



MiCODUS 2G Device Firmware Upgrade

I. Upgrade Overview

(I) Purpose of Upgrade

Since the 16th August 2025, our monitoring systems have detected GPS-related functional anomalies in some positioning devices. Our technical investigation has confirmed that this issue stems from the GPS Week Number Rollover (WNRO) problem affecting the MediaTek MTK 2503D chip (which incorporates the MT3333 positioning chip). The specific symptoms include: GPS date stamps resetting to January 1st, 2006, and unstable or intermittent positioning functionality.

(II) Applicable Models and Firmware Versions

This firmware upgrading ONLY applies to the following affected 2G device models:

MV710, MV720, MV730, MV740, MV760 and MV790.

Since these devices do not support OTA (Over-the-Air) remote upgrades, the firmware must be updated manually via the configuration cable. There are no specific restrictions on device versions—any units of the above models are eligible for this upgrade.

(III) Functional Advantages and Differences After the Upgrade

1. Function Compatibility Retained

1) Local Upgrade (Manual via Configuration Cable):

This upgrade only addresses the GPS time synchronization issue. After completion, all original device functions (including GLONASS positioning) remain unchanged, with no impact on operating logic, parameter configuration, or usage methods. No functions are removed, and compatibility is fully preserved.

2) OTA Remote Upgrade (Not Applicable to This Device):

Performing an OTA upgrade may cause the device to lose GLONASS positioning capability. By adopting the local upgrade method in this case, the issue is completely avoided, ensuring the GLONASS positioning function remains fully enabled.

2. Core Performance Optimization

After the upgrade, the GPS signal reception performance of the device is significantly improved.

II. Upgrade Preparation

(I) Required Tools and Materials

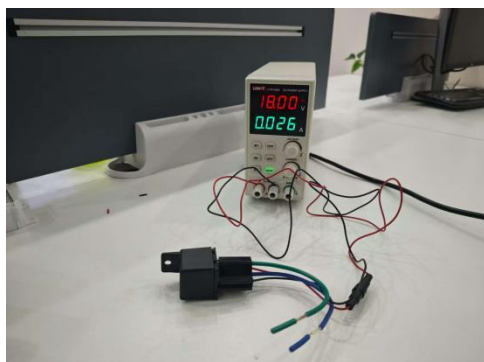
1. **Computer:** Ensure the computer is running a Windows operating system (Windows 7 or later is recommended), with stable performance and free of viruses.
2. **Serial Port Driver Software:** CH340 driver, used to enable serial communication between the computer and the device.
3. **Upgrade Software Package:** Multiport_download_exe_v5.1624.00, which contains the necessary programs for firmware upgrading.
4. **Configuration Cable (Serial Cable):** Used to connect the computer and the device for data transmission. Ensure the cable is intact and undamaged.
5. **Device Firmware Package:** For example, *MV710_MV790_241031A* or *MV720_MV730_250318A*.
6. **2G Devices to be Upgraded:** The applicable device models listed above.

(II) Data Backup

Although this upgrade mainly addresses the time synchronization issue and has minimal impact on other device data, it is recommended to back up important data before proceeding. Data can be backed up using the device's built-in storage function and copied to an external storage medium (e.g., USB drive).

(III) Device Status Check

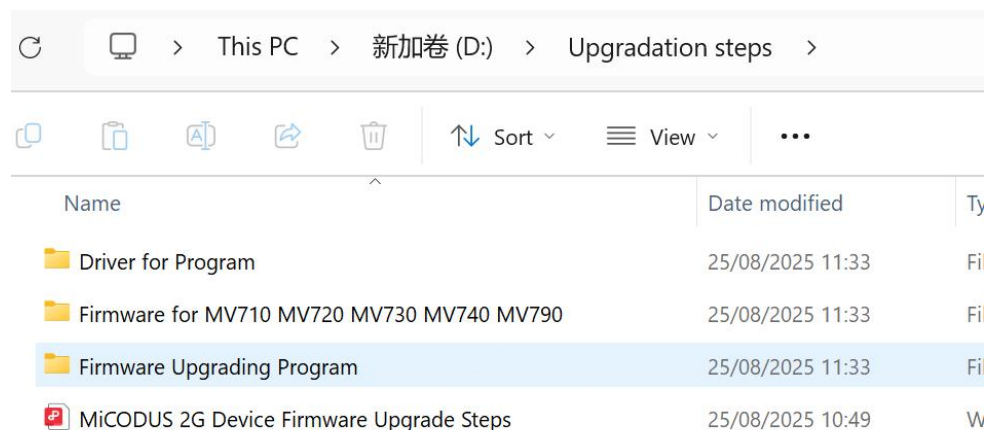
1. **Device Appearance Check:** Inspect the device interfaces to ensure they are intact and free from damage or deformation, so that the configuration cable can connect properly.
2. **Configuration Cable Connection Check:** Connect one end of the configuration cable to the computer (leave the other end temporarily disconnected from the device). Verify that the computer can recognize the hardware associated with the cable. (Detailed illustrated instructions will be provided in subsequent steps.)
3. **Device Status Check:** Ensure the device has sufficient battery power and is connected to external power before proceeding.



