User's Manual for XP400 Super Programmer and ATProgrammer

Service and Support

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1. Precautions and Warnings

The XP400 Super Programmer can assist in vehicle-specific maintenance equipment for key programming. To avoid personal injury and damage to the vehicle, please read this manual before testing the vehicle and strictly observe the following safety precautions:

- Diagnose or repair in a safe environment.
- Run the vehicle in a well-ventilated place.
- Ensure to disconnect the power while soldering the device.
- Ensure to connect the ground when the device is being soldering.
- Keep the instrument dry, clean and away from areas with moisture, oil and excessive dust.
- Pay attention to prevent electrostatic interference during use. If an abnormality occurs, try to operate again.

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2. Product Components and Ports

XP400 Super Programmer has three types of functions: Read/Write Vehicle Transponder Chip Data, including Benz Infrared Keys, Generate Vehicle-specific Keys and Dealers' Key; Read ECU Data, including EEPROM and MCU; and Read/Write Vehicle Keys and Remotes Data. XP400 Super Programmer needs to work with tablet device or ATProgrammer software on computer for stable and reliable operation.

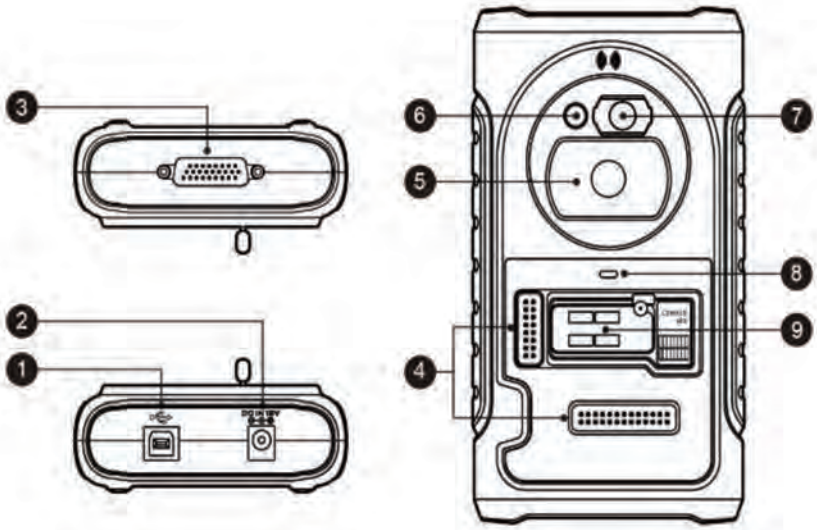

Figure 1. XP400 Super Programmer Diagram

1. USB Port – provides data communication and 5V DC power supply.
2. DC Port – provides 12V DC power supply.
3. DB 26-Pin Port – connects with the Mercedes Benz infrared cable, ECU cable, MCU cable and MC9S12 cable.
4. Cross Signal Pins – holds the MCU spare cable or DIY signal interface.
5. Vehicle Key Slot – holds the vehicle key.
6. Transponder Slot – holds the transponder.
7. Benz Infrared Key Slot – holds the Benz infrared key.
8. Status Indicator Lamp – indicates the current operating status.
9. Locker – holds the EEPROM plug-in chip or EEPROM socket (SOP8 chip can be placed in the socket) for reading and writing EEPROM data.

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2.1 USB Port

Type B USB port is used for data communication and USB power supply of tablet device, ATProgrammer on PC and XP400 Super Programmer.

2.2 DC Port

DC interface is used to provide 12V DC power supply for XP400 Super Programmer.

2.3 DB 26-Pin Port

The port can connect with four components: ECU cable, MCU cable, MC9S12 cable, and Benz infrared cable (encapsulated interface, no cable definition).

Table 1. ECU Cable Definition

No.	Color	Definition	Pin Position Corresponding to DB26	Remark
1	Red	VCC12V	7	
2	Black	GND	10/25	
3	Green	IGN	14	
4	Orange	CANL	8	
5	Blue	CANH	17	
6	Brown	BOOTM	/	
7	Yellow	K	18	
8	White	LIN	26	

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Table 2. MCU Cable Definition

No.	Color	Definition	Pin Position Corresponding to DB26	Remark
1	Red and Black	VPP2	12	
2	Red and Yellow	VCC12V	7	
3	Red and Blue	VPPR	20	
4	Red and White	VPP1	20	
5	Black	GND	25	
6	Gray	S3	23	
7	Green	S9	2	
8	Blue	S4	11	
9	White	S1	14	
10	Purple	S7	4	
11	Orange	S6	13	
12	Yellow	S8	19	
13	Red	S5	21	
14	Brown	S2	5	
15	White and Green	S10	9	
17	Black	GND	10	Shielded Twisted Pair
18	White	OSC	1	Shielded Twisted Pair

Table 3. MC9S12 Cable Definition

No.	Color	Definition	Pin Position Corresponding to DB26	Remark
1	Red	VCC5V	16	
2	Black	GND	10/25	
3	Green	XCLKS	2	
4	Blue	T/R	11	
5	Yellow	RESET	19	
6	Black	GND	10	Shielded Twisted Pair
7	White	OSC	1	Shielded Twisted Pair

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2.4 Cross Signal Pin

Used to hold external MCU spare cable or DIY signal connection cable for reading and writing special MCU and ECU chip.

2.5 Vehicle Key Slot

Used to hold a variety of vehicle keys for reading and writing vehicle key information.

2.6 Transponder Slot

Used to hold a variety of transponders for reading and writing transponder information.

2.7 Benz Infrared Key Slot

Used to hold Benz infrared transponder for reading and writing Benz infrared transponder information.

2.8 Status Indicator Lamp

The status indicator lamp is used to display the current operating status of the XP400 Super Programmer. The statuses of the indicators are as follows.

Table 5. Description of Status Indicator Lamp

Bi-color Lamp	Status	Description
Indicator lamp	Solid green	Normal power supply
	Flashing green	Working
	Solid red / yellow	Fault

2.9 Locker

Used to hold EEPROM plug-in chip, or EEPROM socket (SOP8 chip placed in the socket) for reading and writing EEPROM data.

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3. Product Maintenance

3.1 Tablet Device Connection

When the XP400 Super Programmer is connected to a tablet device, an abnormality may occur. Please check the following items:

- ✓ Whether the connection with the tablet device is normal
- ✓ Whether the tablet device is the latest version
- ✓ Whether the XP400 Super Programmer indicator lamp is solid green

3.2 XP400 Super Programmer Connection with ATProgrammer Software

- ✓ Check whether the firewall of PC is enabled
- ✓ Check USB port connections with the XP400 Super Programmer or PC USB port
- ✓ Check whether the indicator lamp is flashing green during USB communication
- ✓ Check whether the PC driver is successfully installed

If this product is still not working properly after these problems are handled and confirmed, please contact Autel technical support for help.

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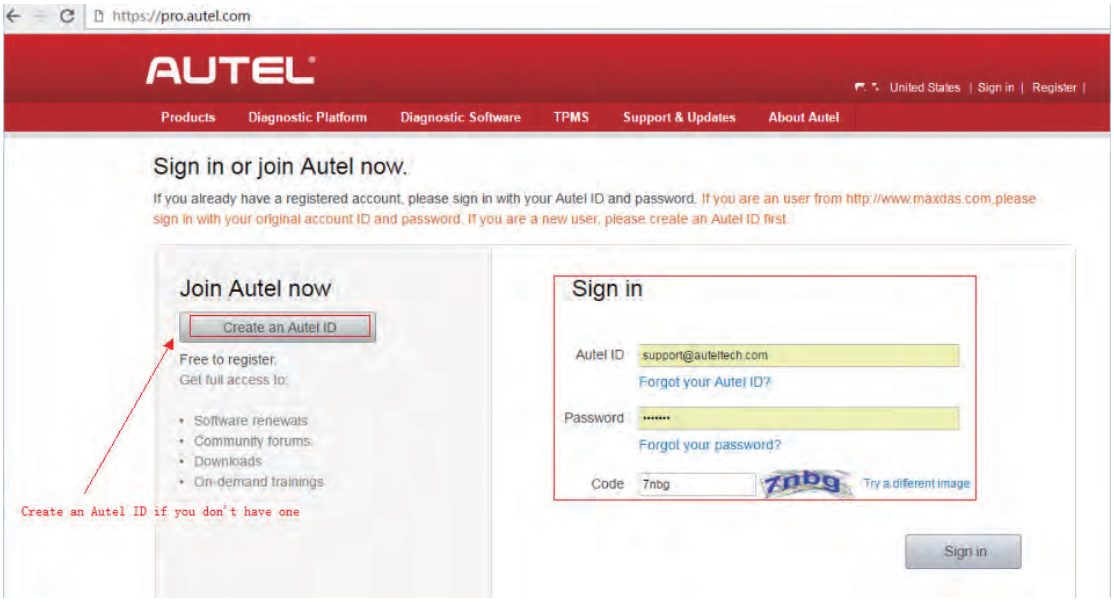
4. Download and Upgrade Methods of ATProgrammer Software

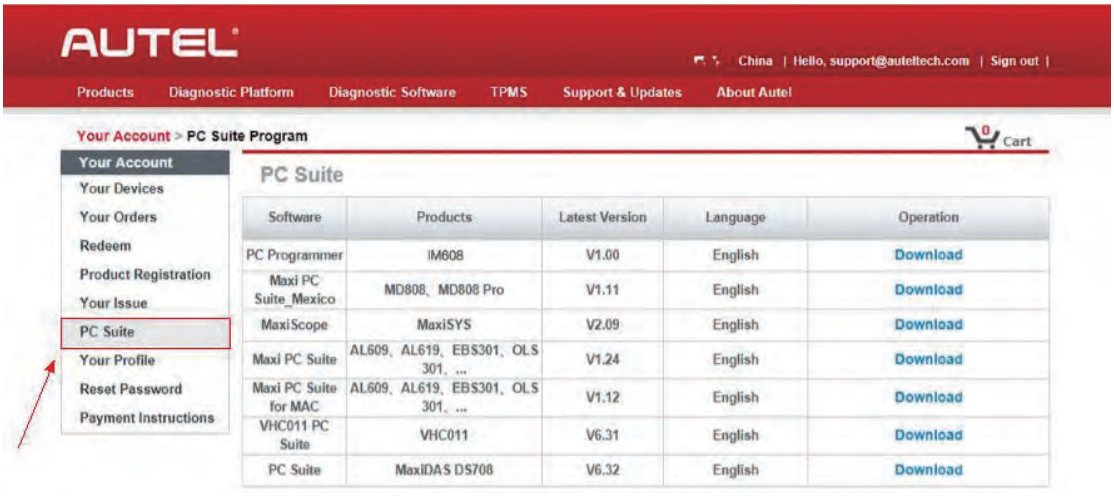
4.1 Download of ATProgrammer Software

Software update via PC Suite

1. Go to the Autel product website http://pro.autel.com and log in on the current user login screen with the registered Autel ID.



2. Select [PC Suite].



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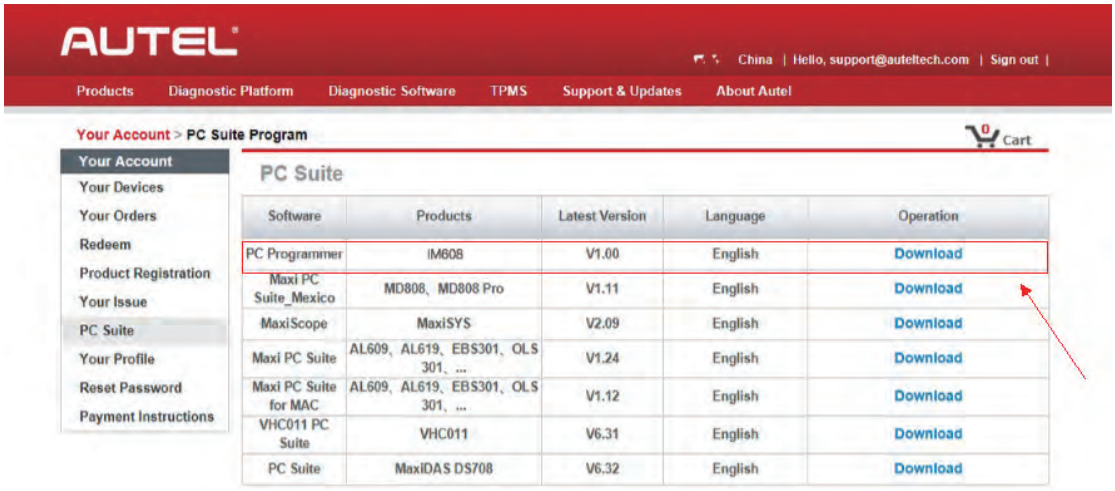
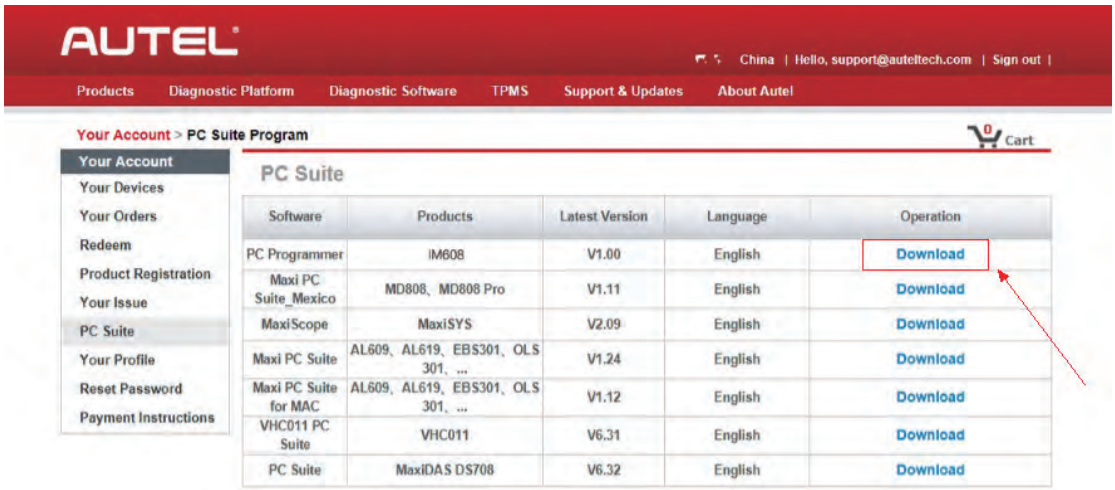
3. Select [PC Programmer].



4. Select [Download].



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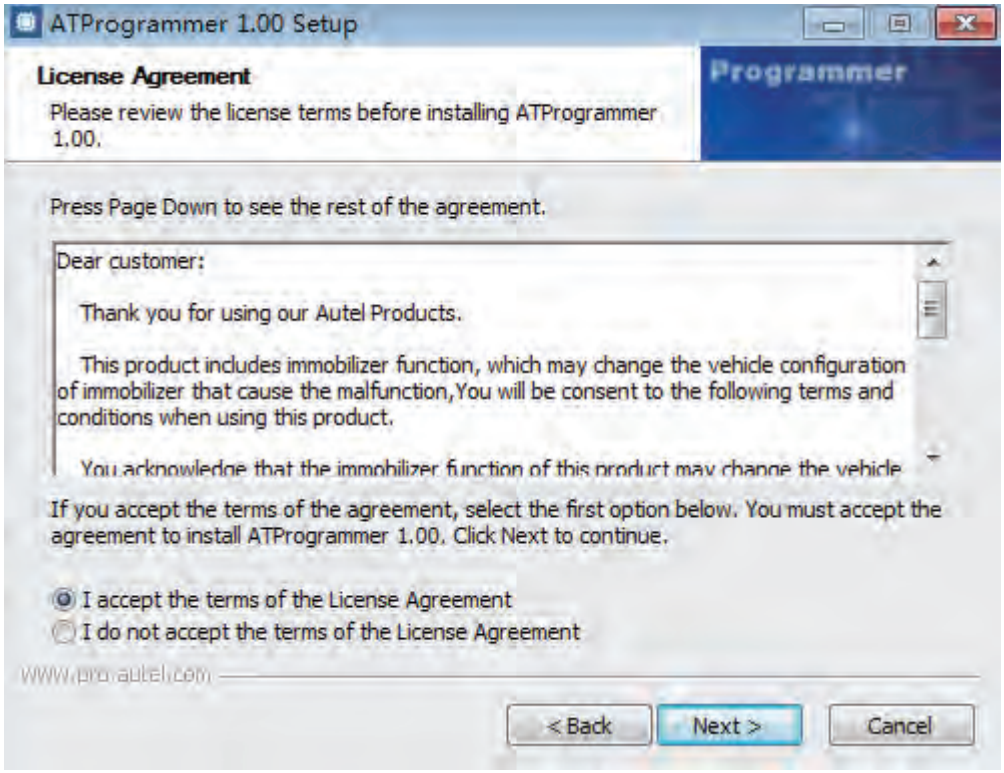
5. After the download is successfully completed, open the installation package and follow the prompts to install the ATProgrammer software.



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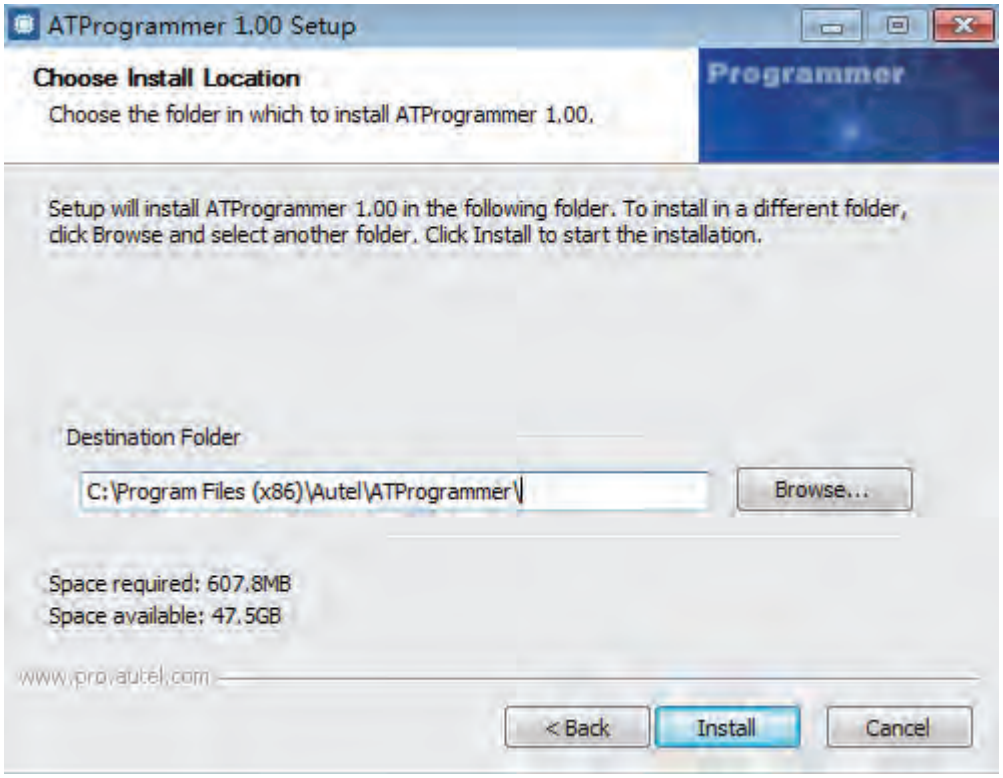
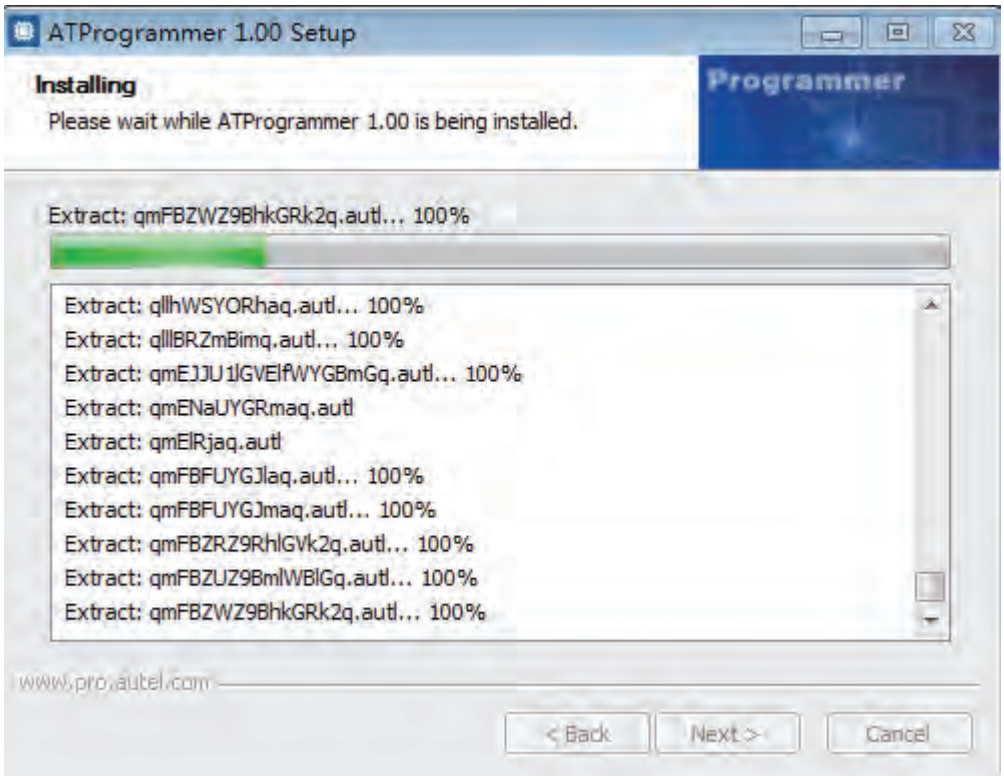
6. Select the destination folder location for installation





