

The setup method after turning on the LaVoixski

After turn on the LaVoixski, player must tune the oscillators. The tuning work is a little bit difficult for the first time.

Firstly player have to understand the construction of the Theremin itself.

- The system has 2 oscillator pairs in different working style, fixed and variable.
- The 2 antennas connected to the oscillators are working in variable frequency.
- The antenna senses the magnetic field drifting by hands.
- The demodulator outputs the beat made from the difference of the frequency on the oscillators by running in the variable / fixed frequency.
- The up-edges between the waveform of the input signal is measured the time duration by the counter in the micro controller and converted to the pitch / volume values.
- The oscillators must be tuned to almost the same frequency.
- The tuning is done by the combination of 2 methods, adjusting the frequency on hardware oscillator then adding the offset value on software.

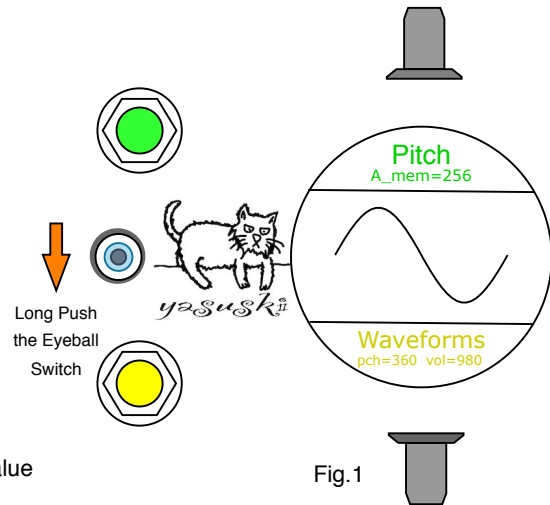


Fig.1

- Firstly, player has to search for the best tuning point by the trim pot. Player can hear the demodulated sound from the oscillator on the pitch side while long holding the eyeball LED switch. Then, player finds out where the beat appears and can check the direction of appearing in the difference.

- Tune the oscillators where the pitch turns higher while moving a hand toward the antenna. The upper knob color turns in **RED** when the frequency of the pitch oscillator has been tuned to the lower limit. (Fig.2) pch < 350

Tune the frequency just above the knob color turns in **GREEN**. (Fig.1) pch > 350

- The top switch #01 (on the left side) must be tuning "OFF" while the tuning work has been completed.

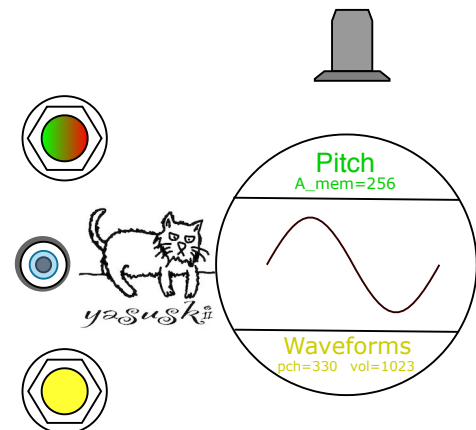


Fig.2

- The tuning method for the **volume** side is almost the same (click the top switch and holding the eyeball switch again over 1 second), but the setting is in the different manner. Player has to find out the best position for getting the widest working area while the left hand is moving toward near by the volume antenna. (Fig.3) pch = 35

- Pushing the eyeball switch again over 1 second, then tuning mode is moved to **Tuner for setting the fundamental frequency (LAVENDER)**.

- Finishing the tuning mode with holding the Eyeball switch then the top LED turns back to **BLUE**.

- Selecting the upper knob in **GREEN** again, then tune the offset of the pitch side. And pushing the upper knob over 1 second for memory the offset value to the EEPROM. (The LED color turns on 0.9s in **Magenta**) After recording the value, player do not have to do this step again.

- Selecting the upper knob in **BLUE**, then tune the offset of the volume side. And pushing the upper knob over 1 second for memory the offset value to the EEPROM. (The LED color turns on 0.9s in **Orange**)

After recording, player do not have to do this step again, too.

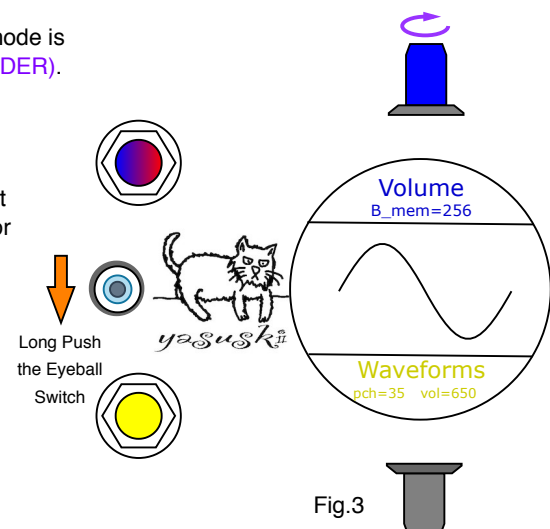


Fig.3