

S726

Firmware Download Guide

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Notice

This document provides guide for users to use S726.

This document is intended for system engineers (SEs), development engineers, and test engineers.

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About This Document

Scope

This document is applicable to S726 series.




Audience

This document is intended for [system engineers \(SEs\)](#), [development engineers](#), and [test engineers](#).

Change History

Issue	Date	Change	Changed By
1.0	2022-04	Initial draft	Luo Jian

Conventions

Symbol	Indication
	Indicates danger or warning. This information must be followed. Otherwise, a catastrophic module or user device failure or bodily injury may occur.
	Indicates caution. This symbol alerts the user to important points about using the module. If these points are not followed, the module or user device may fail.
	Indicates instructions or tips. This symbol provides advices or suggestions that may be useful when using the module.

1 Overview

Generally, the UpgradeDownload tool is used to download firmware of the S726 module.

The UpgradeDownload tool can be used to download firmware of multiple S726 modules at the same time. The download is efficient and the operation is simple. You only need to connect an S726 module to the PC through a USB cable and switch the module to the USB_BOOT mode (download mode). The UpgradeDownload tool will automatically detect the S726 module and start to download firmware.

After the firmware of a module is downloaded, the module is replaced manually. The UpgradeDownload tool will automatically detect the new module and start to download firmware.

1.1 Operating Environment

Table 1-1 Hardware requirements

Hardware	Basic requirements
PC	Processor: i5 CPU or above is recommended. Memory: 4 GB memory or above is recommended.
Connecting cable	USB cable
USB HUB	A USB hub is required for one-to-multiple download.
Power supply	Ordinary DC power supply and voltage regulator or precision power supply

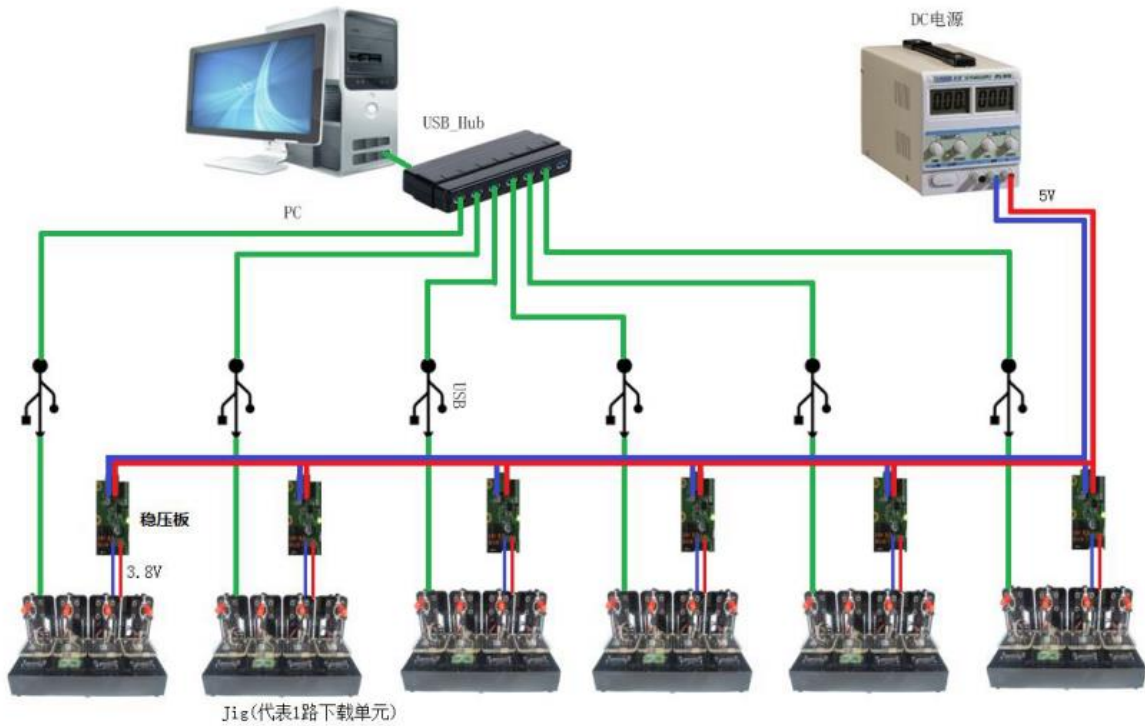
Table 1-2 Software Requirements






Software	Version Requirements
Operating System	Windows 7/8, Windows 10
S726 USB driver	V1.0 and later

1.2 Setting Up the Download Environment

Set up the download environment, as shown in Figure 1-1.