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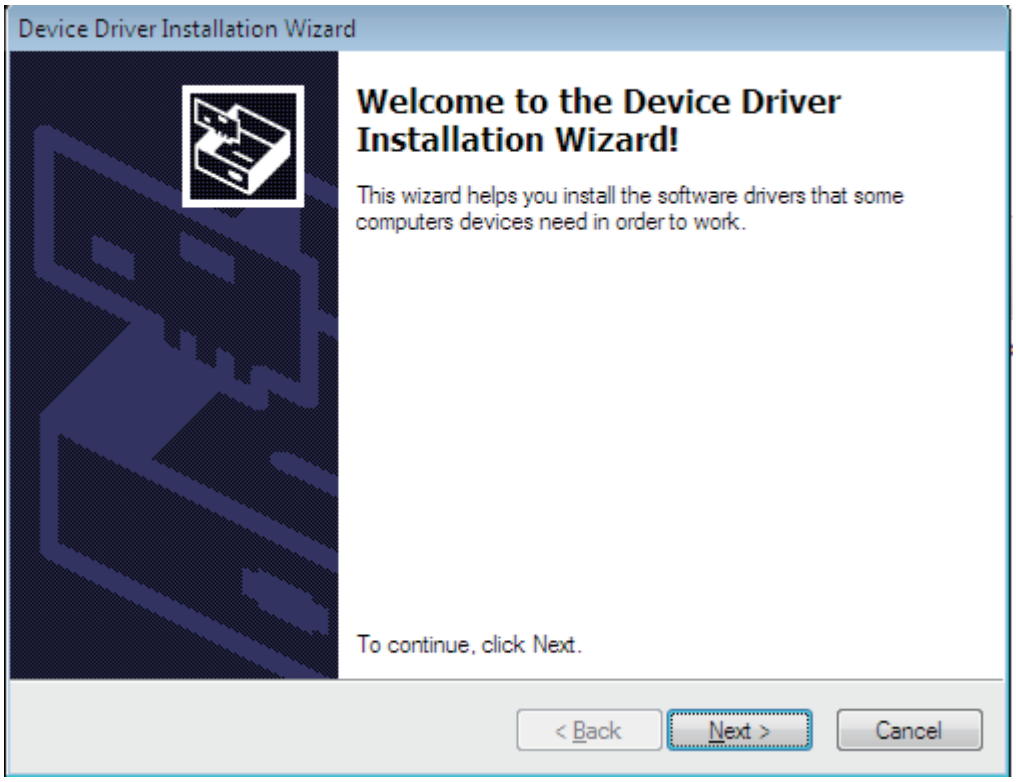
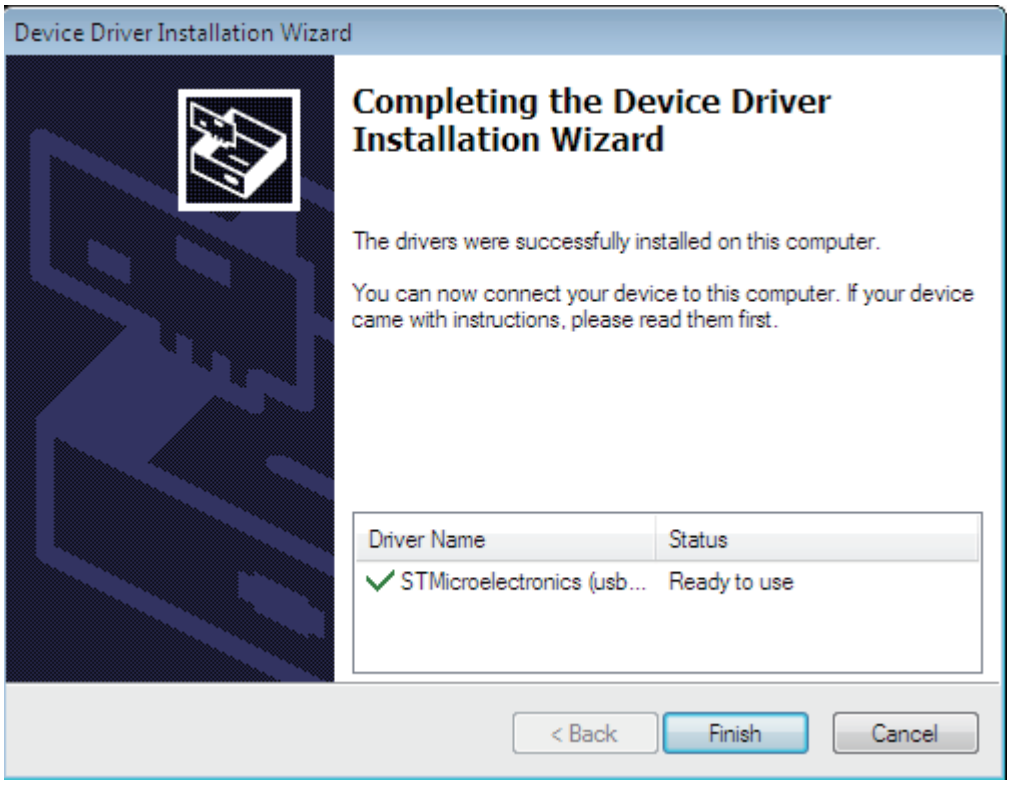
7. Follow the prompts to install the device driver installation wizard.



8. The device driver installation is completed.



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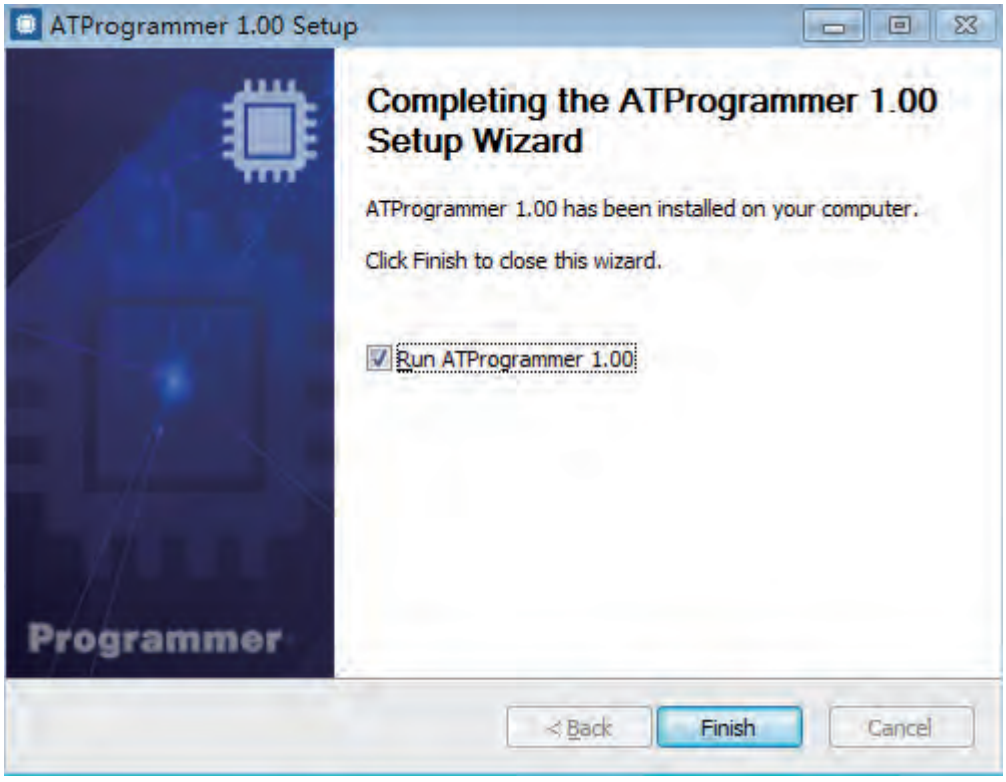
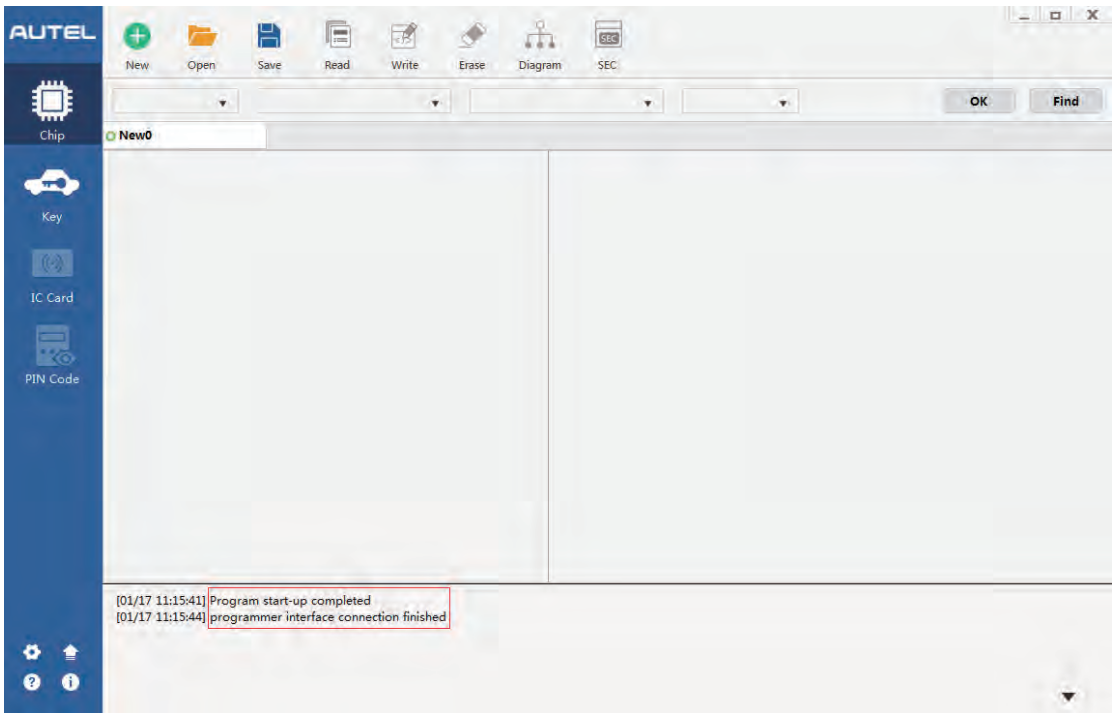
9. The ATProgrammer software installation is completed.



10. The ATProgrammer is successfully started and the programmer is successfully connected.



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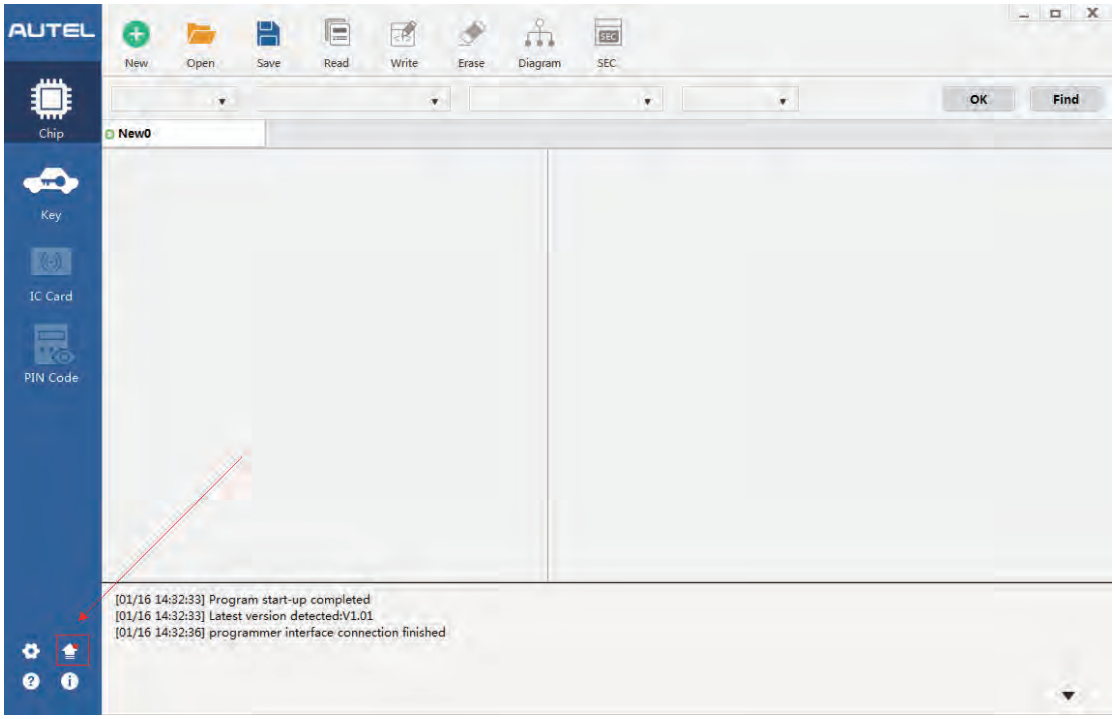
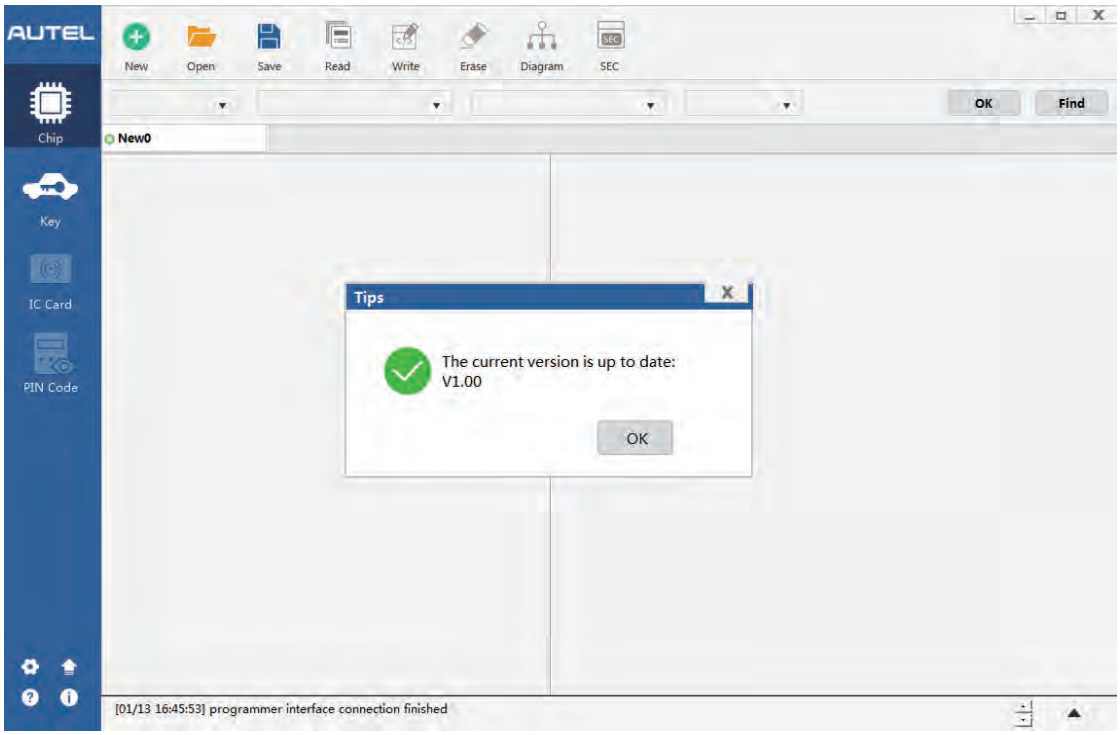
11. After installation of the ATProgrammer, if a new version of the ATProgrammer software is available, you can click the upgrade icon in the lower left corner to upgrade.



12. The tips that the current version is up to date will be displayed if the version is the latest. Upgrade will be prompted if a new version is available.



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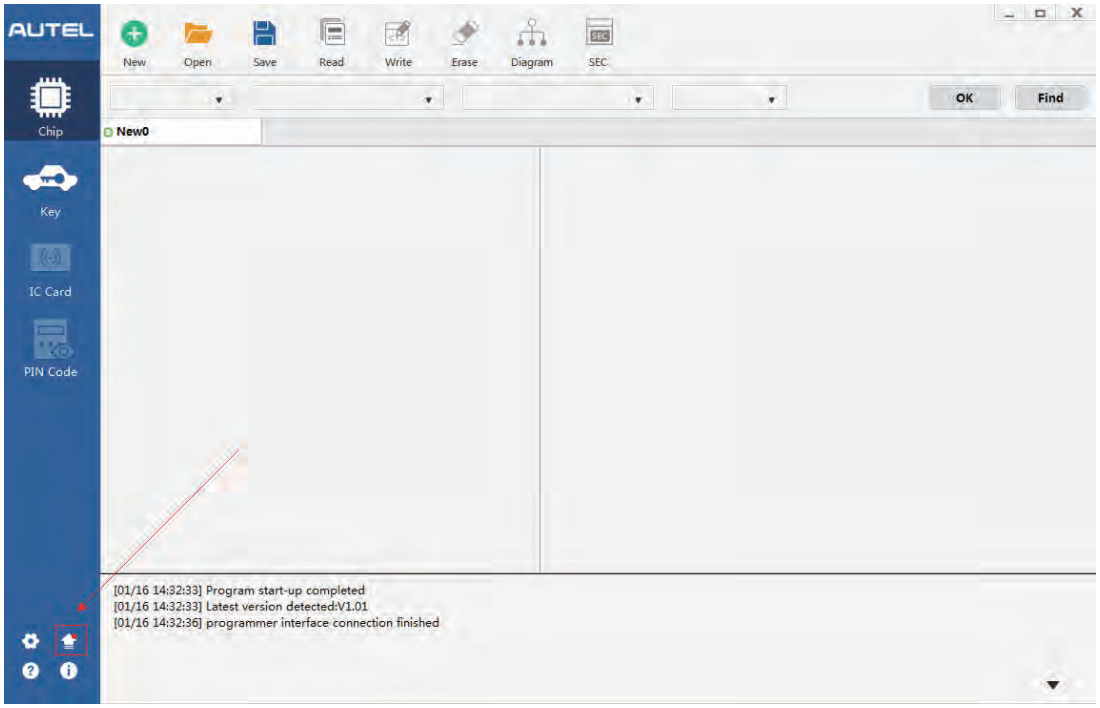
4.2 Automatic Upgrade via ATProgrammer Software

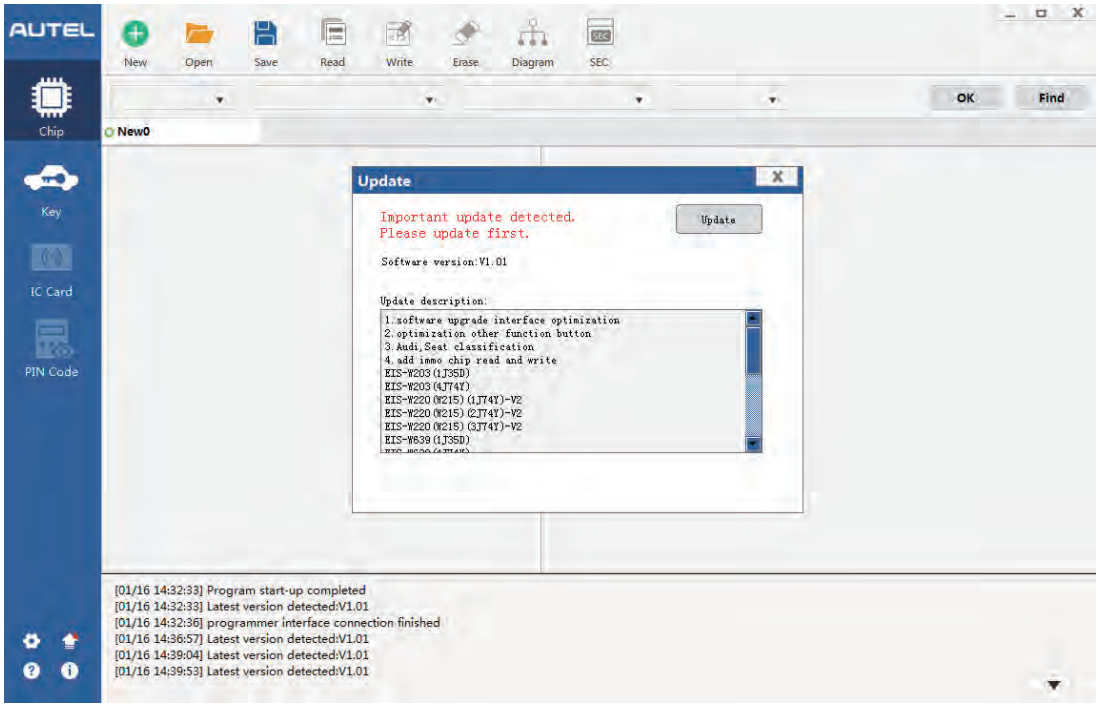
The software and XP400 firmware can be upgraded automatically via ATProgrammer software.

