

BEGINNERS GUIDE TO ISTA+

DISCLAIMER AND WARNINGS

I'm not a BMW technician. This document was created using knowledge available publicly on the internet and is provided freely for entertainment purposes only and is not intended to be instructional in nature. Use of the information in this document or if you engage in DIY diagnostics or programming and ANY other type of maintenance using this information, you do so entirely at your own risk. You release the author of ANY and ALL risk and liability and hold the author harmless from ANY and ALL claims whatsoever. All copyrights belong to their respective owners.

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INTRODUCTION

What does ISTA stand for? ISTA is a workshop system that contains BMW AG Data and Information. ISTA stands for Integrated Service Technical Application. Way back when, during the initial development of this tool, BMW used DIS (Diagnostics Information System), and as the programs evolved and due to the nature of the file naming conventions utilized by BMW, the workshop system became known as Rheingold in the enthusiast world. Rheingold in actuality is the folder that contains the main application and data. Rheingold became ISTA-D (D stands for Diagnostics) and BMW's programming application (not discussed in this document) used the same nomenclature, ISTA except with a P (for programming) or ISTA-P. This document only discusses ISTA+.

Eventually, based on the direction that the company is taking, ISTA-D and ISTA-P for F-/I-/G-/Mini/RR series cars will be rolled up into ISTA+ for diagnostics AND programming. What does this mean? It means, that ISTA-P will contain all chassis data until around August 2017, then BMW plans to phase out all BN2020 vehicle data in ISTA-P. So, ISTA-P will be used for Programming on E-series only and ISTA+ will be everything else.

Programming (or also called Service Data) in ISTA+ is required for programming F-/I-/G-/Mini/RR cars. BMW now provides these files as deltas to original programming (SDP) data.

ISTA+ can be used to diagnose ALL cars BUT program only F-/I-/G-/Mini/RR series cars and beyond. E Series Programming is not supported in ISTA+.

BMW officially breaks up the new ISTA+ application capability into two parts – Diagnostics and Programming. Following is a short breakup of each feature within ISTA+:

DIAGNOSTICS:

- Vehicle identification for specific vehicle management
- Information research for repair and maintenance
- Guided troubleshooting
- Software repair

PROGRAMMING:

- Software Update
- Control Unit Replacements
- Retrofits / conversions

SYSTEM REQUIREMENTS

- Minimum system configuration is now hard coded into the program, although the standalone versions have this check removed.
- 2.2Ghz CPU - 2 core minimum, core i5 or i7 recommended
- 4GB RAM, 8GB recommended
- Minimum 20+GB HDD free space for ISTA+ Diagnostics with ONE language, and minimum 100GB for Programming Data.
- This version has hardware check removed, however, future versions MAY not have this feature. A faster system is required.
- This version discusses included English Databases only. If more required, add to SQLiteDBs folder, which will need more space.

INTERFACES AND OTHER REQUIREMENTS

E-SERIES:

- Interface = K+DCAN Cable or ICOM
- EDIABAS = Low Level ECU Communication Software Server used by ISTA+

F/G/I/MINI/RR-SERIES:

- Interface = ENET Cable or ICOM

ICOM:

- ICOM A: main interface
- ICOM B: adapter for programming multimedia in E series
- ICOM C: adapter for old BMW with round 20 pin diagnostic plug
- ICOM D: adapter for motorcycles

INSTALLATION INSTRUCTIONS

VARY WITH SOURCE – THE FOLLOWING APPLY ONLY TO SOURCE OBTAINED FROM THIS FORUM

NOTE: While there are multiple sources to procure ISTA+ and “install” on a laptop, the following instructions apply only to ISTA+ obtained on this site, and specifically asked for and received through the Rheingold/ISTA-D request thread. Each source has its own installation method and those are not discussed here. Versions in pictures used as examples only. Actual version may vary.

Step 1:

Download and run unblock.reg BEFORE downloading anything else. Then REBOOT the computer, this is a critical step.

•	 Prerequisites.7z	137.8 MB
•	 RCleanerV4.2.exe	43 KB
•	 Unblock.reg	330 B
•	 vc_redist.x64.exe	13.9 MB
•	 vc_redist.x86.exe	13.1 MB

Step 2:

Install everything in Prerequisites folder, only if you don't have a previous Rheingold installation. For 64-bit Windows, install both vcredist x32 & x64 from Microsoft, if not already installed.

•	 Prerequisites.7z	137.8 MB
•	 RCleanerV4.2.exe	43 KB
•	 Unblock.reg	330 B
•	 vc_redist.x64.exe	13.9 MB
•	 vc_redist.x86.exe	13.1 MB

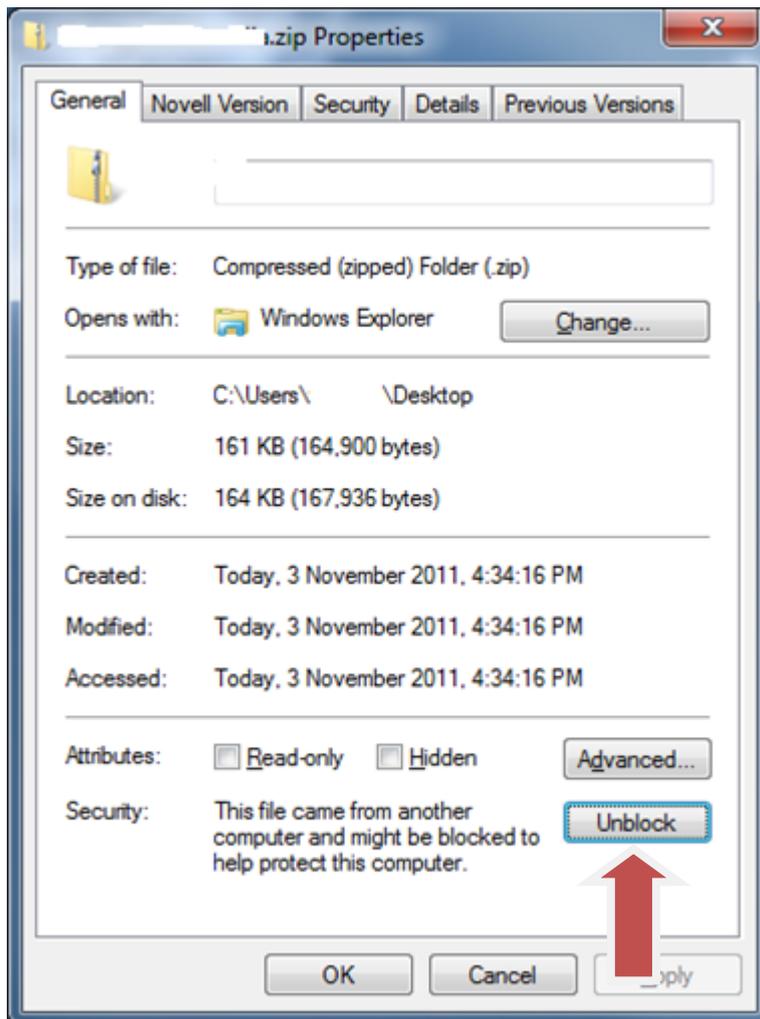
Step 3:

Install the following - you can get both from Microsoft.

- Visual C++ Redistributable Packages for Visual Studio 2013
- .NET Framework 4.6

Step 4:

Download Rheingold.7z using MegaSync or JDownloader. Once downloaded, check whether "Rheingold.7z" is blocked. If it is, unblock it. Right click on the file, go to Properties and if files are blocked, then you will see the unblock button as in the picture below:

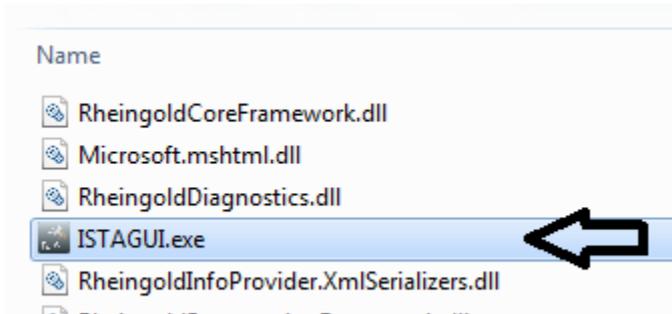


Step 5:

Extract Rheingold.7z using 7zip ONLY. You may have to give admin privileges for extracting. Location doesn't matter, but preferred location is C:\. If extracting to this location, you will need admin privileges for 7zip before extracting the file. To avoid future issues with admin rights etc. you can also extract this file to the root of a secondary drive, for e.g. D:\

Step 6:

Assuming you extracted the file to the location suggested above, create desktop shortcut from "C:\Rheingold\TesterGUI\bin\Release\ISTAGUI.exe". If not, create the shortcut from the location you extracted the files to.



Step 7:

Run the following registry fixes, depending from your OS:

- From the Mega site, download and run the following two registry files:
 - Ista-prog-x64.reg
 - Ista-prog-x86.reg
- Also run the following registry fixes from the C:\Rheingold folder (scroll all the way to the bottom to see these files):

		4.01.36 standalone reg fix (x64)	10/15/2016 2:54 PM	Registration Entries	1 KB
		4.01.36 standalone reg fix (x86)	10/6/2016 8:33 PM	Registration Entries	1 KB
		rheingold-license	6/22/2016 1:19 PM	Text Document	8 KB

Step 8:

Run ISTAGUI shortcut from your desktop as administrator.

Step 9:

When prompted for license, copy the license key from the “rheingold-license.txt” located in “C:\Rheingold”

		4.01.36 standalone reg fix (x64)	10/15/2016 2:54 PM	Registration Entries	1 KB
		4.01.36 standalone reg fix (x86)	10/6/2016 8:33 PM	Registration Entries	1 KB
		rheingold-license	6/22/2016 1:19 PM	Text Document	8 KB

Step 10:

If/When prompted for dealer ID, enter “1” and ignore following warnings. ISTA+ will close.

Step 11:

Run again ISTAGUI shortcut from your desktop as administrator and verify the databases in Settings > Version tab in ISTA/D If you encounter start/running issues, delete the “Rheingold” folder from “C:\”, run “RCleanerV4.4.exe” as administrator and start again from step 5.

PROGRAMMING NOTE:

***** ISTA+ PROGRAMMING is only for F, G and I Series, Mini and Rolls Royce cars *****

ISTA-P will contain all chassis data until around August 2017, then BMW plans to phase out all BN2020 vehicle data in ISTA-P. **So ISTA-P will be to program E-series only and ISTA+ will program everything else.** Programming is now enabled in the Registry, so no changes to ISTAGUI.exe.config file are required.

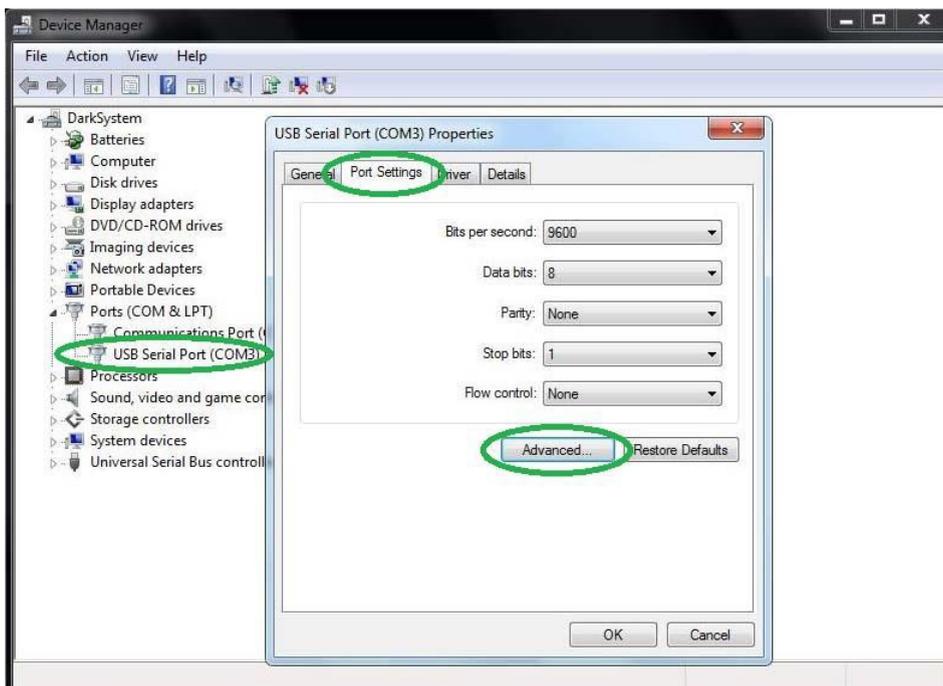
ISTA+ PROGRAMMING WITH ENET WILL NOT WORK! ICOM IS REQUIRED!

