This document describes the setup and procedures for restoring GoIP Flash memory.

Important Notice: This document is intended to rescue a GoIP with corrupted Flash memory. Please read carefully and understand this document. If you have any uncertainties, please contact technical support. If this document fails to restore the Flash memory, the Flash IC may be damaged and needed to be replaced. Please contact technical support for further help.

1. FLASH memory corrupted?

Symptoms for corrupted FLASH image:

All LEDs lights up without blinking. This indicates that the device process is not starting because it is not getting the correct firmware from the FLASH to execute. Sometimes, there is "tick" sound every few minutes or seconds.

If you have any doubts, please always contact technical support for assistance before attempting to restore the FLASH image.

- *Email: info@goip-pro.ru*
- *Tel.: 8 800 511-88-50*
- *WhatsApp: +7(977)144-60-55*

2. Things to get prepared before restoring FLASH memory

2.1 Prepare a PC

the PC shall be with Window XP, 7, 8 or 10 installed - Newer or older versions of Windows have not been tested. With proper drivers and software utilities, the procedures described in this document may also apply to other OS Platforms (Apple IOS, Linux)

2.2   Prepare an USB -TTL cable

The TTL end is a 4-pin header (only 3 pins are used, the pin with red wire is the power pin which is not needed). If you don't have this cable, please contact sales or technical support.

Download and install the USB-TTL driver.   For exmaple, the PL2303TA chip is inside USB-TTL cable. then you can download the driver program from below:

http://www.prolific.com.tw/UserFiles/files/PL2303_Prolific_DriverInstaller_v1180B.zip

To verify the installation, you can plug the USB-TTL cable in USB interface of PC, and view the setting for Ports (COM & LPT) in the Device Manage (under Control Panel) to make sure that the USB Serial Port is installed properly. Please note the COM port number which will be needed later.
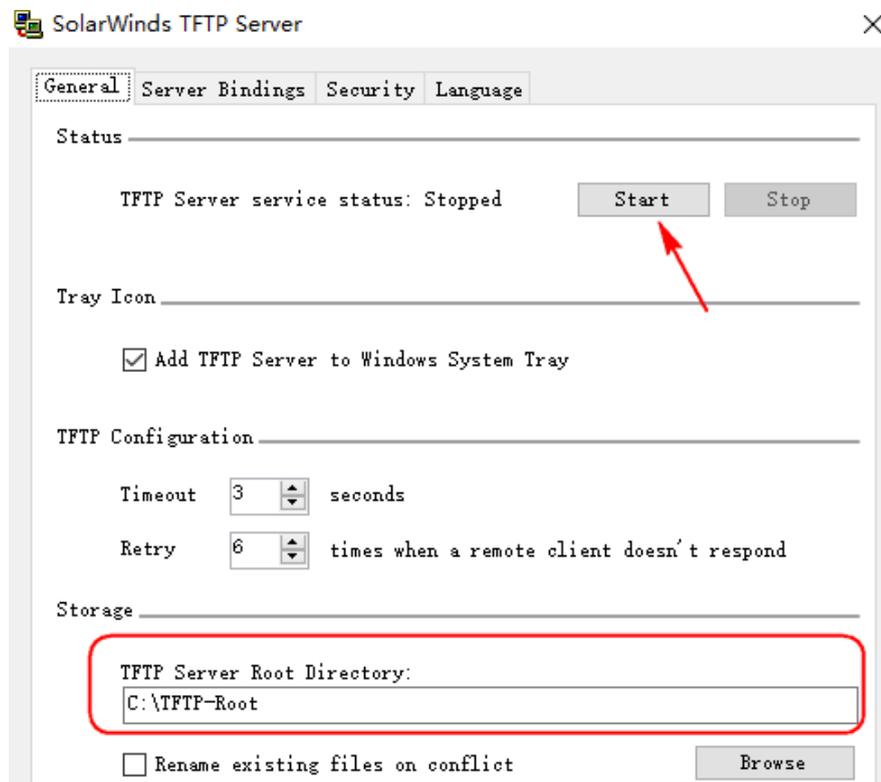
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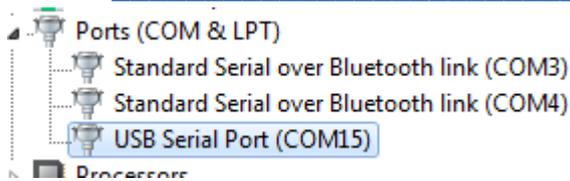
2.3 Download and install TFTP Server

You can download a free TFTP Server software from the site below:
https://www.solarwinds.com/free-tools/free-tftp-server

Config the "TFTP Server Root Directory" and start the TFTP service after installed as shown below:

Do not forget to disable firewall, or allow TFTP Server to pass through firewall.

