

User Maintenance

1. Ground
2. Ground
3. CAN High
4. K Line
5. CAN Low
6. NC
7. NC
8. L Line
9. Power (+ve)

User Name

User Email

Password

Date Created

Matrix Access

Flashing Access

BRIO SCANNER

Scanning & Flashing tool for ECU's



USER MAINTENANCE

Create User

Modify User

Delete User

Core Features:

- PC / Laptop interfaced Flashing Tool
- Online & Offline Flashing mode
- Flash multiple ECU's in Online mode
- Multiple Protocols & Automatic Protocol selection
- Inbuilt Power Supply, no external Battery required
- Complete Diagnostics & Flashing solutions enabled
 - DTC's with Cause & Remedial action
 - Adjust required parameters
- Injector Quantity Adjustment (IQA) Flashing
- 1D / 2D Scanner can be attached
- Online Firmware update
- Offline GUI Software for Logged Data Analysis



Developed by:

PRAGATHI SOLUTIONS

An ISO 9001:2015 Certified Company

pragathisolutions.in



- POWER
- USB
- Bluetooth
- ECU Communication Status
- Hardware Reset

ECU Diagnostics & Flashing Tool

BRIO Scanner

Pragathi Solutions
An ISO 9001:2015 Certified Company

Flashing is the complex mechanism with which the Dataset will be induce to the ECU. Single or multiple ECU's can be re-programmed & configured simultaneously.

ECU Diagnostics is the process through which the User will able to Diagnose the ECU's condition. This will support & lead the User's towards rectification of the problem.

Tools that are customized to OE specific requirements and developed in **complete confidentiality with proprietary controls governed by OEM.**

What is a Diagnostic Scan Tool?

- An automotive **diagnostic tool** (scan tool) is an electronic device. Interface with Vehicle, diagnose the error codes, read the engine/vehicle sensor related parameter values. Reprogramming of vehicle/engine control modules(ECU's) is also possible with Diagnostics.



USB Cable



Image: Diagnostic Tool



OBD Cable

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- Online firmware updation
- Offline GUI Software for Logged data analysis

- External Communication via K – Line / CAN
- CAN Communication via J1939 Protocol / UDS
- Power supply range 08 Volt – 32 Volt
- Current consumption by the device is less than 150 mA
- Idle / Sleep mode option enabled, if the device is not operating in any modes for SET duration.
- Password protected, ' USER Settings ' option present.
- Hardware is capable to handle Diagnostics & Flashing Application.
- 32 Bit, 120 MHz ARM Cortex Series Processor
- Internal / program Memory 2GB inbuilt
- External Memory 32 GB
- J1962M to DB9F, molded OBD Cable (Standard length 1.76 meters.).
- Diagnostic tool hardware use on-board vehicle battery while connected to Vehicle. To visualise the Post processing data or Firmware loading USB port can be used. No separate battery required.
- Uploading the data to PC / LAPTOP via USB 3.0 / Bluetooth
- LED status indication
- Device is resistant to vibrations and mechanical shocks
- Protection against transients, ESD
- EMI/ EMC protection enabled
- Hardware will support addition of future models /any up gradation in legalization requirements etc.

- Windows based User interface
- Software wise selection for Diagnostics & Flashing activity
- Software Selectable options for multiple ECU's
- Supported protocols:
 - i. CAN: ISO-11898/ISO 15031 ,ISO 14229 (UDS over CAN), J1939Data logging Supported for Diagnostics Session. GUI also support for view
 - ii. K-Line: KWP/ISO 14230,ISO9141
- Encryption code will be generated each & every time between the Device Hardware & GUI Software for validation purpose. AES Encryption 128 bits for Data Security - Chip inbuilding of post processed data.
- Model wise software file to be upgradable in base software, without affecting on existing Version functioning.
- Software should be compatible for an upgrade with new features and technology for future requirement .
- 1D / 2D Barcode & Label Printer integration
- Online update of Firmware

Package Contains

- ◆ BRIO Scanner (Diagnostics & Flashing Tool)
- ◆ J1962M to DB9F, OBD Cable
- ◆ USB Cable 3.0
- ◆ User's Manual(Softcopy)
- ◆ Carrying Pouch
- ◆ Barcode (1D / 2D) Scanner (Optional)

Specification

- Size W x H x D- 100 x 82 x 32 mm.
- Weight - 330 Gram (Approx.)
- Body Color – Black & Navy Blue
- PC / Laptop Sync – USB Port (3.0)
- Vehicle Interface – OBDII - Cable
- Version – 12.0.0
- Language – English
- Product Type - Compact
- User Manual Language - English

Select options

- ECU Diagnostics
- ECU Flashing

ECU Diagnostics options

- Read Live Parameters
- Diagnostics Trouble Codes
- Freeze frame data
- Cause & Remedial – DTC's
- Clear Trouble Codes
- Adjust Parameter
- Test Actuators
- Graphical view - Live Parameters
- Logged data analysis

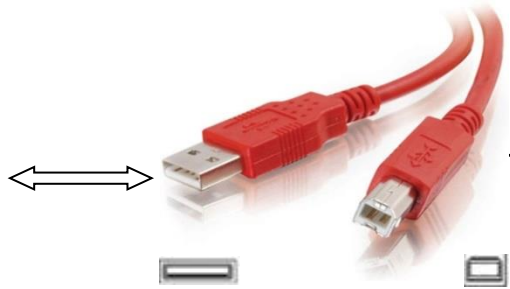
- Complete Flashing
- BOOT Area Flashing
- Async Software Flashing
- DATA Area Flashing

How do I connect a Diagnostic Tool?

- Below is a picture for reference of connecting a diagnostic tool to the system(Desktop Computer or Laptop) and to the Vehicle.
- Turn on the Ignition of the Vehicle.



Desktop PC/ Laptop



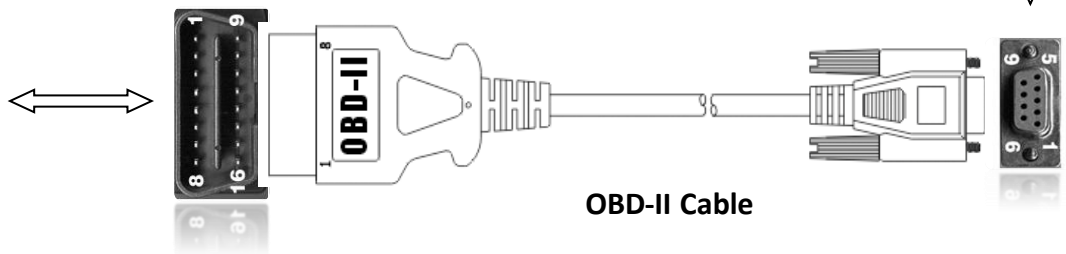
USB Cable



Diagnostic Tool



Tractor



OBD-II Cable

1. OS Supports- Windows 10

2. Driver Required:-

a).NET Framework v4.7 and above

Link to download .NET Framework:

https://drive.google.com/file/d/14EQUefo-pgts4ffmluW3oo_Kh0wskTny/view?usp=sharing

b)USB-UART Drivers :

Link to download USB-UART Drivers :

<https://drive.google.com/file/d/1bVOvJ93fRWzIKzYeB7ONXLPZ8qogI-Y3/view?usp=sharing>

c) Application Setup File (Aftermarket):

Link to download Application Setup File(Aftermarket):

<https://drive.google.com/file/d/1M9zfvIWfY4CLc9zFeSG6omU07oVvNdVc/view?usp=sharing>

d) Application Setup File (Plant):

Link to download Application Setup File(Plant):

https://drive.google.com/file/d/1GJWgKSf8ogK-FNjIjbi4wWl_6CNVCyP1/view?usp=sharing

Sonalika_VCI_App User Manual

Download Procedure For Application Setup & Driver

Step 1-Click on the below given URL to download the USB-UART driver

<https://drive.google.com/file/d/1bVOvJ93fRWzIKzYeB7ONXLPZ8qogI-Y3/view?usp=sharing>

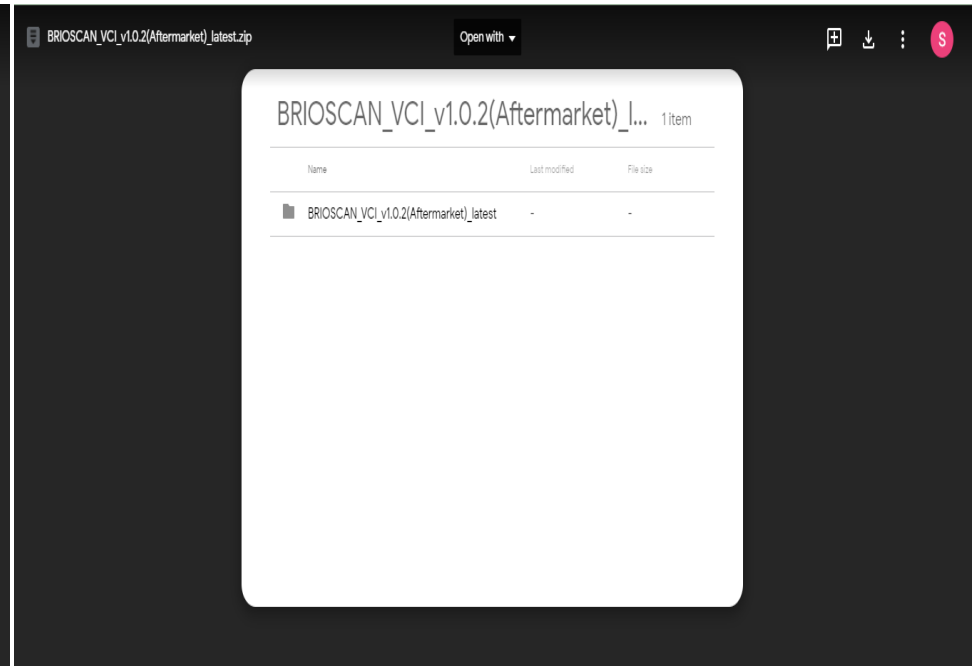
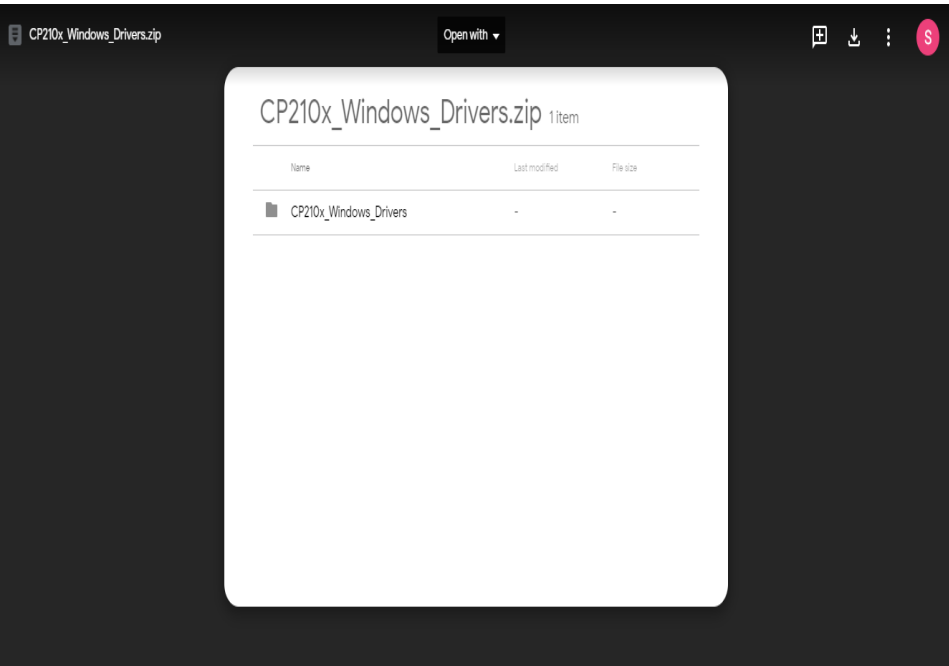
Click on the below given URL to download the Application Set up(Aftermarket)

<https://drive.google.com/file/d/1M9zfvIWfy4CLc9zFeSG6omU07oVvNdVc/view?usp=sharing>

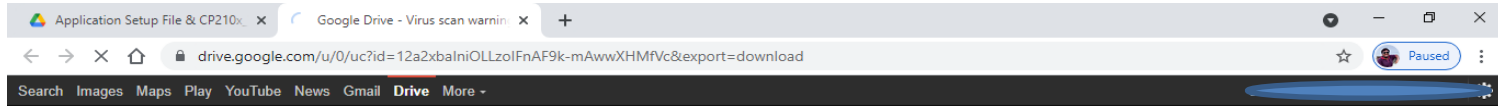
Click on the below given URL to download the Application Set up(Plant)

https://drive.google.com/file/d/1GJWgKSf8ogK-FNjIjbi4wWI_6CNVCyP1/view?usp=sharing

After clicking the URL below given page will open and then click on Download.



Step 2- Click on **Download anyway**. Then the folder will start to download.



Google Drive can't scan this file for viruses.

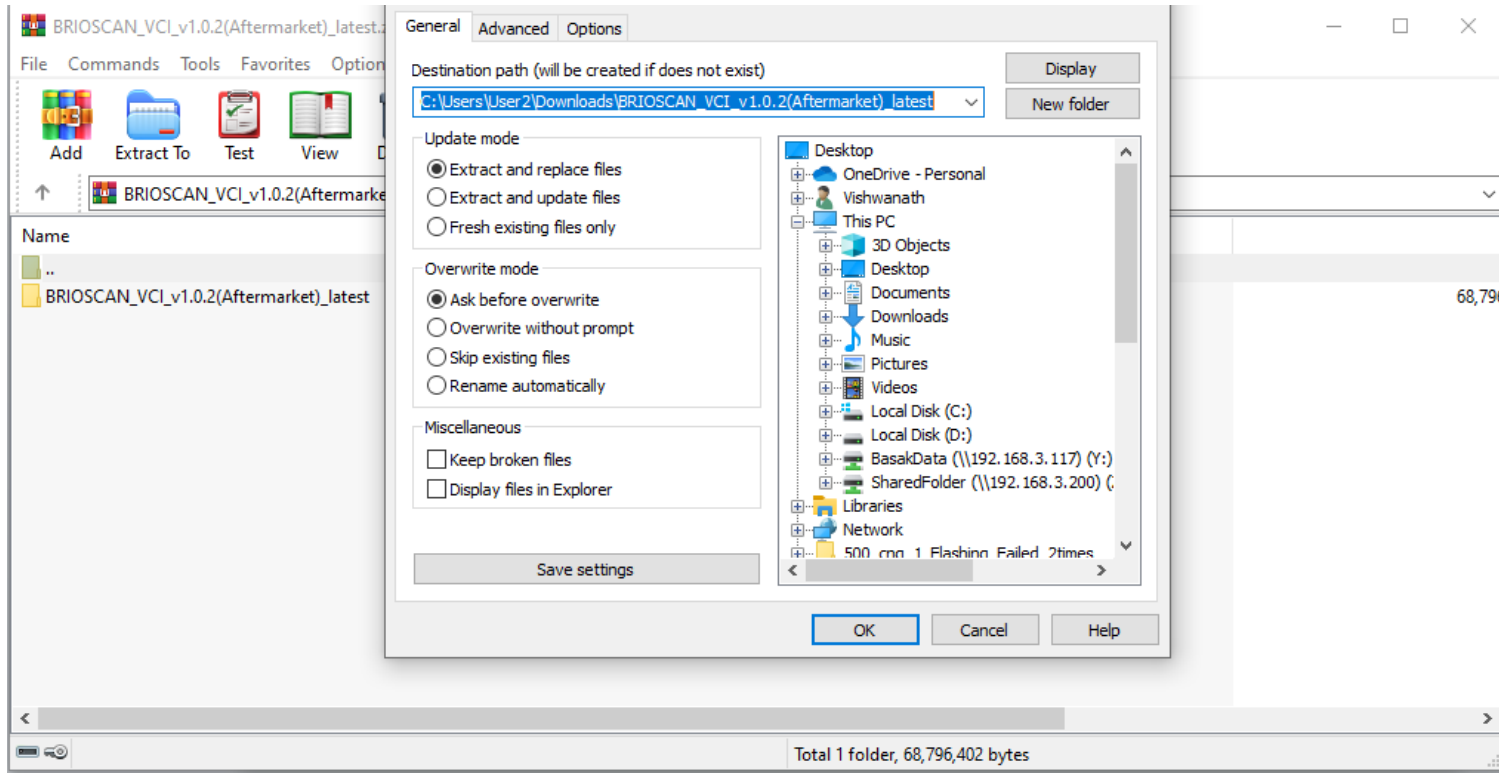
Application Setup File & CP210x_Windows_Drivers.zip (42M) is too large for Google to scan for viruses. Would you still like to download this file?

[Download anyway](#)

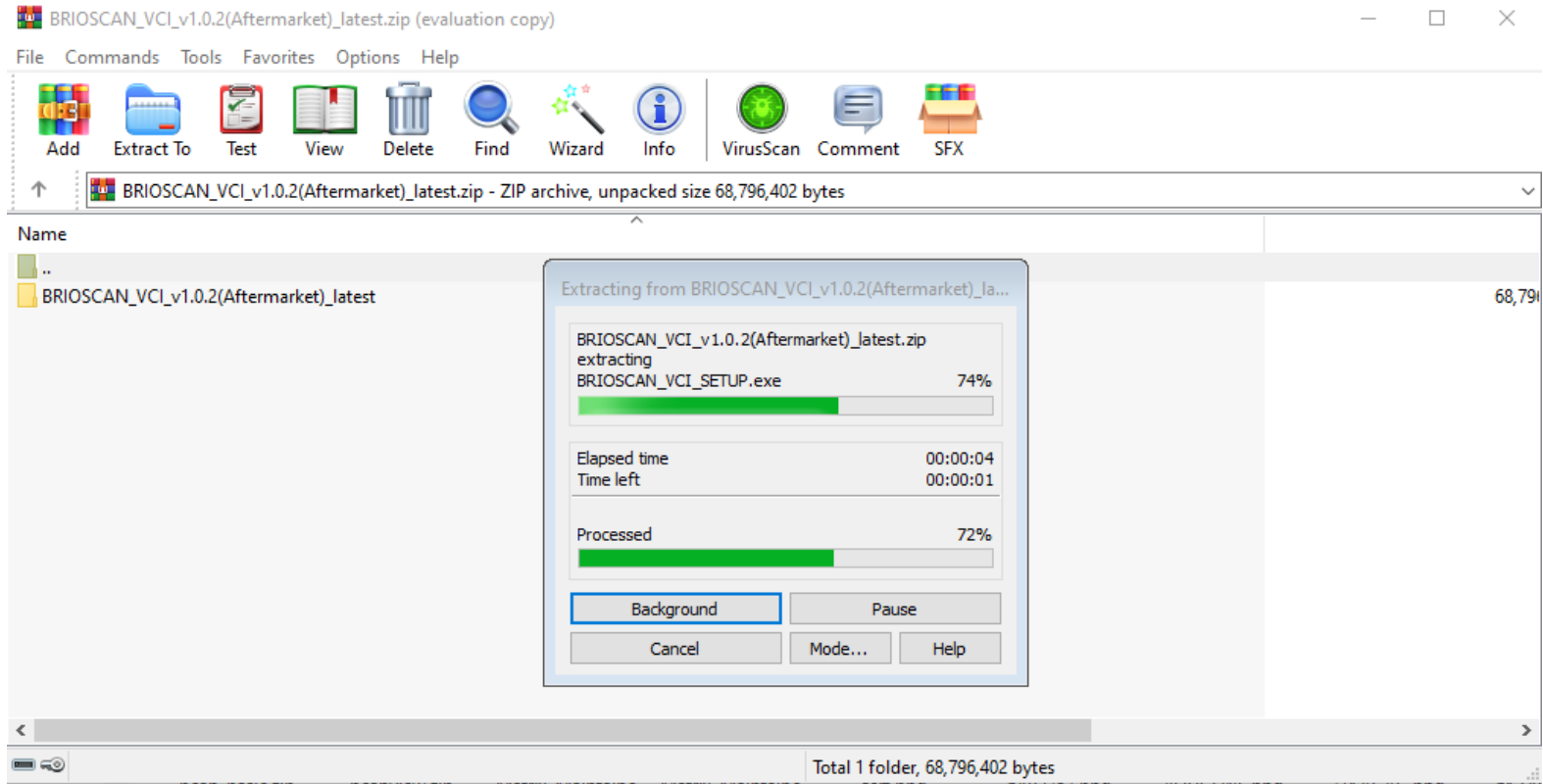
© 2021 Google - [Help](#) - [Privacy & Terms](#)

Waiting for csp.withgoogle.com...

