

# ProTool Manual



by **BIMMERGEEKS**

# Table of Contents

<b>Introduction</b>	<b>3</b>	<b>Feature Coding</b>	<b>23</b>
<b>FAQ</b>	<b>4</b>	Activating Features	24
<b>Compatible Adapters</b>	<b>8</b>	Vehicle Order	25
Troubleshooting	12	Following Online DIY's	26
<b>Getting Started</b>	<b>14</b>	<b>Default Coding</b>	<b>27</b>
Checklist	14	<b>Nettodata</b>	<b>28</b>
Connecting	14	<b>Battery Changing</b>	<b>29</b>
License Purchase	16	<b>Injector Coding</b>	<b>30</b>
<b>App Navigation</b>	<b>18</b>	<b>Basic How-To's</b>	<b>31</b>
Global Search Feature	19	Digital Speedometer	31
<b>Reading Errors</b>	<b>20</b>	Delete TPMS	31
<b>Gauges &amp; Data Logging</b>	<b>21</b>	Folding Mirrors/Comfort Closing via Fob	32
Custom Data to Gauges	22	Delete SOS Light	32
		Video in Motion (CIC iDrive only)	32

# Introduction

ProTool by BimmerGeeks puts the power of a BMW specialist in the palm of your hand. Transform your Android device into one of the most powerful scan-tools available for BMW.



ProTool is a feature-rich, easy to use **Android app** that turns even the most novice of users into BMW experts. Complex software and special equipment are no longer necessary.



**Save time & frustration and let the app do the work for you.**

# F.A.Q

Does ProTool lock to one vin/vehicle or can we use it on more than one vehicle?

ProTool is not locked to any vin and can be used on as many vehicles as you would like.

I purchased the license and now ProTool is asking for me to purchase the license again. What do I do?

The application licenses are now synced to our servers from Google if you already own the licenses. Simply go to the top right corner **(three dots)** -> **Account** -> **Sync Account**, that should bring the license over from Google's side to our servers.

Can I change devices and will ProTool follow me when I do change devices?

Yes, it can as long as you use the same Google account email that the license was purchased on.

Is the subscription a monthly, yearly, or lifetime?

Currently our license(s) are for the lifetime of the product.

Are there any plans for an iOS version?

Possibly sometime in the future. We are focused on one platform to bring the most complete and stable product for our customers.

How much is the app's license(s)?

Our Master license which is both Coding and Diagnostic license combined is: **\$144.99**.  
The Diagnostic license is \$84.99. The Coding license is \$74.99.

**Can I use another cable besides a BimmerGeeks cable?**

A BimmerGeeks branded cables is not required. Any working K+DCAN cable can be used on Exx series vehicles. As for F, G, and I chassis vehicles, any cable can be used for diagnostics, but only specific cables including ours can safely code F, G, and I chassis. The app will test the stability at connection to these chassis to determine if it's stable enough for coding.

**Okay, how is the other K+DCAN's restriced from coding those chassis?**

ProTool is the first application to allow for F, G, and I chassis coding via K+DCAN. Through testing we have found that nearly all K+DCAN cables failed to code successfully and resulted in inoperable control units. We fixed this issue with revised cable firmware that can safely and quickly code these chassis. We attempt to update the cables firmware at connection, but most generic cables fo not allow for firmware updates.

**Can I use another Bluetooth adapter besides the BimmerGeeks Bluetooth that I use for another app?**

Our Bluetooth was designed specifically to handle the communications with the car between the app. Some tasks, if not completed properly can damage your car and leave it inoperable. So we currently do not allow any other Bluetooth adapters at this time.

**Does the Thor/MHD Wi-Fi adapter(s) work with ProTool?**

Yes! We do have support for these adapters built into the application. The MHD adapter must be the orange adapter for E chassis cars. The black ENET adapter is supported for F, G, and I chassis

**When is Gen 1 E series coming to the app? (E39, E46, E53, E83, E85)**

At this time we don't have a timeline on a full release. We are working hard on developing support for those vehicles. We do have diagnostics functionality in the app at this time.

### What kind of device do I need to use ProTool?

Android based phone or tablet with android version 4.4 or higher.  
(Note: If you plan on using a K+DCAN or ENET, the device must be OTG compatible.)

### Can I use a laptop or chromebook with the app?

We have seen it done, it's just not recommended. The app was not designed to be used with an emulator on a laptop or a chromebook.

### Can I save my error codes on the app and how do I access them?

Yes, you'll have the option to save it from down below, "Save Codes". To access, you'll need to go into your device's external storage, find the **"ProTool" folder -> "Diagnostic"**, it will appear under your vin number. (If using the website, you will want to first sync in the app to be able to access the file(s) from the website.)

### Can the app datalog my car and where does it store the file?

Yes, it can. To access, you'll need to go into your device's external storage, find the "ProTool" folder, and access the "Logging" folder. (If using the website, you will want to first sync in the app to be able to access the file(s) from the website. Top right **(three dots) -> Account -> Sync Account**)

### Can the app code out the speed limiter?

Unfortunately not, you will need to have a tuner write off the speed limiter in a tune.

### Can ProTool flash module updates?

No, ProTool does not have the capability to flash modules.

**Can we code injectors with this app?**

Yes, you will be able to code your injectors if needed on this app.

**Can ProTool do battery registration/change?**

Yes, ProTool uses the same BMW logic that is in the dealership tools. You will just need to find out the type of battery (AGM or Standard) and the batteries AH (Amp-Hour) rating from the manufacturer. BMW Batteries come with this rating already on the label.

**Can ProTool program key(s) to the vehicle?**

Unfortunately not, you would either need a highly expensive tool or to get a key directly from the dealership in this case.