The specific steps are as follows:

1. Select the upgrade icon in the lower left corner.



2. The software will automatically detect the latest version and click [Update] to upgrade.



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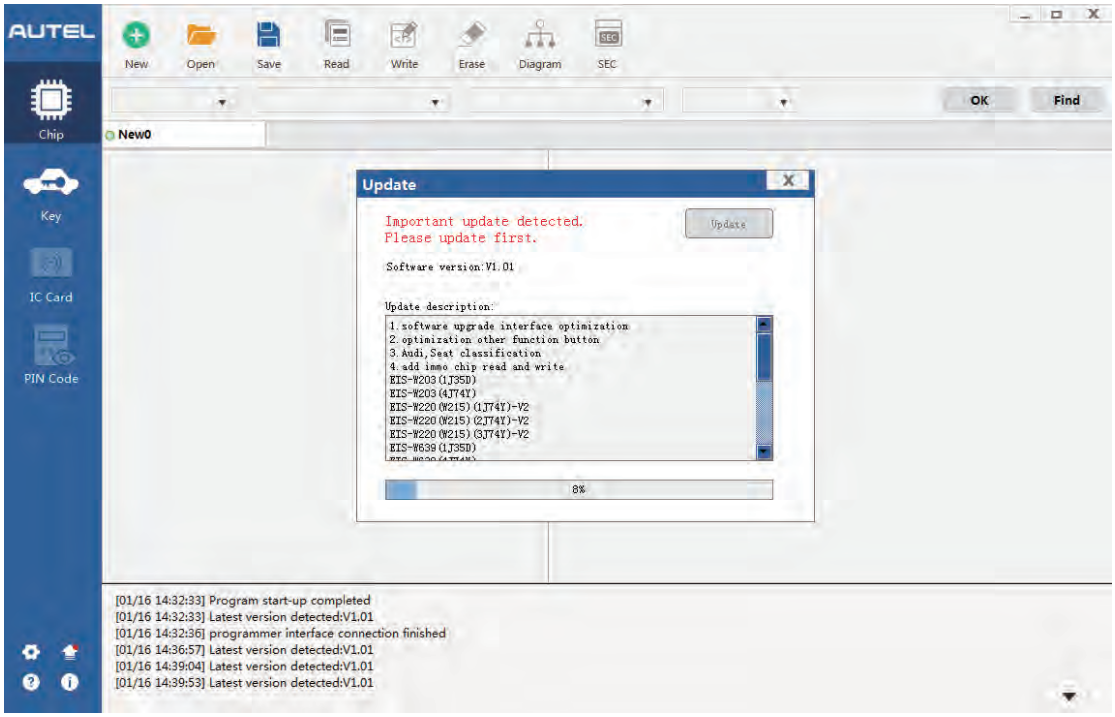
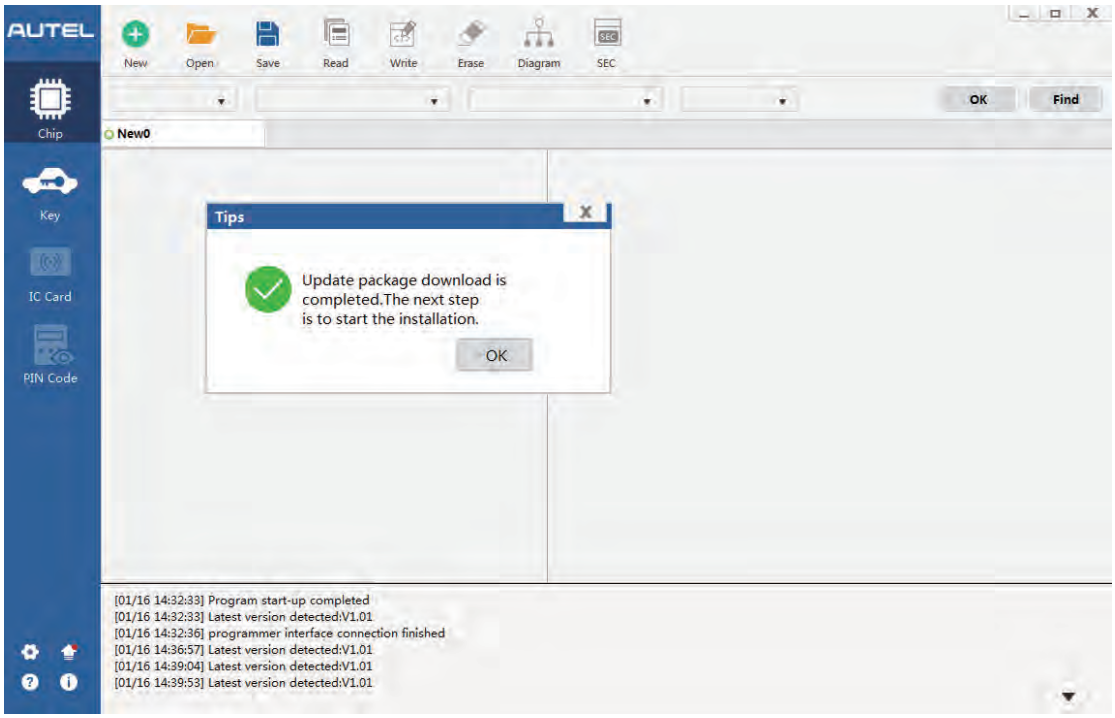
3. The upgrade process may be slow. Please be patient and do not close the software!



4. Update package download is completed. Click [OK] and follow the prompts to install the software.



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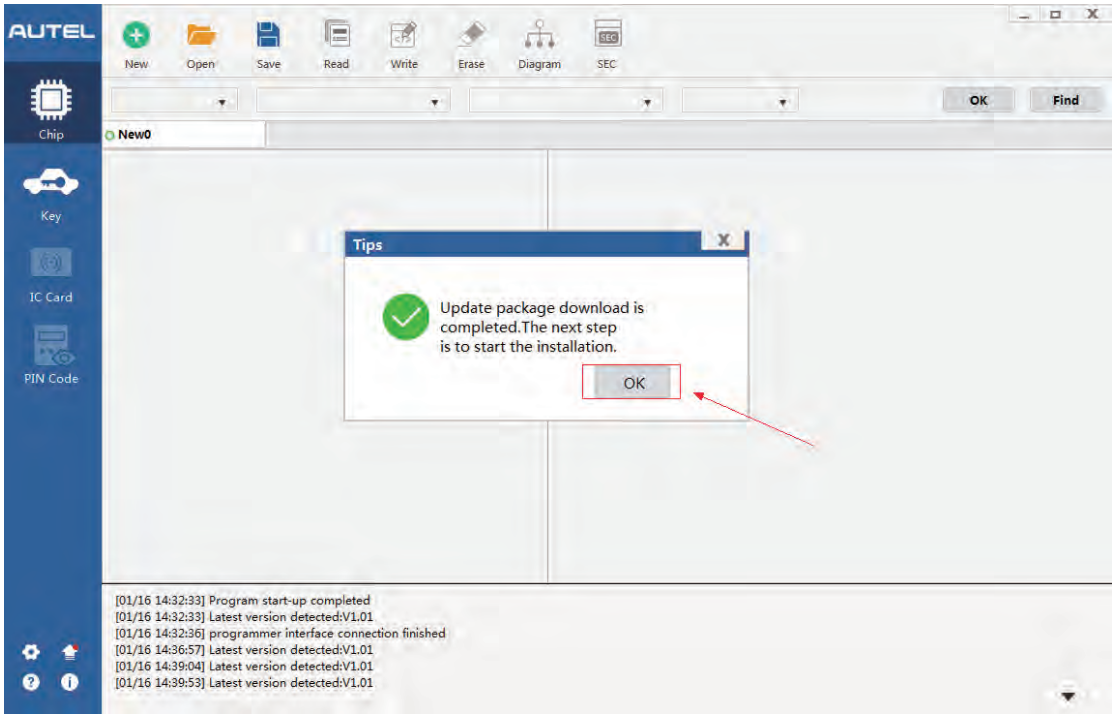

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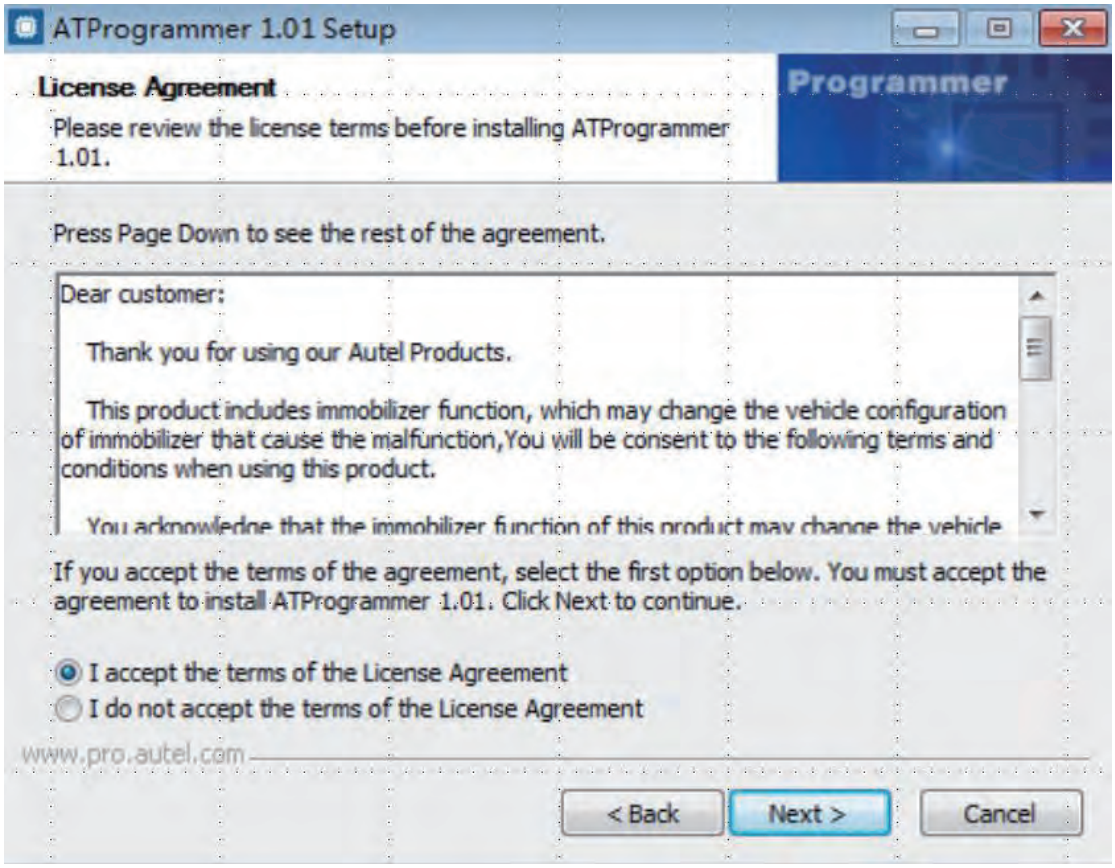

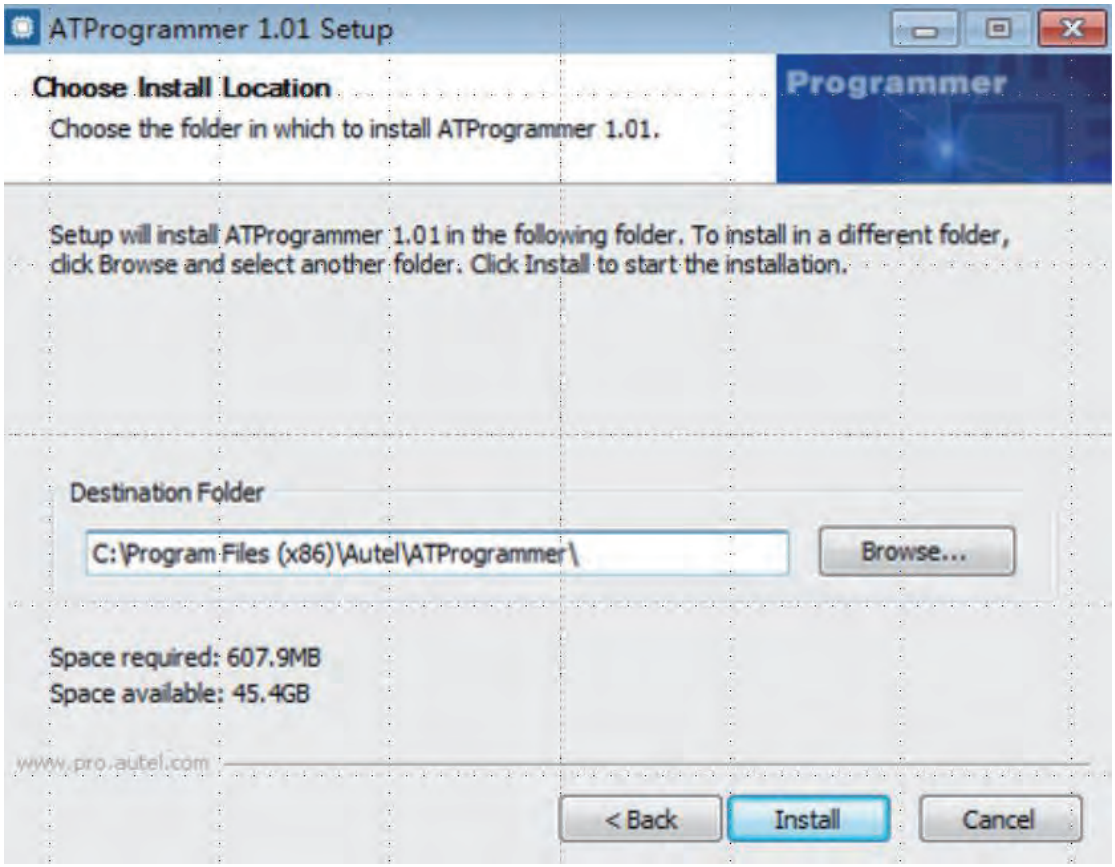

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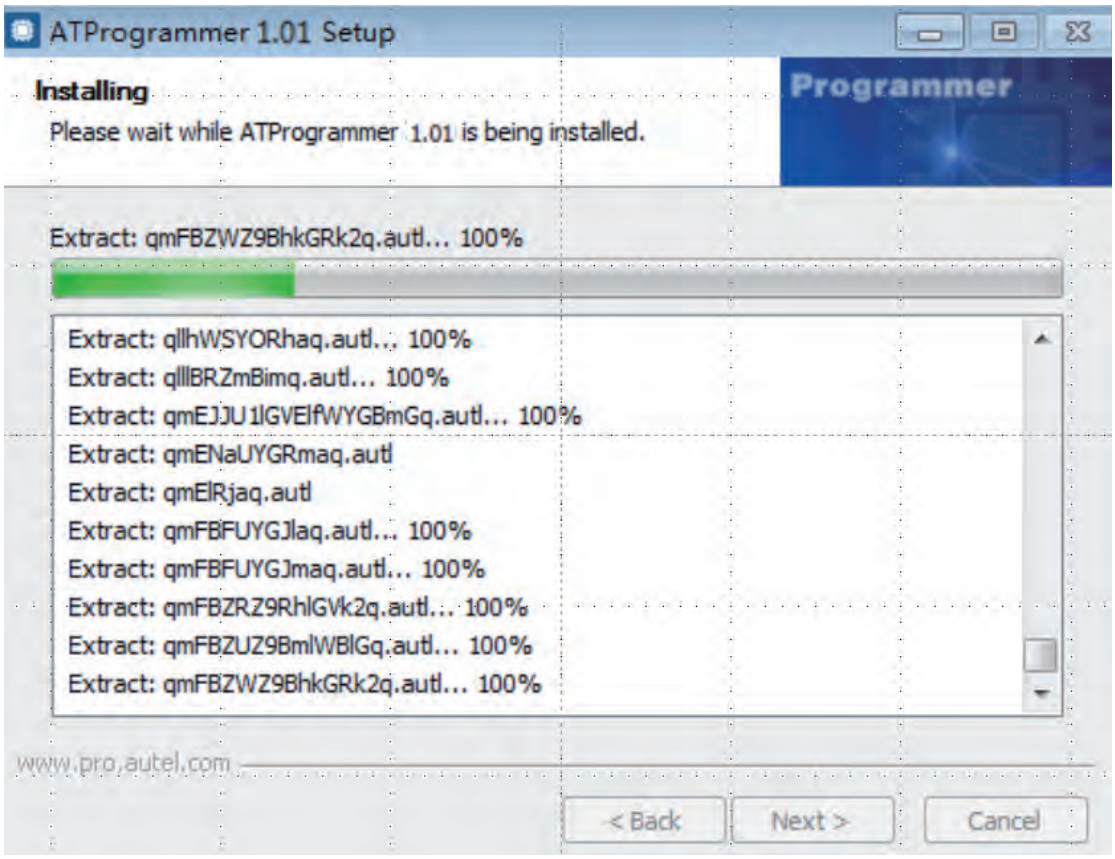

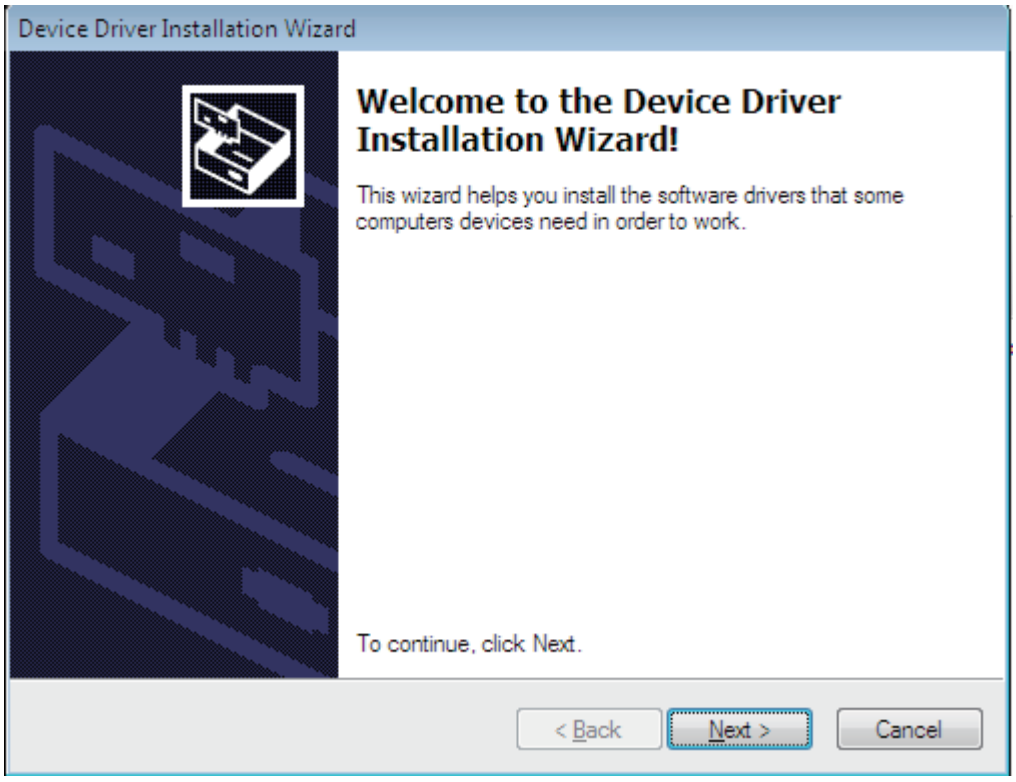

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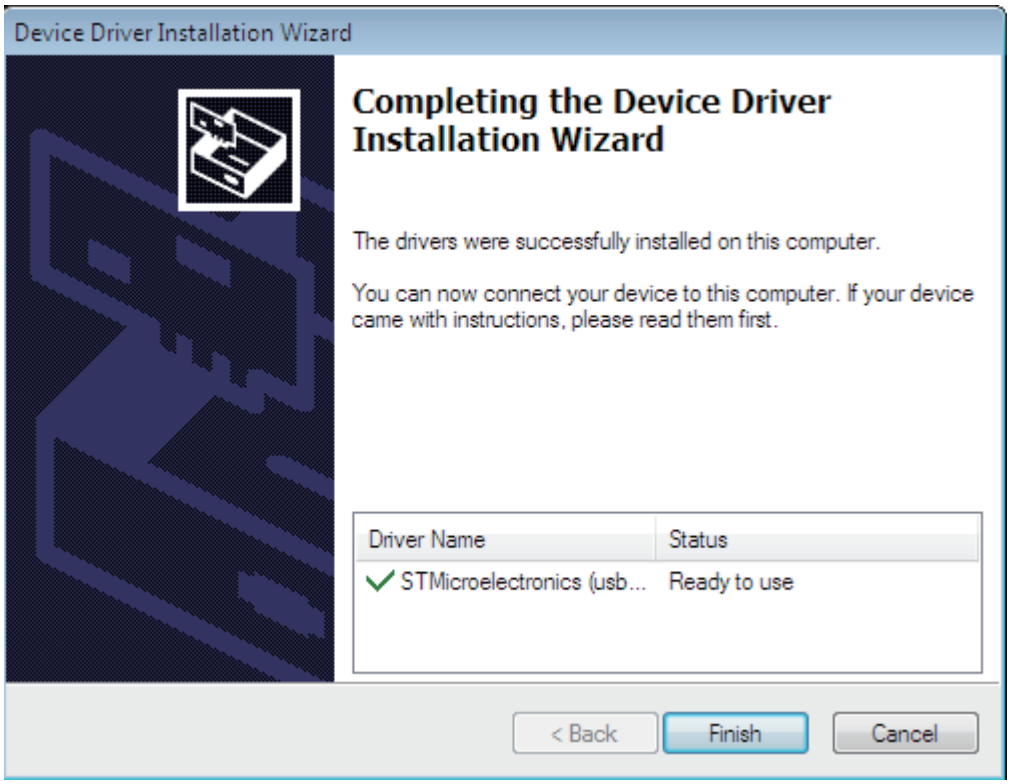

5. The ATProgrammer has been installed on your computer. Connect XP400 with your computer via USB and open the ATProgrammer.

