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 |
|---|----------------------|----------|
| * | o" RCleanerV4.2.exe | 43 KB |
| | Unblock.reg | 330 B |
| | p" vc_redist.x64.exe | 13.9 MB |
| | o" 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 64bit Windows, install both vcredist x32 & x64 from Microsoft, if not already installed.

| | Prerequisites.7z | 137.8 MB |
|---|----------------------|----------|
| + | 6° RCleanerV4.2.exe | 43 KB |
| | Unblock.reg | 330 B |
| + | o" vc_redist.x64.exe | 13.9 MB |
| | 6° 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:

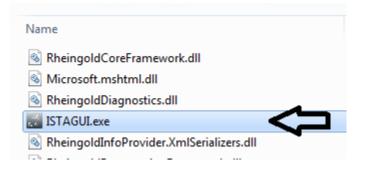
| | i.zip Properties |
|-------------|--|
| General | Novell Version Security Details Previous Versions |
| | |
| Type of fil | e: Compressed (zipped) Folder (.zip) |
| Opens wit | h: 😭 Windows Explorer Qhange |
| Location: | C:\Users\ \Desktop |
| Size: | 161 KB (164,900 bytes) |
| Size on di | sk: 164 KB (167,936 bytes) |
| Created: | Today, 3 November 2011, 4:34:16 PM |
| Modified: | Today, 3 November 2011, 4:34:16 PM |
| Accessed | : Today, 3 November 2011, 4:34:16 PM |
| Attributes | <u>R</u> ead-only <u>H</u> idden <u>Advanced</u> |
| Security: | This file came from another computer and might be blocked to help protect this computer. |
| | OK Cancel |

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:
 - o Ista-prog-x64.reg
 - o 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):

| 鹶 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"

| 痻 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, <u>K+DCAN</u>, <u>ENET</u> and <u>ICOM</u>. 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.
- 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.

| Device Manager | | | – ¤ × |
|---|--|------------------------|-------|
| File Action View Help | · | | |
| | 10 | | |
| □ → DarkSystem □ → Batteries □ → Computer | erial Port (COM3) Properties net al Port Settings Univer Details Bits per second: Data bits: Party: Stop bits: Flow control: | 8 None 1 None | |
| | | | |
| | | | |

| Device Manager | | | × |
|--|--|-------------------------------|----------|
| File Action View Help | | | |
| | 1 15 IS | | |
| DarkSystem | SB Serial Port (COM3) Properties | 23 | |
| Computer Disk drives | Advanced Settings for COM3 | | ? × |
| Jusplay adapters DVD/CD-ROM drives Jmaging devices | COM Port Number: COM9 | | ОК |
| Network adapters | USB Transfer Sizes | | Cancel |
| Portable Devices | Select lower settings to correct performance problems at low | v baud rates. | Defaults |
| Ports (COM & LPT) Communications Port (| Select higher settings for faster performance. | L. | |
| USB Serial Port (COM3) | Receive (Bytes): | | |
| Processors Gound, video and game cor Sound, video and game cor | Transmit (Bytes): | | |
| System devices | BM Options | Miscellaneous Options | |
| ▷ - ↓ Universal Serial Bus controll | Select lower settings to correct response problems. | Serial Enumerator | |
| | Latency Timer (msec): | Serial Printer | |
| | | Cancel If Power Off | |
| | Timeouts | Event On Surprise Removal | |
| | Minimum Read Timeout (msec): | Set RTS On Close | (ET) |
| | Minimum Write Timeout (msec): | Disable Modem Ctrl At Startup | |
| | <u> </u> | | |

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

| File Edit Format | View Help | |
|--|---|---|
| ;##################################### | ### 0 # | Ē |
| [Configuration] | | |
| Interface | = STD:OBD | |
| #Interface | = REMOTE | |
| Simulation | = 0 | |
| EcuPath SimulationPath TracePath TraceSize | = C:\EDIABAS\ECU = C:\EDIABAS\SIM = C:\EDIABAS\TRACE = 1024 | |
| ApiTrace IfhTrace ; IfhnTrace | = 0 = 0 = 0 | |
| ; SystemTraceSy ; SystemTraceBi ; SystemTraceIf ; SystemTraceNe | p = 0 h = 0 | |
| ; BipDebugLevel ; BipErrorLevel | = 0 = 0 | |
| UbattHandling IgnitionHandlir ClampHandling | g = 0 = 0 = 0 | |

| EDIABAS - Notepad | | 3 |
|---|---|---|
| File Edit Format | View Help | |
| TraceSync ; TraceWriter | = 1 = <filepathname></filepathname> | * |
| [TCP] | | ш |
| Remotation Port TimeoutReceive TimeoutFunction ; TimeResponsePe ; DisconnectonAp ; InitCmd0 ; InitCmd1 | $ \begin{array}{r} 102, 168, 68, 40 \\ = 6801 \\ 2000 \\ = 2000 \\ = 10000 \\ \text{piend} \\ = 5000 \\ = 1 \\ = FE, 04, 00, 03, 01 \\ = FD, 05, 00, 03, 01 \end{array} $ | |
| [XEthernet] | | |
| , RemoteHost HeaderFormat TesterAddress ControlPort DiagnosticPort TimeoutConnect | = Autodetect = 0 = F4,F5 = 6811 = 6801 = 20000 | |
| ;===================================== | | |
| ;===================================== | = 6700 | |
| ;############## ;## ausfьhrlic ;################# | che Variante von EDIABAS.ini (mit Kurz-Info und Default) ## | Ŧ |
| | III. • | |

