# LAUNCH X431 PAD V Automotive Diagnostic Tool Support Coding & Programming

LAUNCH X431 PAD V is Launch's latest top-end car comprehensive diagnostic scan tool based on the Android 7.1 system. It inherits LAUNCH's many advantages in car fault diagnostic technologies, including large car model coverage, powerful functions, a large number of special functions, and accurate test data. With its new advanced Smart box 3.0, X-431 PAD V could diagnose the passenger and heavy duty vehicles (software and adaptors are optional) with one single dongle. And to make it better, it also have the built-in J2534 adaptor to make the X-431 PAD V one of the most powerful scan tool in the market. X-431 PAD V also supports Launch's extension module applications for oscilloscopes, sensors, endoscopes, mustimeters, and battery detection etc.Its operation is easier and more intuitive, it includes a package of "Full" vehicle brands (more than 80 brands), with the most important European, Asian and American vehicle Manufacturers, together with the full potential of LAUNCH diagnostic software. Able to diagnose cars, commercial vehicle and also industrial vehicle (12 and 24 V). The PAD V is compatible with the J2534 and ISO22900 (Pass Thru) communication protocols, in this way you can connect to the manufacturer's website and perform programming among Many other functions.
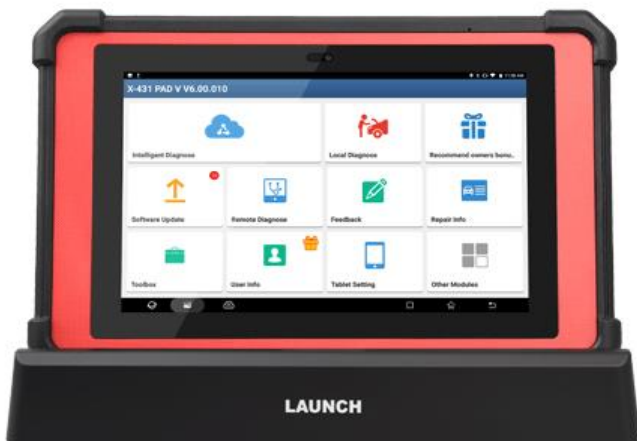
J2534 Reprogramming

• What tools & equipment you need to get started reprogramming vehicles in House

• In-house reprogramming vs. subletting to the dealer or a mobile service

• Turning J2534 programming into a profit center

• Debunking some common misconceptions of J2534 re-flashing

• Using a J2534 pass-through device and your laptop as an O E scan tool

• Hands-on Demo – performing an actual re-flash in the shop

LAUNCH X431 PAD V Highlights:

1. 3 Years Free Update Online

2. 10.1" full-fitting, sunlight readable screen (Gorilla Glass) screen (Multi-point touch screen)

3. 1920×1200 high-resolution, 9360mAh battery, QC3.0 fast-charge

4. Real-time remote Diagnosis function via WIFI

5. Support commercial vehicle and passenger car diagnose, Support J2534, CAN FD, DoIP.

6. 8 core 2GHz CPU; 4G RAM, 64G memory; 10.1 inch full-fitting, sunlight readable screen (Gorilla Glass) and IP65 protection.

7. Special Functions Supported: Immobilizer/ Key, Injector, Reset Brake Bleed, Reset TPMS, Electronic Throttle Relearn, Reset DPF, Reset SAS, Reset Oil, Reset Brake, Reset BMS

SmartBox 3.0

Features:

1. 4 CAN for data monitoring
2. CANFD
3. DOIP (ISO 13400)
4. J2534-1 & J2534-2
5. J1708
6. J1850 PWM/VPW
7. CCD
8. SCI
9. RP1210/C
10. K line & L line
11. 5~20V programmable voltage for pin 6, 9, 11, 12, 13 or 14
12. Voltage detection for pin 1,2,3,6,7,8,9,10,11,12,13,14,15
13. Battery voltage detection
14. Programmable control access and disconnection of CAN terminal resistance
12. 2.4G/5G dual WIFI
13. USB
14. Bluetooth 4.0
15. Support system voltage of 12V or 24V

X-431 PAD V
+SmartBox 3.0

PAD V
- Anti-collision design
- Adjustment to180 degree
- Up to P65

SmartBox 3.0
- Online Upgrade
- 12V and 24V system voltage
- DoIP/ CAN FD/ SAE J2534-1 / SAE J2534-2/ Rp1210/USB/ Bluetooth 4.0/Wi-Fi

What are the Advantages of Launch X431 PAD V?

