ADDAC System

ADDAC111 ULTRA .WAV PLAYER
ADDAC111B ULTRA .WAV EXPANSION
USER'S GUIDE

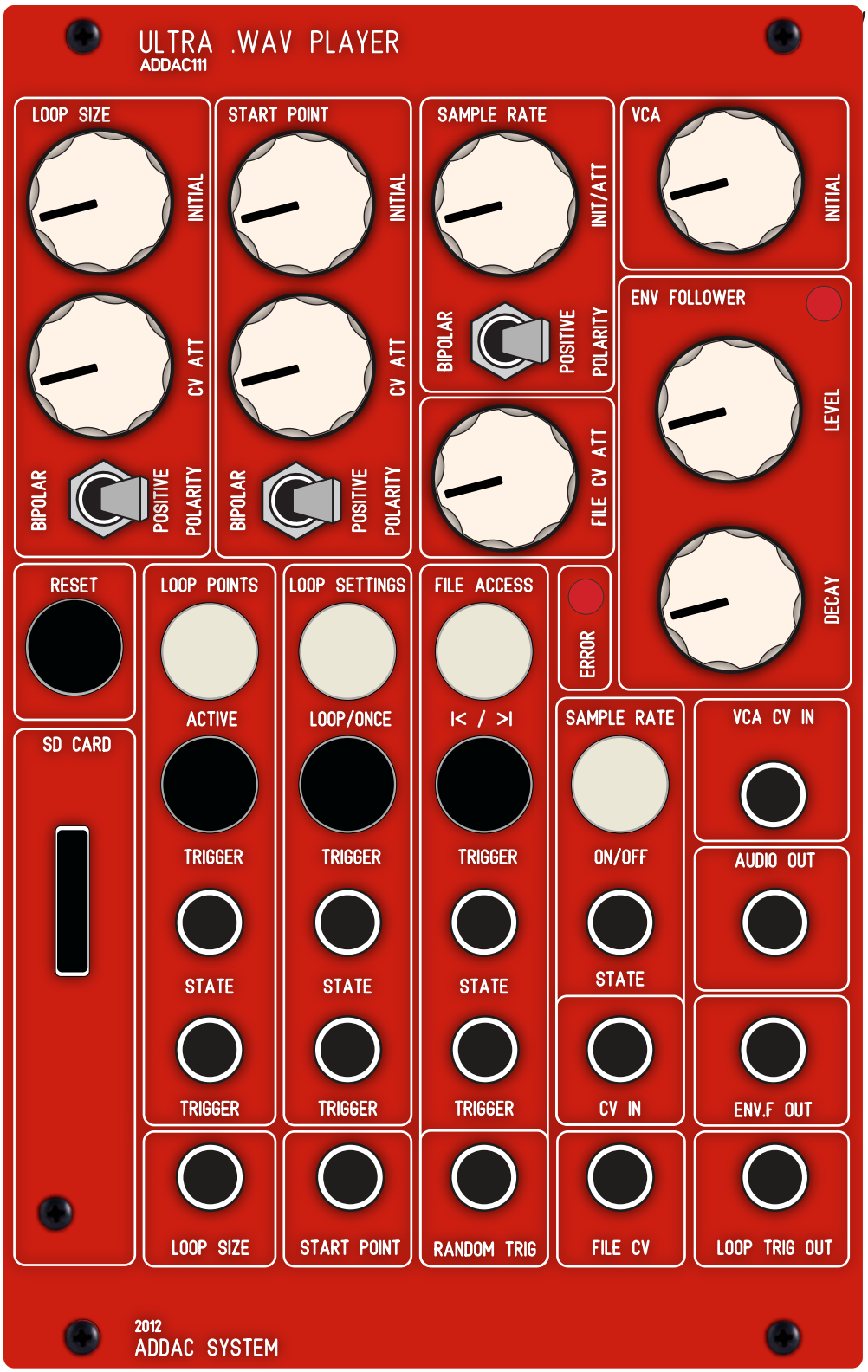
Welcome to:
ADDAC111 ULTRA WAV PLAYER USER'S GUIDE

Revision.02 July.2013

PAGE INDEX

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013



OVERVIEW

The ADDAC111 ULTRA .WAV PLAYER is the long waited upgrade to our praised ADDAC101 .WAV PLAYER.

While keeping all functions of the original, there's several more dedicated controls as well as a few new functions.