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

| obd - Notepad | |
|---|-----|
| File Edit Format View Help | |
| | |
| Port=Com9 | Γ |
| ETRY=ON | |
| Trace]eve]=0xFFFFFFF | |
| Tracelevel=0xFFFFFFF | |
| Tracelevel=0xF0000000 Tracelevel=0x0000FFFF | |
| Bit 0 = Funktionsaufruf | 1 |
| Bit 1 = io Ergebnis | |
| Bit 1 = io Ergebnis Bit 2 = nio Ergebnis Bit 3 = Detailinfos | |
| 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 | |
| Nibble 7 = SendData | |
| Arbbite / = Schubaca | |
| (Auto-M-Auto-MARA) (II | |
| UNIT_A] | |
| ort=Com2 ardware=OBD | |
| | |
| UNIT_B] | |
| ort=Com3 | |
| ardware=OBD | |
| UNIT_C] | |
| ort=Com4 | |
| lardware=OBD | |
| | |
| 6 | 5 E |

- 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.

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|-----------------------|--------------------------------|----------------------|--------------|------------|-------------------------------|------------------------|
| | BMW Servic Workshop sy | | | | | Service shop system |
| Operations | Vehicle information | ehicle anagement | Service plan | Favourites | Workshop/ Operating fluids | Measuring devices |
| News | | | | | | Date |
| ISTA version 3.45 - 0 | Contents and notes, diagnos | sis | | | | 25/07/2014 |
| ISTA version 3.45 - N | New contents for repair litera | ature | | | | 25/07/2014 |
| ISTA version 3.45 - 0 | Contents and notes, non-ele | ectrical diagnosis (| NED) | | | 17/07/2014 |
| ISTA version 3.44 - 1 | New contents for repair litera | ature | | | | 22/05/2014 |
| ISTA usage notes | | | | | | 31/10/2013 |
| | | | | | | Display |

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

| ministration | | E ? |
|--|--------------------------------------|---|
| lient settings Dealer data Version | Transfer Monitor Problem handling | |
| Interface type: | ISIS Hosts or IPs: | |
| Ediabas standard settings (ediabas ini) O OMITEC interface (USB / serial) | Search Broadcast: | 255.255.255.255,169.254.255.255 |
| O HO-ICOM / ENET local network | SCORE Broker Hosts: | |
| O HO-ICOM / ENET local und ISIS network | | nmunicaton channel when connected via ICOM? |
| O HO-ICOM / ENET direct connection O Simulation | O Yes O No | |
| U Simulation | Preload programming com | nponents at startup? |
| | O Yes O No | |
| | FASTA data transfer mode | |
| | O Background transfer ser | ervice (central systems) |
| | O ISIS transfer service (via | a workshop Jetstream) |
| | | ia workshop Jetstraam) |

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

| RHEINGOLD | A | • | > P | | ø | | | ? | | X |
|--|-----------------|------------|------|------------|---|-------------|-------------------------------|-----------------|--------------------------|---|
| BMW Service | | | | | | | | Servi | | |
| Workshop sys | Color (MALLING) | | | | | | | kshop | | m |
| Operations Vehicle information Vehi man | cle agement | Service | plan | Favourites | | Work | shop/ ating fluids | Measu device | | |
| News | | | | | | | | Date | | |
| ISTA version 3.45 - Contents and notes, diagnosis | | | | | | | | 25/07/2 | | |
| ISTA version 3.45 - New contents for repair literatu | re | | | | | | | 25/07/2 | 2014 | |
| ISTA version 3.45 - Contents and notes, non-electr | ical diagno | osis (NED) | | | | | | 17/07/2 | 2014 | |
| ISTA version 3.44 - New contents for repair literatu | re | | | | | | | 22/05/2 | 2014 | |
| ISTA usage notes | | | | | | | | 31/10/2 | 2013 | |
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| RHEINGOLD | A | < P | > P | | S | | KL 15: | | KL 30: | × |
| Operations Vehicle information Vehi | | Service | plan | Favourites | | | shop/ | Measu | uring | |
| man | agement | | | | | Oper | ating fluids | device | s | |
| New Finished | | | | | | | | | | |
| VIN Read Out Vehicle Data Basic | Features | | | | | | | | | |
| - Connect vehicle interface. | | | | | | | | | | |
| - Switch on vehicle ignition. | | | | | | | | | | |
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| | | | | | | Identi v | fication witho ehicle test | ut C Ide | complete intification | |
| | | | | | | 1.1 | | - | - | |

