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SIM900 AMR File Playing Application Note_V1.03



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VERSION HISTORY

Date	Version	Description of change	Author
2012-9-27	1.00	Origin	GaoLiang
2012-11-8	1.01	Modified the maximum length of parameter <file name> to 50 including in CPAMR CFSWFILE CFSRFILE CFSDFILE and CFSGFIS commands.	Chenyang
2013-11-21	1.02	Modified the description of the second parameter of AT+CPAMR command.	Chenyang
2014-09-25	1.03	Add AT+CFSREN Add AT+CFSLIST	MXN

SCOPE

This document describes how to play AMR format file by SIM900 through AT commands.

Examples are also given for reference. This document can be used for SIM900 serial modules, like SIM900 and SIM900D.

This document is subject to change without notice at any time.

1. Play AMR File

Use AT command CPAMR to play AMR format file in the flash buffer.

1.1 AT+CPAMR Play AMR File

AT+CPAMR Play AMR File	
Write Command AT+CPAMR=<file name>[,<audio location status>]	<p>Response OK or ERROR or +CME ERROR: <err></p> <p>Parameters <file name> File name length should be less than or equal to 50 characters. <audio location status> When there is a call on line, this parameter is valid, and if there is no call this parameter is invalid. (Call on line includes following status, Waiting, Hold, Active) <u>0</u> Remote user can hear the playing audio. 1 Local user can hear the playing audio.</p>
Execution Command AT+CPAMR	<p>Execution command will stop the playing which is triggered by CPAMR.</p> <p>Response OK ERROR</p> <p>Unsolicited Result Code When the playing is complete, or it is stopped by execution command. AMR_STOP</p>
Reference	<p>Note AT+CPAMR="0" Similar with execution command, this command will also stop the playing which is triggered by CPAMR.</p>

2. Preparation and Recovery for Playing AMR File

The AMR file is stored in the flash buffer of the module, user can use a series commands to complete download process. After use, the file can be deleted, and the corresponding flash buffer should be freed at the same time. This chapter is a reference guide to all the AT commands and responses of flash operation.

2.1 AT+CFSINIT Get Flash Data Buffer

AT+CFSINIT Get Flash Data Buffer	
Execution Command AT+CFSINIT	Response OK or ERROR or +CME ERROR: <err>
	Parameter
Reference	Note

2.2 AT+CFSWFILE Write File to the Flash Buffer Allocated by CFSINIT

AT+CFSWFILE Write File to the Flash Buffer Allocated by CFSINIT	
Write Command AT+CFSWFILE=<file name>,<mode>,<file size>,<input time>	Response OK or ERROR or +CME ERROR: <err>
	Parameters <file name> File name length should less or equal 50 characters <mode> 0 If the file already existed, write the data at the beginning of the file. 1 If the file already existed, add the data at the end of the file. <file size> File size should be less than 65536 bytes. <input time> Millisecond, should send file during this period or you can't send file when timeout.

Reference	Note
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2.3 AT+CFSRFILE Read File from Flash

AT+CFSRFILE Read File from Flash

Write Command AT+CFSRFILE=<file name>,<mode>,<file size>,<position>	<p>Response</p> <p>OK</p> <p>or</p> <p>ERROR</p> <p>or</p> <p>+CME ERROR: <err></p>
	<p>Parameters</p> <p><file name> File name length should be less than or equal to 50 characters,</p> <p><mode> 0 Read data at the beginning of the file . 1 Read data at the <position> of the file .</p> <p><file size> The size of the file that you want to read should be less than 65536.</p> <p><position> The starting position that will be read in the file. When <write mode>=0, <position> is invalid. Read data from the beginning to the end of the file. When <write mode>=1, <position> is valid. Read data from the <position> to the end of the file.</p>

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2.4 AT+CFSDFILE Delete the File from the Flash

AT+CFSDFILE Delete the File from the Flash

Write Command AT+CFSDFILE=<file name>	<p>Response</p> <p>OK</p> <p>or</p> <p>ERROR</p> <p>or</p> <p>+CME ERROR: <err></p>
	<p>Parameters</p> <p><file name> File name length should be less than or equal to 50 characters.</p>

Reference	Note
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2.5 AT+CFSGFIS Get File Size

AT+CFSGFIS Get File Size	
Write Command AT+CFSGFIS=<file name>	<p>Response</p> <p>OK</p> <p>or</p> <p>ERROR</p> <p>or</p> <p>+CME ERROR: <err></p> <p>or</p> <p>+CFSGFIS:<n></p>
	<p>Parameters</p> <p><file name></p> <p>File name length should be less than or equal to 50 characters.</p> <p><n> File size</p>
Reference	Note