Figure 1-1 Networking of the download environment



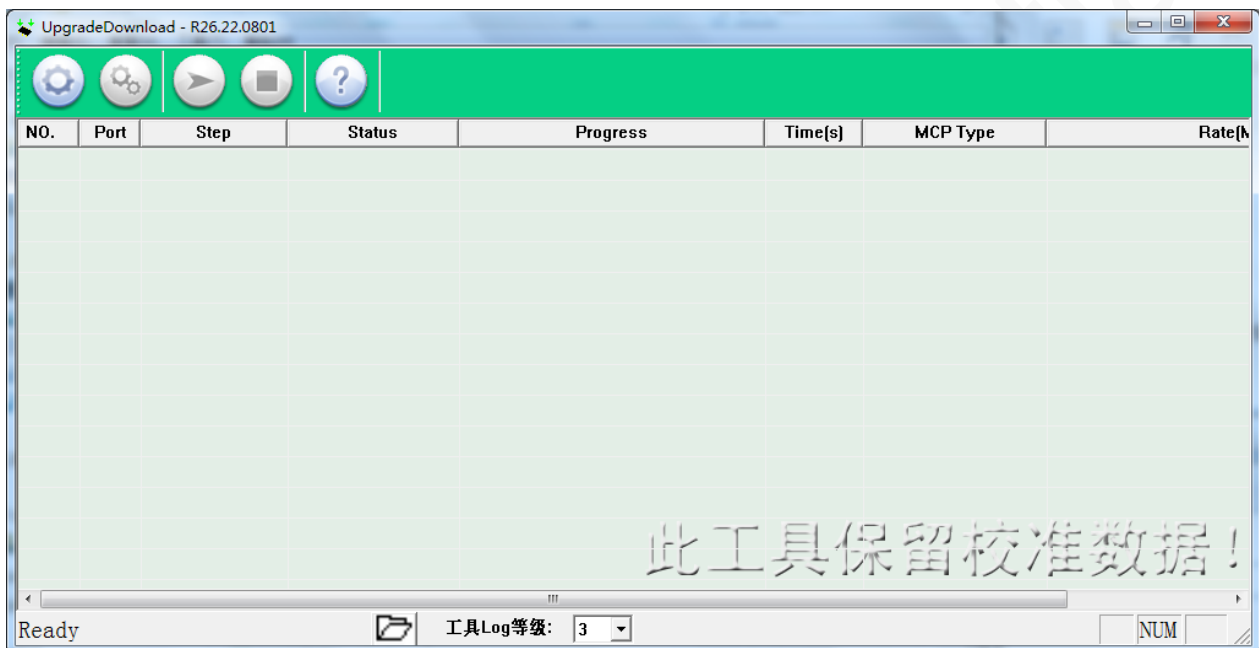
Device	Description
	The PC must meet the requirements listed in Section 1.1 . The PC is a device under test (DUT) that passes the USB connection test.
	USB HUB
	Precision power supply Or ordinary power supply and voltage regulator
	Voltage regulator
	Download fixture


2 Downloading Firmware

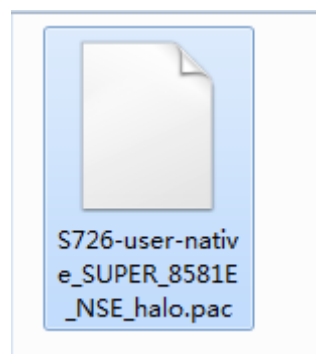
This chapter describes how to use the UpgradeDownload tool to download firmware of the S726 module.

The basic procedure for downloading firmware of the S726 module is as follows:

Step 1: Open the UpgradeDownload tool and double-click **UpgradeDownload.exe**.