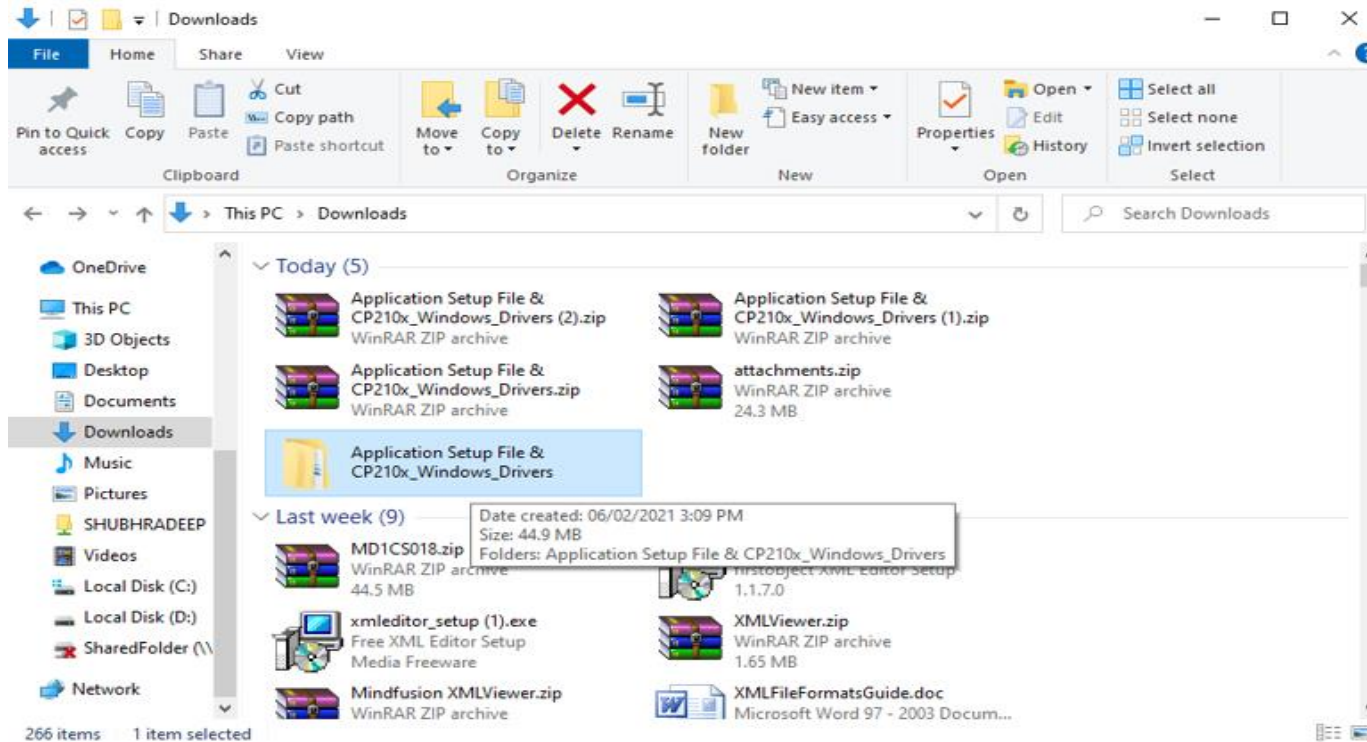
Step 3- To Extract the zip folder Click on **Extract To** and click **OK**.



Step 4- Folder are started to extract.

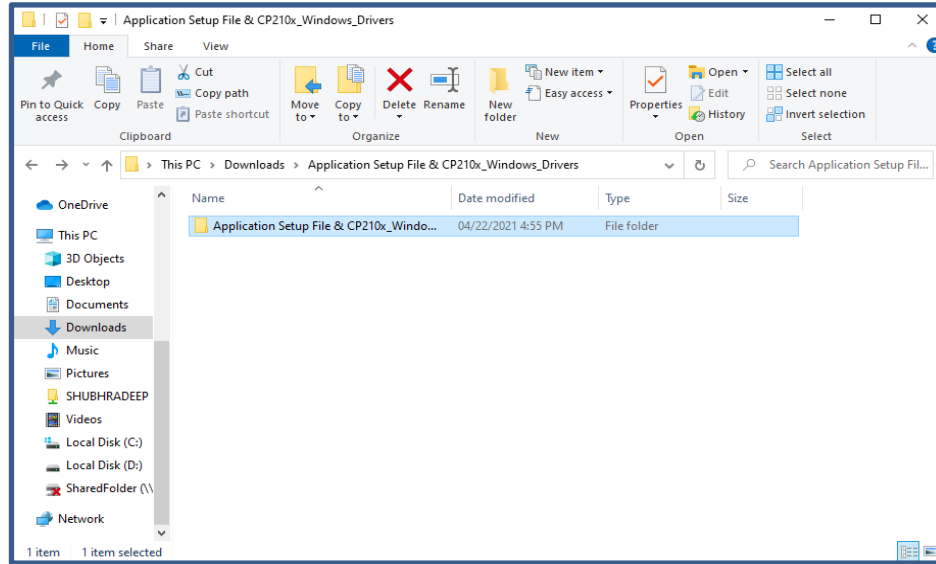


Step 5- The Folder is extracted. To open Double click on the folder.



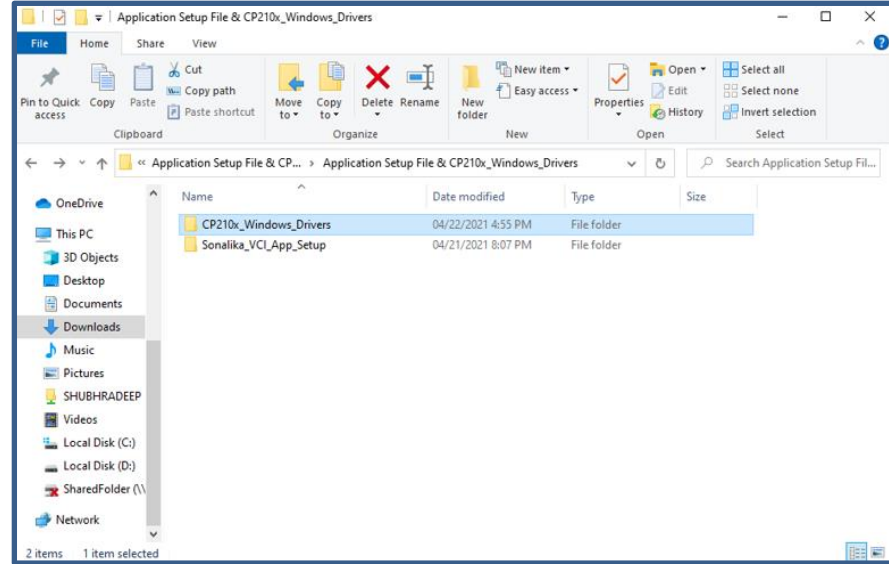
INSTALLATION PROCEDURE FOR CP210x_USB to UART DRIVER

Step 6- Double click on the folder.



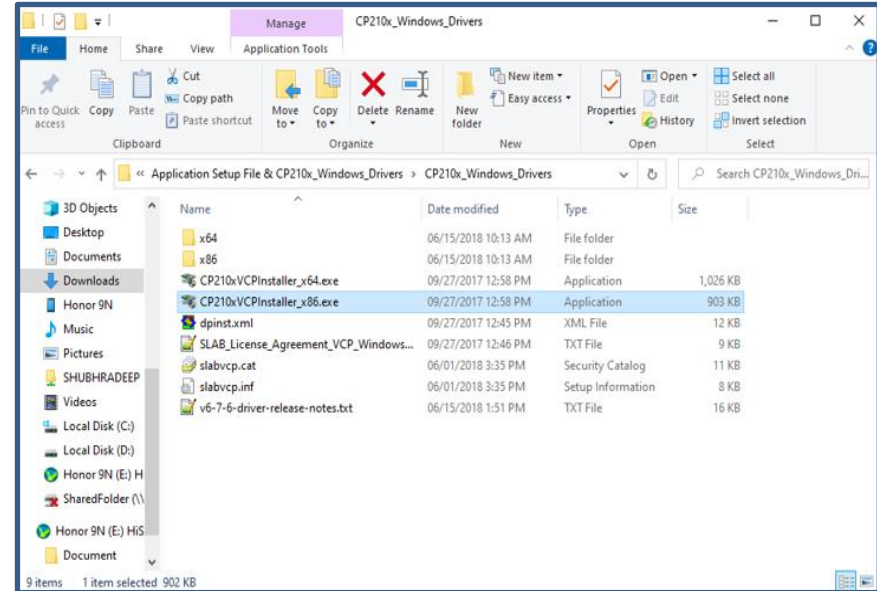
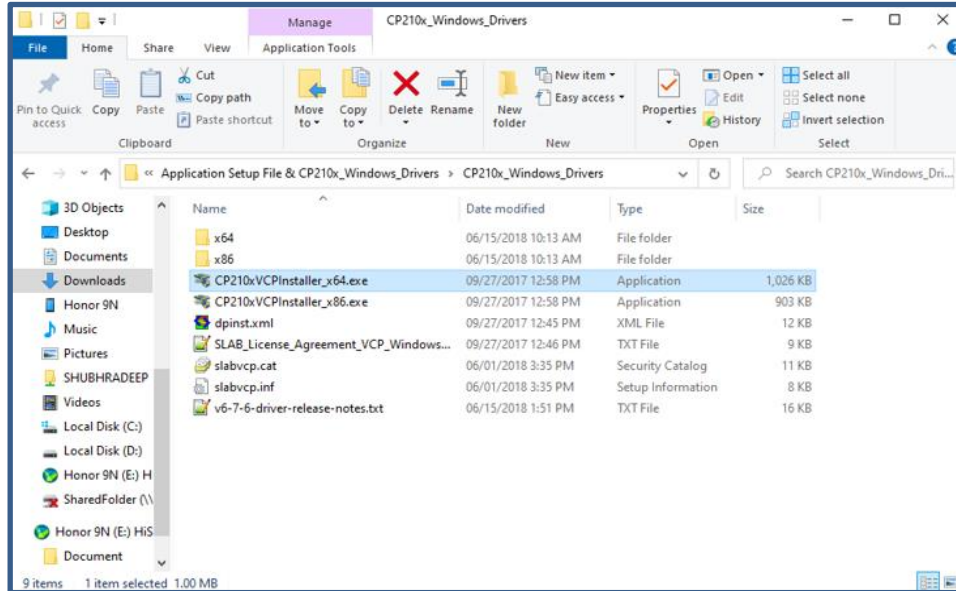
Step 7- To install the driver Double click on **CP210x_USB to UART Driver**.

Note- Installation of the drivers required only for the first time installation of the application. If already installed kindly ignore the step



Step 8: If you are using 64-bit system then kindly install the **CP210x VCI installer_x64.exe** .

Step 9: If you are using 32-bit system then kindly install the **CP210x VCI installer_x86.exe** .

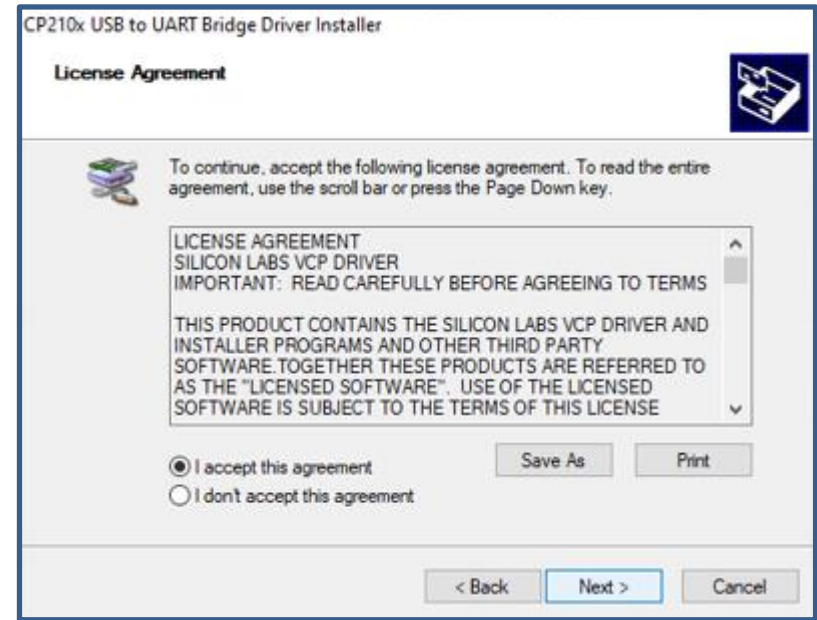


Step 10: Click Next.

Note- Installation steps are same for 32-bit & 64bit system.



Step 11: Select **I accept this agreement.** Then click Next.

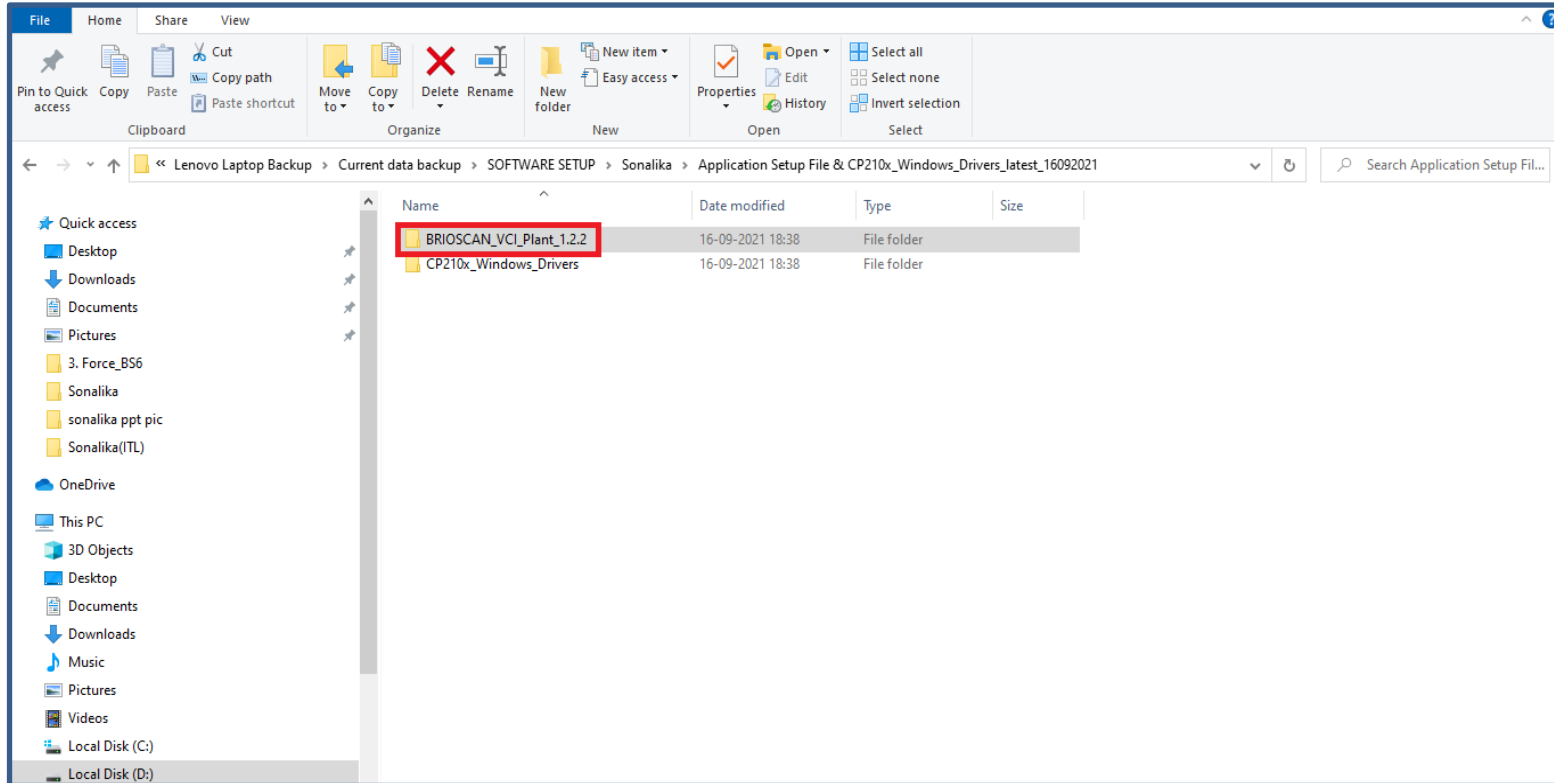


Step 12: Click Finish. **CP210x_USB to UART Driver** successfully installed .