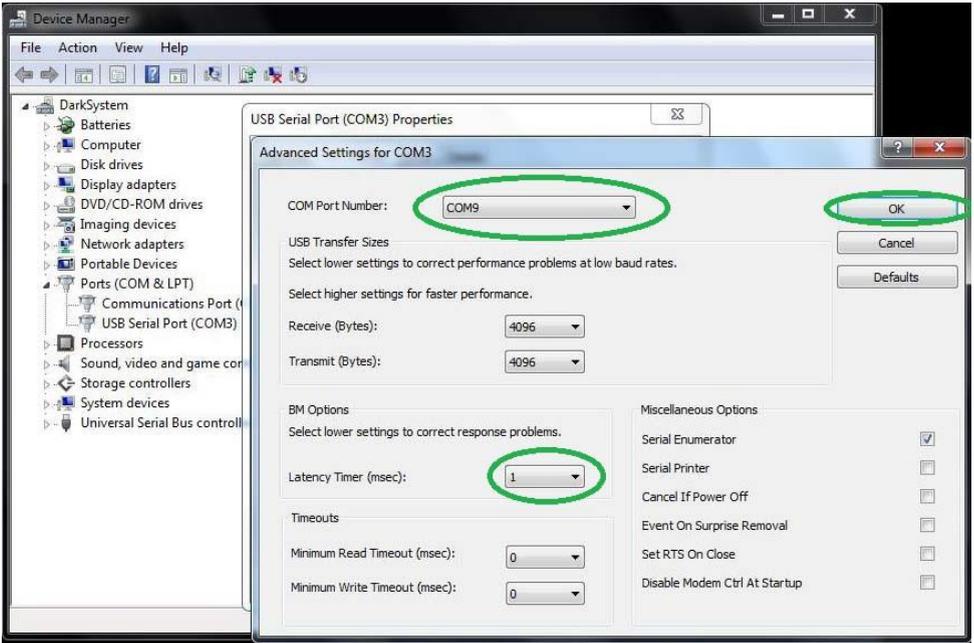
INTERFACE CONFIGURATION AND VERIFICATION WITH ISTA+

The following information is freely available on the internet, however, has been consolidated here to help the DIYer in interface configuration (Rheingold, ISTA-D and ISTA+ all are all simultaneous and are used interchangeably. **For the purposes of this document, we will only use 3 interfaces, K+DCAN, ENET and ICOM.** Additional configuration of these interfaces is not discussed here. Refer to other publicly available information on the internet or specific forums.

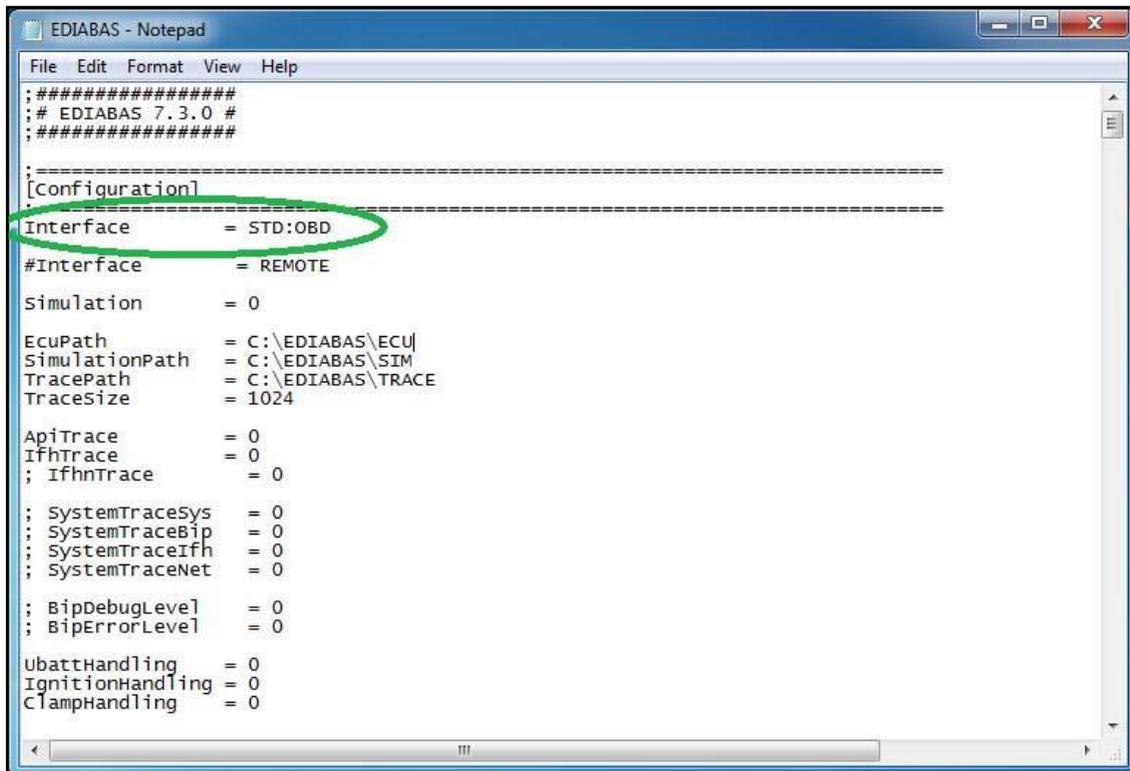
USING ISTA WITH USB K+D-CAN CABLE (Example using Com Port 9)

1. Plug your K+D-CAN cable and install drivers. For FTDI based cables use latest drivers.
2. Open "Device Manager", then USB Serial Port properties, go to "Port Settings" tab and click "Advanced...". Change port number to "COM9" and latency timer to "1". Confirm configuration via "OK" button.





- Open C:\EDIABAS\BIN\EDIABAS.INI with Notepad and check for "Interface = STD:OBD". In TCP settings set "Port = 6801".



```
EDIABAS - Notepad
File Edit Format View Help
:#####
:# EDIABAS 7.3.0 #
:#####

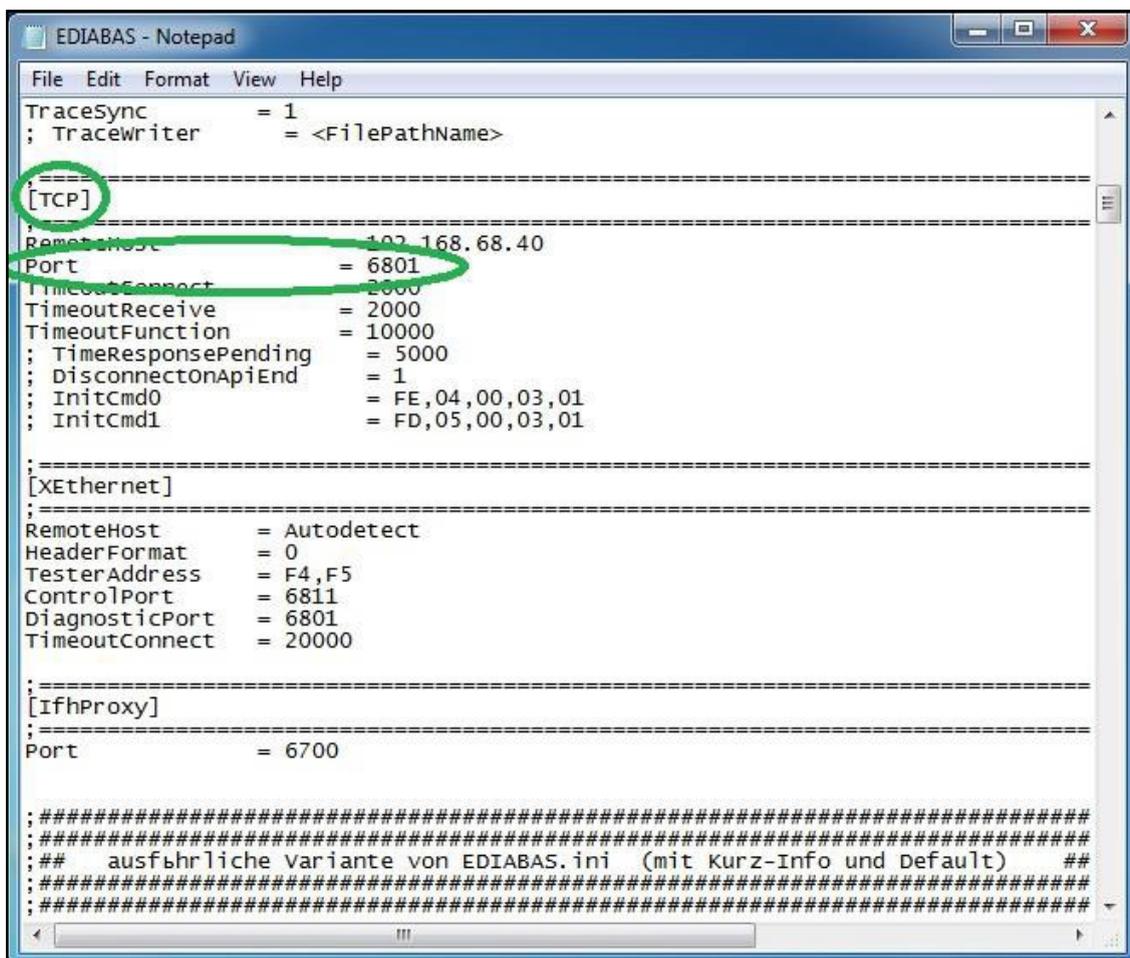
-----
[Configuration]
-----
Interface      = STD:OBD
#Interface     = REMOTE
Simulation     = 0
EcuPath        = C:\EDIABAS\ECU\
SimulationPath = C:\EDIABAS\SIM
TracePath      = C:\EDIABAS\TRACE
TraceSize      = 1024

ApiTrace       = 0
IfhTrace       = 0
; IfhnTrace    = 0

; SystemTraceSys = 0
; SystemTraceBip = 0
; SystemTraceIfh = 0
; SystemTraceNet = 0

; BipDebugLevel = 0
; BipErrorLevel = 0

ubattHandling  = 0
IgnitionHandling = 0
ClampHandling  = 0
```



```
EDIABAS - Notepad
File Edit Format View Help
TraceSync      = 1
; Tracewriter   = <FilePathName>

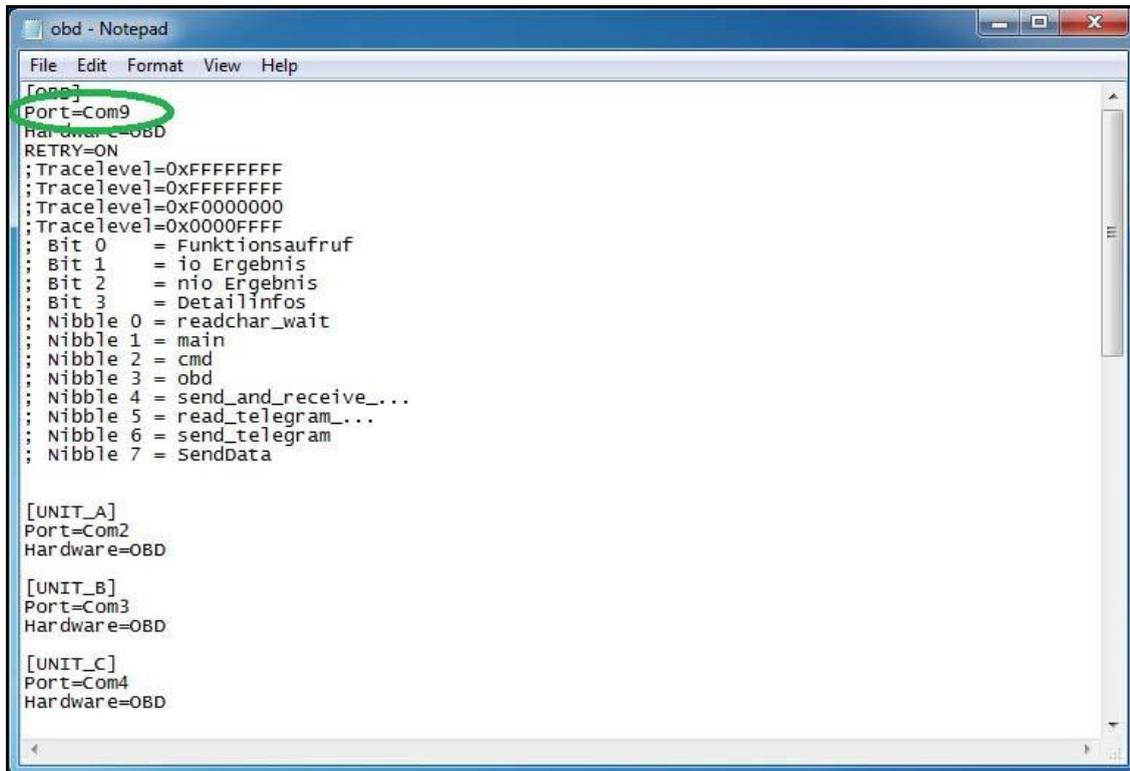
-----
[TCP]
-----
RemoteHost     = 192.168.68.40
Port           = 6801
TimeoutConnect = 2000
TimeoutReceive = 2000
TimeoutFunction = 10000
; TimeResponsePending = 5000
; DisconnectOnApiEnd   = 1
; InitCmd0              = FE,04,00,03,01
; InitCmd1              = FD,05,00,03,01

-----
[XEthernet]
-----
RemoteHost     = Autodetect
HeaderFormat   = 0
TesterAddress  = F4,F5
ControlPort    = 6811
DiagnosticPort = 6801
TimeoutConnect = 20000

-----
[IfhProxy]
-----
Port           = 6700

:#####
:#####
:## ausführliche Variante von EDIABAS.ini (mit Kurz-Info und Default) ##
:#####
:#####
```