It has a charging base, front /rear camera, non-OBD connectors and a large 10.1-inch touch screen. Its battery is Lithium to work for more than 8 hours intensively, and includes a 180o adjustable handle on the back with 3 positions to hang, use as a steering wheel support and transport standard. The PADV is manufactured with degree of protection IP65 , which protects it from splashes, bumps and dust. X431 PAD V is capable of diagnosing passenger cars, commercial vehicles and industrial vehicles (12 and 24 V) and is compatible with DoIP communication protocols , new CAN networks FD and J2534 and ISO22900 (Pass Thru) , with the latter you can connect to the manufacturer's website and make programming among many other functions. It also includes the SW for vehicles with Advanced Driving Assistance System (ADAS) and is compatible with the static calibration accessory X-431 ADAS Pro .Its main difference with PRO 1 and 3 models is that it allows you to attach different optional accessories such as a 4-channel oscilloscope, battery tester, and endoscope and sensor simulator. Its Internet connectivity is total to offer an infinite number of services, such as the sending of technical bulletins, tele-Diagnosis, online technical information (Data LAUNCH), automatic updates and the possibility of communicating with other LAUNCH equipment for the help between workshops (cooperation remote).

Launch X431 PAD V 5 Features:

1. Android 7.1 customized system, Qualcomm 8-core processor, 10.1 inch capacitive touch screen, support QC3.0 fast charging.
2. 2.4GHz&5GHz Dual-Frequency Wi-Fi, the transmission rate is faster than the previous generation.
3. Camera: front, 8 Megapixels; rear, 13 Megapixels Display I/M Readiness Status
4. Fifth-generation Wi-Fi technology, theoretically, the transmission rate is 4 times faster than the previous generation

5. Wide vehicle model coverage, powerful diagnostic functions (intelligent diagnosis, remote Diagnosis, read DTC, clear DTC, read data stream, actuation test), accurate diagnostic data, and abundant special functions;

6. Brand new industrial design, with soft rubber sheath on the four corners of the product, to effectively prevent collision; damping shaft, free adjustment of nearly 180 degrees; support three modes of hanging, support and normal.

LAUNCH X431 PAD V 5 Functions:

1. Comprehensive diagnosis: Support full-make, full-system, full-function rapid diagnosis, read DTC, clear DTC, read data stream, actuation test, etc.

2. Intelligent diagnose: Support intelligent VIN identification and cloud-based diagnostic record query, making the diagnostics more intelligent and efficient.

3. Local diagnose: When the intelligent diagnosis is not available in an environment without network, choose traditional diagnosis. Select the vehicle make and model manually to perform the vehicle detection.

4. Remote diagnose: Support online real-time communication and remote diagnostic service through text, picture, and file between device and device, and between device and remote desktop, with low network bandwidth and system resources occupancy.

5. Special function: Support total 16 special functions, including service lamp reset, throttle adaptation, steering angle reset, brake pad reset, tire pressure reset, anti-theft matching, ABS bleeding, battery matching, gear learning, injector coding, DPF regeneration, sunroof initialization, headlamp matching, suspension matching and AT matching, EGR Adaption.

6. Software upgrade: Support one-click upgrade of operation system, client side, car model software and firmware.

7. Diagnostic feedback: For model software and function errors met during the use, please submit the feedback immediately. LAUNCH will response as soon as possible.

8. My report: View comprehensive diagnostic report, remote diagnostic report, and data stream playback.

9. Software Setup: Contains my connector, diagnostic connector connection

management, connector activation, firmware repair, etc.

10. Extended module: Support oscillograph, sensor, battery test, endoscope, Wi-Fi printer, etc.

11. Read data stream: Support diverse data stream display modes and user-defined standard data stream.

12. Traditional diagnosis: When the intelligent diagnosis is not available in an environment without network, choose traditional diagnosis. Select the vehicle make and model manually to perform the vehicle detection.