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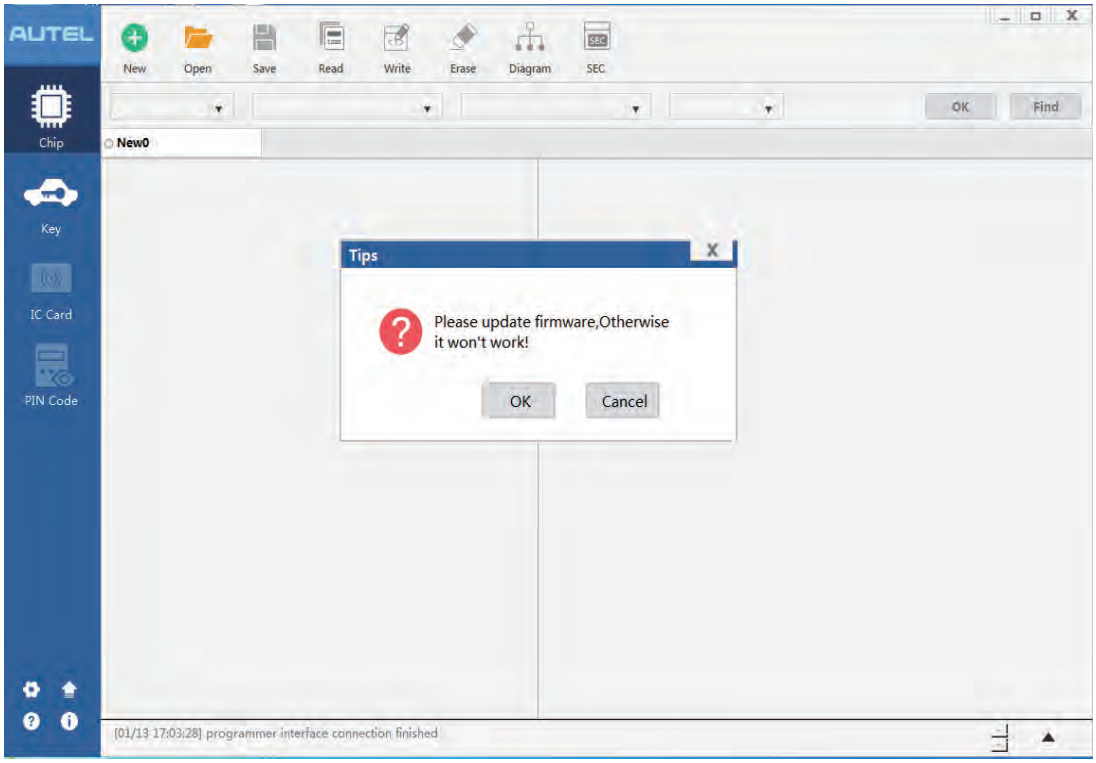
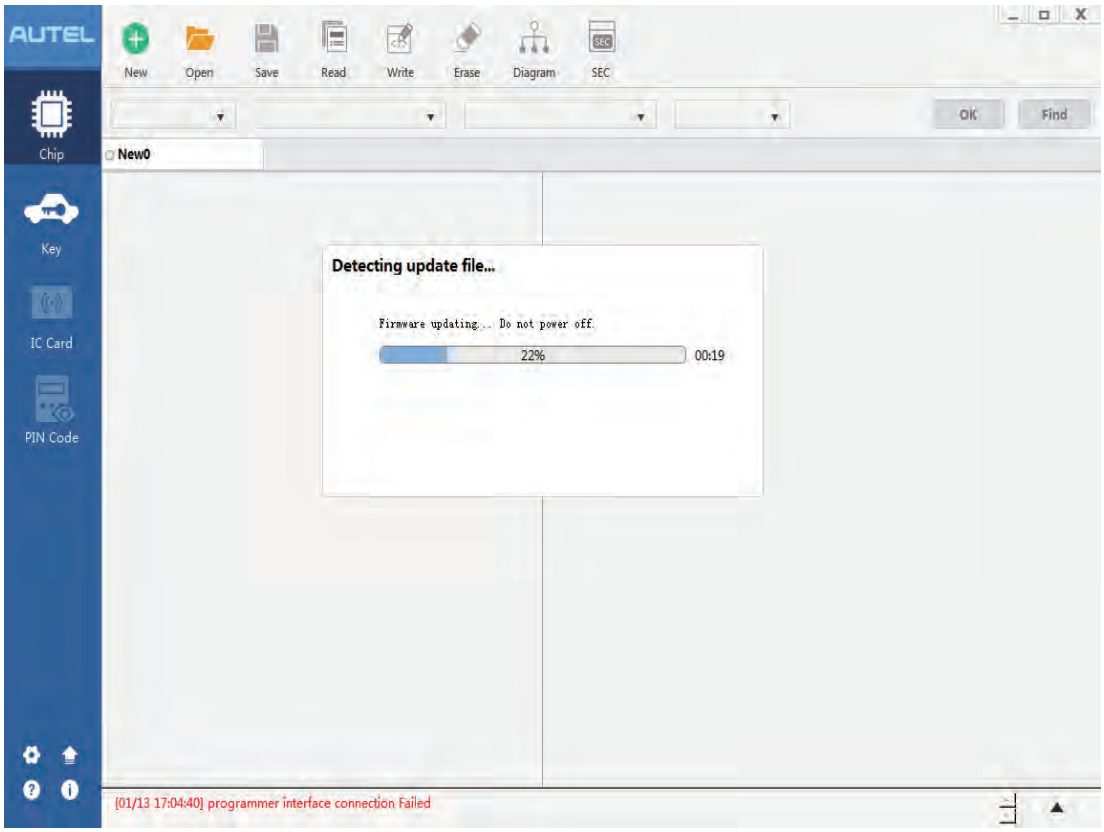
6. Firmware detected must be upgraded. Click [OK] to upgrade. (Note: please do not power off during firmware upgrade!)





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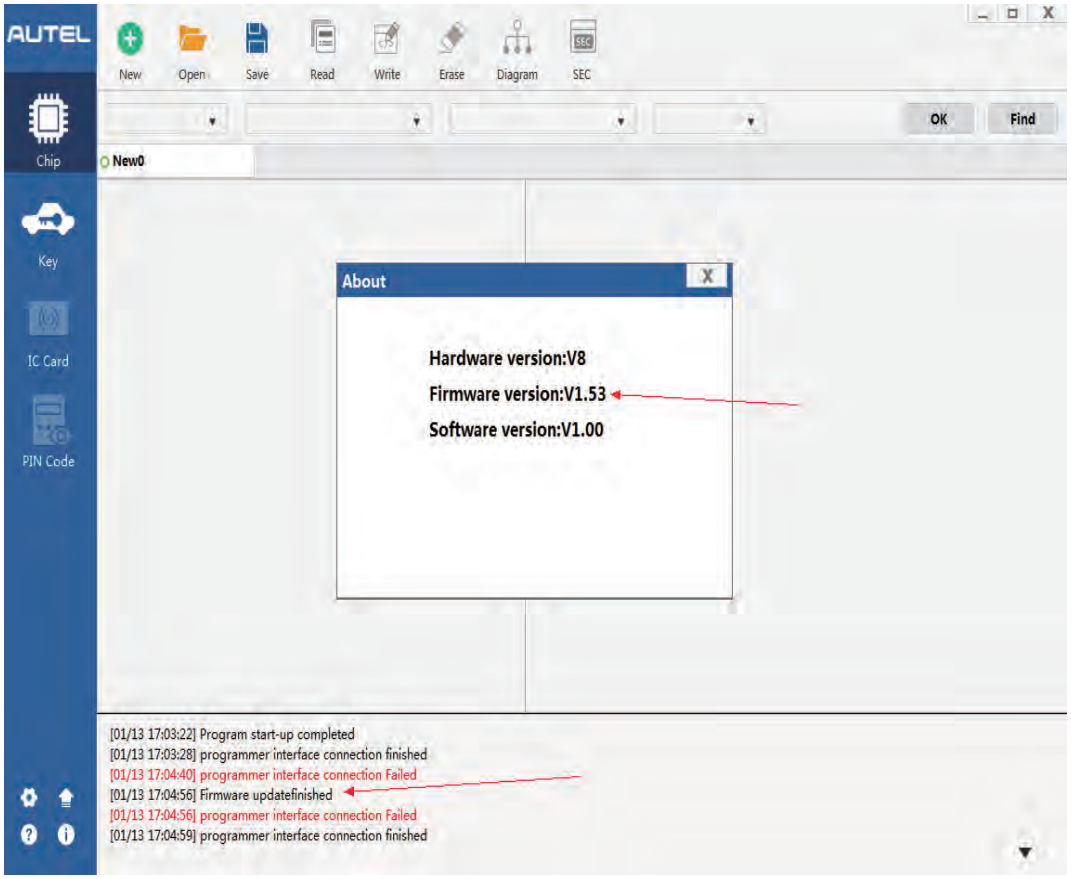
7. The tips that the current software version is up to date will be displayed after the firmware upgrade! The upgrade is over.



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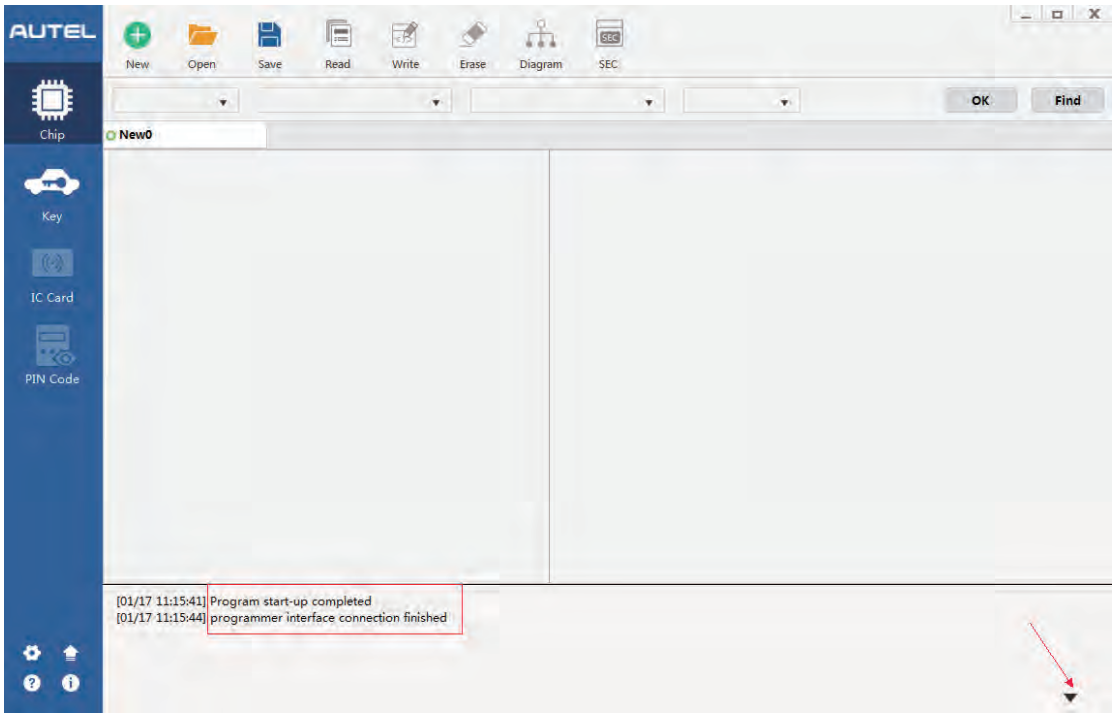
5. ATProgrammer Software

Instructions of ATProgrammer Software Functions

A gray icon indicates that the function is not supported for now.

Program start-up completed: The ATProgrammer software is successfully opened.
Serial interface connection finished: XP400 is successfully connected to the computer.
Click the arrow in the lower right corner to view the ATProgrammer log.



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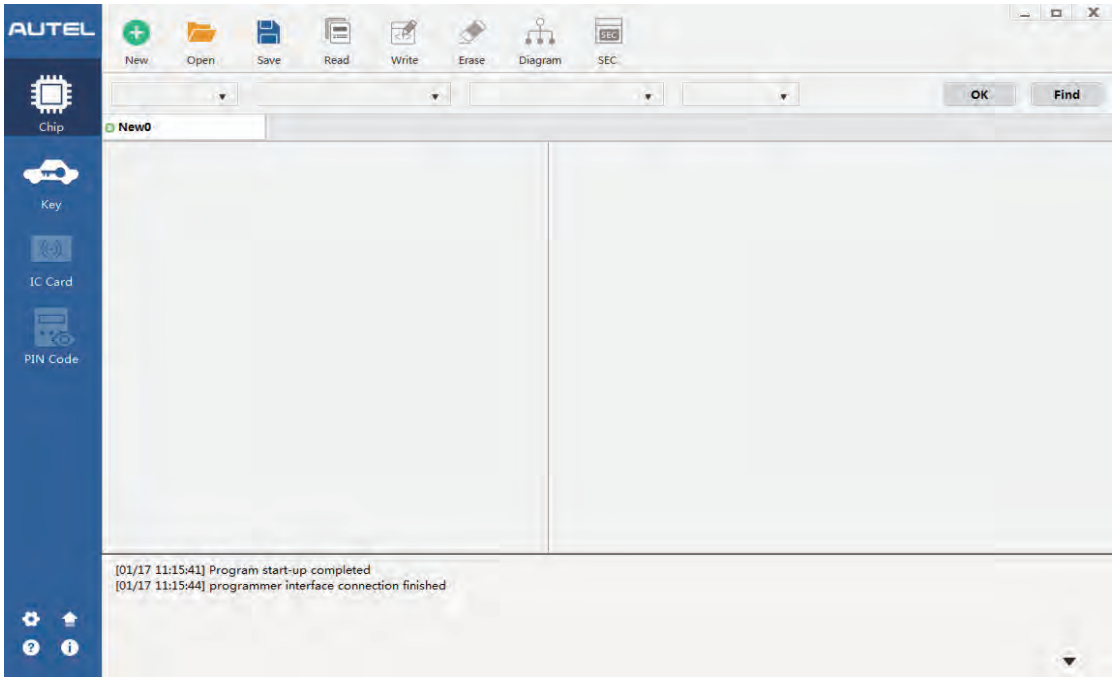
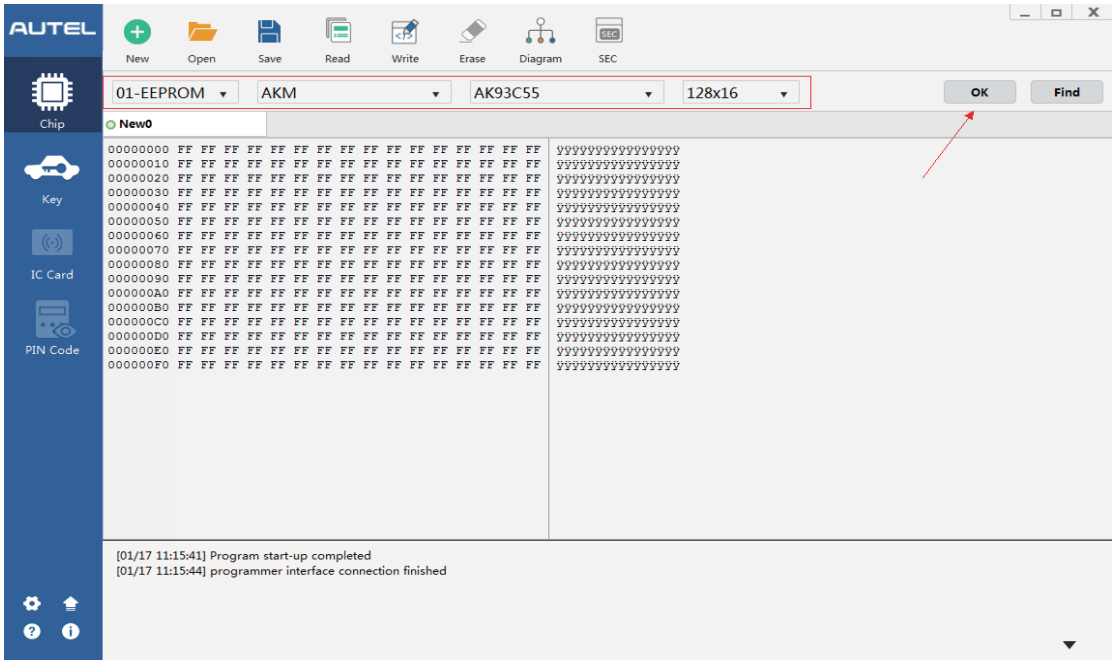
5.1 Interface of ATProgrammer Software



5.1.1 Initial Interface

Initial interface: the programmer interface connection is finished (the XP400 Super Programmer is successfully connected to the ATProgrammer). To perform the Chip Reading and Writing function, it is necessary to select the corresponding type, manufacturer, chip model and size, and then click [OK] to go to the chip operation interface.



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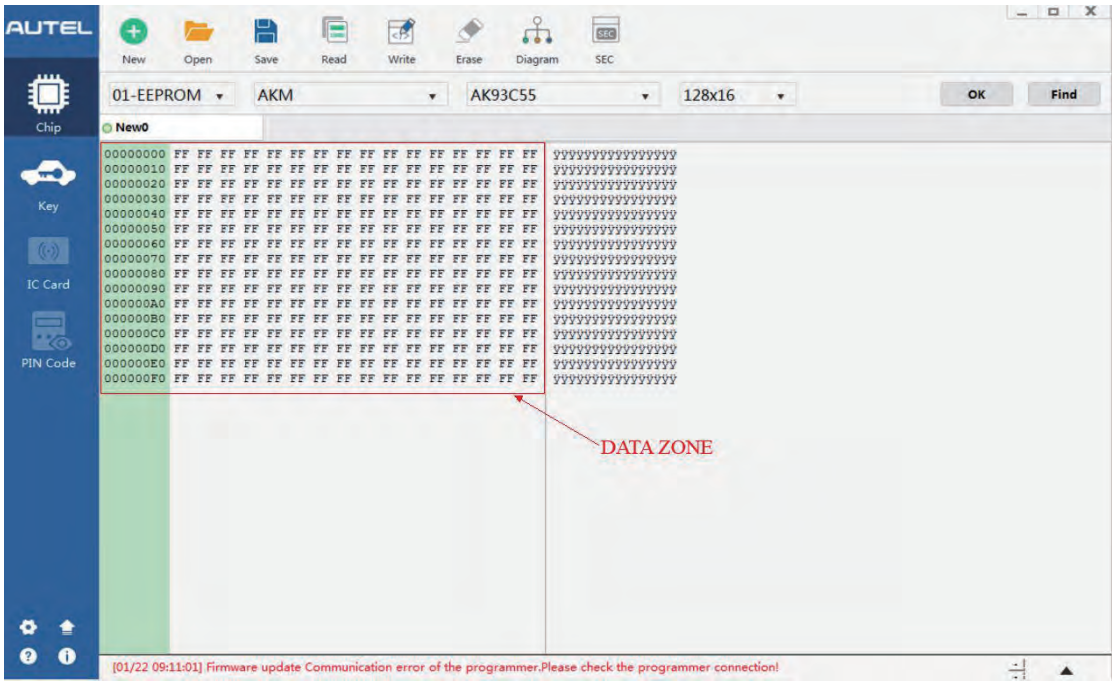
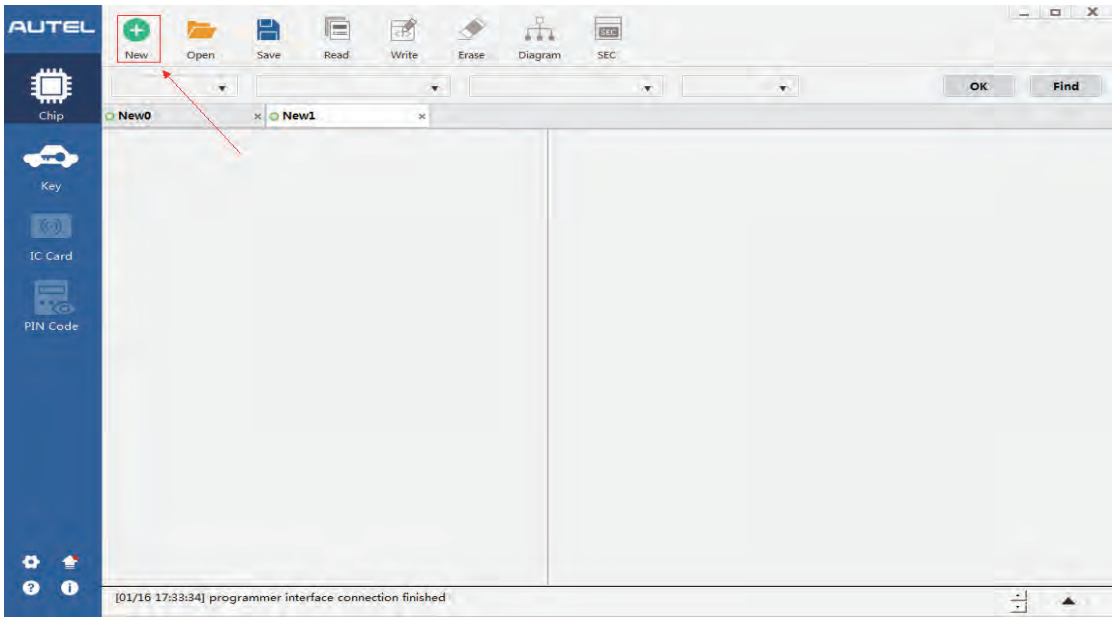
5.2 Chip

Note: Different chip models support different functions.

5.2.1 New

New: The data zone is displayed as in the red frame below. Click [New] to open a New1. After opening New1, you need to select the corresponding chip type and size, and click [OK] to execute the corresponding function. When the current data is inconsistent with the selected chip capacity, it is recommended to create a new file window.





