AtomoSynth iAbyssal

Thank you for purchasing AtomoSynth's iAbyssal: Virtual analog oscillator / noise machine.

Main Features

- iAbyssal software synthesizer is based on the AtomoSynth Abyssal, an analog noise machine featuring a big photocell allowing the user to play in a similar fashion of a photo theremin.
- Uses the frontal camera of the device for emulating a photocell so it can be played by varying the amount of light that the frontal camera receives.
- Features one oscillator, one white noise generator, two low frequency oscillators, and one low / high pass filter.
- Factory and User patch memory.
- Photocell (frontal camera) calibration functionality for adjusting its sensitivity to different environmental light conditions.
- Inter-app-audio and Audiobus support as a generator unit.

Basic Operation

1. Tap the iAbyssal icon on your iOS device home screen, the app will boot (it may take a second or two).
2. Once loaded, and for the first and only time, you'll be prompted to accept the use of your device camera. This allows the photocell emulation to work using your frontal camera only. If you decline this permission you may re-enable it in your device settings screen.
3. Set your iOS device volume to level that you find comfortable.
4. The synth will start producing sound, this will change by varying the amount of light that the frontal camera receives using, for example, your hand.
5. Change sound parameters using the knobs and switchers:
    - For using knobs, hold and drag your finger vertically staring inside the desired knob.
    - For using switches, swipe up or down over the desired switch, or tap for setting the middle value. In two-value switches, tapping will alternate its values.

Photocell (frontal camera) adjustment

To improve playability you can adjust the frontal camera sensitivity of your iOS device according the current evironmental light conditions.

1. Tap the photocell graphic labeled `RESET` in the main screen once and select an option from the calibration dialog that will appear:
   - If you are in a appropriately lit room tap the `Standard` button.
   - If you are in a very dark room like a concert venue, tap the `Inverse` button.

Saving a sound

You can save the state of the synth knobs and switches using the preset saving feature.

1. Tap the `PRESETS` label.
2. Tap the `save` button in the upper right corner.
3. Type a name for your preset sound and tap `save` .

Selecting and playing preset sounds

You can restore your saved presets and other provided presets as well.

1. Tap the `PRESETS` label.
2. Select a preset from the factory or user bank by tapping over its name.
3. If you want to create a sound from scratch you can select the `init` factory preset.
4. Play using the preset you selected as usual.

On screen controls

`VOLUME` knob

Sets the master volume level of the instrument

`RESET` *photocell*

Sets the sensitivity of the frontal camera according to the light conditions of the room you're in. By double tapping it you can set a default factory sensitivity value.

Photocell switch

Sets the input from the photocell to alter one of the following controls:

- `FREQ` : Main oscillator frequency
- `CUTOFF` : Filter cutoff frequency
- `PEAK` : Filter resonance/peak

`VCO` **switch**

Sets the waveform of the VCO (Voltage Controlled Oscillator) to square or saw tooth wave.

`LEVEL` **knob**

Sets the volume level of the main oscillator.

`FREQ` **knob**

Sets the base pitch of the main oscillator. *Note: Will only work if the photocell switch is in any other position than* `FREQ` .

`NOISE` **knob**

Sets the amount of white noise applied over the main oscillator.

`LFO` **s (Low Frequency Oscillators)**

The iAbyssal features two identical Low frequency oscillators, the only difference is the MOD switch which sets different modulation targets.

`LFO1`, `LFO2` **switches**

Sets the waveform of the desired LFO to square, inverted saw tooth, or triangle wave form.

`RATE` **knob**

Sets the oscillation frequency for the desired LFO.

`DEPTH` **knob**

Sets the depth or amout of modulation that the desired LFO will apply.

`MOD` **switch**

- For `LFO1` , sets the modulation target to:

  - `FREQ` : Main scillator frequency.
  - `LEVEL` : Volume level of the main oscillator.
  - `NOISE` : White noise volume.

- For `LF02` , sets the modulation target to:

  - `CUTOFF` : Cutoff frequency of the filter.
  - `PEAK` : Filter resonance or peak level.
  - `AMP` : Filtered main oscillator + noise mix.

FILTER LP/HP **switch**

Sets the filter mode to Low pass (`LP`) or High pass (`HP`).

CUT OFF **knob**

Sets the filter cutoff frequency. *Note: Will only work if the photocell switch is in any other position than* `CUTOFF` .

PEAK **knob**

Sets the resonance level. At high levels adds a distortion effect. *Note: Will only work if the photocell switch is in any other position than* `PEAK` .

HOLD **switch**

In its ON (upper) position holds the current value of the photocell (frontal camera) allowing you to use both hands to play with the knobs and switches.

Delay Effect Pedal

DELAY **label**

Tap the `DELAY` label in the upper right section of the screen and it will show the AtomoSynth delay effect pedal. For hiding it simply tap outside the pedal graphic or swipe right.

DELAY **knob**

Sets the frequency of the delay effect.

FDBK **knob**

Sets the FEDBACK level applied to the delay line. When set to the maximum value, it will create a feedback loop and start oscillating.

`LEVEL` **knob**

Sets the level of the effect, namely the amount of delayed signal to be mixed with the original input signal.

`ON/OFF` **switch**

Switches the delay effect on or off.

Troubleshooting

The `FREQ`, `CUTOFF`, `PEAK` knobs aren't working. Is my machine broken?

No, these knobs work depending on the position of the switch next to the photocell graphic. In other words, the `FREQ` knob won't work if the photocell switch is set to `FREQ`, the `CUTOFF` knob won't work if... (and so on).

The filter is not filtering the sound (enough). What is wrong?

Try lowering the `LEVEL` knob as the filter responds differently based on the `VCO` input level.

Moving my hand (or a light) over the camera doesn't seem to do anything. Should I call tech support?

We'd like to hear about you but for this specific scenario there are a couple of things you might want to try before contacting us:

- Make sure you didn't denied the camera access permission for our app. If you did this, the app won't certainly work. For solving this (or if you're unsure of your selection) go to your device settings and scroll down until you find the app icon, tap it and enable the camera access in the screen that will appear next.
- Make sure you are in a well lit room and perform the calibration procedure described in this manual. If you're in a dark (or poorly lit) room, use a light source in your hand or change your screen brightness.
- Make sure the `VOLUME` and `CUTOFF` knobs are in the right place. This sounds silly but happens way more frequently as you might think.
- Try setting the photocell switch to the `FREQ` position and try again.

The app makes very strange / distorted sound, its awful to hear!

Keep in mind that this is an emulation of a real analog synthesizer and not all setting combinations may produce an audible or pleasant sound. This synth is also designed to be capable of having extreme settings for serving as a real *noise machine*. We encourage you to try

and experiment with every knob and switch until you get a result you like! Use and abuse the preset feature for your convenience.