LAUNCH X431 PAD V 5 Vehicles Supported:

1. Passenger Vehicles Supported:

1. Australian: AUST Holden, AUST Ford

2. Asian: Toyota/Lexus, Honda/Acura, Mazda, Subaru, Nissan/Infiniti, Mitsubishi, Hyundai, Isuzu, Daihatsu, KIA, Daewoo, Suzuki, Proton, Tata, Mahindra, Ssangyong, Perodua, Maruti

3. European: Audi, Mercedes/ Maybach, BMW/ MINI/ Rolls Royce, VW/ Bentley/ Bugatti, Opel/ Vauxhall, Peugeot, Citroen, Volvo, Sprinter, Renault/ Dacia, Fiat/ Romeo/Abarth/ Lancia, Rover, Landrover, Saab, Seat, Skoda, Smart, Maserati, Ferrari, Arston Martin, Porsche, Jaguar

4. USA: USA Ford/ Lincoln, GM/ Buick/ Cadillac/ Chevrolet, Chrysler/ Dodge/ Jeep

5. Chinese: Changcheng (Great Wall), Geely, Qirui_TY (Cherry), Futian, Changan, Changhe, Haifei ….etc.

7. Others: EOBD, Demo

Special Functions Supported:

Immobilizer/ Key, Injector, Reset Brake Bleed, Reset TPMS, Electronic Throttle Relearn, Reset DPF, Reset SAS, Reset Oil, Reset Brake, Reset BMS

Powerful Special Functions:

Component Replacement, Cylinder Compression Test, Injector Cut out Test, DPF Regeneration, Communicates with ABS & Transmissions from Bendix, WABCO and Allison, Tech to Tech remote communication function.

Heavy Duty Vehicles Supported:

Software Coverage:

Nissan (Diesel), Mitsubishi (Diesel), USA Ford Diesel, Kenworth Astra, Benz Heavy Duty, Bosch Diesel, China Heavy Duty, Cummins Heavy Duty, DAF, Delphi Diesel, Denso Diesel, FAW Liberation, Foton Auman, FUSO, Hino, Hyundai Heavy Duty, Isuzu Heavy Duty, Iveco Heavy Duty, JAC Heavy Duty, Mack, MAN, OBD Heavy Duty, Scania, Shangchai Diesel, Volvo Heavy Duty, WP Diesel, Airbus, Allison Transmission Box, Ashok Rejlander, Bendix ABS, Caterpillar Heavy Duty, Chai Heavy Vehicle, Chaoyang Diesel, Construction Machinery, CREDO Heavy Vechicle, Detroit Engine, Dongfeng Commercial Vehicle, Dongfeng Yufeng, Doosan Engine, Freightliner Heavy Duty Truck, Full Diesel Diagnosis Software, Haldex ABS Heavy Duty, HD_ABS System, HD_GoldenDragon, HD_International HD_Kinglong, HD_Maxxforce, HD_Tata, HD_Western_Star, Heavy Truck Presentation Software, IRISBUS HD, IRIZAR HD, NEOPLAN HD, Peter HD, Renault HD, SETRA HD, Stannic Bavin, Sterling HD, Sunlong Bus, Sunwin Bus, UD Trucks 2F Nissan Diesel, WABCO ABS, Yang Chai Engine

Extension Optional Modules:.

1. Oscilloscope and ignition analyzer
2. Endoscope
3. Battery tester
4. Scope box
5. Sensor box: Sensor tester and simulator + Multi-meter.
6. Static calibration accessory X-431 ADAS Pro.
7. DATA LAUNCH technical information.
8. Optional accessories: Furniture for stabilizer and diagnosis MB 90 and MB 80.

Smart box 3.0-J2534 Operation Manual

1. **Connection of Smartbox3.0**
2. Smartbox3.0 comes with a USB cable. One end of Smartbox3.0 is connected to the USB cable: one port of the USB cable is connected to Smartbox3.0; the other port is connected to a USB port of a PC; the other end of Smartbox3.0 is connected to the OBD interface bus, and the other port of the bus is connected to the OBD connector.

How to Install Launch X431 PAD V 5 Software Package and Driver?

2.1 Installation Steps of Software Package

2.1.1 Installation Steps of Software Package

Attention: Please ensure that the PC user has administrator rights and Smartbox3.0 has been connected to a PC before installation.

