00, 11:01, 11:02

**Front vents temperature** – for E7x and E6x series this settings allows to set desired temperature of the airflow for the front vents (Cold, Medium, Warm). Setting has (3) positions: 11:00, 11:01, 11:02

**Request IP from NBT HU** – this is used when you need to perform coding of NBT in vehicle with direct connection via ENET cable to OBDII connector. In order to find which IP address NBT headunit resides on you may start this command. Please note that you should have USB cable connected to your computer and some terminal emulation software running. Port settings: 115200 8N1

**Virginize NBT** – this is to completely wipe all FSC codes in your NBT. Be careful, this will erase all FSCs.

**Top steering wheel button for M-Drive** – For M vehicles where top right button on steering wheel dedicated for M-Drive enable/disable. In other models this button changes source of media.

**Bottom steering wheel button for Line Deviation warning** – For vehicles where bottom right button on steering wheel dedicated for Line Deviation warning system enable/disable. In other models this button changes air recirculation mode.

**Switch head unit to Application mode** – *This command will switch head unit to Application Mode.*
Switch head unit to Flash mode – This command will switch head unit to Flash Mode. Whenever it is required to perform flashing of head unit when no ZGW is available this command should be used. If at any time it is required to return to Application Mode button ‘Menu’ should be pressed and hold for 5 seconds while in Flash Mode. **test mode, support is not provided**

Activate / Deactivate NBT Evo BR Camera Color mode (no PDC on display)- This will allow NBT Evo to show feed from BR rear view and front view cameras in color. Please note that the PDC will not be available in the same display window.

15. eNBT Utility setup and configuration of the eNBT Retrofit Adapter using eNBT Coding Utility
**eNBT utility** allows you to connect to the eNBT Retrofit Adapter using USB cable and perform the following tasks:

- eNBT adapter activation code importation and module activation
- Current settings and status read (required for remote diagnostic)
- eNBT adapter configuration
- NBT head unit FDL coding using scripts

**IMPORTANT!** Be careful when connecting or using USB plug to/with Micro USB port as excessive pressure on the connector will damage the port inside of the adapter and will make device unrepairable due to internal PCB traces damage.

Connection of the adapter over USB requires driver installation. Currently we only provide a driver for Windows PC. This driver is usually included with utility in the download package. Driver installation procedure and other useful utility functions will be described below.

1. In order to use eNBT Utility you need to have the following:
   1.1 eNBT Retrofit Adapter installed in your vehicle or sitting at your table
   1.2 Micro-USB to USB cable to connect eNBT adapter to your computer
   1.3 Driver and latest Utility for eNBT Retrofit Adapter which can be downloaded from here: [http://www.bimmerretrofit.com/updates/eNBT.zip](http://www.bimmerretrofit.com/updates/eNBT.zip)
      Once you download the .zip archive please unpack it.
   1.4 Windows7 based or similar computer with .NET Framework installed.

2. Connect your eNBT Retrofit Adapter to your computer. In case the eNBT Retrofit Adapter is installed in your vehicle please turn ignition ‘ON’ prior to connecting the eNBT Retrofit Adapter to your PC via the USB cable. You may also start engine if desired.

3. Go to your Control Panel – Device Manager and find a new device.
4. Right click on the new device and select Update driver mode.
5. Choose: Browse my computer for driver software

6. You may get a security prompt. Select: Install this driver software anyway
**Warning:** If you use Windows8 you may require to temporary disable Driver’s Digital Signature verification before installing driver. Please check with Windows manual or Google this information.

7. Once the driver is installed, you should see in your Device Manager new COM port device. Note its COM port number. You will need it in the next steps.

8. Start the eNBT Retrofit Adapter utility called “eNBT Serial Retriever”.

---

![Image of eNBT Retrofit Adapter Installation Instruction](image-url)
9. In the utility click on the drop down menu and select your COM port number. It should be the same COM port number as was installed in your device manager. Normally application will already contain the number for the correct COM port entered automatically.