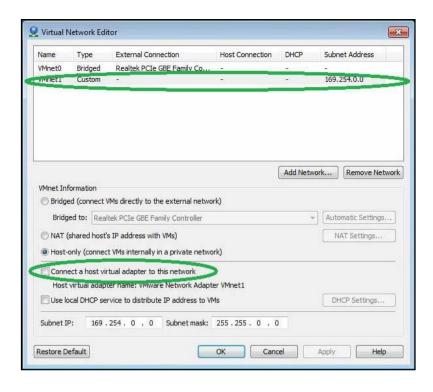
| RHEINGO | D | | â | 4 | | 1 | S | | | | ? 🗔 | |
|----------------------|---------------------|--------|-----------------------|---------|--------------|------------------|------------|-------|-----------------------|-------|-----------------|----------|
| VIN: | Vehicle: | | | | | | | | KL 15: | | KL 30: | - |
| Operations | Vehicle inform | ation | Vehicle management | | Service plan | Favou | ites | | shop/ ating fluids | | asuring ices | |
| Vehicle details | Repair history | | | | | Operati | ons report | | | | | |
| VIN | | | | | | | | | | | | ^ |
| Series | | Devel | opment code: | | Production | on date | | Gearb | ox | | | |
| Model | | Engin | B | | National | market version | | Body | | | | |
| Steering | | Firste | Ongoing backgrou | und pro | Contino | | > | | ox number | | | |
| Basic type (model co | ode) | Warre | | | | | | Paint | code | | | |
| Type approval no.: | | Drive | | | U | | | Uphot | stery code | | | |
| Construction date: | | Integr | ation level factory: | | Integratio | on level actual: | | | | | | |
| Technical actions; | | | | | | | | | | | | |
| Status | Special defect code | Title | | | | | | | | | | |
| Customer complain | E. | | | | | | | | | | | |
| Breakdown: O Yes | • No | | | | | | | | | | | • |
| | | | | | | | | Sta | rt vehicle tes | t Inf | ormation se | arch |

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".

| Networking | General |
|---|---|
| Connect using: | |
| Intel(R) PRO/1000 MT Network Connection | You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. |
| This connection uses the following items: | Obtain an IP address automatically |
| Client for Microsoft Networks | Use the following IP address: |
| QoS Packet Scheduler | IP address: 169 . 254 . 1 . 1 |
| | Subnet mask: 255 . 255 . 0 . 0 |
| Internet Protocol Version 4 (TCP/IPv4) Driver | Default gateway: |
| Link-Layer Topology Discovery Responder | Obtain DNS server address automatically |
| | Use the following DNS server addresses: |
| Install Uninstall Properties | Preferred DNS server: |
| Description Transmission Control Protocol/Internet Protocol. The default | Alternate DNS server: |
| wide area network protocol that provides communication across diverse interconnected networks. | Validate settings upon exit Advanced |

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 | | x |
|---|---|-------------|
| File Edit Format V | ïew Help | |
| | = 1 = <filepathname></filepathname> | |
| [тср] | | - 111 |
| RemotsHose Port | $ \begin{array}{r} 102 \\ = 6801 \\ 1000 \end{array} $ | |
| TimeoutReceive TimeoutFunction ; TimeResponsePe ; DisconnectOnAp ; InitCmd0 ; InitCmd1 | = 2000 = 10000 nding = 5000 | |
| ;===================================== | | = |
| TesterAddress | = Autodetect = 0 = F4,F5 = 6811 = 6801 = 20000 | = |
| ;===================================== | | - |
| ;===================================== | = <mark>6</mark> 700 | - |
| ##################################### | he Variante von EDIABAS.ini (mit Kurz-Info und Default) ## | ¥ ¥ ¥ |
| 1 | III. P | |

- 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.

| RHEINGOLD Image: Constraint of the second | ■ ? ■ × MINI Service Workshop system |
|---|---|
| | Vorkshop/ Measuring Operating fluids 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 |

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

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|-------------------------|---|---------|---------------|--------------------|-----------|------------------|--------------|------------|---------|---|
| /IN: | Vehicle: | | | | | | KL 15: - | к | L 30: - | |
| Administration | | | | | | | | 富 | ? | > |
| Client settings | Dealer data | Version | Transfer Moni | tor Proble | | VCI Config | |) | | |
| Interface type | | | ISIS Host | s or IPs: | | | - | | | |
| | indard settings (ediaba terface (USB / serial) | is.ini) | Search Br | oadcast: | 255.25 | 5.255.255,169.25 | 4.255.255 | | | |
| | ENET local network | | SCORE B | roker Hosts: | | | | | | |
| No. of Concession, name | ENET local und ISIS n ENET direct connection | | | s preferred cor | nmunica | ton channel v | hen connecte | ed via ICO | M? | |
| O Simulation | | | O Yes | O No rogramming co | | | | | | |
| | | | O Yes | • No | mponent | s at startup? | | | | |
| | | | 0.5% ANSE | | | | | | | |
| | | | | ita transfer mod | | | | | | |
| | | | | ound transfer se | | | | | | |
| | | | O ISIS tra | nsfer service (v | ria works | hop Jetstrear | n) | | | |
| | | | | | | | | | | |
| Cancel | Keyboard | | | | | | 0 | | ж | |

