



## PlugNPlay Shaker Installation

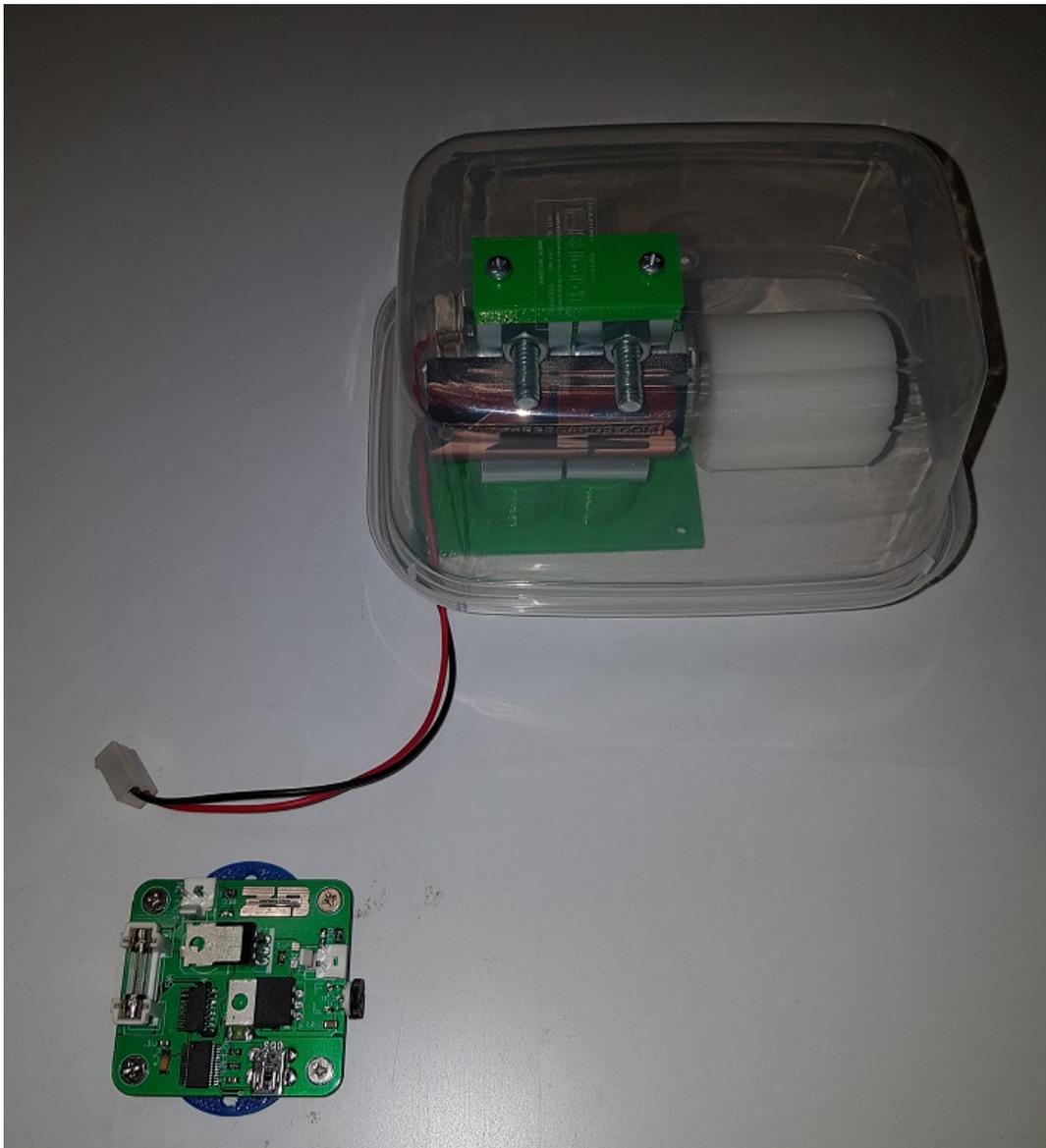


1. Ensure all parts are present.

Kit includes:

- 1x Shaker Motor
- 1 x Shaker Motor Cover
- 1 x Shaker Motor Control Board
- 1 x USB 2.0 Mini B Cable
- 2 x Terminal Crimp Connectors
- 2 x 3mm Cover Mounting Screws

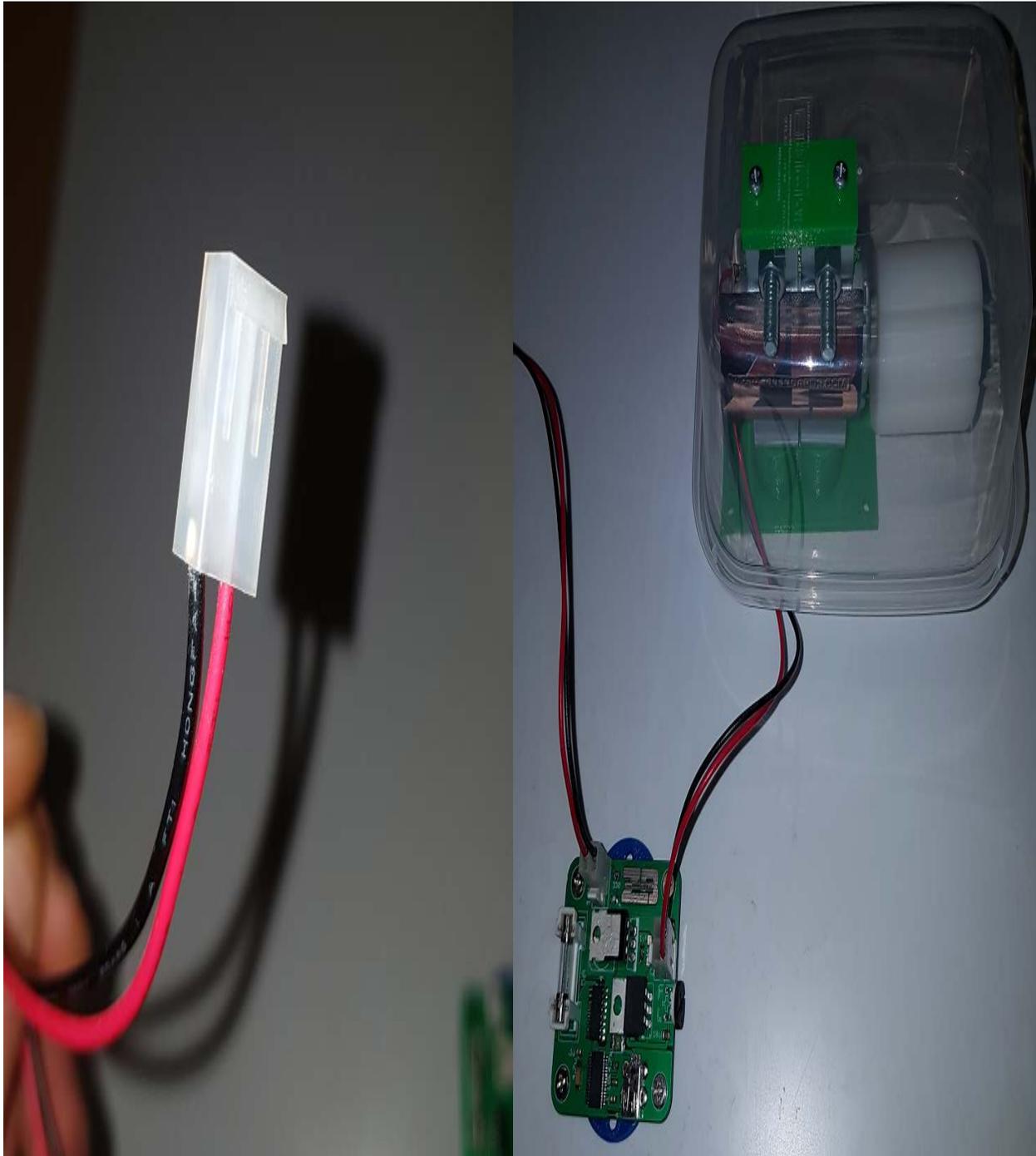
2. Mount the shaker to the cabinet by installing screws through the baseplate mounting holes. Mount cover to Shaker Motor cover support using 3mm screws provided.