10. Click Connect button and if everything is correctly setup adapter will connect with utility. Do not forget to click Disconnect/Connect button again before you unplug USB cable from adapter.

16. **iClick FIRMWARE UPDATE PROCEDURE FOR eNBT RETROFIT ADAPTER**

   Firmware inside the eNBT Retrofit Adapter should only be updated if instructed by Bimmer Retrofit or if new firmware update is released, fixing any possible bugs or making available any new features.

   You can always download latest firmware update via the link below:
   
   [http://www.bimmerretrofit.com/updates](http://www.bimmerretrofit.com/updates)

   Always ensure that you download firmware SPECIFICALLY for your model of adapter. Use of firmware from other type of hardware may ‘brick’ your adapter. If unsure please consult with our technical support team: support@bimmerretrofit.com

   This is the standard procedure for firmware update which should always be used, unless otherwise specified by Bimmer Retrofit. In case if this procedure cannot be used, **Manual Firmware Update Procedure** should be used. It is described at the end of this document.
Two options to connect to the eNBT Retrofit Adapter:

1. Assuming that you have passed the micro USB cable from the eNBT Retrofit Adapter to the outside of the dashboard and left it floating there during installation of the eNBT adapter, you can connect to the eNBT Retrofit Adapter without removing the NBT head unit;

2. Alternatively, you may remove your NBT head unit (DO NOT disconnect it from the eNBT Retrofit Adapter) and get access to the eNBT Retrofit Adapter at the back of the NBT head unit. Plug micro USB cable into the USB port on the eNBT Retrofit Adapter.

Whenever firmware update procedure is required please follow the steps below:

1. Following previously described procedure, enter the Mode: **4-3-3 Firmware Update Mode**

   Use iDrive controller to enter this mode.

   Once NBT display switches “OFF” and then switches “ON” again you will see that your clock on the display starts showing the time counting from 0:00 to 23:23 nonstop (for US time standard it will count from 0:00 to 11:23). This confirms that you entered Firmware Update Mode for eNBT Retrofit Adapter.

2. Connect USB cable to your Windows based laptop (sorry Mac owners, we do not yet support you).

3. Make sure that you have received new firmware update file from manufacturer.

4. Open File Explorer. You will see that new disk drive appears in the system.
5. Open newly appeared drive. You will see there a file: firmware.bin

6. Delete this file from the drive.

7. Copy new firmware update file from your computer (which you received from manufacturer or which you downloaded from www.bimmerretrofit.com/updates) to the newly appeared disk drive.

   You should have only one! file on this drive now. Firmware update file may have a name, which is different from firmware.bin. This is normal, do not rename update file.

8. Push iDrive controller knob down for at least 1-2 seconds. You will see that NBT display reboots once again. Your time information on the display will return to normal in a short period of time. You have returned from the Firmware Update Mode to the normal operation mode.

   It is important not to interrupt process of file copying during the firmware update. Also it is important to make sure that you copied proper firmware update file received from the manufacturer to your eNBT Retrofit Adapter via PNP cable.

   If the firmware update file which you received from manufacturer is in .zip or .rar archive format, please un-archive it first before copying the firmware update file to the eNBT Retrofit Adapter. You should copy to eNBT Retrofit Adapter only firmware update file and not any other files!
17. **MANUAL eNBT RETROFIT ADAPTER FIRMWARE UPDATE PROCEDURE**

(in case if iClick Firmware Update mode cannot be activated for any reason).

Firmware inside the eNBT Retrofit Adapter should only be updated if instructed by Bimmer Retrofit or if new firmware update is released, fixing any possible bugs or making available any new features.

**Warning!** This procedure should be used ONLY! if the standard iClick procedure (4-3-3) cannot be used for any reason. Check with the manufacturer if you are not sure which update procedure you should be using. Under normal circumstances, you should use iClick 4-3-3 firmware update procedure.