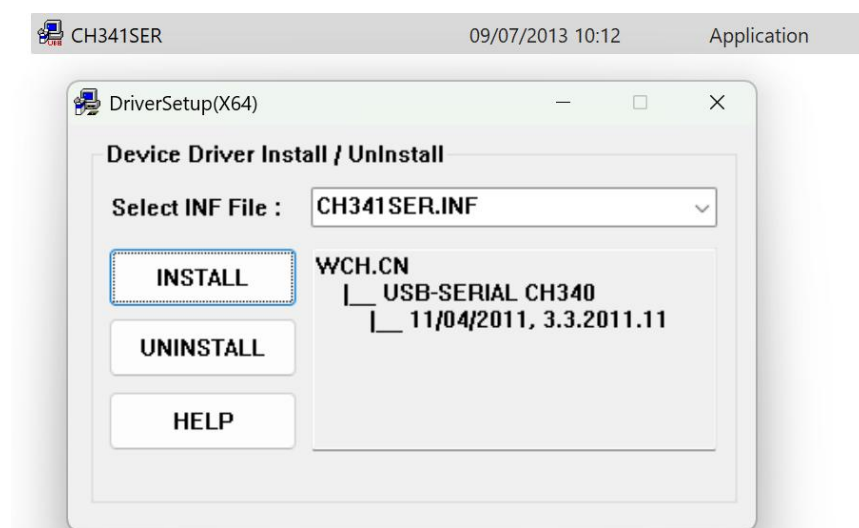
III. Upgrade Steps

(I) Install the Serial Port Driver

1. Place the file in **Disk D:** and extract the contents.



2. Open the **CH340drive** folder and double-click **CH341SER.exe** to install the driver.



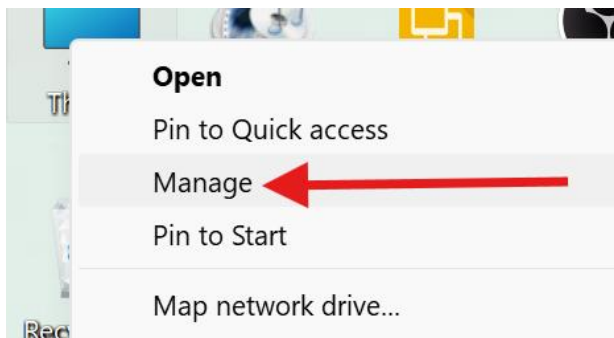
Note: During installation, disable any antivirus software on the computer to prevent it from blocking the driver installation. If the installation fails, try restarting the computer and then reinstalling the driver.

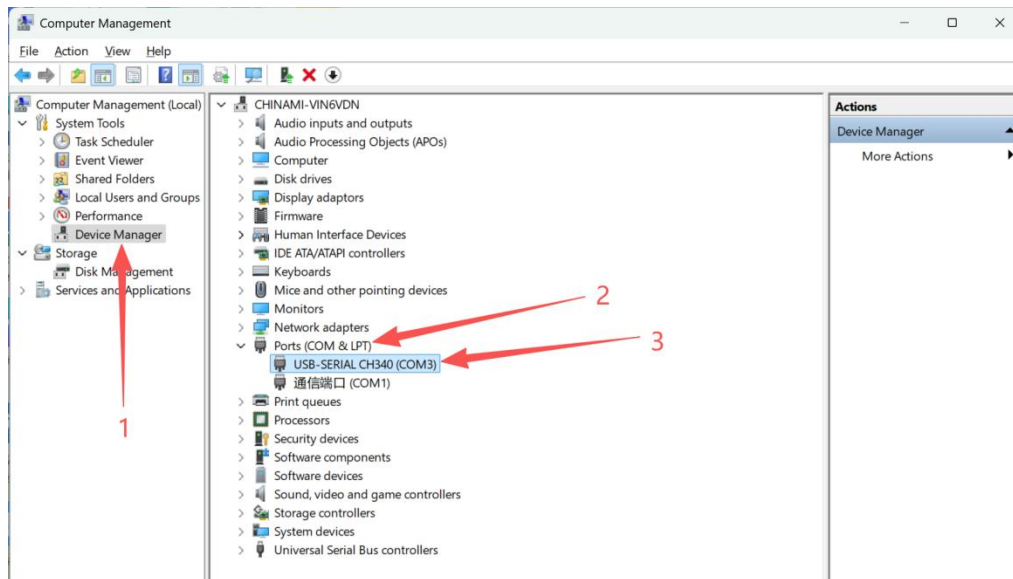
(II) Verifying the COM Port

1. After installing the driver, connect the serial cable (configuration cable) to the USB port of the computer.



2. Right-click **“My Computer”** and select **“Manage”**. In the pop-up Computer Management window, navigate through **System Tools → Device Manager → Ports (COM & LPT)**. Locate **“USB-SERIAL CH340 (COMX)”** (where X is the specific port number, e.g., COM3) and note down the COM port number.