**Step 1: Open "SmartBox_3.0_Setup.exe", and select the installation path according to prompts**

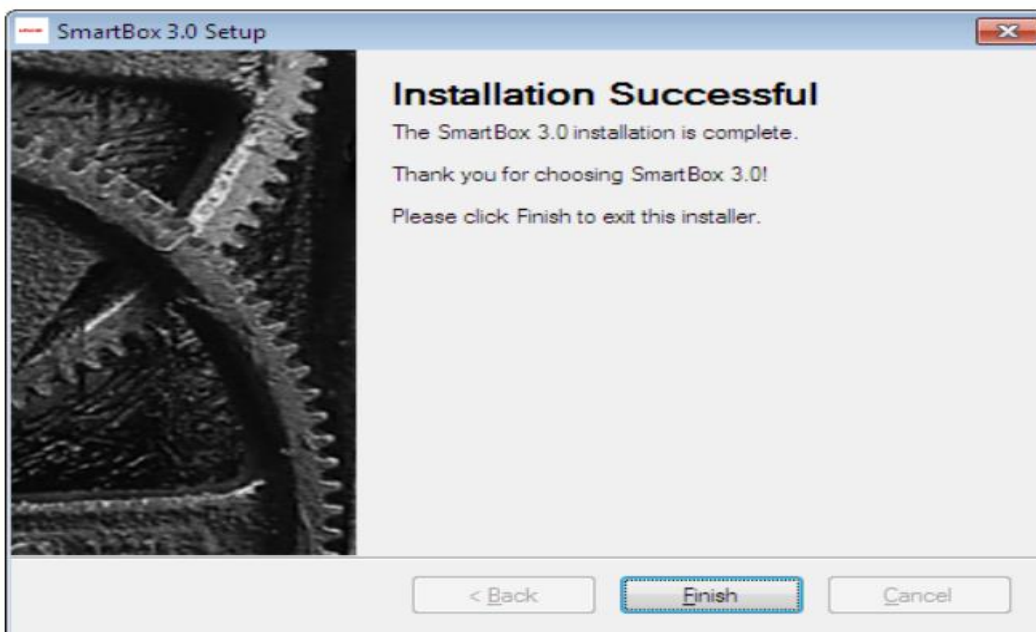**Step 2: Click 'Change' to select the installation path, and then click 'Next'**