For the software update of the PNP module or other type of eNBT adapter module you will require to have the following:

1. Micro USB to USB adapter cable
2. Standard pen or pencil
3. Computer with at least one USB port available and Windows (XP, Vista, 7 or 8) system installed

In order to perform the firmware upgrade follow these steps:

1. Disconnect eNBT Retrofit Adapter from the vehicle side connector. You may disconnect it from both NBT and vehicle side connectors however it is absolutely required to disconnect it from at least vehicle side connector.

2. Plug USB cable to your eNBT module. There is a small Micro USB connector on the side of the module. If you already have this cable connected just use it.
IMPORTANT! Be careful when connecting or using USB plug to/with Micro USB port as excessive pressure on the connector will damage the port inside of the adapter and will make device unrepairable due to internal PCB traces damage.

3. Take a pen or pencil and gently press with it to the small button located on the side of the eNBT module in the hole. Please do not push hard as it may damage the button.

Note that in case if your adapter looks differently the hole for button may be located in a different place of the adapter. Visually inspect adapter to find the right place where button is located.
1. While holding the button down, connect another end of the USB cable to your PC’s USB port.

2. Keep holding the button. Do not release it. After short time (5-7 sec) you will see that new drive (G:) appeared under My Computer. This drive will have a name: CRP1 ENABLE. In your case it will most probably will have different letter (D:, E:, F: etc)

3. Release button immediately as soon as you see new drive appeared in My Computer.

4. Newly appeared drive will contain a single file called: firmware.bin

5. Delete this file (firmware.bin) completely from the drive.

6. Copy new firmware update file which you received from us to the drive G: Do not rename firmware update file. It will have a name different from firmware.bin, this is normal.

7. Once the file is copied disconnect USB cable from your computer.

8. Disconnect USB cable from eNBT cable and install eNBT cable back to your vehicle.

9. Software update is now completed.
18. ACTIVATION PROCESS FOR THE ENBT RETROFIT ADAPTER

The eNBT Retrofit Adapter which you have purchased requires activation using a unique activation code, which will be provided by Bimmer Retrofit online at: www.enbtadapter.com

Each eNBT adapter will be activated to single unique VIN number only! This is included in eNBT adapter price. One time reactivation to another vehicle VIN is allowed with in warranty period and ONLY in case if owner changed his vehicle to another one.

Unless otherwise specified or advised by the sales team, your eNBT Retrofit Adapter is delivered to you NOT ACTIVATED. In order to make it function correctly, you have to activate it.

If the eNBT Retrofit Adapter is not yet activated, your NBT head unit will power on, and will work but with certain limitations. NBT (Evo) head unit will shut down if engine RPMs are over 1000. No date and time information will be shown on the display. All service functions will be inactive. Navigation system will not function, however map can be accessed via the navigation menu. Also for eNBT with built in GPS there will be no GPS data provided to NBT Evo while eNBT is not activated.

IMPORTANT:

YOU MUST INSTALL ENBT RETROFIT ADAPTER INTO YOUR VEHICLE AND START THE ENGINE AT LEAST ONCE WITH THE ENBT RETROFIT ADAPTER INSTALLED AND FULLY CONNECTED PRIOR TO PERFORMING ACTIVATION!!! THIS IS REQUIRED TO ALLOW ENBT ADAPTER TO PROPERLY RECOGNIZE YOUR HEADUNIT AND VEHICLE IDENTIFICATION DATA.

Activation of the eNBT Retrofit Adapter can be performed in two different ways:

Using iDrive controller (regular method) or Using eNBT utility for activation code entry (fast method)

In case when you have access to a computer and our utility, we recommend to use fast method, otherwise you may use normal method.
**Activation using iDrive controller (regular method):**

In order to activate your eNBT Retrofit Adapter after installation you will need to complete the following steps:

1. **FDL Code your NBT head unit with option: KOMBI_CIC ➔ kombi_low**
   
   It is VERY important to code this specific option prior to activating the module. If this option is not coded you will not be able to see the activation code number which you will be entering using iDrive controller and iClick Technology.