4. Open C:\EDIABAS\BIN\OBD.INI with Notepad and check for "Port=Com9".



```
obd - Notepad
File Edit Format View Help
[Com9]
Port=Com9
Hardware=OBD
RETRY=ON
;Tracelevel=0xFFFFFFFF
;Tracelevel=0xFFFFFFFF
;Tracelevel=0xF0000000
;Tracelevel=0x0000FFFF
; Bit 0 = Funktionsaufruf
; Bit 1 = io Ergebnis
; Bit 2 = nio Ergebnis
; Bit 3 = Detailinfos
; Nibble 0 = readchar_wait
; Nibble 1 = main
; Nibble 2 = cmd
; Nibble 3 = obd
; Nibble 4 = send_and_receive...
; Nibble 5 = read_telegram...
; Nibble 6 = send_telegram
; Nibble 7 = SendData

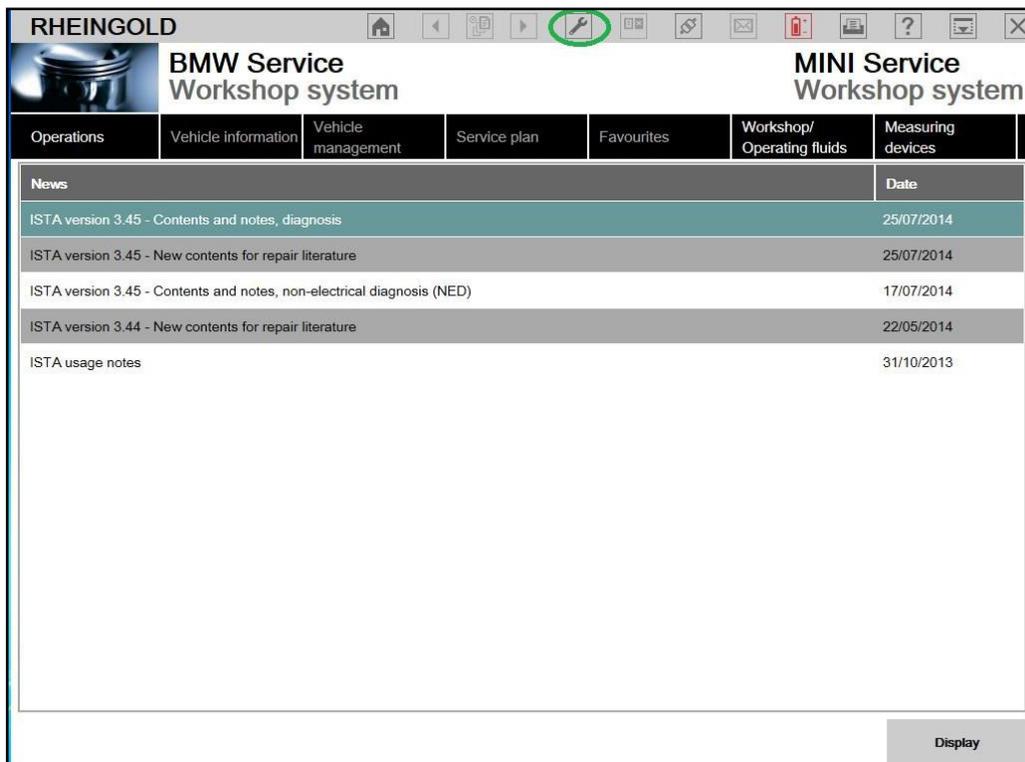
[UNIT_A]
Port=Com2
Hardware=OBD

[UNIT_B]
Port=Com3
Hardware=OBD

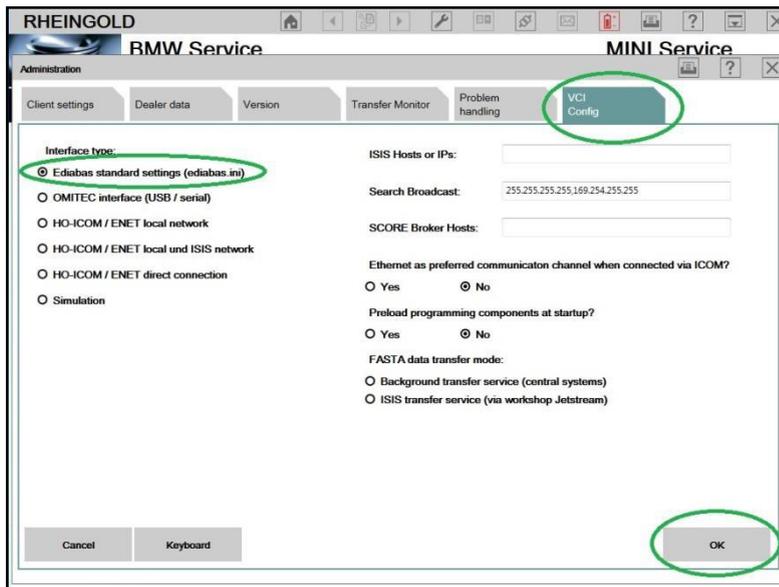
[UNIT_C]
Port=Com4
Hardware=OBD
```

5. Connect car with K+D-CAN cable to PC.

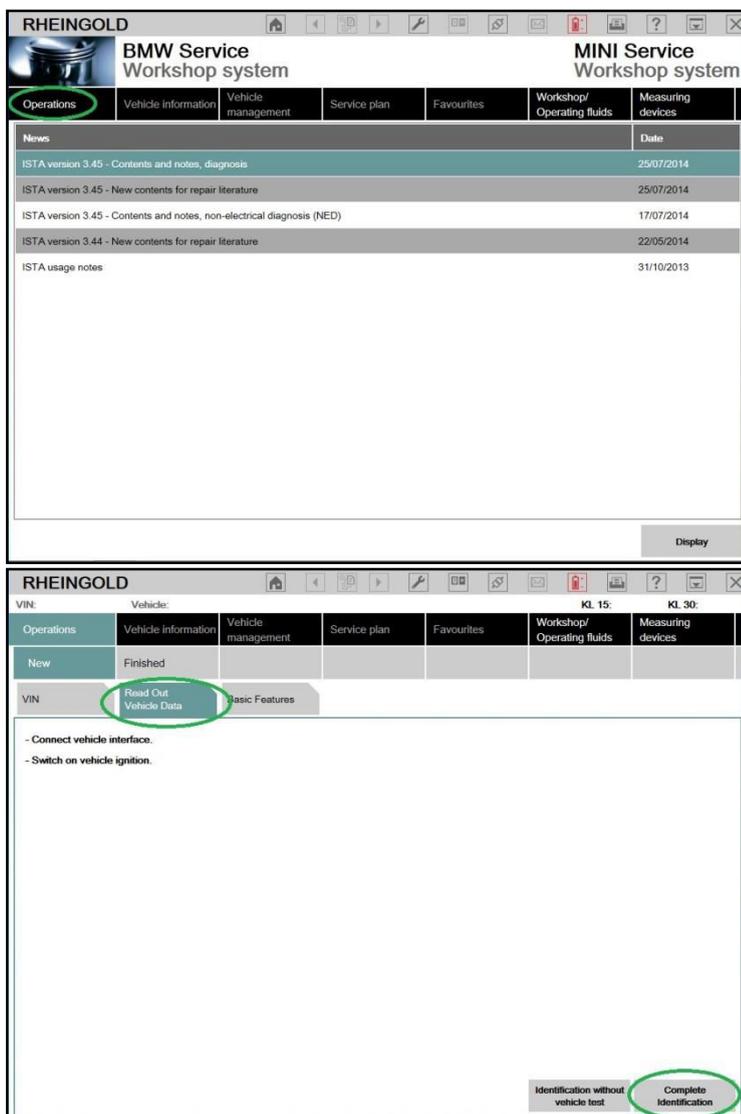
6. Now run BMW Rheingold ISTA using shortcut in start menu and wait until it boots, then press settings button.