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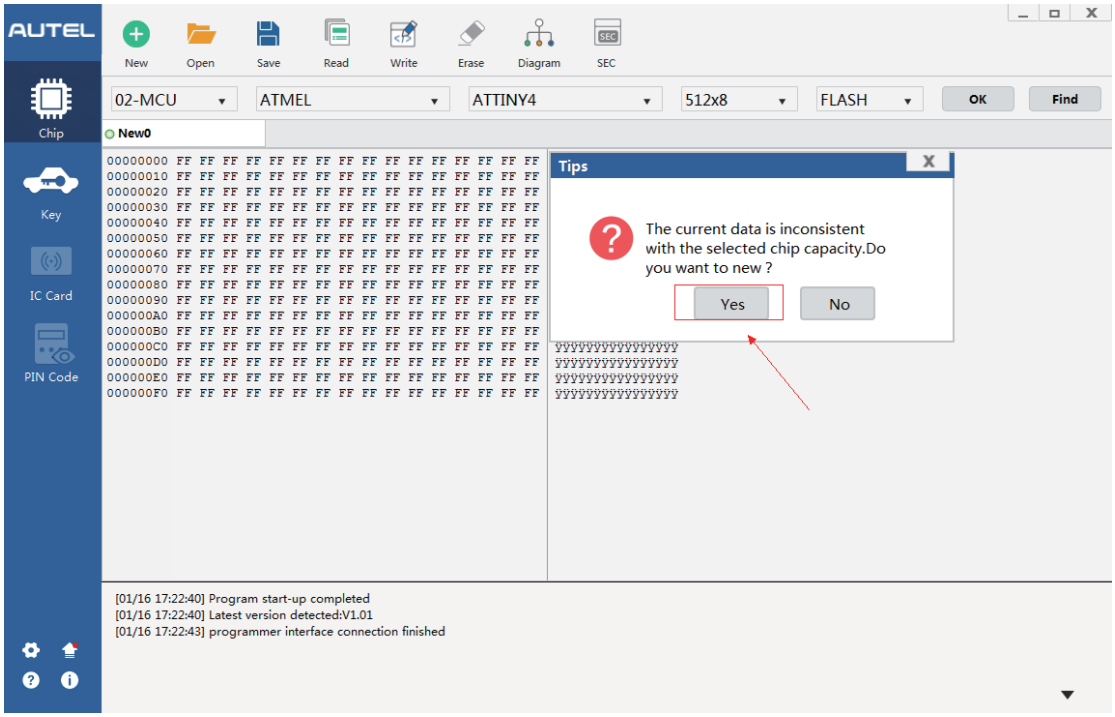

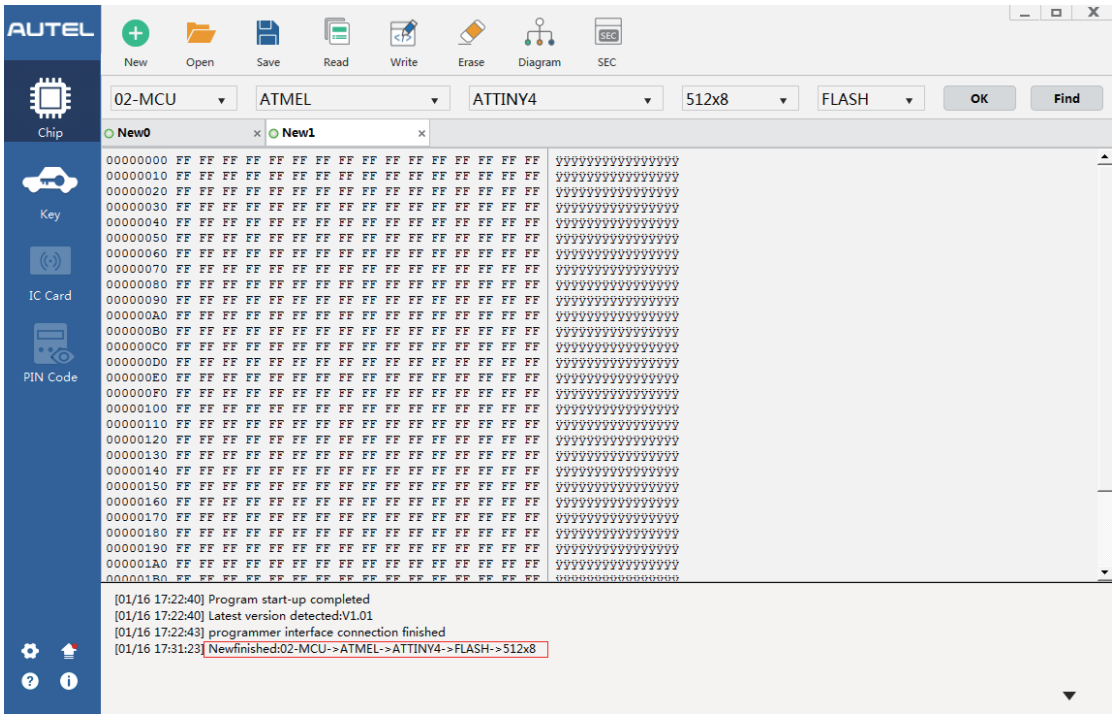

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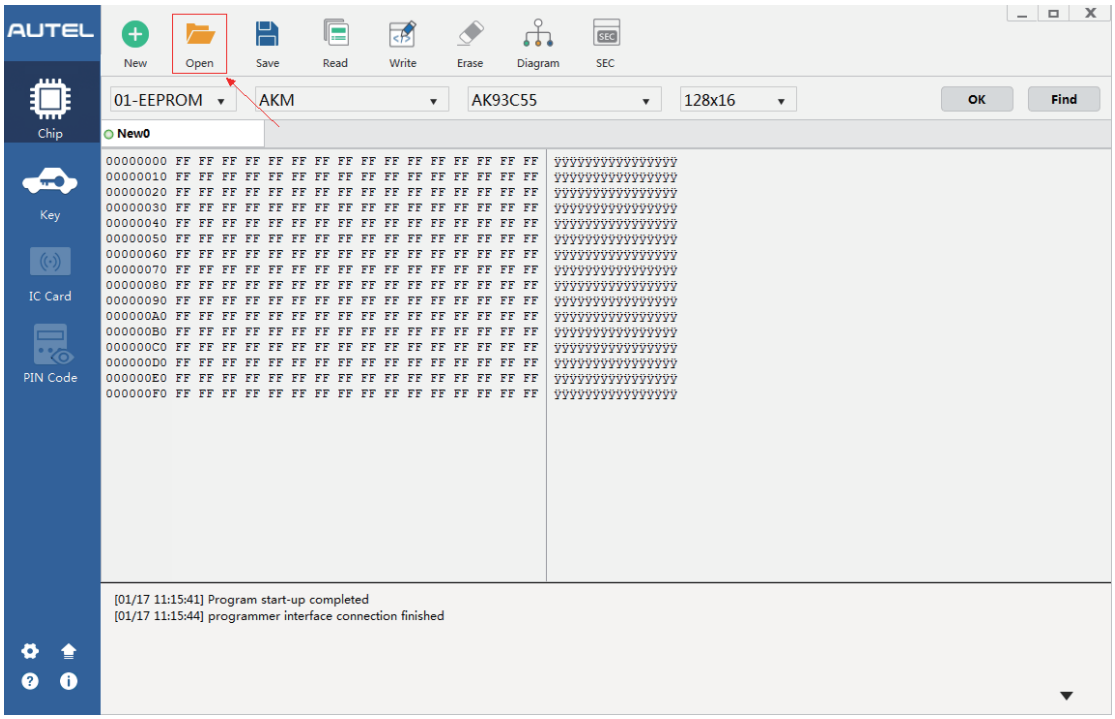
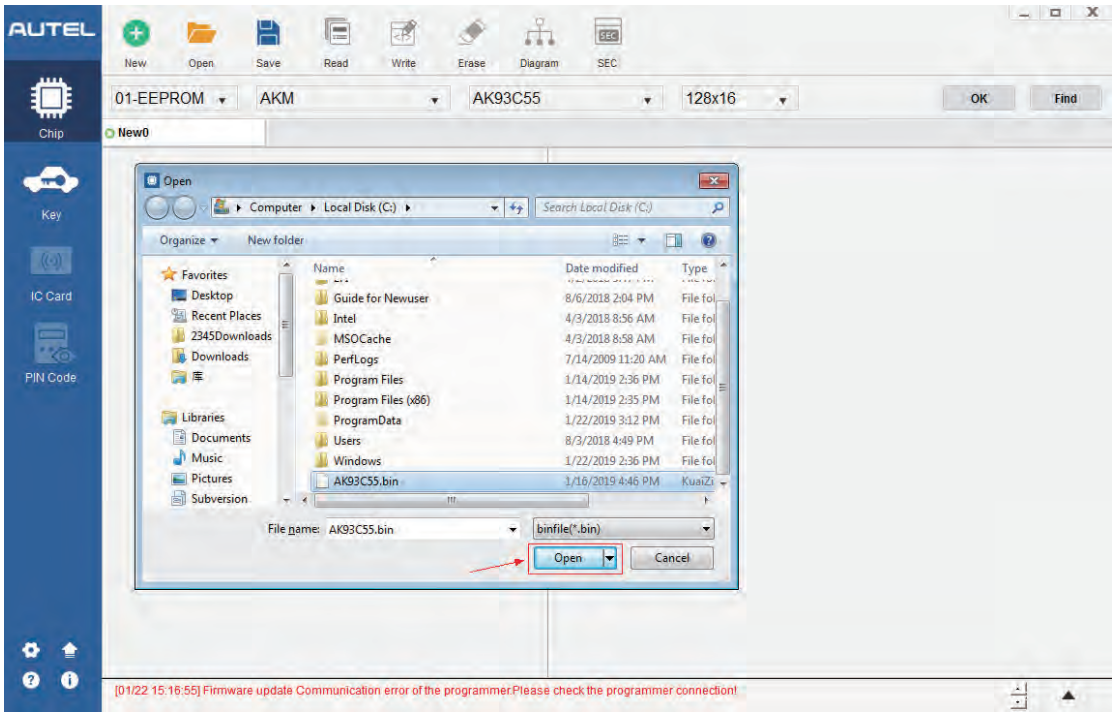
5.2.2 Open

Open: Open the folder to load a file or create a new folder.





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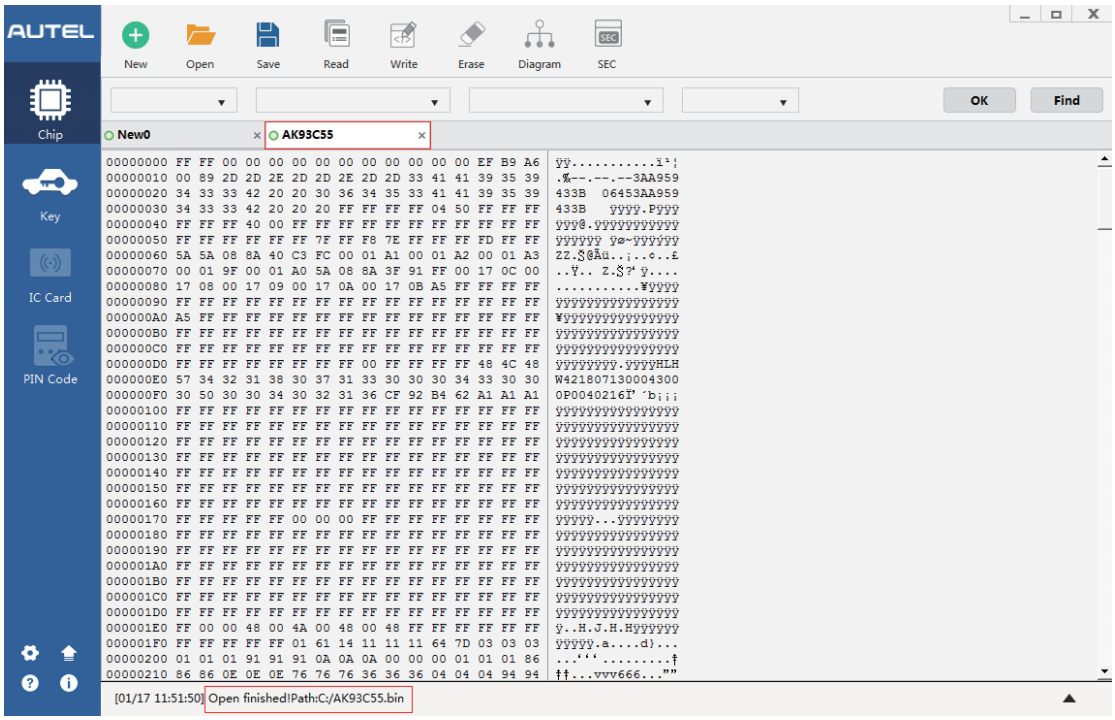
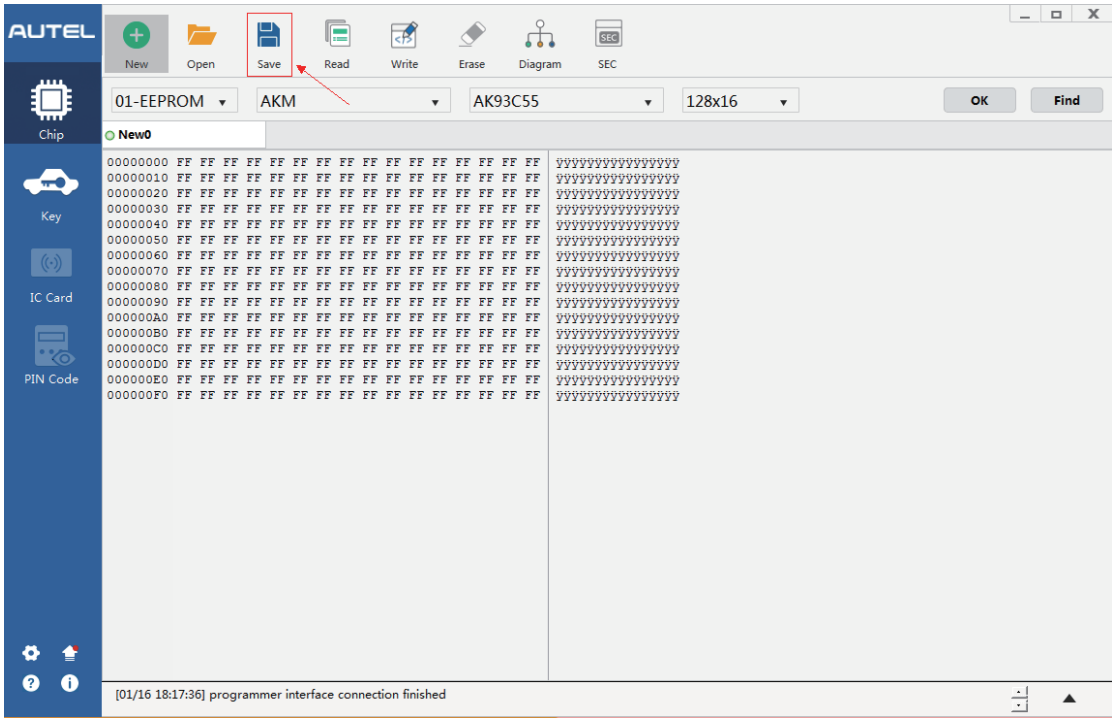


5.2.3 Save

Save: Save the current data to a local file. The name of the saved file is the default chip model (the file name can be changed). Please confirm whether the data has been saved before closing the current interface or the ATProgrammer software.



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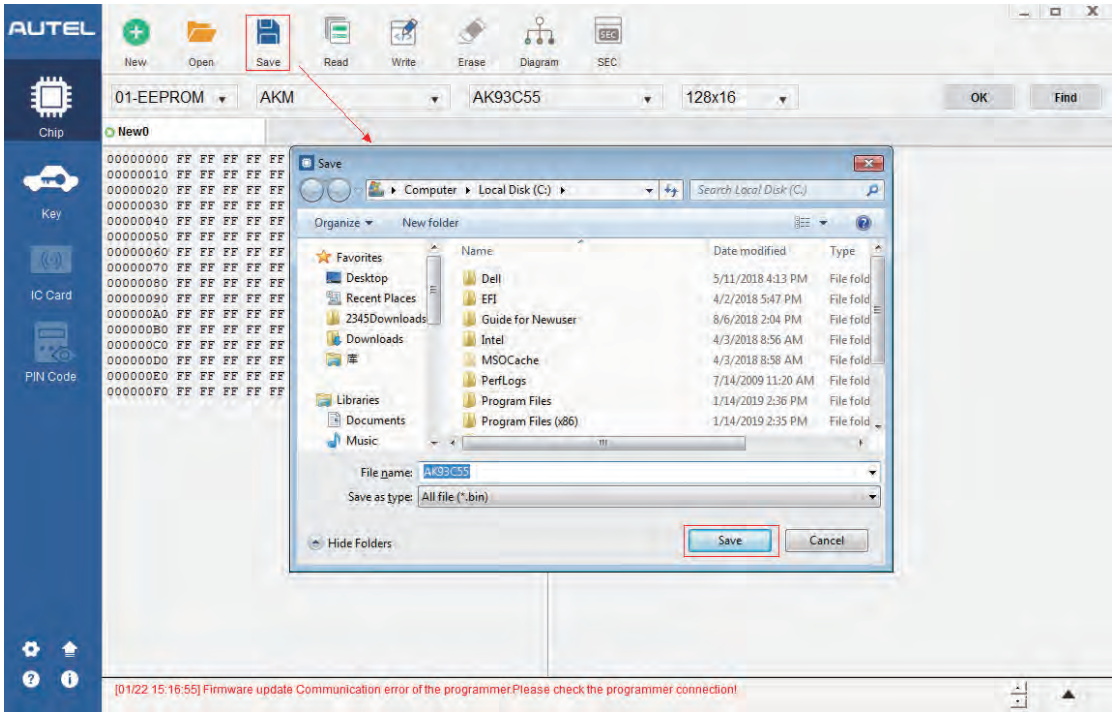

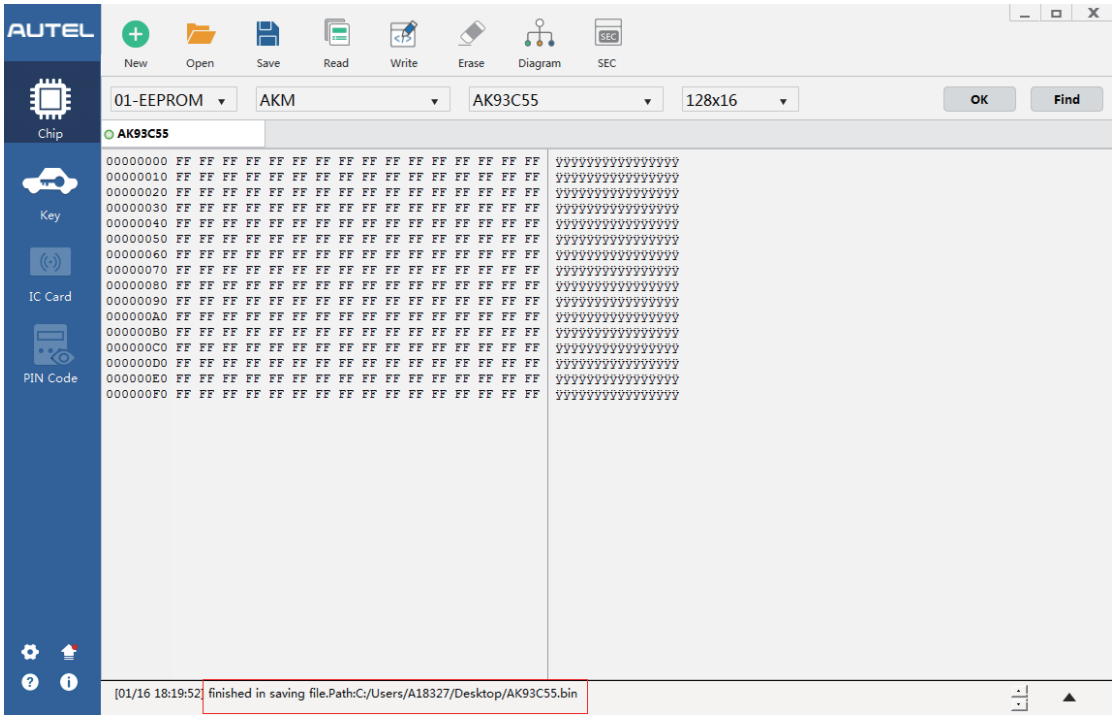

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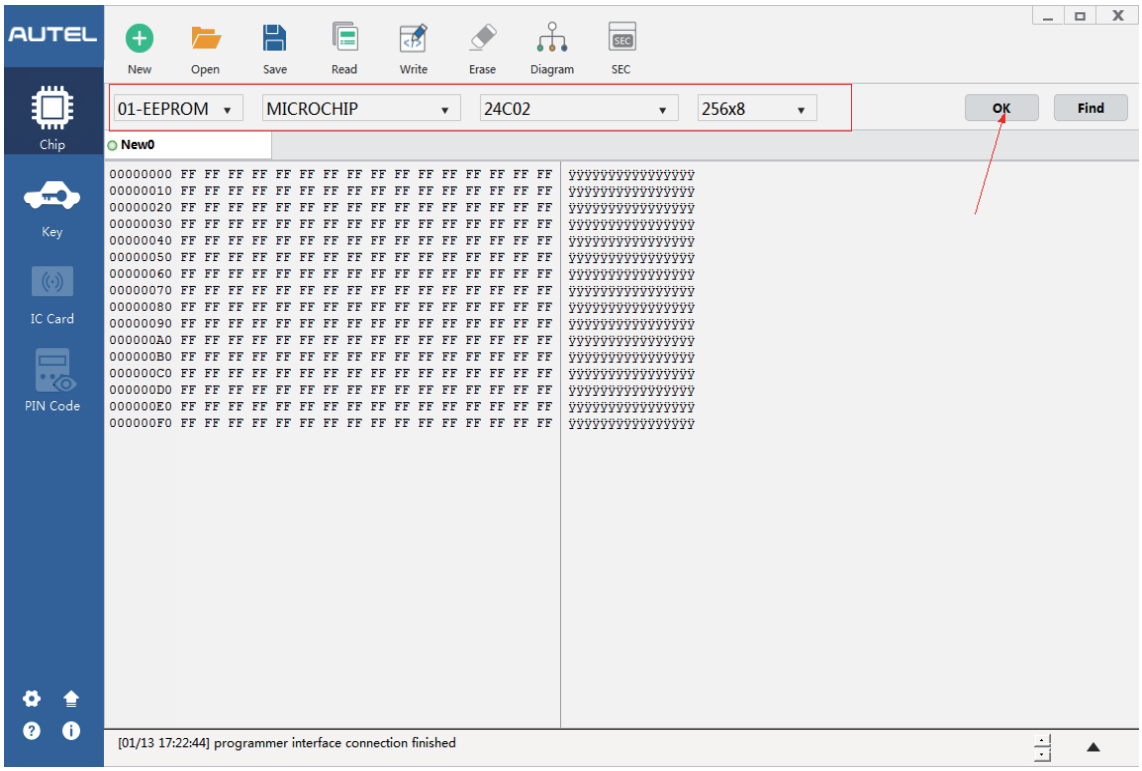
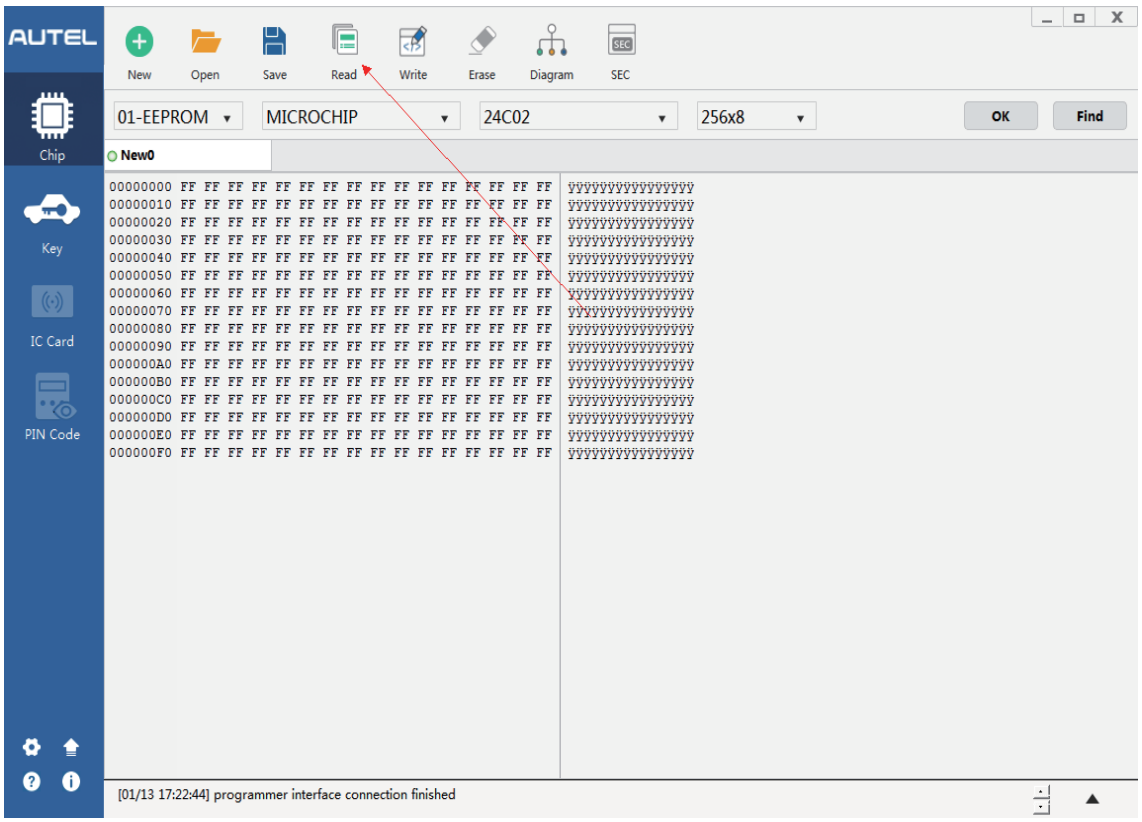
5.2.4 Read

Read: Select the corresponding chip model and read the data stored in the current chip. Some chips may need to be decrypted before the Read function can be performed. Read data, ensuring that data of the current interface is saved.