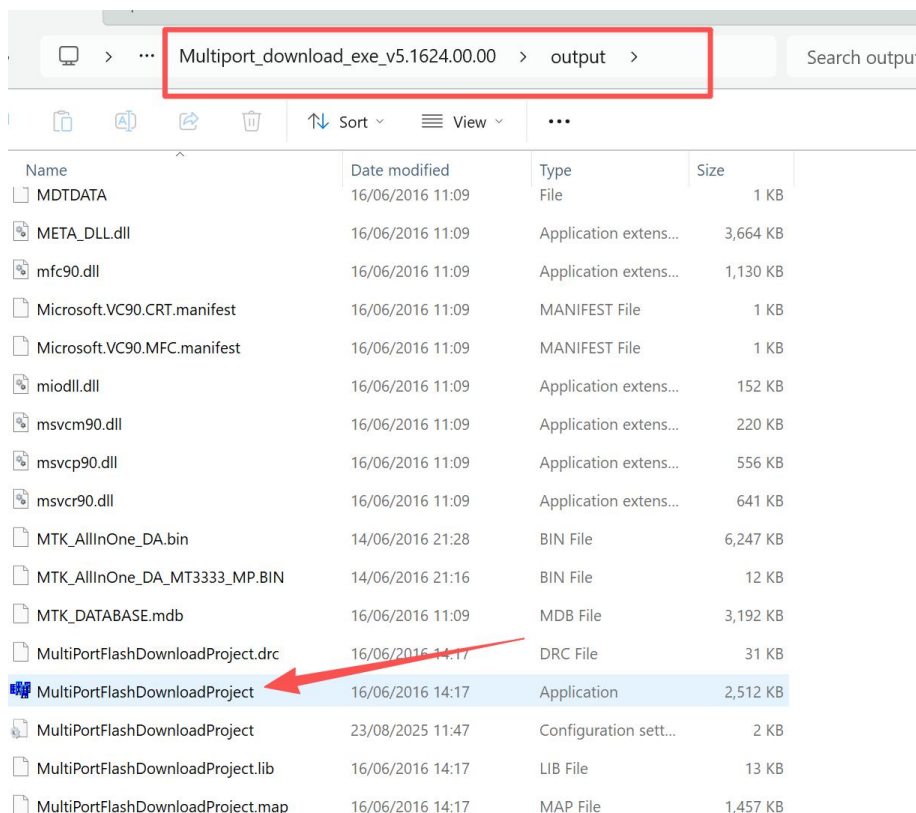




Note: If the port is not found, the driver may not have installed successfully or there may be an issue with the configuration cable. Recheck the driver installation and cable connection. If multiple COM ports are present, ensure you identify the one related to this connection.

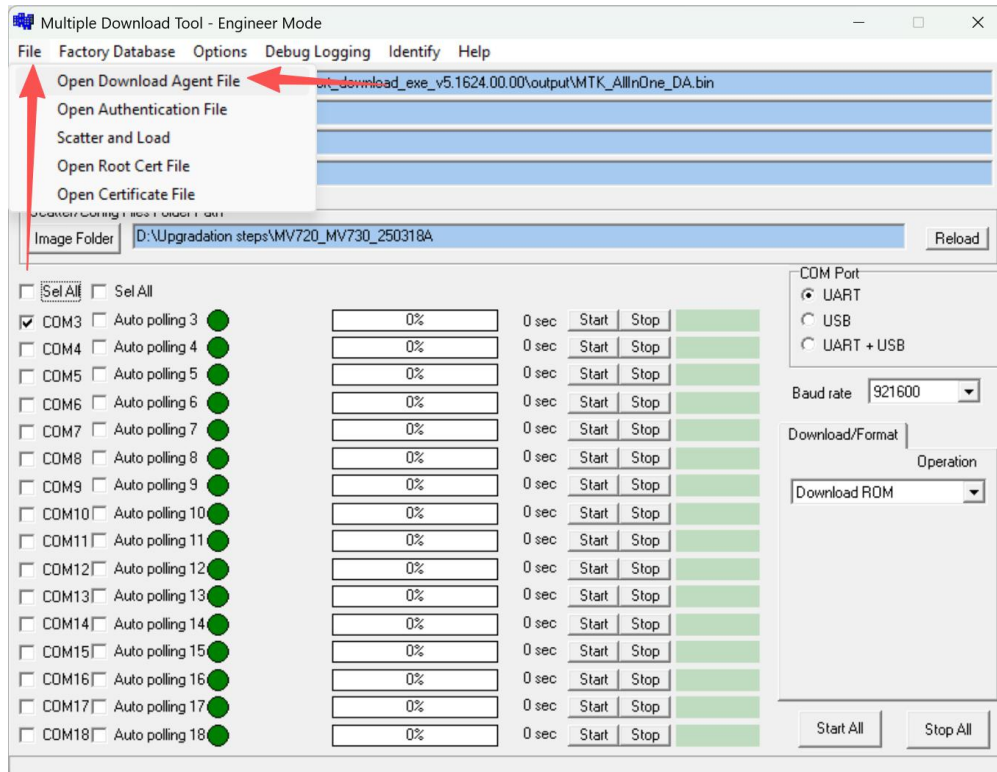
(III) Prepare the Upgrade Software

Open the extracted **Multiport_download_exe_v5.1624.00.00** folder, navigate to the **“output”** folder, and locate the upgrade software **“MultiPortFlashDownloadProject”**. Double-click to open it.