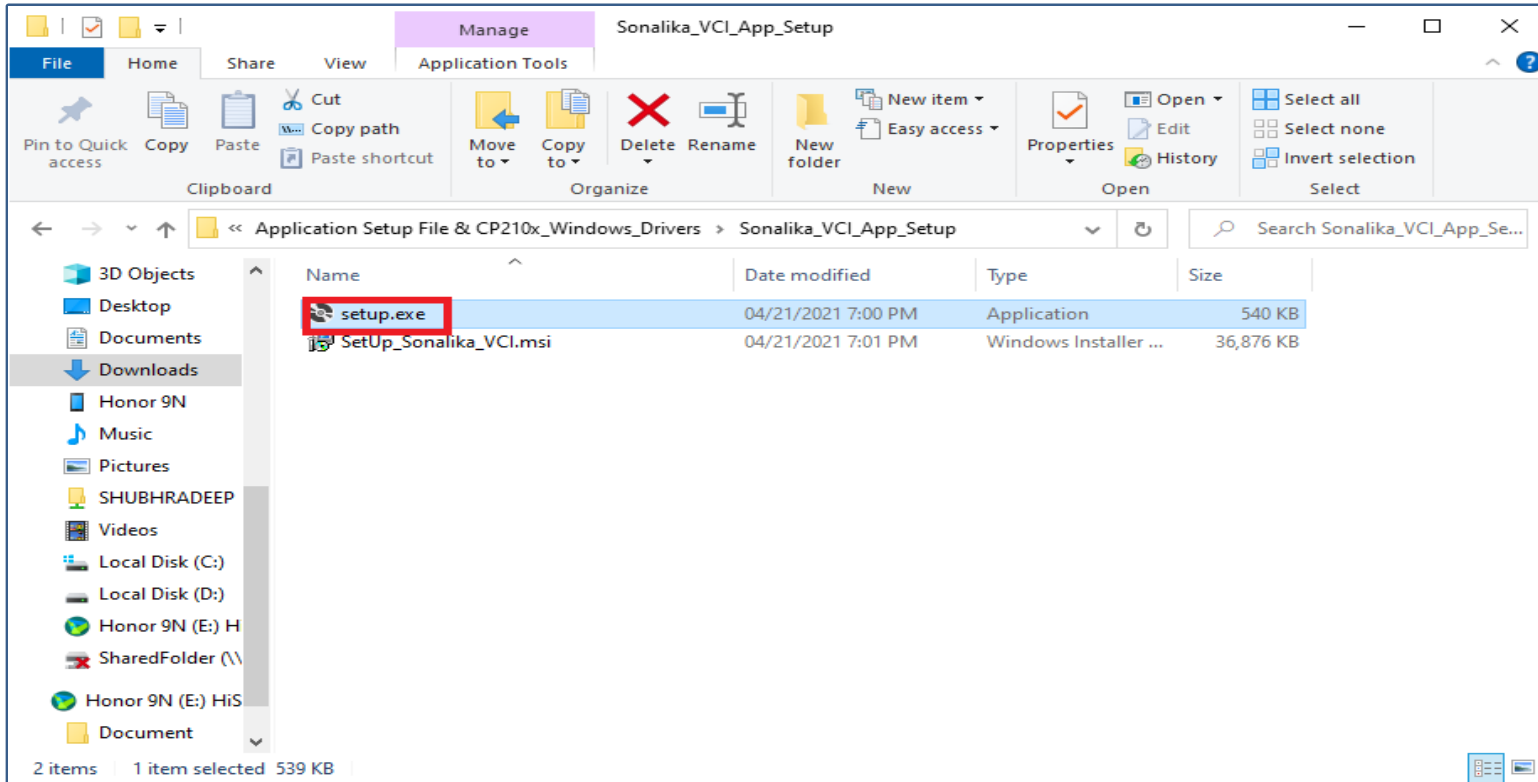


Application Installation Process

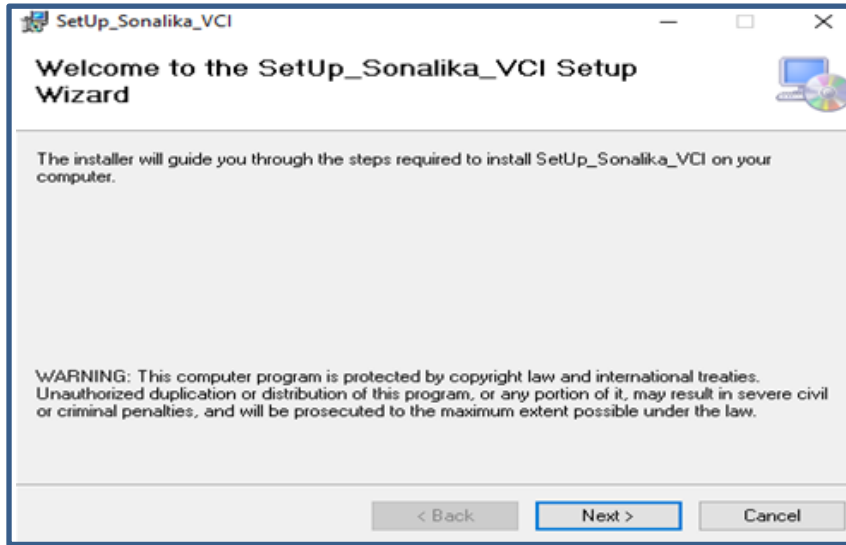
Step 1: To install the application Double click on **Brioscan_VCI_Plant_1.2.2.**



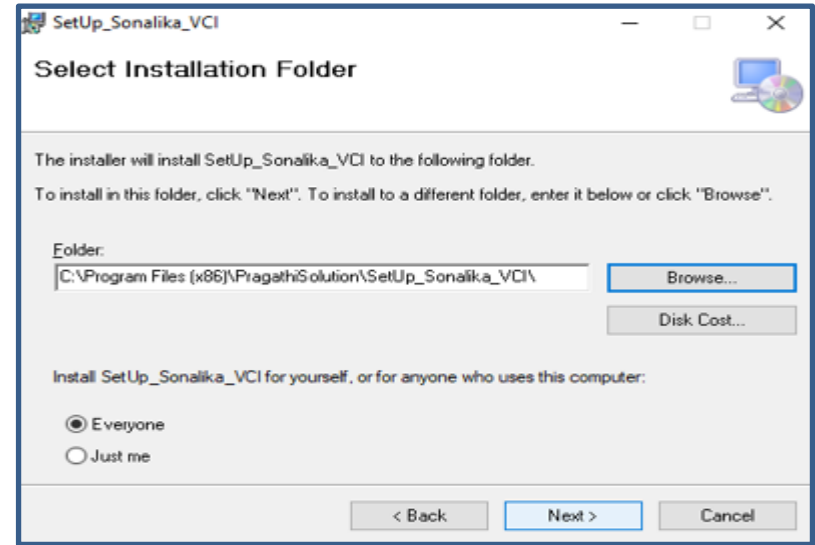
Step 2: To install the application setup. Double click on **setup.exe**.



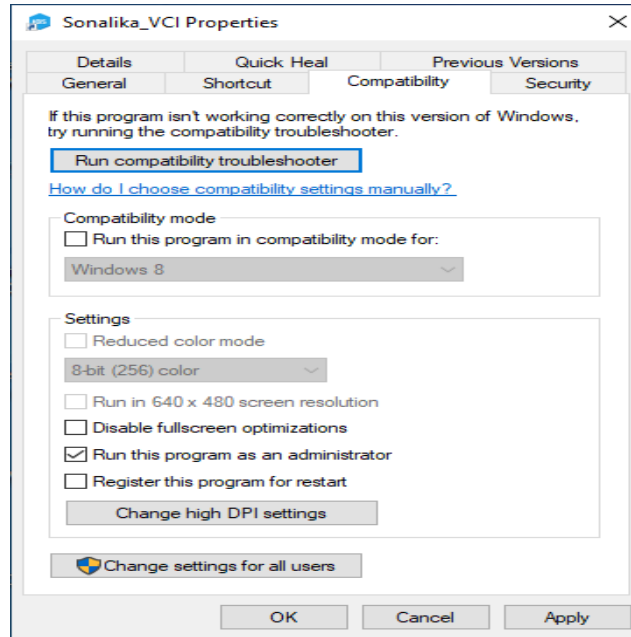
Step 3: Click on **Next**.



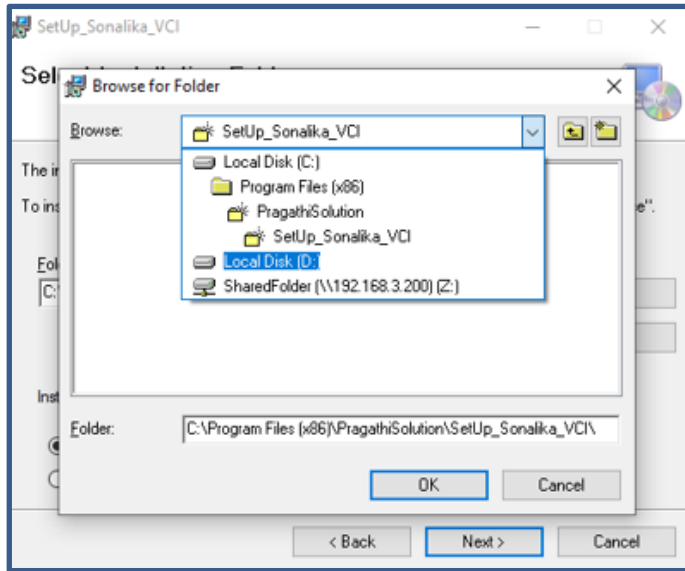
Step 4: Click **Next** if you want to install in C drive.



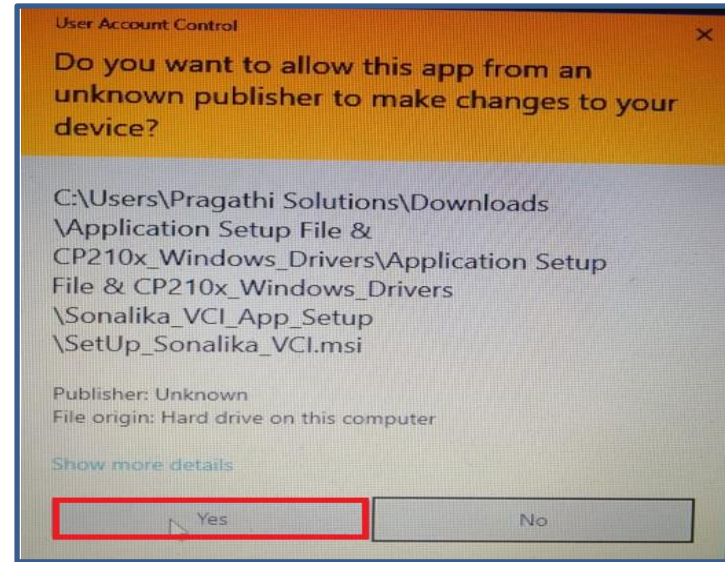
Step 5- : If the application is installed in C Drive then the application must Run with Administrator Access Enabled. To enable the Admin Access right click on the installed application .exe file and select properties & check the box **'Run this program as an Administrator'** and apply as shown in the image below



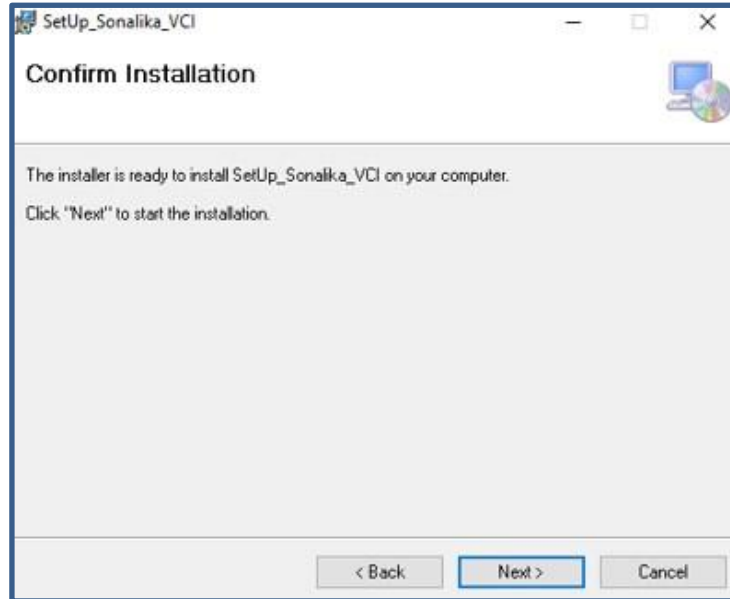
Step 6: If you want to install in another path then click on **Browse** and select the path.



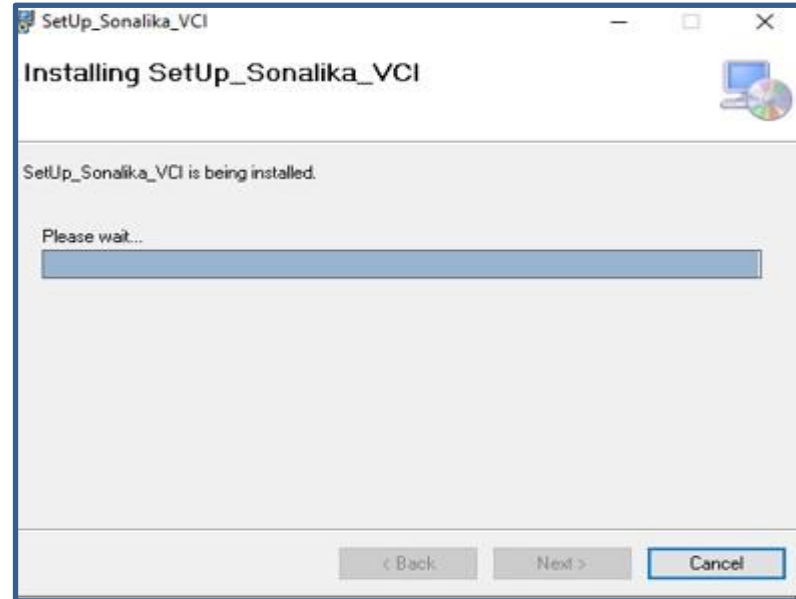
Step 7: Click on **Yes**



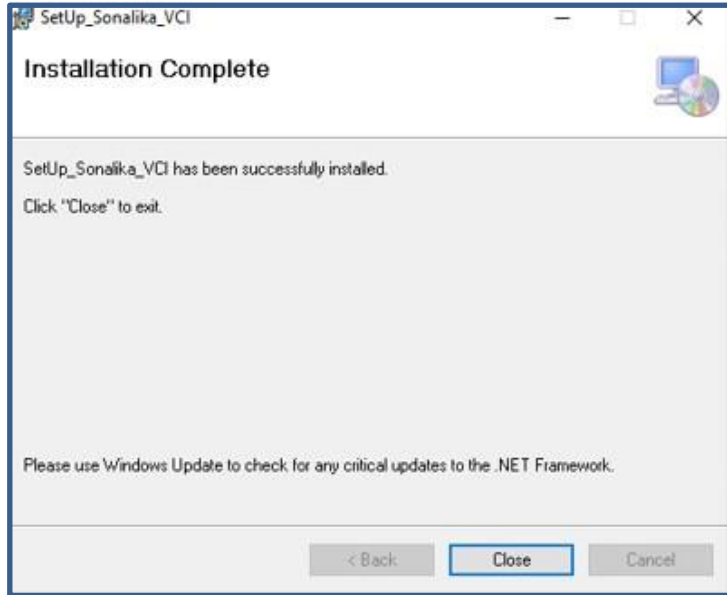
Step 8: Click **Next**.



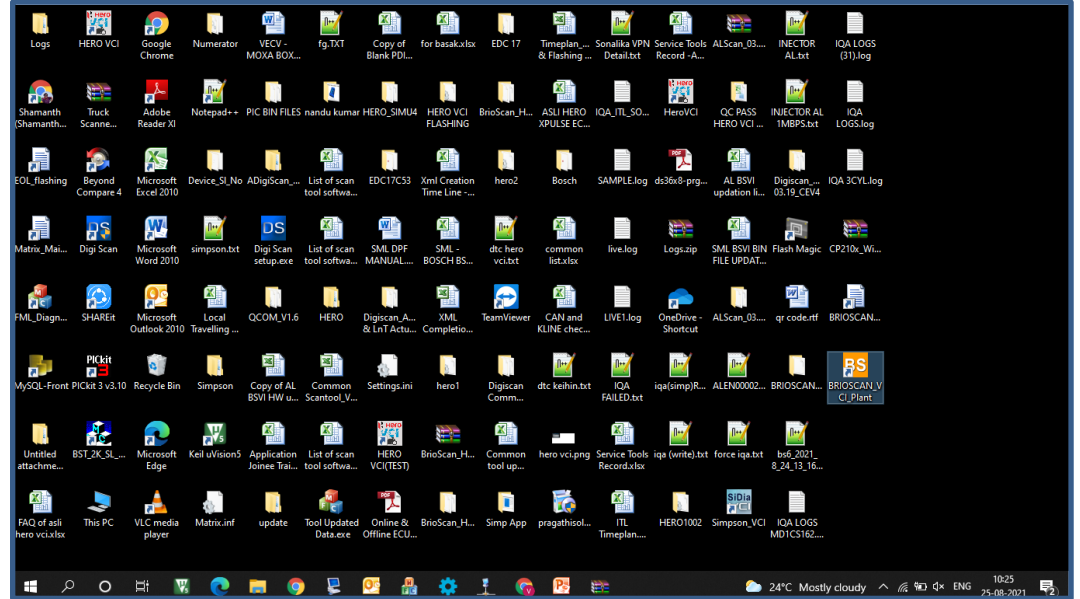
Step 9: Installation is in progress. Please wait until installation is complete



Step 10: Installation is completed. Click on Close.



Step 11: After successful installation the icon will show as below highlighted.





ECU Diagnostics Process

Step 1: Connect the Brio scan Tool to the System using USB Cable and Connect the OBD Cable to the Vehicle.


Step 2: Open the Sonalika_VCI Diagnostic Application.



Step 3: The COM Port is displayed in **'Select the COM Port'** Box. Enter the Username & Password and Click on Login. If Username & Password is valid then **'Login Successful'** message is popped up else **'Invalid Username or Password'** message is displayed.

User Name- Admin

Password- Admin@123456



The screenshot displays the BRIO Scanner software interface. At the top, the header includes the Pragathi Solutions logo and name, followed by 'BRIO SCANNER'. A navigation bar contains 'Help', 'About Us', and window control icons. A status bar shows 'ECU Disconnected' and connection icons for Home, USB, and Bluetooth. The main interface features a 'USER LOGIN' panel with fields for 'Select COM Port' (COM8), 'User Name' (Admin), and 'Password' (masked with dots), and a 'Login' button. A 'Login Successful' dialog box is overlaid on the login panel. To the right, a 'Select ECU' panel shows three ECU options: 'BOSCH MD1CS162', 'BOSCH EDC17C53', and 'BOSCH MD1CS018'. A 'Select ECU' arrow points to the second option. At the bottom, an 'OFFLINE MODE' button is visible. The footer contains the copyright notice: '© 2021 Pragathi Solutions. All rights reserved.'