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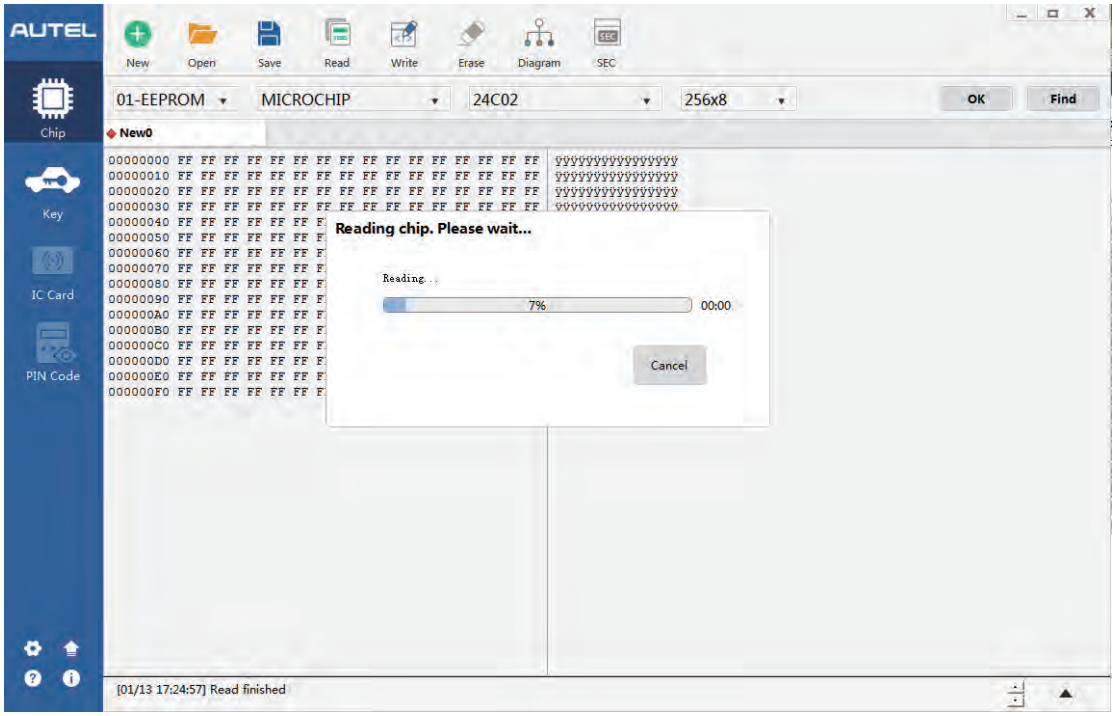

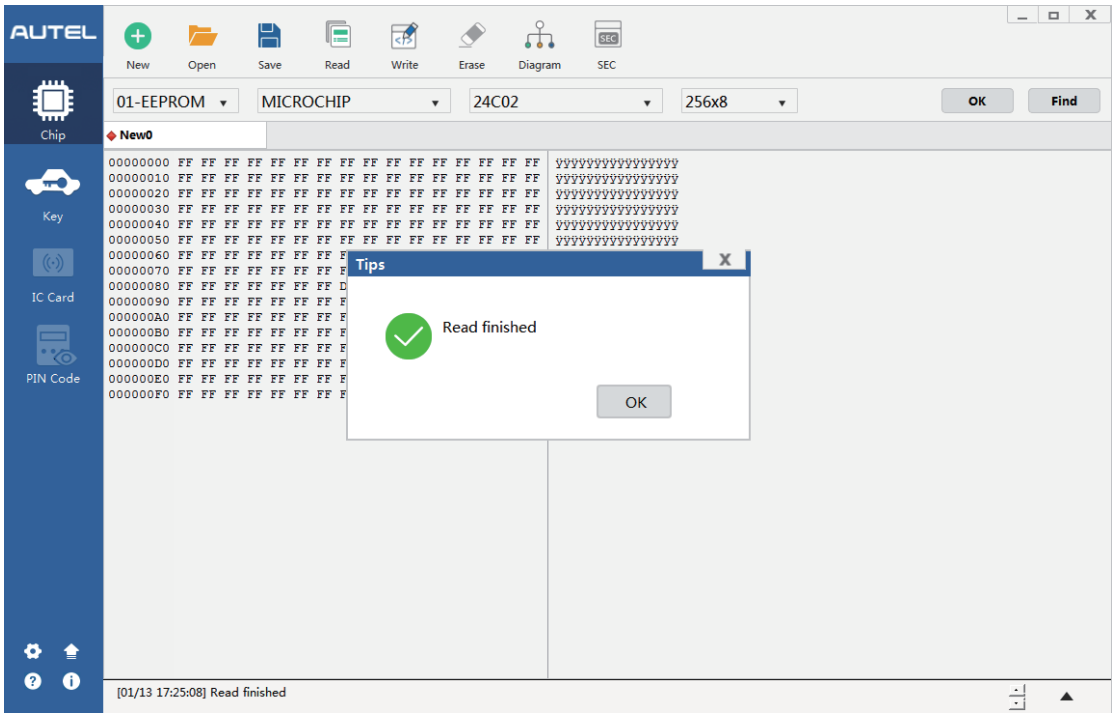

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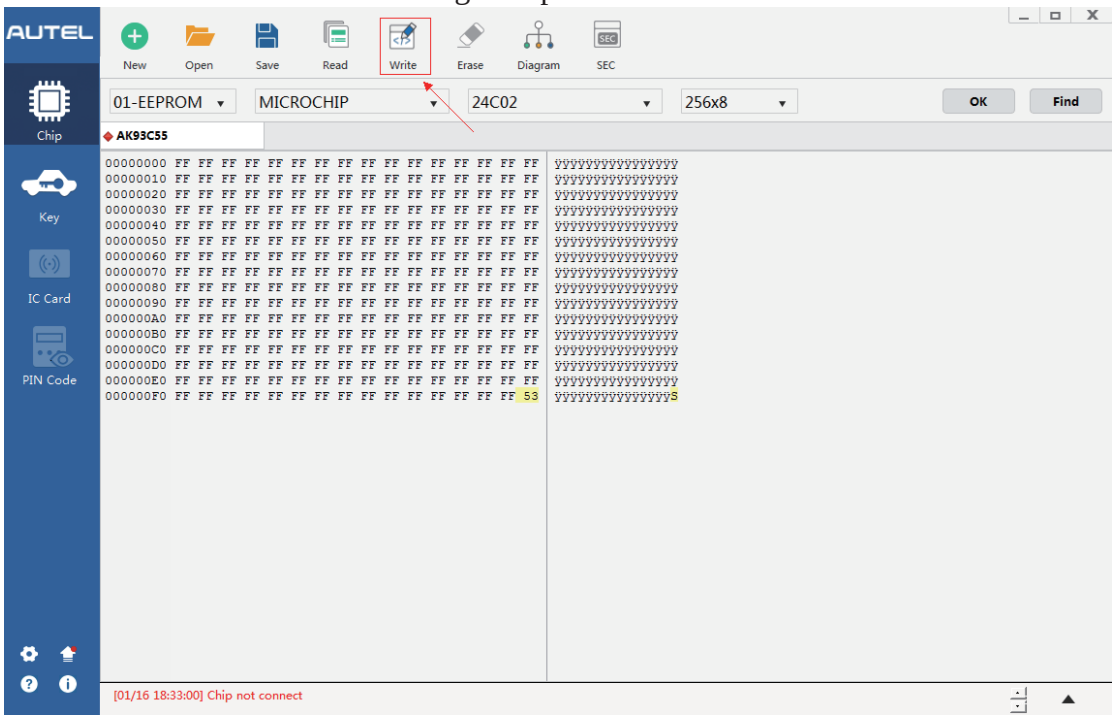
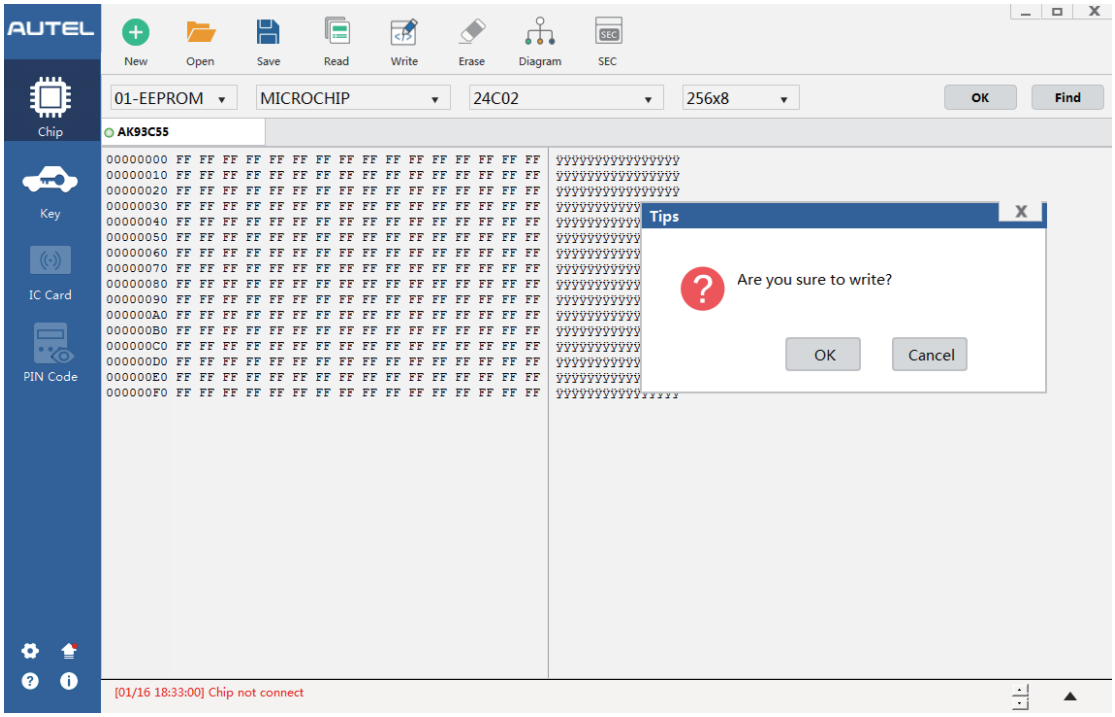
5.2.5 Write

Write: Write current data to the target chip.





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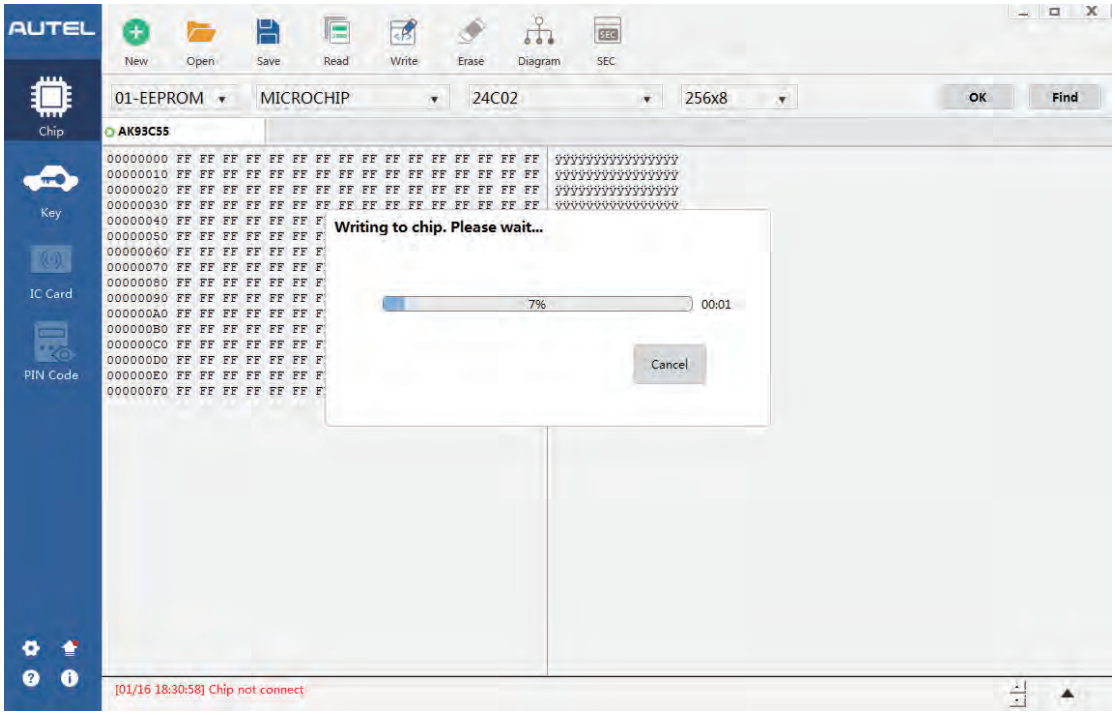

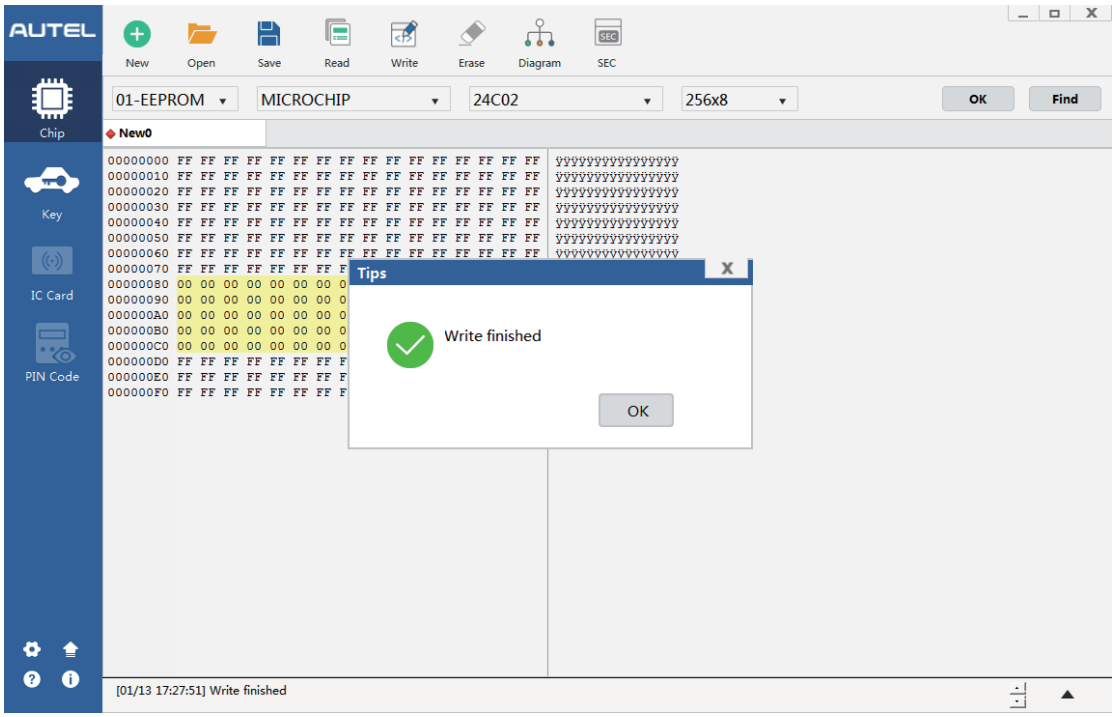

5.2.6 Diagram

Diagram: select the chip models to view the corresponding diagrams.

1) EEPROM diagram

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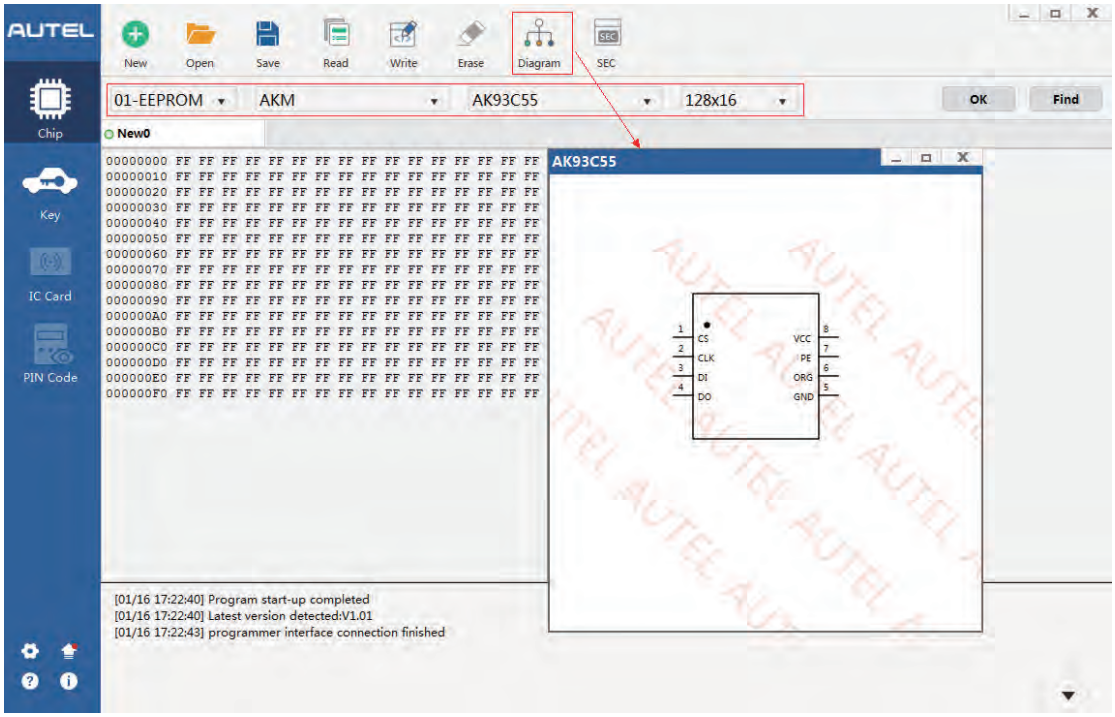
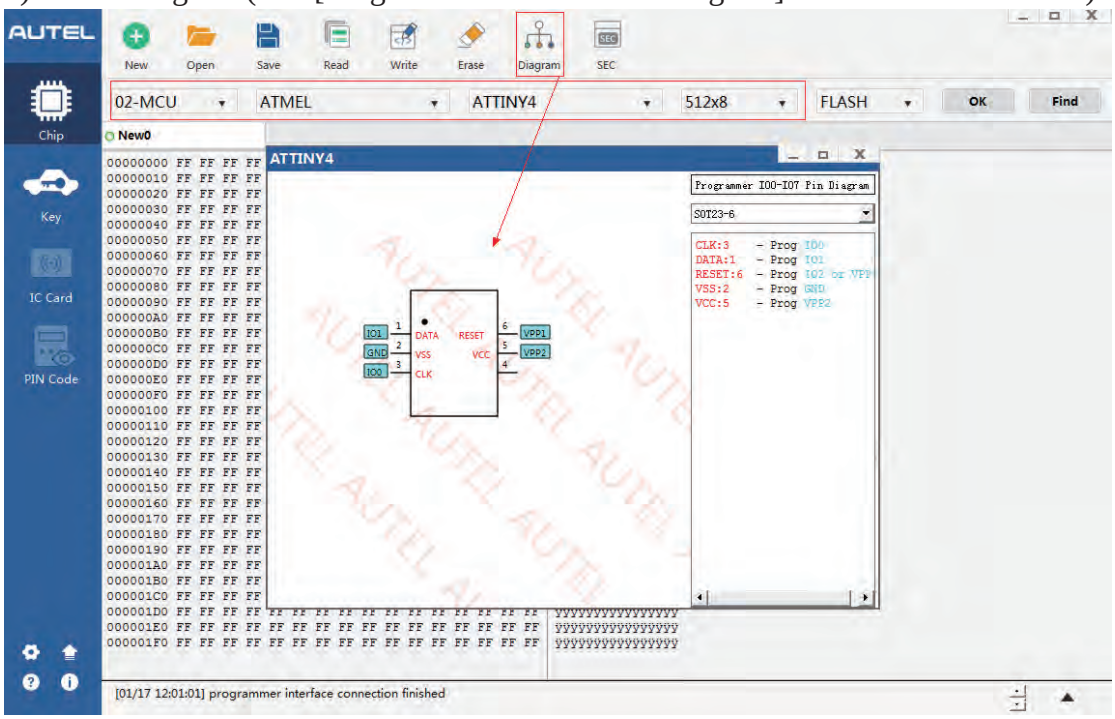


2) MCU diagram (The [Programmer IO0-IO7 Pin Diagram] can be clicked to view.)