**Can ProTool complete a DME or CAS swap from another vehicle?**

Unfortunately not, these modules would need to be coded from a bench in order to make sure key numbers match for the vehicle to be allowed to start.

**Do you guys have a support group?**

Yes, we do. It's only available on Facebook at this time but if you'd like to join, you can go ([here](#)).

# Compatible Adapters

## PROTOOL ACCEPTS 4 METHODS OF CONNECTION:



USB



BLUETOOTH



WI-FI



F, G, and I chassis only

ENET



USB

**Any K+DCAN cable can be used for USB connections in the app.**



If the cable has a switch or button, please make sure it's in the correct position for the chassis you're attempting to connect to. (Please refer to the item description or FAQ's of the K+DCAN cable you purchased for more information.)

In order to connect via USB, your Android device must be OTG compatible.

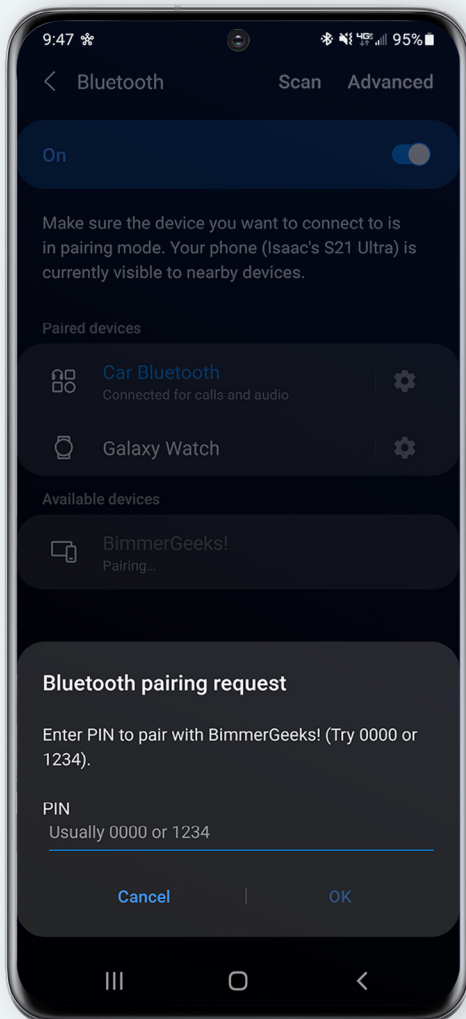






## BLUETOOTH

Currently the only compatible Bluetooth adapter is the BimmerGeeks Bluetooth adapter.

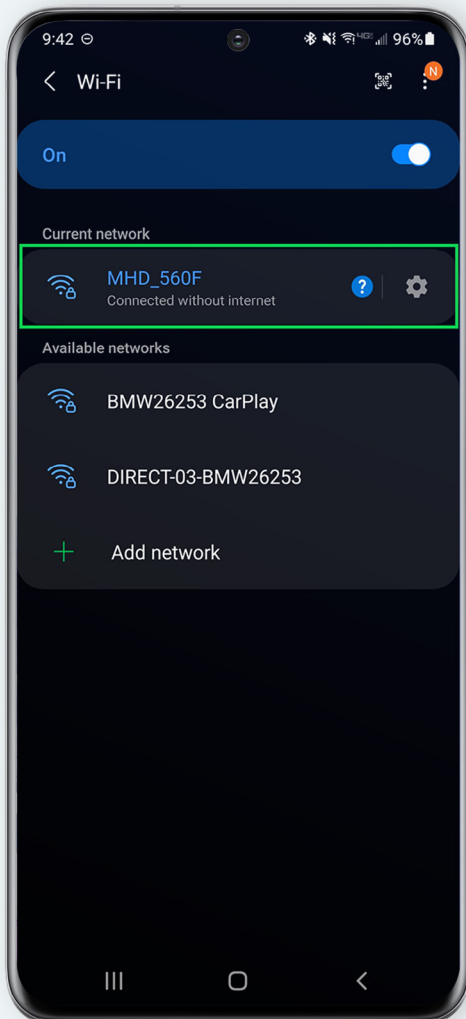
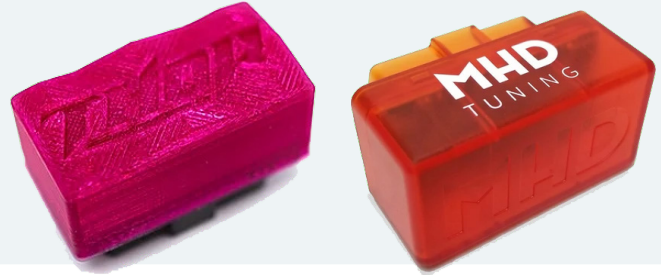


Pair the adapters in your Bluetooth settings, (The device will prompt you for a pin when attempting to connect to the Bluetooth adapter, the pin number is 1234 or 0000) once the connection has been established in the settings, you will be able to then go into ProTool to connect via the Bluetooth option in the connections list.



## WI-FI

ProTool supports the Thor and Orange MHD Wi-Fi adapters for connection.