An Expansion module, ADDAC111B, was also created to allow users to recall the first 8 files through dedicated trigger signals. This allows sequencing of files.

For this version we chose to use Micro SD Cards, this decision was made in order to help the hardware construction and make it only 4cm deep.

The .Wav Player basic principle of operation is simple:
The Loop Size, Start Point and Sample Rate defines how the loop is played.
Loop Settings defines if sample is looping or playing only once.
File Access if it advances to the next or previous file.
The VCA section controls the overall volume of the module.
And finally the Envelope Follower generates a CV voltage related to the amplitude of the audio signal pre-VCA.

All these functions will be described in depth in the following pages.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

RESET & ERROR

The Reset Button should be pressed whenever a SD Card is replaced.

Working Method
After pressing this button the Error Led will turn On.

If the card is badly formatted the Error led will stay On.

If the card is ok Error Led will blink four times after which should go Off.

If after blinking Error Led stays On this will mean that there's something wrong with the files in the card.

SD CARDS

All Micro SD Cards below 2Gb should be compatible with this module.

Cards must be formatted in FAT16 and files names must respect our indexing method.

Files must be Mono, 16bit and 22050Khz.

Cards can be replaced at any time. After swapping cards just press the Reset switch.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

LOOP SIZE

The Loop Size section sets the size of the loop playing.

It works by retrieving the current selected sample total size and mapping it to the full Knob range. Meaning that at it's leftmost position it plays the minimum size possible and at it's righmost position it plays the sample in it's full size.

There are 2 sections in this function:
1. Initial Knob
Without any CV inserted in the Loop Size Jack this Knob sets the Loop Size.
All remaining controls (CV ATT knob and Polarity switch) are ignored.

2. CV Input
When a jack is plugged at the Loop Size Jack input the Initial Knob works as the minimum Loop Size and the incomming CV operates from the iInitial Knob setting and the sample's maximum size.
The amplitude of incoming CV can be set with it's dedicated knob.
The Polarity Switch is used to define if the incoming CV carries either a Positive or a Bipolar voltage.

The sample size only changes when it reaches it's loop point, this means that if you use a 10 minutes file and set the loop size to play the max file size the file will play for the whole 10 minutes unless another sample is triggered.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

START POINT

The Start Point section sets the position from which the loop starts playing. This point is always related to and secondary to the Loop Size setting. Meaning that the Start Point offsets the Loop Size from point Zero, if the Loop Size is set for 1/4 of the sample then the Start Point can only be set from Zero to 3/4 of the file.

This way it depends of the sample maximum size minus the Loop Size setting.