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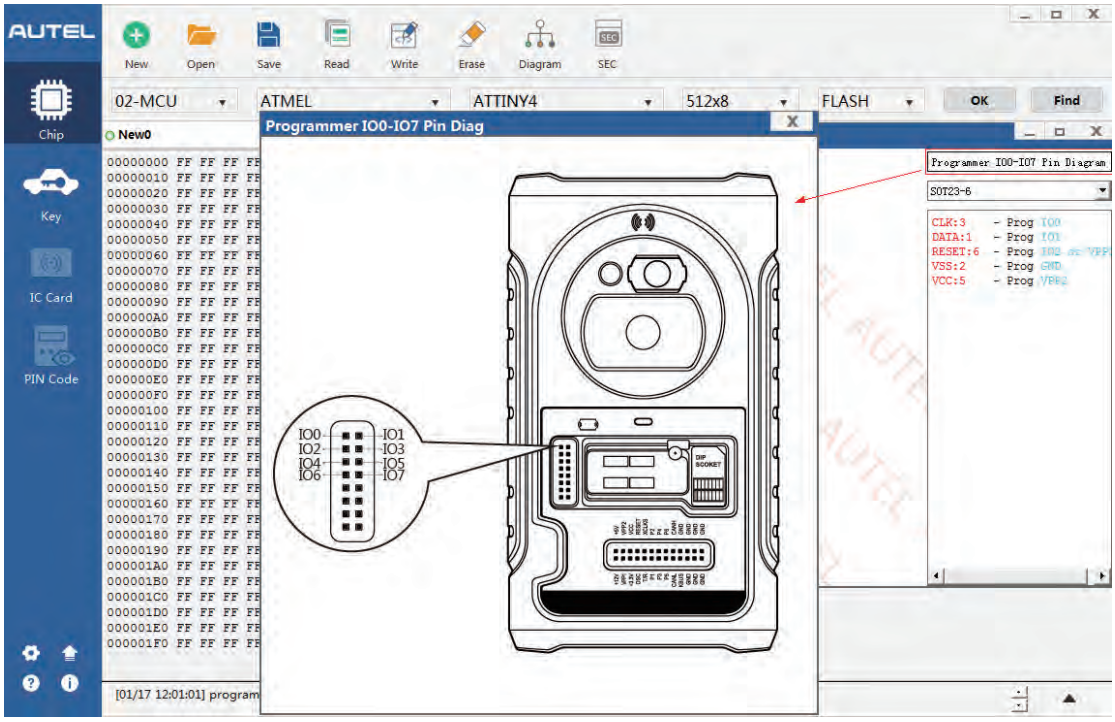
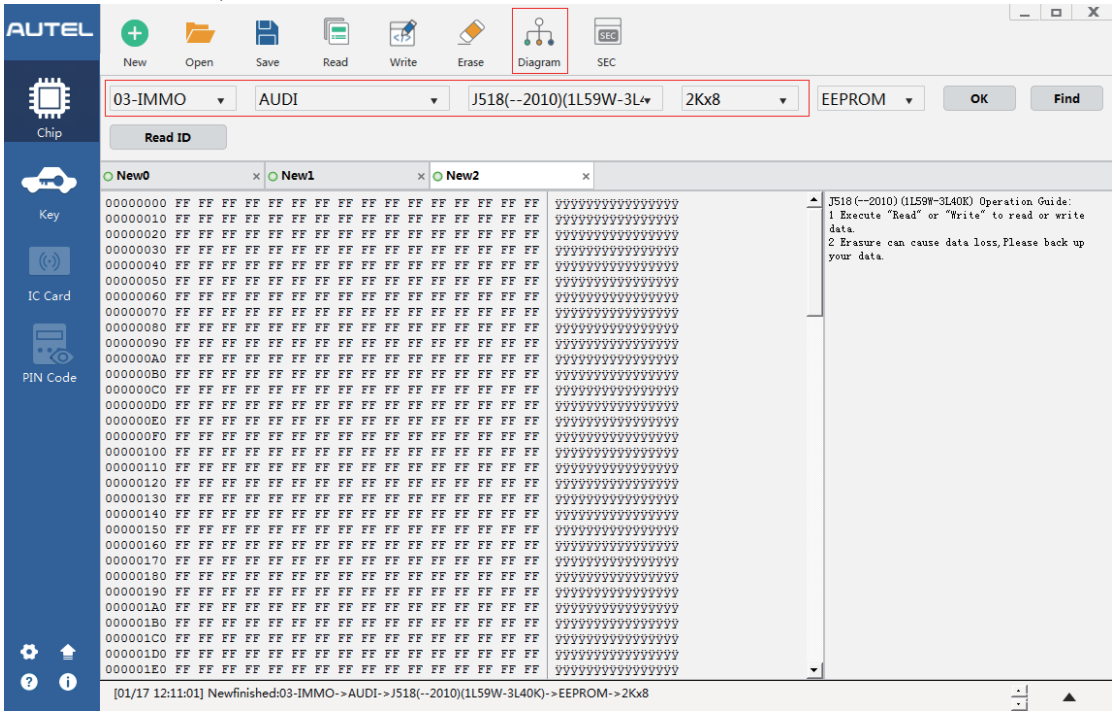


3) IMMO diagram (The Immobilizer diagram can be enlarged or rotated by double-click.)



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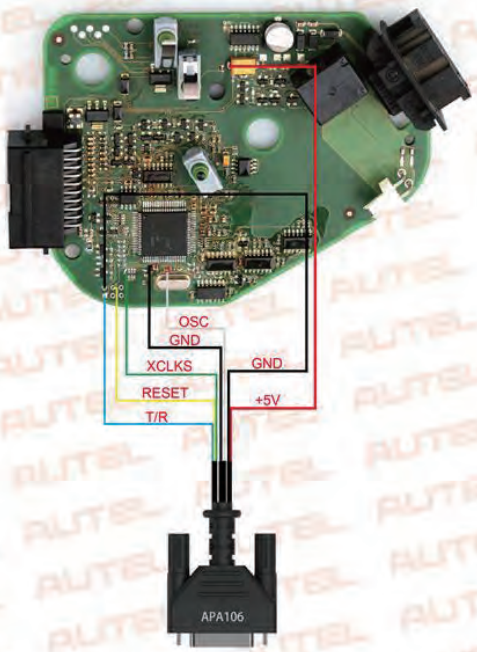
J518(--2010)(1L59W/3L40K)

Operation Guide

Follow steps below:

- Step 1: Prepare an APA106 wire harness;
- Step 2: Check the circuit board of the current immobilizer components, and identify the corresponding circuit board from the picture below;
- Step 1: Connect , read or write data as illustrated in the picture.

Audi-A6L/Q7 J518(--2010) 1L59W/3L40K (MC9S12DG128)



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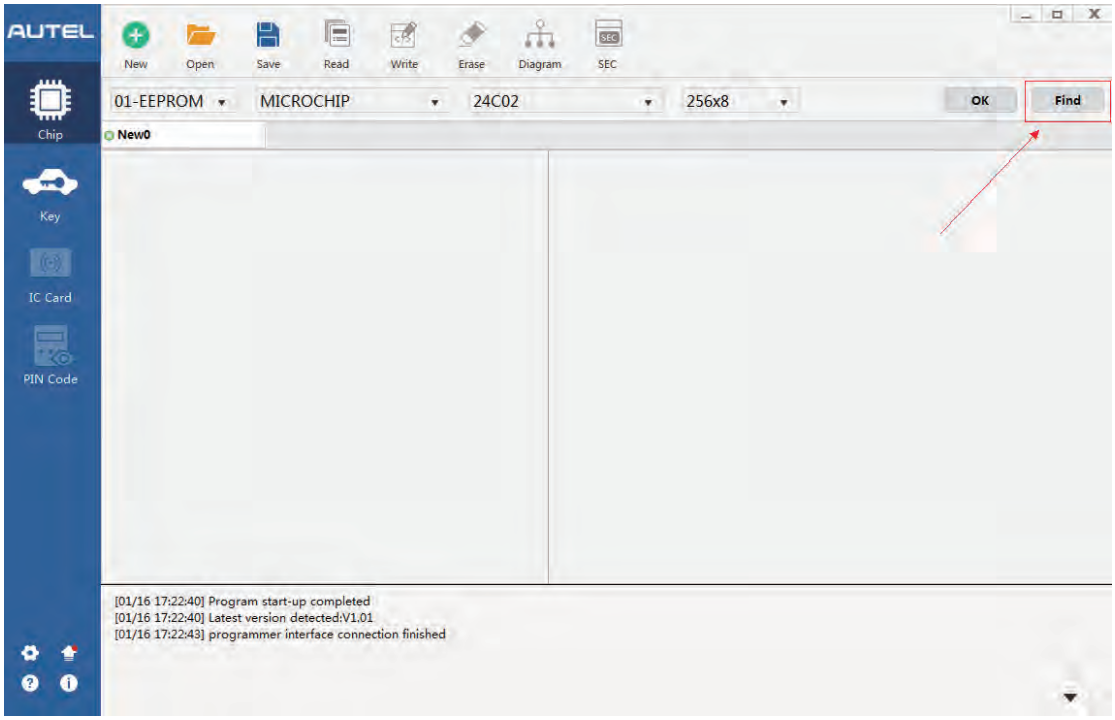
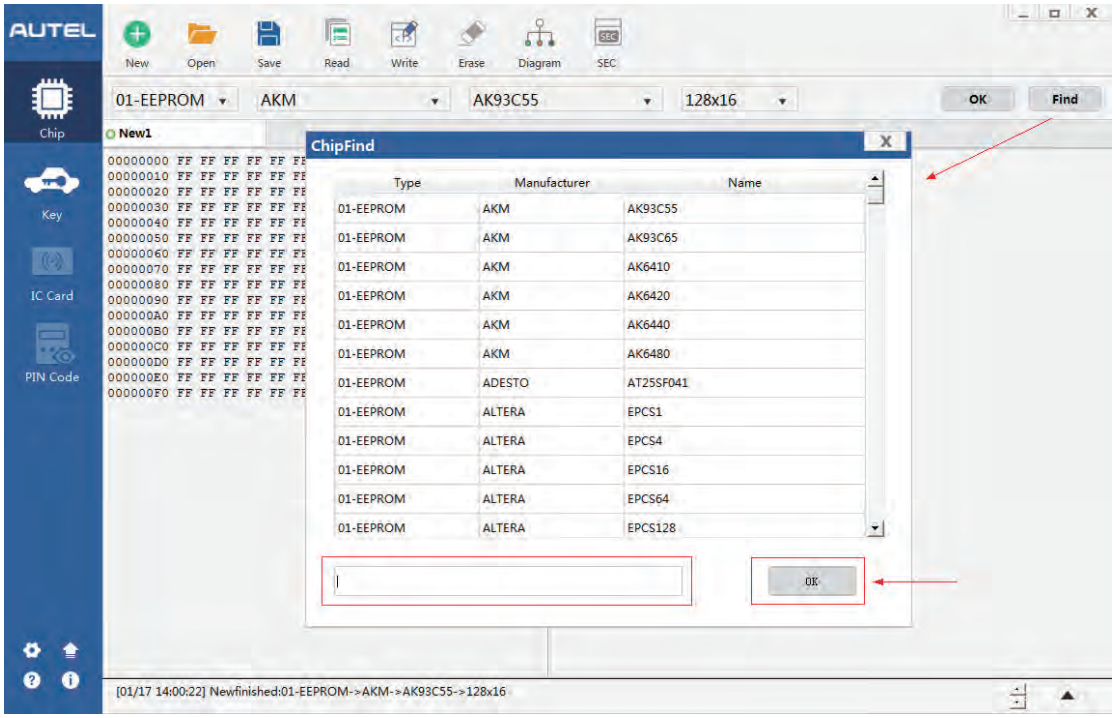
5.2.7 Find

Find: manually enter the chip model to automatically find the chip type, manufacturer and name. Click the selected chip model and click [OK] to automatically search for the operation interface of the corresponding chip, or double-click the selected model to automatically search for the operation interface of the corresponding chip.





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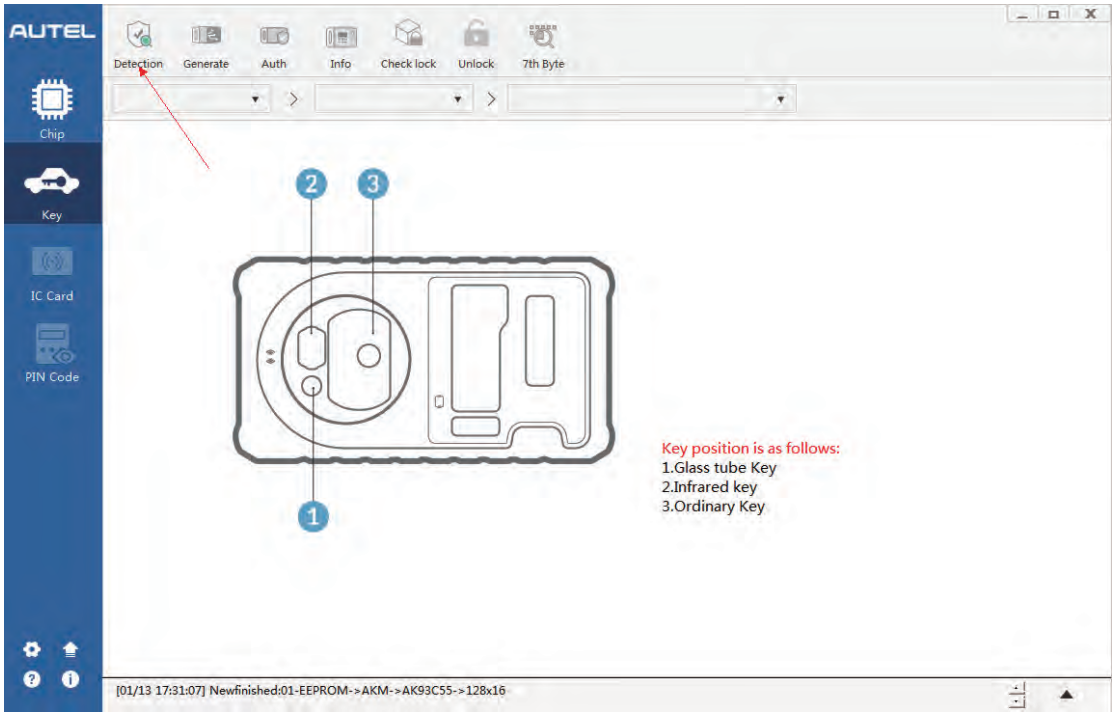
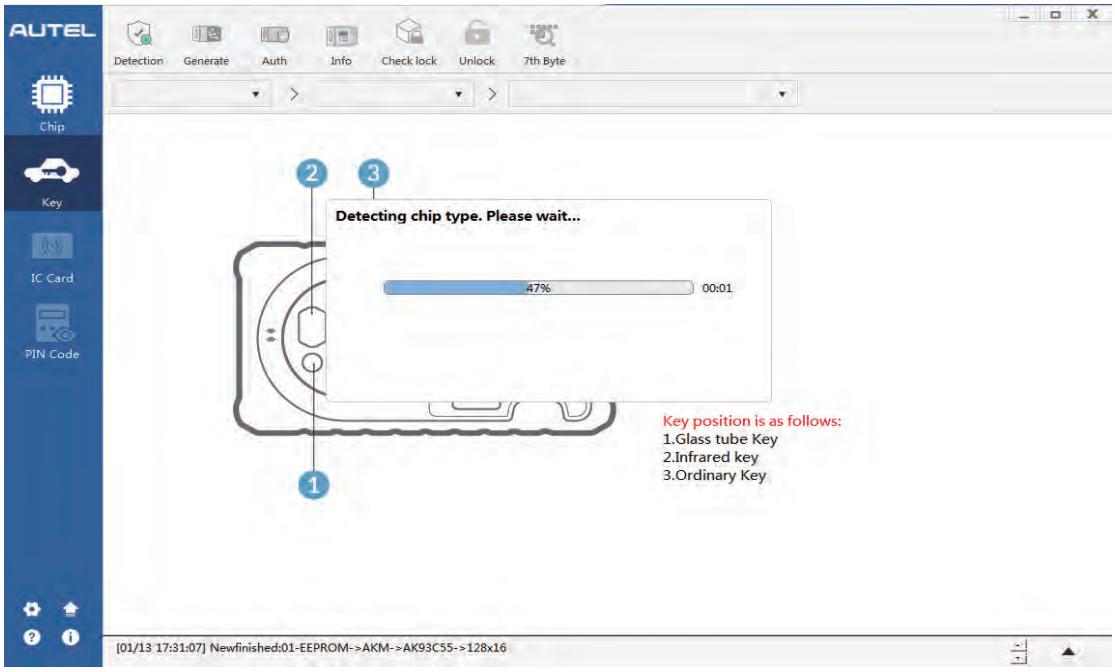
5.3 Key

Note: different key types support different functions.

5.3.1 Detection

Detection: if the key type is unknown, you can select the Automatic Detection for key types. Other types of key functions need to be manually selected.





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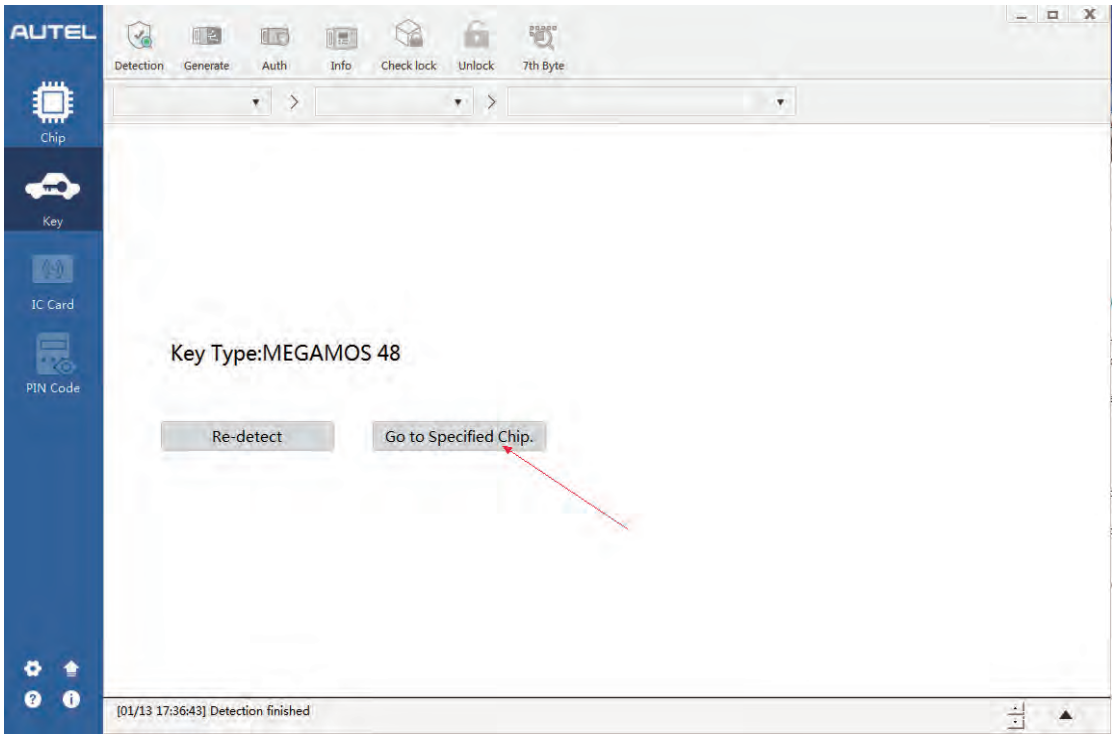

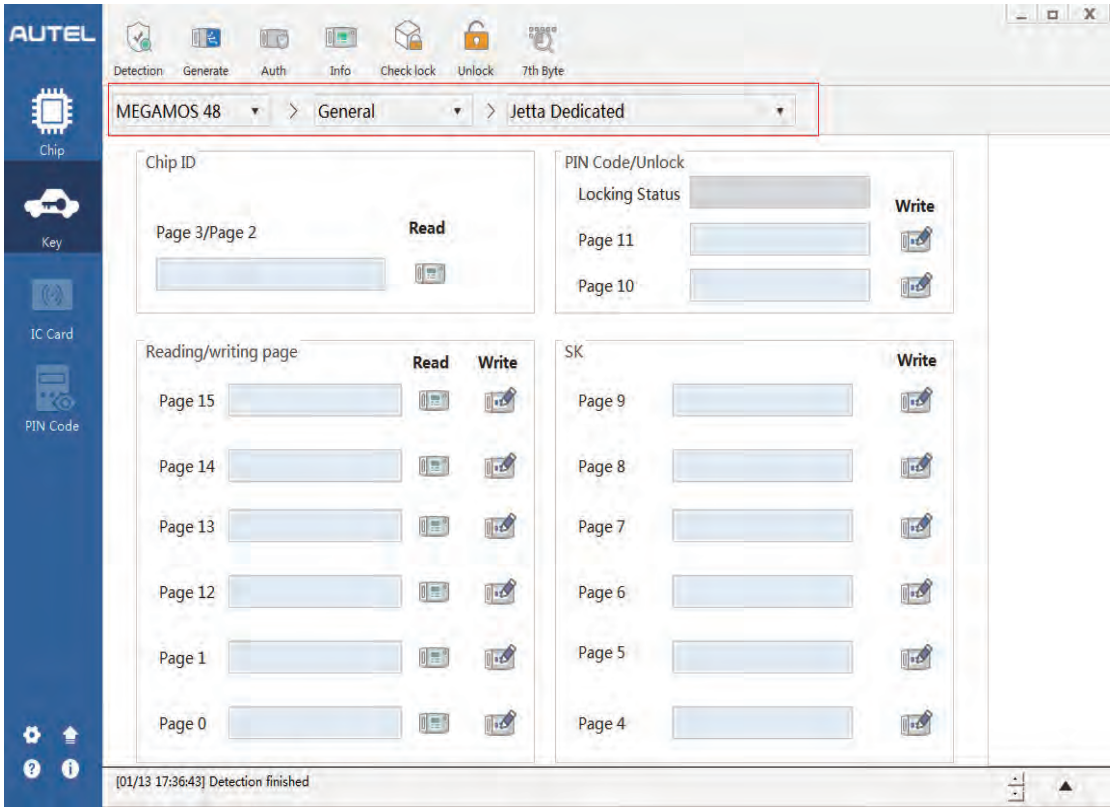

5.3.2 Generate

Generate: select the chip type that supports generation, and manually enter the required bytes for generation.