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

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|---|---------------------|------------|-------------------------------|----------------------|
| BMW Service | 24 | | | Service |
| Workshop sys | tem | | | hop system |
| Operations Vehicle information Vehicle mana | le 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 | 9 | | | 25/07/2014 |
| ISTA version 3.45 - Contents and notes, non-electric | cal diagnosis (NED) | | | 17/07/2014 |
| ISTA version 3.44 - New contents for repair literature | 9 | | | 22/05/2014 |
| ISTA usage notes | | | | 31/10/2013 |
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| VIN: Vehicle: Operations Vehicle information Vehic | le Service plan | Favourites | KL 15: Workshop/ | KL 30: Measuring |
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| | gement Gervice plan | | Operating fluids | |
| New Finished | gement | | Operating fluids | |
| New Finished | Features | | | |
| New Finished VIN Read Out Vehicle Data Basic | gement | | | |
| New Finished | gement | | | |
| New Finished VIN Read Out Vehicle Data - Connect vehicle interface. | gement | | | |
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| New Finished VIN Read Out Vehicle Data - Connect vehicle interface. | gement | | | |
| New Finished VIN Read Out Vehicle Data - Connect vehicle interface. | gement | | Operating mulos | Complete |

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

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|---|---|---|------------------------------------|--------|---|-----------------------------------|------------------|---|-------------------------------|---------------------------|-----------|
| VIN: | Vehicle: | | | | | | | | KL 15: - | KL : | 30: - |
| Connection manager | | | | | | | | | | | ? × |
| Device ID | c | Color Type | VI | N | | Connecti | ion | | KL15 [V] | Status | |
| 1COM0079464 | | ICOM | | | | D-CAN K-Line | 169.254 | .247.242 | 13.6 V | Free | > |
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| VIN: Operations | Vehicle: | manag | 3 | Servic | | | | Works | KL 15: - | KL Measurii | 30: - |
| VIN: Operations | Vehicle: Vehicle inform | manag | e Jement | Servic | e plan | | tes | Works | KL 15: - | KL Measurii | 30: - |
| VIN: Operations Vehicle details | Vehicle: Vehicle inform | manag | e lement | Servic | e plan | Operatio | tes | Works | KL 15: | KL Measurii | 30: - |
| VIN: Operations Vehicle details VIN Series | Vehicle: Vehicle inform | Development co | e lement | Servic | e plan I unit list Production | Operatio | tes | Works Opera Gearbo | KL 15: | KL Measurii | 30: - |
| VIN: Operations Vehicle details VIN Series Model | Vehicle: Vehicle inform | Development co | e lement l unit tree ode: | Servic | e plan I unit list Production National-m | Operatio | tes | Works Opera Gearbo Body | KL 15: hop/ ting fluids | KL Measurii | 30: - |
| VIN: Operations Vehicle details VIN Series | Vehicle: Vehicle inform | Development of Engine | e lement l unit tree ode: | Contro | e plan I unit list Production | Operatio | tes | Works Opera Gearbo Body Cearbo | KL 15: | KL Measurii | 30: - |
| VIN: Operations Vehicle details VIN Series Model | Vehicle: Vehicle inform Repair history | Development co Engine First productation Ware | erement Lunit tree | Contro | e plan I unit list Production National-m | Operatio | les ns report | Works Opera Gearbo Body Cearbo | KL 15: | KL Measurii | 30: - |
| VIN: Operations Vehicle details VIN Series Model Steering | Vehicle: Vehicle inform Repair history | Development co Engine First productation Ware | e erment unit tree | Contro | e plan I unit list Production National-m | Operatio | les ns report | Gearboo Body Cearboo Paint cc | KL 15: | KL Measurii | 30: - |
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| VIN: Operations Vehicle details VIN Series Model Steering Basic type (model cod Type approval no.: Construction date: <i>I</i> <u>Technical actions</u> | Vehicle: Vehicle inform Repair history | Development of Engine First protectedior Warre Drive | e Identificati | Contro | e plan I unit list Production National-m | Operatio date arket version | les ns report | Gearboo Body Cearboo Paint cc | KL 15: | KL Measurii | 30: - |
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| VIN: Operations Vehicle details VIN Series Model Steering Basic type (model conditions) Type approval no.: Construction date: I Technical actions: Status | Vehicle: Vehicle inform Repair history de) | Development of Engine First protectedior Warre Drive | e Identificati | Contro | e plan I unit list Production National-m | Operatio date arket version | les ns report | Gearboo Body Cearboo Paint cc | KL 15: | KL Measurii | 30: - |
| VIN: Operations Vehicle details VIN Series Model Steering Basic type (model con Type approval no.: Construction date: I Technical actions: Status Status Breakdown: | Vehicle: Vehicle inform Repair history de) | Development of Engine First protectedior Warre Drive | e Identificati | Contro | e plan I unit list Production National-m | Operatio date arket version | les ns report | Gearboo Body Cearboo Paint cc | KL 15: | KL Measurii | 30: |
| VIN: Operations Vehicle details VIN Series Model Steering Basic type (model cod Type approval no.: Construction date: I Technical actions: Status Status Status | Vehicle: Vehicle inform Repair history de) | Development of Engine First protectedior Warre Drive | e Identificati | Contro | e plan I unit list Production National-m | Operatio date arket version | les ns report | Works Operation Body Gearboo Paint cc | KL 15: | KL Measurin devices | 30: - |