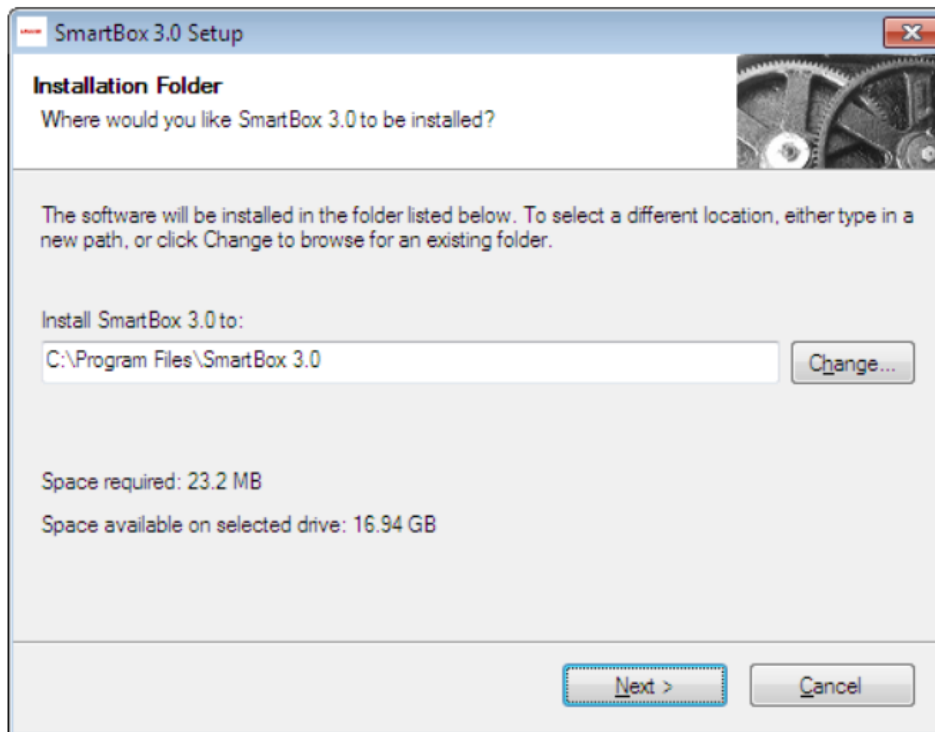
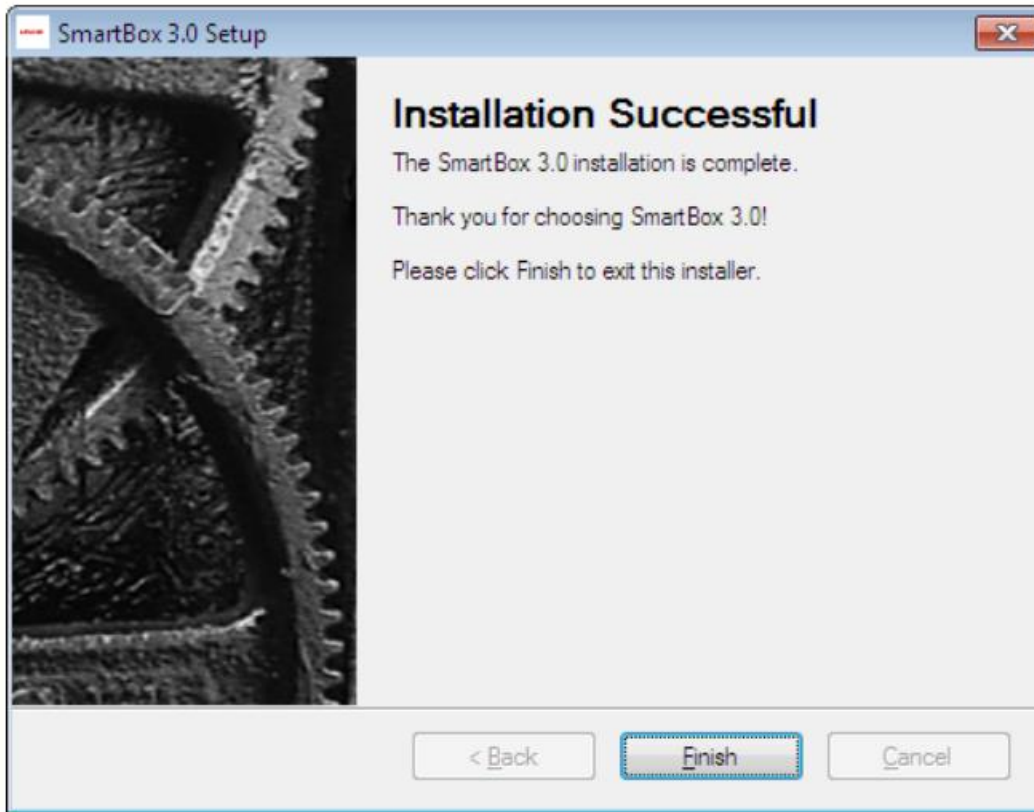**Step 3: After confirming the installation path, click 'Next'**
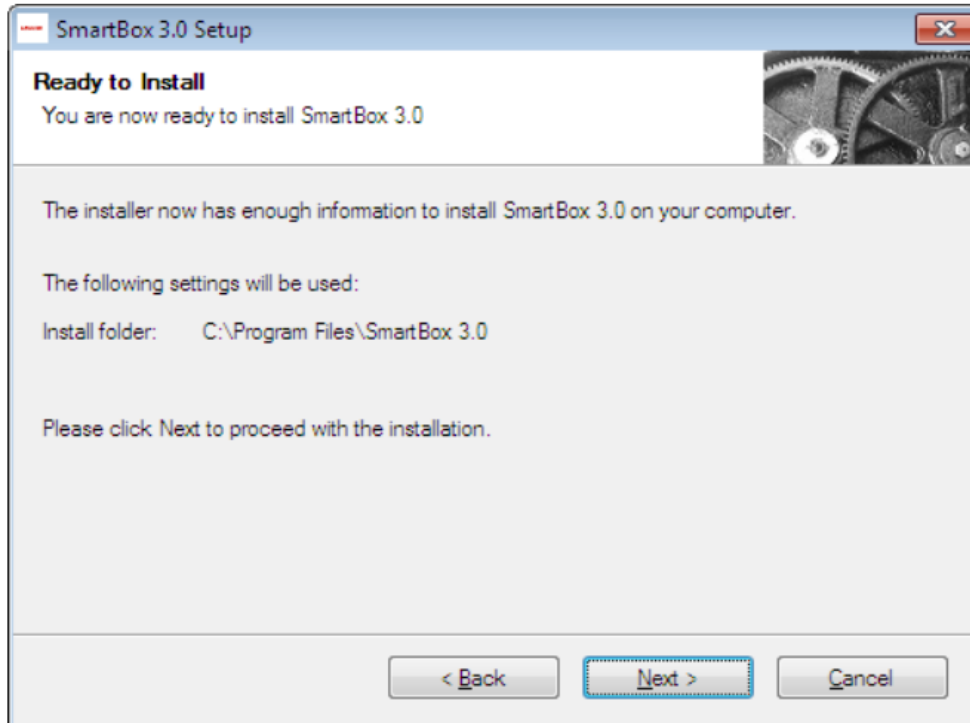
Step 4: Click 'Next' to start to install the driver. It is