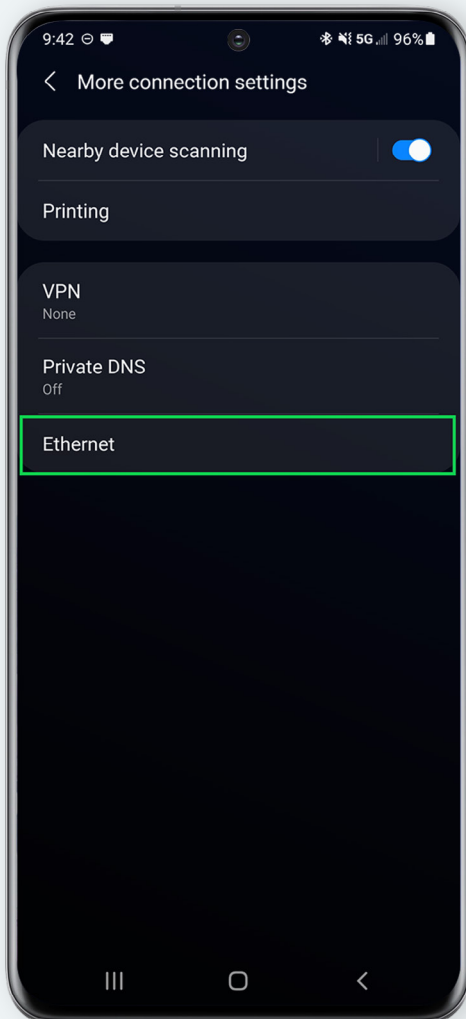
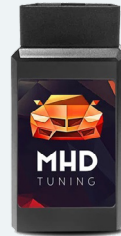
In order to use them in the app, you would need to connect to the adapter of your choice in the device's Wi-Fi settings.

The adapter should appear as an available device to connect to when in Wi-Fi settings. Once connected, you will be able to select the Wi-Fi option in the app in order to connect using the Wi-Fi adapter.



## ENET

This is for F chassis cars and newer, that includes G, and I chassis as well.



This method utilizes an ethernet based protocol so you will have to make sure the device has the ability to support Ethernet over USB or Ethernet-USB if using an ENET cable. If using an ENET Wi-Fi adapter, you simply plug in the adapter to the OBD port and then connect to it through the device's Wi-Fi settings.

## Troubleshooting

Most connection issues occur when trying to connect with an incompatible adapter. However, if you're using a supported adapter and the vehicle chassis is listed as fully supported, we have a few suggestions on how to troubleshoot the problem:

- ✓ **Make sure that the apps configuration files are downloaded with a stable internet connection before attempting to connect to the vehicle.**

You do not need to be connected to the car for this to happen, simply launch the app and attempt to connect and the app will prompt to download the files. Once the files have been downloaded, you're good to go.

-----

- ✓ **Try with the Engine running on the vehicle.**
- 

- ✓ **If using a K+DCAN interface and the cable has a button or switch on it,** please confirm that the button or switch is in the correct position for the chassis you're connecting to.
- 

- ✓ **If the device is reporting "K+DCAN not detected,"** it's usually either the device itself (Make sure the device has OTG compatibility.) or the OTG adapter that plugs into the device. Samsung devices are notoriously picky when it comes to the OTG connection so the process would be to plug the OTG adapter into the device first, then insert the K+DCAN cable into the OTG adapter and the device should recognize it.
- 

- ✓ **If you're using a wireless method, such as Bluetooth or Wi-Fi.**

You can unpair the adapter from your device from the connections settings. Then attempt to re-connect to the adapter.

- ✓ **If using the ENET Cable, make sure the Static IP configuration is complete.**

You can find this information in the connecting portion of this document.

-----

- ✓ **If the vehicle has an aftermarket piggyback tuning system,** such as the JB4, that unit will have to be turned off before connecting with the app by toggling to Map



There are some rare instances when the JB4 will not turn off after toggling to Map 0 where the connection issue will persist. If it does, we would recommend swapping back to Map 1 then back to Map 0 to try again.

-----

- ✓ **Watch the adapter to see if the lights are flashing in any way** while connecting to make you assume that it's "attempting" to establish a connection when attempting to connect. (Solid lights are also clues, but the Bluetooth's red light will always stay solid as it pertains to the unit getting powered.)
- 

- ✓ **Lastly, if the connection issue persists and the error almost appears instantly,** (Less than a second or so.) You can try our old file format as some older devices have some issues with our new file system.

Simply navigate to the top-right menu **(three dots) -> Settings -> Toggle** the option listed as **'ProTool File System Format'** to **-> Old** (Once this has been done, the configuration files will need to be re-downloaded first in order to then be able to connect to the vehicle.)

**If connection issues persist, please contact BimmerGeeks support (Email or Facebook Messenger) with information regarding the issue while connecting.**

The more information regarding the device, adapter, car/chassis, and what steps you've taken on this list of things would help tremendously in our attempt to find a solution for you.

