G+ Mass Production Tool

User Manual

V1.0.6 – Aug 31, 2010

No.19, Industry E.Rd.IV, Hsinchu Science Park, Hsinchu City 30077, Taiwan, R.O.C.

☏ +886-3-666-2118 +886-3-666-2117 www.generalplus.com

Important Notice

Generalplus Technology reserves the right to change this documentation without prior notice. Information provided by Generalplus Technology is believed to be accurate and reliable. However, Generalplus Technology makes no warranty for any errors which may appear in this document. Contact Generalplus Technology to obtain the latest version of device specifications before placing your order. No responsibility is assumed by Generalplus Technology for any infringement of patent or other rights of third parties which may result from its use. In addition, Generalplus products are not authorized for use as critical components in life support devices/systems or aviation devices/systems, where a malfunction or failure of the product may reasonably be expected to result in significant injury to the user, without the express written approval of Generalplus.

Table of Content

PAGE

G+ MASS PRODUCTION TOOL 1

USER MANUAL 1

1 INTRODUCTION 6

1.1 BODY MAPPING TABLE 6

1.2 MAIN WINDOW 8

1.2.1 Setting Button 8

1.2.2 Open Button 8

1.2.3 Start Download Button 9

1.2.4 Enumerate Device Button 9

1.3 DEVICE ENUMERATION 9

1.4 SCRIPT FILE EDITOR 11

1.4.1 Script File selection 12

1.4.2 Disable the Step 12

1.4.3 Download Steps 12

1.4.4 Add new Step 12

1.4.5 Delete step 13

1.4.6 Change step order 13

1.5 ACTION 13

1.5.1 Read action 13

1.5.2 Write action 14

1.5.3 Erase action 15

1.5.4 Jump to Function action 16

1.5.5 Initial Nand Flash action 16

1.5.6 Send Command action 17

1.5.7 Low Level Format action 18

1.5.8 Chip Erase action 18

1.5.9 App Initial action 18

1.5.10 Compare two file action 18

1.5.11 Set App Variable action 18

1.6 EXECUTION 19

2 EXAMPLES 20

2.1 GP6 DOWNLOAD 20

2.1.1 Write Pre-register 20

2.1.2 Write 20

2.1.3 Jump to function 21

2.1.4 Write Boot Area 22

2.1.5 Erease App Area 23

2.1.6 Write App Area 24

2.1.7 Send Command 24

2.1.8 Low Level Format 25

2.1.9 Initial Nand Flash 25

2.1.10 Send Command 26

Revision History

Revision	Date	By	Remark
1.0.6	08/31/2010	Eric	Synchronization update with new version
1.0.5	06/25/2010	Eric	Rename to G+ Mass Production Tool
1.0.4	05/04/2010	Eric	Modify version number to V2.0.8
1.0.3	05/03/2010	William Chang	Revised section order and added Body mapping table.
1.0.2	04/15/2010	Eric	Add GP10 download operation description
1.0.1	10/11/2009	Eric	Rename USB Mass Tool for download of GPL32XXX.doc to usb Mass Production Tool User's Manual
1.0.0	05/21/2009	Nicole	1st Version

1 Introduction

After the binary file is generated, please use G+ Mass Production Tool to download it to the selected Flash. However, user should make a configuration file for it.

So before executing download action, you will better to select corresponding configuration file which you made it at first. There are serval steps to use this tool. Following will make exhaustive description for you.

1.1 Body mapping table

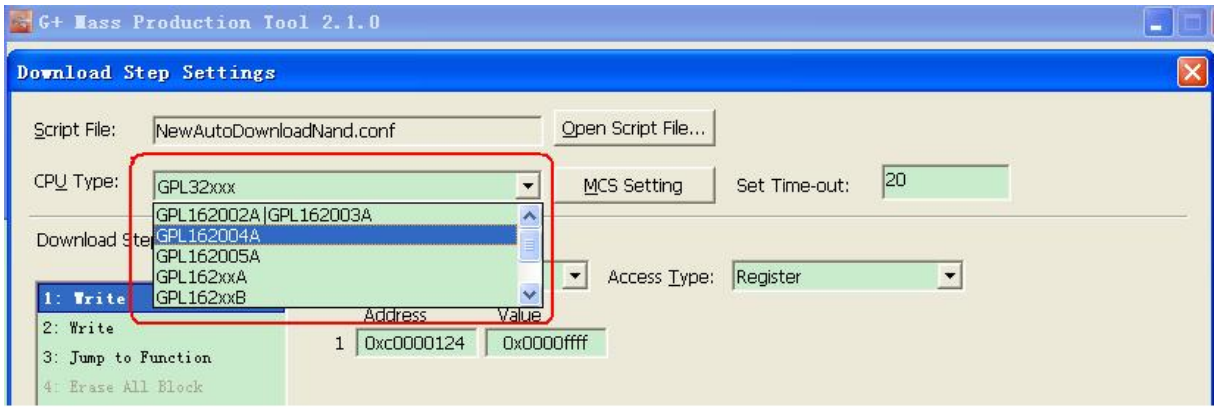
For GP4 series, V2.1.0 has new CPU naming rule to provide clearer classification of chip name.

Please refer table mapping below:

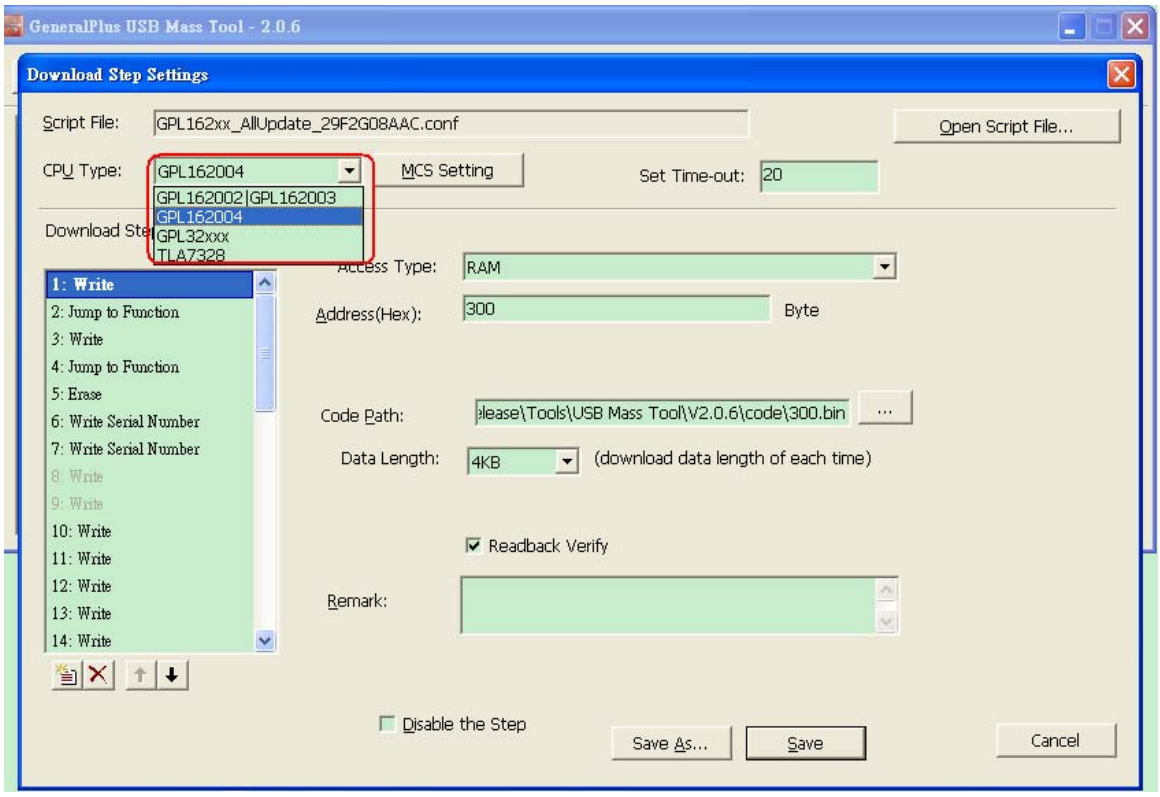
Chip Body Name	CPU Name in V2.0.6	CPU Name in V2.1.0
GPL162002/GPL162003	GPL162002/GPL162003	GPL162002A/GPL162003A
GP4 series excluding GPL162002/162003/162004/162005	GPL162004	GPL162xxA
GPL162004	GPL162004	GPL162004A
GPL162005	GPL162004	GPL162005A

The difference of selection dialog between V2.1.0 and V2.0.6 is shown below:

CPU type dialog of V2.1.0



CPU type dialog of V2.0.6

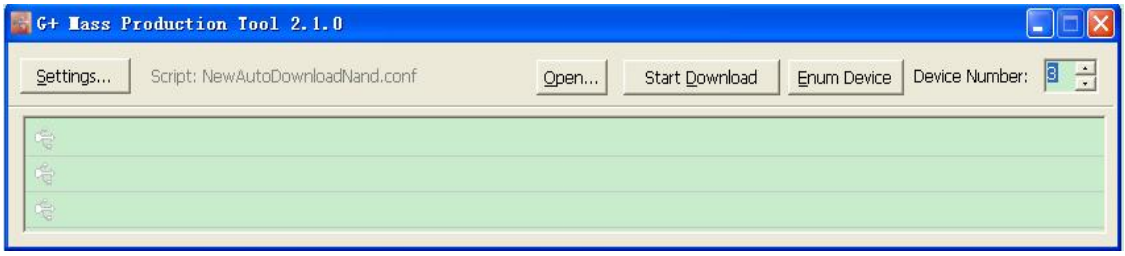


As the first chart show, there are many cpu types in the first chart, because it has also supported GP5 body series, especially for Probe path. Thus if anybody who would like to download GP5, please select associated cpu type in that combo box. List. Additionally, we have not only supported 16bit body series, but also supported 32 bit body series . So if the customer would like to download GPL32 series bodies, they should choose the concrete and correct cpu typies, however, user may

generate these configuration files through the G+Codepacker tool.. Auctually , we suggest client produce these config files during the research and development stage, but call G+MP Tool during the mass production stage. So by now these rules will not be available for GP4 and GP5.