3. Mount the control board within range of the harness from the shaker motor.  
Connect shaker motor harness to control board.



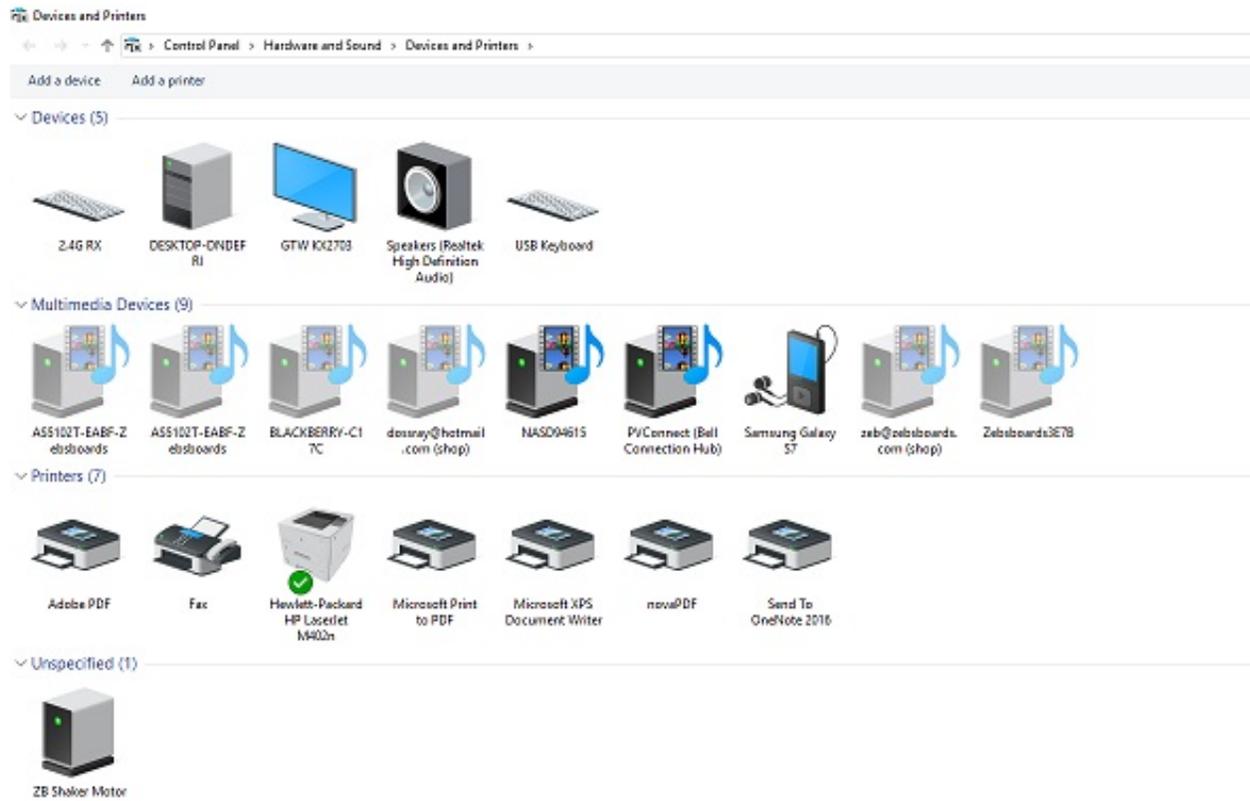
4. Crimp supplied terminal connectors to power supply wiring and install in housing as shown. Connect 9V – 12V 3A power supply (not included) to the control board.