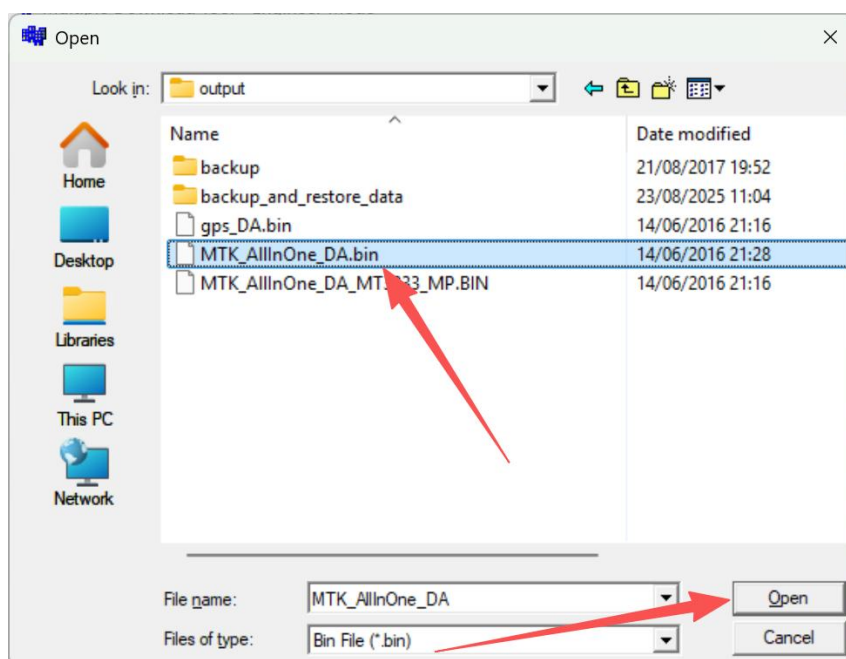


(IV) Load the Download Agent File

1. In the upgrade software interface, click the **“File”** menu and select **“Open Download Agent File”**.

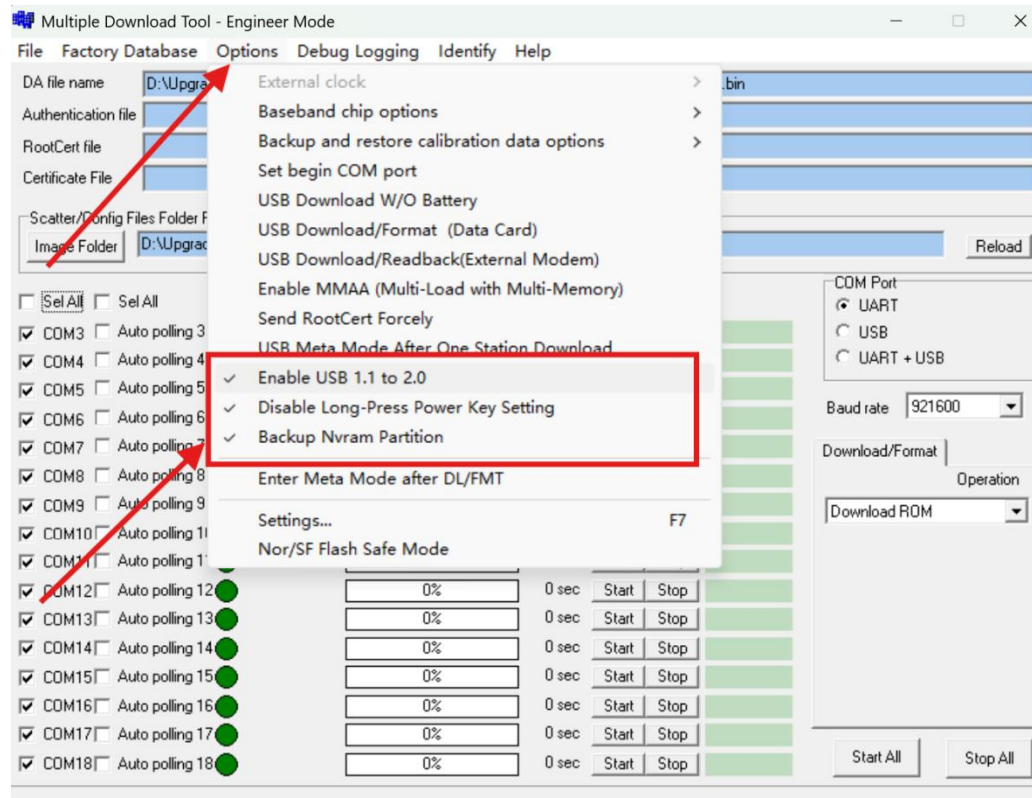


2. In the pop-up file selection window, navigate to the **“output”** folder of the extracted upgrade software package, select **“MTK_AllInOne_DA.bin”**, and click **“Open”**.



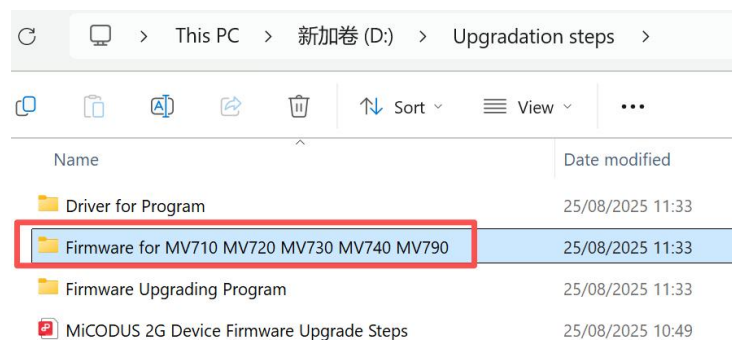
(V) Configure Software Settings

In the upgrade software interface, locate the “**Options**” menu and check the required settings (refer to the figure below).