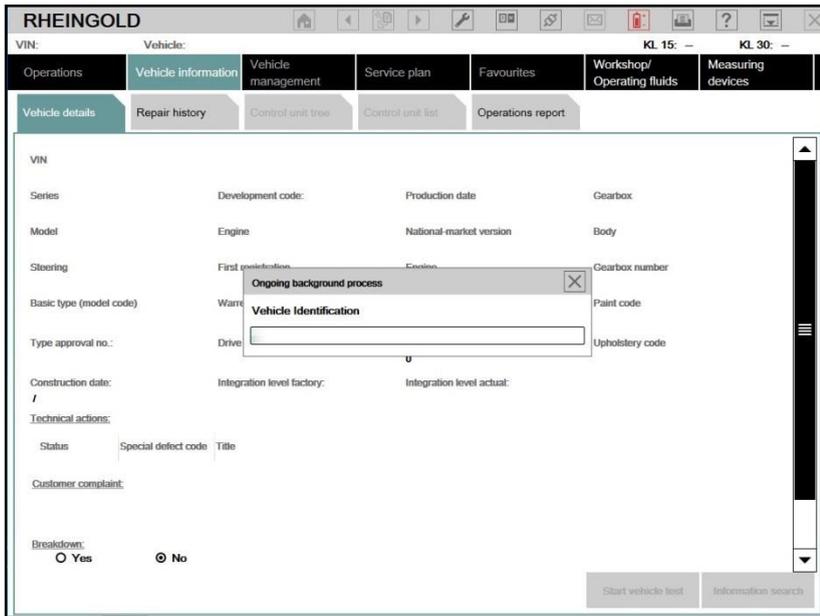


7. Select “VCI Config” tab and “Ediabas standard settings (ediabas.ini)”, then “OK”.



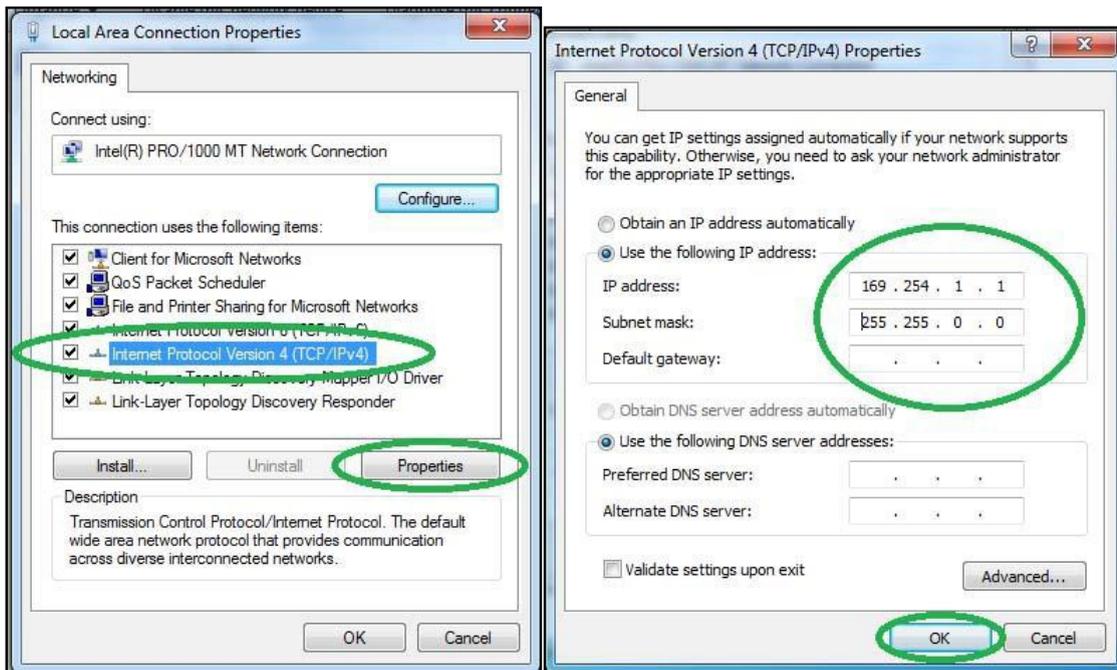
8. Go “Operations”, then “Read Out Vehicle Data” and “Complete Identification”.



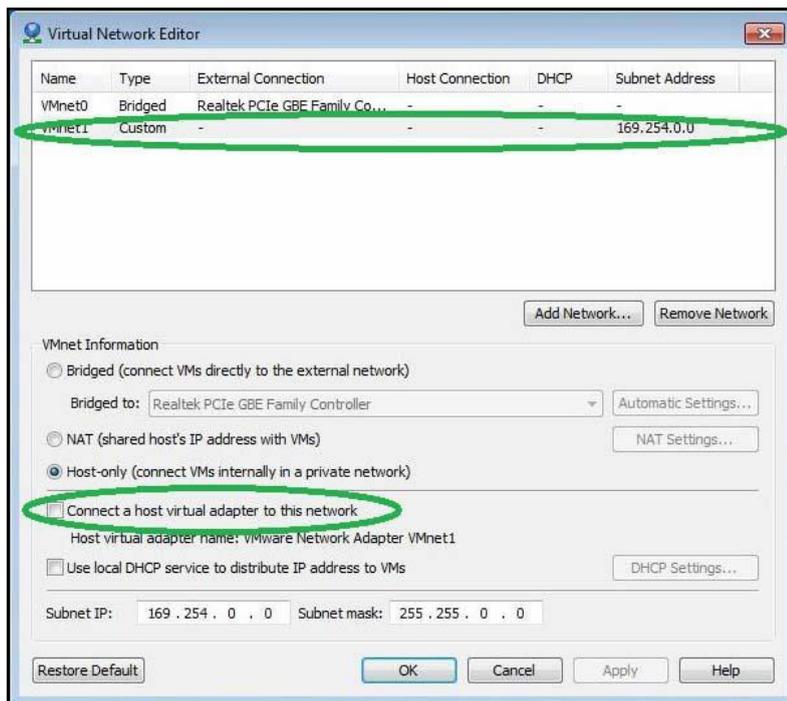


USING BMW RHEINGOLD ISTA WITH ICOM

1. Open used for connection network adapter properties, then “Internet Protocol Version 4 (TCP/IPv4)” properties, then enter 169.254.1.1 for “IP address” and 255.255.0.0 for “Subnetmask”.



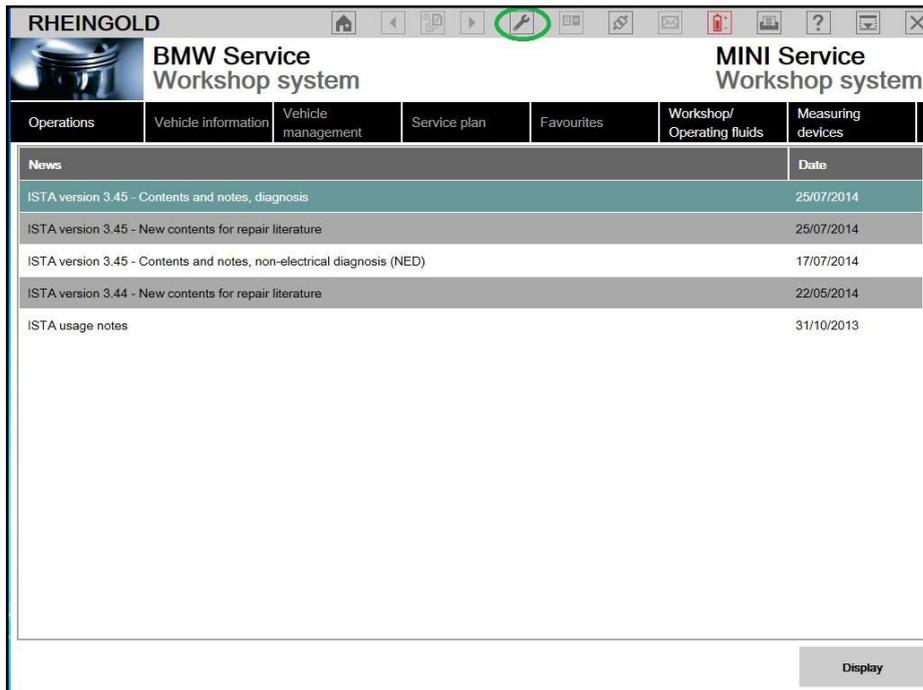
2. If VMware is installed, open Virtual Network Editor and disconnect from the host any adapters with Subnet Address 169.254.0.0.



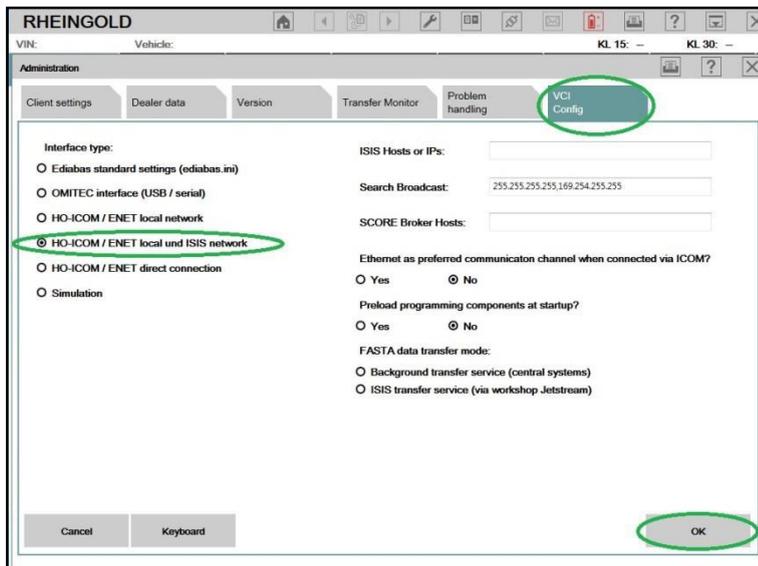
3. Open C:\EDIABAS\BIN\EDIABAS.INI with Notepad and check for "Port = 6801" in TCP settings.

```
EDIABAS - Notepad
File Edit Format View Help
TraceSync      = 1
; Tracewriter  = <FilePathName>
;
;-----
; [TCP]
;-----
RemoteHost     = 192.168.68.40
Port           = 6801
TimeoutConnect = 2000
TimeoutReceive = 2000
TimeoutFunction = 10000
; TimeResponsePending = 5000
; DisconnectOnApiEnd = 1
; InitCmd0          = FE,04,00,03,01
; InitCmd1          = FD,05,00,03,01
;
;-----
; [XEthernet]
;-----
RemoteHost     = Autodetect
HeaderFormat   = 0
TesterAddress  = F4,F5
ControlPort    = 6811
DiagnosticPort = 6801
TimeoutConnect = 20000
;
;-----
; [IfhProxy]
;-----
Port           = 6700
;
;#####
;#####
;## ausführliche variante von EDIABAS.ini (mit kurz-Info und Default) ##
;#####
;#####
```

4. Connect car with ICOM to PC.
5. Now run BMW Rheingold ISTA using shortcut in start menu and wait until it boots, then press settings button.



7. Select “VCI Config” tab and “HO-ICOM/ENET local and ISIS network”, then “OK”.



8. Go “Operations”, then “Read Out Vehicle Data” and “Complete Identification”.

RHEINGOLD

BMW Service Workshop system

MINI Service Workshop system

Operations Vehicle information Vehicle management Service plan Favourites Workshop/ Operating fluids Measuring devices

News	Date
ISTA version 3.45 - Contents and notes, diagnosis	25/07/2014
ISTA version 3.45 - New contents for repair literature	25/07/2014
ISTA version 3.45 - Contents and notes, non-electrical diagnosis (NED)	17/07/2014
ISTA version 3.44 - New contents for repair literature	22/05/2014
ISTA usage notes	31/10/2013

Display

RHEINGOLD

VIN: Vehicle: KL 15: KL 30:

Operations Vehicle information Vehicle management Service plan Favourites Workshop/ Operating fluids Measuring devices

New Finished

VIN Read Out Vehicle Data Basic Features

- Connect vehicle interface.
- Switch on vehicle ignition.