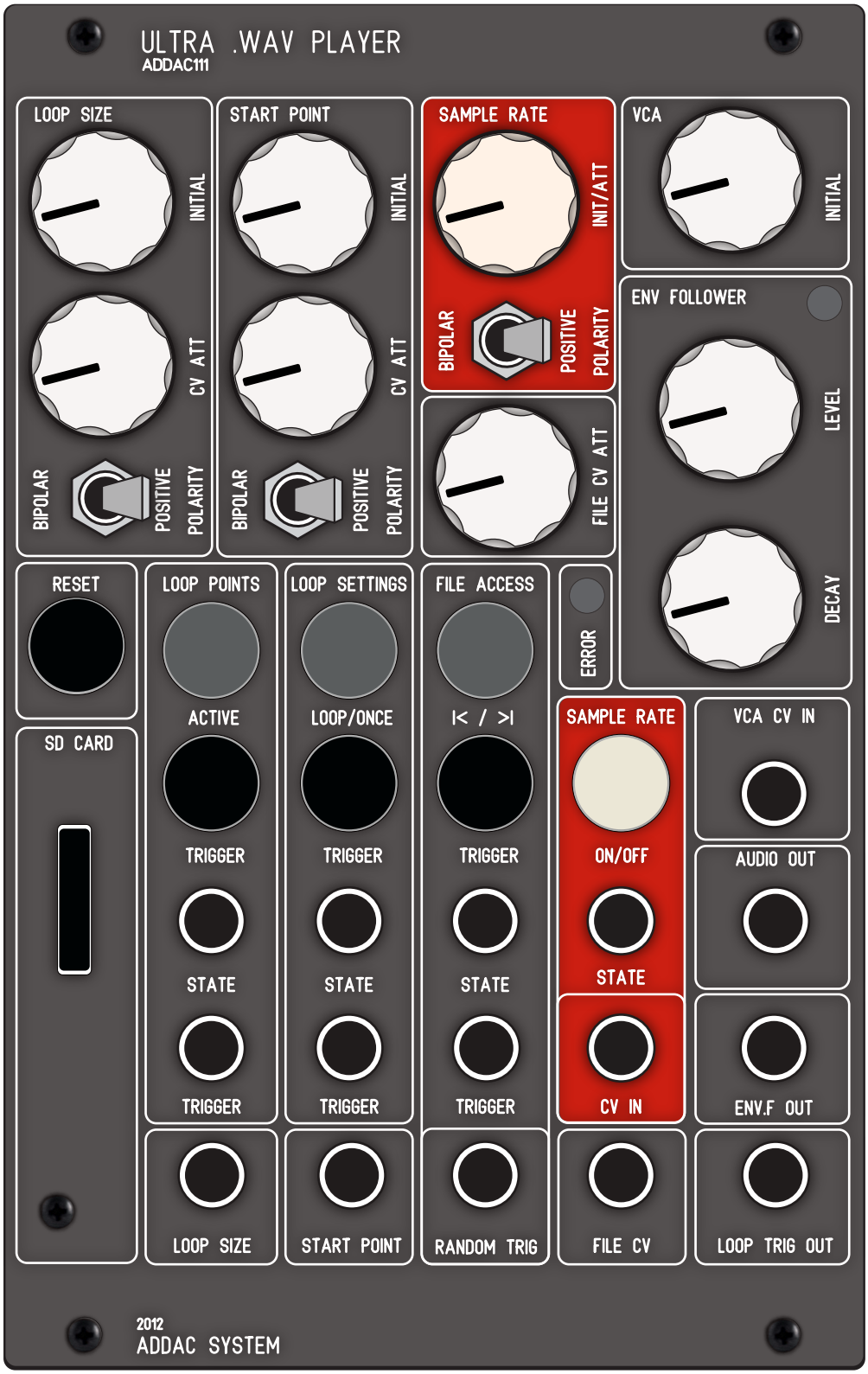
Like in Loop Size there are 2 sections in this function that operate exactly like described in previous Loop Size page.

A new start point is set only and everytime the sample loops, never inbetween.

If No CV Jack is inserted Polarity Switch should be set to Positive

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013



SAMPLE RATE

The Sample Rate section sets the sample playback rate which can be regarded as the pitch setting.

The range of this setting goes from almost zero to the double of the original pitch.

There are 2 sections in this function:
1. Initial / Attenuator Knob
Without CV input The Sample Rate knobs works by itself, with CV input works as a CV Attenuator.

2. ON / OFF Setting
This setting defines and signals if the Sample Rate function is On or Off. To be used as a sample and hold like setting. The State Jack input allows to use a trigger signal to flip it's state.

If No CV Jack is inserted Polarity Switch should be set to Positive

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

LOOP POINTS

Loop Points allow the user to set a loop inside the loop defined by Loop Size and Start Point.

There are 2 sections in this function:

1. Active
The Active setting defines and signals if this function is in use.

2. Trigger
Trigger Push Button and Jack input are used to mark the start and end of the Loop Points

Operation Method
Whenever a loop is playing User can press trigger once to mark the start point position, pressing the trigger button a second time marks the end point position and starts looping between the two defined points. The Active Led will also turn on signaling loop points are being used.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

LOOP SETTINGS

The Loop Setting section defines the looping action and (re)triggering of the sample.

There are 2 sections in this function:

1. State
State defines and signals if the sample is looping eternally or if it plays only once and stops until a trigger is sensed.