2. **Contact your Customer Service representative and provide them with either:**

   - VIN number of the vehicle where eNBT Retrofit Adapter is installed **and** also with the warranty label number attached to the eNBT Retrofit Adapter

   or with

   - ESN (Electronic Serial Number) and also with the VIN number of the vehicle where eNBT adapter is installed. To obtain the ESN, you need to download eNBT Retrofit Adapter utility from our website, install it on your PC (Windows only), connect eNBT Retrofit Adapter via USB cable to the PC and using the utility read out the ESN (electronic serial number) from the eNBT Retrofit Adapter.

3. **Receive the Activation code from your Customer Service representative and enter it into your eNBT Retrofit Adapter using iDrive controller (iClick Technology).**

4. **Once the number is entered, your eNBT Retrofit Adapter will become permanently activated for your vehicle.**

**Activation number entry**

Activation number contains 20 numbers which should be entered into the eNBT Retrofit Adapter one by one.

Example of the activation number is given below:

```
7-3-11-4-7-0-10-12-15-7-9-13-12-6-1-0-4-6-12-8
```

*(this is just an EXAMPLE activation code. Your code will be different!!!)*

Activation number contains **20** numbers which should be entered one by one into eNBT adapter using iDrive controller (iClick Technology).
1. When eNBT Retrofit Adapter is installed in the vehicle prior to activation, the NBT head unit will show **0:00** time. It is important to make sure that prior to the activation you have FDL coded your NBT head unit with at least one single parameter: **KOMBI_CIC** → **kombi_low**

   It is VERY important to code this specific option prior to activating the module. If this option is not coded you will not be able to see the activation code number which you will be entering using iDrive controller and iClick Technology.

2. Follow the steps below:
   - Code NBT head unit (Step 1 above)
   - install eNBT Retrofit Adapter into your vehicle
   - connect it to the head unit and fully turn off the ignition at least once. You must lock the vehicle for at least 5 minutes (vehicle needs to go in to “sleep” mode)
   - unlock the vehicle and turn ignition ‘ON’ for activation. Engine can be also started, however if RPMs exceed 1000, the NBT head unit will shut off until the RPMs fall below 1000.

   **Activation of the eNBT adapter should be done with Ignition turned ON.**

3. Once time 0:00 (or 1:XX in case you rotated the iDrive controller) is displayed on the NBT screen, you may start the activation of your eNBT Retrofit Adapter, assuming that you have already obtained the activation number for your vehicle’s VIN number, from your Customer Service representative.

<table>
<thead>
<tr>
<th>Position:</th>
<th>01</th>
<th>02</th>
<th>03</th>
<th>04</th>
<th>05</th>
<th>06</th>
<th>07</th>
<th>08</th>
<th>09</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value:</td>
<td>7</td>
<td>3</td>
<td>11</td>
<td>4</td>
<td>7</td>
<td>0</td>
<td>10</td>
<td>12</td>
<td>15</td>
<td>7</td>
<td>9</td>
<td>13</td>
<td>12</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>6</td>
<td>12</td>
<td>8</td>
</tr>
</tbody>
</table>

4. Clock on the NBT display is used for results output and for interaction – it will help you with the activation code entry. The hour part (**XX**:00) of the clock displays the position of the value which is entered (from left to right, from 1 to 20). The Minute part (**00**:**XX**) of the clock displays the value of the activation code which was entered.

   For example if you are entering the value of the activation code, corresponding to position number ‘08’ and that value is ‘12’, **08:12** should appear on the clock on the NBT display.

5. Rotate iDrive controller knob clockwise or counter clockwise in order to select the value of the activation code (in Minutes position **00**:**XX**).

6. Push and hold the ‘Menu’ button on the iDrive controller for at least 2 seconds after each new number is entered. After every push of the ‘Menu’ button down, the position number (**Hour value**) will increase by one and a gong will also sounds.
7. Once all 20 numbers of the activation code are entered, you should hear double gong and see 11:11 as a time on the clock on the display. This confirms that the activation has been done and now your eNBT Retrofit Adapter is fully activated.