5. Connect USB cable to control board and connect other end to computer USB port



6. Open Devices and printers Control Panel window and verify that the shaker has been detected properly.



## Configuration and Usage

The shaker control board runs from a FTDI245RL chip and uses the same configuration method as any Sainsmart USB relay board. While the chip itself has 8 outputs, only the 1 in use (Port 1) for the shaker is accessible in the design of the actual circuit board.

To control the shaker effect you will need to install DOF R3++ at a minimum. Currently, the easiest method of installing DOF is to use the DOF R3+++ release as compiled by Mike Roberts (mjr) found here:

“This is an **early beta** version. It's had only the lightest testing so far, on my own machine, so there's a good chance there are major problems yet to be shaken out. But of course the only way to shake them out is to test it on other machines, so it would be great if you wanted to volunteer to give it a try. Please be aware of the risk of destabilizing your configuration, though - I'd only recommend trying it if you're experienced with DOF and comfortable tinkering with the setup, so that it won't cost you too much time to restore your old configuration if this hoses you down.

So with those warnings in mind, the download link - look for the "Grander Unified-er DOF R3++" link:”

<http://mjrnet.org/pi...ll-updates.html>

The Sainsmart autoconfig routine will detect and configure your board so that no cabinet.xml file is required. For those using more than one instance of a Sainsmart – type device you may have to determine the order of the boards in your system (Sainsmart 1, Sainsmart 2, Sainsmart 3, etc). The autoconfig routine will set up Zebboards products under the Sainsmart naming system but the shaker can be identified by the serial number “ZBShaker” in the setup log. You need to know the Sainsmart number of the board to properly configure the DOFConfigTool for the shaker. For those with no other Zebboards or Sainsmart products in the system the Default board number will be “Sainsmart 1”.

## DOFConfigTool Settings

The DOFConfigTool page is located at :

<http://configtool.vpuniverse.com/login.php>

Create an account (if you haven't already) and log in. Open the ACCOUNT tab and make the indicated change below (multiple Sainsmart users will be adding one more board to their existing total).

**DOF CONFIG TOOL**

Home Port Assignments Table Configs Version History My Account Stats Combine Toys Logout

### Account Settings

My API Key	WumfiIsUyW7U09XrfYbW
Config Contributions	0
Number of Ledwiz Devices	0 ▾
Number of PacDrive Devices	0 ▾
Number of WS2811 Devices	1 ▾
Number of Artnet Devices	0 ▾
Number of SainSmart Devices	1 ▾
Number of Philips Hue Devices	0 ▾
Number of FRDM-KL25Z Devices	0 ▾
Number of Ultimate/IO Devices	0 ▾
Number of Philips_Hue Devices	0 ▾
Generate nofeedback files	No ▾
Remove fade from Front Buttons	No ▾
Ledwiz Framework	DirectOutput ▾

### Notification Options

Receive Email Notifications

Save your setting and open the PORT ASSIGNMENTS tab.

**DOF CONFIG TOOL**

Home | Port Assignments | Table Configs | Version History | My Account | Stats | Combine Toys | Logout

Device: SainSmart 1 - directoutputconfigini40

Save Config | Generate Config | Clear Fields

**Shaker Motor**  
Min Intensity: 48 | Max Intensity: 48

**Fan**  
Min Intensity: 48 | Max Intensity: 48

**Custom Brightness**  
Strobe: 48 | PF Strobe MX: FF | Flasher: FF | Ledstrip Flasher: FF

**Contactor variables**  
Set Intensity and Duration to 0 if you don't want feedback to these events

Port 1: Shaker  
Port 2:   
Port 3:   
Port 4:   
Port 5:   
Port 6:   
Port 7:   
Port 8:

**Targets**  
Duration: 60 | Intensity: 48

**Drop Targets**  
Duration: 60 | Intensity: 48

**Ledstrip variables** | Revert Default | [Check here for explanation of the positioning parameters](#)

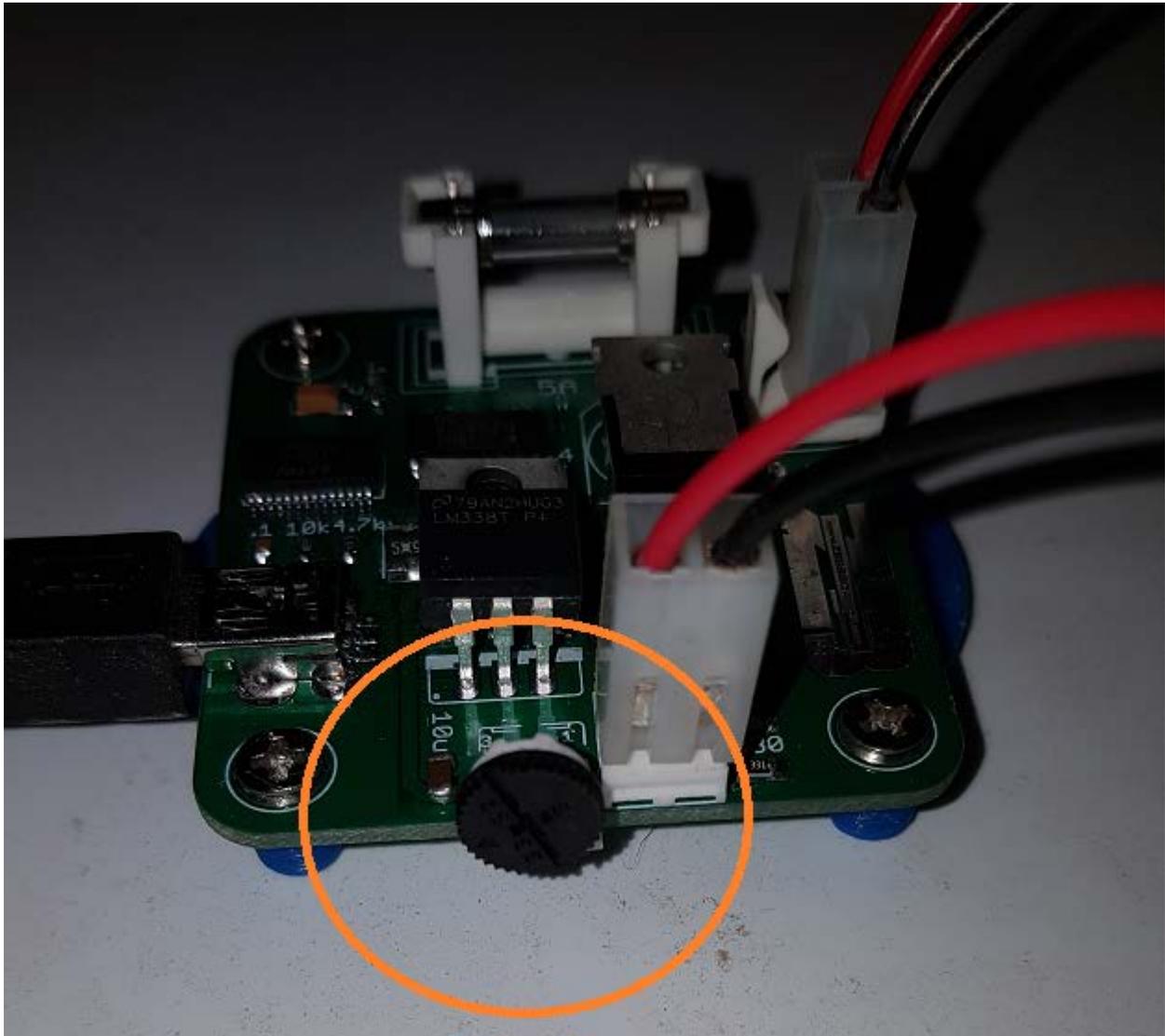
Strobe MX Left	AH	30	AL	0	AT	0	AW	9	Color	White	SHP
Strobe MX Right	AH	30	AL	91	AT	0	AW	9	Color	White	SHP
Flasher MX Left Out	AH	100	AL	0	AT	0	AW	19	SHP	Circle3	
Flasher MX Left	AH	100	AL	20	AT	0	AW	19	SHP	Circle3	
Flasher MX Center	AH	100	AL	40	AT	0	AW	19	SHP	Circle3	
Flasher MX Right	AH	100	AL	60	AT	0	AW	19	SHP	Circle3	
Flasher MX Right Out	AH	100	AL	80	AT	0	AW	19	SHP	Circle3	

Make the indicated changes and save the config. Generate the config with the displayed button and save the config file you download to the DirectOutput\Config folder on your hard drive.

