BMW Pass-Thru

Autologic 2016

Disclaimer – This information is provided as a guide only and subject to change by the vehicle manufacturer. Autologic cannot be held responsible for any errors regarding manufacturer information that leads to diagnosis or programming malfunctions. This document is regularly updated so please check for latest version. E&OE.
Introduction

- In 2004, the Society of Automotive Engineers (SAE) standardized a set of universal rules (J2534) that allow reprogramming of various modules across multiple data interfaces.

- US legislation requires VMs to make vehicles, diagnostic and reprogramming applications that are compatible with J2534 devices, such as the Drew Technologies CarDAQ-Plus 2 interface. (Only available in Northern America.)

- BMW / Mini actually went a step further and now allows reprogramming of all modules. This means the user is able to reprogram powertrain, chassis, body modules, and change car and key settings.
Introduction

Abilities
- BMW and MINI allows software reflash abilities for vehicles from 1996 and up
- Ability to program/code all Body, Chassis and Drive control units including MOST control units
- Activate/deactivate car and key memory settings
- Import/delete vehicle order

Limitations
- For ISTA/P, a data interface, battery maintainer and internet connection is required. The data interface can be a BMW Group ICOM interface or a ‘Pass-Thru Device’ (PTD) that fulfils the requirements of the SAE J2534 standard.
- Offline Mode is not possible since ISTA/P needs a constant internet connection to work properly.
- Programming times of up to 3 hours is not uncommon if the whole vehicle needs to be updated, since MOST control units are updated through the K-CAN → MOST.
- Only certain Pass-Thru devices program on the MOST interface. Consult with the device manufacturer to confirm.
- For ICOM , To program MOST bus control units, a separate MOST bus adapter is needed.
ISTA/P Requirements

Minimum software and hardware requirements:

- 2GB of RAM
- CPU better than Pentium 4 @ 2GHZ or higher
- 80GB of free hard drive memory
- 15” monitor, with 1024x768 resolution
- Ethernet connection to internet gateway device
- Microsoft Windows 7 Professional 32 bit/64 bit or Microsoft Windows 7 Enterprise 32 bit/64 bit with SP1 or Microsoft Windows 8 32 bit/64 bit or Microsoft Windows 10 64 bit
- Apple Macintosh is not compatible
ISTA/P Requirements

PC Settings
To avoid problems during the vehicle session, it is necessary to make changes to ‘Display properties’ and ‘power’ settings.

Display and screen saver properties
To set the display properties, proceed as follows:

Start > Settings > Control Panel > Display. The Display Properties box is displayed. Select the Screen Saver index tab and then select None as the screen saver and click OK.

Power Management
Start > Settings > Control Panel > Display. Select Power. The Power Options Properties are displayed. Select the Power Schemes index tab and select Always On. Acknowledge by clicking OK.

Note: If using a laptop always connect the A/C power adapter before you begin programming
ISTA/P Requirements

Security Settings
Be sure to turn off the internet browsers pop-up blocker

Windows Automatic Updates
It is good practice to turn off windows updates when you are programming to prevent any interruptions

The Automatic Updates dialogue box is displayed. Select Turn off Automatic updates. Acknowledge by clicking OK and remember to turn Automatic Updates back on once you have finished programming.
ISTA/P Requirements

Firewall Settings when using a J2534 Device:
Port 443 TCP (Outgoing) must be enabled for the PC’s IP address. You can also turn off your firewall to have the same effect, but for obvious security reasons it is recommended to edit the firewall port settings instead.

Requirements when using a BMW ICOM:
The following ports MUST be activated in the firewall for the network card connected to that ICOM.

- Port 80 TCP
- Port 23011 TCP
- Port 23012 TCP
- Port 427 UDP
- Port 11352 UDP

If these ports are not open, the connection to the ICOM will fail
ISTA/P Requirements

Connectivity Requirements:

- Some models require a 20 Pin Adapter, 7/8 Pin adapter, or 16 Pin OBD Cable for communication. Some J2534 devices do not need the 7/8 Pin Adapter as they are built into the device. See your manufacturer for more information.

Note: Adapter is NOT needed for BMW ICOM

7/8 Pin Adapter          20 Pin Cable

J2534 BMW / MINI Compatibility Vehicle Matrix

<table>
<thead>
<tr>
<th>1 Series</th>
<th>E82</th>
<th>E88</th>
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<tbody>
<tr>
<td>7/8 Pin Adapter?</td>
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<td>NO</td>
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<tr>
<td>20 Pin / 16 Pin OBD?</td>
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<th>E90</th>
<th>E91</th>
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<td>20 Pin / 16 Pin OBD?</td>
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<th>E60</th>
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## ISTA/P Requirements

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<tr>
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<td>YES</td>
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</table>
ISTA/P Requirements

Drew Technologies CARDAQ Plus 2 J2534

BMW ICOM A Generation 2

BMW ICOM A Generation 1

BMW ICOM B
ISTA/P Requirements

Schumacher INC-700A

Fronius Acctiva Professional Flash
Subscribing to TIS

The links below are the links needed to access TIS for BMW and MINI:

http://www.bmwtechinfo.com

http://www.bmwtis.com

http://www.minitis.com

http://www.minitechinfo.com

NOTE: You CANNOT use the same account for BMW TIS and MINI TIS, but you can program a BMW using MINITIS and vice versa.