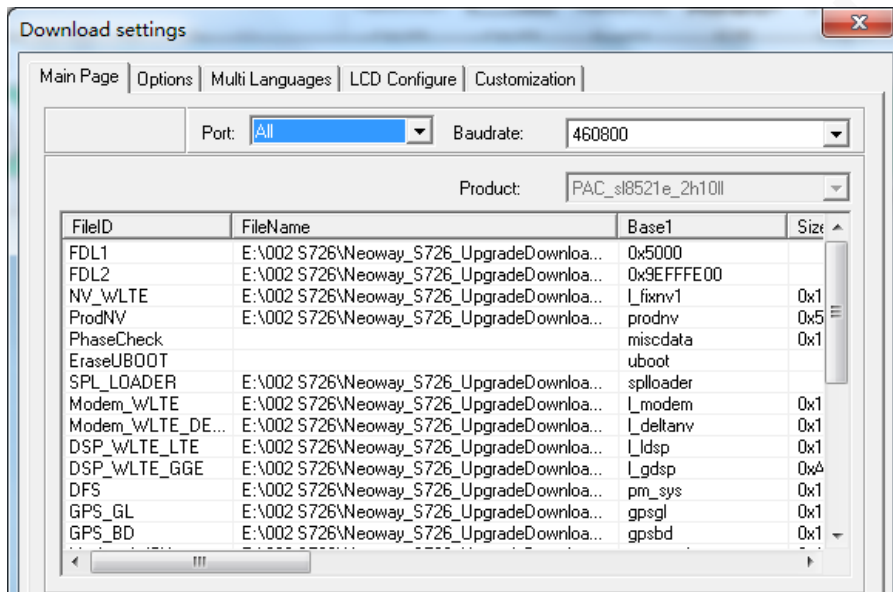


Step 2: Click the button  for loading or downloading a firmware package and select the **S726-user-native_SUPER_8581E_NSE_halo.pac** firmware file or compile the firmware file that is generated by the S726 SDK and is suffixed by pac, for example, **S726_userdebug.pac**.



```
support@neoway:~/share/S726_SDK_001/out/target/product/S726/cp_sign/SUPER_8581E_NSE_halo$ tree -l
├── bt_version.txt
├── pac.ini
├── pac.ini.bak
└── S726-userdebug-native_SUPER_8581E_NSE_halo.pac
```

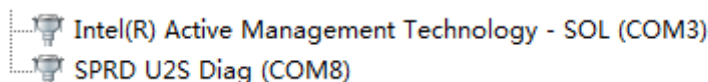
Step 3: Click the setting button  and set download parameters.



This button is unavailable when you run the UpgradeDownload tool the first time and the download file is not configured or you are in the download process.

For details about parameter settings, refer to Chapter 3 .


Step 4: Power on the S726 module, without starting the S726 module. Decrease the level of the USB_BOOT pin, enter the USB_BOOT mode, and make sure that the driver SPRD U2S Diag(COMxx) downloaded through a USB port is installed on the S726 module.





The firmware of the S726 module cannot be download when the module is powered on. You only need to power on the S726 module, without starting the S726 module, and then download firmware of the module.

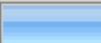
To download firmware of the S726 module on S726 EVK, first power on the S726 module, without starting the S726 module, press and hold the **USB_BOOT** key to make the S726 module enter the download mode, and connect the S726 module to the PC through a USB cable for download.

Step 5: Click the download button . The UpgradeDownload tool automatically detects an available download ports and enables the download port to be ready for download. The UpgradeDownload tool detects a download port and starts download.

If the S726 module is connected to the PC through a USB port but the UpgradeDownload tool does not start download, possible reasons are as follows:

- The S726 module is not connected to the power supply or is not powered on.
- The download port is occupied by another application and the UpgradeDownload tool cannot enable the download port. In this case, exit the application that occupies the download port.
- The S726 module is not in USB_BOOT mode. Download is supported only when the S726 module is in USB_BOOT mode. For details about how to switch to the USB_BOOT mode, refer to the related hardware document.

The status window displays the progress of downloading firmware.

Port	Step	Status	Progress
8	UserImg	Downloading...	

"Waiting..." is displayed after download starts, indicating that an operation is in progress and this process may last some time.

Port	Step	Status	Progress
1	FDL	Checking baudrate	Waiting...

After download is complete, the **Progress** column of the corresponding port displays the download result in different colors:

"Passed" marked in green indicates success.


Port	Step	Status	Progress
8	NV	Finish	Passed

"Failed" marked in red indicates failure. If the failure is not caused by the error of the user operation, the reason for the failure is also displayed.



Port	Step	Status	Progress
8	NV	Finish	Failed

The download result marked in red or green is retained for 10s. The interface for starting download is restored 10s later to be ready for downloading firmware of the next module.

Step 6: (Optional) If the firmware of a new module still needs to be downloaded, disconnect the module whose firmware is downloaded from the USB port of the PC, connect the new module to the USB port of the PC, and switch to the USB_BOOT mode. The UpgradeDownload tool will automatically start download.



Step 7: After the download is complete, click the button  for stopping download and exit the UpgradeDownload tool.



After the firmware of a module is downloaded, although you click the button  to stop download, the module is still in download mode. If you directly click the button  for download, the UpgradeDownload tool reports a download error.