Identification without vehicle test Complete Identification

9. Select your ICOM from the list and press "Set up connection" button.

RHEINGOLD

VIN: Vehicle: KL 15: - KL 30: -

Connection manager

Device ID	Color	Type	VIN	Connection	KL 15 [V]	Status
ICOM0079464	●	ICOM		D-CAN K-Line 169.254.247.242	13.6 V	Free

Cancel Break connection **Set up connection**

RHEINGOLD

VIN: Vehicle: KL 15: - KL 30: -

Operations Vehicle information Vehicle management Service plan Favourites Workshop/ Operating fluids Measuring devices

Vehicle details Repair history Control unit tree Control unit list Operations report

VIN

Series Development code: Production date Gearbox

Model Engine National-market version Body

Steering First registration Engine Gearbox number

Basic type (model code) Warre Paint code

Type approval no.: Drive Upholstery code

Construction date: / Integration level factory: Integration level actual:

Technical actions:

Status Special defect code Title

Customer complaint:

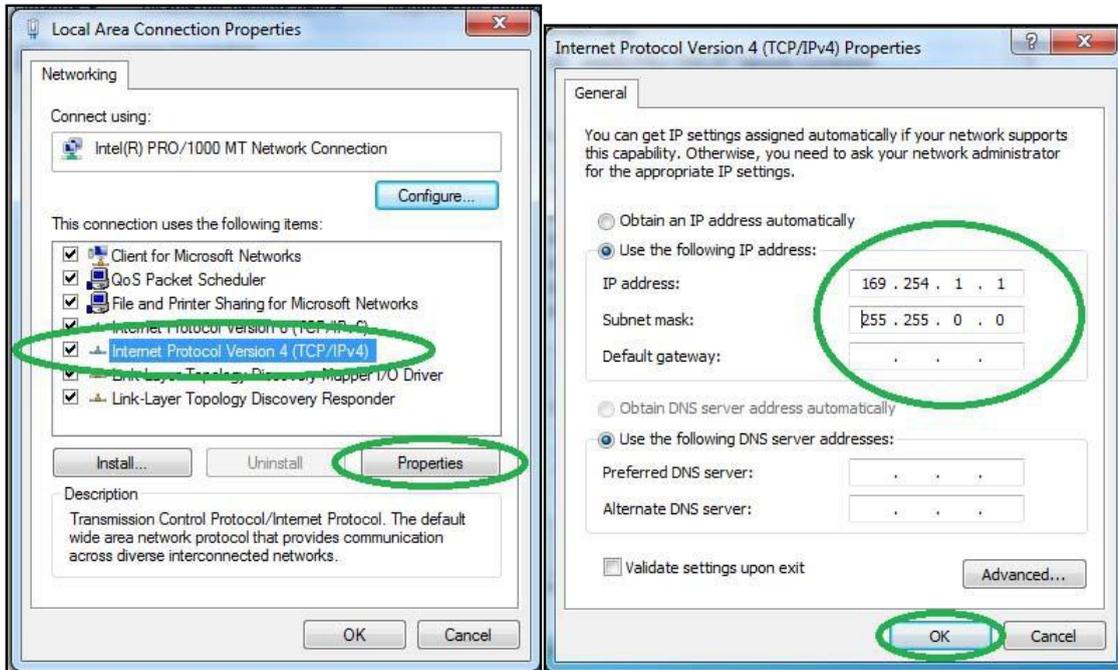
Breakdown:

Yes No

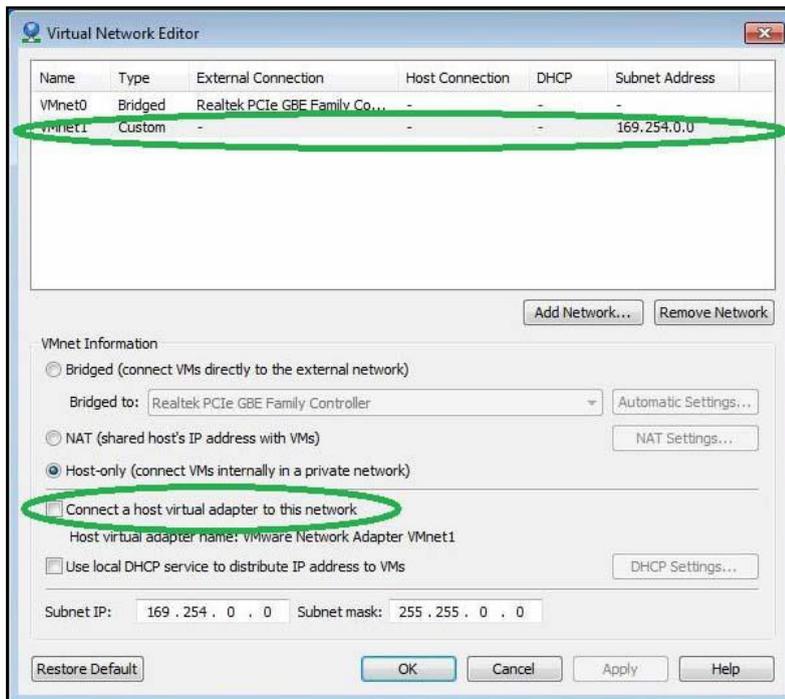
Start vehicle test Information search

USING BMW RHEINGOLD ISTA WITH ENET CABLE

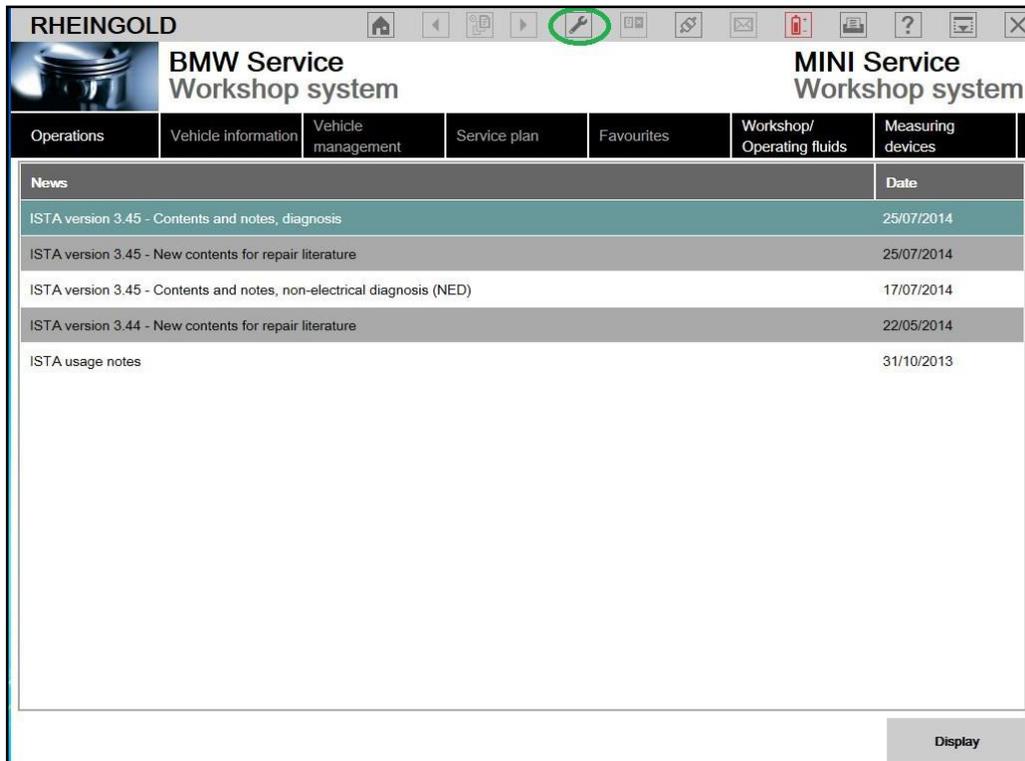
1. Open used for connection network adapter properties, then “Internet Protocol Version 4 (TCP/IPv4)” properties, then enter 169.254.1.1 for “IP address” and 255.255.0.0 for “Subnet mask”.



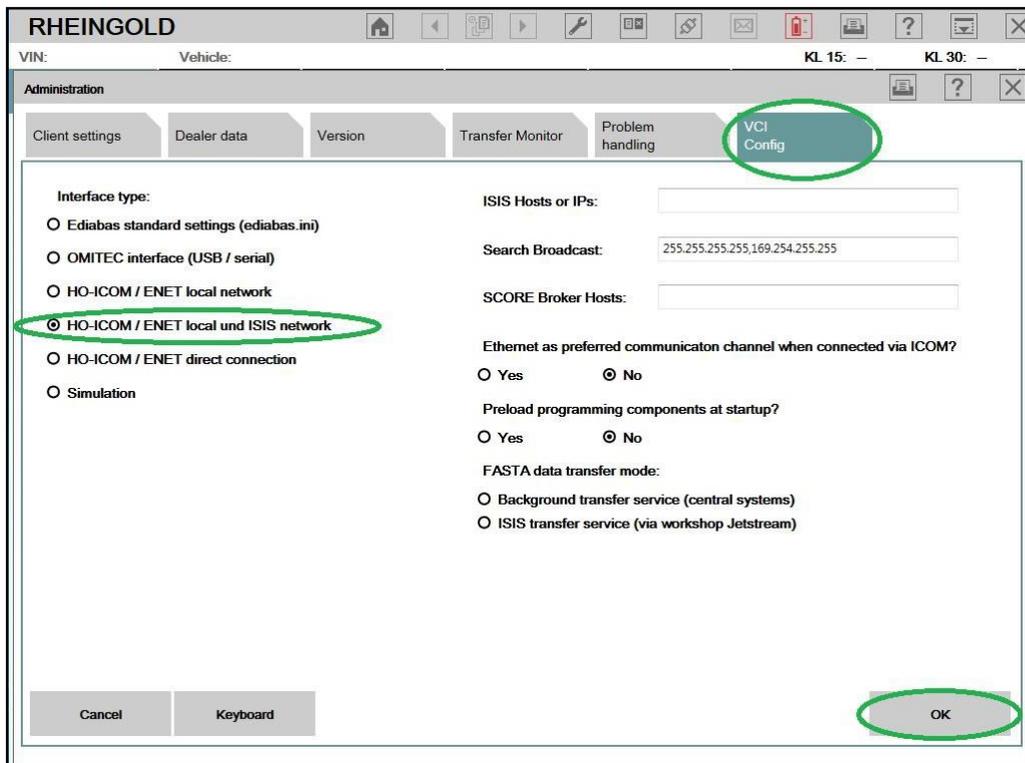
2. If VMware is installed, open Virtual Network Editor and disconnect from the host any adapters with Subnet Address 169.254.0.0.



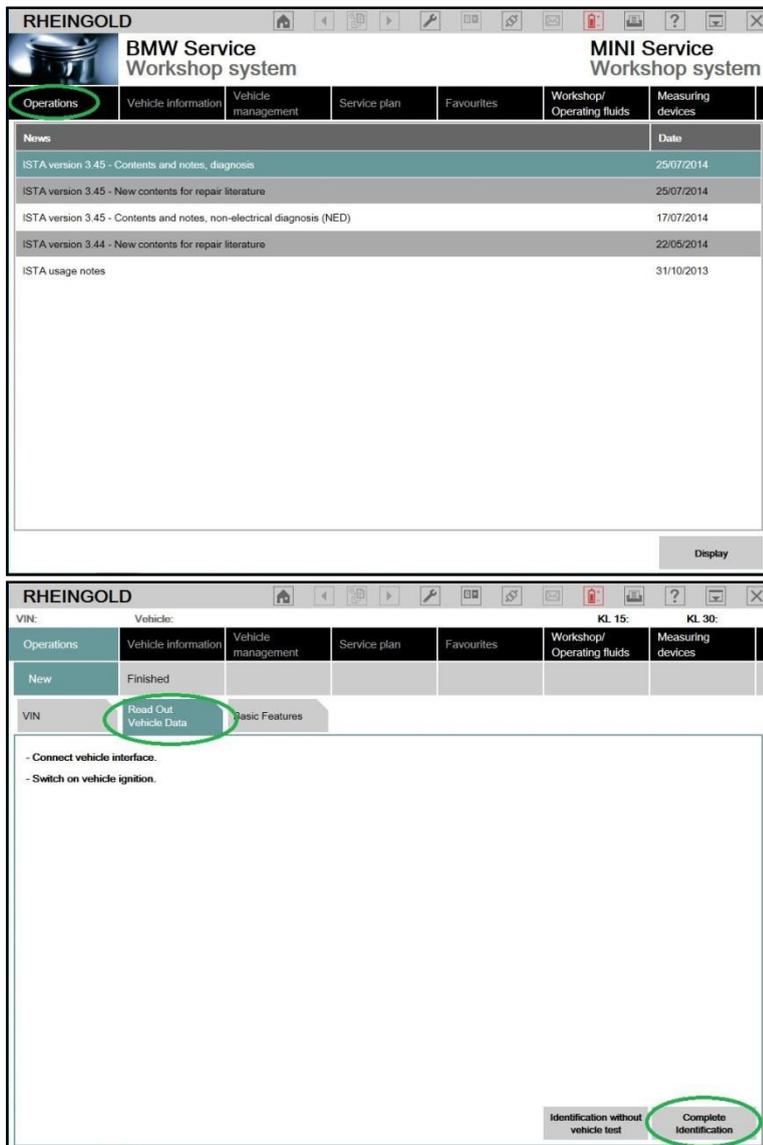
3. Connect car with ENET cable to PC, turn ignition on.
4. Now run BMW Rheingold ISTA using shortcut in start menu and wait until it boots, then press settings button.