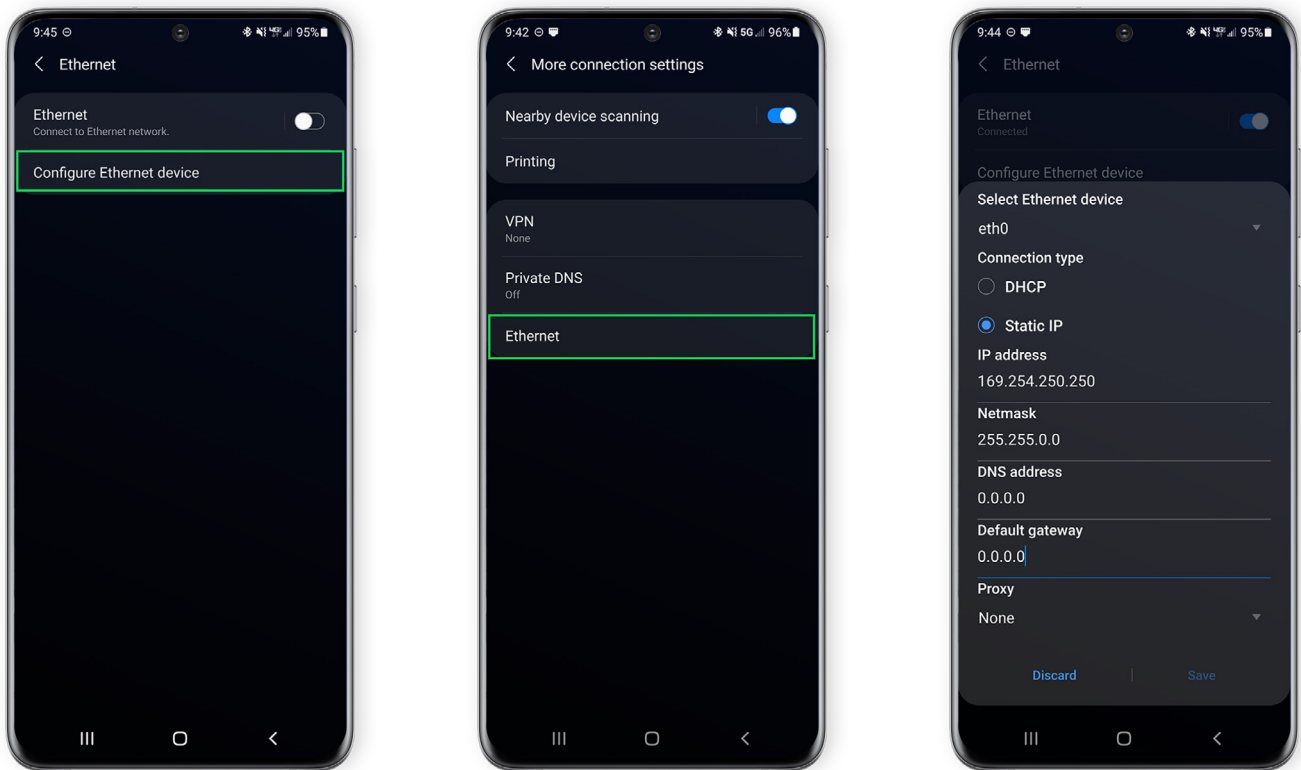
# Getting Started

## Checklist

- 1 An Android device. (Android version 4.4 or higher. If using a K+DCAN cable, the device will also need to support Android “On The Go” or OTG. If using an ENET cable, make sure the device supports Ethernet-USB.)
- 2 Google account signed into Google Play on the device (If using a Kindle Fire, Google Play app store must be installed manually.)
- 3 Download the app from Google Play Store: [ProTool](#)
- 4 Compatible adapter in order to connect to the app. (Any K+DCAN cable, BimmerGeeks Bluetooth, MHD Orange Wi-Fi, Thor Wi-Fi adapter, ENET Cable, or ENET Wi-Fi adapters.)
- 5 Launch the app for the first time to do the sync and to sign in to the Google account you wish to have locked to the app. It will also install any configuration files needed when doing so. (Must have an active internet connection when doing this.)

## Connecting

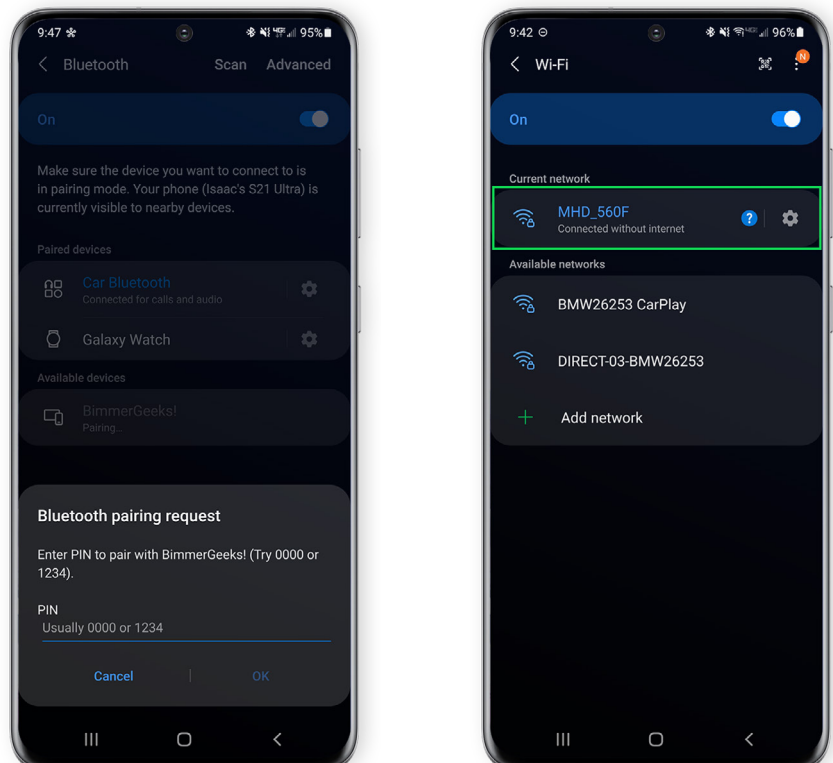
- 1 Insert the adapter of choice into the vehicle’s OBD2 port.
- 2 Key into the ignition, hit the Start button without the foot on the brake. (Should turn on accessories and the check engine light should be on.)
- 3 If you have an aftermarket system like the JB4 for example, you will need to turn it off to prevent communication issues. (JB4 must be turned to Map 0 = Off.)
- 4 If you’re using an ENET cable to connect, make sure that you do the following configuration in the connections portion of the device settings before attempting to connect with it on ProTool. You’ll want to configure the Ethernet device manually with the following:



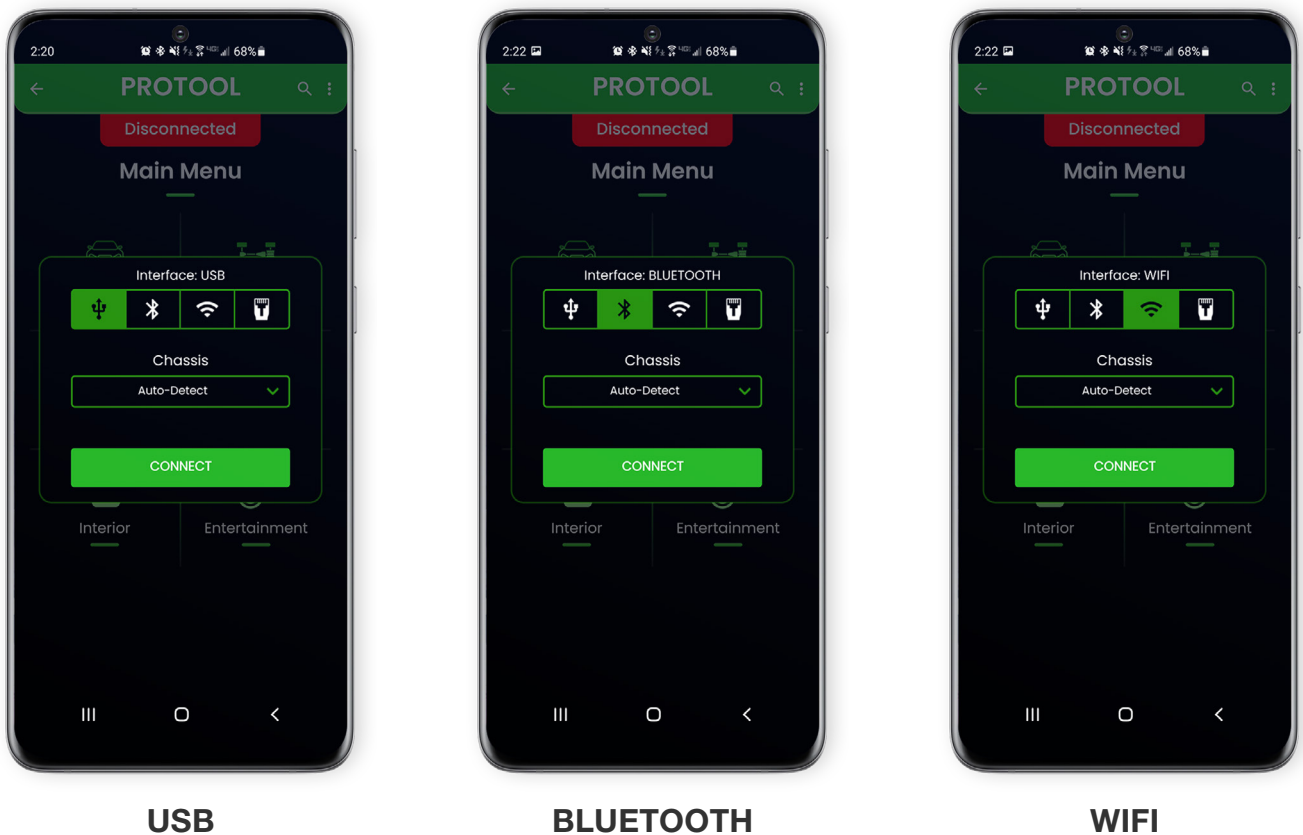
- 5 If you're a wireless adapter (BimmerGeeks Bluetooth, MHD Orange Wi-Fi, Thor Wi-Fi, or ENET Wi-Fi adapters.) you will need to connect to the wireless device in your mobile device's settings.

**Bluetooth** - when attempting to pair to the device it will ask for a pin, it's either 1234 or 0000.

**Wi-Fi** - Should pair without a passcode, but if you're using a tablet. You will be losing any internet connection from your home Wi-Fi in this case. (Some devices may try to revert back to your "home" Wi-Fi as it does not see an internet connection from the adapter.)



- 6 Open up the application, it will have a prompt for connection. You will select from a list of pictured options at the top of the prompt. (Left: USB, Middle: Bluetooth, Right: Wi-Fi)



- 7 Once a connection is established, you're free to browse the application for features/ functions for every module (ECU) in the vehicle before purchasing a license.

## License Purchase

Once you have determined if you would like to purchase a license, we have added a new back end system to allow you to sync files from the app (Back-ups, Datalogs, Error Scans) and account information to our website where you can access it from anywhere. We have also moved the license purchase and handling to our end on the website to make things simpler and easier.

- 1 Navigate to the [BimmerGeeks website](#)



- 2 If you're on a computer, you'll see the **'My Account'** at the top right of the website. If you're on a mobile device, you'll hit the top left navigation menu (Box with three lines horizontally.) at the top, you'll see the 'My Account' portion.
- 3 Once you click or tap on the 'My Account', it will bring you to a login page where it will give you an option to sign in to your Google account on our website. You'll want to sign into the same Google account that you have tied to the ProTool app.  
  
(If you're not sure which account you have signed into the ProTool app. **Top right (three dots) -> Account** will show you the email that is signed into the application.)
- 4 Once signed into the website with the Google account you wish to purchase a license on, you will navigate to the [Store](#) menu.
- 5 You will add the license of your choice from the top here. (If you're unsure which one to get, you can view quick details of what each license is capable of doing in the item description.)
- 6 Once the license is in your cart, you will then be able to checkout. (The email that is signed into the website will receive the confirmation of the purchase after payment. If the PayPal email is different than the Google account you have signed into the website, no need to worry as the license will only attach to the Google account signed in.)
- 7 Once the purchase is complete, all that is needed is to sync the app side with your new license. (**Top-right (three dots) -> Account -> Sync Account**)
- 8 The License Level should now show the updated license level after the sync from 'None' as it showed before the license purchase to the license that was purchased on the website. (Master, Diagnostic, or Coding)
- 9 Start enjoying the app!