Step 4: Select the ECU Type

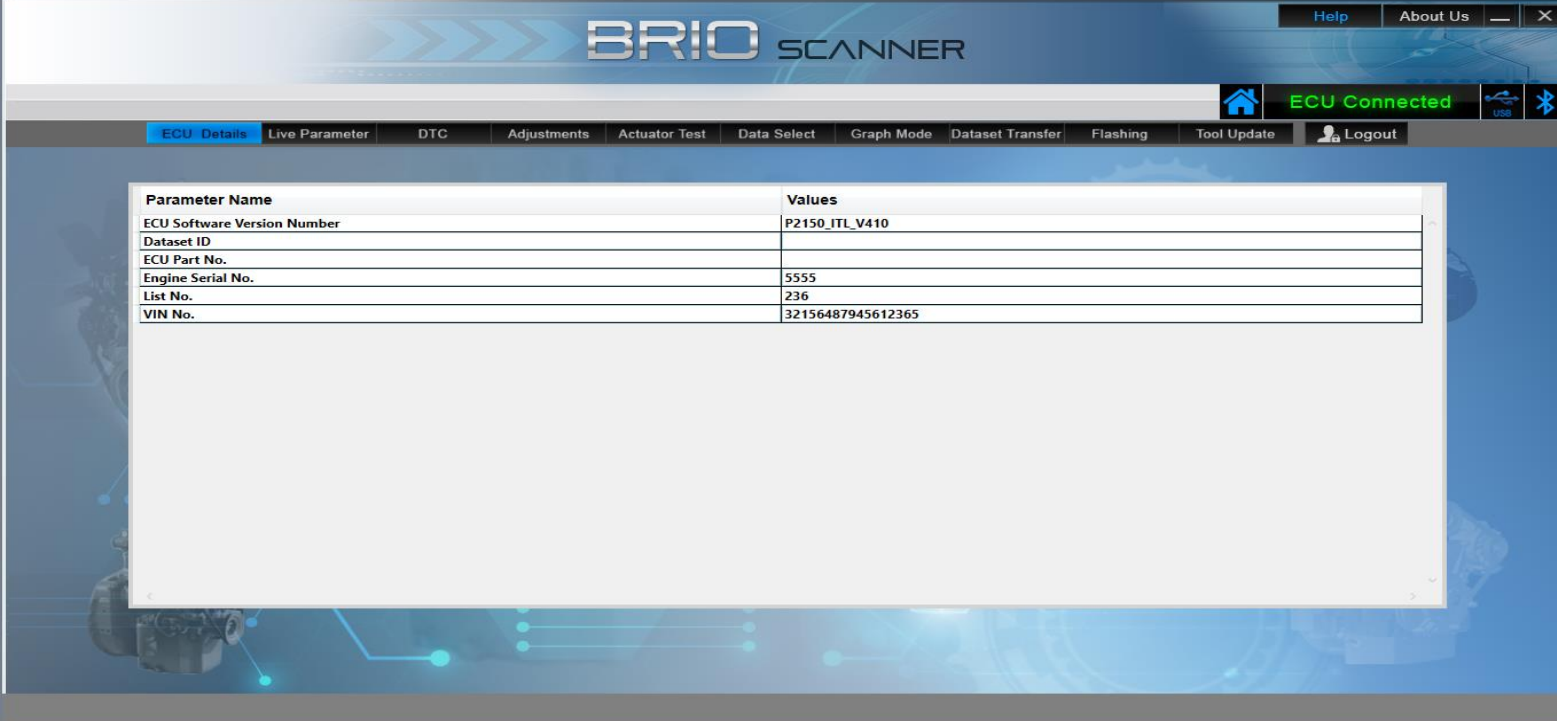
- ECU Type:**
1. BOSCH MD1CS162
 2. BOSCH EDC17C53
 3. BOSCH MD1CS018



The screenshot displays the BRIO Scanner software interface. At the top left, the Pragathi Solutions logo and name are visible, along with the text "An ISO 9001: 2015 Certified Company". The main title "BRIO SCANNER" is centered at the top. On the right side of the top bar, there are menu items for "Help" and "About Us", and a status indicator "ECU Disconnected" with a home icon and a USB icon. Below the top bar, the main interface features a "USER LOGIN" panel on the left with fields for "Select COM Port" (set to COM8), "User Name" (set to Admin), and "Password" (masked with dots), and a "Login" button. In the center, a large circular graphic contains the text "Select ECU" with a right-pointing arrow. To the right of this graphic, three ECU selection buttons are listed: "BOSCH MD1CS162", "BOSCH EDC17C53", and "BOSCH MD1CS018". At the bottom center, there is an "OFFLINE MODE" indicator. The background of the interface is a blue grid with glowing circuit patterns. The footer at the bottom center contains the copyright notice: "© 2021 Pragathi Solutions. All rights reserved."

Step 5: Select the ECU Type- Bosch MD1CS162 to start the communication with the ECU. If the Communication is established then ECU Details page is loaded. If the ECU is Not Connected/Ignition is Off then 'Failed ECU Communication...! Please Turn ON Ignition and Try Again.'

Note: Please make sure the Ignition is turned ON before proceeding.



The screenshot displays the BRIO Scanner software interface. The main window title is "BRIO SCANNER". The top right corner contains "Help" and "About Us" buttons. Below the title bar, there is a navigation bar with a home icon, "ECU Connected" status, and USB/Bluetooth icons. The main menu includes "ECU Details", "Live Parameter", "DTC", "Adjustments", "Actuator Test", "Data Select", "Graph Mode", "Dataset Transfer", "Flashing", "Tool Update", and "Logout". The "ECU Details" page is active, showing a table with the following data:

Parameter Name	Values
ECU Software Version Number	P2150_ITL_V410
Dataset ID	
ECU Part No.	
Engine Serial No.	5555
List No.	236
VIN No.	32156487945612365

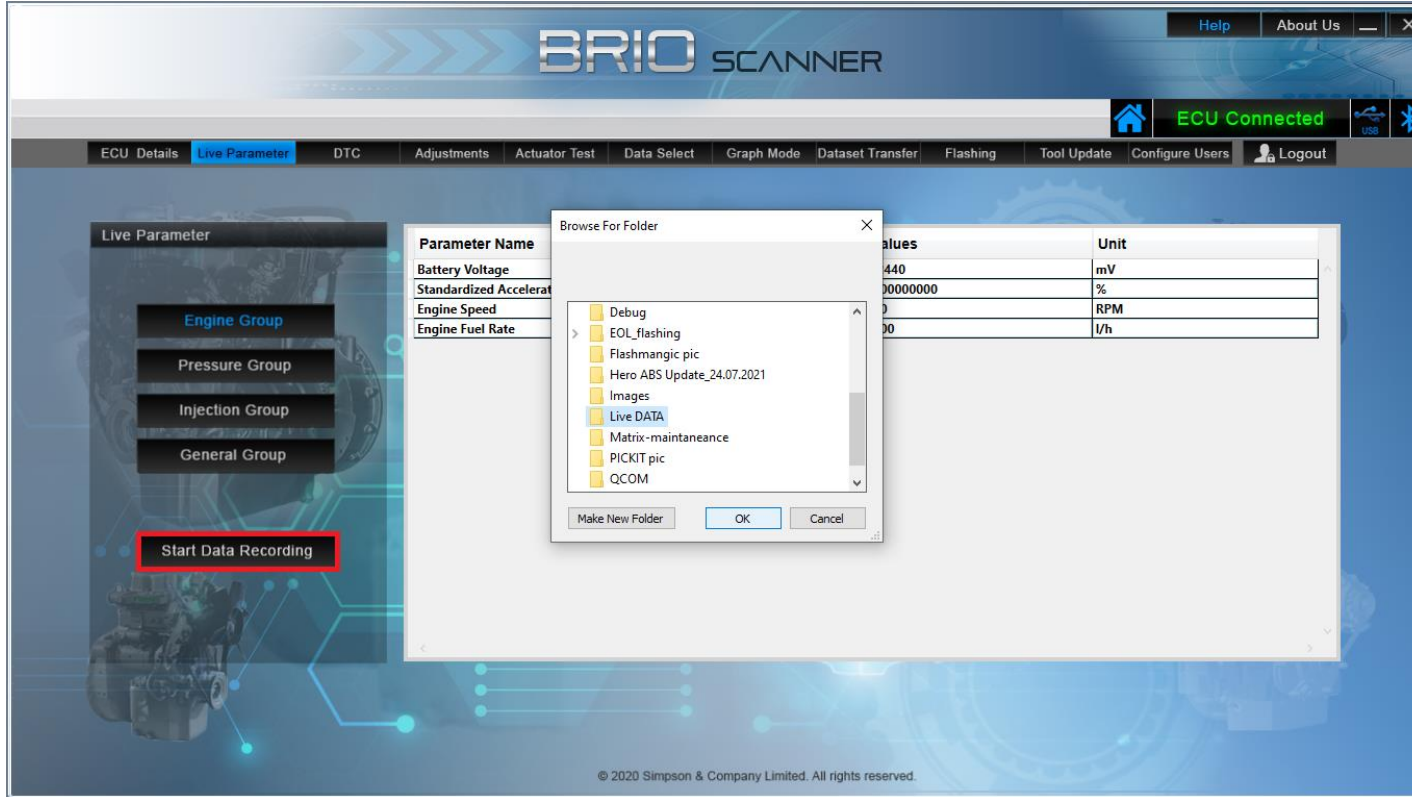
Step 6: Click on Live Data (Tab) to view the Vehicle Live(Read) Parameters. Select the Live Parameter Group from left pane.



The screenshot displays the BRIO Scanner software interface. The top navigation bar includes 'Help', 'About Us', and window control buttons. Below this, a secondary bar shows 'ECU Connected' and connection icons for USB and Bluetooth. The main menu contains several tabs: 'ECU Details', 'Live Parameter' (highlighted), 'DTC', 'Adjustments', 'Actuator Test', 'Data Select', 'Graph Mode', 'Dataset Transfer', 'Flashing', 'Tool Update', and 'Logout'. On the left side, a 'Live Parameter' panel lists four groups: 'Engine Group' (highlighted with a red box), 'Pressure Group', 'Injection Group', and 'General Group'. A 'Start Data Recording' button is also present. The main display area shows a table of live parameters.

Parameter Name	Range	Values	Unit
Battery Voltage	-	11720	mV
Standardized Accelerator Pedal Position	-	0.00000000	%
Avg Engine Speed of One Cylinder Segment	-	0.0	RPM
Engine Fuel Rate	-	0.00	l/h

Step 7: To record the Live Parameters Reading, click on Start Data Recording and select the path or Make new Folder to create the log file and click Ok.

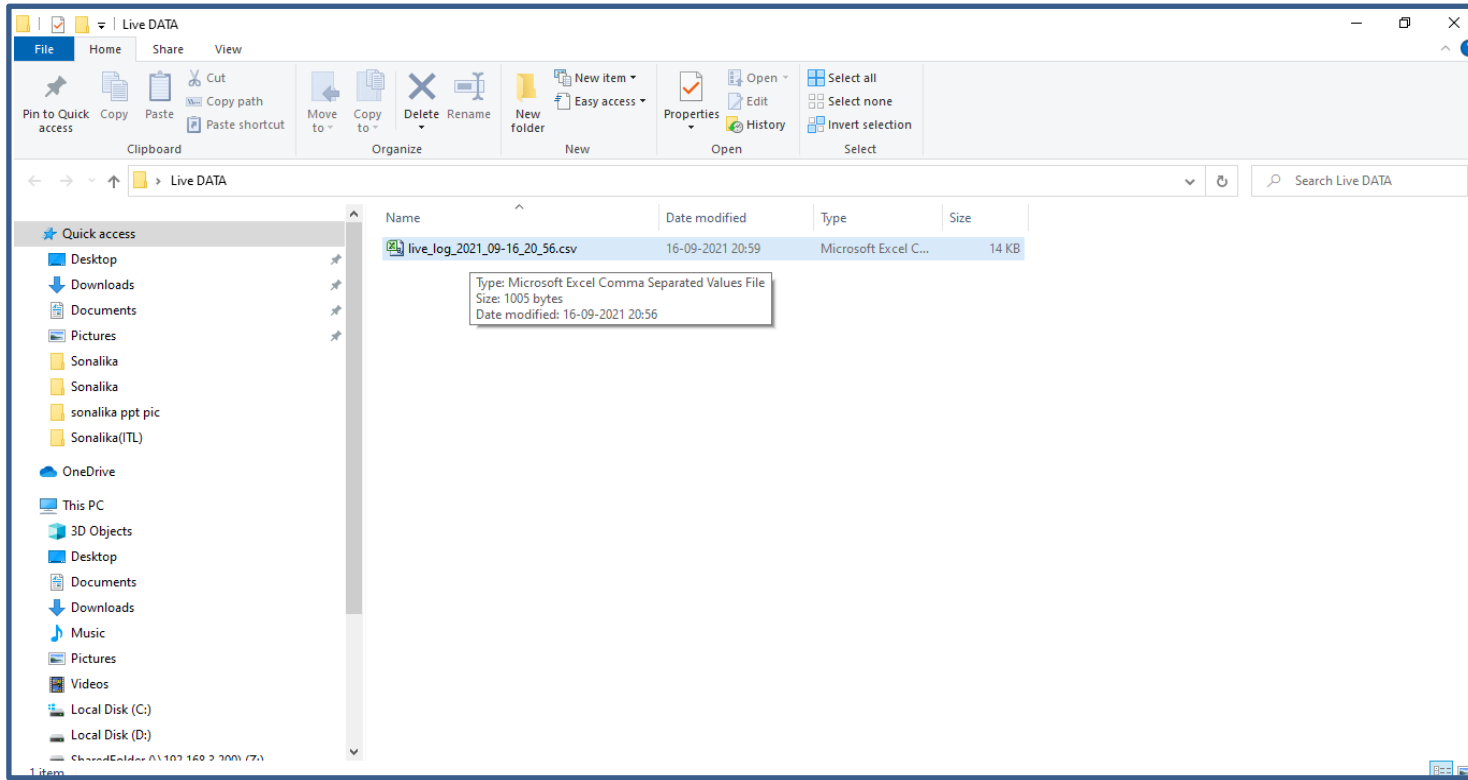


The screenshot displays the BRIO Scanner software interface. The main window has a title bar with 'BRIO SCANNER' and standard window controls. Below the title bar is a navigation menu with options: ECU Details, Live Parameter (selected), DTC, Adjustments, Actuator Test, Data Select, Graph Mode, Dataset Transfer, Flashing, Tool Update, Configure Users, and Logout. The 'ECU Connected' status is shown in green. The 'Live Parameter' section is active, showing a list of parameters and their units. A 'Start Data Recording' button is highlighted with a red box. A 'Browse For Folder' dialog box is open, showing a file explorer view with a list of folders. The 'Live DATA' folder is selected. The dialog box has 'Make New Folder', 'OK', and 'Cancel' buttons.

Parameter Name	Value	Unit
Battery Voltage	14.40	mV
Standardized Acceleration	0.00000000	%
Engine Speed	0	RPM
Engine Fuel Rate	0.00	l/h

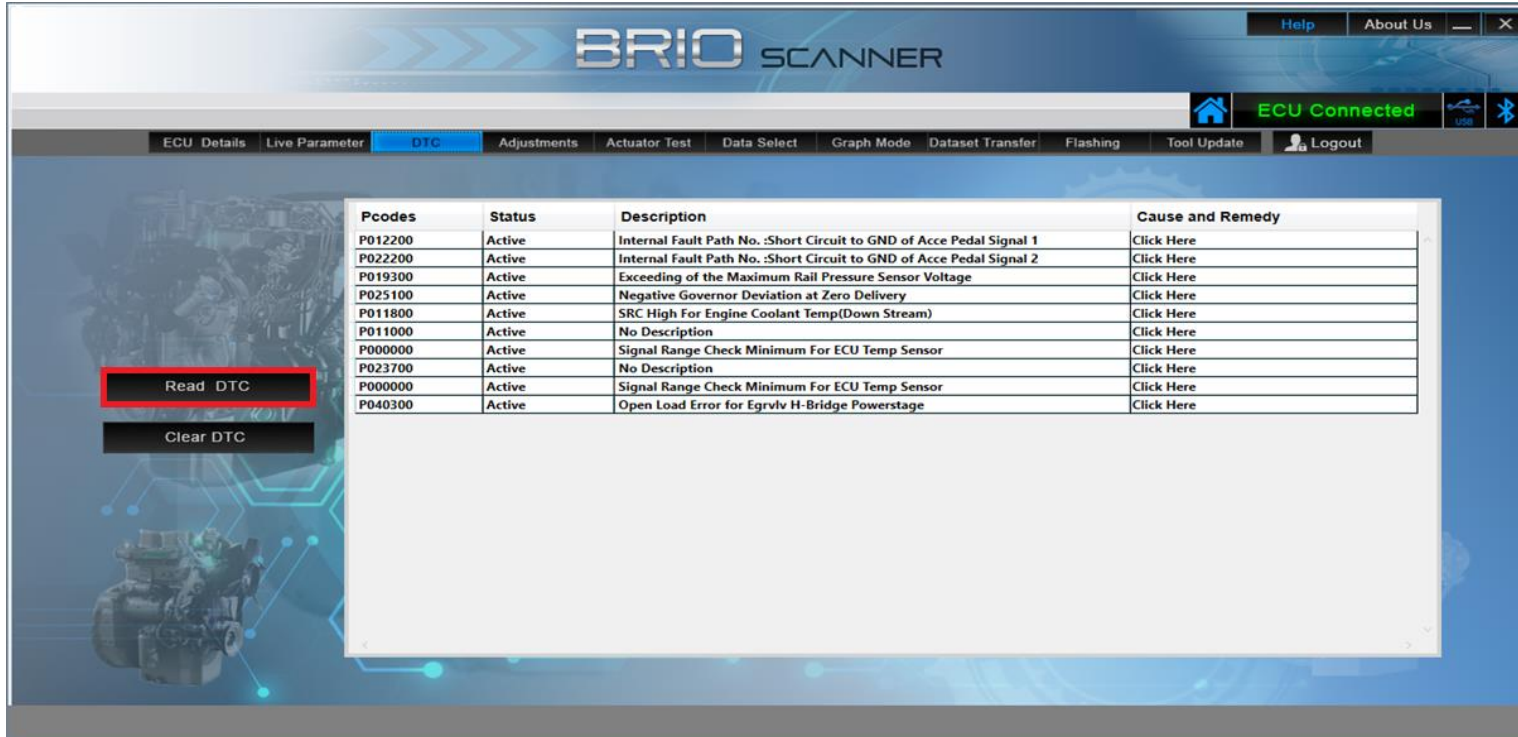
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Step 8: The data is logged and saved in .csv format



Step 10: Select DTC menu to Read DTC (Diagnostic Trouble Codes), Clear DTC, View Cause & Remedial Actions for the logged errors.

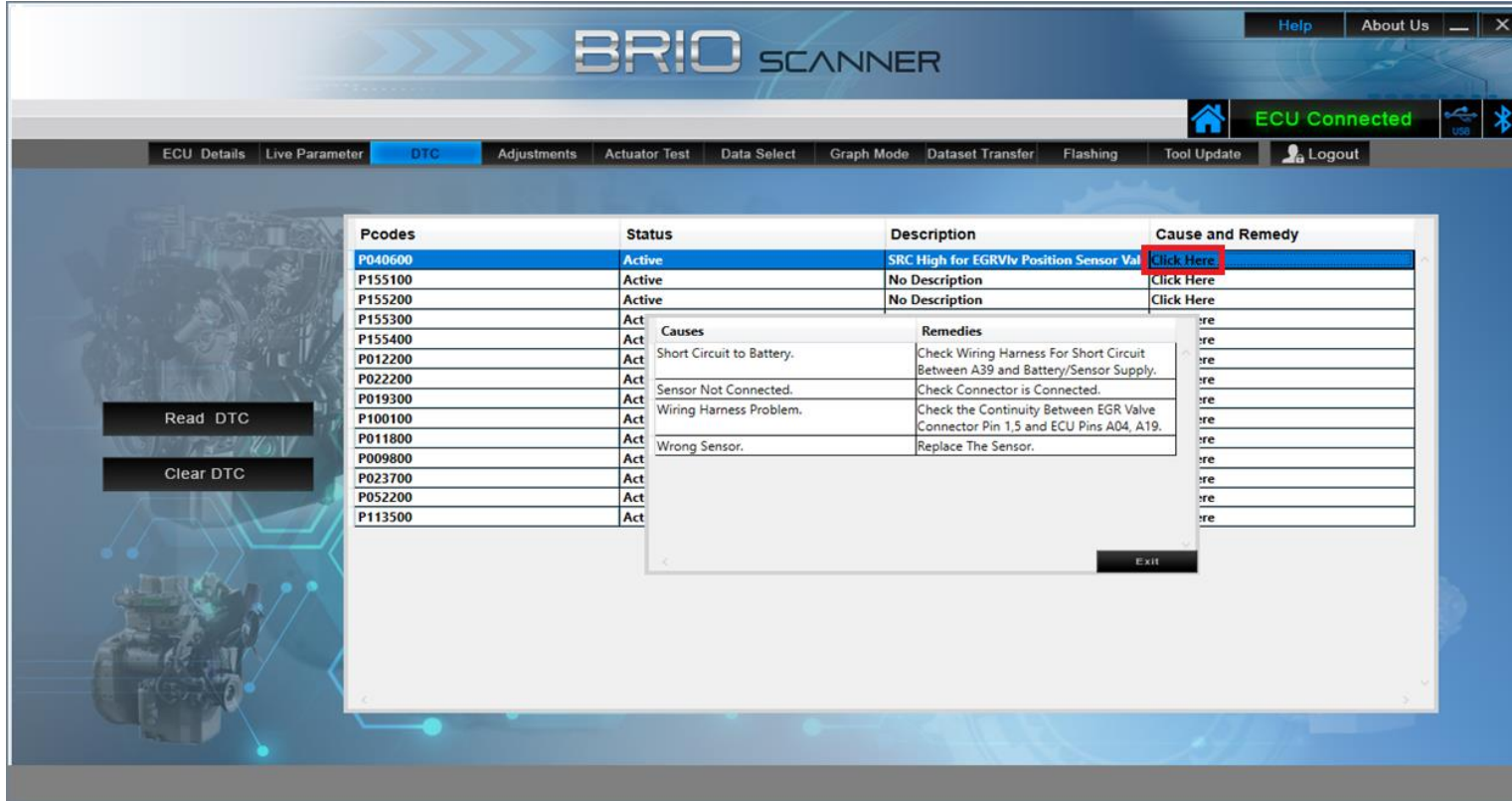
Step 11: Click on Read DTC button to view the Errors/Trouble Codes in the Vehicle.