1.2 Main window

Before Starting up executable file named G+MassProductionTool.EXE, you may search this file and click it, and then you will enter into the main dialog which is going to be shown like as bellow.



1.2.1 Setting Button

As you known, you may change device number to extend or reduce the device list items. After all, this tool has support to download for multi-devices, not only single device. If you would like to download bin file between 16bit and 32 bit devices or the different body within the same CPU series, you just need to select to switch identical configuration files. So you should click setting button on the main dialog to handle this things. About more exhaustive introduction please refer to the later sections.

1.2.2 Open Button

If you understand the configuration file and do not modify frequently, you may

open the corresponding file through this button. For convenientive operation , you should not enter setting dialog each time .

1.2.3 Start Download Button

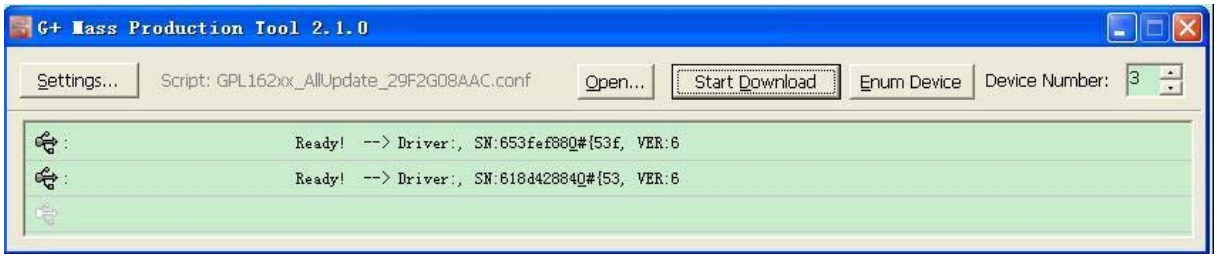
It just provide download function for users, click this button will trigger the download event, and then you will monitor the downloading progress and status for each devices. Of course, you will push down the entry key on the keyboard , it will be the same effect.

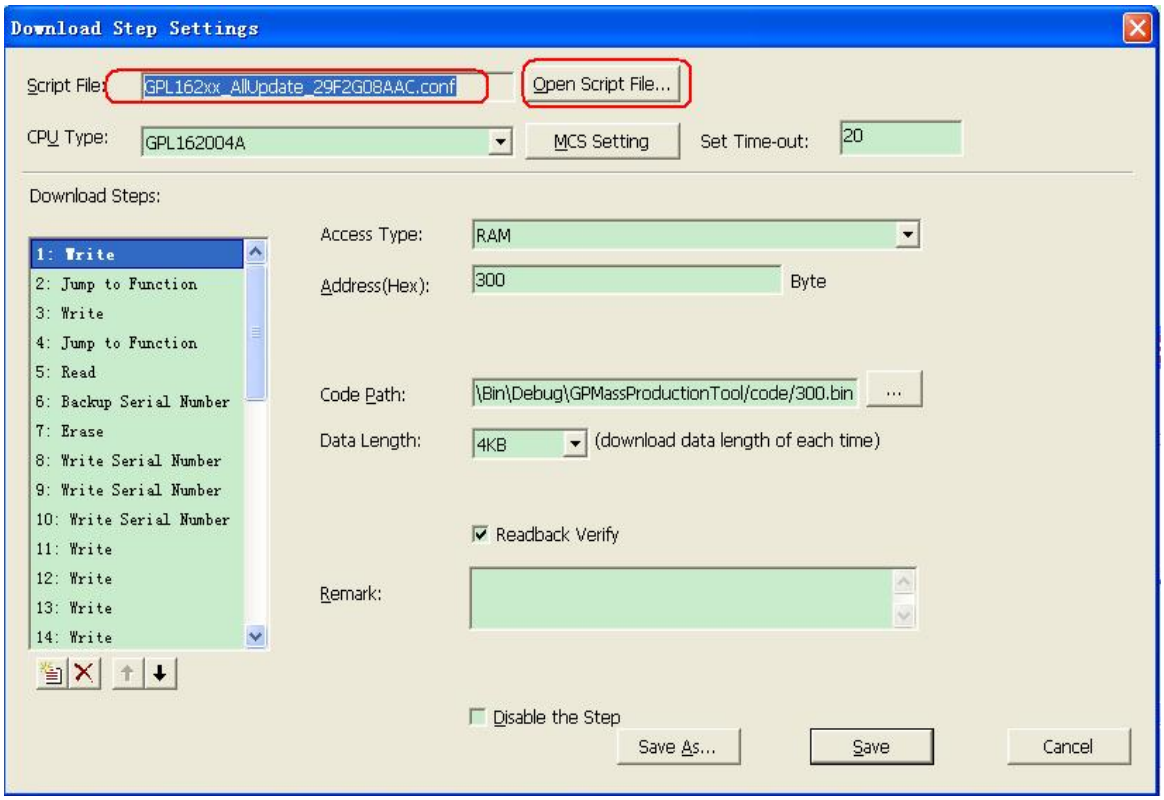
1.2.4 Enumerate Device Button

It will provide enumeration functions for each device. Generally speaking, it does not use frequently util the device was detected by pc, but our tool still has not searched the device. In this case, we suggest you may click it and try again.

1.3 Device enumeration

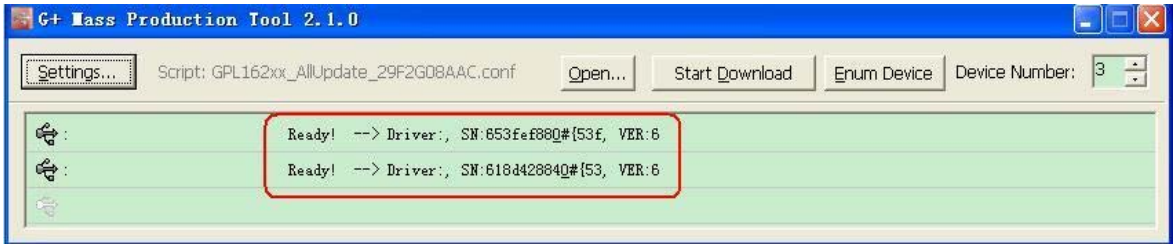
We will introduce that how to enumerate the device from our PC. In fact, we have mentioned it on the upper session, it is very easy to numerate device. You just need to click setting button and then it will pop up a setting dialog, you should select different script file according to your request. The script file will load automatically.





After select the correct script file, you may check the CPU type whether right or not. If it does not match to the emu board or other connected device, please select the compatible CPU type. Additionally, a new config will always to be created for the first time by the user. However, it does not effect the enumeration of devices. After making script file completely, you have to click save button to save your configuration file content.