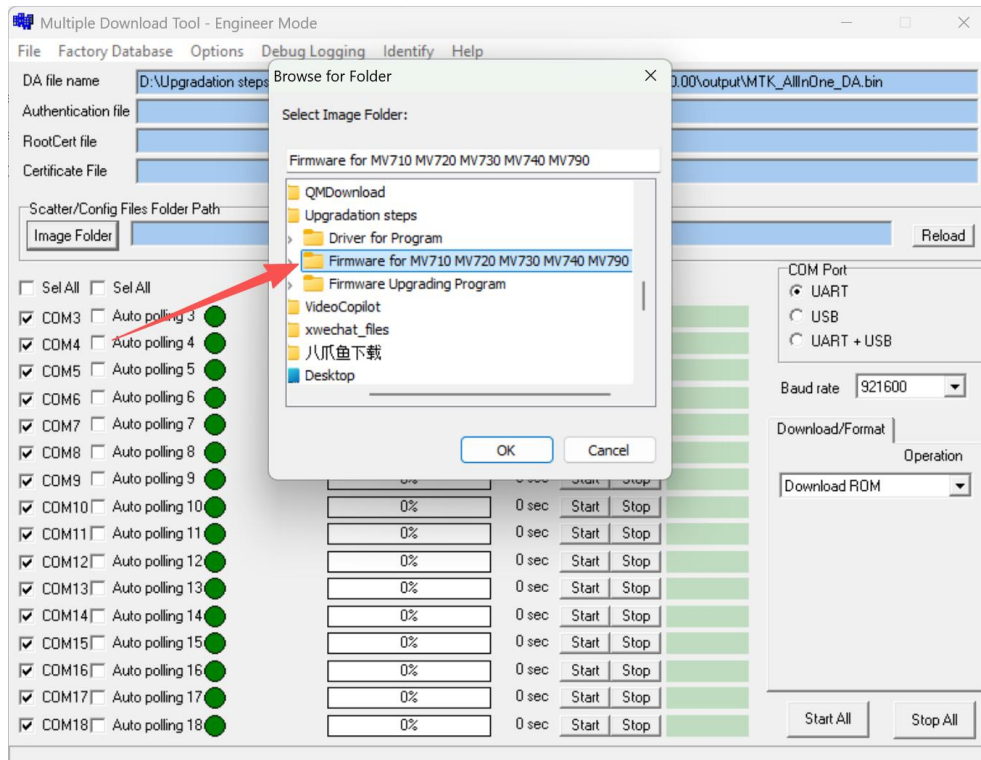
(VI) Extract and Select the Upgrade Firmware Package

1. Extract the upgrade firmware package for the corresponding device model to **Disk D:** (skip this step if already extracted).



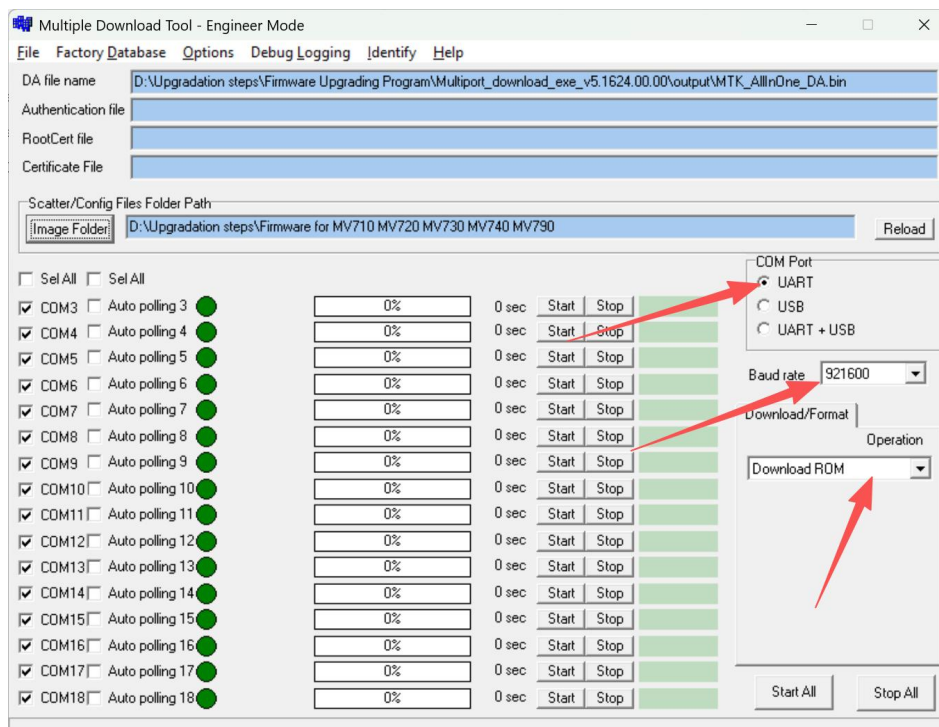
Note: When extracting the device’s upgrade firmware package, do not close the upgrade software interface opened in the previous step.

- Return to the upgrade software interface, locate the **“Image Folder”** option, navigate to the folder containing the firmware package to be upgraded (e.g., MV710_MV790_241031A), select the folder, and confirm.