The screenshot shows the BRIO Scanner software interface. The main menu includes: ECU Details, Live Parameter, **DTC**, Adjustments, Actuator Test, Data Select, Graph Mode, Dataset Transfer, Flashing, Tool Update, and Logout. The DTC menu is active, displaying a table of diagnostic trouble codes. On the left side, there are two buttons: "Read DTC" (highlighted with a red border) and "Clear DTC".

Pcodes	Status	Description	Cause and Remedy
P012200	Active	Internal Fault Path No. :Short Circuit to GND of Accel Pedal Signal 1	Click Here
P022200	Active	Internal Fault Path No. :Short Circuit to GND of Accel Pedal Signal 2	Click Here
P019300	Active	Exceeding of the Maximum Rail Pressure Sensor Voltage	Click Here
P025100	Active	Negative Governor Deviation at Zero Delivery	Click Here
P011800	Active	SRC High For Engine Coolant Temp(Down Stream)	Click Here
P011000	Active	No Description	Click Here
P000000	Active	Signal Range Check Minimum For ECU Temp Sensor	Click Here
P023700	Active	No Description	Click Here
P000000	Active	Signal Range Check Minimum For ECU Temp Sensor	Click Here
P040300	Active	Open Load Error for Egrlv H-Bridge Powerstage	Click Here

Step 12: To view the Causes and Remedies click on '**Click Here**' of specified Error Code.

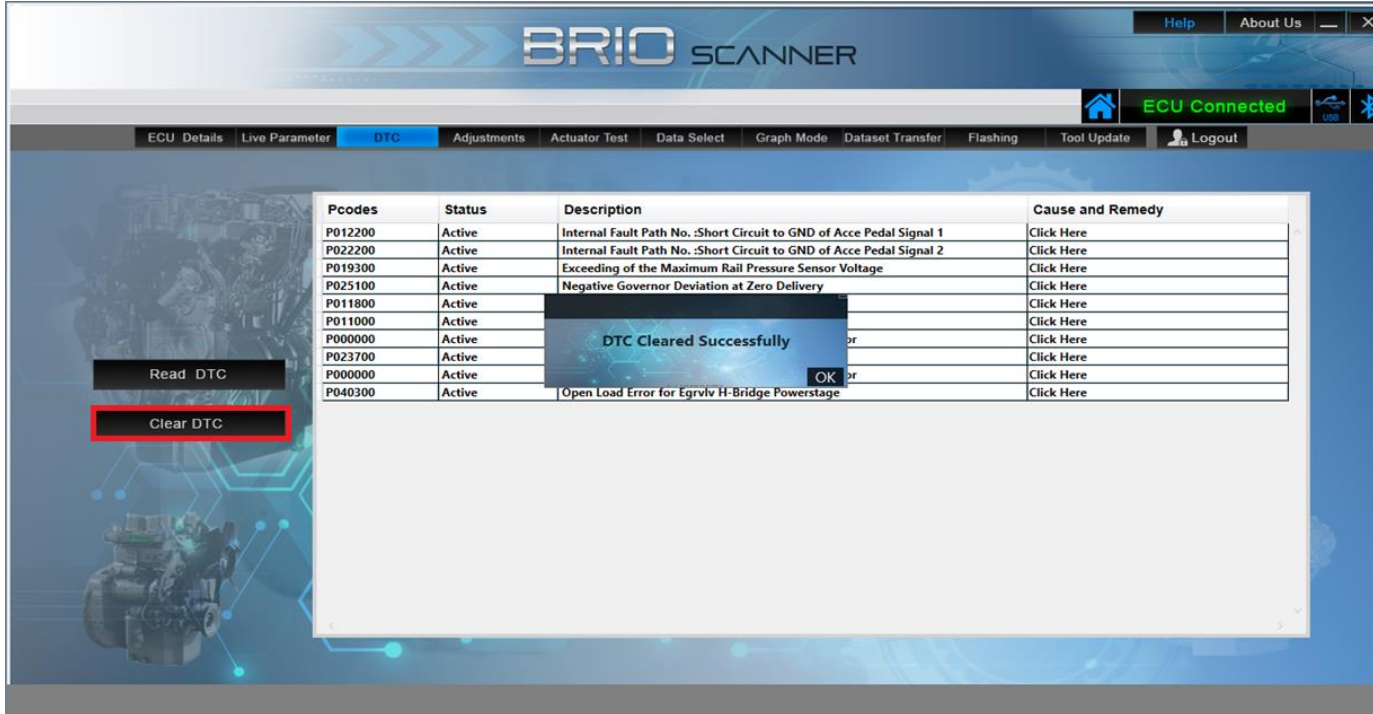


The screenshot shows the BRIO Scanner software interface. The main window displays a table of error codes (Pcodes) with columns for Pcodes, Status, Description, and Cause and Remedy. A pop-up window is open for the error code P040600, showing its causes and remedies.

Pcodes	Status	Description	Cause and Remedy
P040600	Active	SRC High for EGRVlv Position Sensor Val	Click Here
P155100	Active	No Description	Click Here
P155200	Active	No Description	Click Here
P155300	Act		
P155400	Act		
P012200	Act		
P022200	Act		
P019300	Act		
P100100	Act		
P011800	Act		
P009800	Act		
P023700	Act		
P052200	Act		
P113500	Act		

Causes		Remedies	
Short Circuit to Battery.		Check Wiring Harness For Short Circuit Between A39 and Battery/Sensor Supply.	
Sensor Not Connected.		Check Connector is Connected.	
Wiring Harness Problem.		Check the Continuity Between EGR Valve Connector Pin 1,5 and ECU Pins A04, A19.	
Wrong Sensor.		Replace The Sensor.	

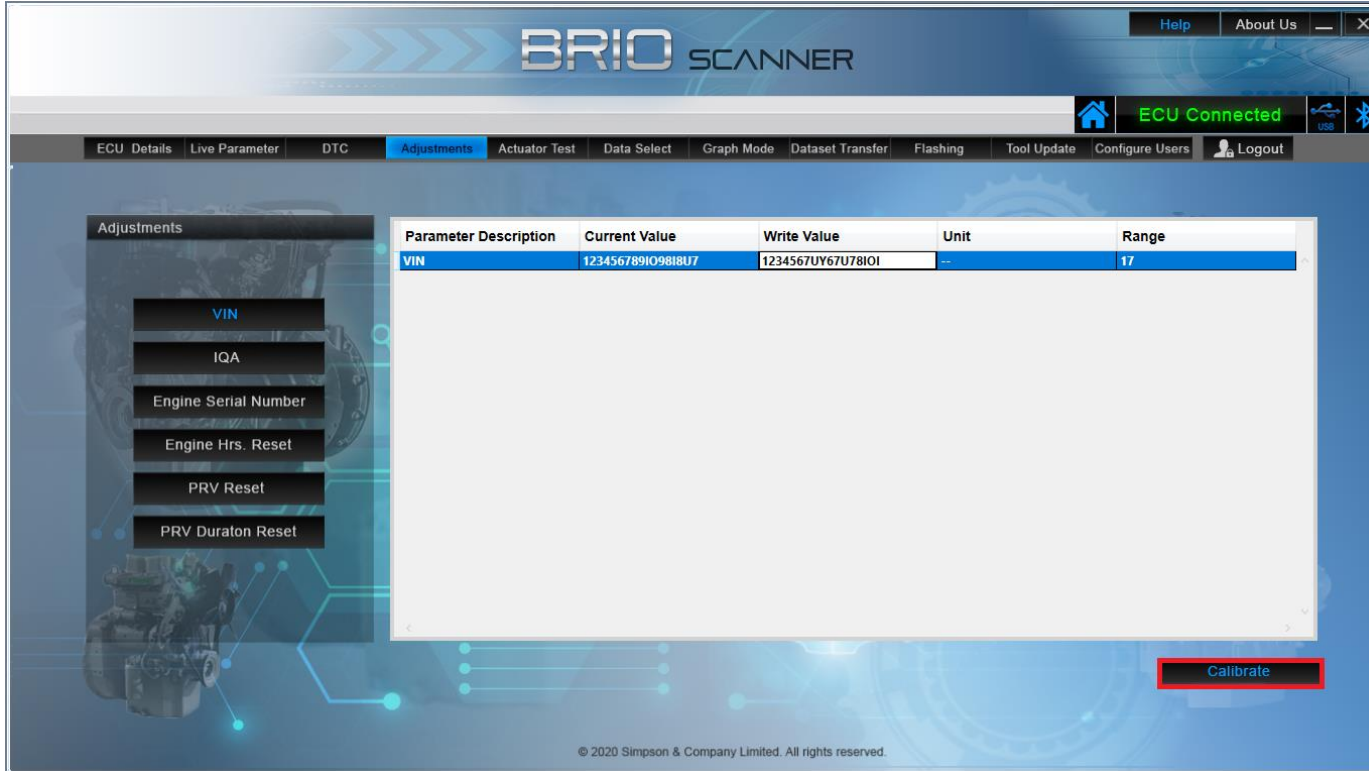
Step 13: Click on Clear DTC button to Clear the DTC. On Successful Clearing attempt the application displays the pop up message as '**DTC Cleared Successfully**'.



The screenshot shows the BRIO Scanner software interface. The 'DTC' tab is selected in the top navigation bar. A table of Diagnostic Trouble Codes (DTCs) is displayed, and a 'Clear DTC' button is highlighted with a red box. A pop-up message 'DTC Cleared Successfully' is overlaid on the table, with an 'OK' button.

Pcodes	Status	Description	Cause and Remedy
P012200	Active	Internal Fault Path No. :Short Circuit to GND of Acce Pedal Signal 1	Click Here
P022200	Active	Internal Fault Path No. :Short Circuit to GND of Acce Pedal Signal 2	Click Here
P019300	Active	Exceeding of the Maximum Rail Pressure Sensor Voltage	Click Here
P025100	Active	Negative Governor Deviation at Zero Delivery	Click Here
P011800	Active		Click Here
P011000	Active		Click Here
P000000	Active		Click Here
P023700	Active		Click Here
P000000	Active		Click Here
P040300	Active	Open Load Error for Egrlv H-Bridge Powerstage	Click Here

Step 14: Select Adjustments Menu to write VIN, Injector Codes, Engine Serial No., Engine Hrs. Reset, PRV Reset & PRV Duration Reset. Enter the Data in Write Value Column and click on Calibrate button to write in the ECU Memory. **'VIN Write Success'** message is displayed if the value is written successfully.



The screenshot shows the BRIO SCANNER software interface. The main menu includes: ECU Details, Live Parameter, DTC, **Adjustments**, Actuator Test, Data Select, Graph Mode, Dataset Transfer, Flashing, Tool Update, Configure Users, and Logout. The Adjustments menu is open, showing options: VIN, IQA, Engine Serial Number, Engine Hrs. Reset, PRV Reset, and PRV Duration Reset. A table displays the current and write values for the VIN parameter.

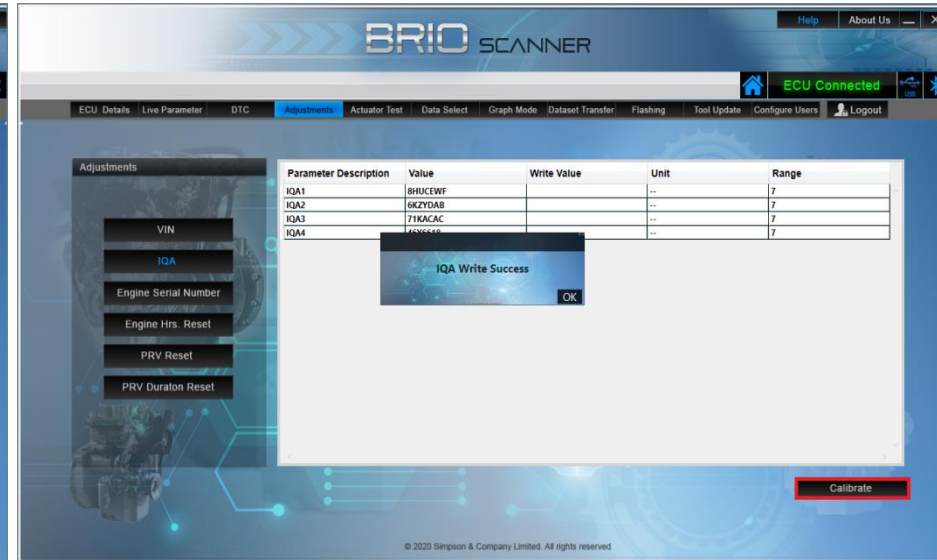
Parameter Description	Current Value	Write Value	Unit	Range
VIN	123456789IO98I8U7	1234567UY67U78IOI	--	17

A **Calibrate** button is visible at the bottom right of the interface.

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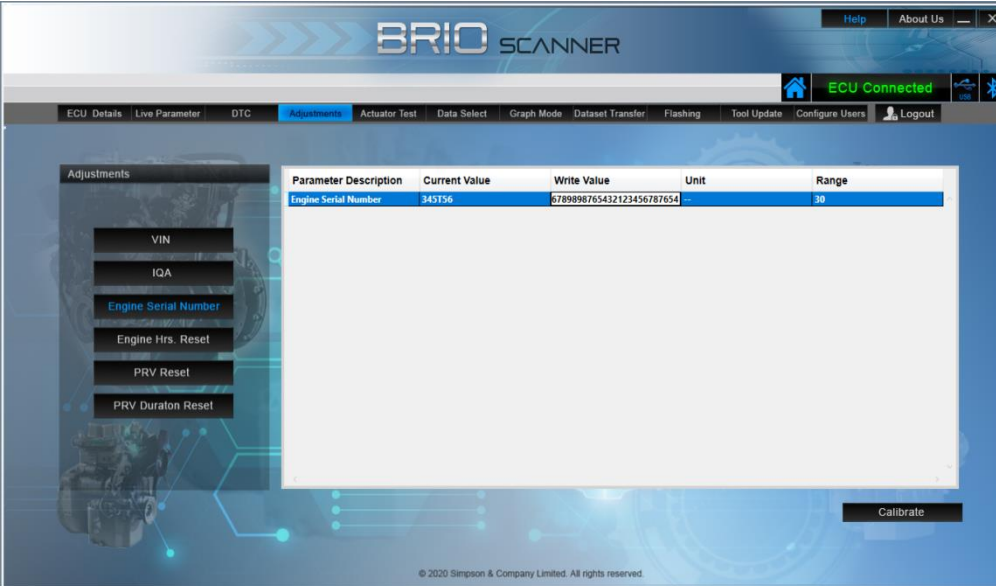
Step 15: Select IQA : **1. IQA-3 Cylinder**
2. IQA-4 Cylinder

Step 16: If User is selecting IQA-4 Cylinder then enter the IQA codes(IQA1,IQA2,IQA3,IQA4) and click on calibrate to write in the ECU Memory. '**IQA Write Success**' message is displayed if the value is written successfully.



Step 17: Enter the Data in Write Value Column and click on Calibrate button to write in the ECU Memory.

Step 18: 'Engine Serial Number Success' message is displayed if the value is written successfully.



BRIO SCANNER

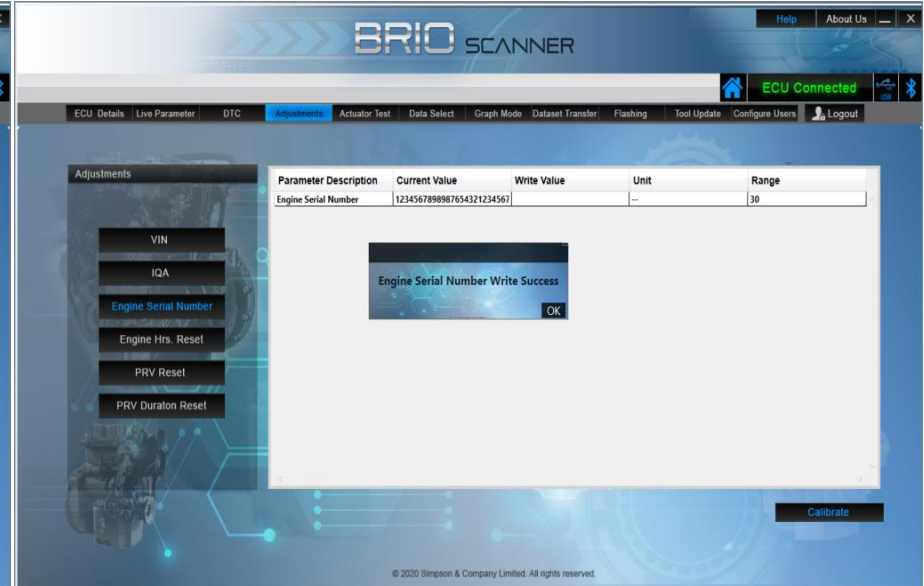
ECU Connected

Adjustments

Parameter Description	Current Value	Write Value	Unit	Range
Engine Serial Number	345156	6789898765432123456787654	--	30

Calibrate

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BRIO SCANNER

ECU Connected

Adjustments

Parameter Description	Current Value	Write Value	Unit	Range
Engine Serial Number	1234567898987654321234567		--	30

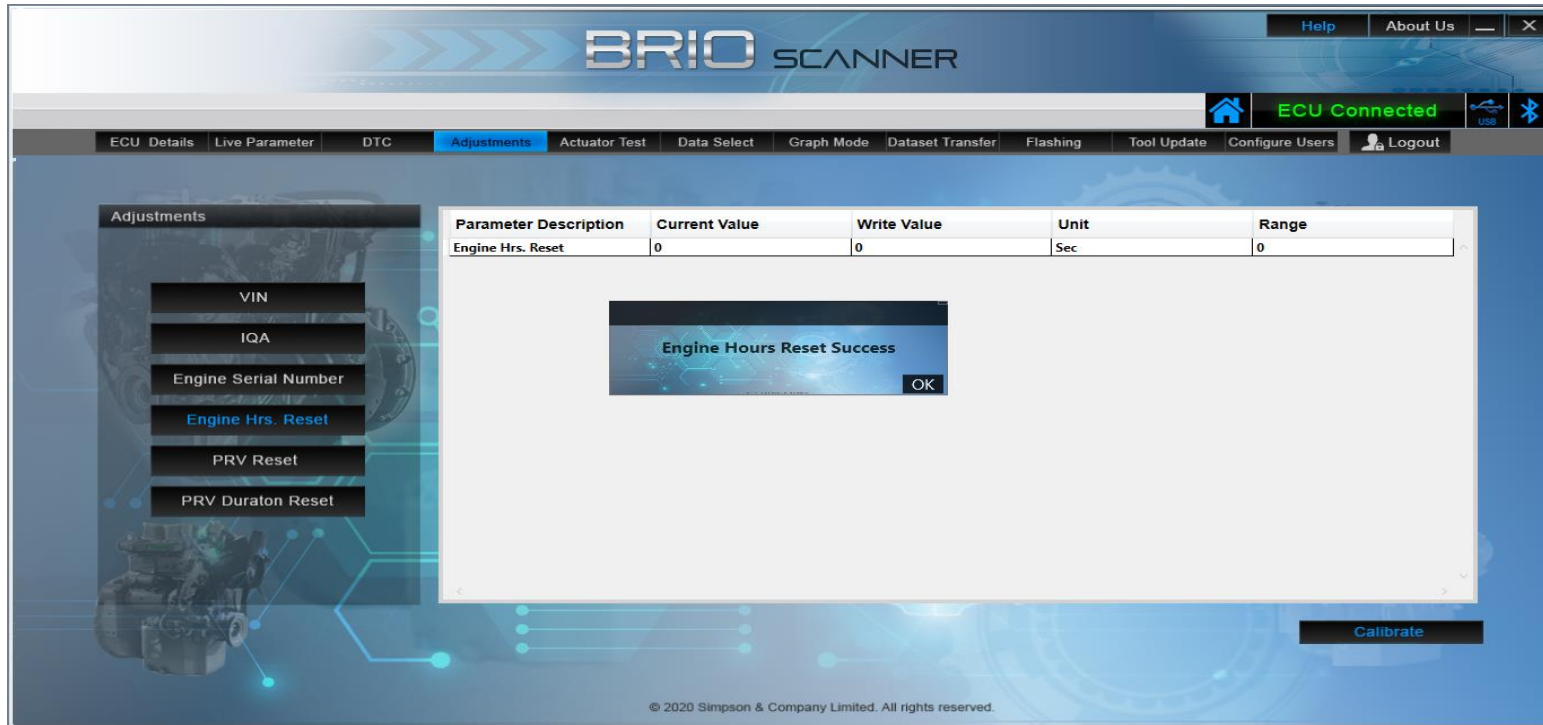
Engine Serial Number Write Success

OK

Calibrate

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Step 19: 'Engine Hours Reset Success' message is displayed if the value is written successfully.