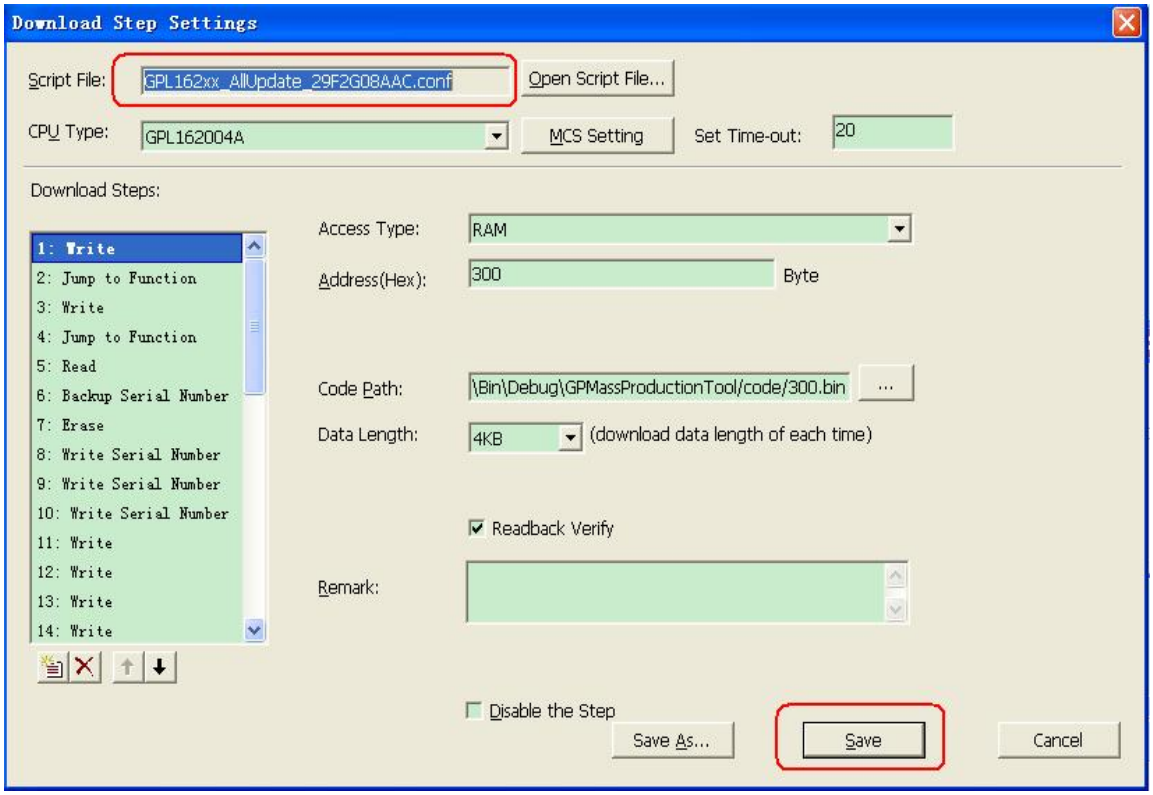
After saving the script file from the setting dialog and back to the main dialog. You will find that there are several devices to be detected and shown on the device list.



If all of the connected usb device with ready status will be found, you may start to download. Remember to click start download button or push down entry key on the key board. Then it will complete these tasks step by step with your request.

1.4 Script file editor

Click “Setting” to edit all download steps.



1.4.1 Script File selection

use GPL162xx_AllUpdate_29F2G08AAC.conf

1.4.2 Disable the Step

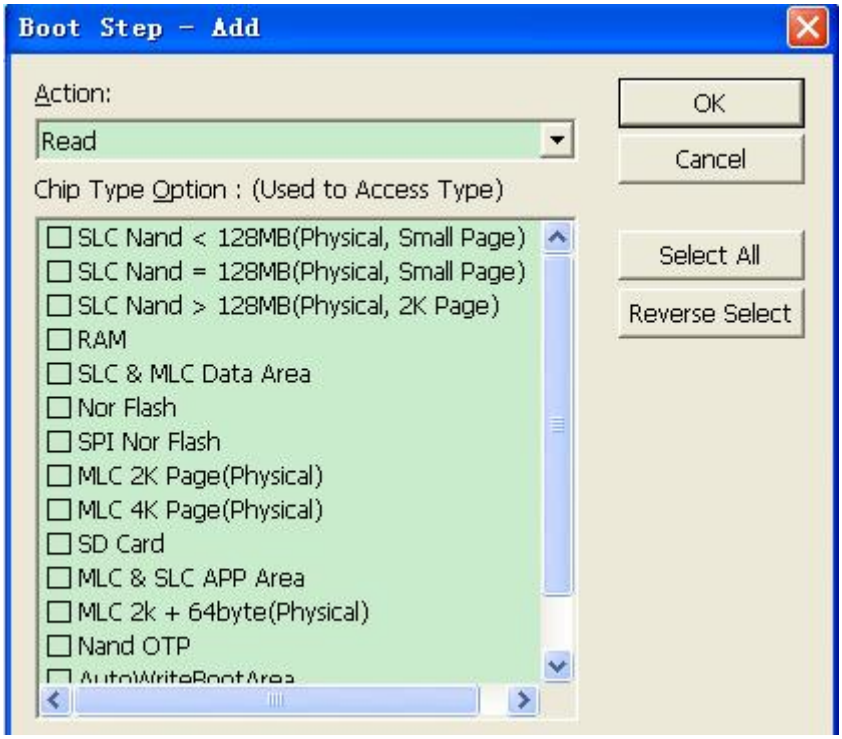
The chosen step is disabled.

1.4.3 Download Steps

It shows the download order. User can change the download order by using .

1.4.4 Add new Step

Click , the Boot Step-Add dialog is shown.



✓ Action: select the action.

✓ Chip Type option: select the flash type for action.

1.4.5 Delete step

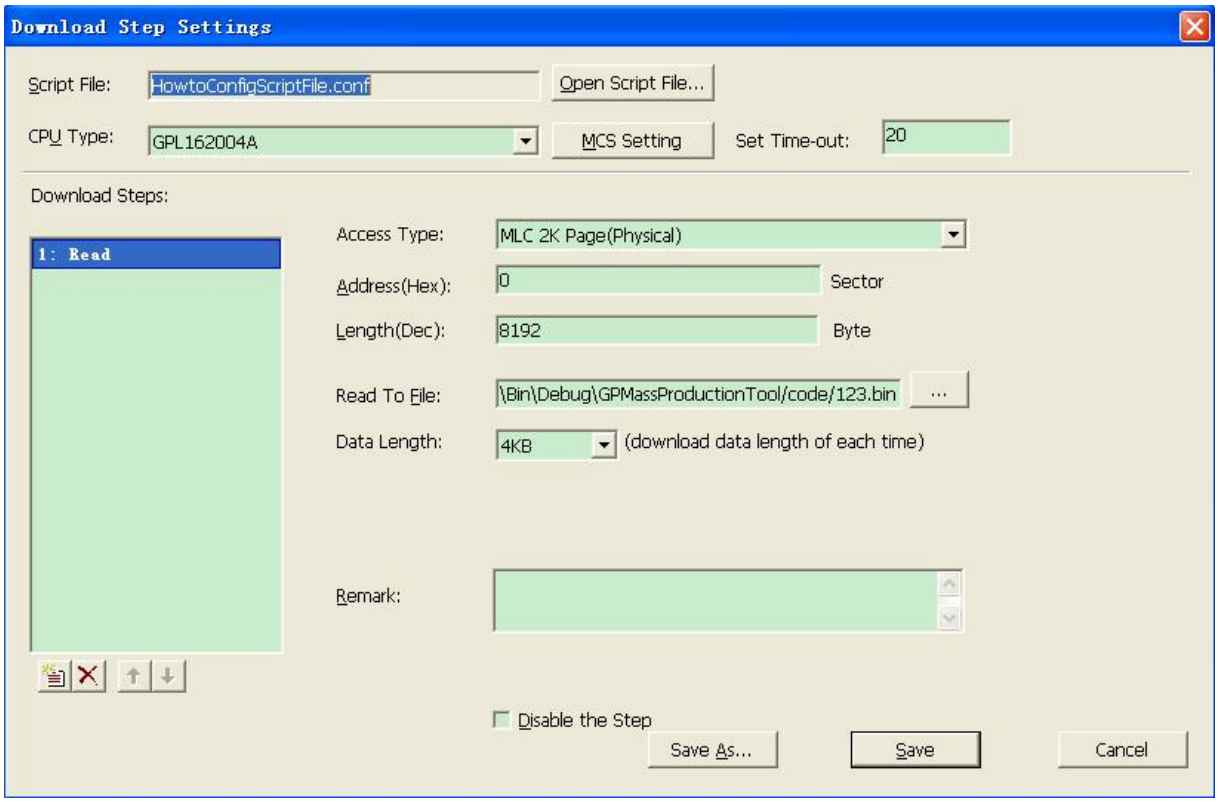
Click to delete the chosen step.

1.4.6 Change step order

Click to adjust the download order.