# App Navigation

While ProTool can be intimidating, once you learn the basics of navigation, the app becomes much less complicated. Your car consists of Electronic Control Units (ECU's).

## PROTOOL GROUPS THESE ECU'S INTO 5 CATEGORIES:

Drivetrain

Chassis

Safety

Interior

Entertainment

**After connecting, take a minute to learn which ECU's are in which category for your car(s).**

Once you find the ECU you're looking for, select it. You'll then be taken to the ECU menu which has the same structure between all ECU's:

### Read Errors:

Read your error codes in the ECU you're currently in.

---

### Clear Errors:

Delete the error codes within the ECU.

---

### Functions:

If you are trying to do something along the lines of calibration, reset, etc. within the ECU, the odds are it's within this menu.

---

### Live Data:

This is for solely viewing data from the car. (Engine/Transmission live data menu contains the ability to view gauges. Not available for all control units.)

**Expert Mode:**

This is raw commands, we highly recommend staying out of this menu unless you're an expert and have knowledge of what you're doing.

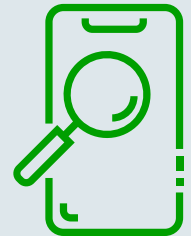
---

**Control:**

This gives you the ability to control individual items within the specific module. This would be useful in the case of something you would like to diagnose and be able to manually trigger it on or off in some cases.

## Global Search Feature:

We have a built in global search feature that allows you to look for specific coding features or module functions that you may be looking for once connected to the vehicle. In the top right corner of the application there is a magnifying glass that you'd be able to tap from the main menu and use keywords to search for specific things.



**An example is, “Digital” would bring up the Digital Speedometer option located within the cluster for you to be able to access and toggle to enabled if needed.**

# Reading Errors

**All errors read with ProTool are real BMW codes, not generic codes. Errors can be read for the entire vehicle so you can view everything at once, or read for a single ECU.**

## Read Vehicle Errors:

To read all the errors within the vehicle, select the vehicle menu, then select “**Read All Errors**”. This will scan for errors within all ECU’s in the car.

---

## Read Single ECU Errors:

If you’re only interested in reading errors within one ECU, navigate to that ECU (example: **Drivetrain -> Engine**) and select “**Read Errors**”. The Errors displayed are ONLY the errors for that specific control unit.

---

## Clearing Errors:

Clearing errors is done in the same fashion as reading them, you can clear the entire vehicle through the vehicle menu, or just a single ECU in that ECU’s menu.

---

## Saving Errors:

This is a handy tool when attempting to hand off diagnosing to a mechanic or even getting information from another source, online, etc. Once the error codes have been scanned, in that same menu that shows all the active faults (if present).

The error codes can be saved to the device by hitting the ‘**Save Errors**’ option on that menu. The text file will be saved on the device’s internal storage under the ProTool folder.

Another option is to sync this to our website by initiating the **Licensing > Sync** option in the app. The file will then be uploaded to the website for use there.

# Gauges & Data Logging

To get started with gauges and logging, first, navigate to the logging menu by selecting:  
**Drivetrain -> Engine -> Live Data -> Gauges**

**The app will appear with all options defaulted to RPM.**

By tapping on each individual gauge you have the freedom to adjust what value appears on each gauge and some other customizable items to make the gauges your own.



In order to set a gauge value, you must have it selected as a logging value first before entering the gauges portion or by tapping the gear icon to add logging options. (Gauge styles, alerts/frequency and at what values to set the alerts off, last but not least is the gauge color. We have a number of pre-configured colors to select from or you can make a custom color to fit your personal needs.)

**To start data-logging the selected gauges, you'll tap on the Start Logging button located below the gauges.**



We have built in functionality to remove the buttons below and bring the gauges to "full screen". To bring the button back up to be pushed, just tap on the screen and it should appear.

**Datalog .csv files are stored in the "DataLogs" folder inside the "ProTool" folder on your device's main storage.**

You can access them through your phone's file manager app or by accessing "My Files" portion in ProTool by doing the following (**Top right (three dots) -> My Files**).

Another option is to sync this to our website by initiating the **Licensing -> Sync** option in the app. The file will then be uploaded to the BimmerGeeks website for use there.

## Custom Data to Gauges

A feature we wanted to make available for users who want to bring a specific value to the gauges portion of the app from the raw data section of live data. You can start by entering:

**Drivetrain -> Engine -> Live Data -> Raw Gauges**

- 1 Select an option you would like to add as a custom gauge. (You can select more than one from the list of raw data options to add as a custom gauge.)
- 2 Hold down on the value you would like to make a custom gauge and you will have a prompt appear. From there you can set the name of the gauge and the minimum and maximum values of the value.

# Feature Coding

Feature coding is the process of turning on/off individual coding parameters within an ECU. ProTool allows access to any codable feature in ECU's.

To start with feature coding, first, identify which ECU the feature you're looking for is located. Being there are thousands of features and parameters, having a list of all locations is nearly impossible, but most features people are looking for can be found online by searching via Google search.

## PROTOOL BREAKS CODING INTO 3 SECTIONS:

### Popular



### Standard



### Expert



#### Popular:

These are the most common features people are looking for.

---

#### Standard:

Most features you're looking for will be in the standard menu if they don't exist in the popular menu.

---

#### Expert:

Expert mode contains every parameter available for the ECU. If you can't find it in this menu, you're either in the wrong ECU, or the parameter simply doesn't exist. (This is a raw form of finding a parameter as it will be in German.)