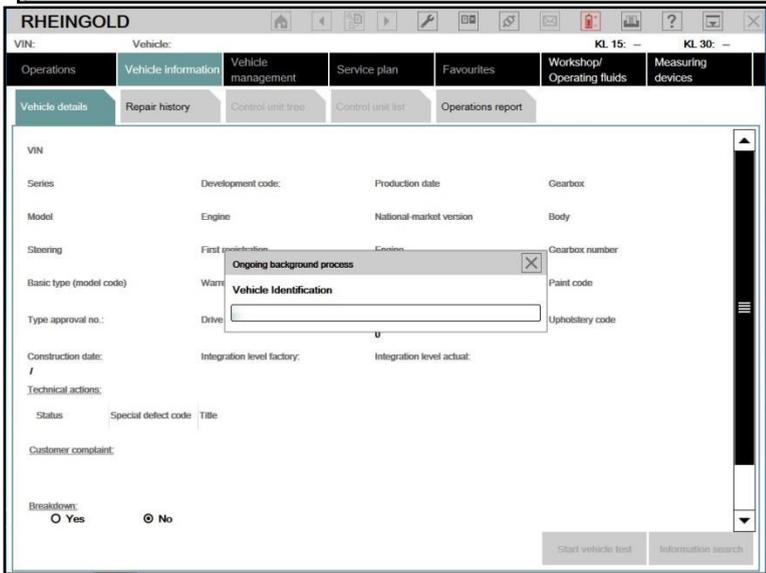
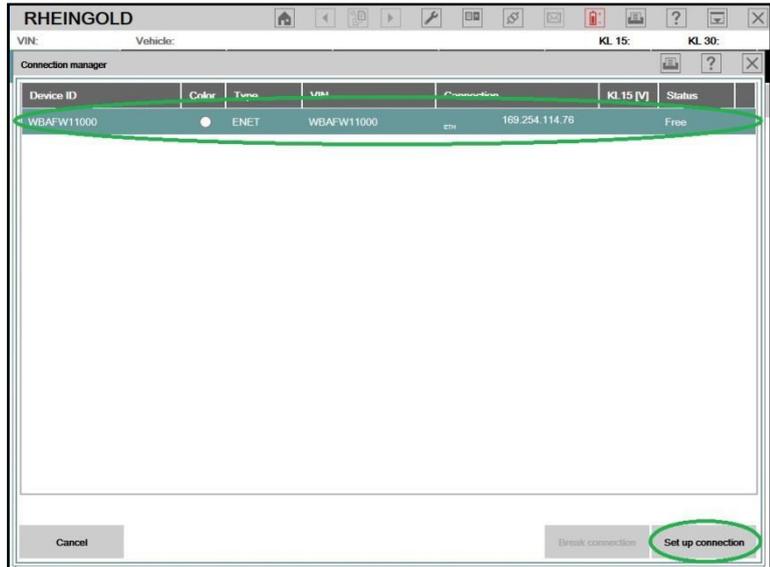
5. Select "VCI Config" tab and "HO-ICOM/ENET local and ISIS network", then "OK".



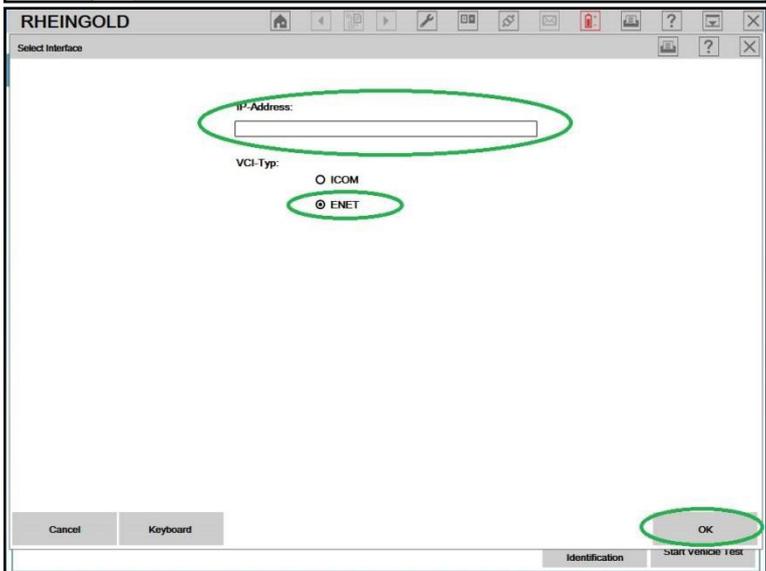
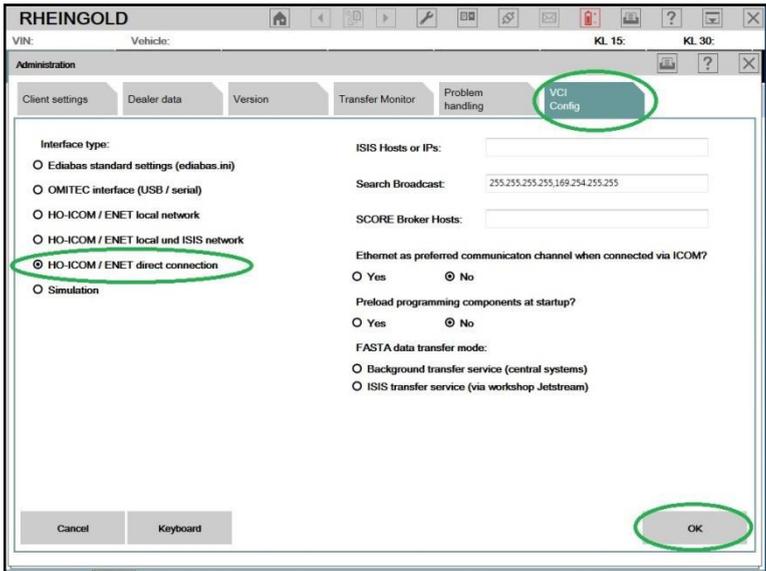
6. Go “Operations”, then “Read Out Vehicle Data” and “Complete Identification”.



7. Select your ENET connection from the list and press “Set up connection” button.



8. Alternatively you could select "HO-ICOM/ENET direct connection" in "VCI Config" tab and "ENET" mode with empty "IP-Address" field during connection setup.



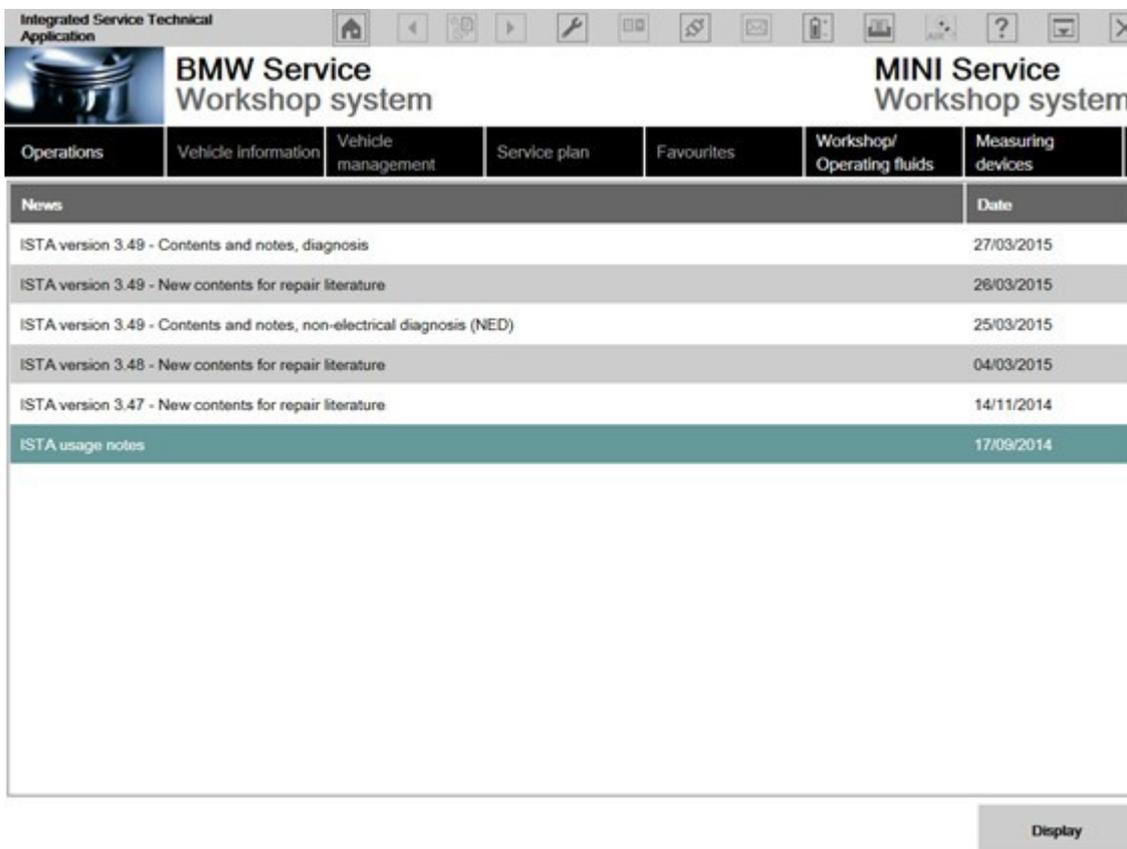
DIAGNOSTICS WITH ISTA+

STARTING THE ISTA+ WORKSHOP SYSTEM

How to start the ISTA workshop system:

- Double click the  icon in the Windows desktop created during the installation process above.

After ISTA is started, the start screen appears. A list of news is displayed. You can set the display period in the Administration.

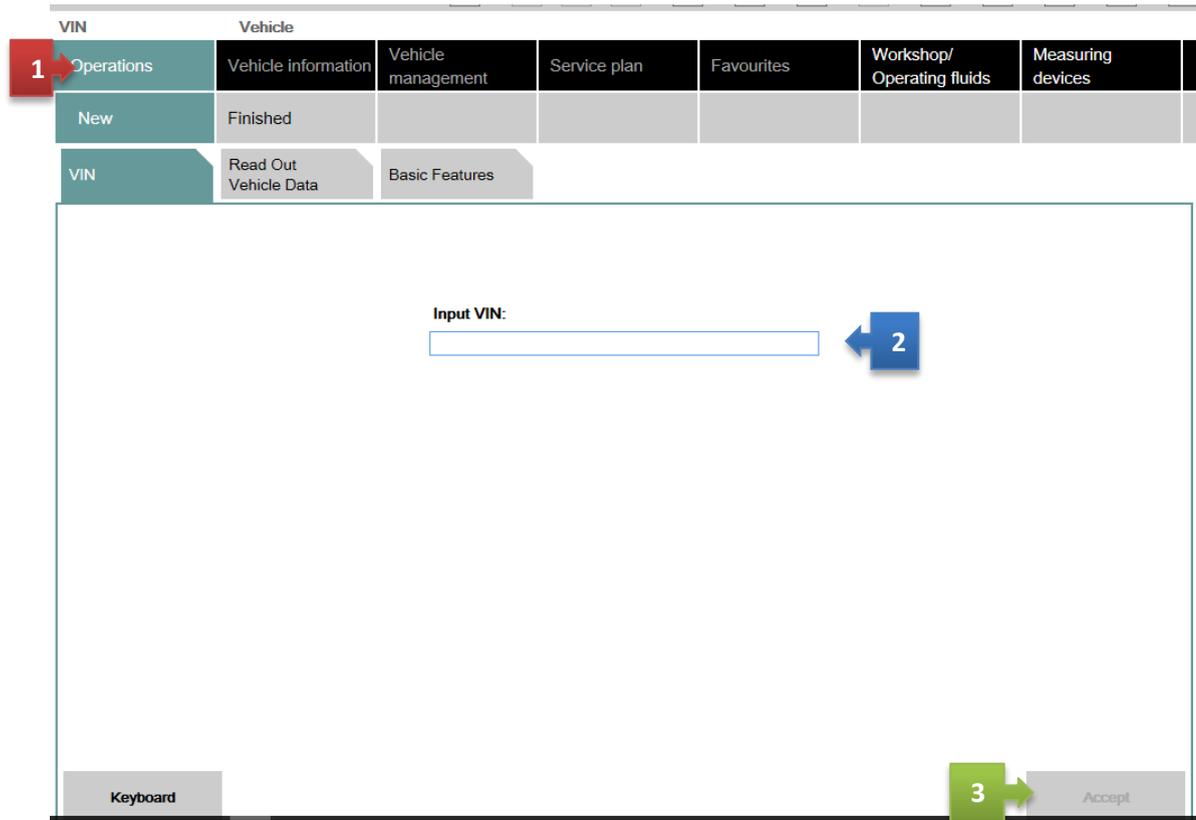


Once you have read the "Note on using ISTA", close the dialog using the button "Next". You can open a process from the start screen: Select the "Operations" menu.

