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# **SIM800 Series\_FS\_Application Note\_V1.01**



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## Version History

Date	Version	What is new	Author
2013-10-31	1.00	New version	Yong.lu
2013-11-18		Add AT+FSMEM Add AT+FSRENAME	Yong.lu
2013-11-28		Modify the parameter of AT+FSMEM Add AT+FSDRIVE Add AT+FSMKDIR Add AT+FSRMDIR	Yong.lu
2013-12-13		Modify the parameter description of AT+FSREAD Modify the response result of AT+FSDRIVE Modify the parameter of AT+FSMEM Add the example of AT+FSRENAME Modify AT+FSRMDIR	Yong.lu

### Scope

This document presents the AT commands of FS operation and application examples. This document can apply to “1308B01SIM800H32\_BT” version.

## 1. FS Introduction

This chapter introduces the FS application features.

### 1.1. Features

Local storage space is mapped to “C:”, the system will create User directory in “C:” after first boot, and storage space of SD card is mapped to the drive which can get by AT+FSDRIVE=1.

As PCM interface and SD card interface is multiplexing function, shown as below table. At the first time to use SD card, customer must execute “AT+SD2PCM=0” and “AT&W”, then reboot the module by AT command or pwrkey.

#### PCM and SD card multiplexing function:

Pin name	Pin number	Mode 0(default)	Mode 1	Mode 2	Mode 3
PCMCLK	29	PCMCLK	DISP_RSTB	MC3CM0	GPIO18
PCMOUT	30	PCMOUT	DISP_DI	MC3DA3	GPIO19
PCMSYNC	65	PCMSYNC	DISP_CEB	MC3CK	GPIO20
PCMIN	66	PCMIN	DISP_DA	MC3DA2	GPIO21
GPIO2	27	GPIO2	DISP_A0DA	MC3DA0	-
GPIO3	28	GPIO3	DISP_CLK	MC3DA1	-

## 2. AT Commands

SIM800 series FS AT command overview.

Command	Description
AT+FSCREATE	Create File
AT+FSREAD	Read File
AT+FSWRITE	Write File
AT+FSDEL	Delete File
AT+FSLS	List Directories/Files
AT+FSFSIZE	Get File Size
AT+FSMEM	Get the size of available memory
AT+FSRENAME	Rename file
AT+FSDRIVE	Get Drive
AT+FSMKDIR	Make New Directory
AT+FSRMDIR	Delete Directory

### 2.1. AT+FSCREATE Create File

AT+FSCREATE Create File	
Test Command <b>AT+FSCREATE</b> =?	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSCREATE</b> =<filename>	Response <b>OK</b> or <b>ERROR</b>
	Parameter <filename> String without double quotes, the length of the file name should be less than or equal to 64 characters
Reference	Note

## 2.2. AT+FSREAD Read File

<b>AT+FSREAD Read File</b>	
Test Command <b>AT+FSREAD=?</b>	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSREAD</b> <b>=&lt;filename&gt;,&lt;mode&gt;,&lt;filesize&gt;,&lt;position&gt;</b>	Response <b>&lt;data&gt;</b> <b>OK</b> or <b>ERROR</b>  Parameter <b>&lt;filename&gt;</b> String without double quotes, the file should have already existed. The length of the file name should be less than or equal to 64 characters <b>&lt;mode&gt;</b> <b>0</b> Read data at the beginning of the file <b>1</b> Read data at the <position> of the file <b>&lt;filesize&gt;</b> The size of the file that you want to read, the size should be less than or equal to 10240.If the <filesize> is more than the file real size, the <filesize> will be set to the file real size. <b>&lt;position&gt;</b> The starting position that will be read in the file. The <position> should be less than the file size <b>&lt;data&gt;</b> The data which is read will be putted out by uart port
Reference	Note When <mode> is <b>0</b> , <position> is invalid.