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 "Subnetmask".

| Networking | General |
|--|---|
| Connect using: | |
| Intel(R) PRO/1000 MT Network Connection | You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. |
| This connection uses the following items: | Obtain an IP address automatically |
| Client for Microsoft Networks | Use the following IP address: |
| 🗹 🜉 QoS Packet Scheduler | IP address: 169 . 254 . 1 . 1 |
| File and Printer Sharing for Microsoft Networks | Subnet mask: 255 . 255 . 0 . 0 |
| Internet Protocol Version 4 (TCP/IPv4) Internet Protocol Version 4 (TCP/IPv4) Internet Protocol Version Mappen VO Driver | Default gateway: |
| Link-Layer Topology Discovery Responder | Obtain DNS server address automatically |
| | Use the following DNS server addresses: |
| Install Uninstall Properties | Preferred DNS server: |
| Description | Alternate DNS server: |
| Transmission Control Protocol/Internet Protocol. The default | |
| | Validate settings upon exit Advanced |

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

| | Type | External Connection | Host Connection | DHCP | Subnet Address |
|-------------------------|---|---|----------------------------------|----------|----------------------|
| VMnet0 | Bridged | Realtek PCIe GBE Family C | Co | St. 13 | - |
| venet1 | Custom | - | | | 169.254.0.0 |
| VMnet Ini | formation | | | Add Netw | vork] [Remove Netw |
| (note | and a second second | and a second | | | |
| 1 Bridge | ed (connect) | VMs directly to the external n | ietwork) | | |
| | | VMs directly to the external n Itek PCIe GBE Family Controlli | an ann an tha | | - Automatic Settings |
| Bridg | ed to: Rea | and the second | an ann an tha | | Automatic Settings |
| Bridg | ed to: Rea | Itek PCIe GBE Family Controlle | er | | |
| Bridg | ied to: Rea (shared host) only (connec ect a host vii | ltek PCIe GBE Family Controll 's IP address with VMs) :t VMs internally in a private n rtual adapter to this network | er network) | | |
| Bridg NAT (Host- | ed to: Rea (shared host only (connec ect a host vi virtual adap | ltek PCIE GBE Family Controlle 's IP address with VMs) :t VMs internally in a private n | er network) xdapter VMnet1 | | |

- 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.

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| | BMW Server Workshop | | | | | ervice hop system |
| Operations | Vehicle information | Vehicle management | Service plan | Favourites | Workshop/ Operating fluids | Measuring devices |
| News | | | | | | Date |
| ISTA version 3.45 - | Contents and notes, diag | nosis | | | | 25/07/2014 |
| ISTA version 3.45 - | New contents for repair li | terature | | | | 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 li | terature | | | | 22/05/2014 |
| ISTA usage notes | | | | | | 31/10/2013 |
| | | | | | | Display |