1.5 Action

1.5.1 Read action

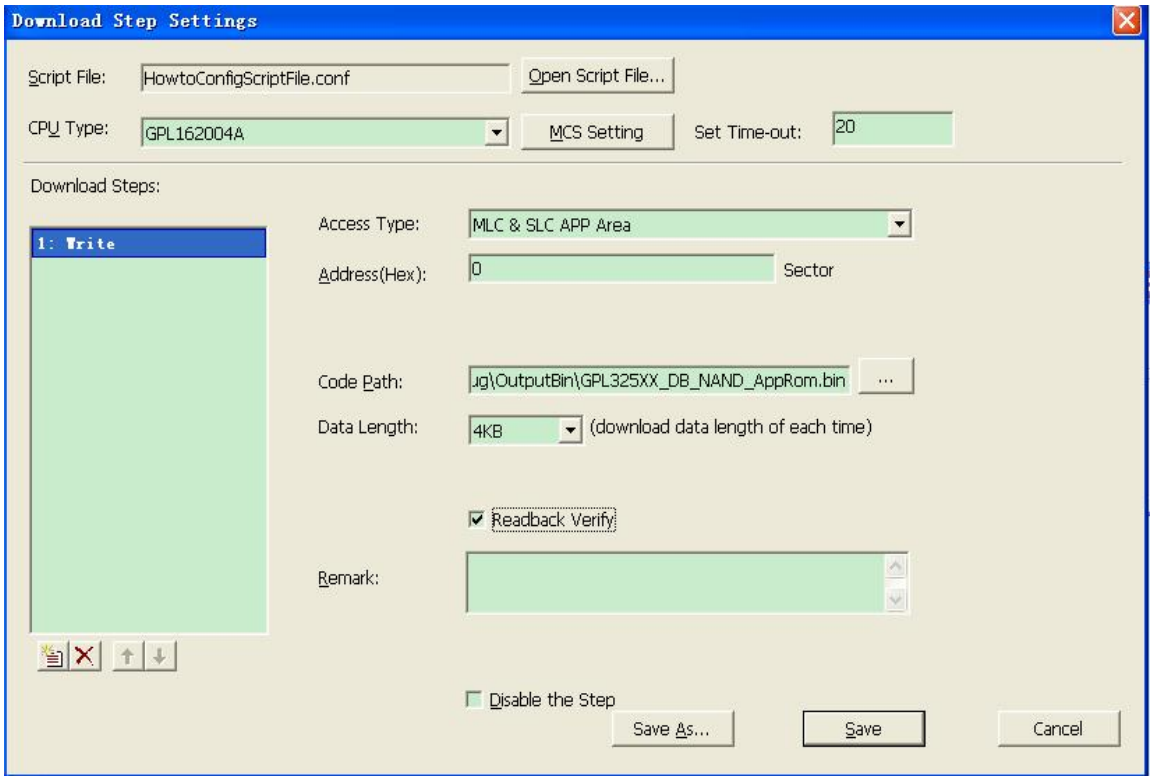


You may choose different memory type in the list when you would like to select

read action, Different momroy type has different item to be contained in the right configuration page. Here is the sample as below:

- ✓ Access Type: choose the Flash type in Access Type list.
- ✓ Address: specify the start address for reading. Different memory type has different unit.
- ✓ Length: specify length for reading (unit: byte in decimal).
- ✓ Read to File: specify full path where the data to be read from devices.

1.5.2 Write action

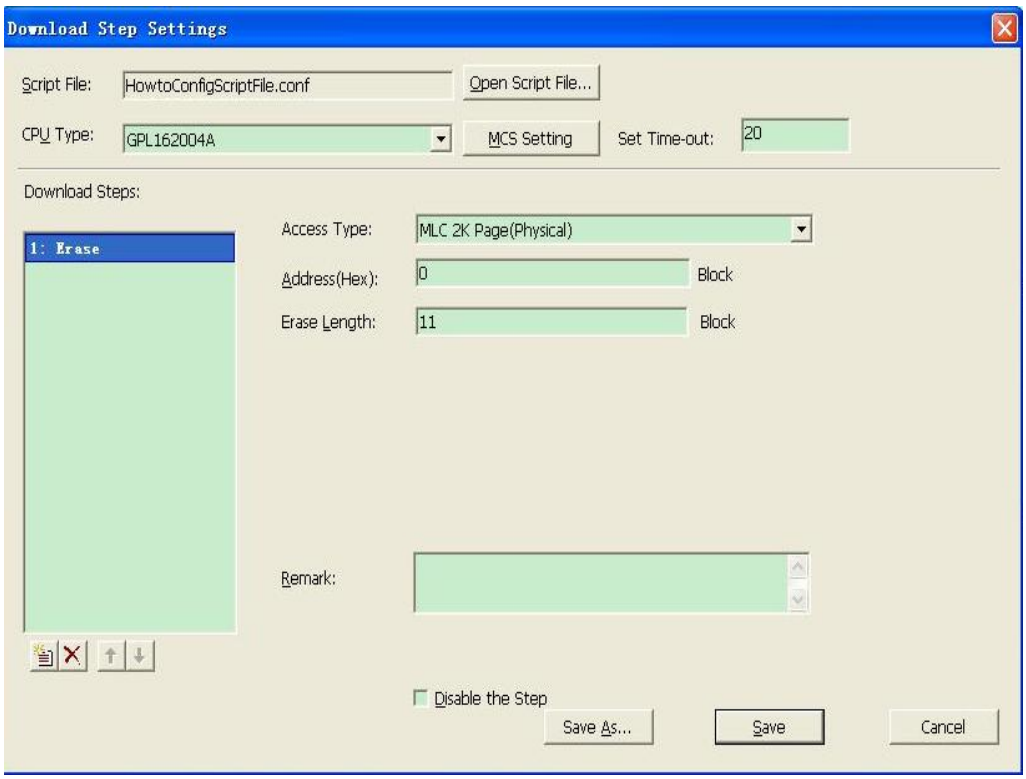


There are many memory type to be accessed in the list, This action is generally used for all body series, Of course , it includes some particular function with this action, like write serial number and so on, Here is the example as below:

- ✓ Access Type: choose the type in Access Type list.
- ✓ Address: specify the start address for writing the Flash.,(it use sector as unit)

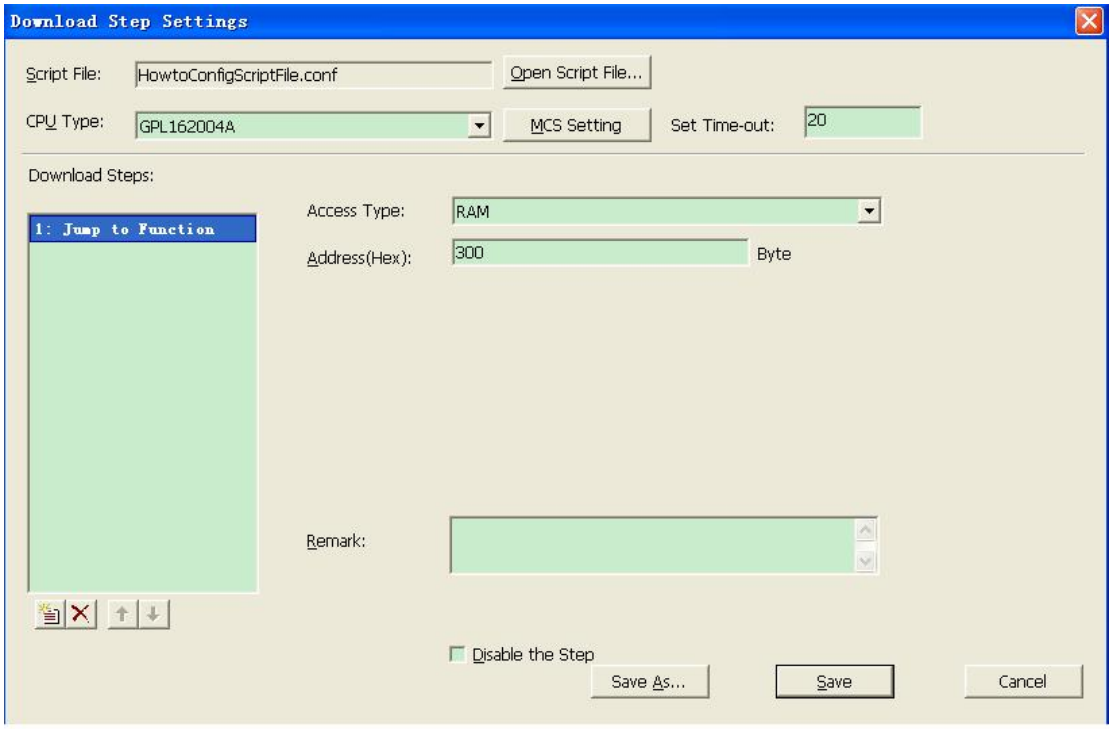
- ✓ Code Path: load the code file which will download to device.
- ✓ Readback Verify: check this option to enable the Boot Loader download verify.

1.5.3 Erase action



- ✓ Access Type: choose the type in Access Type list.
- ✓ Address: specify the start address for erasing the Flash (unit: Block).
- ✓ Erase Length: specify the length for erasing (unit: Block).

