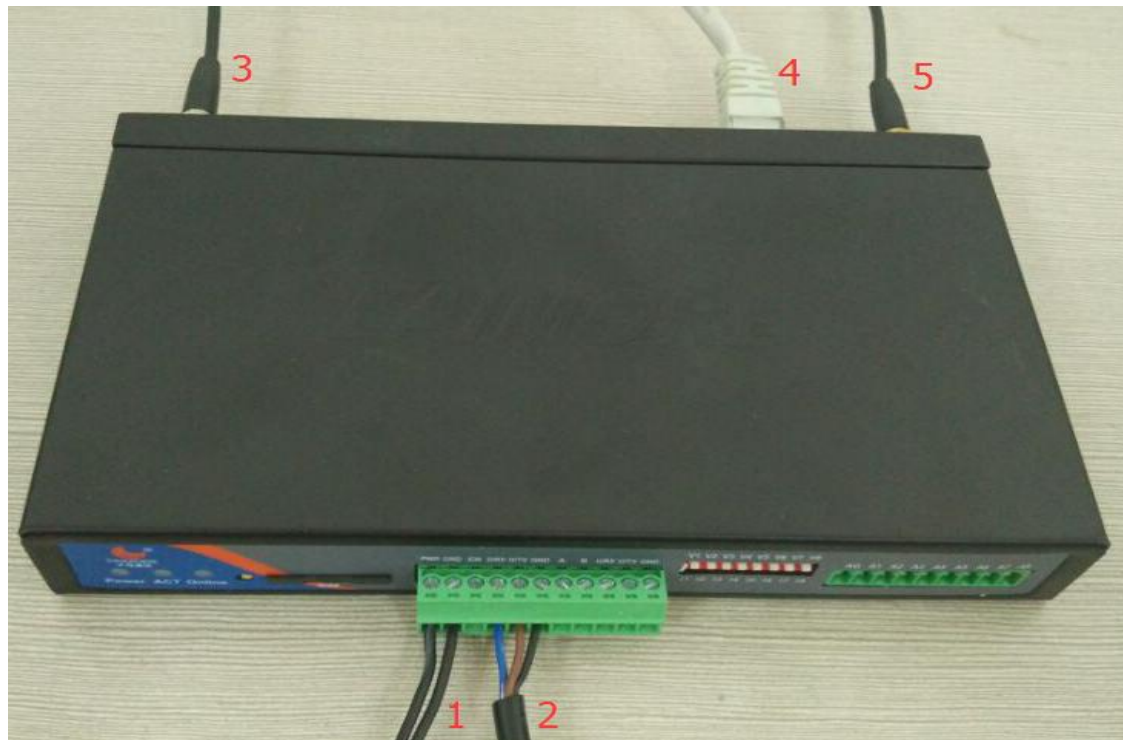


RTU Firmware Upgrading Instruction

To serve our customer better, Caimore will keep improving the product quality including the hardware, firmware and the software. Here is a instruction for RTU(Remote Terminal Unit) firmware upgrading. Customers are able to upgrade the firmware according to the following steps by themselves.

1) RTU Cable Connection

Please connect RTU to PC according to following steps, before upgrading the firmware.

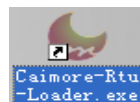


1. Power wire (PWR——black with white, GND——black);
2. RS232(D/RX——blue, D/TX——brown, GND——black): Please use this RS232 serial port to connect PC; USD forwarder to RS232 can be instead of if there is no RS232 serial port on PC.
3. 2G/3G/4G antenna;
4. To connect the cable to PC;
5. ZIGBEE/GPS antenna.

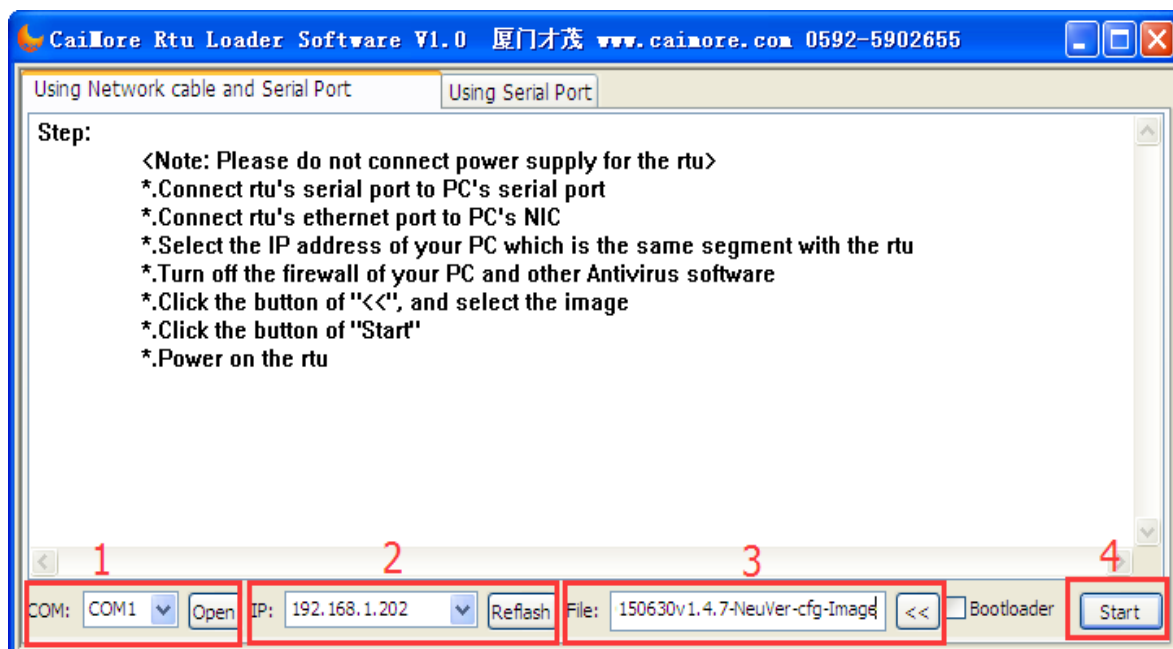
Note: Please ensure that RTU is powered off before you do above operations!