SELECTING A VEHICLE WITHOUT CABLE CONNECTED TO CAR

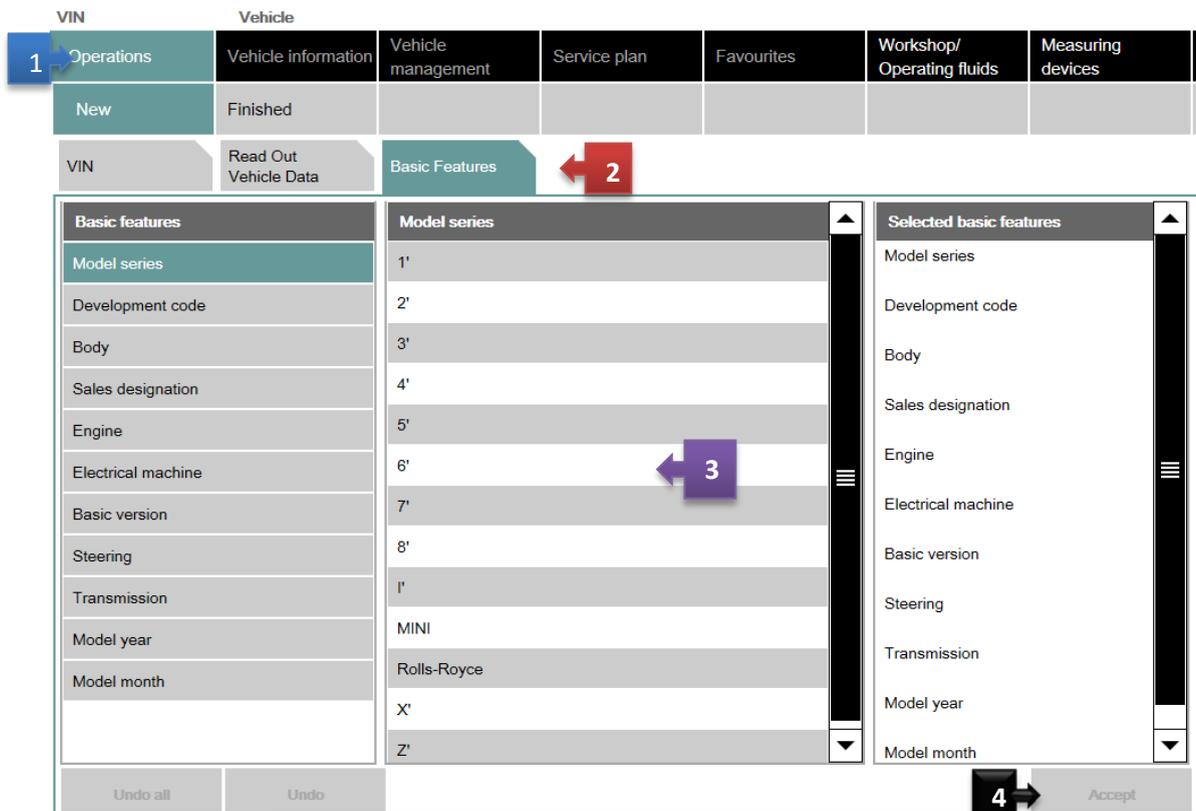
Method 1:

You can enter your short VIN (Last 7 of the VIN) and be able to pull relevant procedures or troubleshooting instructions without actually connecting to the car. To access this feature, launch ISTA+ and click on Operations tab (1). Then enter the short VIN into the VIN box (2). Then click on Accept (3). The Accept button will become active only when a VIN number is entered. You can explore features specific to your car from here.



Method 2:

Follow the steps as in the picture below:



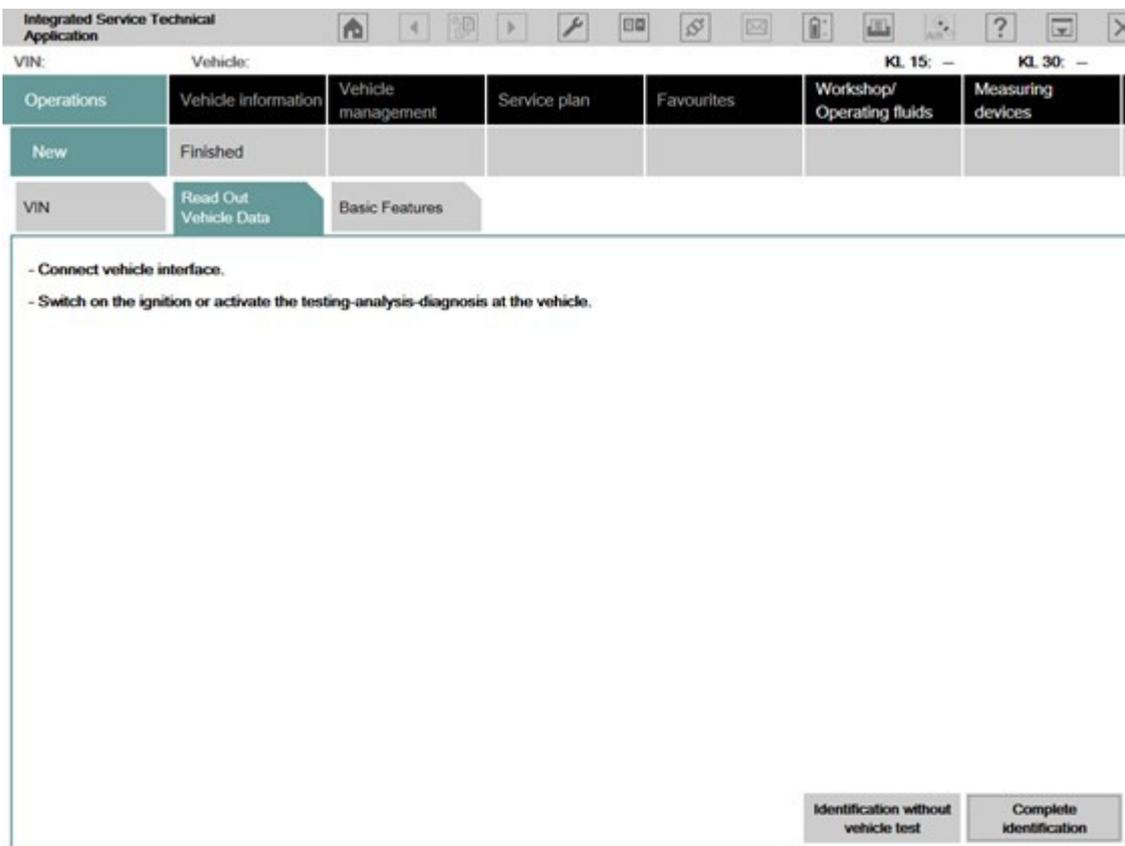
SELECTING A VEHICLE VIA "READ OUT VEHICLE DATA" WITH CABLE CONNECTED TO CAR

After you select the "Operations" menu from the start screen, the workshop system changes to the "Vehicle identification number" tab under the "New" menu item.

We will assume that you have connected the right interface to the car at this time (Refer to interfaces section). Our example will use ICOM.

This is how to identify a vehicle by reading out the vehicle data, while automatically creating a process:

- Click the "Operations" main menu item in the navigation area.
- Select the "Read out vehicle data" tab and follow the instructions provided.
- Click the "Identification without vehicle test" or "Complete identification" button.



The connection to the vehicle is now established. The workshop system performs an identification of the vehicle. It also reads the vehicle identification number and further data from the vehicle. The progress of the identification operation is displayed on a progress bar.

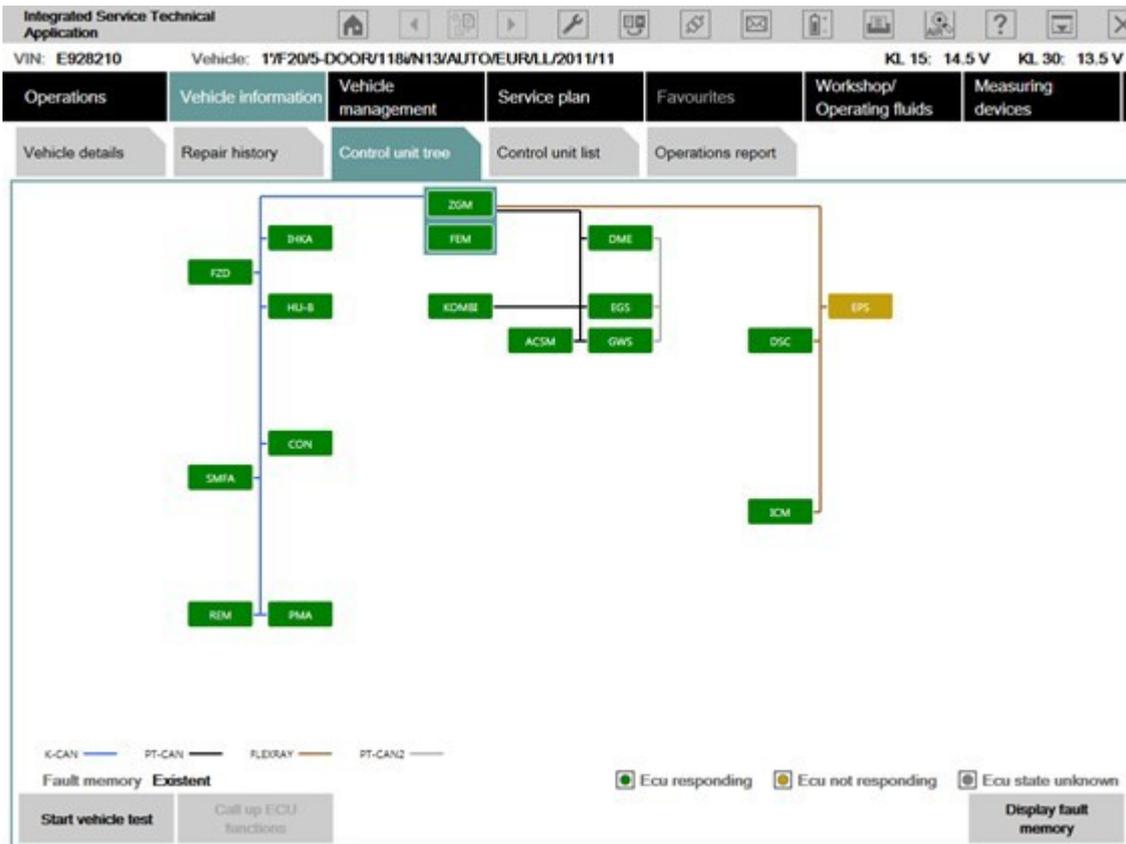


If an ICOM has the status "Firmware" and cannot be selected, then you have to carry out an ICOM firmware update first.