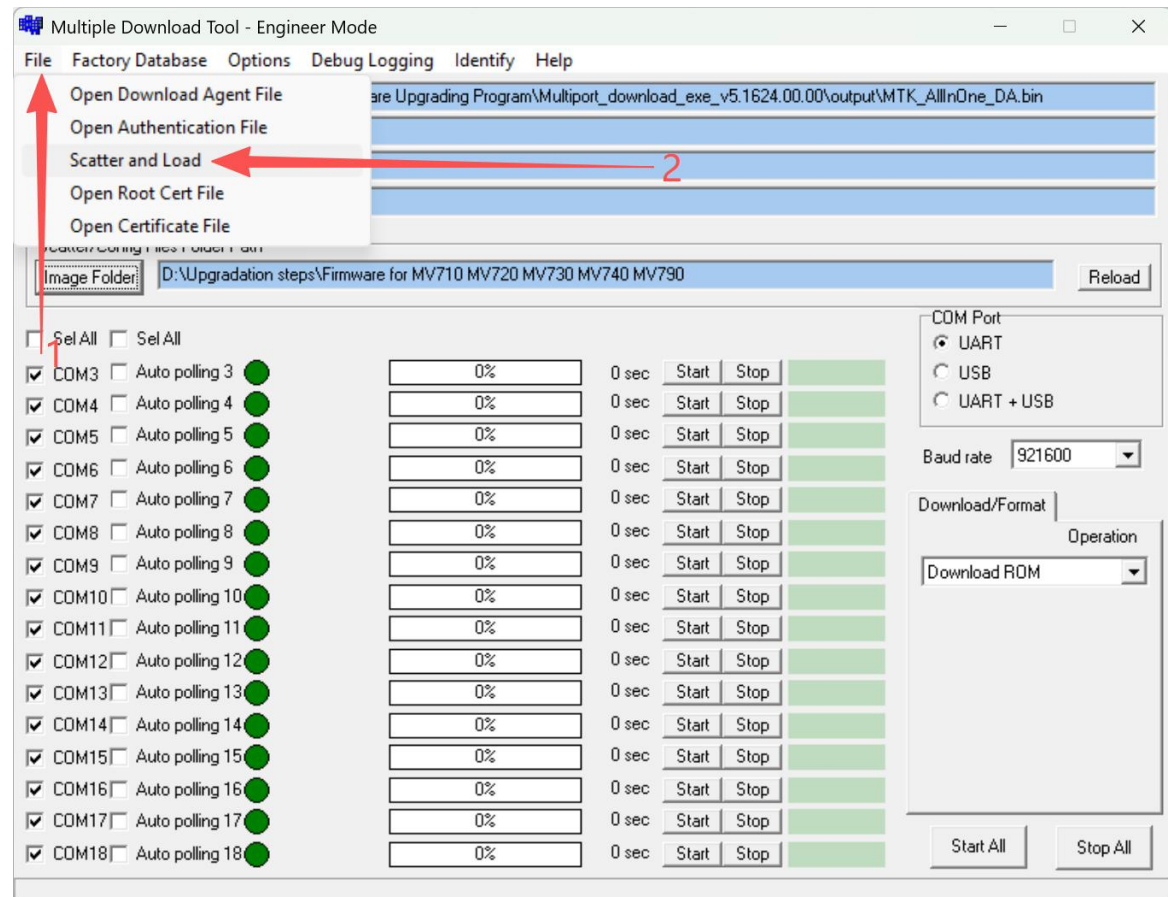
(VII) Confirm Firmware Upgrade Settings

In the upgrade software interface, verify that the upgrade settings are as shown in the figure below.



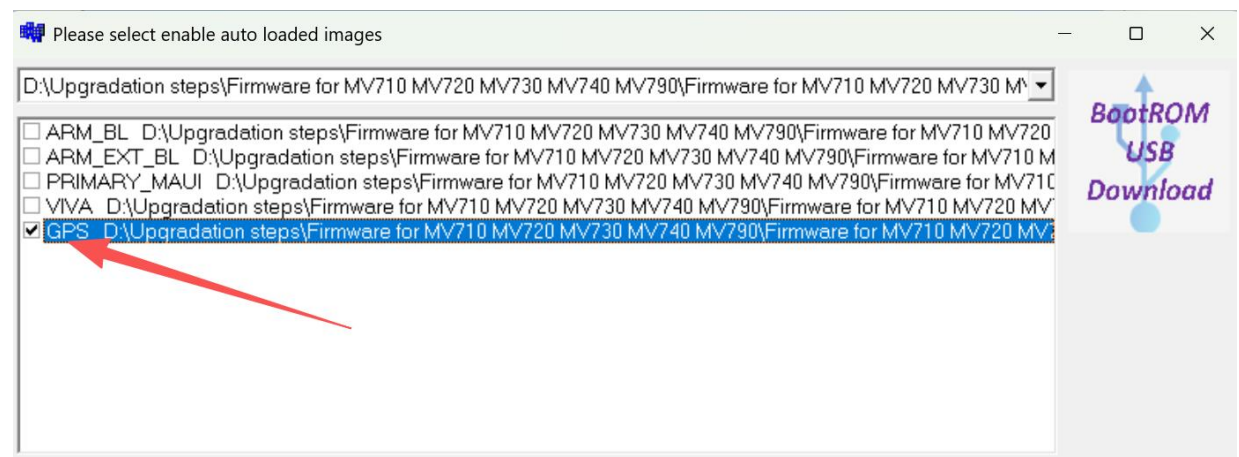
(VIII) Select Download Items

In the upgrade software interface, click the “File” menu and select “Scatter and Load”.