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

| VN: Vehicle: R. 15: - KL 30: - Administration Image: Construction of the settings Dealer data Version Transfer Monitor Problem handling VCL Config Interface type: C Ediabas standard settings (ediabas.ini) Search Broadcast: 255255255169254255255 Search Broadcast: 255255255169254255255 O HO-ICOM / ENET local network SCORE Broker Hosts: SCORE Broker Hosts: Search Broadcast: 255255255169254255255 O HO-ICOM / ENET local und ISIS network Ethernet as preferred communicaton channel when connected via ICOM? O Yes O No Simulation Preload programming components at startup? O Yes O No FASTA data transfer mode: O Rockground transfer service (via workshop Jetstream) O ISIS transfer service (via workshop Jetstream) | RHEINGOLD | | A | 4 | | × | | S | \boxtimes | | | ? | | × |
|---|-----------------|-------------------------------------|---------|---|--|----------------------------------|--|----------------------|----------------------------|------------|----------|-----------|---------|----------|
| Client settings Dealer data Version Transfer Monitor Problem andling VCI Config Interface type: Ediabas standard settings (ediabas.ini) OMITEC interface (USB / serial) HO-ICOM / ENET local network BiO-ICOM / ENET local und ISIS network HO-ICOM / ENET local und ISIS network BO-ICOM / ENET local und ISIS network Ethernet as preferred communication channel when connected via ICOM? Yes Yes No FASTA data transfer mode: Gackground transfer service (central systems) ISIS transfer service (via workshop Jetstream) | VIN: | Vehicle: | | | | | | | | KL | 15: – | ĸ | L 30: – | |
| Client settings Dealer data Version Transfer Monitor handling Config Interface type: Ediabas standard settings (ediabas.in) ISIS Hosts or IPs: | Administration | | | | | | | | | _ | | E | ? | \times |
| O Ediabas standard settings (ediabas.ini) O MITEC interface (USB / serial) O HO-ICOM / ENET local network O HO-ICOM / ENET direct connection O Simulation Search Broadcast: 255.255.255.169.254.255.255 C HO-ICOM / ENET direct connection O Simulation Search Broadcast: 256.255.255.255.169.254.255.255 Search Broadcast: 257.255.255.255.255.255.169.254.255.255 Search Broadcast: 257.255.255.255.255.255.255.255.255.255. | Client settings | Dealer data | Version | | Transfer Moni | tor | | | | ig | | | | _ |
| ○ OMITEC interface (USB / serial) Search Broadcast: 255255255255,169254255255 ○ HO-ICOM / ENET local network SCORE Broker Hosts: SCORE Broker Hosts: ○ HO-ICOM / ENET direct connection ○ No ○ Simulation Preload programming components at startup? ○ Yes ○ No FASTA data transfer mode: ○ Background transfer service (via workshop Jetstream) | | 1 - M ² 7 - 12 - 12 - 12 | -2 | | ISIS Host | s or IPs | | | | | | | | |
| O HO-ICOM / ENET local und ISIS network O HO-ICOM / ENET direct connection O Simulation C Yes O No Preload programming components at startup? O Yes O No FASTA data transfer mode: O Background transfer service (central systems) O ISIS transfer service (via workshop Jetstream) | | 973 N | 11) | | Search Br | oadcas | t | 255.255.2 | 255.255,169. | 254.255.25 | 5 | | | |
| HO-ICOM / ENET direct connection Simulation Hernet as preferred communicaton channel when connected via ICOM? Yes No Preload programming components at startup? Yes No FASTA data transfer mode: Background transfer service (central systems) ISIS transfer service (via workshop Jetstream) | O HO-ICOM / ENE | T local network | | | SCORE B | roker H | osts: | | | | | | | |
| Cancel Keyboard OK | O HO-ICOM / ENE | | vork | | O Yes Preload p O Yes FASTA da O Backgro | rogrami ita trans ound tra | No ming comp Mo sfer mode: unsfer serv | oonents rice (cen | at startupf tral syster | ? ns) | onnectec | I via ICO | M? | |
| | Cancel | Keyboard | | | | | | | | | | (| ж | > |

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.

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| VIN: Connection manager | Vehicle: | | | | | | | | | | KL 15: | K | 1 30: | X |
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| Device ID | | Color | Tuma | | MIN | _ | | Connorti | | | KL.15 | | 5 | |
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| Cancel | | | | | | | | | | Brea | ak connection | Set up | connecti | ion |
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| | | | 1 | 6 | 4 | | × | | S | | | | Y | × |
| Operations | Vehicle: Vehicle inform | | Vehicle | | Se | rvice plan | F | avourites | | Worksh | | KL 3 Measuring | | |
| | | | managem | | | | | | | Operati | ng fluids | devices | | |
| Vehicle details | Repair history | | Control uni | t tree | Co | ntrol unit list | 0 | perations r | report | | | | | _ |
| VIN | | | | | | | | | | | | | ŕ | |
| Series | | Develop | ment code: | | | Produc | tion date | | | Gearbox | | | | |
| Model | | Engine | | | | Nationa | al-market ve | rsion | | Body | | | | |
| Steering | | First per | sictestion | | | Enging | | | | Gearbox | number | | | |
| Basic type (model cod | (a) | | Ongoing ba | | | 1 | | | × | Paint cod | | | | |
| basic type (model cod | ic) | Wallie | Vehicle Id | entifica | lion | | | | | | | | | |
| | | 11 | | | | | | | | | | | | |
| Type approval no.: | | Drive | | | | U | | | | Upholste | ry code | | | |
| Construction date: | | | ion level fac | tory; | | | tion level ac | tuat | | Upholste | ry code | | | |
| | | | ion level fac | clory: | | | tion level ac | tual: | | Uphoiste | ry code | | | |
| Construction date: / Technical actions; | pecial defect code | Integrat | ion level fac | story: | | | tion level ac | tual: | | Uphoiste | ry code | | | |
| Construction date: / Technical actions; | pecial defect code | Integrat | ion level fac | dory; | | | tion level ac | fual: | | Uphoiste | ry code | | | |
| Construction date: / Technical actions: Status Si | pecial defect code | Integrat | ion level fac | dory; | | | tion level ac | tual: | | Uphoiste | ry code | | | |
| Construction date: / Technical actions: Status Si Customer complaint: Breakdown: | | Integrat | ion level fac | dory: | | | tion level ac | fuat | | Uphoiste | ry code | | | |
| Construction date: I Technical actions: Status Si Customer complaint: | ecial defect code | Integrat | ion level fac | ctory; | | | tion level ac | fuat | | | ry code | Information | | |

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.