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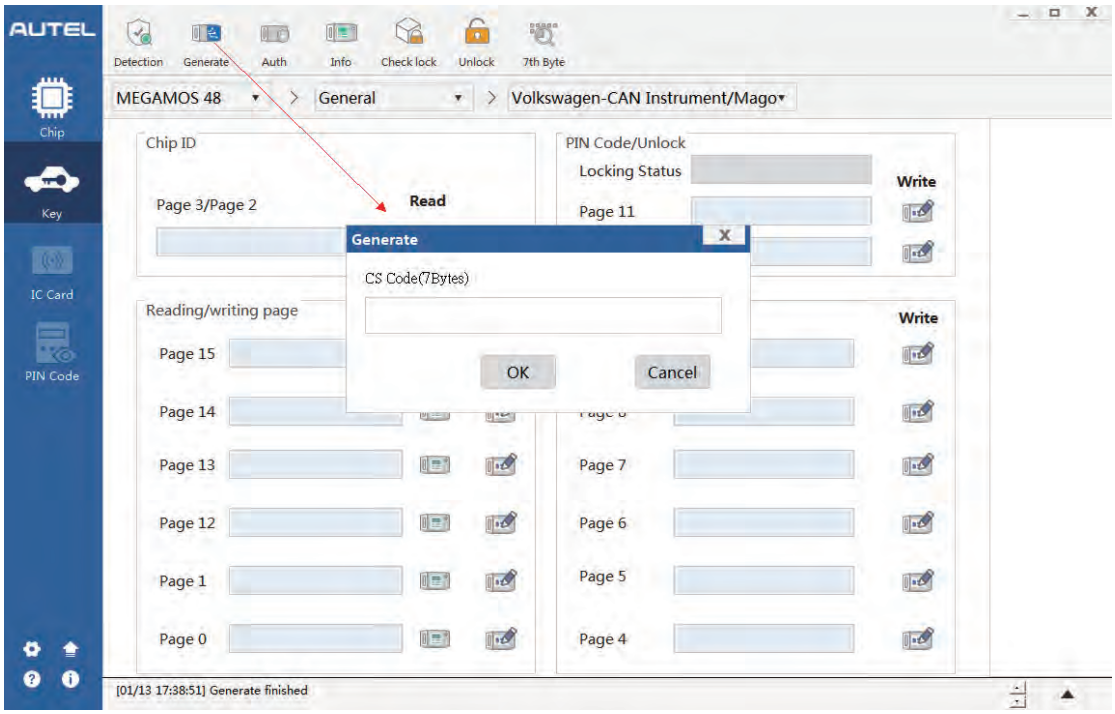
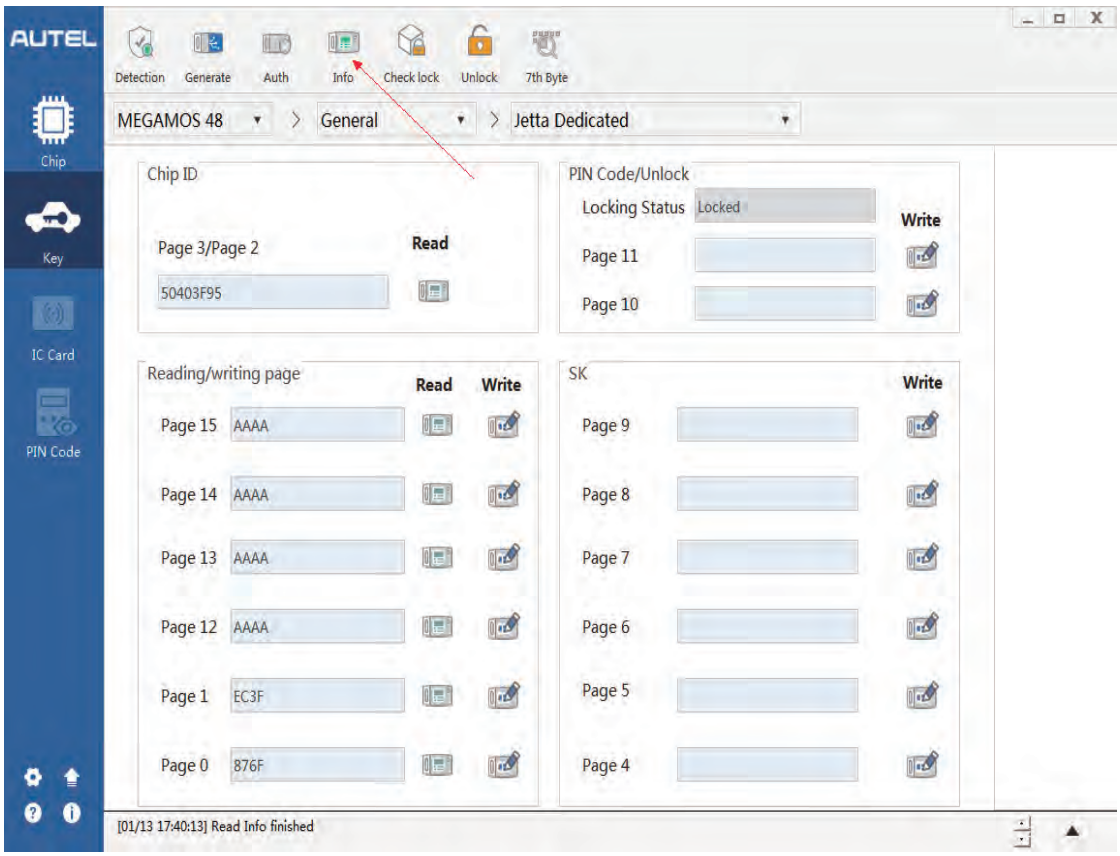


5.3.3 Info

Info: read the current key chip information, and view chip ID, secret key and locking status.



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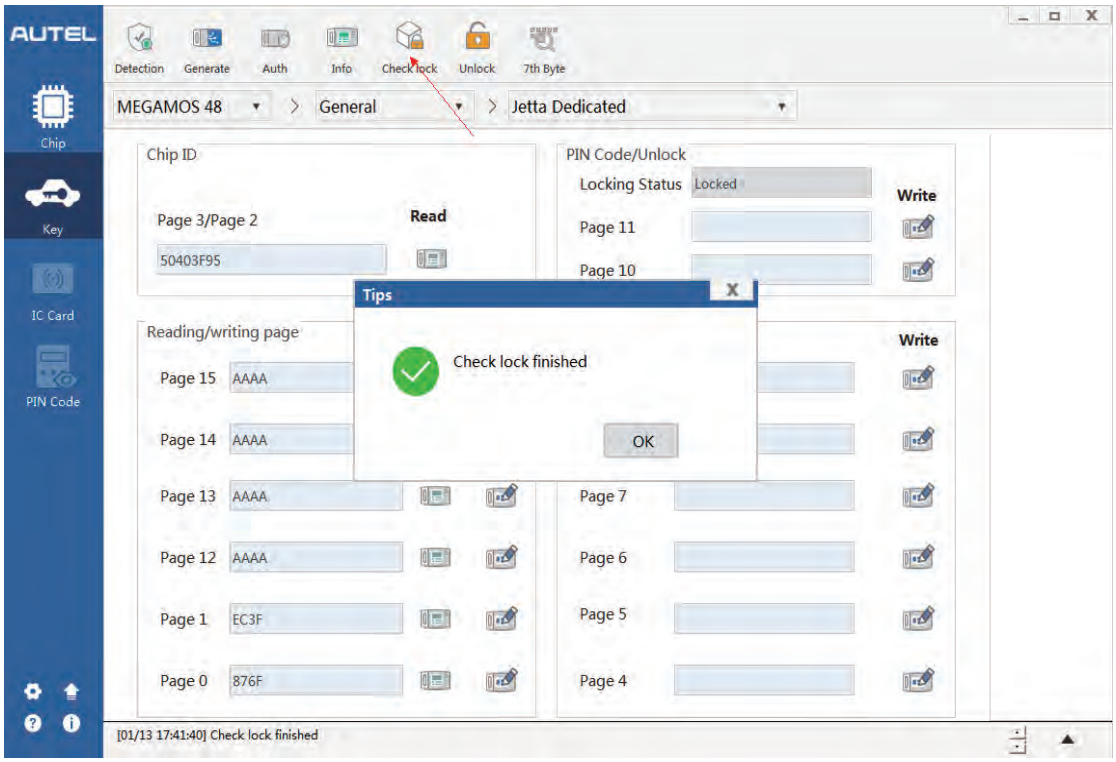
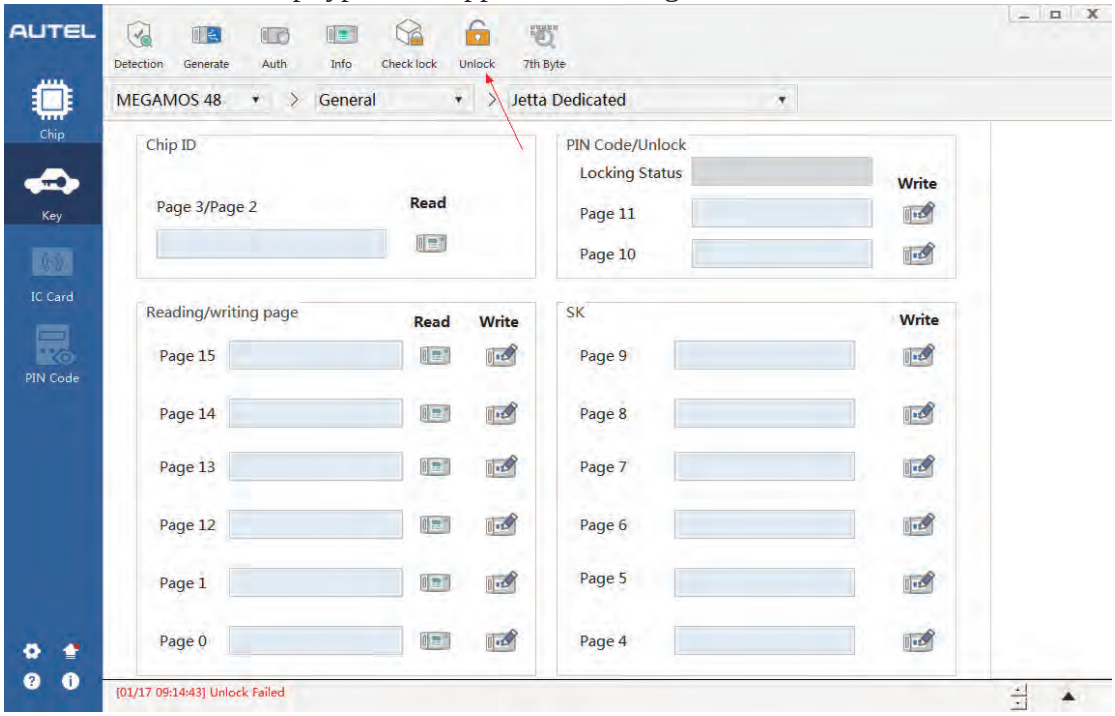
5.3.4 Check Lock

Check lock: check if the current key chip is locked.



5.3.5 Unlock

Unlock: Select the chip type that supports unlocking.



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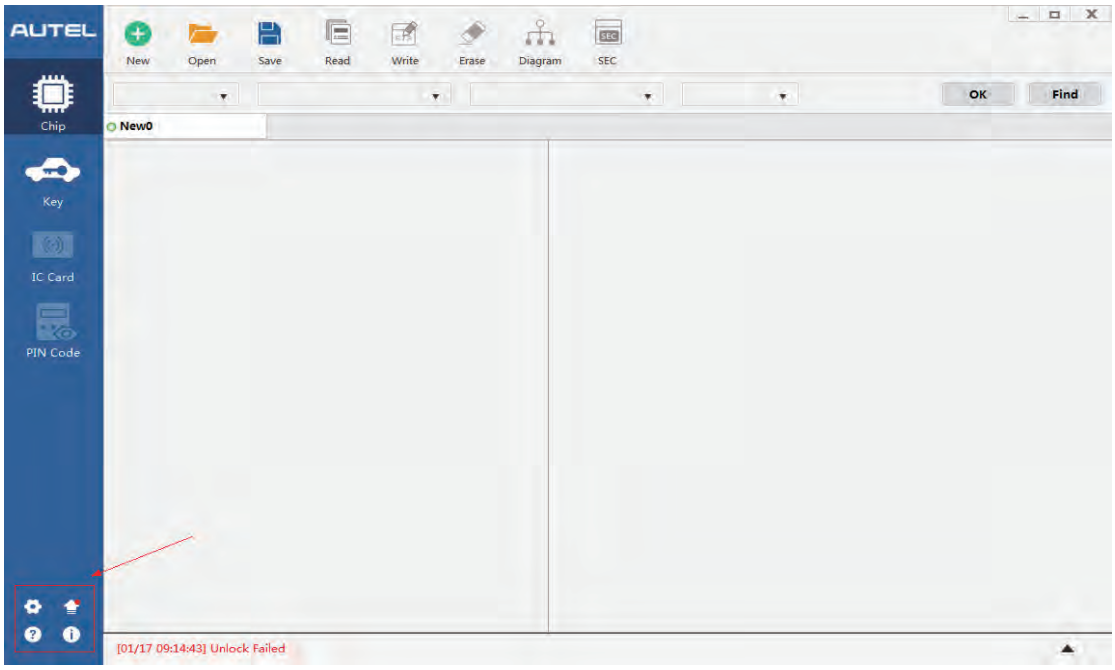
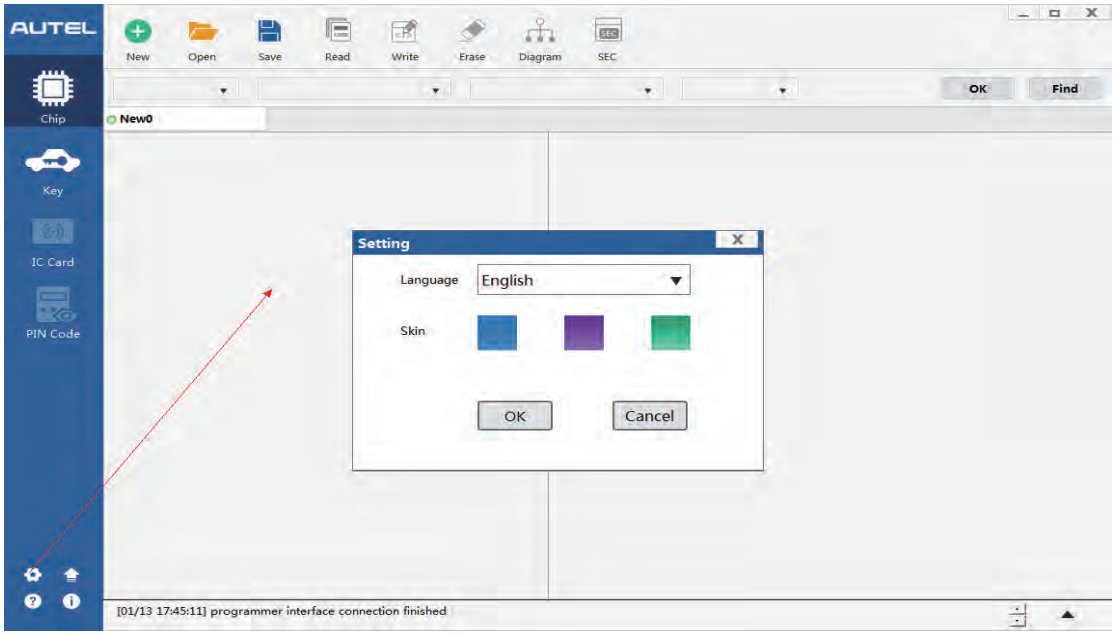
5.4 Other Function

Description of other function options



5.4.1 Settings

Settings: ① Three languages (Simple Chinese, English, and Traditional Chinese) and three skin colors can be set.



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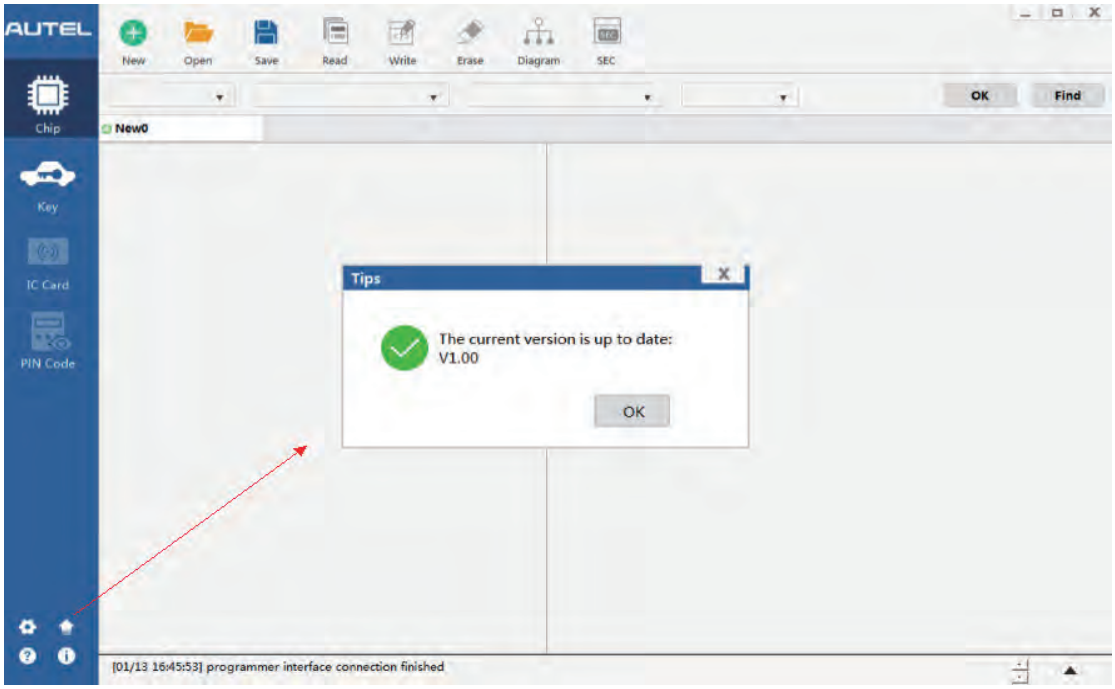
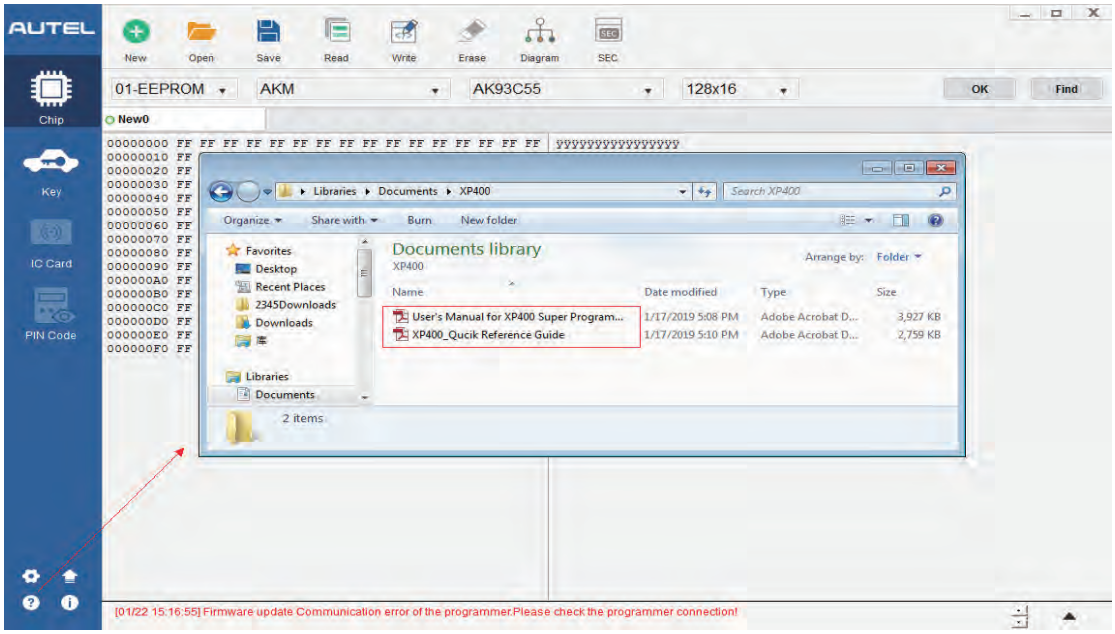
5.4.2 Upgrade

Upgrade: Check if the current Software version is up to date. Upgrade will be prompted if a new version is available. Please refer to 4.2 Automatic Upgrade via ATProgrammer Software.



5.4.3 Help

Help: Refer to the "User's Manual for XP400 Super Programmer and ATProgrammer" or "XP400 Quick Reference Guide".



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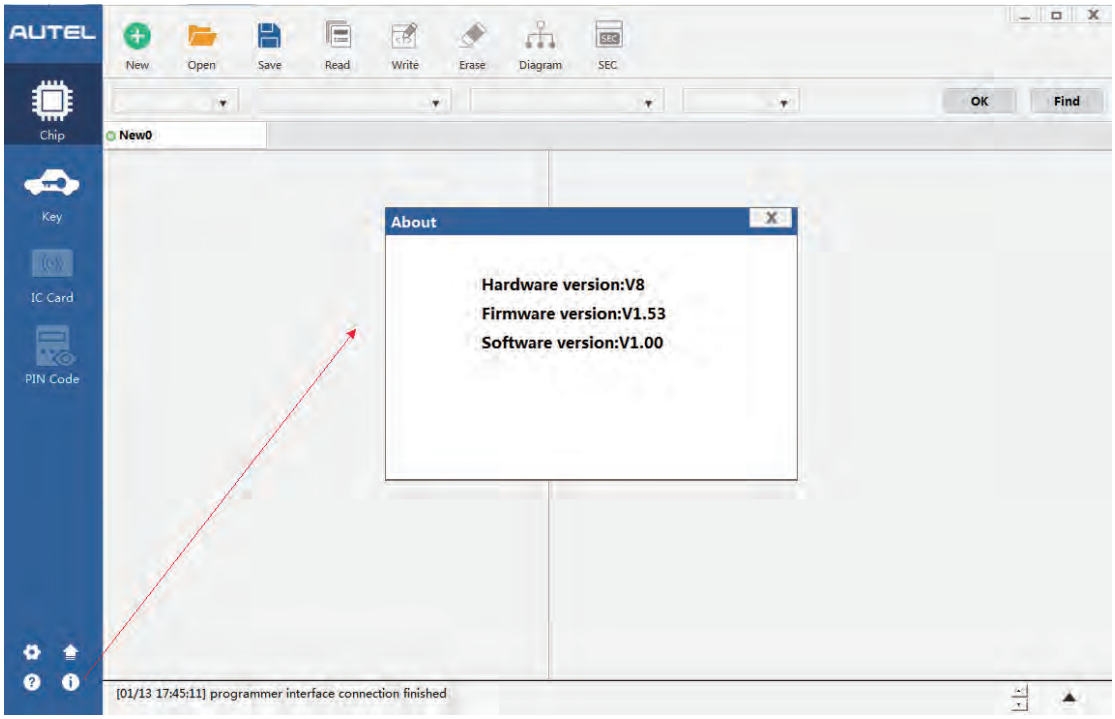
5.4.4 About

About: view the current software version. And view the current hardware version and firmware version by connecting to XP400.



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