8. In case you see 11:00 as a time on the clock on the display after all 20 numbers of the activation code are entered, that means that something went wrong during activation (incorrect number was entered) and activation was not done successfully. You will automatically be switched back to the beginning of the activation process and you will need to enter the activation code again, starting with the activation code value in position 1.

**Example of activation code entry:**

For example we need to enter activation code: 7-3-11-4-7-0-10-12-15-7-9-13-12-6-1-0-4-6-12-8

1. Make sure that you have FDL coded the NBT head unit with the required option (see above) and that ignition has been completely switched off / on at least once (see above).

2. Turn ignition ON.

3. Make sure that you can see either 0:00 or 01:XX on the NBT display as a the time on the clock.
4. Rotate iDrive controller knob until you set: **01:07** (selecting the number which corresponds to the first position, which is ‘07’ in our example).

![Image of iDrive controller setting 01:07]

5. Push and hold the ‘Menu’ button for at least 2 seconds. You should see the time on the clock as **02:00** and also hear a short gong. This confirms that you have entered ‘07’ which corresponds to the first position of the activation code. Now you need to enter the value in the second position of the activation code, **02:XX**.

6. Rotate iDrive controller clockwise or counter clockwise until you set the value in the second position, which is **03**. Once you set the time on the clock to **02:03** (second position of the activation code and value **03**) push the ‘Menu’ button for at least 2 seconds. You should see the time value as **03:00** and also hear a shot gong.
This confirms that you have entered the value in the second position of the activation code which is :03 and now you need to enter the value in the third position of the activation code 03:XX

7. In the same manner enter the value in the third position of the activation code which is :11. Once you see 3:11 as a time on the clock, again push and hold the ‘Menu’ button down on the iDrive controller for at least 2 seconds. You will hear a gong, followed by change of the time on the clock to 04:00.

8. Proceed in the same manner with entry of all activation numbers. Once you enter the number of the activation code in the last 20th position, push and hold the ‘Menu’ button for at least 2 seconds. eNBT Retrofit Adapter will perform the activation number verification. (20th position of the activation number is :08)
If activation number is accepted you should hear a double gong and the time on the clock will change to **11:11**. This confirms that your eNBT Retrofit Adapter is now activated.

Shortly after that, the time on the clock on the screen will display normal time (same as the time shown on your KOMBI cluster). Also all functions of the eNBT Retrofit Adapter will become fully unlocked once activation is completed.

**Activation process troubleshooting steps**

In case if after entering all of the numbers of the activation code, you do not hear double gong and/or time on the clock is shown as 11:00 – this means that activation has **NOT** been done.

There are few possible reasons for that. Please check the following:
1. Make sure that you provided to your Customer Service representative the correct VIN number of the vehicle, in which you are installing this specific eNBT Retrofit Adapter, the correct ESN (Electronic Serial Number) or Warranty Label number.

2. Make sure that prior to entering the activation code, you have installed the eNBT Retrofit Adapter AND turned ‘OFF’ the vehicle at least once and let the vehicle fall asleep at least once.

If activation is not completed successfully, your eNBT Retrofit Adapter will stay in the Activation Code Entry mode. You may now enter your activation code again by rotating iDrive controller knob. Repeat all steps described in this Example to enter the activation code.

**Activation using eNBT Adapter Utility (fast method):**

1. Start eNBT Utility and connect to your eNBT Retrofit Adapter to your computer using USB cable
2. Select the appropriate COM port which belongs to eNBT Retrofit Adapter and click “CONNECT” button.
3. Copy/paste your activation code from certificate file provided by the seller to the utility field “ACTIVATION CODE”.

![eNBT Adapter Utility Image]
It is normal if after pasting the activation code into the “ACTIVATION CODE” field, some part of it will not be visible as complete number does not fit completely on the field provided, however it is still accessible by the utility.