2) Detail steps of how to upgrade

A. Upgrading firmware software page and primary operation



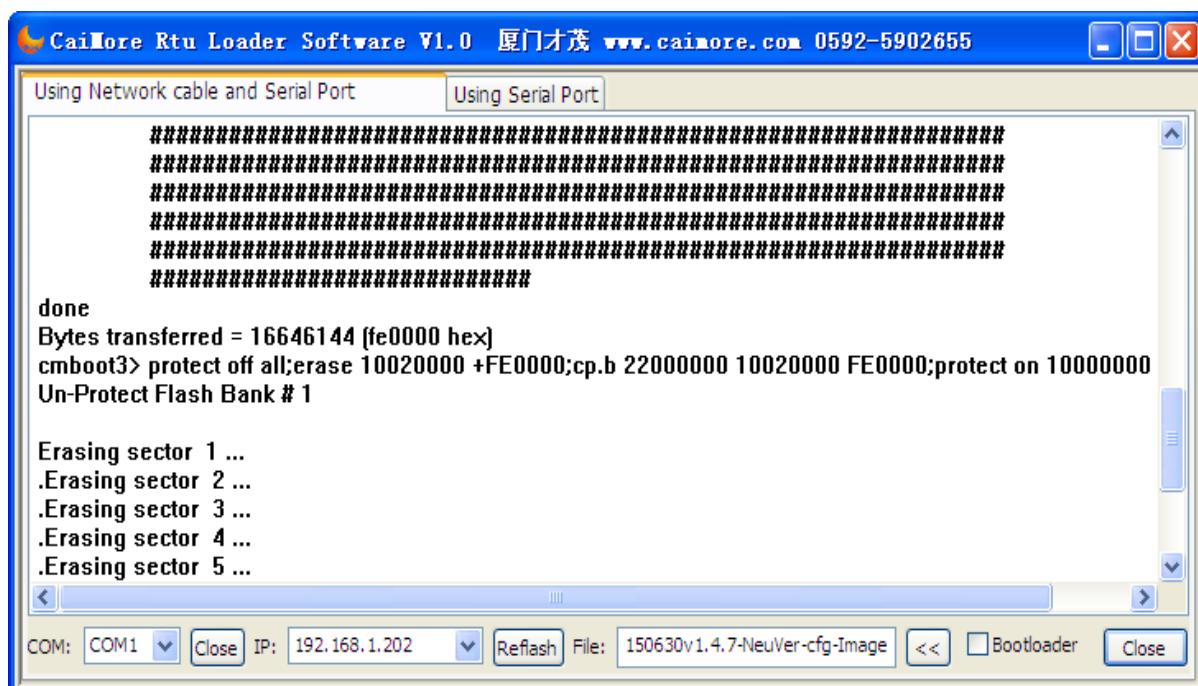
Please open the file name as "Caimore-Rtu-Loader.exe" (Icon is )



1. Select COM: The default COM1 refers to the port connection from RS232 serial port to PC; If USB to RS232 be used, the relative COM number can be checked like this: right click "My Computer" -----> "device management" -----> "interface (COM & LPT)".
2. PC's IP address: When the RTU direct connect with the PC, the IP is not same as PC's. Please click "Reflash" to capture PC's IP. Then power off the RTU. If the RTU connect with PC via router, Its IP address is same as PC's already.
3. Select file: To choose the "Image" file to upgrade.
4. Start: Click "Start" to start upgrading.