1.5.4 Jump to Function action



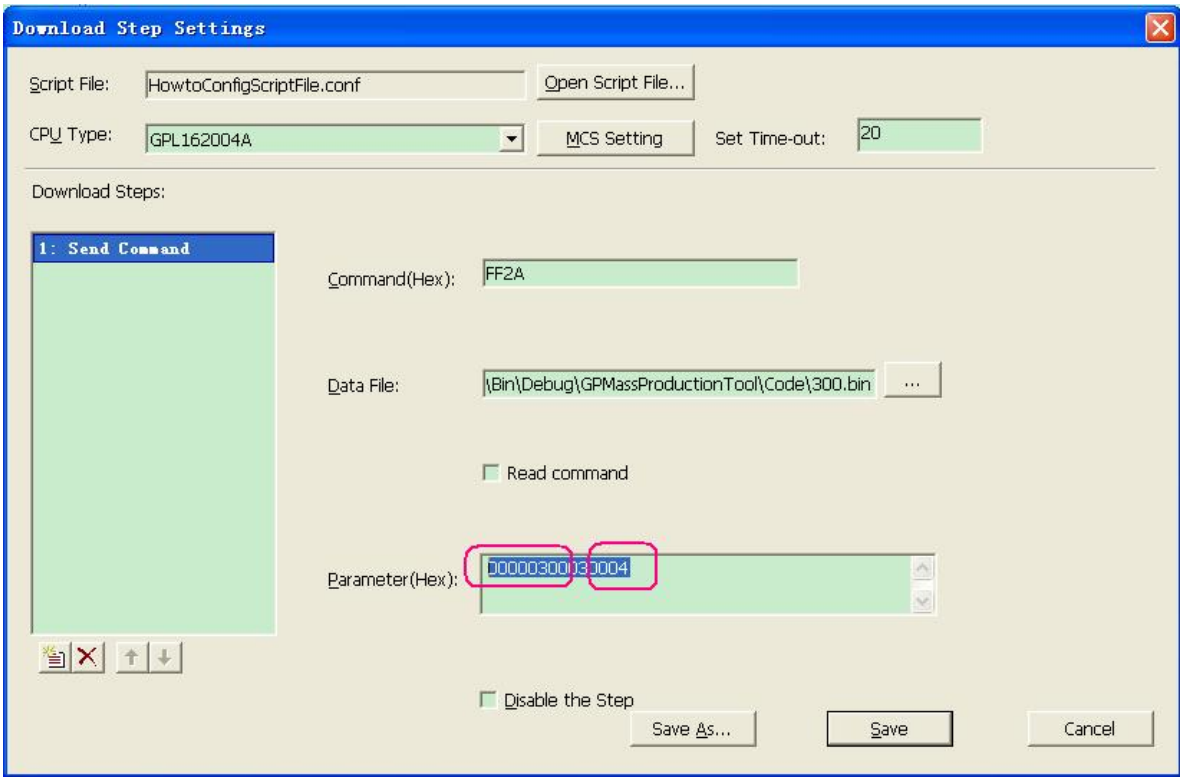
- ✓ Access Type: choose the RAM type in Access Type list
- ✓ Address: specify the address for running.

1.5.5 Initial Nand Flash action

- ✓ Access Type: choose the type in Access Type list.

1.5.6 Send Command action

General speaking, this command is used to customerize the client's request. If you would like to Learn more details , please refer to GPMPToolDownloadLibAPI specification. Here is an example as below:



- ✓ Command: input the command. Eg, 0xFF2A indicates write command.
- ✓ Data file: specify the data file to write or read , if the command indicates read data from device, you should set the read command option. Otherwise, it indicates write in default.
- ✓ Read command: enable Read command option to read the data from flash, disable Read command option to write the data to flash.
- ✓ Parameter: input the parameter. If it is write command , the previous eight bytes indicates the address you will download to device, and the middle two bytes indicates memory type, and the last four bytes you found is the length of each data you will download., For more detailed information, review the corresponding documents.

1.5.7 Low Level Format action

- ✓ This action is used to format the Nand Flash Data area.

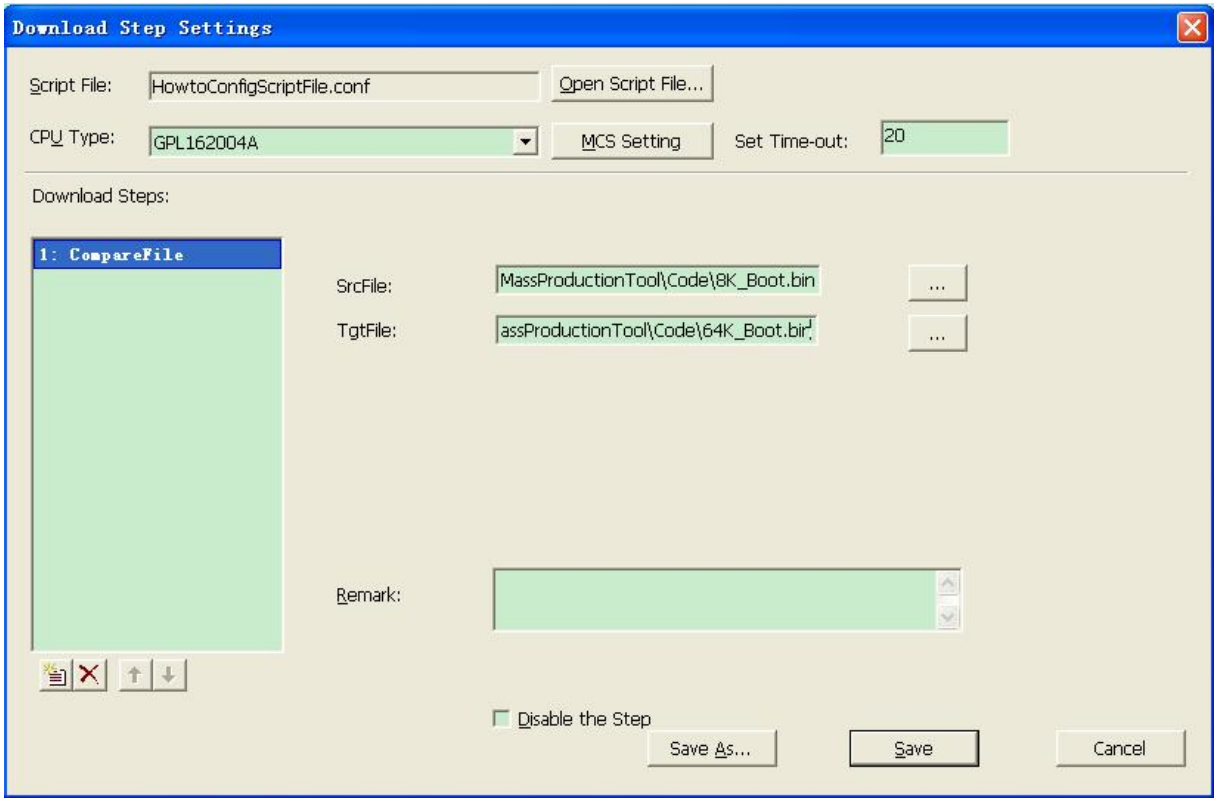
1.5.8 Chip Erase action

- ✓ This action is used to erase Nor Flash.

1.5.9 App Initial action

- ✓ This action is used to initial app area.

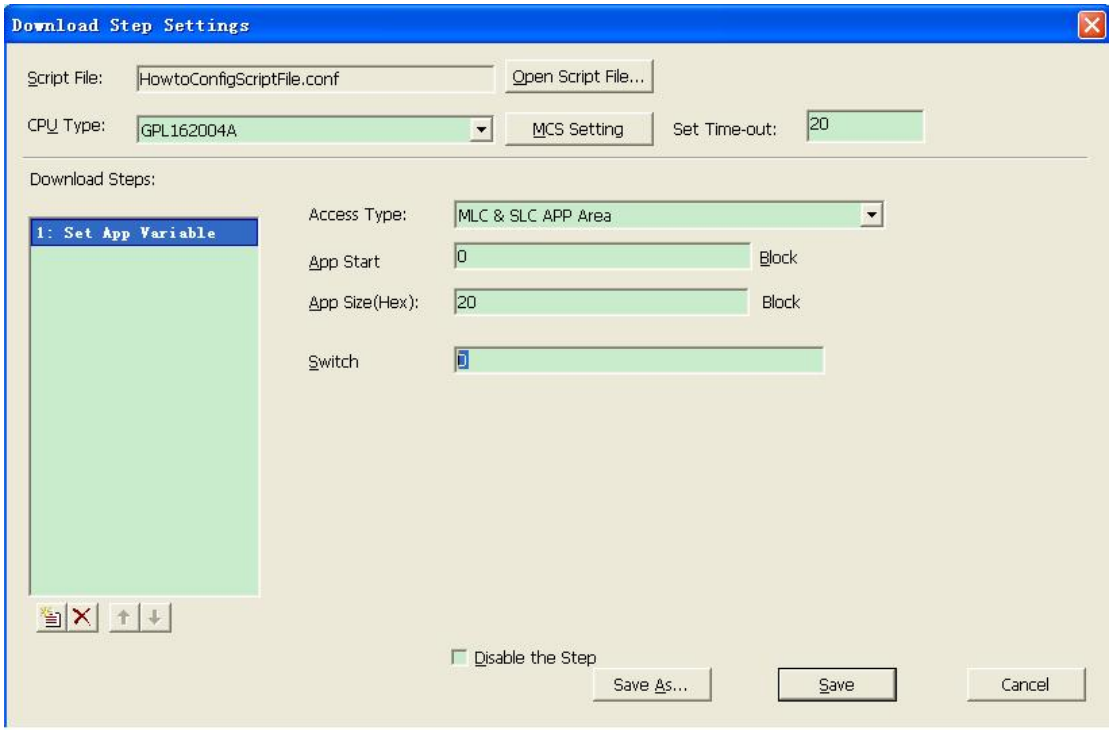
1.5.10 Compare two file action



1.5.11 Set App Variable action

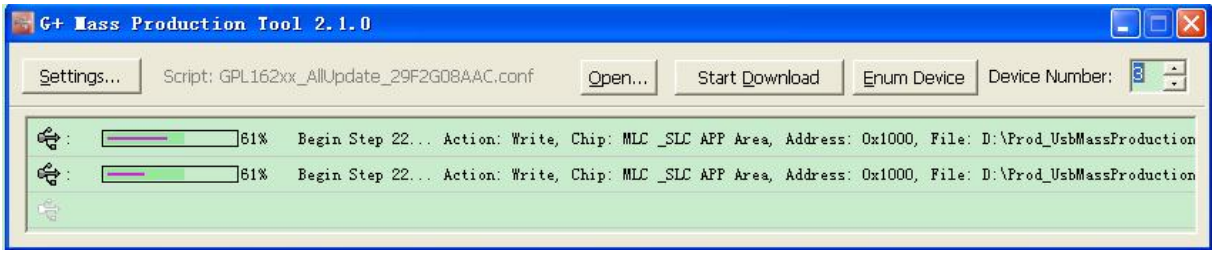
- ✓ Access Type: choose the Flash type in Access Type list.
- ✓ App Start Address: specify the start address of the app area.
- ✓ App Size: specify app size.