## Activating Features

The first step to activating the features you want is to find out which ECU they are in. If you are unsure, most information can be found online. For example, if you wanted to enable the digital speedometer in the dash googling “E90 Digital speedo” would reveal that the coding param is located inside the cluster.

- 1 Now that you have found where the param is located, go into the cluster menu (**Interior -> Cluster**) and click on the “**Coding**” menu.
- 2 Find the option labeled “**Digital Speedometer**” and set it to active. You can use the search feature inside the coding menu to make finding the param easier, located at the top right (Magnifying glass.).
- 3 Afterward, press the “**Finalize Coding**” button to set the coding. The app will ask you to cycle the ignition. (Cycling back off then back into the on position, ‘**Accessories mode.**’)

## Vehicle Order

The vehicle order is a key piece of your car. Its basis is to be a list to build features/modules from and to hold certain pieces of information important to the vehicle. It’s sort of like the car’s DNA in a sense.

**Disclaimer:** While this is a key part into retrofitting certain features/modules into the vehicle. It can also be a very dangerous part of the application if you go in and edit things not retrofitted to your car specifically or remove certain options without a probable cause. We urge extreme caution when editing the Vehicle Order. The only time you should ever alter it is when performing retrofits or major changes which require multiple coding changes such as changing transmission type, etc.

Your vehicle order is stored in two places within the car, the CAS and FRM/LMA. When changing the vehicle order, always write the changes to both, and always back your original up in case you need to go back.



## Editing your vehicle order is fairly simple within ProTool.

- 1 Select the **Vehicle menu**, and choose **“Vehicle Order”**, this will display your current vehicle order.
- 2 Afterwards select the **“Edit”** option at the bottom. From there you will be presented with all the options available and they are broken into four categories:

### Current:

The options in your current vehicle order, this menu is for easily removing items so you don't have to sort through all available options, just the ones you already have.

-----

### Build Dates:

This is where you can alter your car's build date. Only change this if you have good reason to and know why it needs to be changed (Example: retrofitting FRM2 to a FRM1 vehicle).

-----

### Base:

This is the bulk of options such as 205 - Auto Transmission, etc. Any VO options you're looking for that is a 3 digit number will be in this menu.

-----

### Retrofits:

This contains simple retrofit keys such as NAUX (If retrofitting Aux to e60) and TELD (To disable SOS).

Once the changes are made and saved. The app will automatically determine what modules may need to be default coded based on the vehicle order change dynamically from our calculations. Go ahead and tap **“Yes”** if you would like to complete the default coding of the module(s) if you're adding features.

## Following Online DIY's

ProTool gives you the ability to not only activate basic features from enabling them in a specific module. But the ability to do complex retrofitting as well that you would be able to translate from online forums, right into ProTool without the headache of learning the Expert tools. A good example of this, would be E6X retrofit of auxiliary port.

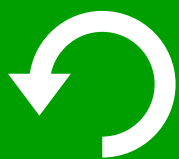
Assuming the physical portion of the install (harness) is installed and re-pinned correctly if needed. The basis of the retrofit is to add +NAUX to the vehicle order and then default code the MASK/CCC module and toggle the AUX option to enabled.

- 1 Go to **Vehicle Menu -> Vehicle Order -> Edit**
- 2 Add NAUX to the Vehicle Order and save to the CAS and LM (Comfort Access System - Lighting Module)
- 3 The app will prompt to default code the modules affected by the Vehicle Order change, hit **"Yes"**.
- 4 After default coding is done, go back to the main menu of the app. At the top right of the app, there is a global search feature - search for "AUX" and enable it. Alternatively, you can find the MASK/CCC under the **Entertainment category -> Coding -> Edit Coding -> AUX -> Enabled**
- 5 Lastly, you'll want to let the car go to sleep. You'll want to close and lock the car for about 30 minutes so the modules can go to sleep.
- 6 All done!

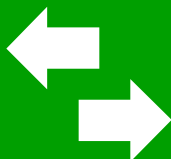
# Default Coding

Default coding is the process of returning the ECU's coding back to its original factory settings based on your vehicle order. This is not the same as restoring from a backup. Restoring from a backup restores coding based on a backup you saved, whereas default coding is restoring based on what the coding should be according to the car's vehicle order.

## DEFAULT CODING IS USUALLY USED IN THREE SITUATIONS:



You didn't make a backup and need a fresh start.  
(Errors after coding sort of situation.)



You recently swapped a module and needed it recoded to your car.



You edited the vehicle order for retrofit or other reasons and need to apply those VO changes to the affected ECU's coding.

To default code a module, go into the ECU menu of the ECU you want to default code, select **"Coding"** then select **"Default Code"**. ProTool will then ask you which vehicle order you want to use. If you aren't sure which VO to use, choose CAS (Car Access System).

**Example:** Safety -> FRM/Footwell module -> Coding -> Default Code -> CAS

# Nettodata

Nettodata is another form of reading/writing coding data to the car. It is very similar to reading/writing coding backups. There are some big differences between standard backups and nettodata though described here.

---

**A standard backup doesn't back up all the coding data, it only backs up the parts of the coding that ProTool gives you access to when using standard and popular coding sections which is all that's needed unless you go into expert coding.**

When using the expert coding mode, ProTool gives you access to everything so we request a Nettodata backup, which backs up everything.

---

**Nettodata backups can also be imported into NCSDummy so you can edit your coding file on a PC when not connected to the car.**

To do this, go into the ECU's coding menu you want to edit (Example: **Safety -> CAS -> Coding**) and click on **Tools -> Nettodata -> Read & Backup**.

---

This will save the Nettodata file into the ProTool folder on your main storage. You can now disconnect from the vehicle and open this file using NCSDummy. Once you have made the edits you want, save the file in NCSDummy(it is important to rename the file after exporting from NCSDummy as it renames them all "nettodata.MAN") and put the edited file back in the same location on your device you got it from.

