

VooDoo Language

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VooDoo Language Overview

At its simplest VooDoo Language is a list of COMMANDS to specify Brightness and Time duration.

VooDoo Language also contains many COMMANDS to control the playing of audio files and synchronizing actions.

VooDoo Language is stored in a standard ASCII text file with an extension of .VFX and is saved on an SD card to be used with a VooDoo Child controller. This file may have any name you wish, but there should only be one .VFX file on the SD card.

VooDoo Language Files have sections for each Output it can control, and each of these sections contains a list of VooDoo Language Commands.

Each Output can be configured to drive either a PWM Brightness for an LED or Model Servo Motor.

VooDoo Language Sections

A Section is specified by the Number of the output it controls and the Type of output timing, surrounded by [].

The Number is from 1 to the number of Outputs supported by the product and is followed by either LED, VU or SERVO to configure its timing.

Here are a couple of examples:

[1LED] ;this output is driving an LED for programmed brightness

[8VU] ;this output is driving an LED from the Audio file (explained later)

[9SERVO] ;this output is driving a Model Servo

VooDoo Language Command Lists

The Section specification is followed by a list of VooDoo Commands each on its own line. The first word on the line is the command and is followed by some qualifiers. Commands and qualifiers are separated by commas or other special characters. When the VooDoo Language system reaches the end of a list it automatically goes back to the top of the Section and starts over again in an infinite loop. You may also include notes to yourself in the file , any characters following a semicolon are ignored till the end of the line

The simplest and most used command is BRIGHTNESS. The qualifiers for the BRIGHTNESS command are how bright in Percent and how long to stay this bright. The accuracy of brightness is 1% and time is 0.01 (1/100) of a second. Because the BRIGHTNESS command is used so often you can omit it and just list the qualifiers. For a simple example, assume you want an LED to blink 1 second ON and 2 seconds OFF.

```
[1LED]          ;we are going to use output 1 driving an LED
100% 1          ;100% brightness for 1 second
0% 2            ;0 % brightness for 2 seconds
                ;system automatically loops back to [1LED] and repeat this forever
```

Servo Motors use the same BRIGHTNESS command to control their position. 0% = Full left, 50% = Middle, 100% = Full Right. For a Simple Example, assume we want a Servo to go from full left to the middle, to full right, back to the middle and then back to full left, stopping at each position for 3 seconds.

```
[9SERVO]        ;we are using output 9
0% 2            ;full left, stay there 2 seconds
50% 2           ;middle, stay 2 seconds
100% 2          ;right, stay 2 seconds
50% 2           ;back to the middle, stay 2 seconds
                ;system automatically loops back to [9SERVO] and repeat this forever
```

You may also specify a random amount of brightness and time. This is explained in more detail in the following list of all the VooDoo Language Commands.

VooDoo language also supports playing audio files, and can play 2 files at the same time. It uses 2 different commands one called PLAY and the called EFFECT. Each command takes the name of the file to play. There is also a special section type that will vary the brightness of its output like a "VU Meter". Only the audio being played with the PLAY command will blink this LED.

This is a simple example showing how to play an audio file and have the output vary in brightness based on the audio.

[8VU] ;we are using output 8 as a "VU Meter"
PLAY Alarm ;play the file "alarm.wav" from the SD card
;automatically loop back and play forever

VooDoo Language Commands

BRIGHTNESS -----

This command specifies a brightness in Percent and a Time duration to stay that bright.
The brightness may be specified as a range of 2 values separated by a dash.
The time may be specified as a range of 2 values separated by a dash.
Because the brightness command is used so much it may be omitted.

Examples:

100% 2 ;100% brightness for 2 seconds
50-60% 0.10 ;between 50 and 60 % for 1/10 of a second
0% 20-30 ;0% between 20 to 30 seconds
80-100% 0.01-1 ;between 80 to 100% brightness for between 1 /100 and a full second

FADE -----

This command fades from the current brightness to the brightness value specified taking the amount of time specified to do the fade.
The brightness may only be specified as a single value
The time may be specified as a range of 2 values separated by a dash.

Examples:

; Sample Engine Pulse 2.5 second fade from 100-80
FADE 100% 2.5 ;fade up to 100, 2.5 seconds
FADE 80% 2.5 ;fade down to 80 , 2.5 seconds

PLAY-----

This command plays a wave file. Once the audio file starts playing, the next command in the file will be executed. SO in this way you can play a sound and synchronize an LED to it. If you DO NOT want the next command to be executed you should use the WAIT command as shown later.

The PLAY command may have up to 4 file names and will randomly choose which one to play

Examples:

PLAY Alarm ;plays the "alarm.wav" file from the SD card.
WAIT Play ;waits for the PLAY sound to finish , before executing the next command

PLAY Bing, Boing, Bong, Crash ;randomly choose which of the 4 sounds to play.

It should be noted that the format of the .WAV files must be PCM and all the audio files for both PLAY and EFFECT should be of the same rate but may be both stereo and mono.

EFFECT-----

This command also plays a wave file, and is used to play a second audio file at the same time as the PLAY command is play an audio file. Once the audio file starts playing, the next command in the file will be executed. So in this way you can play a sound and synchronize an LED to it. If you DO NOT want the next command to be executed you should use the WAIT command as shown later.

Example:

EFFECT Thunder ;plays the "Thunder.wav" file from the SD card.

WAIT Effect ;waits for the EFFECT sound to finish , before executing the next command

WAIT-----

This command waits for something. The second argument is what to wait for and may be either PLAY or EFFECT.

Examples:

WAIT PLAY ;waits for the PLAY file to finish

WAIT EFFECT ;waits for the EFFECT file to finish

GOTO -----

Goes back to an arbitrary place in a list instead of the beginning.