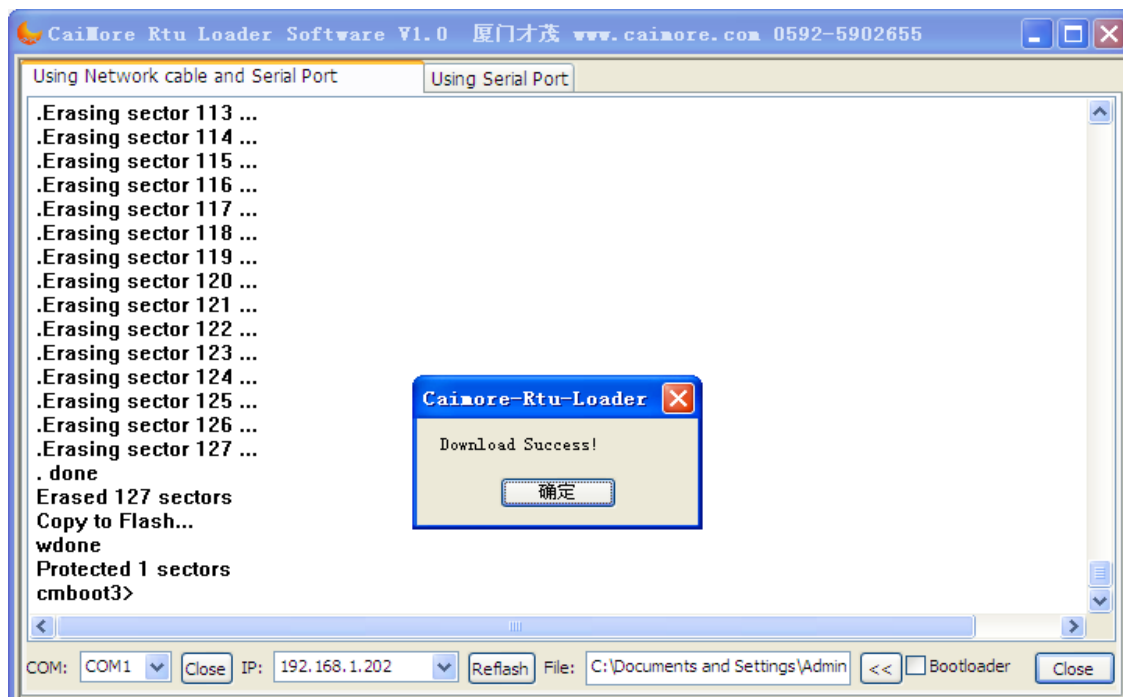
3) RTU firmware upgrading

Please power on the RTU to begin upgrade, see as below picture:



4) RTU firmware upgrade finished

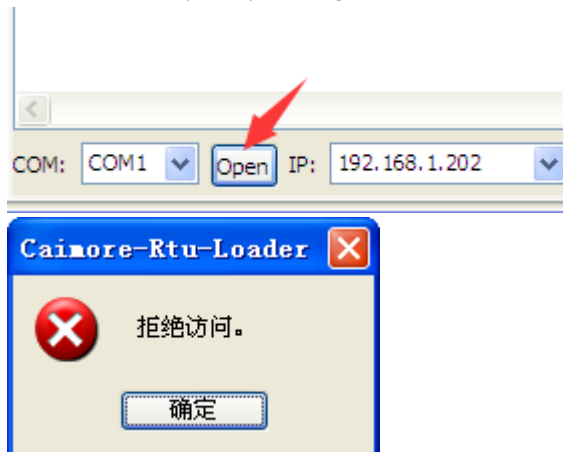
About 2 minutes later, the upgrading will be finished once there is pop-up window with "Download Success!". Then you can close this loader software and power off the RTU.



5) Appendix: Malfunction Analysis

1. Failed to open "COM"

The COM is occupied by the other software program if there is a pop-up window with "Access Denied" when you click "Open". In this case, please close the COM on the other software first, and try to open it again.



2. Fail to upgrade program

a) Switch cable leads to fail to upgrade

Normally, "#####" will be displayed on the page at the beginning of upgrading. But if "TTTTTTTTT" instead, that means it fail to upgrade. Please connect RTU with PC directly, and try to upgrade it again.

Using macb0 device

TFTP from server 192.168.1.202; our IP address is 192.168.1.201

Filename 'CAIMORERTU-20150630v1.4.7-NeuVer-cfg-Image'.

Load address: 0x22000000

```

Loading: *#####
#####
#####
#####
#####TTTTTTTT
  
```

b) IP address conflicts lead to fail to upgrade

The RTU will get a new IP address automatically according to PC's IP address. But please ensure that this new IP address is not be occupied in the private network. Otherwise, it will lead to fail to upgrade too.

```

cmboot3> <INTERRUPT>
cmboot3> <INTERRUPT>
cmboot3> <INTERRUPT>
cmboot3> <INTERRUPT>
cmboot3> setenv serverip 192.168.1.202 ← PC: TFTP server
cmboot3> setenv ipaddr 192.168.1.201 ← RTU:TFTP client
cmboot3> tftp 22000000 CAIMORERTU-20150630v1.4.7-NeuVer-cfg-Image
macb0: Starting autonegotiation...
  
```