Xoid

An XORing synth to make great digital sounds and noise!

How to use:

==== Presets ====

There are lots of way cool presets! Some are even noisier than the rest.

Try them out! Load preset sounds by Double-Tapping the right button and then pressing any "white" key.

Play with these presets, and you can make lots of crazy digital sound and noise!

Please see page 3 of this document for a list of all types of button presses (including “Double-Tapping”) you can use on this synth.

==== Diagram of the Xoid Voice ====

--------------
| Oscillator Section | --> envelope --> Gain --> AutoWah --> [output]
--------------
  ^
  |
  |
    Vibrato

==== Diagram of the Oscillator Section ====

pair0

Osc 1 ----> | XOR | ----> | ------
Osc 2 ----> |     | ----> |     |
------------|     |     |     |
            | XOR | ----> [output]
------------|     |     |     |
Osc 3 ----> | XOR | ----> |     |
Osc 4 ----> |     | ----> |     |
------------|     |     |     |
            |     | combo

1
After loading a preset, you can mess with the sound!

Try Pressing and Tap-Pressing the buttons and twiddling the pots, and see what kind of crazy sounds and noise you can get!

If you want to get really good at Xoid, it takes practice.

Xoid has a lot of combinations. What follows is an explanation:

Each LED can be in one of 3 states: OFF - ON - BLINKING

The LEDs indicate what parameters the pots control:

<table>
<thead>
<tr>
<th>Red LED</th>
<th>Blue LED</th>
<th>top POT</th>
<th>bot POT</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>combo XOR mix</td>
<td>combo freq ratio</td>
</tr>
<tr>
<td>ON</td>
<td>OFF</td>
<td>pair0 XOR mix</td>
<td>pair0 freq ratio</td>
</tr>
<tr>
<td>BLINK</td>
<td>OFF</td>
<td>pair1 XOR mix</td>
<td>pair1 freq ratio</td>
</tr>
<tr>
<td>OFF</td>
<td>ON</td>
<td>env ATTACK</td>
<td>env DECAY</td>
</tr>
<tr>
<td>ON</td>
<td>ON</td>
<td>env SUSTAIN</td>
<td>env RELEASE</td>
</tr>
<tr>
<td>BLINK</td>
<td>ON</td>
<td>vibrato FREQ</td>
<td>vibrato DEPTH</td>
</tr>
<tr>
<td>OFF</td>
<td>BLINK</td>
<td>autowah FREQ</td>
<td>autowah DEPTH</td>
</tr>
<tr>
<td>ON</td>
<td>BLINK</td>
<td>autowah ON/OFF</td>
<td>autowah CUTOFF</td>
</tr>
<tr>
<td>BLINK</td>
<td>BLINK</td>
<td>gain</td>
<td>portamento</td>
</tr>
</tbody>
</table>

To bump the Red LED state: Press left button
To bump the Blue LED state: Press right button

When the Blue LED is off the Red LED also indicates what happens when you Tap-Press a button (a "Tap-Press" is a double tap with the 2nd tap being of longer duration):

<table>
<thead>
<tr>
<th>Red LED</th>
<th>Blue LED</th>
<th>left BUTTON</th>
<th>right BUTTON</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>combo XOR on/off</td>
<td>bump combo freq spectrum</td>
</tr>
<tr>
<td>ON</td>
<td>OFF</td>
<td>pair0 XOR on/off</td>
<td>bump pair0 freq spectrum</td>
</tr>
<tr>
<td>BLINK</td>
<td>OFF</td>
<td>pair1 XOR on/off</td>
<td>bump pair1 freq spectrum</td>
</tr>
</tbody>
</table>

Note 1: Toggling an XOR function on and off dramatically effects the sound.

Note 2: Bumping the freq spectrum changes the frequency sweep for bottom pot.

For more info on XOR objects and their User Interface (U/I) see example sketches numbered in the 40s.

To raise keyboard by an octave, Tap right button once.
To lower keyboard by an octave, Tap left button once.
Types of button presses:

- **Tap**: quickly tap a button
- **Press**: long-press a button
- **Double-Tap**: quickly double-tap a button
- **Tap-Press**: think of this as a Double-Tap but with the second tap being of a longer duration.

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