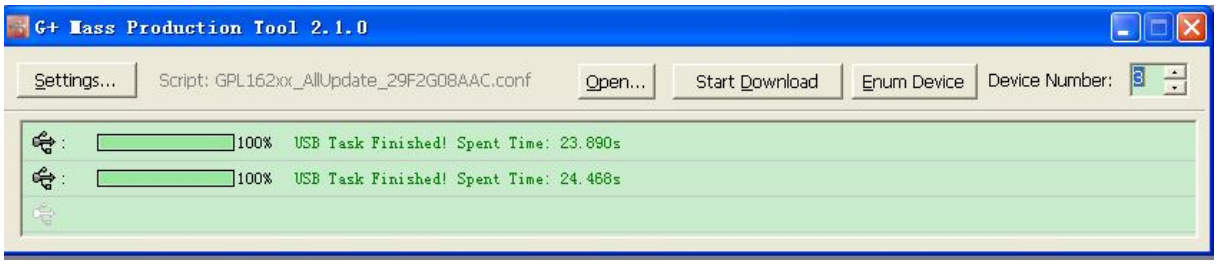
✓ Switch Block: specify the block number of app to switch bad block of app area.



1.6 Execution

Click “Start Download” and the status bar will keep updated until it finishes.





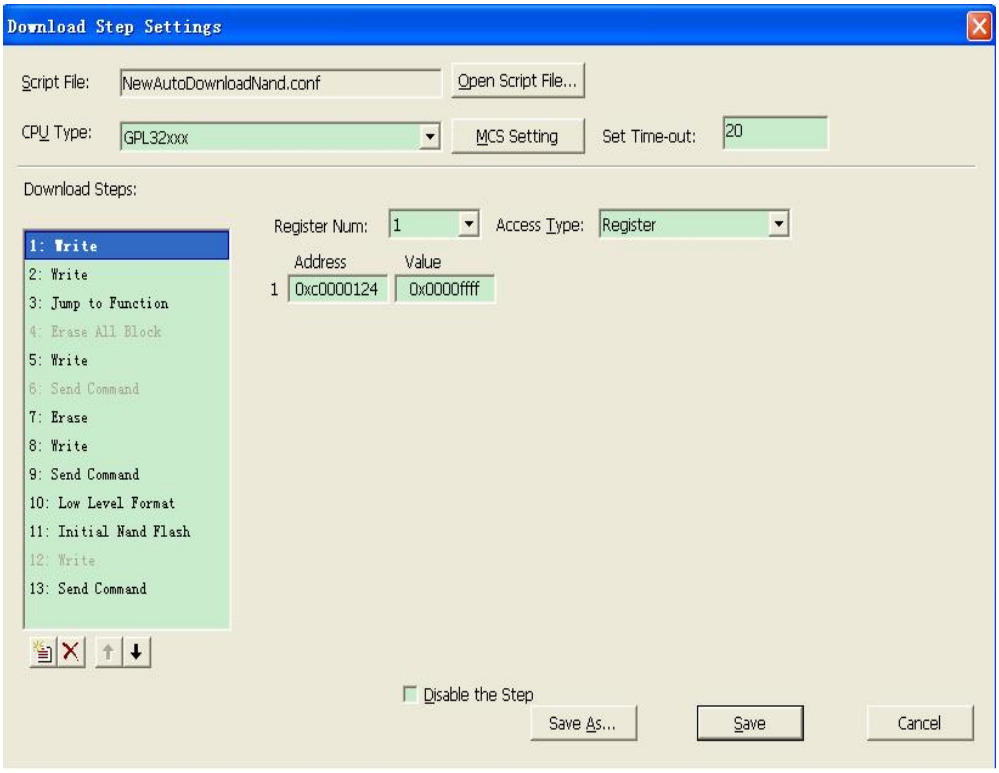
2 Examples

2.1 GP6 download

Use NewAutoDownloadNand.conf for GP6 Nand Flash download flow.

2.1.1 Write Pre-register

These values are usually received from G+Codepacker Tool. They would set the internal register to initialize internal ram.

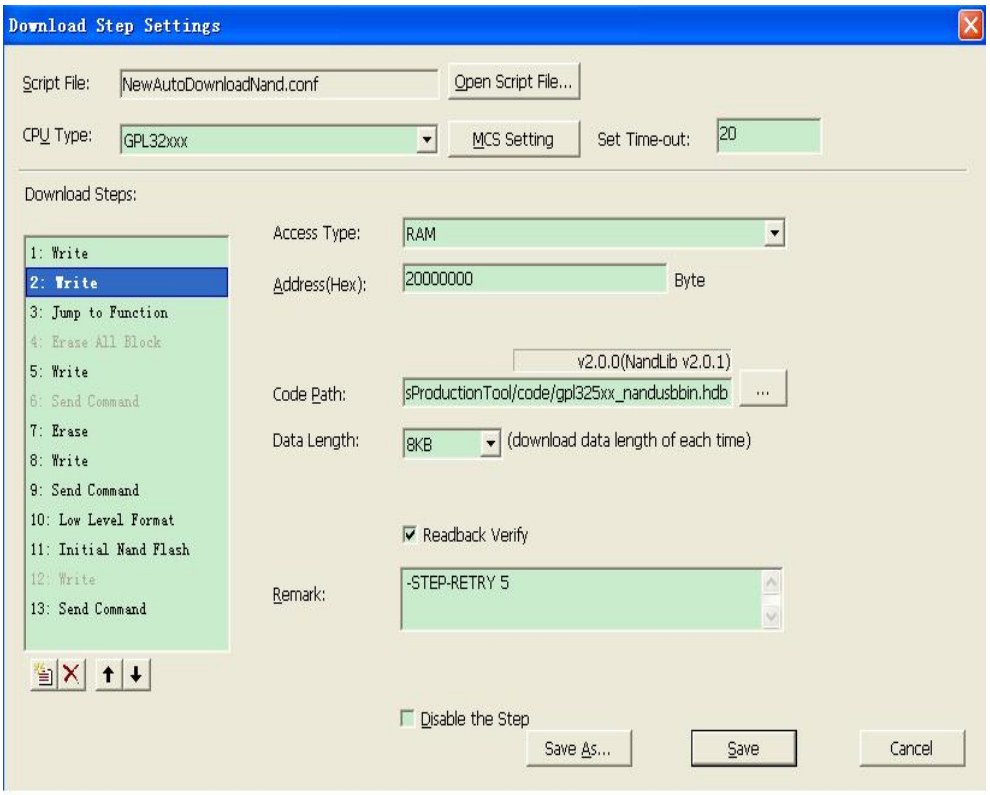


2.1.2 Write

Download the USB *.bin to RAM. We add retry mechanism in order to retry when download failure. By the way, we may identify the FW lib version and SW Tool version and other additional information.

- ✓ Access Type: choose the RAM type in Access Type list.
- ✓ Address: specify the start address for writing RAM. The default value is 0x2000 0000.

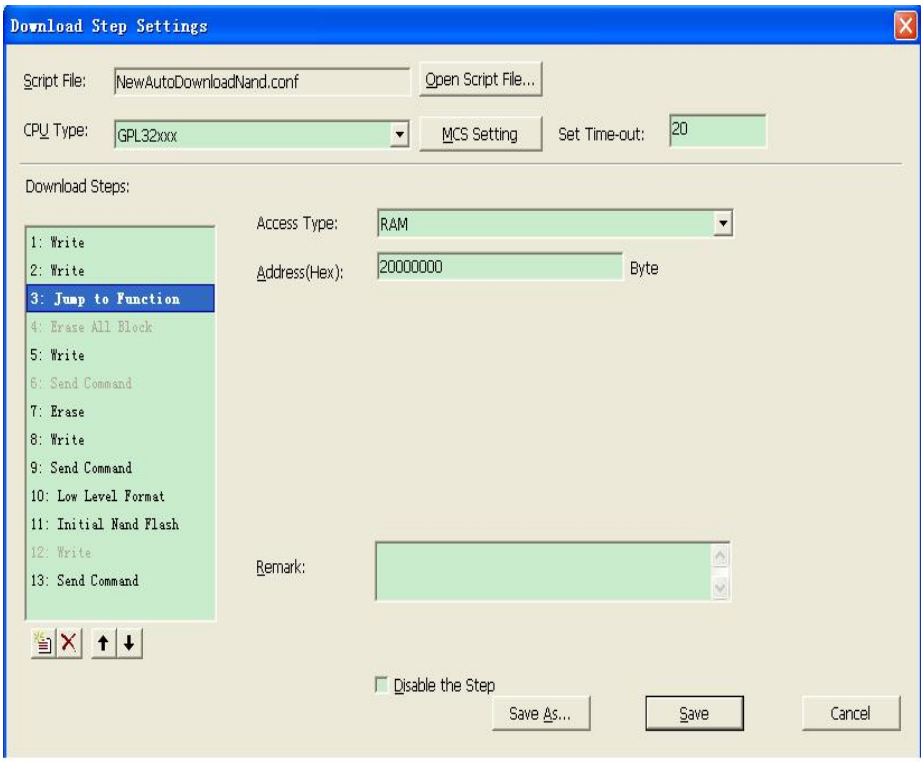
- ✓ Code Path: load the USB *.bin.
- ✓ Readback Verify: check this option to enable download verify.