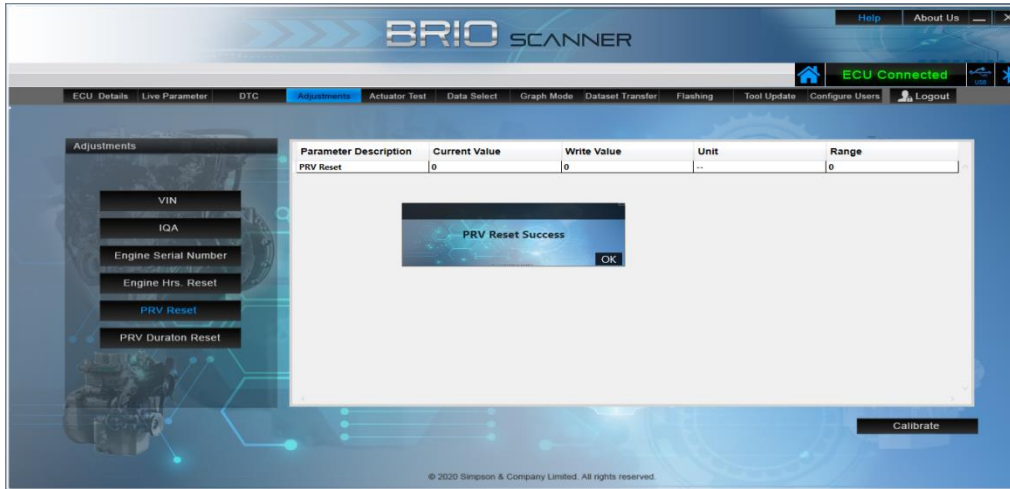
The screenshot displays the BRIO Scanner software interface. The main window title is "BRIO SCANNER". The top navigation bar includes "Help", "About Us", and window control buttons. Below this is a secondary navigation bar with "Home", "ECU Connected", and connection icons (USB, Bluetooth). The main menu includes "ECU Details", "Live Parameter", "DTC", "Adjustments" (highlighted), "Actuator Test", "Data Select", "Graph Mode", "Dataset Transfer", "Flashing", "Tool Update", "Configure Users", and "Logout".

The "Adjustments" section on the left lists several options: VIN, IQA, Engine Serial Number, Engine Hrs. Reset (highlighted in blue), PRV Reset, and PRV Duraton Reset. The main area shows a table with the following data:

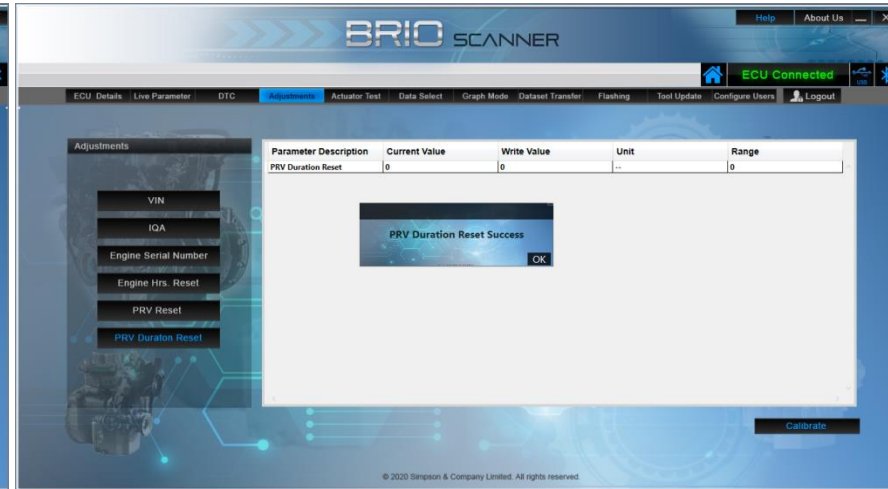
Parameter Description	Current Value	Write Value	Unit	Range
Engine Hrs. Reset	0	0	Sec	0

A modal dialog box is displayed in the center of the screen with the message "Engine Hours Reset Success" and an "OK" button. At the bottom right of the interface, there is a "Calibrate" button. The footer text reads "© 2020 Simpson & Company Limited. All rights reserved."

Step 20: 'PRV Reset Success' message is displayed if the value is written successfully.



Step 21: 'PRV Duration Reset Success' message is displayed if the value is written successfully.

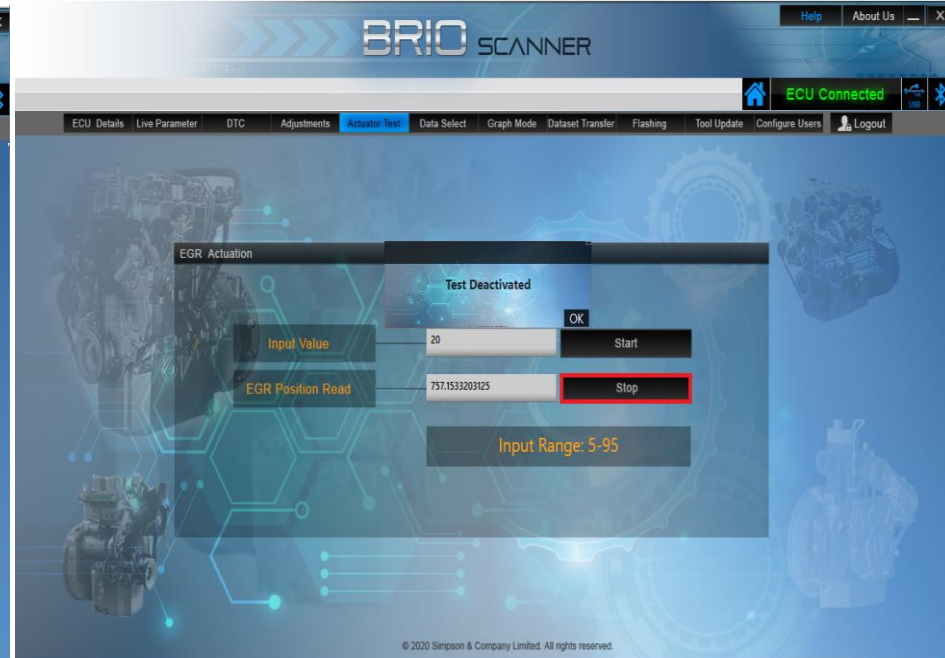


Step 22: Enter the Data in the Input Value Column and click on the Start button to activate the Test and then Click OK. **'Test Activated'** message is displayed if the value is written successfully.

Input Range: 5-95



Step 23: Enter the Data in the Input Value Column and click on the Stop button to deactivate the Test and then Click OK. **'Test Deactivated'** message is displayed.

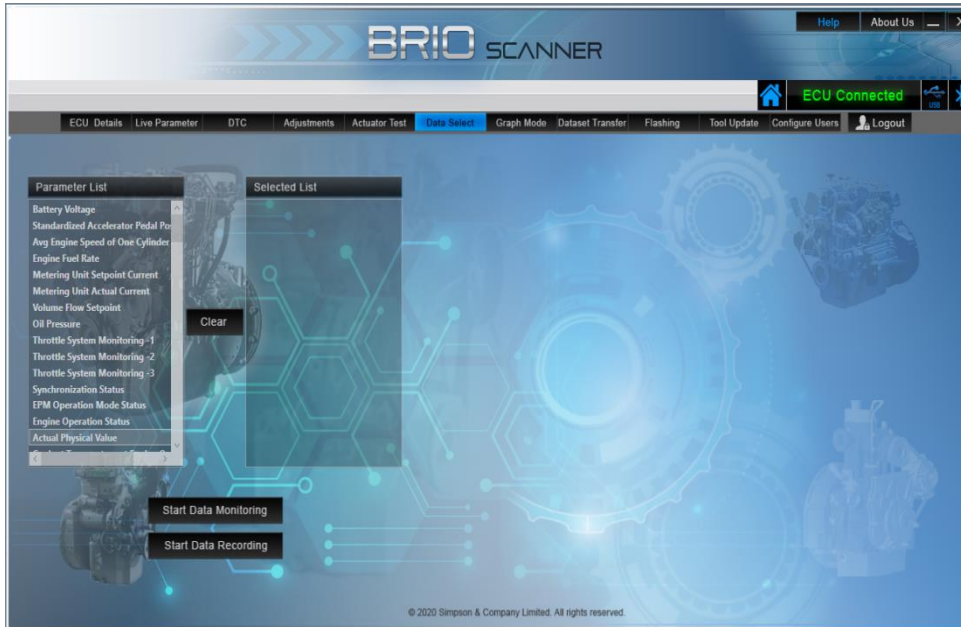


Data Select:

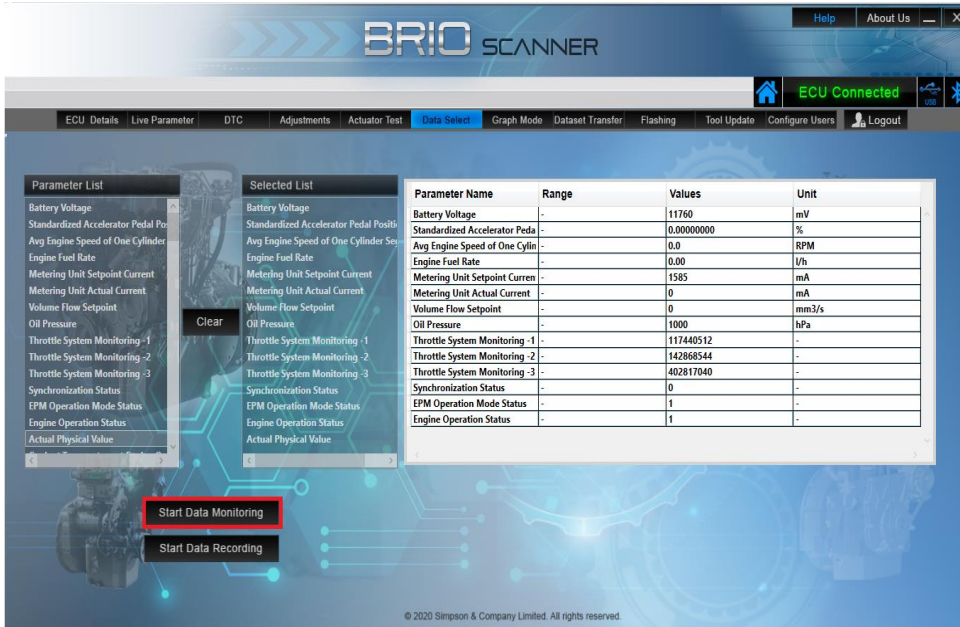
Step 24: Data Select is used to view Read Parameters Data based on Custom Selection.

Note: Maximum 15 Parameters only can be selected.

Step 25: To select the parameters double click on the parameter. The Selected parameter list is displayed in the Selected List box as shown in the image below



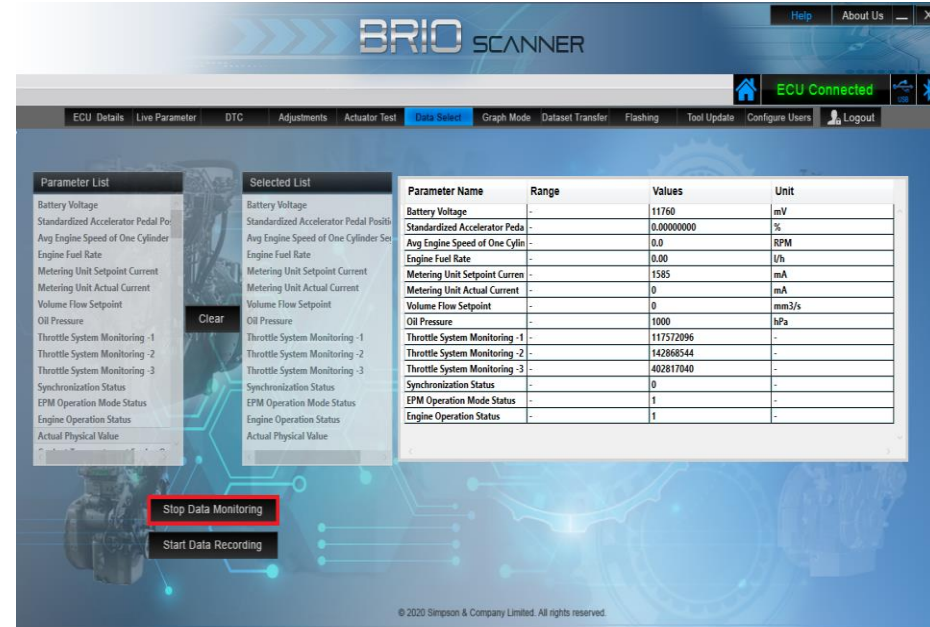
Step 26: After selection, click on Start Data Monitoring button to view the data.



The screenshot shows the BRIO Scanner interface with the 'Data Select' menu open. The 'Start Data Monitoring' button is highlighted in red. The 'Parameter List' and 'Selected List' are visible, along with a table of parameters.

Parameter Name	Range	Values	Unit
Battery Voltage	-	11760	mV
Standardized Accelerator Pedal Posi	-	0.00000000	%
Avg Engine Speed of One Cylinder	-	0.0	RPM
Engine Fuel Rate	-	0.00	l/h
Metering Unit Setpoint Current	-	1585	mA
Metering Unit Actual Current	-	0	mA
Volume Flow Setpoint	-	0	mm ³ /s
Oil Pressure	-	1000	hPa
Throttle System Monitoring -1	-	117440512	-
Throttle System Monitoring -2	-	142868544	-
Throttle System Monitoring -3	-	402817040	-
Synchronization Status	-	0	-
EPM Operation Mode Status	-	1	-
Engine Operation Status	-	1	-

Step 27: Click on Stop Data Monitoring button to stop monitor the data.



The screenshot shows the BRIO Scanner interface with the 'Data Select' menu open. The 'Stop Data Monitoring' button is highlighted in red. The 'Parameter List' and 'Selected List' are visible, along with a table of parameters.

Parameter Name	Range	Values	Unit
Battery Voltage	-	11760	mV
Standardized Accelerator Pedal Posi	-	0.00000000	%
Avg Engine Speed of One Cylinder	-	0.0	RPM
Engine Fuel Rate	-	0.00	l/h
Metering Unit Setpoint Current	-	1585	mA
Metering Unit Actual Current	-	0	mA
Volume Flow Setpoint	-	0	mm ³ /s
Oil Pressure	-	1000	hPa
Throttle System Monitoring -1	-	117572096	-
Throttle System Monitoring -2	-	142868544	-
Throttle System Monitoring -3	-	402817040	-
Synchronization Status	-	0	-
EPM Operation Mode Status	-	1	-
Engine Operation Status	-	1	-

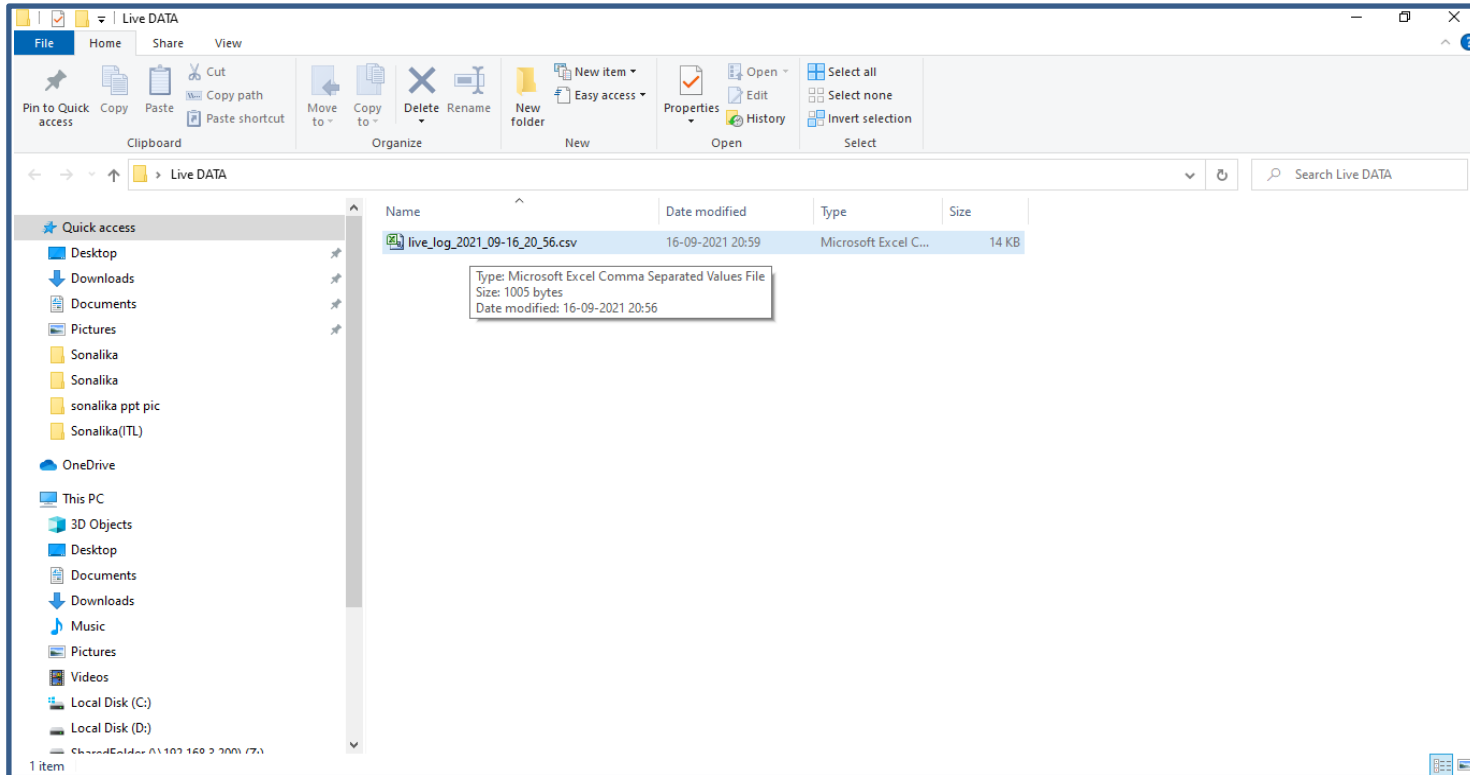
Step 28: To record the Parameters Reading, click on Start Data Recording and select the path to create the log file and click Ok. The data is logged and saved in .csv format which can be viewed using Excel



The screenshot shows the BRIO Scanner software interface. The 'Data Select' menu is open, displaying a list of parameters. A 'Browse For Folder' dialog box is open, showing the file system structure. The 'Start Data Recording' button is highlighted with a red box. A table of parameter values is visible on the right side of the interface.