Afterward, connect ProTool, go back to the same ECU menu you made the backup from, and click **Tools -> Nettodata -> Write to ECU** and pick the file you just edited with NCSDummy.

# Battery Changing

ProTool simplifies the battery coding and registration process and completes it with a couple of clicks. To get started, navigate to the battery swap menu by selecting **Drivetrain -> Engine -> Functions -> Battery Swap**.

## NOTE



The ignition must be on, the vehicle can't be running. Key in, hit the start without the brake being pressed. The SES/Check Engine light should be on and accessories should be lit up.

- 1 Select the battery size and type you just installed. Do not mix up standard and AGM battery types.
- 2 If you do not see the battery size you installed, select the closest size while rounding down(i.e if you installed an 85AH standard lead-acid, choose "80AH Standard". It is better to undercharge than overcharge.  
  
BMW only accepts specific battery types and 5-10AH is negligible in effect.
- 3 Once selecting your battery type, ProTool will perform 3 separate actions automatically for you. It will first code the battery size and type into the CAS module, then it will register the battery into the DME and afterward will reset the battery histogram and charging data. After you get the "**Operation Successful**" message, your battery change is complete.

# Injector Coding

ProTool allows you the ability to code not only most common gasoline type injectors, but also diesel vehicles as well. To get started with injector coding, you would navigate to the injector coding portion of the app: **Drivetrain -> Engine -> Function -> Injector Coding**

## NOTE



We highly recommend laying out the new injector(s) and assigning them a cylinder and jotting the injector calibration data on a piece of paper before installing. As after they are installed it can be a pain on some engines/injectors to read the value.

- 1 Depending on your engine, the value(s) taken from the injector may be different from one to another. So you'll want to verify that you're taking the correct values from your injectors, specific for your engine. (An example of this would be N54 compared to N55. The N54 injectors use a 6 digit calibration, where the N55 injectors are a three digit.)
- 2 Once the swap is complete, you can go ahead and start entering the values based on the cylinder - injector data that was collected into the DME/DDE. Once the values are in, you may exit the injector coding menu if all the values are correct in the **"Current Values"** section.
- 3 After all the values are entered correctly and the car is buttoned up. You may want to prime the fuel pump system to build pressure and check for leaks. **Example:** **Drivetrain -> Fuel Pump -> Functions -> Prime Fuel Pump** or you may back into the Main Menu and use the global search function at the top right for keyword, "Prime"
- 4 All done!

**Some final notes:** N54 cars may have the last two digits of injector data change automatically when entered. This is 100% normal as it's how the DME interprets the data entered. (Example: 583 242 may change to 583 239)

Diesel owners, if you're getting an error when attempting to input the value. Make sure the value you're inserting into the tool is correct. (Example: The digit 1 and letter l can be mistaken on these injectors. So if one is not working, try swapping the letter or number.)

# Basic How-To's

This is some of our basic things to accomplish that are fairly common across all chassis that are supported on ProTool at this time.



**Remember, key in and to hit the Start button on the vehicle without the brake pressed. Should bring up a check engine light and any accessories will power on. You should be in this position on the ignition while coding.**

## Digital Speedometer

- 1 **Interior -> Cluster(Kombi) -> Coding -> Edit Coding -> "Digital Speedometer" -> "Active"**
- 2 Finalize the coding changes, then once the app prompts you to, cycle the ignition. (Pull the key out and wait a few seconds then go back into 'accessories mode'.)
- 3 You'll be able to use the cluster navigation (BC Button) on the turn signal to toggle the cluster until you see v= 0. All done.

## Delete TPMS

- 1 The first step is to unplug the RDC module(TPMS) from the car. (In pre-LCI models it is located behind the carpet and padding on the right side of the trunk. It is a white box that has RDC labeled on it. On LCI models, it is located in the rear passenger wheel well.)
- 2 **Interior -> Cluster(Kombi) -> Coding -> Edit Coding -> "TPMS Delete" -> "Not Active"**
- 3 Once you make sure all three options are toggled to **"Not Active"**, cycle the ignition and clear the codes. TPMS light should be gone on the next start-up.

## Folding Mirrors/Comfort Closing via Fob

- 1 **Safety -> CAS -> Coding -> Edit Coding -> "Comfort Closing via FOB" -> "Active" -> Finalize Coding**
- 2 **Safety -> FRM or LM -> Coding -> Edit Coding -> "Folding Mirrors via FOB" -> "Active" -> Finalize Coding** (Only will work if you have powered mirrors.)  
  
**Optional:** **Safety -> CAS -> Coding -> Edit Coding -> "Comfort Closing Delay" -> 0ms**  
(This will make the comfort closing as a whole take less time before it starts closing the windows/mirrors.)
- 3 Once done, make sure to cycle the ignition. You can make sure the windows are rolled down. Step outside the vehicle and hold down the lock portion of your key and the mirrors and windows will start to roll-up/close.

## Delete SOS Light

**Disclaimer:** This light can appear for various reasons, this can normally kill the error, but not in all cases.

- 1 **Interior -> Cluster(Kombi) -> Coding -> Edit Coding -> "TCM Installed" -> "Not Active" -> Finalize Coding**
- 2 Once you make sure both options are toggled to **"Not Active"**, cycle the ignition and clear the codes. SOS light should be gone on the next start-up. If not, then the issue is a physical issue causing the fault.

## Video in Motion (CLC iDrive only)

- 1 **Entertainment -> Mask/CCC -> Coding -> Edit Coding -> "Video in Motion-> "Active" -> Finalize Coding**
- 2 Once done, make sure to cycle the ignition. Enjoy Video in Motion!