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| VIN: Vehicle: | | | | | KL 15: | KL. | 30: |
| Administration | | | | | | <u>a</u> | ? × |
| Client settings Dealer data | Version | Transfer Monitor | Problem handling | VCI Conf | ig | | |
| Interface type: O Ediabas standard settings (ediabas.ii | | ISIS Hosts or | Ps: | | | | |
| O OMITEC interface (USB / serial) | , | Search Broad | cast | 255.255.255.255,169. | 254.255.255 | | |
| O HO-ICOM / ENET local network | | SCORE Broke | r blocte: | | | | |
| O HO-ICOM / ENET local und ISIS netv | work | SCORE BIORE | I HUSIS. | | | | |
| | | Ethernet as pr | eferred comm | unicaton channel | when connect | ted via ICON | 17 |
| HO-ICOM / ENET direct connection | - | O Yes | O No | | | | |
| O Simulation | | Preload progra | amming comp | onents at startup | 7 | | |
| | | O Yes | O No | | | | |
| | | FASTA data tr | ansfer mode: | | | | |
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| Select Interface | IP-Address: | О ІСОМ | | | | | |
| | IP-Address: | О ІСОМ | | | | | honord honord |

DIAGNOSTICS WITH ISTA+

STARTING THE ISTA+ WORKSHOP SYSTEM

How to start the ISTA workshop system:

• Double click 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.

| Application | ? 🖬 🗡 |
|---|-----------------------------|
| | VI Service rkshop system |
| Operations Vehicle Information Vehicle Service plan Favourites Workshop/ Operating fluik | Measuring ds devices |
| Nows | Date |
| STA version 3.49 - Contents and notes, diagnosis | 27/03/2015 |
| STA version 3.49 - New contents for repair literature | 26/03/2015 |
| STA version 3.49 - Contents and notes, non-electrical diagnosis (NED) | 25/03/2015 |
| STA version 3.48 - New contents for repair literature | 04/03/2015 |
| STA version 3.47 - New contents for repair literature | 14/11/2014 |
| STA usage notes | 17/09/2014 |
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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

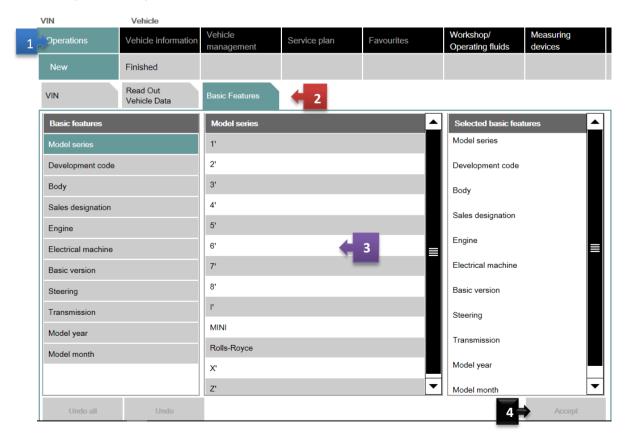
Method 1:

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.

| | VIN | Vehicle | · · · · · · · · · · · · · · · · · · · | -7 5 | | | |
|---|------------|--------------------------|---------------------------------------|--------------|------------|-------------------------------|----------------------|
| 1 | Operations | Vehicle information | Vehicle management | Service plan | Favourites | Workshop/ Operating fluids | Measuring devices |
| _ | New | Finished | | | | | |
| | VIN | Read Out Vehicle Data | Basic Features | | | | |
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| | | | Input VIN: | | | | |
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| | Keyboard | | | | | 3 | Accept |

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.

| Integrated Servic Application | e Technical | A (| | × | 100 S | | | ? 포 | × |
|----------------------------------|-------------------------------|-----------------------|------|----------|-----------|---|---------------------------------------|----------------------------|---|
| VIN: | Vehicle: | | | | | | KL 15: - | KL 30: - | - |
| Operations | Vehicle information | Vehicle management | Serv | ice plan | Favourite | | Vorkshop/ Operating fluids | Measuring devices | |
| New | Finished | | | | | | | | |
| VIN | Read Out Vehicle Data | Basic Features | | | | | | | |
| | ignition or activate the test | | | | | k | ientification without vehicle test | Complete identification | |

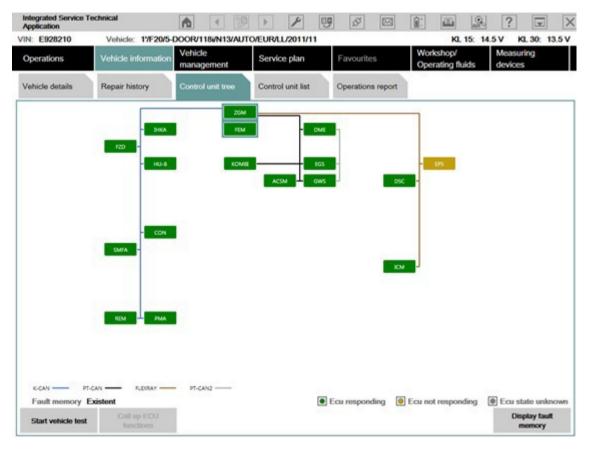
The connection to the vehicle is now established. The workshop system performs an identification of the vehicle. It also reads the vehicle identification number and further data from the vehicle. The progress of the identification operation is displayed on a progress bar.