## Speed Control Usage

The control board supplied includes a built-in speed control circuit that can vary the voltage output to the shaker from 1.5V to 10.5V when using a 12V supply (7.5V when using a 9V supply).

The control is located at the end of the board beside the shaker motor output connector.



Turning the control clockwise (to the right) increases the speed and counter-clockwise reduces the speed. It is not recommended to run the motor for extended periods at full speed.

## Cabinet XML

With the advent of the Grander Unified R3+++ release the cabinet xml should not be needed. If for any reason you do require one (existing R3 installation, issues or changes to the R3+++ release) the following is an example of one that will work for the shaker.

```
<?xml version="1.0"?>
<Cabinet xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <Name>zbsboards</Name>
  <OutputControllers>
    <FT245RBitbangController>
      <Name>Zbsboards 1</Name>
      <SerialNumber>ZBSHAKER</SerialNumber>
    </FT245RBitbangController>
  </OutputControllers>
  <Toys>
    <LedWizEquivalent>
      <Name>ZbsboardsLWEQ 1</Name>
      <LedWizNumber>40</LedWizNumber>
      <Outputs>
        <LedWizEquivalentOutput>
          <OutputName>Zbsboards 1.01</OutputName>
          <LedWizEquivalentOutputNumber>1</LedWizEquivalentOutputNumber>
        </LedWizEquivalentOutput>
        <LedWizEquivalentOutput>
          <OutputName>Zbsboards 1.02</OutputName>
          <LedWizEquivalentOutputNumber>2</LedWizEquivalentOutputNumber>
        </LedWizEquivalentOutput>
        <LedWizEquivalentOutput>
          <OutputName>Zbsboards 1.03</OutputName>
          <LedWizEquivalentOutputNumber>3</LedWizEquivalentOutputNumber>
        </LedWizEquivalentOutput>
        <LedWizEquivalentOutput>
          <OutputName>Zbsboards 1.04</OutputName>
          <LedWizEquivalentOutputNumber>4</LedWizEquivalentOutputNumber>
        </LedWizEquivalentOutput>
        <LedWizEquivalentOutput>
          <OutputName>Zbsboards 1.05</OutputName>
          <LedWizEquivalentOutputNumber>5</LedWizEquivalentOutputNumber>
        </LedWizEquivalentOutput>
        <LedWizEquivalentOutput>
          <OutputName>Zbsboards 1.06</OutputName>
          <LedWizEquivalentOutputNumber>6</LedWizEquivalentOutputNumber>
        </LedWizEquivalentOutput>
      </Outputs>
    </LedWizEquivalent>
  </Toys>
</Cabinet>
```

```
<LedWizEquivalentOutputNumber>6</LedWizEquivalentOutputNumber>
  </LedWizEquivalentOutput>
  <LedWizEquivalentOutput>
    <OutputName>Zebsboards 1.07</OutputName>

<LedWizEquivalentOutputNumber>7</LedWizEquivalentOutputNumber>
  </LedWizEquivalentOutput>
  <LedWizEquivalentOutput>
    <OutputName>Zebsboards 1.08</OutputName>

<LedWizEquivalentOutputNumber>8</LedWizEquivalentOutputNumber>
  </LedWizEquivalentOutput>
  </Outputs>
</LedWizEquivalent>
</Toys>
<Colors/>
<Curves/>
<AutoConfigEnabled>>true</AutoConfigEnabled>
</Cabinet>
```