2.6 AT+CFSREN Rename a file

AT+CFSREN Rename a file	
Write Command AT+CFSREN=<old file name>,<new file name>	<p>Response</p> <p>OK</p> <p>or</p> <p>ERROR</p> <p>or</p> <p>+CME ERROR: <err></p>
	<p>Parameters</p> <p><old file name></p> <p>File name length should be less than or equal to 50 characters.</p> <p><new file name></p> <p>File name length should be less than or equal to 50 characters.</p>
Reference	Note

2.7 AT+CFSLIST List the files in module flash

AT+CFSLIST List the files in module flash

<p>Write Command AT+CFSLIST</p>	<p>Response</p> <p>+CFSLIST:<file name>,<size>,<modified time> [[+CFSLIST: <file name>,<size>,<modified time>] ...] OK</p> <p>or</p> <p>ERROR</p> <p>or</p> <p>+CME ERROR: <err></p> <p>Parameters</p> <p><file name> File name length should be less than or equal to 50 characters.</p> <p><size> File size.</p> <p><modified time> The time when the file was modified. The format is <date mo nth day hour:minute:second year></p>
<p>Reference</p>	<p>Note</p>

2.8 AT+CFSTERM Free the Flash Buffer Allocated by CFSINIT

AT+CFSTERM Free the Flash Buffer Allocated by CFSINIT	
<p>Write Command AT+CFSTERM</p>	<p>Response</p> <p>OK</p> <p>or</p> <p>ERROR</p> <p>or</p> <p>+CME ERROR: <err></p> <p>Parameter</p>
<p>Reference</p>	<p>Note</p>

3. Play AMR file sample

3.1 Download AMR file

Demonstration	Syntax	Expect Result
Allocate the data buffer	AT+CFSINIT	OK
Set file parameters and get ready to read the data from the beginning to the end of the file "001.amr", which size is 14342 bytes.	AT+CFSWFILE="001.amr", 0,14342,30000	CONNECT <i>// It is ready to receive data from uart, and DCD has been set to low.</i>
Begin to receive data from uart. Data transfer is finished		... <i>// data</i> OK <i>//All data has been received over, and DCD is set to high.</i>
Get the AMR file size	AT+CFSGFIS="001.amr"	+CFSGFIS: 14342 OK

3.2 Play AMR file locally

Under the condition that an AMR file "001.amr" is already exist in the module.

Demonstration	Syntax	Expect Result
Play the AMR file	AT+CPAMR="001.amr",1	OK <i>//local user can hear the audio.</i>
		AMR_STOP <i>// Playing is complete.</i>

3.3 Play AMR file in a call

Demonstration	Syntax	Expect Result
Play the AMR file	AT+CPAMR="001.amr",1	OK <i>//local user can hear the audio.</i>
		AMR_STOP <i>//Playing is complete.</i>
Make a voice call	ATD32523430;	OK

List current calls (AT+CLCC)	AT+CLCC	+CLCC: 1,0,0,0,0,"32523430",129,"" OK
Play the AMR file during the call conversation. It can be heard on remote side.	AT+CPAMR="001.amr",0	OK
		AMR_STOP // Playing is complete.
Play the AMR file during the call conversation, only local user can hear the playing audio.	AT+CPAMR="001.amr",1	OK //The remote user cannot hear the audio.
Stop playing	AT+CPAMR	OK AMR_STOP
Hang up	ATH	OK

3.4 Delete AMR file

Delete the AMR file "001.amr" from the module flash.

Demonstration	Syntax	Expect Result
Delete the file from flash	AT+CFSDFILE="001.amr"	OK
Free the data buffer	AT+CFSTERM	OK

3.5 Rename AMR file

Rename the AMR file "001.amr" as "002.amr".

Demonstration	Syntax	Expect Result
Allocate the data buffer	AT+CFSINIT	OK
Rename the file	AT+CFSREN="001.amr","002.amr"	OK
Free the data buffer	AT+CFSTERM	OK

3.5 List the files in module flash

List the files in module flash.

Demonstration	Syntax	Expect Result
Allocate the data buffer	AT+CFSINIT	OK
List the files	AT+CFSLIST	+CFSLIST:"1.amr",5414,"Sun Jan 2 18:13:17 2000" +CFSLIST:"simcom.bin",0,"Sat Jan 1 00:00:33 2000" OK
Free the data buffer	AT+CFSTERM	OK

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