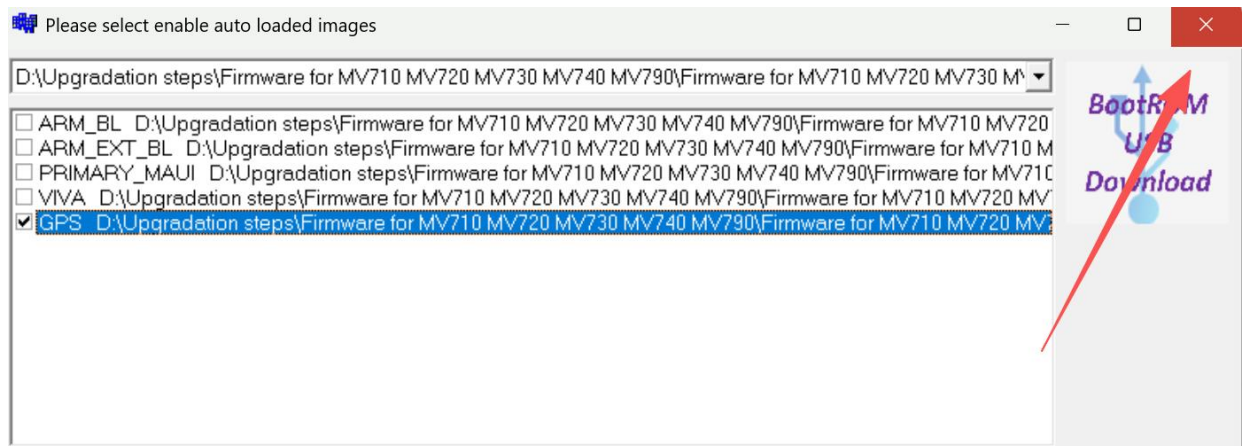


(IX) Select the GPS Download Option

1. In the new pop-up window, locate the relevant options and check **only the “GPS” download item**. Ensure that all unrelated download items remain unchecked.

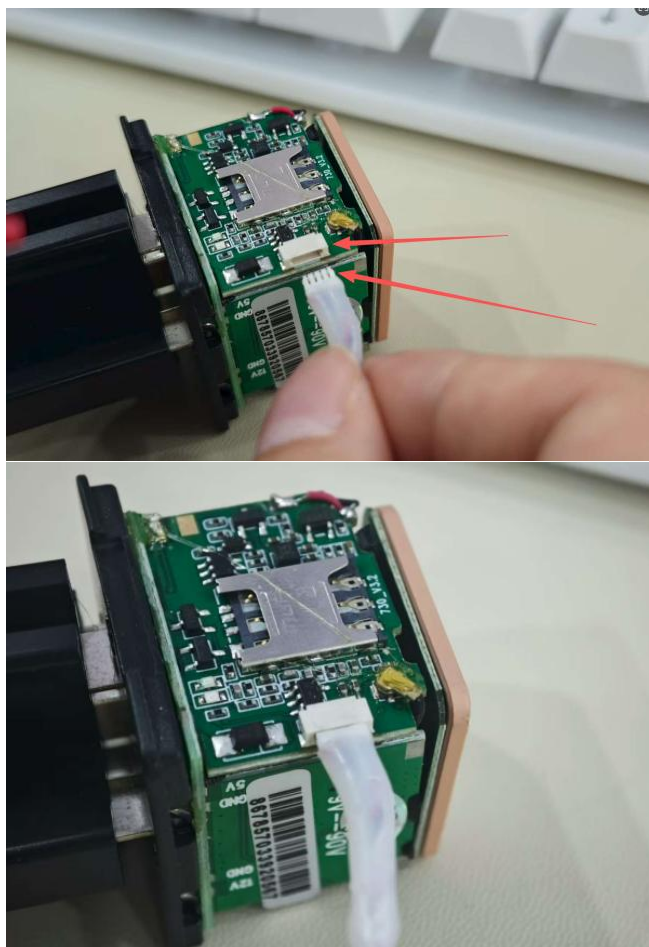


2. After selecting, close the pop-up window.

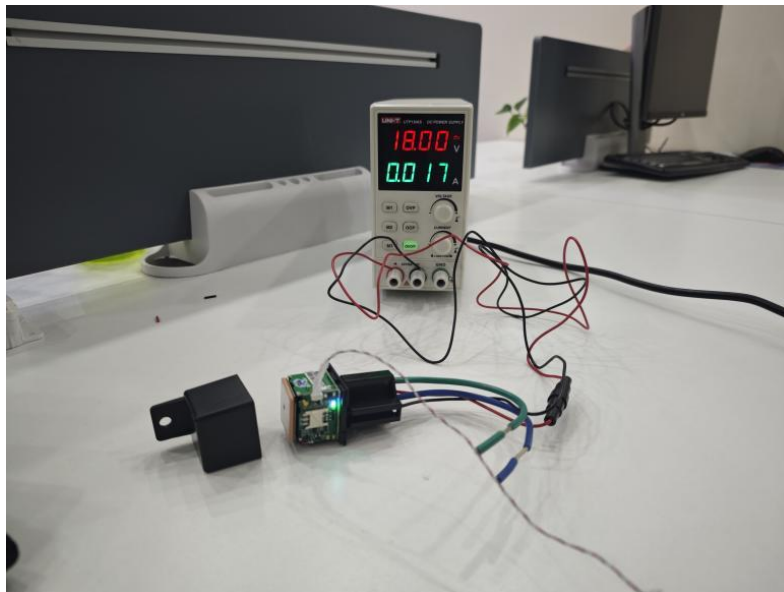
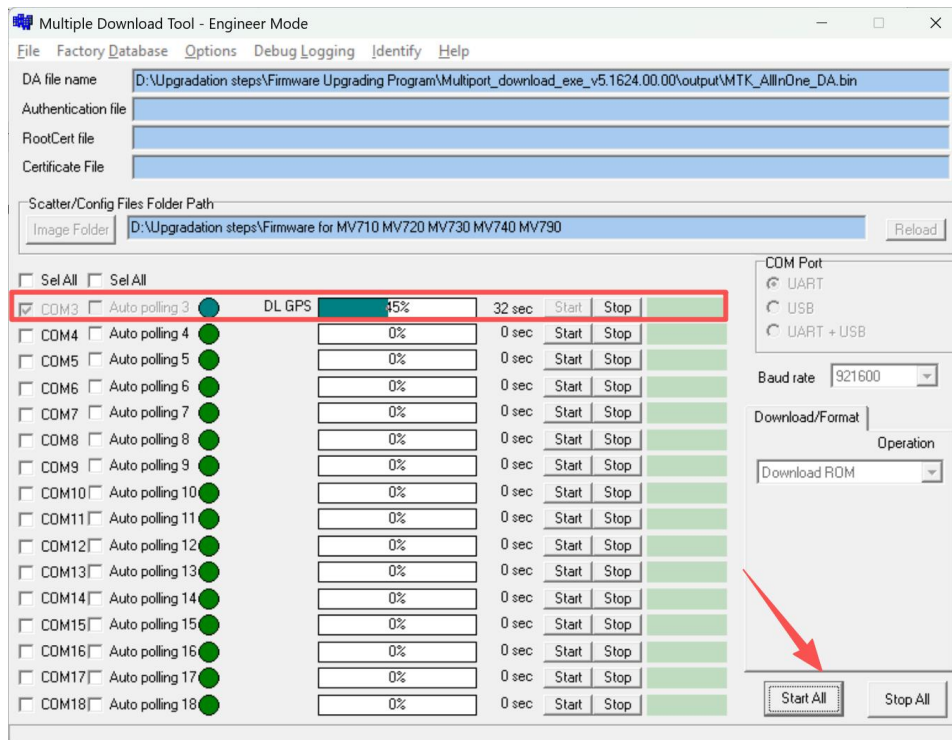