OSS Server status

At the top right (1) of the BMW TIS website, you will find the OSS (Online Service System) server status. Green checks indicate that the server is up and a red cross will indicate that the server is down.
Setting up a BMW TIS account

1. Launch your internet browser and click the link below http://www.bmwtis.com
2. Click ‘Subscribe now’

3. Fill in the required fields as marked with a ‘*’. Please note:
   - Login Name should be at least six characters.
   - The first character of the Login Name must be a letter.
   - Password must contain characters other than just spaces.
   - Password should contain at least five characters.

4. Read and accept the Terms and Conditions (1)
5. Click ‘Submit’ (2)
6. Choose your subscription plan
Setting up a BMW TIS account

7. You will now be forwarded to the PayPal payment page.
8. You can either pay with an existing PayPal account by selecting ‘Pay with my PayPal account’ or, to pay without a PayPal account, fill in all the billing information and then click ‘Review and Continue.’
9. Return to the Home page and login with your chosen credentials.
Installing BMW ISTA

1. Install J2534 manufacturer specific device driver and software (Drewtech J2534 Toolbox)
2. Register your device with your manufacturer
Installing BMW ISTA

3. Type in http://www.bmwtis.com in your browser address bar

4. Login with your Username and Password
Installing BMW ISTA

5. Hover over ‘OSS’

6. Hover over ‘Vehicle Programming’

7. Click on ‘ISTA/P’
Installing BMW ISTA

8. Install everything highlighted in green
Installing BMW ISTA

1. Hover over the OSS drop down

2. Select **Vehicle Diagnostics > ISTA 3.0**

3. Install everything highlighted in green
Installing BMW ISTA

Start > Search for **Firewall** (1) > Click on **Allow a program through Windows Firewall** (2) > Verify that these programs are unblocked:

- Castor
- Idmon
- ISOMInstance
- Pollux
- TaurusAdministration
- TaurusClient
- TaurusServer
- TaurusServices
- TDSServer
Installing BMW ISTA

After installing your manufacturer PTD driver, you will have to select your device in the Pass-ThruD Driver configuration tool drop down menu.

Navigate to **Start > All programs > BMW PassThru_ > PassThruD**

1. Select your PTD from the drop down menu (1) then click Launch Config. Tool (2)

2. Select your device from the left pane (1) and **Make Default** (2) then click **Exit** (3)
ISTA/P First Startup

You will receive various Windows security messages during the course of first start up. Make sure to allow / acknowledge each window. These are examples of what each window might look like:
ISTA/P First Startup

OSS > Vehicle Diagnostics > ISTA 3.0

1. Select ‘Start’

Note: If you don’t see the start button, then recheck your installation. Make sure you have installed all highlighted software as on slides 18 and 19

2. Every time you click this Start button, you will receive a download file window. Click Open with ISTAGui (1) and then click OK. ISTA/D will commence its start up procedure.
ISTA/P First Startup

Once ISTA/D – ISTA/P is installed, you will have to configure ISTA to work with your J2534 device.

1. Open ISTA and select the wrench icon on the top toolbar (1)

2. Select VCI config. (2)

3. Select Pass-Through tool (SAE J2534) (3) then click OK (4)
Requirements before programming:

- On E65 / E66 where the navigation is to be programmed, the BMW navigation system CD must be available.
- Connect an approved battery charger to the vehicle.
- Recharge the battery before starting so that the battery voltage is at least 12.6 volts.
- Shift manual transmission to neutral or automatic transmission to "Park".
- Activate the electromechanical parking brake or apply the parking brake.
- Make sure that the temperature of the transmission oil is less than 85 °C (185 °F).
- Switch off all electrical consumers, lights and turn signals.
- Switch off the automatic wiper/washer and headlight (RLS) system. NOTE: The wipers may be actuated during programming. Make sure that the wiper can move freely.
- Make a note of all FM and AM radio frequencies as they will be erased during RADIO programming (Tip: Take a photo of them instead of writing them down. Quicker!)
BMW/MINI Requirements