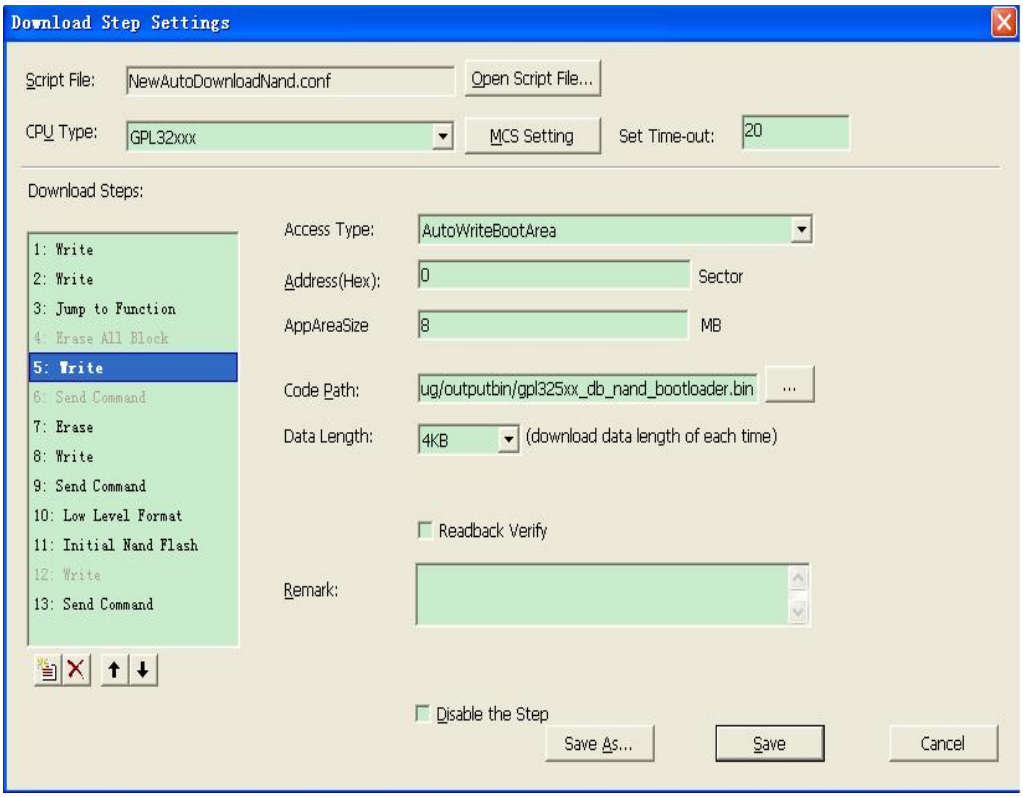
2.1.3 Jump to function

Jump to Address to run the USB code.

- ✓ Access Type: choose the RAM type in Access Type list.
- ✓ Address: specify the address for running. The default value is 0x2000 0000.

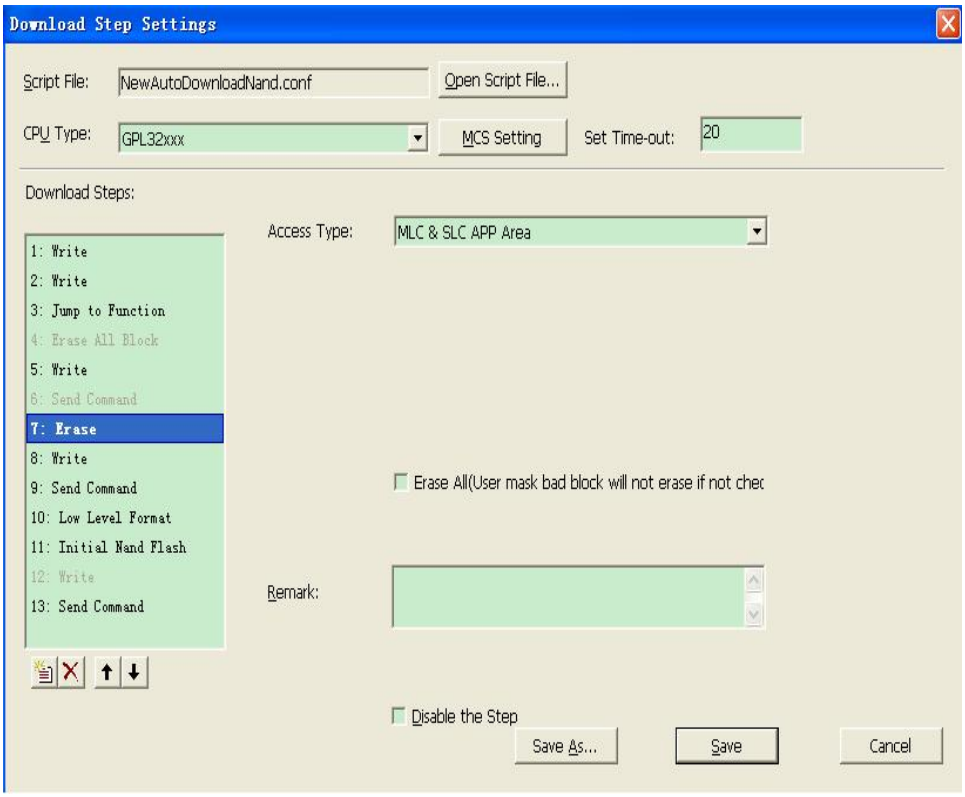


2.1.4 Write Boot Area

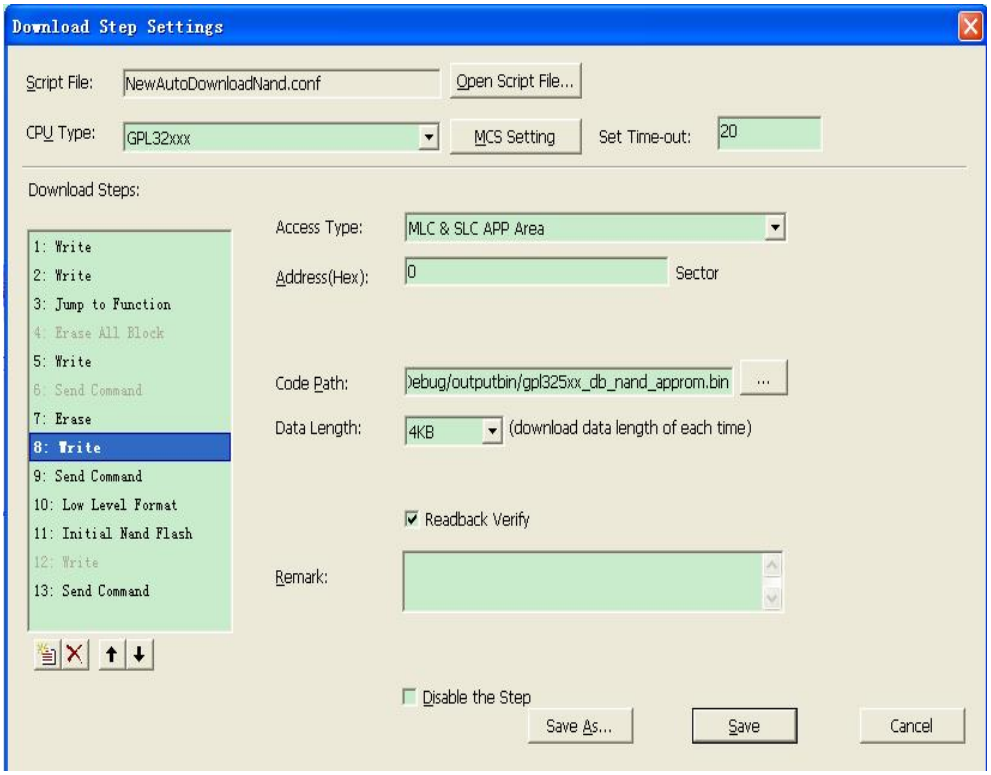


2.1.5 Erease App Area

Download the Boot Loader to Nand Flash.