Make sure that you have copied complete activation code provided by manufacturer into the “ACTIVATION CODE” field of the utility. This code always starts with the number, ends with the number and between each separate number there must be a ‘-‘ sign.

Click “ENTER CODE” button.

After short period of time, utility will show the activation status. It is possible that during activation your NBT display will switch off for short period of time.
19. **eNBT Retrofit Adapter Serial Number Retrieval**

1. Select COM port of your eNBT adapter and click **Connect** button. Button will become green if connection is established **OKAY**.
2. Click on the ‘Get Serial’ button. You will receive a serial number of your eNBT Retrofit Adapter which will be shown in the green area of the utility program. Copy or write down this number and send it to technical support or your Customer Service representative together with your vehicle’s VIN number in order to get the Activation code.

3. At any time when you need to verify current eNBT adapter settings or verify its activation status you may click Read Settings button. Scroll up or down green information area of the utility to check desired parameter status.
20. NBT Headunit FDL Script Coding

*eNBT Config and Coding* utility allows to perform NBT headunit FDL coding using script files. Script file contains specific options and their values which need to be changed in headunit. This file can be obtained from manufacturer upon request or included with the utility for download from our website.

Each script file will FDL code only specific general options required for NBT headunit to operate within legacy type chassis (E-Series).

For FDL coding process you need to have *Ediabas* interface software (not included) installed on the same computer where *eNBT* utility is running. Ediabas should be set to connection type *ENET*. As a hardware interface ENET cable (or ICOM A) should be used. Destination IP address for connection should be set to IP address of the NBT headunit or IP address of the Gateway module (if installed in your setup).

You may download from internet and use free utility called *EasyConnect* for easy Ediabas configuration on your computer. Use google or similar search engine to find this utility on the net.
eNBT Utility has few buttons to operate FDL coding process. These buttons are located below the information display. There are few steps which needs to be performed for FDL coding process to be completed. By default each next step can be executed only if current step is successfully completed.

Each time when operation is completed OKAY button responsible for this operation will become green and the next operation button will be unlocked.

In case of error at any step of process button representing this step will become red. You may repeat process if required.

Script coding using our utility should be done after you have coded and configured your NBT headunit with options desired (for example PDC, Camera, TV, Amplifier type, etc).

eNBT Utility will code specific required options to headunit, however all general options of your vehicle should be coded according to your vehicle’s FA (Vehicle Order) in prior of using this utility.

The following scripts are required for initial coding (after FA/VO coding is done):

- **eNBT_HW21_31_OSD_BASEFDL_v1.2** – Should be always applied first for any type of eNBT adapter and any HW version of NBT (07,08,21,31, etc)
- **eNBT_Convert_to_HW07_08_no_OSD** – Apply this script **ONLY** if you have non-climate support version of eNBT adapter and NBT with HW version 07 or 08.

All other scripts are given for testing purposes only and not required for eNBT adapter’s proper functionality. For these scripts same params can be set with FA/VO coding.

This utility requires live internet connection at all time during FDL coding process. Please ensure that you have stable internet connection and keep it up with no interruptions during FDL coding process.
1. Start eNBT Config and Coding utility and click **Load Script** button for FDL coding.

![eNBT Adapter Utility](image)

2. Click **ECU Connect** button to connect with your NBT headunit. Prior to click this button you need to ensure that you have Ediabas setup on the same machine where you use this utility and that your Edibas is set for **ENET** type connection to the IP address of your NBT headunit or to the IP address of the Gateway (please see above in the beginning of this part). If your connection is set correctly you will get a positive response from the utility. In case of negative response you need to re-check your Ediabas settings and headunit to PC connection. NBT head unit must be turned ON all the time during connection and FDL coding.
3. Once **ECU Connect** is done you need to enter your **Access Code** for coding. This access code is usually written on the warranty label from your eNBT adapter. Please note that you may use your Access Code only for same NBT headunit for which you have activated your eNBT adapter. In case of use coding utility for different NBT headunit your Access Code will be blocked at our server and you no longer be able to use this utility for coding.