- Make a note of car / key memory settings as they will be reset during coding. (iDrive or in ISTA/P)
- Make a note of all navigation addresses as they will be erased during Head unit programming. (CCC, CIC, etc.)
- Make a note of all telephone numbers as they will be erased during TELEPHONE programming.
- Make a note of all durations left on serviceable items (Condition Based Service) in case they are reset during programming.
- Switch the engine off, Ignition ON (terminal 15).
- Switch on the ignition (terminal 15). NOTE: On vehicles with Comfort Access, the ignition key must be inserted in the ignition lock. A key which is not inserted in the ignition lock may cause the discontinuation of encoding.
- Check the fuel level is at least ¼ tank. Programming when there is insufficient fuel in the tank can lead to damage to the fuel pump.
BMW/MINI Requirements

- Leave the ignition switched on unless ISTA prompts otherwise.

- Do not operate or move anything on the vehicle (hood, tailgate, doors, windows, steering wheel, switches etc.). Doing so will wake up the control units in sleep mode and may abort programming.

- Do not disconnect the charger during programming. If the vehicle system voltage is too low, a control unit may not be programmed correctly. This control unit can then no longer be used and will have to be replaced.

- Make sure that the vehicle system voltage does not drop below 13V otherwise programming will stop (Error Message) or abort programming completely.

- Programming of vehicles with EHC (Electronic Height Control) must be performed on a level surface.
Using TIS – Example 1

Programming/Coding with J2534 Pass-Thru tool
This tutorial will show you how to update the E60 EGS control unit software.

1. Hover over OSS
2. Click on Vehicle Programming
3. Click on ISTA/P
Using TIS – Example 1

4. Click ‘Start’
   (If you don’t see the start button it means there is something wrong
   with the installation)

5. Click ‘Create New Session’ (1) and make sure that the first option for
   automatic selection (2) is selected and then click ‘Continue’ (3)

6. Select your J2534 Pass-Thru device from the connection list and then
   press ‘Connect’
Using TIS – Example 1

7. When asked ‘were control modules replaced?’ click ‘No’ (1)
8. Read the disclaimer and then click the disclaimer box
9. Click ‘continue’ (2)

10. Click ‘Process Control Modules’
11. Click ‘Determine Measures Plan.’ This screen will allow you to see which control units require programming
Using TIS – Example 1

12. Click ‘Accept Measures Plan’

13. The vehicle should now be programming
Using TIS – Example 1

14. You will get post-programming actions. For example:
   - Initialisation of sunroof
   - All window regulators
   - Clear/read all fault codes

15. Click ‘Continue’ and then follow the prompts on screen.
Using TIS – Example 1

16. When the vehicle is done programming, you will get a final report.
17. Scroll through the report and check for any failures
18. Click ‘end session’ to finish.
Requirements after programming

- Perform the remaining initialisations (sunroof, windows, steering angle sensor etc.)
- ISTA/P will automatically clear and reread fault codes
- Review any Check Control messages
- Road test the vehicle and check operation of all systems
Tips and Best Practices

- Use Internet Explorer browser for best compatibility
- Only use Ethernet to connect to the internet. Don’t use WIFI
- Do not install another manufacturers pass thru software on PC/Laptop
- Install Mozilla browser extension (Microsoft .NET Framework Assistant) if using Firefox Browser
- Make sure Windows Firewall is completely off (McAfee, Norton, Windows Firewall, etc.)
- Pass Thru manufacturer driver installed (Drew Technologies etc.)
- BMW Pass Thru Driver (BMW PTT Driver)
- Administrator rights to computer
- 7-8 adapter for older cars
- Good Battery Charger with Flash Capabilities 13.2v – 14.9v recommended
- **When in doubt, restart the computer!**
- Make sure to completely exit out (Don’t shut the computer off) of ISTA/P or ISTA/D when having an issue so FASTA data can be sent to BMW if support is needed.
Tips and Best Practices

Technical Support

- For vehicle order, enabling codes, and IBAC codes contact **BMW NA** by selecting the Contact link at the top left section of the bmwtis, bmwtechinfo, minitis or minitechinfo website. Attach your BMW TIS account name, return email address and vehicle VIN number.

- For any BMW TIS website issues or ISTA issues contact **BMW NA** by clicking on the contact link at the top of each website.

- If you have any software installation issues or vehicle connection issues and you have an **Autologic Support** subscription, call **1-877-945-6442**.

- For **Drew Technologies** (J2534 Device) Technical support call **734-222-5228** or email **support@drewtech.com**.

- To start logging, open **DrewTech's J2534 Toolbox**, click on **Debug Check**, then click on **Debug**. (Only DrewTech can decode these logs.)
Thank you for using this Autologic Pass-Thru guide.

We hope that you found it useful.

If you have any further issues, please contact our Assist Pass-Thru Support Team.