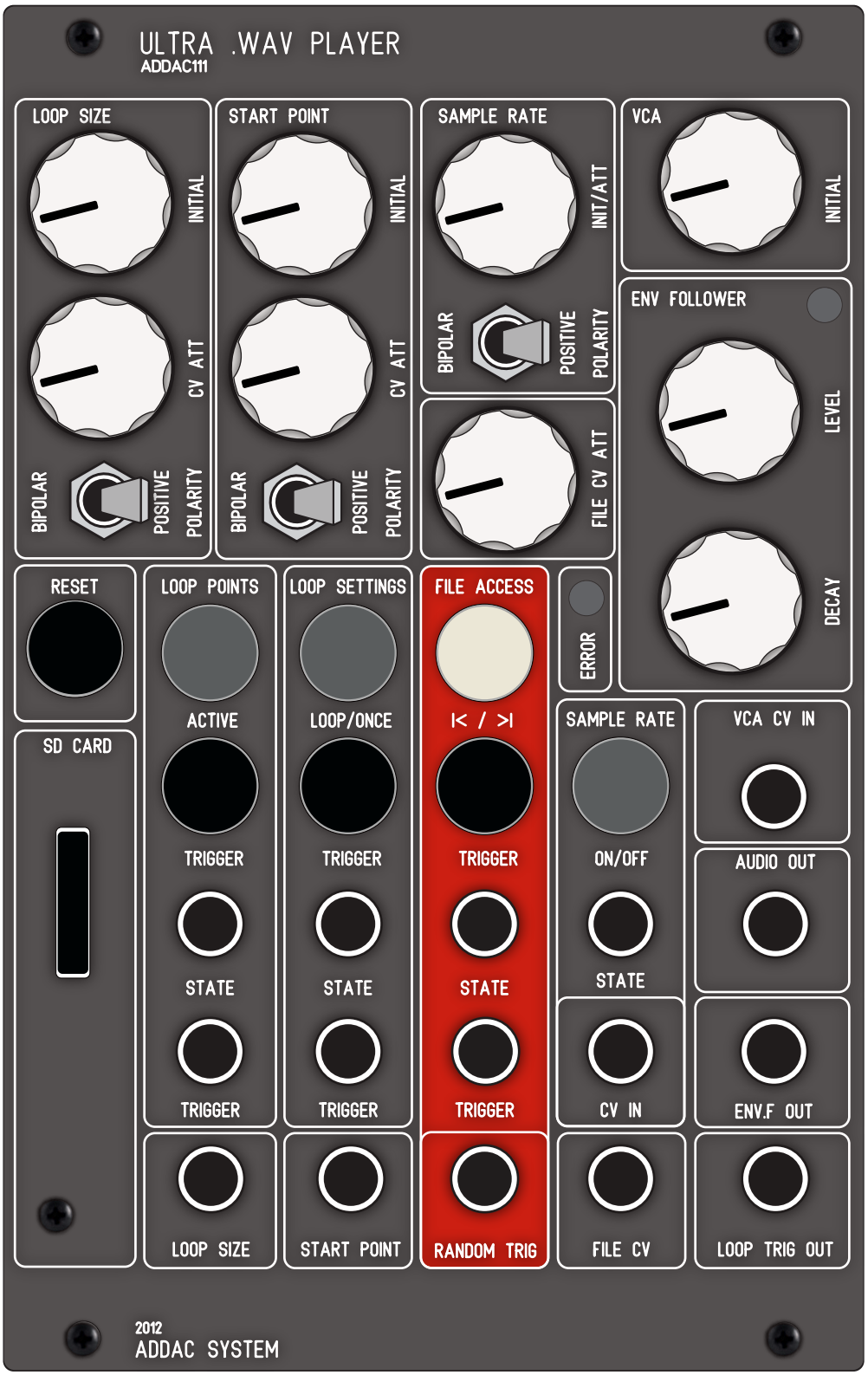
2. Trigger
Trigger Push Button and Jack input either re-triggers the sample if it's looping or triggers the sample to be played again if in play once mode.

LOOP TRIGGER OUTPUT

Every time the play position reaches the end of loop a +5V trigger output will come out at the Loop Trig Out Jack.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02July.2013



FILE ACCESS

The File Access section defines how to jump from file to file.

There are 3 sections in this function:

1. State
Because samples have an order previously set by the user, State defines and signals if when a trigger is sensed it'll jump to the Next or Previous file.

2. Trigger
When the Trigger Push Button is pressed or a trigger is sensed at the Jack input it will jump to the previous/next file as defined in the previous setting.

3. Random Trigger
The Random trigger input is independent of the previous 2 functions and randomizes the next file to be played.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

FILE CV ACCESS

File CV Access allows a direct access to all files in the SD Card.

The input is internally limited to 0 +5v.

Operation Method
The amount of files on the card will be divided by the 0 +5V range. e.g. if SD card contains 5 files then from 0 to 1V it triggers file 1, from 1 to 2V it trigers file 2 and so on.

This allows an easy access for sequencing files.

This Knob is always active, be it alone or when using a CV input, but it only jumps to a new file when a change is detected.

This knob also determines which file plays first after a Reset.

VCA

The VCA section allow to set the overall volume of the module.

This is a true OTA analog VCA.