4. Once access code is entered click **Read FDL** button to read current configuration settings from NBT headunit. Utility will read all parts of NBT setting memory for further configuration.
5. When all memory configuration settings were read from ECU (NBT) you need to click **Apply Script** button in order to apply all required changes to existing configuration map. By pressing this button your previously loaded script will execute and change desired coding settings in headunit’s configuration memory map (locally in utility cache).
6. Final step is to press **FDL Code** button in order to code back all configuration into connected headunit. It is important to make sure that during coding process you keep headunit connected and your computer is running on AC power or on fully charged battery.

Warning: In case if for any reason network connection between your computers (Ediabas) and headunit is lost during this **FDL Code** process your headunit may be damaged! You must ensure that you have good network connection and proper setup (PC hardware, software, etc) in prior of running FDL Code task. If such issue has occurred you may require to reflash or recode your headunit using different software.
7. FDL Code task may take some time (normally under 1 minute). Wait until you see the coding results written in information display of the utility. In case of normal coding execution you will see the result: **ECU CAFD Coded OKAY**.

At the end of the FDL coding your headunit will reboot. Utility will wait until reboot is completed and will advise you on the status after.
21. **eNBT Retrofit Adapter with Climate Controls support and eNBT adapter with MOST HUD support extended functionality**

If you use eNBT Retrofit Adapter with Climate Controls support or eNBT Retrofit Adapter with MOST HUD support you may also use built in Climate Menu functionality and additional **eNBT Adapter menu** functionality.

Once your NBT head unit is properly coded (use special script for Climate OSD functionality) you may access Climate Controls menu or eNBT Retrofit Adapter menu at any time.

1. Each time you press buttons ‘Auto’ or air direction change on your climate control panel (IHKA ECU), Climate Controls menu will appear on the NBT screen for 5 seconds.
In this menu you will see current status of the climate control system, air distribution for driver and passenger, center vents temperature setting and other information.

Numbers located on top, bottom and on the side of the air direction arrows show the strength of airflow in particular direction (in % from 1 to 100).

At the bottom you will see the In and Out temperature information.

2. To change the center vents air temperature, you will need to rotate the Volume Knob or the iDrive controller knob (only for LCI E-Series iDrive controllers), of the fascia panel clockwise or counter clockwise. This will change the center vents temperature setting. Result will be displayed in the lower left corner of the display under “[Center temp]“.
3. Climate menu will disappear automatically if inactive for 5 seconds.

4. To access the additional eNBT Service Menu, push and hold Options button on the iDrive controller for 5 seconds. Please note that this option will NOT work on legacy iDrive controllers with single Menu button.

5. This will open eNBT Service Menu on the NBT display. To select desired menu position rotate Volume knob clockwise or counter clockwise or use iDrive controller.
(only for E-Series LCI iDrive controllers). Whenever you want to choose selection push Volume knob down (Mute) or press iDrive controller knob down (only for E-Series LCI iDrive controllers). Should you require to exit a particular menu push Eject button on the fascia panel or click MENU button on the iDrive controller.

6. eNBT Adapter menu contains:
   - Current config – you may check status of eNBT adapter and its serial number
   - Headunit IP – you may check what is current NBT IP address
   - Firmware update – to switch eNBT adapter to firmware update mode
   - Flash Mode – to switch NBT to Flash mode (be careful with this function)
   - Virginize HU – this will wipe all FSC codes from NBT
   - Climate controls – to open Climate Controls menu
   - CAN Bus status – to check the status of the CAN bus
   - Vehicle Data – vehicle live parameters information

7. Vehicle Data menu brings to the driver additional information about vehicle’s current status. From this menu you may see current vehicle speed, RPM, torque, power, acceleration, working temperatures, brake system pressure, alternator and fuel pump detailed statuses, oil status and more.
Additional feature of Vehicle Data menu is the G-Force submenu where you can see the forces applied to your vehicle in real time.