Port	Step	Status	Progress	Time(s)
8	FDL	Unplugged	Failed: User cancel	

In this case, power off the S726 module, power on the S726 module again, switch the S726 module to the USB_BOOT mode, and download firmware of the S726 module again.

The button  becomes available only when you click the button  and the UpgradeDownload tool enables the available download port.

The stop button becomes unavailable during the process of downloading an NV file to protect the process of downloading the NV file.

In any other circumstance, you can click this button to stop download. You can exit the UpgradeDownload tool only when download stops.

3 Setting Download Parameters

Set other options, including the download port and its rate, multiple languages, LCD configuration, and customization.

3.1 Main Page

Click the toolbar icon . The **Download settings** dialog box is displayed.

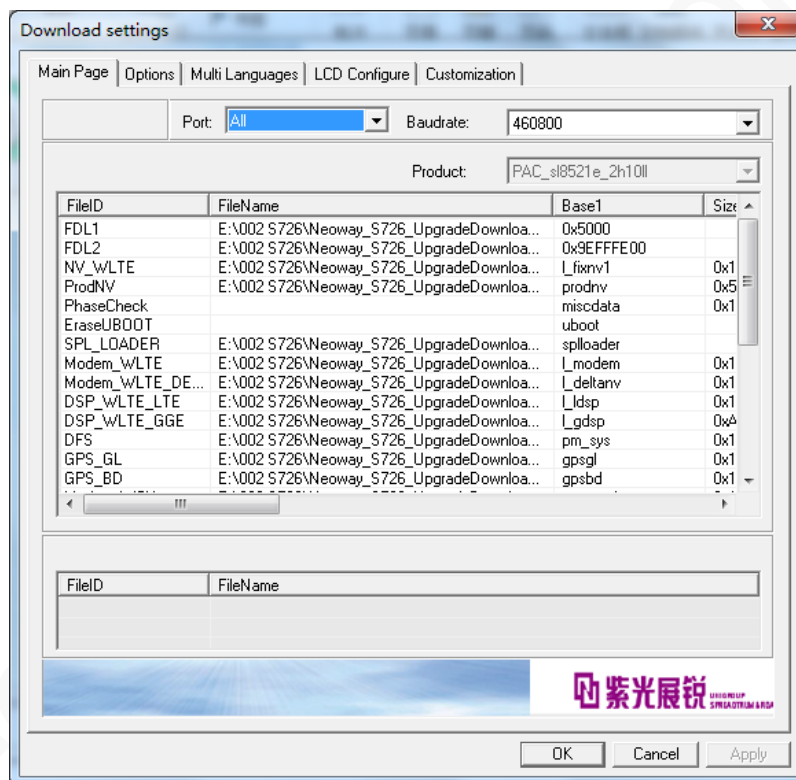


Table 3-1 Description of the **Download settings** interface

Interface Element	Indication
"Port"	Sets the download port.
"Baudrate"	Sets the baud rate of the download port.
"Product"	Selects a product for download.
Download file list area	The FileName column is editable. After you double-click the column, you can enter the file path or select a file in the displayed dialog box for

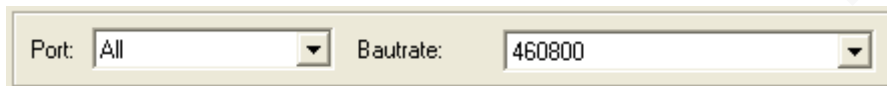
selecting a file.

"Base1" indicates the download address.

"Size1" indicates the file size, and 0x0 indicates that the file size is automatically calculated by the tool during download.