2.4 Download GoIP Flash images for the target GoIP

According the GoIP model and S/N, please download the appropriate image file as below:

For S/N prefix "GOIP_E1BTM" or "WOIP8H_T"
http://47.242.36.50//update/Restore-GoIP-1610.rar

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For S/N prefix "GOIP_MC"
http://47.242.36.50/update/Restore-GoIP-cm5001.rar

For S/N prefix "GOIP4MDRM" or "GOIP4MGRM"
http://47.242.36.50/update/Restore-GoIP4-1610-fvdsp.rar

For S/N prefix "GOIP16E_T"
http://47.242.36.50/update/Restore-GoIP-1310.rar

For GoIP-1 model
http://47.242.36.50/update/Restore-GoIP1-1310.rar

Uncompress the .rar image file to the root directory of TFTP Server (Do Not create sub-folder in it). it is "C:\TFTP-Root" in this example.

2.5 Download and install PuTTY

You can download PuTTY from the site below:
http://www.putty.org/

3. Procedures to restore GoIP Flash

3.1 Connect USB-TTL cable with GoIP motherboard

Carefully disassemble the GoIP case with a screwdriver, and find **J1** interface that is near by the CPU on the motherboard as shown below


PS:
- *GoIP-1 uses **J6** interface instead of J1.*
- *GoIP-16 and GoIP-32 have double-deck PCB boards. Please carefully disassemble double-deck PCB boards, and find the J1 interface on the baseboard that is without SIM slots and antennas.*

The pin assignment of J1 is:

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PIN	Name	Description
1 (square pad)	TxD	It shall connect with the RxD of TTL cable.
2	RxD	It shall connect with the TxD of TTL cable.
3	PWR	Do not connect it.
4	GND	It shall connect with the Ground of TTL cable.

Connect the USB-TTL cable with the J1 interface according to the above table.
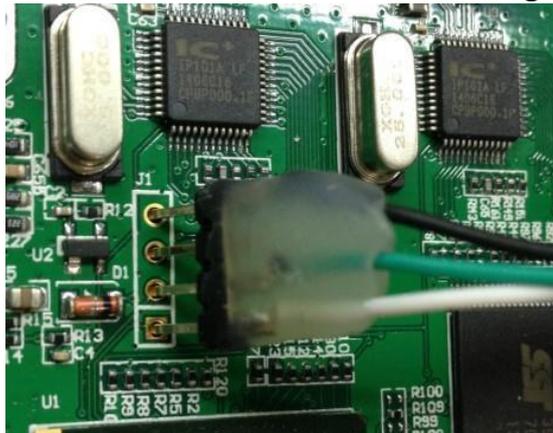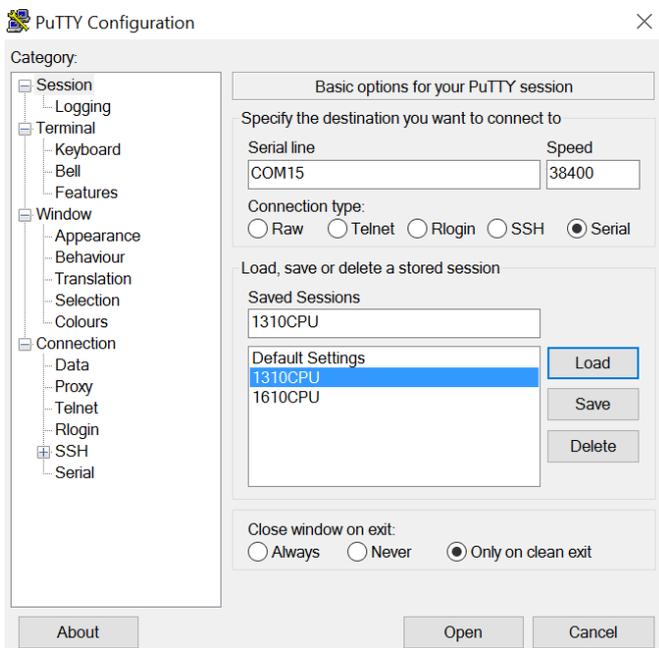