Example:

;this example will stay black for the first 10 seconds after power up

; and then blink on an off at a 1 second rate for ever

[1LED] ;using output 1

0% 10 ;stay black for 10 seconds

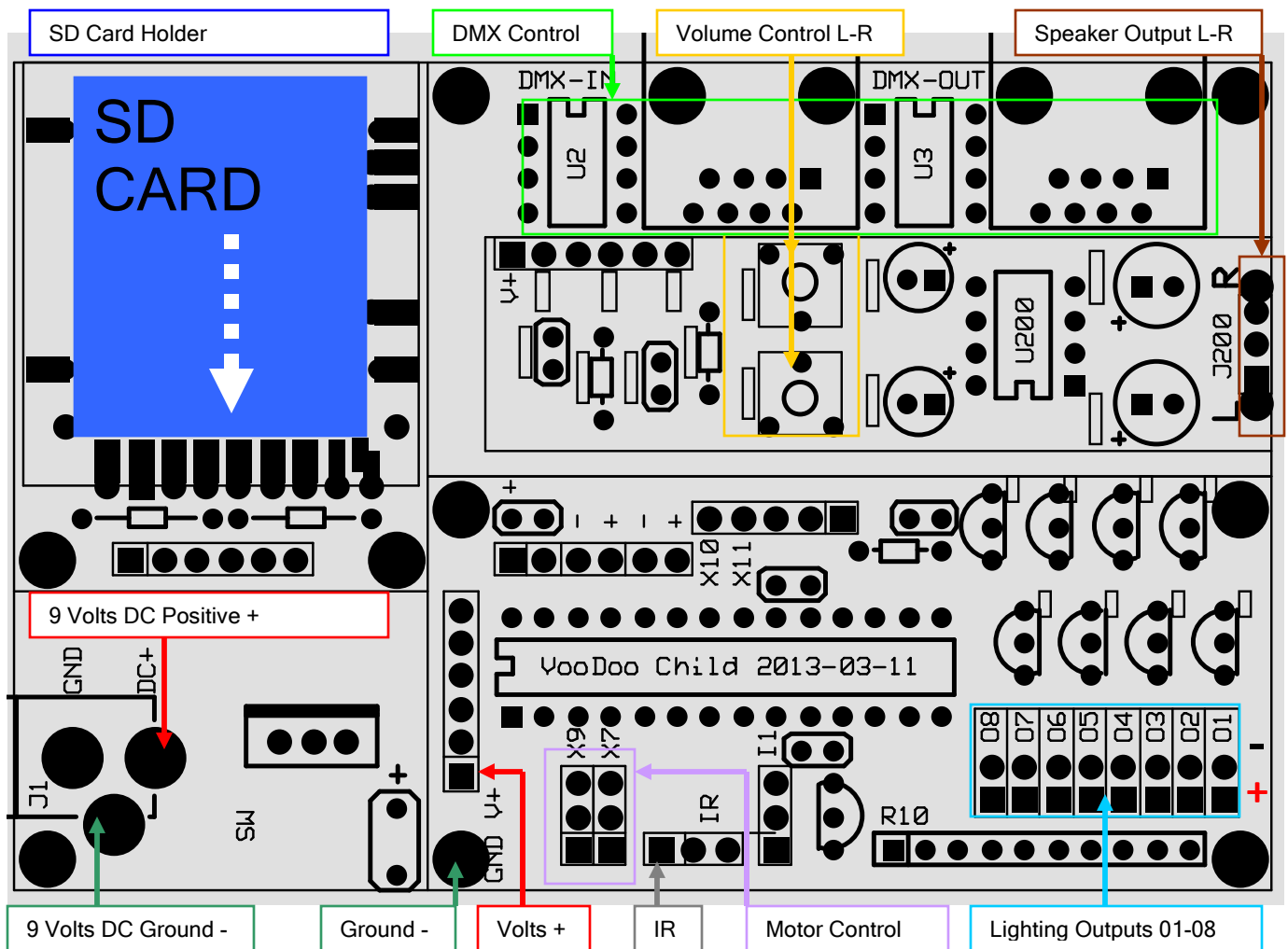
:loop ;is a "label" for where to loop back to and MUST start with a ":" (colon)

100% 1 ;full bright for 1 second

0% 1 ;black for 1 second

GOTO :loop ;goes back to 100% bright, not to the beginning where it would wait 10 seconds

Voodoochild Circuit Board Diagram 1.0



(Lighting outputs can be used in two ways)

A Mode: 1 Led per port (DEFAULT) "Square Pad" is positive; "Circle Pad" is negative.

B Mode: Multi Leds per port, using "Positive inline resistor method". Negative or circle pad is used only for effect.

LEDs are polarity sensitive; make sure your leds are hooked up properly.

Please Do Not Contact Distributor

If you are having problems call VoodooFX.

Phone 650-568-3400 M/F 8-5 pm P.S.T

Email fxshop@yahoo.com

VoodooFX is not responsible for improper installation.

There are no refunds on electrical parts or components.

All sales are final. Batteries not included.

WARNING: To guard against injury, basic safety precautions should be observed, including the following:

1. Read and follow ALL safety warnings, instructions and notices.
2. Do not use equipment for other than its intended purpose.
3. Do not alter design or construction.
4. **DANGER:** To prevent the risk of severe or fatal electrical shock. Always disconnect power before performing any maintenance.
5. Do not operate if power cord or plug is damaged.
6. Electrical power supplied MUST match power requirements listed.
7. **CAUTION:** Do not operate without proper electrical ground.

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