Parameter	Values	Unit
Battery Voltage	11760	mV
Standardized Accelerator Pedal Po	0.00000000	%
Avg Engine Speed of One Cylinder	0.0	RPM
Engine Fuel Rate	0.00	l/h
Metering Unit Setpoint Current	1585	mA
Metering Unit Actual Current	0	mA
Volume Flow Setpoint	0	mm3/s
Oil Pressure	1000	hPa
Throttle System Monitoring -1	117440512	-
Throttle System Monitoring -2	142868544	-
Throttle System Monitoring -3	402817040	-
Synchronization Status	0	-
EPM Operation Mode Status	1	-
Engine Operation Status	1	-
Actual Physical Value	1	-

Step 29: The data is logged and saved in .csv format

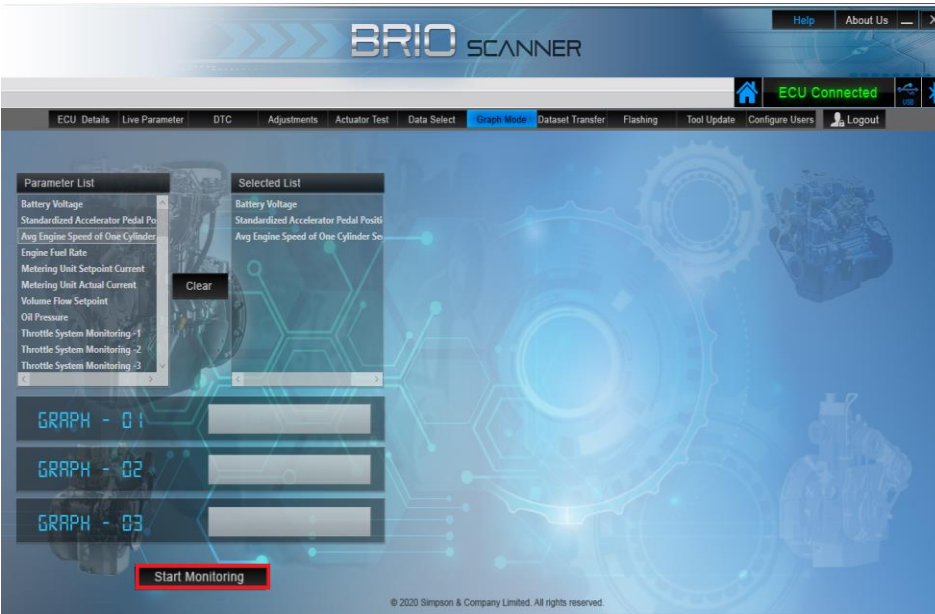


Graph Mode:

Step 31: Select the Graph Mode Menu to view the parameters in Graphical Representation.
 Double Click on the parameter to select. Click on Start Data Monitoring button to view the graph and Stop Monitoring to stop.

Note: Maximum 3 Parameters only can be selected.

Step 32: Click on Stop Monitoring button to stop monitor the data.



BRIO SCANNER

Help About Us X

ECU Connected

ECU Details Live Parameter DTC Adjustments Actuator Test Data Select **Graph Mode** Dataset Transfer Flashing Tool Update Configure Users Logout

Parameter List

- Battery Voltage
- Standardized Accelerator Pedal Po
- Avg Engine Speed of One Cylinder
- Engine Fuel Rate
- Metering Unit Setpoint Current
- Metering Unit Actual Current
- Volume Flow Setpoint
- Oil Pressure
- Throttle System Monitoring -1
- Throttle System Monitoring -2
- Throttle System Monitoring -3

Selected List

- Battery Voltage
- Standardized Accelerator Pedal Positi
- Avg Engine Speed of One Cylinder Sp

Clear

GRAPH - 01

GRAPH - 02

GRAPH - 03

Start Monitoring

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BRIO SCANNER

Help About Us X

ECU Connected

ECU Details Live Parameter DTC Adjustments Actuator Test Data Select **Graph Mode** Dataset Transfer Flashing Tool Update Configure Users Logout

Parameter List

- Battery Voltage
- Standardized Accelerator Pedal Po
- Avg Engine Speed of One Cylinder
- Engine Fuel Rate
- Metering Unit Setpoint Current
- Metering Unit Actual Current
- Volume Flow Setpoint
- Oil Pressure
- Throttle System Monitoring -1
- Throttle System Monitoring -2
- Throttle System Monitoring -3

Selected List

- Battery Voltage
- Standardized Accelerator Pedal Positi
- Avg Engine Speed of One Cylinder Sp

Clear

GRAPH - 01 11760

GRAPH - 02 0

GRAPH - 03 0

Stop Monitoring

11760.5
11760
11759.5

mV

Time (ms)

Battery Voltage

0.5
0
-0.5

Standardized Accelerator Pedal Position

Time (ms)

0.5
0
-0.5

RPM

Time (ms)

Avg Engine Speed of One Cylinder Segment

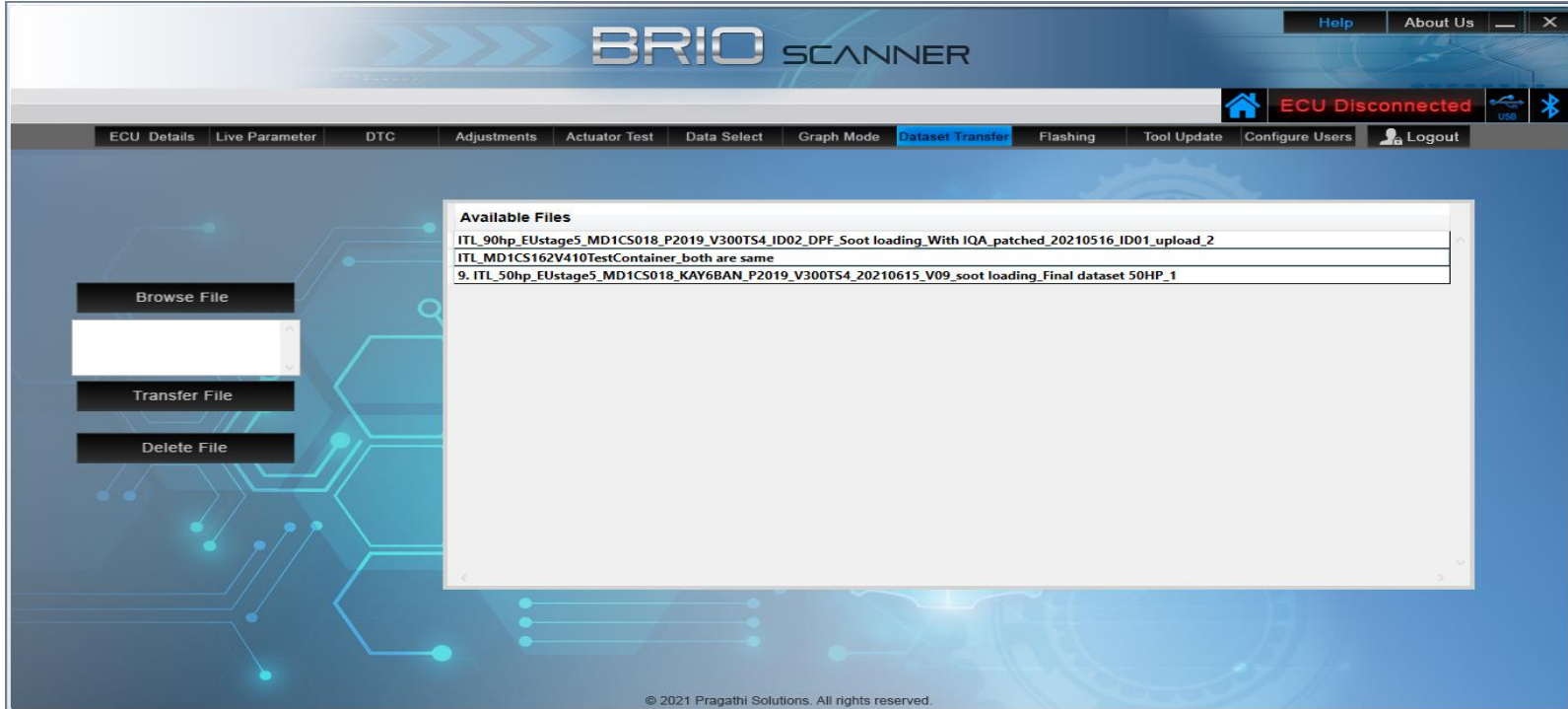
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Dataset Transfer & Flashing Process

Dataset Transfer

Step 1: Select Dataset Transfer Menu to transfer the Dataset to VCI Memory. The Available files list will be showed in the grid as shown in the image below. If files are not available then the pop up message 'No Files Available' is displayed.

Note: Once you enter Dataset Transfer or Flashing Menu, you cannot go to any other Menu. You need to logout the application and log in again to enter in Diagnostic Mode



The screenshot displays the BRIO Scanner software interface. The main menu at the top includes: ECU Details, Live Parameter, DTC, Adjustments, Actuator Test, Data Select, Graph Mode, **Dataset Transfer** (highlighted), Flashing, Tool Update, Configure Users, and Logout. A status bar indicates 'ECU Disconnected'. A central window titled 'Available Files' lists the following files:

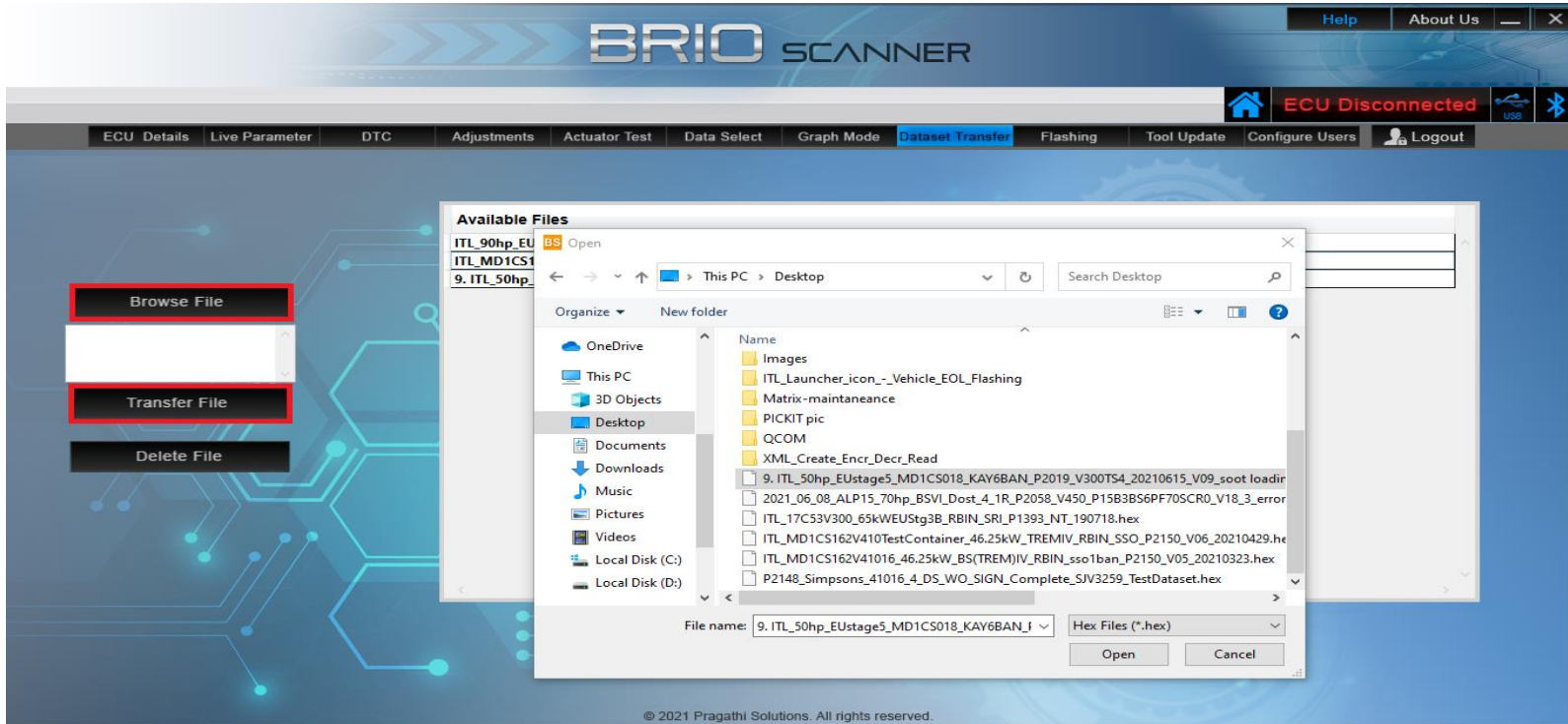
Available Files
ITL_90hp_EUstage5_MD1CS018_P2019_V300TS4_ID02_DPF_Soot loading_With IQA_patched_20210516_ID01_upload_2
ITL_MD1CS162V410TestContainer_both are same
9. ITL_50hp_EUstage5_MD1CS018_KAY6BAN_P2019_V300TS4_20210615_V09_soot loading_Final dataset 50HP_1

On the left side of the interface, there are three buttons: 'Browse File', 'Transfer File', and 'Delete File'. The background features a blue circuit-like pattern. At the bottom, the copyright notice reads: © 2021 Pragathi Solutions. All rights reserved.

Step 2: To Transfer the Dataset, click on Browse File.

Select the Dataset File from the system that is to be transferred. Click on Transfer File to start transferring.

Note: Only One Dataset can be transferred at one instance.



Step 3: The application is logged out automatically during the Dataset Transfer operation.

Note: Only One Dataset can be transferred at one instance.



The screenshot displays the BRIO Scanner application interface. At the top, the header includes the PRAGATHI SOLUTIONS logo and the text "BRIO SCANNER". A status bar on the right indicates "ECU Disconnected". The main interface features a "USER LOGIN" panel with fields for "Select COM Port" (set to COM8), "User Name", and "Password", along with a "Login" button. A file path dialog box is open, showing the path "P2150_V06_20210416_HPT.hex" and a progress bar at 62%. A large "Select ECU" button is positioned in the center, pointing to a list of three Bosch ECUs: "BOSCH MD1CS162", "BOSCH EDC17C53", and "BOSCH MD1CS018". The Windows taskbar at the bottom shows the search bar, task view, and system tray with the time 20:44 and date 17-09-2021.

Step 4: On Completion of Dataset Transfer the **'File Transfer Completed'** message pop up is displayed.

Note: The four instances of 100% transfer operation has to be completed for full single dataset transfer.

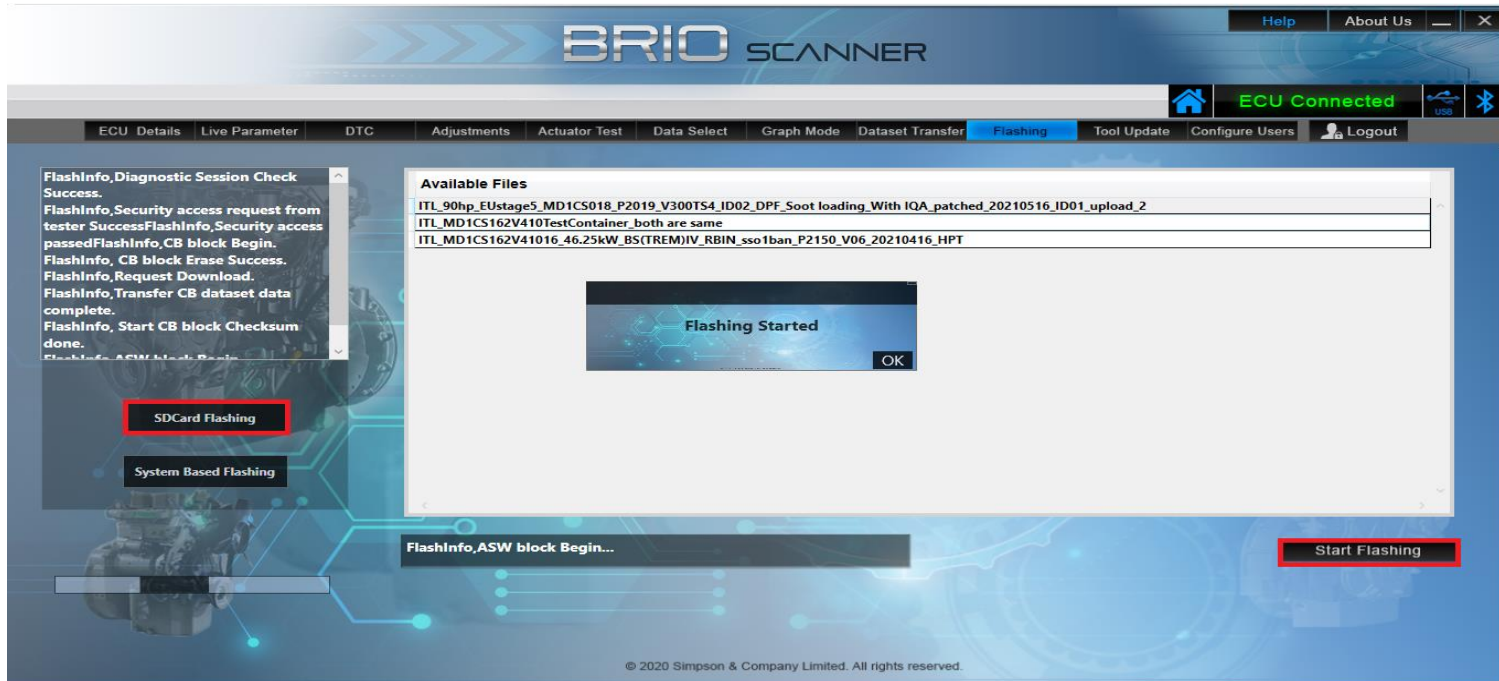


The screenshot displays the BRIO Scanner software interface. At the top, the header includes the Pragathi Solutions logo and the text "PRAGATHI SOLUTIONS An ISO 9001: 2015 Certified Company" and "BRIO SCANNER". A status bar on the right indicates "ECU Disconnected" and shows USB and Bluetooth icons. The main interface features a "USER LOGIN" section with fields for "Select COM Port" (set to COM8), "User Name", and "Password", along with a "Login" button. A "Send" button is also visible. A central "Select ECU" button points to a list of ECUs: "BOSCH MD1CS102", "BOSCH EDG17C53", and "BOSCH MD1CS018". A "Completed" dialog box is overlaid on the interface, displaying a yellow warning icon, the text "File transfer Completed!", a progress bar at 100%, and a "Close" button. The Windows taskbar at the bottom shows the search bar, task view, and system tray with a temperature of 29°C and the date 17-09-2021.