## 2.3. AT+FSWRITE Write File

<b>AT+FSWRITE Write File</b>	
Test Command <b>AT+FSWRITE=?</b>	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSWRITE</b> <b>=&lt;filename&gt;,&lt;mode&gt;,&lt;filesize&gt;,&lt;inputtime&gt;</b>	Response <b>&gt;</b> <b>OK</b> or <b>ERROR</b> or <b>TimeOut</b>

	<p>Parameter</p> <p><b>&lt;filename&gt;</b> String without double quotes, the file should have already existed. The length of the file name should be less than or equal to 64 characters.</p> <p><b>&lt;mode&gt;</b>   <b>0</b> Write data at the beginning of the file               <b>1</b> Write data at the end of the file</p> <p><b>&lt;filesize&gt;</b> The size of the file that you want to write, the size should be less than or equal to 10240.</p> <p><b>&lt;inputtime&gt;</b> Second, user should send file during this period or you can not send file when time out</p>
Reference	Note

#### 2.4. AT+FSDEL Delete File

AT+FSDEL Delete File	
Test Command <b>AT+FSDEL=?</b>	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSDEL</b> <b>=&lt;filename&gt;</b>	<p>Response <b>OK</b> or <b>ERROR</b></p> <p>Parameter <b>&lt;filename&gt;</b> String without double quotes, the file should have already existed. The length of the file name should be less than or equal to 64 characters</p>
Reference	Note

#### 2.5. AT+FSLs List Directories/Files

AT+FSLs List Directories/Files	
Test Command <b>AT+FSLs=?</b>	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSLs</b> <b>=&lt;filepath&gt;</b>	<p>Response <b>&lt;list of subdirectories/files&gt;</b></p> <p><b>OK</b> or</p>

	<b>ERROR</b>
	Parameter <filepath> String without double quotes, directory for selection. The length of the directory name should be less than or equal to 64 characters. The string format such as C:\, the directory must have “\”
Reference	Note If the last character of the result string is “\”, this means that it is a directory, otherwise, it is a file.

## 2.6. AT+FSFLSIZE Get File Size

<b>AT+FSFLSIZE Get File Size</b>	
Test Command <b>AT+FSFLSIZE</b> =?	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSFLSIZE</b> =<filename>	Response <b>+FSFLSIZE: &lt;n&gt;</b>  <b>OK</b> or <b>ERROR</b>  Parameter <filename> String without double quotes, the file should have already existed. The length of the file name should be less than or equal to 64 characters <n> The file size
Reference	Note

## 2.7. AT+FSMEM Get The Size Of Available Memory

<b>AT+FSMEM Get The Size Of Available Memory</b>	
Test Command <b>AT+FSMEM</b> =?	Response <b>OK</b> or <b>ERROR</b>
Execution Command <b>AT+FSMEM</b>	Response If SD card exist: <b>+FSMEM: &lt;local_drive&gt;:&lt;local_size&gt;bytes, &lt;sd_drive&gt;:&lt;sd_size&gt;bytes</b>  <b>OK</b> or If SD card doesn't exist:

	<p><b>+FSMEM: &lt;local_drive&gt;:&lt;local_size&gt;bytes</b></p> <p><b>OK</b></p> <p>or</p> <p><b>ERROR</b></p> <p>Parameter</p> <p><b>&lt;local_drive&gt;</b> The local drive</p> <p><b>&lt;sd_drive&gt;</b> The sd card drive</p> <p><b>&lt;local_size&gt;</b> The free space of local storage space</p> <p><b>&lt;sd_size&gt;</b> The free space of SD card</p>
Reference	<p>Note</p> <p><b>&lt;local_drive&gt;</b> or <b>&lt;sd_drive&gt;</b> is got by <b>AT+FSDRIVE=0</b> or <b>AT+FSDRIVE=1</b></p>