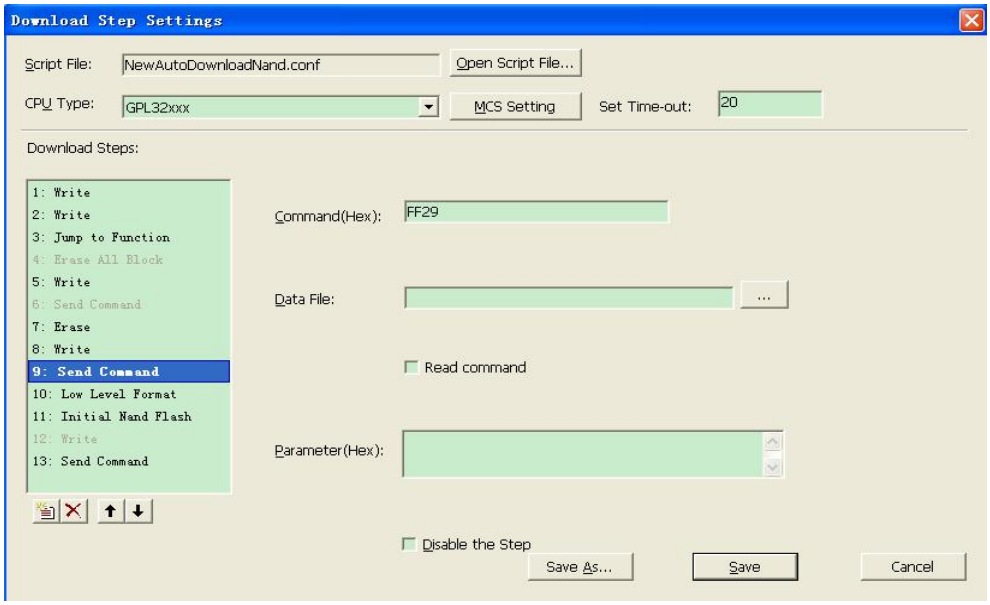


2.1.6 Write App Area

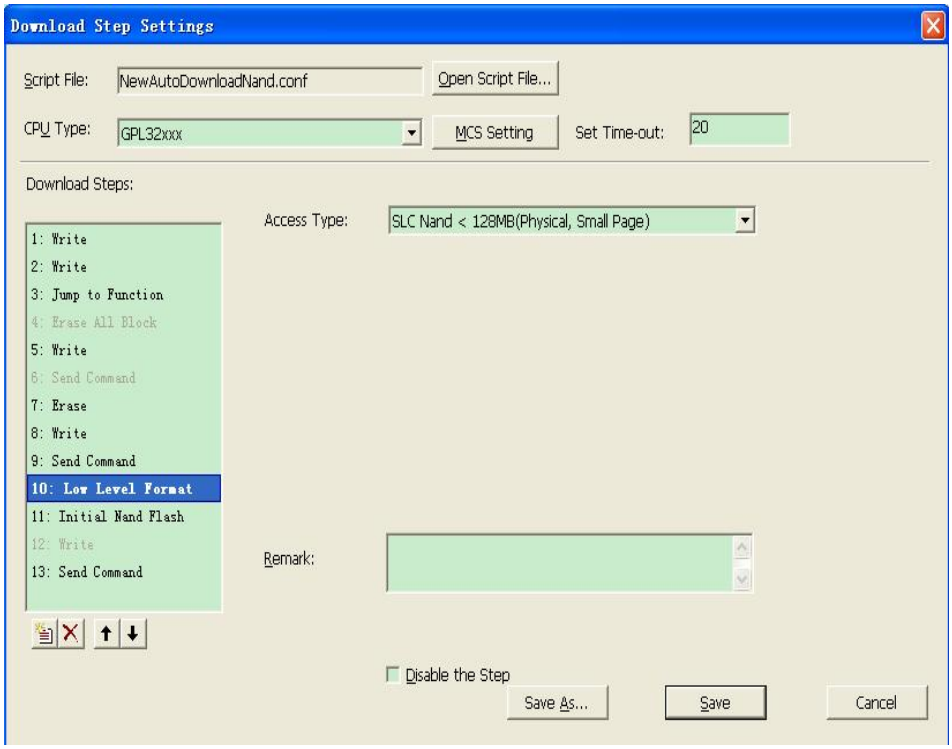


2.1.7 Send Command

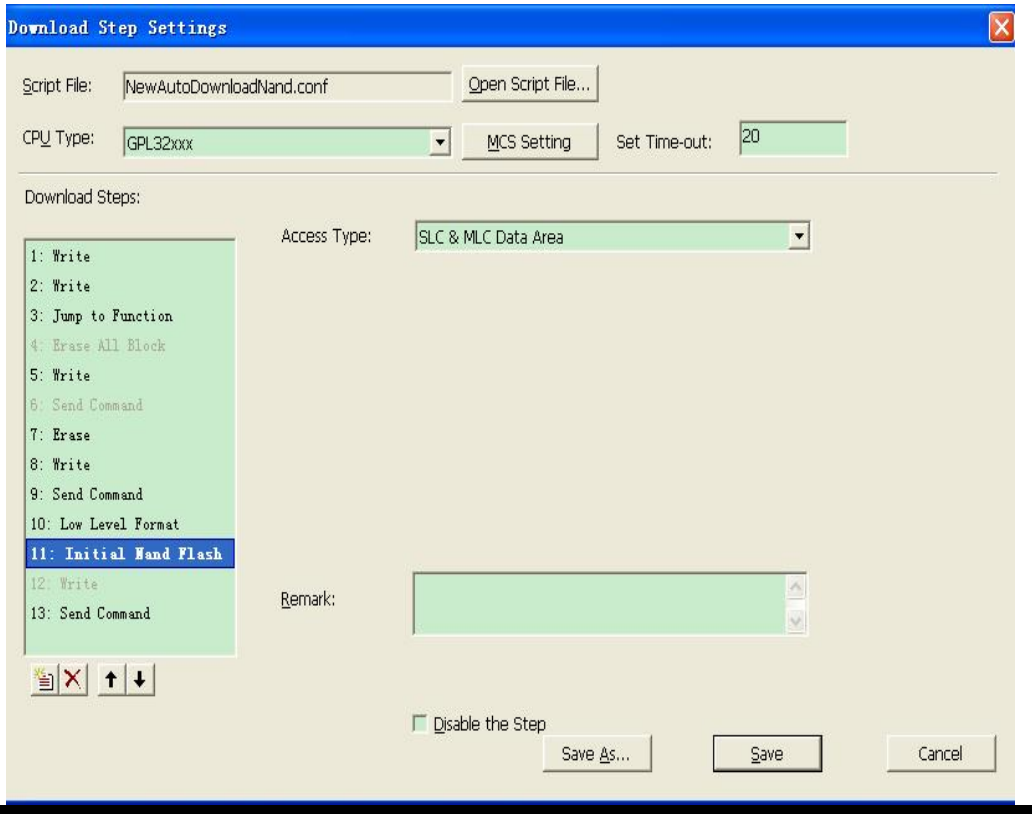
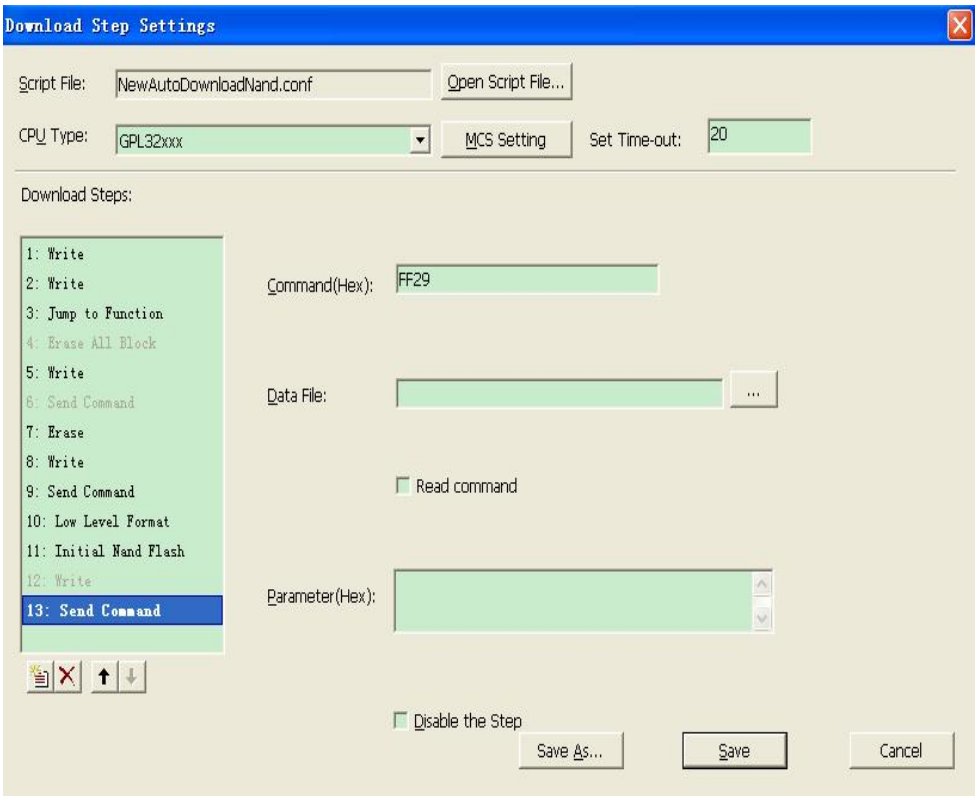
Clear the data in the buffer to make sure that the data will be download to device completely.



2.1.8 Low Level Format



2.1.9 Initial Nand Flash



2.1.10 Send Command