recommended to have the device connected before installing the driver. The software shall install by itself.
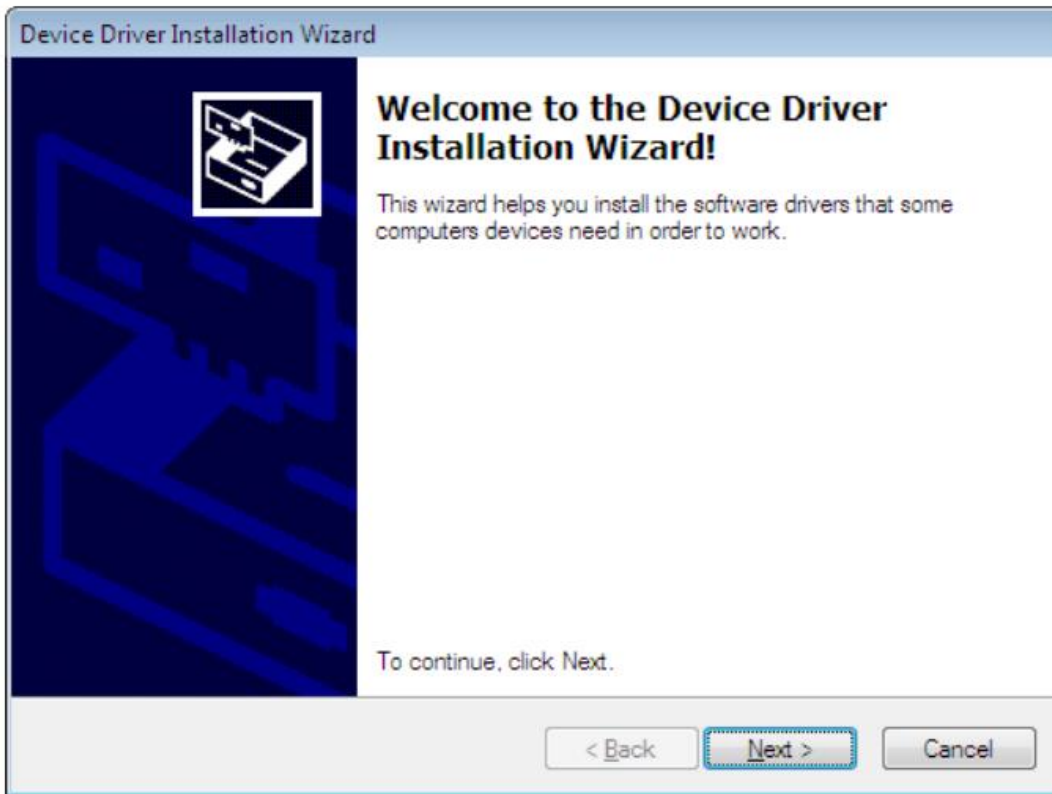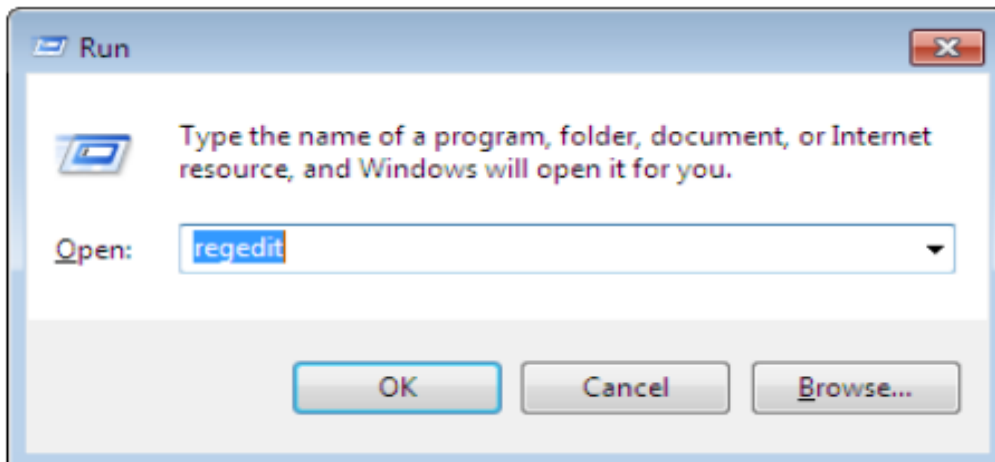
Step 5: Click 'Done'. Drivers installed!