## 2.8. AT+FSRENAME Rename File

<b>AT+FSRENAME Rename File</b>	
Test Command	Response
<b>AT+FSRENAM E=?</b>	<b>OK</b>
	or
	<b>ERROR</b>
Write Command	Response
<b>AT+FSRENAM E=&lt;old_name&gt;,&lt;new_name&gt;</b>	<b>OK</b>
	or
	<b>ERROR</b>
	<p>Parameter</p> <p><b>&lt;old_name&gt;</b> Old name of specified file, String without double quotes, the file should have already existed. The length of the file name should be less than or equal to 64 characters</p> <p><b>&lt;new_name&gt;</b> New name of specified file, string without double quotes, the file should have already existed. The length of the file name should be less than or equal to 64 characters</p>
Reference	Note

## 2.9. AT+FSDRIVE Get Drive

<b>AT+FSDRIVE Get Drive</b>	
Test Command	Response
<b>AT+FSDRIVE =?</b>	<b>+FSDRIVE: (0-1)</b>
	<b>OK</b>

	or <b>ERROR</b>
Write Command <b>AT+FSDRIVE</b> = <b>&lt;n&gt;</b>	Response <b>+FSDRIVE: &lt;drive&gt;</b>  <b>OK</b> or <b>ERROR</b>
	Parameter <b>&lt;n&gt; 0</b> local drive <b>1</b> sd card drive <b>&lt;drive&gt;</b> A-G
Reference	Note

### 2.10. AT+FSMKDIR Make New Directory

<b>AT+FSMKDIR Make New Directory</b>	
Test Command <b>AT+FSMKDIR</b> =?	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSMKDIR=</b> <b>&lt;dir_name&gt;</b>	Response <b>OK</b> or <b>ERROR</b>
	Parameter <b>&lt;dir_name&gt;</b> String without double quotes, the dir should not exist. The length of the dir name should be less than or equal to 64 characters
Reference	Note

### 2.11. AT+FSRMDIR Delete Directory

<b>AT+FSRMDIR Delete Directory</b>	
Test Command <b>AT+FSRMDIR=</b> <b>?</b>	Response <b>OK</b> or <b>ERROR</b>
Write Command <b>AT+FSRMDIR</b> = <b>&lt;dir_name&gt;</b>	Response <b>OK</b> or <b>ERROR</b>

	<p>Parameter</p> <p><b>&lt;dir_name&gt;</b> String without double quotes, the dir should have already existed. The length of the dir name should be less than or equal to 64 characters</p>
Reference	Note

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### 3. Examples

In the "Grammar" columns of following tables, input of AT commands are in black , module return values are in blue.

Grammar	Description
AT+SD2PCM=0 OK AT&W OK AT+CFUN=1,1 OK	SD mode is valid  In this example, reboot the module by AT command, customer can reboot the module by pwrkey instead of AT command
AT+FSDRIVE=1 +FSDRIVE: E  OK	Get sd card drive
AT+FSLS=E:\ Images\ Audio\  OK AT+FSCREATE=E:\test.txt OK AT+FSLS=E:\ Images\ Audio\ test.txt  OK	Create test.txt
AT+FSFLSIZE=E:\test.txt +FSFLSIZE: 20  OK	
AT+FSREAD=E:\test.txt,0,100,1 asdfghjklolytedfttg OK	
AT+FSWRITE=E:\test.txt,0,2,10 >  OK	Write "cc" at the beginning of the file

<p>AT+FSREAD=E:\test.txt,0,100,0 ccdfghjklloydftttg OK</p>	<p>The first two characters is “cc”</p>
<p>AT+FSREAD=E:\test.txt,1,100,2 dfghjklloydftttg OK</p>	<p>The offset of reading position is 2</p>
<p>AT+FSMEM +FSMEM: C:1024bytes,E:49152bytes OK</p>	
<p>AT+FSLs=E:\ test1.txt OK AT+FSMKDIR=E:\media OK AT+FSRENAME=E:\test1.txt,E:\test2.txt OK AT+FSLs=E:\ test2.txt media\ OK AT+FSRMDIR=E:\media OK AT+FSLs=E:\ test2.txt OK</p>	<p>Make media directory Rename test1.txt Delete media directory</p>

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## Appendix

### A Related Documents

SN	Document name	Remark
[1]	SIM800 Series_AT Command Manual	

### B Terms and Abbreviations

Abbreviation	Description

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