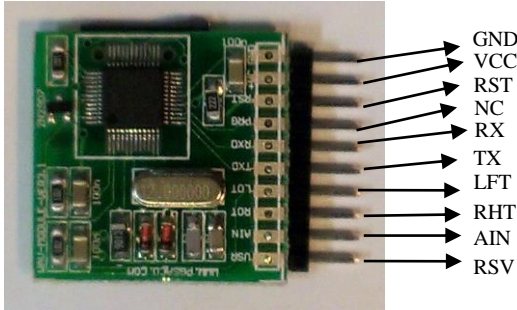


# LPCWAV 3.1 sound player / recorder module user manual



## 1 – Specifications :

**Best wave file format : WAV PCM 16BIT 48KHZ STERIO  
FAT16 AND FAT32 SUPPORT  
MICRO-SD CARD SUPPORT UP TO 32GB  
SUPPLY 3.3V DC  
AUTO BAUD RATE & AT-COMMANDS**

## 2 – PINOUT:

GND : Ground

VCC : +3.3V Regulated voltage

RST : Reset pin (low active with internal pull up)

NC : should be leaved alone (or connect to VCC) – connecting to GND will put the module in Debug mode

RX : serial receive data

TX :serial transmit data

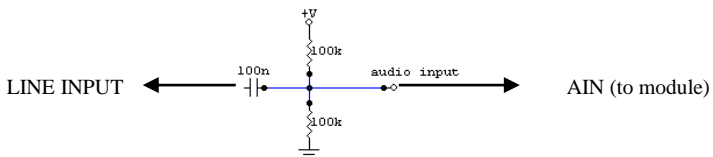
LFT : left audio output

RHT : right audio output

AIN : audio line input (the complementary circuit is needed)

RSV : reserved (leave this pin alone)

**AUDIO INPUT COMPLEMENTARY CIRCUIT (use this circuit if you want to record):**



## **MEMORY CARD :**

This module is able to work with MICRO-SD and MICRO-SD-HC up to 32GB capacity. Plug the Memory card into the ram reader and format the memory with FAT32 then copy your wave format audios to your memory card and rename them to whatever you want. Don't forget that the sound formats should be wave only . you can use any type of audio converter softwares to convert mp3 or other formats to wav (jet audio is a good choice)

## **Communicating with module:**

The communication port in this module is UART serial port . the default baud rate is 9600 but the module will detect the baud rate automatically when you send A character and it can be 1200 to 115200 .

Stop bit : 1 – parity : none – data bits : 8

**NOTE : THIS MODULE USES THE AT-COMMANDS AND TO DETECT THE BAUD RATE YOU NEED TO USE CAPITAL CHARACTERS ONLY**

## **Commands :**

Commands in this module has 3 parts :

AT + command + attribute (after each instruction , 0X0D and 0X0A hex codes should be sent)

Example : AT+PLY=MUSIC.WAV (0X0D 0X0A) : will play the file music.wav

After each instruction , the module will send feedback depends on the status . for example if the instruction is not correct , module will send ERROR

## **PLAY FILE:**

AT+PLY=FILE NAME

Example : AT+PLY=MUSIC.WAV : play the file music.wav from the root

Example : AT+PLY=SOUND/MUSIC.WAV :play the music.wav from the sound folder

## **STOP PLAYING:**

AT+STP=1 :stop playing

## **RECORDING:**

For recording there is 2 instructions :

AT+RCD1=FILE NAME : WILL RECORD AND ALSO SEND THE RECORDING SOUND TO THE OUTPUTS DURING THE RECORDING PERIOD

AT+RCD2=FILE NAME :WILL ONLY RECORD THE SOUND

EXAMPLE :

AT+RCD1=VOICE.WAV

AT+RCD2=VOICE.WAV

AT+RCD1=SOUND FOLDER/VOICE.WAV

NOTE :

AT+STP=1 (STOP COMMAND) IS NEEDED TO STOP RECORDING AND SAVE THE FILE . IF YOU DON'T SEND THE STOP COMMAND , FILE WONT BE SAVED

### Making folder :

AT+MKD=FOLDER NAME

Example:

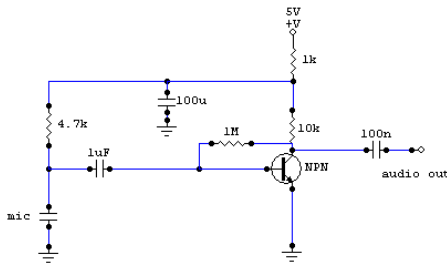
AT+MKD=SOUNDS :Will make a folder named SOUNDS

AT+MKD=SOUNDS/VOICES :Will make a voices folder in sounds folder

Note the instruction string cannot exceed 50 characters

NOTE : DON'T FORGET TO SEND 0X0D 0X0A CODES AFTER EACH INSTRUCTION .  
(keyboard standard ENTER key , ascii code)

If you want to record sound from microphone , use the circuit below:



### Module answers:

**ERROR : invalid instruction or command or writing**

**READY :** at the startup after reset , when module detects the memory , will send **READY** . if you don't receive this string , it means something is wrong with the module or memory card (note : at the startup default baudrate is 9600)

**DISK ERROR:** fault in detecting FAT format or memory problem

**MAKE DIR ERROR :** fault in making directory

**DIR CRATED :** directory created successfully

**FILE ENDED :** the module sends this text when the file that is recording or playing ends with your stop command or when the playing file ends

**MAKE FILE ERROR:** problem in making the file

**WRITE ERROR:** fault while the module is recording

**RECORDING** : it means recording is started without any problem

**PLAYING** : it means playing is started without any problem

**NO FILE** : there is no file with the name that you called

**READ ERROR** : fault while the module is playing

**PCM ERROR** : the file format is not supported

**OUT OF RANGE** : the wave bit rate is out of the module ability range

If this is the first time using this module , we highly recommend you to connect the module to the computer first and use the terminal software to become familiar with the AT-COMMANDS and how the module works .

For more information or if you need help , please visit :

**[HTTP://WWW.SENIORELECTRON.COM](http://WWW.SENIORELECTRON.COM)**