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.

| tegrated Service T optication | echnical | A 12 | > P 0 | 5 | 3 | 2 | ? 🖃 |
|----------------------------------|---------------------|-------------------------|-------------------------|--------------------------|--------------|-------------------------|----------------------|
| N: E928210 | Vehicle: 17F20/5-0 | DOOR/118/N13/AUT | O/EUR/LL/2011/11 | | | KL 15: 14 | 5V KL 30: 13. |
| perations | Vehicle information | Vehicle management | Service plan | Favourites | | kshop/ rating fluids | Measuring devices |
| Repair/ Maintenance | Troubleshooting | Service function | Software update | Control Unit Exchange | Vehi modi | cle lfication | |
| ault memory | Fault patterns | Function Structure | Component Structure | Text Search | Input | fault code | |
| Code | Description | | | | Mileage | Class | |
| 0399 | No communication po | ossible with: electrome | echanical power steerin | g | 8382 | | |
| | | | | | | | |
| | | | | | | | |
| umber of fault me | emories; 1/1 No.1 | ault patterns: 0 | Filter: Default | | | | |

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.

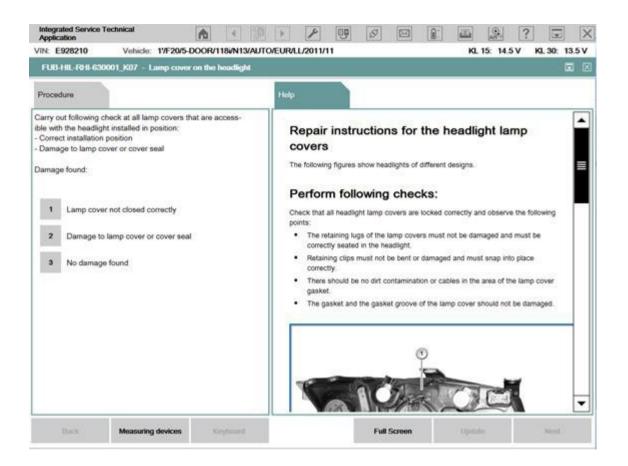
| Integrate Applicati | ed Service Te ion | chnical | | 1 1 | 9 | \$ M | | 2 ? | |
|------------------------|----------------------|---------------------------|--------------------------|--------------------|-----------|-----------|--------------------------|--------------|---------------|
| VIN: E92 | 28210 | Vehicle: 1%F20/5 | DOOR/118/N13/AUT | O/EUR/LL/2011/1 | 1 | | к | L 15: 14.5 V | KL 30: 13.5 V |
| Operati | lons | Vehicle information | Vehicle management | Service plan | F | avourites | Workshop/ Operating f | | suring ces |
| Hit list | t. | Test plan | Programming plan | | | | | | |
| Туре | Title | | | | | | | Stat | us Priority |
| | Power supp | xly, EPS electromecha | nical power steering | | | | | | 1 |
| ABL | Voltage sup | oply, electromechanica | al power steering (EPS) | | | | | 0 |] 1 |
| | Automatic o | triving lights control. A | ctivation and deactivati | on characteristics | implausib | le | | | 2 |
| SIT | Automatic o | friving lights control. A | ctivation and deactivati | on characteristics | implausib | le | | 0 | 2 |
| | Front light of | combination, optical co | mplaint | | | | | | 2 |
| ABL | Headlight fo | ogging | | | | | | 0 | 2 |
| | Hazard war | ming flashers continue | usly flashing | | | | | | 2 |
| ABL | Various ele | ctronic faults | | | | | | 0 | 2 |
| | Turn-indica | tor cancellation not we | riking | | | | | | 2 |
| ABL | Turn-indica | tor cancellation not wo | orking | | | | | 0 | 2 |
| | | | | | | | | | |
| Hits: | 5/5 | Filter: Defa | iult | 🖸 no | t called | erformed | minimized | canceled | suspected |
| 1 | Back | Filters | Show symptoms | | pand | | er Repair o | renviews: | Deplay |

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.

i

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 | | | | | |

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
 - o Retrofit
 - o Conversion
 - Conversion (only coding)
 - o Backfitting
 - o Immediate measures

| Operations | Vehicle information | Vehicle management | Service plan | Favourites | Workshop/ Operating fluids | Measuring devices |
|---------------|---------------------|-----------------------|--------------|------------|-------------------------------|----------------------|
| Hit list | | 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 or 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.
- o 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 do make changes in file ISTAGUI.exe.config
 - Change line
 - <add key="BMW.Rheingold.CoreFramework.PrintingType" value="default"/>
 - ТО

- <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 | L; | | | | | |
|------|-----------------------|------------------|--|--|--|--|
| 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 | L ; ====== | | | | | |
| • (| Change to: | | | | | |

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