**Step 6: Click 'Done' again. Software installed!**

2.1.2   J2534 Registry Information View (Reserved)
           after installing the software, LAUNCH's corresponding registration
           information about J2534Dll can be seen in the registry. Open "Run" window
           (shortcut "Windows+R"); enter the command "regedit", as shown below:

**Enter the registry, and find LAUNCH's J2534 DLL registration information
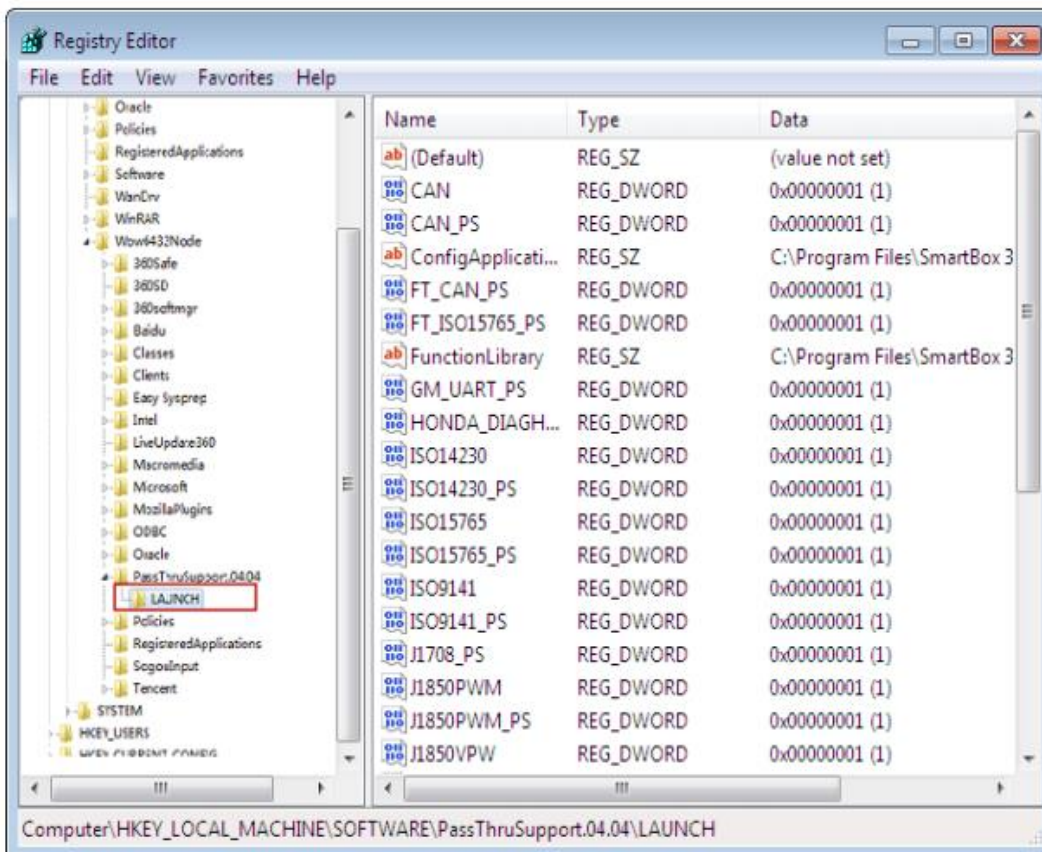according to the following path:
HKEY_LOCAL_MACHINE\SOFTWARE\PassThruSupport.04.04**
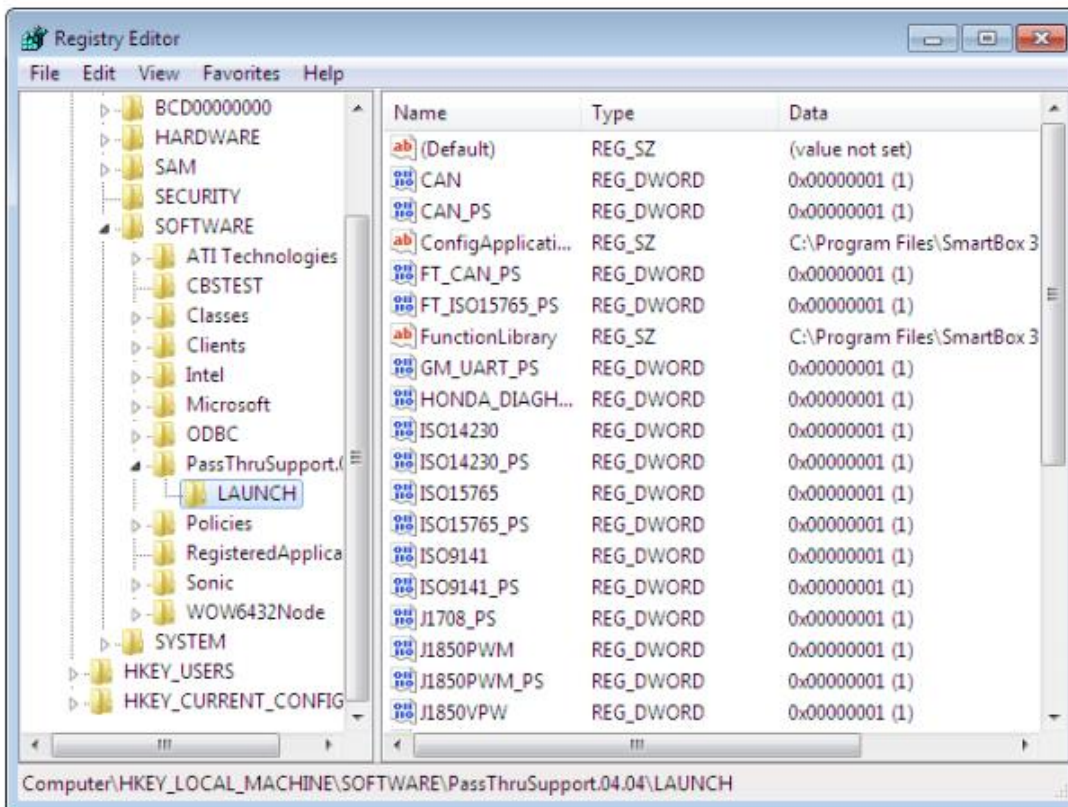
Note: It may be because of the 64-bit operating system, if you cannot view the registration information. You can find it according to the following path: HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\PassThruSupport.04.04
The Screenshot is shown below:

How to Update Launch X431 PAD V 5?

Run "Smart Box Tool 3.0" on the Windows desktop after installing "SmartBox_3.0_Setup".

3.1 Firmware Upgrade Function

Smart Box 3.0 can be upgraded through Smart Box Tool 3.0. Please select "M7 Upgrade" for the upgrading of lower programs and "A7 Upgrade" for the upgrading of the system. Click "Browse" to select the path for storing upgrading files and click "Upgrade".

Note: Restart the software and Smart Box 3.0 upon completion of the upgrade. You can check the version to confirm whether the upgrade is successful.

3.2 Log View Function

When necessary, you can enable "Write Log File" or "Window Print Information" function to record the test status of Smart Box 3.0 and the process. To avoid software errors due to overlarge log files, do not enable the function if it is not necessary. The log files are saved under the root directory of disk C by default.

Steps: The corresponding J2534Log information can be generated by ticking the "Write Log File" option after clicking "View Log" in the upper left corner of the software interface, as shown below:

Note: Please restart the diagnostic software!

Note: If the log printing function is enabled, the log files may be very large as the information are written accumulated. Please enable this function when necessary, such as development and debugging. In other cases, please do not activate this function option at will.

The default storage path of the log file "J2534Log" generated is: C:\Program Files\Smart Box 3.0\Smart Box 3.0\Log\ J2534_LOG.txt, as shown below:

Also note: In some computer systems, users have no write permission to this file folder, resulting in unsuccessful log file generation. It is necessary to modify the permissions of this folder (requiring administrator privileges), as shown below:

Right-click the "Log" folder, select the "Attribute" option and find the "Security" attribute, select current user, click "Edit", select the corresponding user name again, and tick all the "Allow" options in the permission column (requiring administrator rights), and click "OK" to go back.

SmartBox3.0 Parameters:

Main Parameters	Main structure:	Dual processor: Cortex – A7 + Cortex – M7
	System	Linux
	Memory	256M
	Storage	8GB
	Power supply	DC 9 ～36V
External Interface	USB	Type B USB 2.0
	Bluetooth	BLE 4.0 + EDR
	WIFI	Support 2.4G/5GHZ dual-band
	Indicator lamp	5 multi-function indicator lamps
	Vehicle connection	J1962 16PIN

Launch X431 PAD V 5 Parameters

Processor	8 core Cortex-A53 2.0GHz
Cache	4GB
Hard Disk	64GB, 128G extended
System	Android 7.1
Screen	10.1 inch full-fitting, sunlight readable screen (Gorilla Glass)
Resolution	1920*1200
Wi-Fi	Support 2.4GHz&5GHz dual frequency
Camera	Rear13 Megapixels, front 8 Megapixels
Diagnostic Mode	Wi-Fi
Work Temperature	-10 ~ 50℃