Flashing- 1.SD Card 2.System Based

1. SD Card Flashing

Step 1: To Flash the ECU select the Flashing Menu. Available Files in SD Card will be displayed in the application. If the files are not available transfer the files first and then perform the Flashing operation. Select the file from the list that needs to be flashed and Click on Start Flashing button.



The screenshot displays the BRIO Scanner software interface. The main window title is "BRIO SCANNER". The top navigation bar includes "Help", "About Us", and window control buttons. Below this, a status bar shows "ECU Connected" with a home icon and USB/Bluetooth symbols. The main menu includes "ECU Details", "Live Parameter", "DTC", "Adjustments", "Actuator Test", "Data Select", "Graph Mode", "Dataset Transfer", "Flashing" (highlighted), "Tool Update", "Configure Users", and "Logout".

The "Flashing" menu is active, showing a list of "Available Files" in the SD card:

Available Files
ITL_90hp_EUstage5_MD1CS018_P2019_V300TS4_ID02_DPF_Soot loading_With IQA_patched_20210516_ID01_upload_2
ITL_MD1CS162V410TestContainer_both are same
ITL_MD1CS162V41016_46.25kW_BS(TREM)IV_RBIN_sso1ban_P2150_V06_20210416_HPT

A "Flashing Started" dialog box is displayed in the center, with an "OK" button. In the bottom right corner, a "Start Flashing" button is highlighted with a red box. On the left side, a log window shows diagnostic messages, and a "System Based Flashing" button is visible. At the bottom center, a status bar displays "FlashInfo,ASW block Begin...".

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Step 2: On successful completion of ECU Dataset Flashing '**Flashing Success**' message is displayed and the application is logged out automatically. The user now can login and perform the Diagnostic Operations.



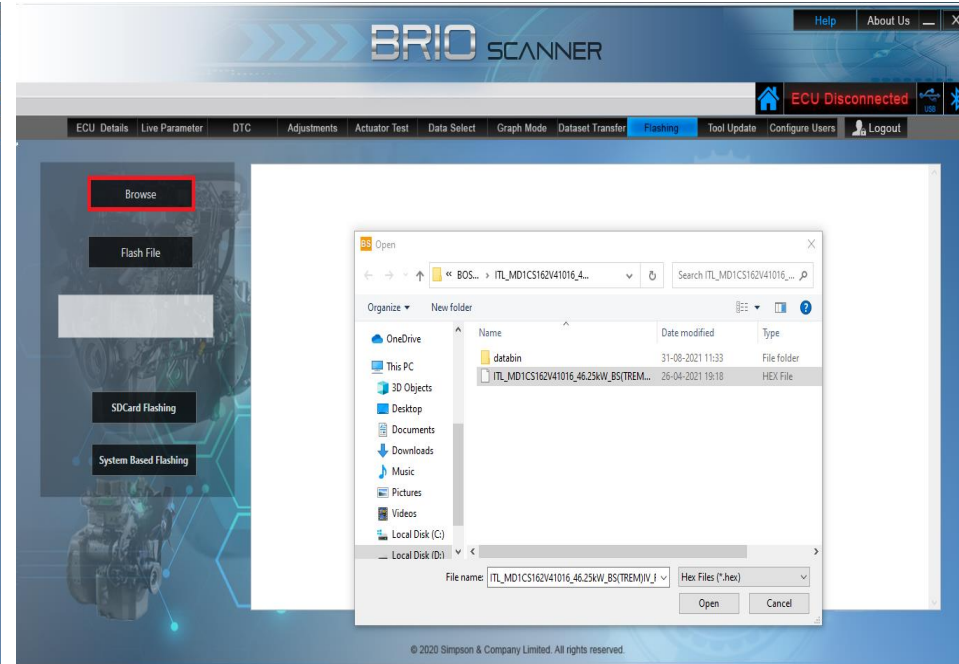
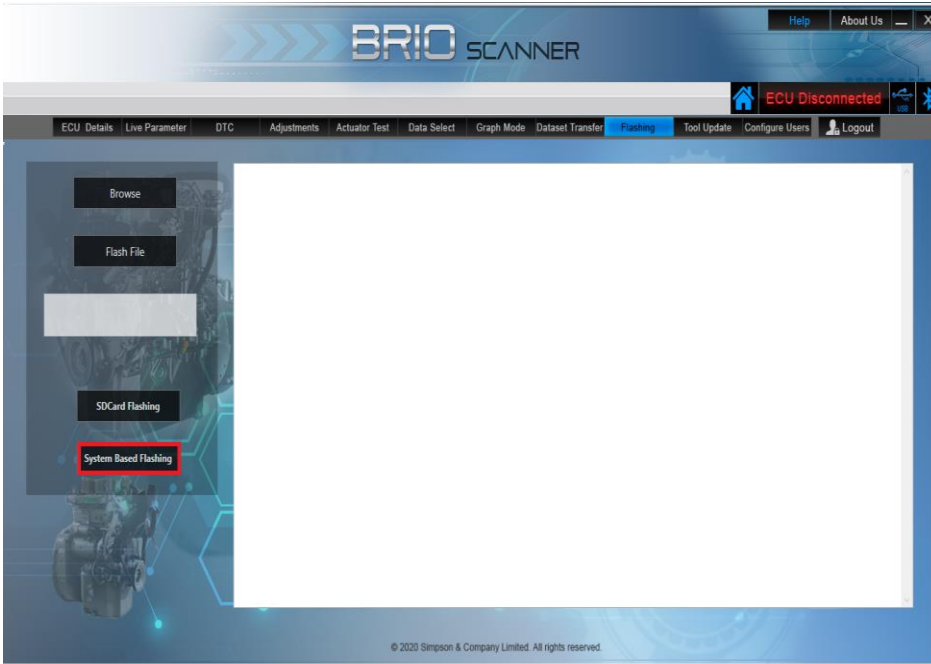
The screenshot displays the BRIO Scanner application interface. At the top, the header includes the Pragathi Solutions logo and name, the text "BRIO SCANNER", and navigation links for "Help" and "About Us". A status bar below the header shows a home icon, "ECU Disconnected", and icons for USB and Bluetooth. The main interface features a "USER LOGIN" panel with fields for "Select COM Port" (set to COM8), "User Name", and "Password", along with a "Login" button. A "Flashing Success" dialog box with an "OK" button is overlaid on the login panel. A large green arrow labeled "Select ECU" points to a list of ECUs: "BOSCH MD1CS162", "BOSCH EDC17C53", and "BOSCH MD1CS018". The background is a blue-themed graphic with gears and circuit patterns. A copyright notice at the bottom reads "© 2021 Pragathi Solutions. All rights reserved."

2) System Based Flashing.

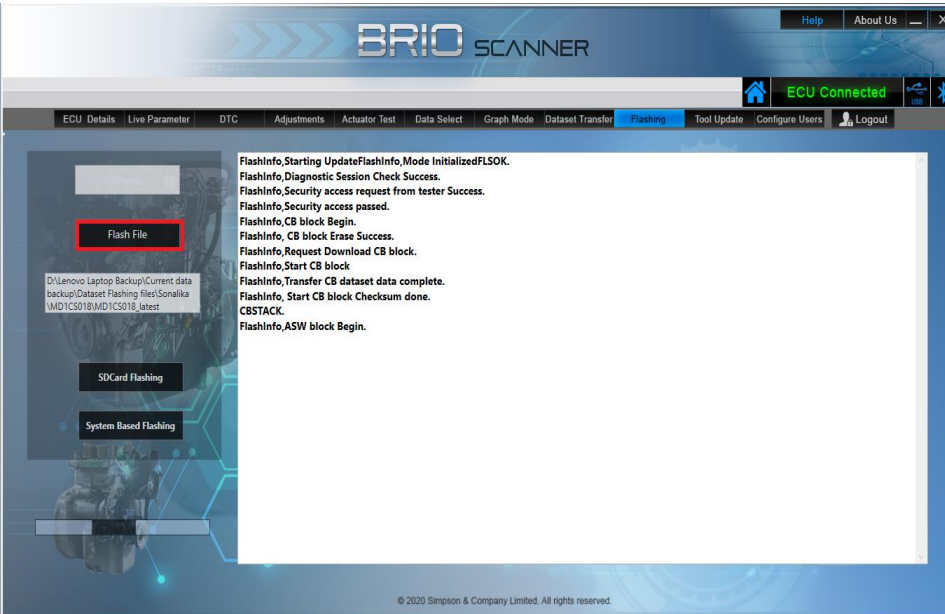
Step 1: To Flash the ECU select the Flashing Menu. Then select **“System Based flashing”**.

Note: Before selecting the system based flashing, ensure that the dataset which you are going to flash that dataset should be available in your system. If not available kindly copy the dataset on your system.

Step 2: Click on Browse File. Select the Dataset File from the system.



Step 3: Click on a **'Flash File'** to start the flashing. Flashing Process is being displayed in the Flashing Status window.



BRIO SCANNER Help About Us X

ECU Connected

ECU Details Live Parameter DTC Adjustments Actuator test Data Select Graph Mode Dataset Transfer **Flashing** Tool Update Configure Users Logout

Flash File

DI:\Lenovo Laptop Backup\Current data backup\Dataset Flashing_files\Sonalika\MDTC5018\MDTC5018_latest

SDCard Flashing

System Based Flashing

```
FlashInfo,Starting UpdateFlashInfo,Mode InitializedFLSOK.
FlashInfo,Diagnostic Session Check Success.
FlashInfo,Security access request from tester Success.
FlashInfo,Security access passed.
FlashInfo,CB block Begin.
FlashInfo,CB block Erase Success.
FlashInfo,Request Download CB block.
FlashInfo,Start CB block
FlashInfo,Transfer CB dataset data complete.
FlashInfo, Start CB block Checksum done.
CBSTACK.
FlashInfo,ASW block Begin.
```

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Step 4: On successful completion of ECU Dataset Flashing **'Flashing Success'** message is displayed and the application is logged out automatically. The user now can login and perform the Diagnostic Operations.



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BRIO SCANNER Help About Us X

ECU Disconnected

Flashing Success

USER LOGIN

Select COM Port COM8

User Name

Password

Login

Select ECU

BOSCH MDTC516Z

BOSCH EDC17G31

BOSCH MDTC5018

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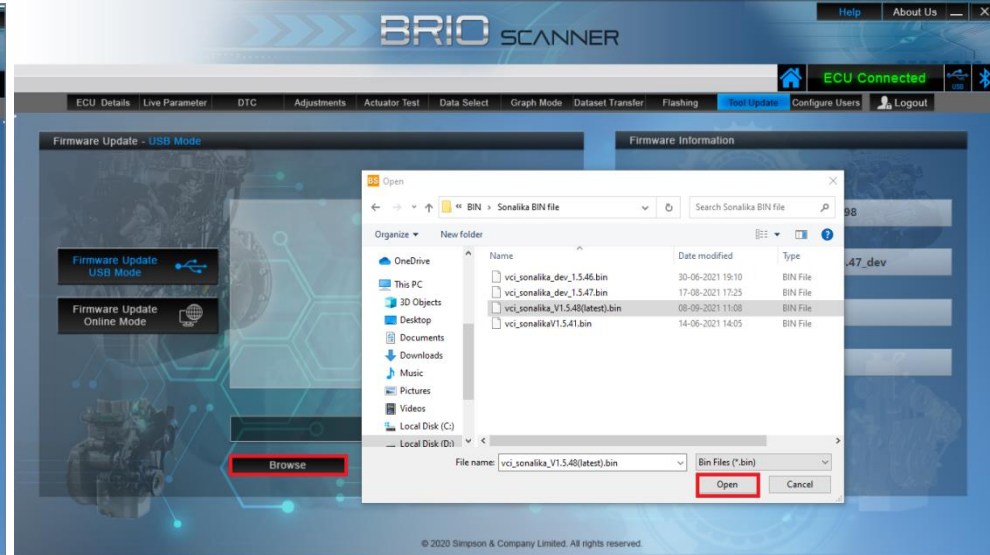
TOOL UPDATE PROCESS

Tool Update:

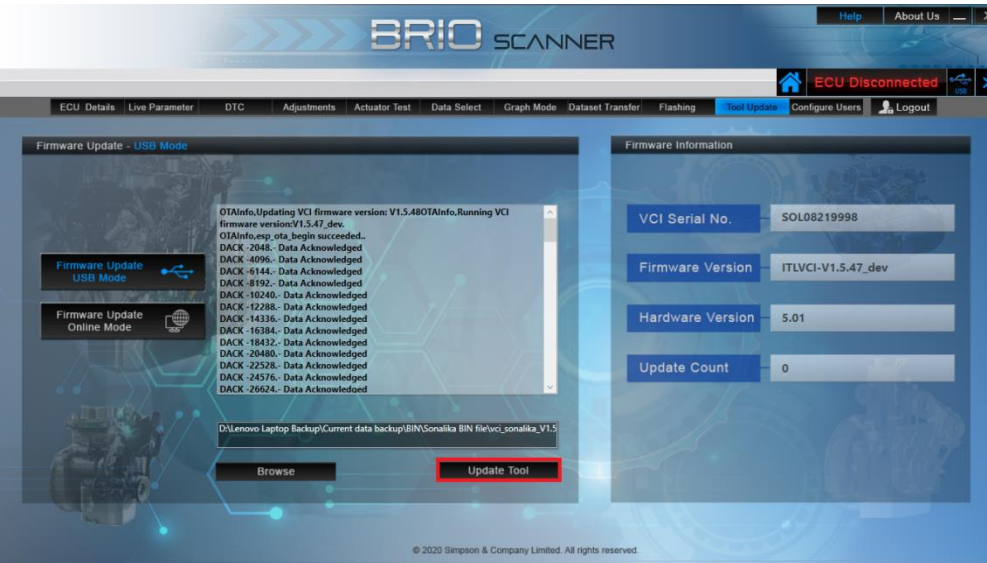
Step 1: Select Tool Update Menu to Update the VCI tool.



Step 2: Click on Browse File. Select the .bin file from the system and click Open .



Step 3: Click on Update tool. Tool updating is in progress and is being displayed in the Update tool window.



Step 4: Once Tool update is completed **“RESET Success. Please Login Again”** message is displayed and the application will log out.



Configure Users:

Step 1: To create New User Login's click on Configure User.

Step 2: Enter the Details in User Creation Menu as shown in the image below.



The screenshot shows the BRIO Scanner interface with the 'Configure Users' menu selected. The 'User Creation' section has empty input fields for User Name, Password, Sequence ID, and Date Created. The 'User Maintenance' section has buttons for Create User, Modify User, Delete User, and Reset. Below the forms is a table with columns: UserName, Password, SequenceID, Date, Adjustments, Flashing, and DatasetTransfer. The 'Admin' user is listed with a password of '*****', SequenceID of '1', Date of '06/02/2021', and 'Yes' for Adjustments, Flashing, and DatasetTransfer. At the bottom, there is a copyright notice: © 2020 Simpson & Company Limited. All rights reserved.

UserName	Password	SequenceID	Date	Adjustments	Flashing	DatasetTransfer
Admin	*****	1	06/02/2021	Yes	Yes	Yes



The screenshot shows the BRIO Scanner interface with the 'Configure Users' menu selected. The 'User Creation' section has input fields filled with 'Amit' for User Name, 'Amit@12345' for Password, and '1' for Sequence ID. The 'Date Created' field is empty. The 'User Maintenance' section has buttons for Create User, Modify User, Delete User, and Reset. Below the forms, the 'Adjustments', 'Flashing', and 'Dataset Transfer' checkboxes are checked. The table below shows the 'Admin' user with the same details as in the first screenshot. At the bottom, there is a copyright notice: © 2020 Simpson & Company Limited. All rights reserved.

UserName	Password	SequenceID	Date	Adjustments	Flashing	DatasetTransfer
Admin	*****	1	06/02/2021	Yes	Yes	Yes

Step 3: The Admin user has the rights to decide which user has to be given the Access for Adjustments or Flashing or Dataset Transfer. Selected Checkboxes Menu Access will be provided to the user. Click on Create User to add the login. **“User Created Successfully”** pop up message is displayed.

Step 4: To Modify the existing User. First select the User from the grid which is to be modified as shown in the image below. Modify the details and click on Modify User. **“User Modified Successfully”** pop up message is displayed.




The screenshot shows the BRIO Scanner interface with the 'Configure Users' menu item selected. The 'User Maintenance' panel is active, and the 'Create User' button is highlighted with a red box. The 'User Creation' form on the left shows the following details:

- User Name: Amit
- Password: Amit@12345
- Sequence ID: (empty)
- Date Created: (empty)

Below the form, the following checkboxes are checked: Adjustments, Flashing, and Dataset Transfer.

UserName	Password	SequenceID	Date	Adjustments	Flashing	DatasetTransfer
Admin	*****	1	06/02/2021	Yes	Yes	Yes

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The screenshot shows the BRIO Scanner interface with the 'Configure Users' menu item selected. The 'User Maintenance' panel is active, and the 'Modify User' button is highlighted with a red box. A 'User Modified Successfully' pop-up message is displayed in the center of the screen. The 'User Creation' form on the left shows the following details:

- User Name: (empty)
- Password: (empty)
- Sequence ID: (empty)
- Date Created: (empty)

Below the form, the following checkboxes are checked: Adjustments and Dataset Transfer. The 'Flashing' checkbox is unchecked.

UserName	Password	SequenceID	Date	Adjustments	Flashing	DatasetTransfer
Admin	*****	1	06/02/2021	Yes	Yes	Yes
Amit	Amit@12345	2	2021_09-18_12_19	Yes	No	Yes

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Step 5: To Delete the existing User, first select the User.

Step 6: Click on Delete button. **“User Deleted Successfully”** pop up message will display.



The screenshot shows the BRIO Scanner interface with the 'User Maintenance' section active. The 'Delete User' button is highlighted with a red box. Below the form is a table of existing users.

UserName	Password	SequenceID	Date	Adjustments	Flashing	DatasetTransfer
Admin	*****	1	06/02/2021	Yes	Yes	Yes
Amit1	Amit@123456	2	2021_09-18_12_24	Yes	No	Yes



The screenshot shows the BRIO Scanner interface after the 'Delete User' button was clicked. A modal dialog box titled 'User Deleted Successfully' is displayed in the center of the screen, with an 'OK' button. The 'Delete User' button in the background is still highlighted with a red box.

Step 7: Click on the Reset button to reset the details from the User Creation panel.



The screenshot shows the BRIO Scanner interface with the 'ECU Connected' status. The 'User Creation' panel is active, displaying input fields for User Name (Amit1), Password (Amit@123456), Sequence ID, and Date Created. Below these fields are checkboxes for Adjustments, Flashing, and Dataset Transfer. To the right, the 'User Maintenance' panel contains buttons for Create User, Modify User, Delete User, and a 'Reset' button which is highlighted with a red border. A table at the bottom lists existing users.

UserName	Password	SequenceID	Date	Adjustments	Flashing	DatasetTransfer
Admin	*****	1	06/02/2021	Yes	Yes	Yes
Amit1	Amit@123456	2	2021-09-18_12_44	Yes	No	Yes

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OFFLINE MODE: In offline mode, user can access only Dataset Transfer and Tool Update.



The screenshot shows the BRIO Scanner interface with the 'ECU Disconnected' status. The 'USER LOGIN' panel is active, featuring a 'Select COM Port' dropdown (set to COM8), 'User Name' (Admin), and 'Password' (masked with asterisks) fields, along with a 'Login' button. To the right, a 'Select ECU' button points to three ECU models: BOSCH MD1CS16L, BOSCH EDC17CS4, and BOSCH MD1CS014. At the bottom, an 'OFFLINE MODE' indicator is visible.

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THANK YOU

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