Like a standard VCA The Knob will set the Initial volume and the CV input wil affect this setting depending on positive on negative voltages.

The VCA Output is labeled Audio Output.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

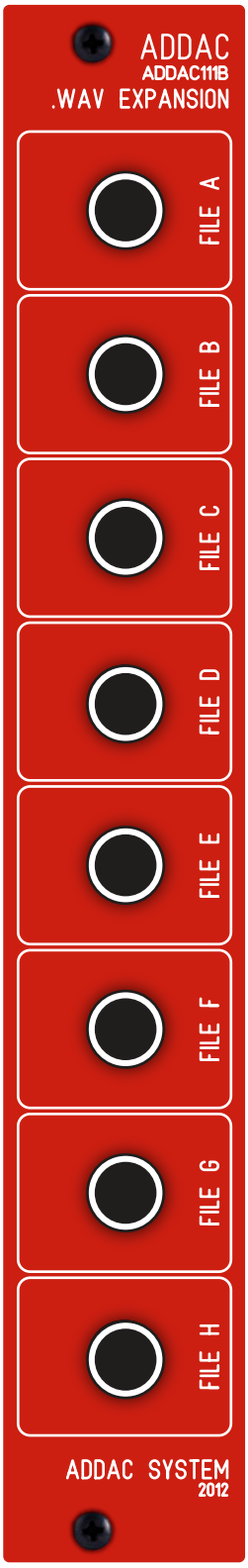
ENVELOPE FOLLOWER

The Envelope Follower section is also fully analog and generates a voltage proportional to the amplitude of the pre-vca audio signal in a 0 +9V range

There are 2 controls for this function:

1. Level
Sets the envelope follower input level.

2. Decay
Sets how fast the voltage output signal will decay. This allows to control the smoothness of the envelope generated.



ADDAC111B EXPANSION

The ADDAC111B EXPANSION allows the user to access the first 8 files (a to h) through a trigger.
Files do not play simultaneously, if several triggers happen at the same time top priority goes from top to bottom. Meaning that if B E and F triggers are received at once the file that will be played is file B.

The expansion module should be plugged to the back of the Ultra .Wav Player module. There's no connection to the bus boards.

ADDAC111 ULTRA .WAV PLAYER USER'S GUIDE

Revision.02 July.2013

SD CARD FORMAT

SD Card
So you probably wanna know what SD card to buy, this is not an easy subject.
I'll try to put it simple:
There's loads of different SD Cards available in the market, some work others don't...There's several different materials with which the SD cards are made, some of this materials are good quality others are poor quality...But normally they all work, i've only had a couple No No experiences.No way to tell before you try...

SD CARD FORMAT INSTRUCTIONS
The SD Cards have to be formatted in FAT16
For Windows users this should be easy to achieve...For OSX users there's some info online on how to do it over the terminal but some experience is advised.
i find it easier to do with my photo camera, by default it formats in FAT16.

General file requirements
1. Up to 72 files per card - minimum of 2 files!2. All files must be .WAV files3. All files must 22050Khz - Mono
file "b.wav" must be bellow 500kb!
Interesting feature:Other sampling rate formats might be readable but normal behaviour will be affected.

FILE NAMING

File naming is very important for the .Wav Player to reccognize files and make them play in the correct order.
It should be done as follows:
1. all files must have consecutive file names in this order:
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

2.When all these 36 characters are used, repeat the order doubling the character:
AA, BB, CC, DD, EE, FF ...

The file termination must be .WAV, example:
a.wav, b.wav, c.wav ...
z.wav, 0.wav, 1.wav, 2.wav ...
9.wav, aa.wav, bb.wav, cc.wav ...
zz.wav, 00.wav, 11.wav, 22.wav, 33.wav ...

MAC OSX

Cleaning cards in OSX
OSX leaves undesired files in the card if you eject it the "normal way" after copying files (you know this if you opened mac volumes in Windows). To clean these files before ejecting there's this free app that does all the dirty work:

Hidden Cleaner
Just drag a volume into the App Icon, it will clean all undesirable files and ejects it

http://kerosene.free.fr

TECH SPECS

MECHANICAL:
Format: Eurorack
Width: 16 HP
Depth: 4 cm

CONTROL VOLTAGE I/O:
CV inputs: ± 5v
CV outputs: 0 +10v

ELECTRICAL:
Max current: 150mA
Compatible with +-12v and +-15v power supplies
Bus Board Cable: 8 × 2 IDC (Doepfer style) connector