3.2 Setting the Download Port

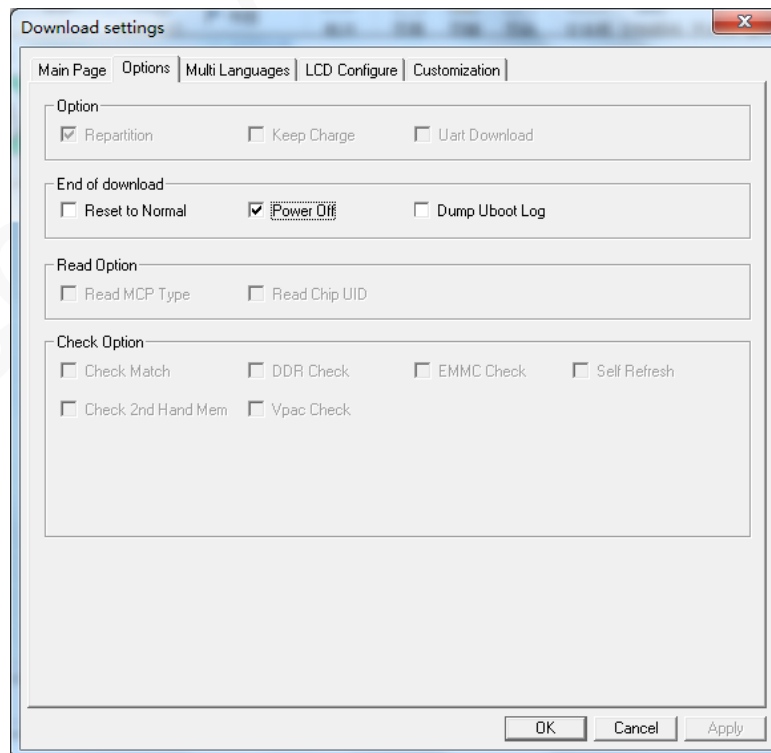
In the **Main Page** tab, the **Port** combo box lists all available download ports. You can select a download port to download the port or select **All** to download all available download ports.



The options of **Baudrate** of download ports include **57600**, **115200**, **230400**, **460800**, and **921600**. The baud rate is selected according to the actual situation of the device on which download ports are configured and the default value is **460800**. If an incorrect baud rate is selected, the download port may be disabled or files cannot be downloaded.

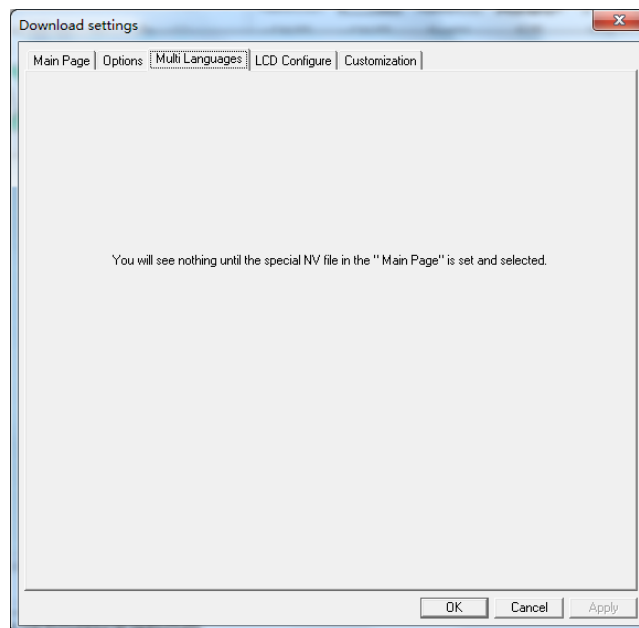
3.3 Options

In this tab, retain the default settings.



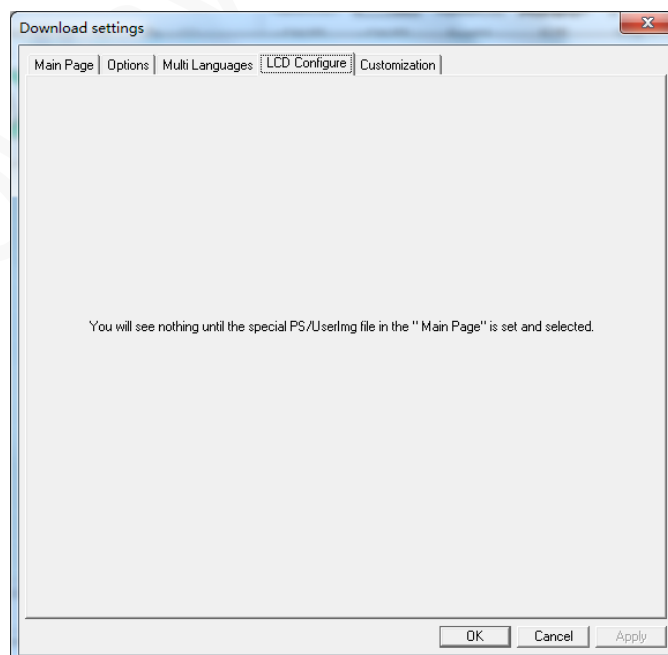
3.4 Setting Multiple Languages

In this tab, retain the default settings.



3.5 LCD Configure

In this tab, retain the default settings.



3.6 Customization

In this tab, retain the default settings.