Again, ICOM troubleshooting is not discussed here, there are forum threads dedicated to troubleshooting communication issues. Refer to those.

Start vehicle test

If vehicle identification was called up via "Read out vehicle data" and "Complete identification", the vehicle test starts automatically following vehicle identification, followed by the vehicle operation and service data transfer and analysis. The control unit tree is displayed during the vehicle test



Here you can observe the ongoing determination of the control units that are fitted. If no control unit tree is available, the "Control unit list" mask is displayed automatically.

The control unit tree contains all the control units identified in the vehicle and displays their allocation to the relevant bus system. The control units are identified in succession and their fault memories are read out. The color then changes to display of the detected state. An explanation of the colors can be found in the lower section of the displayed mask. From this screen, if required you can restart the vehicle test or also call up control unit functions so that you can read out measurements or activate actuating elements.

Before you can access a test plan you must first display the fault memory. This is how to view the fault memory:

- Wait until the vehicle test is completed.
- Click the "Display fault memory" button.

Show fault memory

After the vehicle test, click the "Display fault memory" button in the "Fault memory" mask. The fault codes that are read out and the associated description are listed here.

Integrated Service Technical Application

VIN: E928210 Vehicle: 1YF205-DOOR/118/N13/AUTO/EUR/LL/2011/11 KL 15: 14.5 V KL 30: 13.5 V

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
Repair/ Maintenance	Troubleshooting	Service function	Software update	Control Unit Exchange	Vehicle modification	
Fault memory	Fault patterns	Function Structure	Component Structure	Text Search	Input fault code	

Code	Description	Mileage	Class
S 0399	No communication possible with: electromechanical power steering	8382	

Number of fault memories: 1/1 No. fault patterns: 0 Filter: Default

Show fault code Delete fault memory Filter fault memory Delete filter Show completely PuMA measures Calculate test plan

The function "Delete fault memory" can be carried out at the end of the guided troubleshooting. In order to start the guided troubleshooting, first calculate a test plan.

This is how to calculate a test plan:

- Click the "Calculate test plan" button.

Processing the test plan

The test plan lists the components and functions that might have caused the fault. The documents and test modules corresponding to the components and functions are displayed in the "Type" column, identified with "ABL". In the "Type" column, documents and test modules are identified with an abbreviation.

Procedures localize a fault and give advice on rectifying it. This is how you start a procedure:

- Select the required procedure from the test plan.
- Click the "Display" button.

Integrated Service Technical Application						
VIN: E928210		Vehicle: 1YF205-DOOR/118/N13/AUTO/EURL/2011/11			KL 15: 14.5 V KL 30: 13.5 V	
Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
Hit list	Test plan	Programming plan				
Type	Title	Status	Priority			
	Power supply, EPS electromechanical power steering		1			
ABL	Voltage supply, electromechanical power steering (EPS)	<input checked="" type="checkbox"/>	1			
	Automatic driving lights control. Activation and deactivation characteristics implausible		2			
SIT	Automatic driving lights control. Activation and deactivation characteristics implausible	<input checked="" type="checkbox"/>	2			
	Front light combination, optical complaint		2			
ABL	Headlight fogging	<input checked="" type="checkbox"/>	2			
	Hazard warning flashers continuously flashing		2			
ABL	Various electronic faults	<input checked="" type="checkbox"/>	2			
	Turn-indicator cancellation not working		2			
ABL	Turn-indicator cancellation not working	<input checked="" type="checkbox"/>	2			

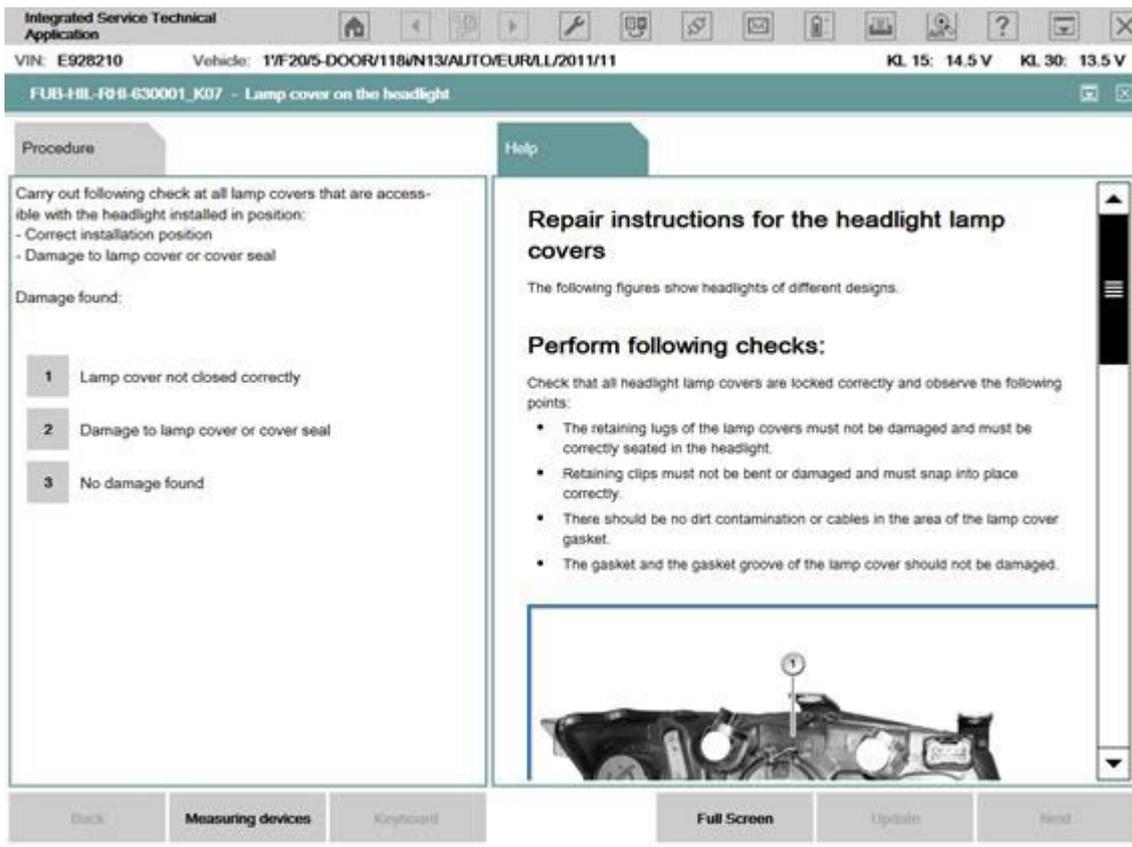
Hits: 5 / 5 Filter: Default
 not called
 performed
 minimized
 canceled
 suspected

Back Filters Show symptoms Collapse / expand Set standard filter Repair overviews Display

 The priority in the test plan does not necessarily specify the call-up of the processes. The priority is to be regarded as a recommendation for processing.

A test module is primarily designed to identify the cause of a fault. Furthermore, service functions can be performed via procedures. Information can be displayed within a test module, as well as measured values read out or entered. Furthermore, queries can be made available in procedures via selection screens.

After a test module has been carried out, additional information is added to the test plan if this is necessary for further troubleshooting or fault elimination.



After the test plan has been completed, you should carry out the "Delete fault memory" function.

Information types in ISTA documents – what do things mean?

Abbreviation	Information type	Abbreviation	Information type
ABL	Procedure (service program)	REP	Repair instructions
AZD	Tightening torque	SBS	Operating fluids
EBO	Installation location	SIT	Service Information Engineering
FEB	Fault elimination	SPI	Vehicle software information

Abbreviation	Information type	Abbreviation	Information type
FTD	Vehicle engineering diagnosis	SSP	Wiring diagram
FUB	Functional description	STA	Connector view details
IBAC	Internet Based Calculation of Enabling Codes	SWS	Special tool / device
KFA	Function changes to vehicle	Special tools	Special tool
MSM	BMW Group Mobile Service	TED	Technical data
PIB	Pin assignments		

PROGRAMMING WITH ISTA+

Until now, different systems for vehicle diagnosis (ISTA) and programming (ISTA/P) have been used. This means it was necessary to change systems several times when repairing a vehicle using software.

ISTA+ has been expanded so that all the required programming functions for the series F, G and I are integrated.



E-series vehicles still have to be programmed using ISTA/P!

The functions relevant for programming can be accessed via the following menus:

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
Repair/ Maintenance	Troubleshooting	Service function	Software update	Control Unit Exchange	Vehicle modification	
Comfort	Advanced	Additional soft- ware				

Vehicle treatment

- Software update
 - Comfort – as per the suggested measures plan
 - Advanced – with broadened scope
 - Additional software (range of functions is not active yet)
- Control unit replacement
 - Before exchange (preparation) – control unit read-out for the exchange
 - After exchange (subsequent evaluation) – control unit configuration after exchange
- Vehicle modification
 - Retrofit
 - Conversion
 - Conversion (only coding)
 - Backfitting
 - Immediate measures

Operations	Vehicle information	Vehicle management	Service plan	Favourites	Workshop/ Operating fluids	Measuring devices
Hit list	Test plan	Programming plan				
Measures plan	Final report					

ERRORS, FIXES AND FAQ

- There are other enthusiast avenues available to troubleshoot or program BMWs, such as WinKFP, INPA, Tool32 and ESYS depending on the model series of the car.
- **STANDALONE ISTA+ (ALSO ISTA-P) REQUIRES A MINIMUM 70AMP+ FOR PROGRAMMING. DO NOT ATTEMPT PROGRAMMING WITHOUT A POWER SUPPLY! FOR REFERENCE, A POWER SUPPLY IS NOT THE SAME AS YOUR STORE BOUGHT BATTERY CHARGER/TENDER. A POWER SUPPLY COSTS FAR LESS THAN A BRICKED ECU/CAR.**
- If you get database connection errors, most of the time it's because your extracts failed. Use MegaSync or JDownloader for large downloads and use only 7 zip for extracts.
- Install all Microsoft dependencies listed in prerequisites and the 2 mandatory required software, VC Redist C++ 2013 Redistributable and NET 4.6. Program will not run without these.
- Depending on your system specs, you might need to run the program always as admin.
- A dedicated laptop is preferred with at least Windows 7 (32 bit or 64bit). You also need to turn off AV and firewall. They prevent proper program function. In some cases, you need to turn off UAC.
- Blocking might have been turned back on by Windows even after you ran the unblock.reg file from the first step in Install Instructions. Keep checking to make sure files are not blocked again after extract.
- For printing, you need to make changes in file ISTAGUI.exe.config
 - Change line
 - <add key="BMW.Rheingold.CoreFramework.PrintingType" value="default"/>
 - TO
 - <add key="BMW.Rheingold.CoreFramework.PrintingType" value="dialog"/>
 - After, modify system registry (regedit.exe) value of
 - address HKEY_CURRENT_USER\Software\BMWGroup\ISPI\Rheingold DEFAULT on DIALOG
- To resolve connection problems with ECU modules in older cars you can increase response time on receive and connecting commands in **Ediabas.ini**. This is an old **INPA** trick. (This trick works on all cables ICOM, ENET or K+Dcan etc.)

Values in **Ediabas.ini**

```

55 | ;-----
56 | [TCP]
57 | ;-----
58 | RemoteHost      = 192.168.68.4
59 | Port            = 6801
60 | TimeoutConnect  = 2000
61 | TimeoutReceive  = 2000
62 | TimeoutFunction = 10000
63 | ; TimeResponsePending = 5000
64 | ; DisconnectOnApiEnd   = 1
65 | ; InitCmd0              = FE,04,00,03,01
66 | ; InitCmd1              = FD,05,00,03,01
67 |
68 | ;-----

```

- Change to:
 - *TimeoutConnect = 20000*
 - *TimeoutReceive = 20000*
 - *TimeoutFunction = 59000*