(X) Connect the Device and Start the Upgrade

1. Connect the other end of the configuration cable to the corresponding port on the 2G device to be upgraded, usually located next to the SIM card slot. (Device must be connected to external power)



- In the software upgrade interface, locate the previously recorded COM port (such as COM3), click the **"Start"** button corresponding to that COM port, after that, **immediately connect power to the device** to begin the upgrade process.

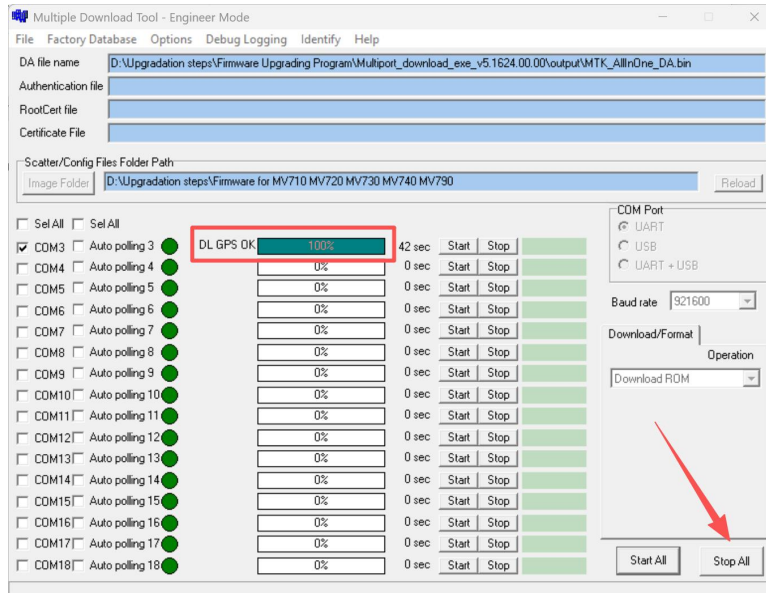


Note:

- The device should be connected to the external power supply immediately after **starting**, and the SIM card should not be inserted. This will ensure the fastest upgrade speed.
- Ensure the device port is firmly connected to avoid poor contact. During the upgrade, do not disconnect the device from the computer or close the upgrade software.

(XI) Complete the Upgrade

When the upgrade progress for the COM port reaches **100%** and the progress bar turns **green** in the upgrade software interface, click the **“Stop All”** button to complete the upgrade.



IV. Notes and Precautions

(I) Risk Warnings During the Upgrade

1. Forcibly disconnecting the device from the computer during the upgrade may damage the device firmware, preventing the device from starting properly. Ensure the connection remains stable throughout the process.
2. Using an upgrade firmware package that does not match the device model may result in upgrade failure or even damage device functionality. Always select the software package according to the device model.

(II) Upgrade Environment Requirements

1. During the upgrade, the computer must remain stable. Avoid crashes or restarts. It is recommended to close unrelated programs on the computer.
2. The upgrade environment should be dry and dust-free to prevent dust from affecting the connection between the device and the configuration cable.

(III) Handling Special Situations

1. If an **“ERROR”** message appears during the upgrade, click the **“Stop”** button to halt the process. Check that the configuration cable is firmly connected, the correct firmware package is selected, and the COM port is correct. Resolve any issues before attempting the upgrade again.



2. If the upgrade fails and the device cannot start normally, do not attempt to disassemble the device yourself. Contact professional technical personnel for assistance.

(IV) Other Notes

1. After the upgrade, verify that the device time matches the actual time to confirm the upgrade was successful.
2. It is recommended to record the upgrade process to provide a reference for technical personnel in case of issues.
3. This upgrade addresses only the GPS time synchronization issue. Other device functions and usage methods remain unchanged after the upgrade.

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