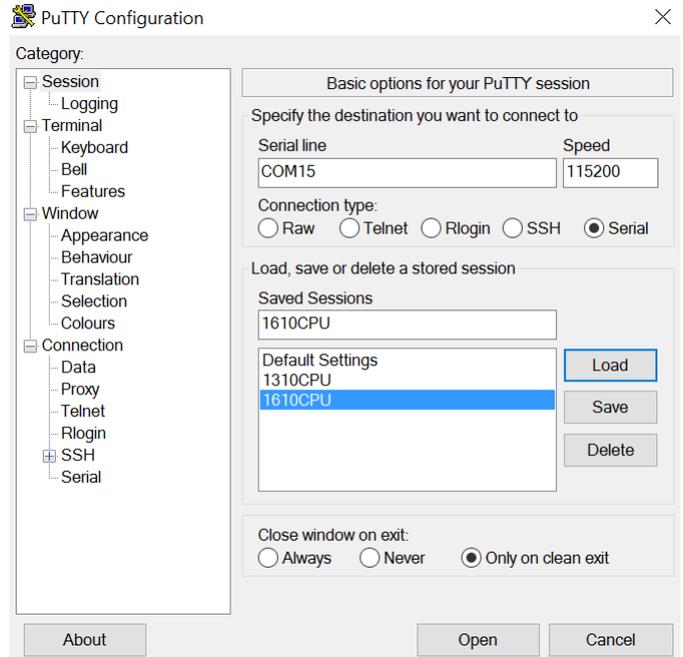And do not forget to plug the cable in USB interface of PC.

3.2 Run PuTTY

Run PuTTY, and configure the serial port in PuTTY as shown below.

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For 1310 CPU: **For 1610 CPU:**

- *GoIP-16 with S/N prefix "GOIP16E_T", and all GoIP-1 have 1310 CPU inside.*
- *Other GoIP models have 1610 CPU inside.*

The Serial line should be set to the USB Serial Port (COM15) which is the port when you plug the USB-TTL cable in USB interface of PC. The COM Band Rate is 38400 for 1310 CPU and 115,200 for 1610 CPU.

Click "Open" after all settings done.

3.3 Execute commands to restoring

a) Connect the power to the GoIP. When the GoIP boots up, it generates boots up messages and outputs to the PuTTY window.

Note:
If boots up messages does not appear in the PuTTY window, please check the followings:
- *USB-TTL cable is properly connected to the PC and the GoIP*
- *USB-TTL driver installation*
- *The COM port number and COM speed in the PuTTY settings*

b) When you see the message "Hit any key to stop autoboot:1" in the PuTTY window, hit any key to enter "uboot" mode. You will see "GENESIS #" if it enters "uboot" successfully.

c) Type the following commands to set the TFTP Server IP and GoIP IP. Since the

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TFTP Server is running in your PC/Notebook, so its IP is the same as your PC or Notebook IP. The last command save the IP addresses assigned.

  - ➢ set serverip <PC/Notebook IP>
  - ➢ set ipaddr <an unused IP in the same LAN segment>
  - ➢ save

d) Type the Ping command below to test the Ethernet connection between the GoIP and the TFTP server. same as your PC or Notebook IP.

  - ➢ ping <PC/Notebook IP>

The "alive" response means the connection is okay. You can then proceed to restore Flash image. Otherwise, you should double check the IP addresses assigned and the Ethernet cable connection to the same LAN segment.

e) Type the next commands to restore Flash image.

  - ➢ Run kimage   (Only GoIP-1 need execute this command)
  - ➢ Run rimage
  - ➢ Run cimage

You will see logs like below after execute each "Run" command:

```
GENESIS # run cimage
ethspeed is set to 100 MB.
fv_gmac#0 waiting for AN... complete
Link up 100Mb FD
Using fv_gmac#0 device
TFTP from server 192.168.2.57; our IP address is 192.168.2.104
Filename 'Cimage.3g.squashfs'.
Load address: 0xa00000
Loading: #################################################
        #################################################
        #################################################
done
Bytes transferred = 974848 (ee000 hex)
.........................done
Erased 32 sectors
Copy to Flash... ....done
```

f) When the restore process is completed as shown in the screen capture above, type the command "Reset" to reboot the GoIP. After the GoIP boots up, login its webpage and upgrade the firmware to thelatest version.