*This function is ONLY available in eNBT Climate, eNBT MOST HUD and eNBT iBus support adapter models.*
22. **Service intervals configuration for iBus eNBT legacy vehicles**

1. Start eNBT Utility and connect with the eNBT adapter.
2. Using drop down menu choose service interval for update
3. Type new service interval mileage (in km) in to **Activation code** field.

![Image of eNBT Adapter Utility interface]

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4. Click on the **Process Task** button and wait for confirmation message.
23. **Speed and distance correctional value setup**

In situation when vehicle position indicator on the map moves slower or faster than the actual vehicle than it is possible to adjust vehicle movement speed by using of the correctional value. Default correctional value is equal to 100%. This means that no correction is added to actual vehicle speed. In case if your vehicle moves slower on the map than the actual vehicle you may increase correctional value to higher number. For example 120% will increase vehicle speed on the map compared to actual vehicle speed.

Correctional value can be between 1 and 254 percent. Default factory value is 100%

1. Start eNBT Adapter Utility and connect with the eNBT adapter.
2. Using drop down menu choose **Speed Dist corr value**
3. Enter desired correction value (1…254) to the **Activation Code** field
4. Press **Process Task** button to send value to eNBT adapter.
5. Wait until confirmation appears in green display field of the utility

6. By pressing Read Settings it is always possible to see current correctional value.
24. Front and Rear Camera controls via iDrive controller

This rearview camera and front view camera integrate with the iDrive.

This means that when you engage the R reverse the camera will automatically turn on. However once you switch back to D (Drive) camera will stay on until you drive with certain speed (default value 12km/h). If you switch to P (Park) camera will switch off immediately.

Whenever R Reverse is engaged and rear camera image is on display you may move iDrive controller forward for 2-3sec and front camera image will appear. Moving iDrive controller backwards will switch rear view camera back on display.

Furthermore retrofit offers you additional features:

1. You can turn the rear or front camera on by pushing the iDrive controller back or front and holding it for 2-3 seconds. This allows you to get the camera image even when the vehicle is moving forward or is parked or is in neutral*.

2. Moving iDrive forward will bring front camera and moving iDrive backwards will bring rear camera on display.

3. You can turn off the camera by pressing and holding the BACK button on the iDrive controller for 2-3 seconds or pressing any other button on iDrive.
25. **Accessing service menu in NBT Evo to verify GPS functionality**

There is a hidden service engineering menu in NBT Evo headunit which provides some technical information useful for verification of the system functionality. In case if it is required to see current GPS status, visible satellites, GPS position lock, etc, you may access this service menu.

Follow the steps below for Service menu access:

1. Press MENU button once to make sure that you are in main menu
2. Push and hold iDrive controller for 10 seconds in **Up forward** position then release
3. Slowly rotate iDrive controller knob exactly 3 clicks clockwise
4. Slowly rotate iDrive controller knob exactly 3 clicks counterclockwise
5. Rotate iDrive controller 1 click clockwise
6. Rotate iDrive controller 1 click counterclockwise
7. Rotate iDrive controller 1 click clockwise
8. Push iDrive knob down and release it immediately
9. Headunit should stay in main menu, this indicates that steps 1-9 correctly done. If any menu opened you have to repeat steps 1-9.

10. Open My Vehicle menu

11. Go to the very bottom and open *Service menu*
12. Go to Navigation menu and then open GPS menu.

13. Open GPS Status menu and see GPS Status message

GPS Status: **Check Antenna** → GPS Module is searching for satellites. GPS is not locked. Check your antenna, make sure it is connected to GPS Receiver. You should be outside with good sky visibility to get 3D lock.

GPS Status: **3D Fix** → GPS Module found satellites and now has proper 3D locked position

For all questions or other inquiries please contact us at: info@bimmerretrofit.com
or visit: www.bimmerretrofit.com

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