

Felix Geith

First Max Patch Homework: „Arpeggiator 1“ EXPLAINED

The patch I've made is a simple sequencer that triggers an oscillator and outputs the audio that's created. This means you can create a simple melody that is played and repeated until the sun explodes, the world ends or you close the patch.

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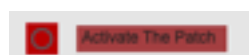
You can use the patch either from normal mode or presentation mode. It's way easier to use the objects to play the patch in presentation mode, as I built a simple interface there. You can enter the presentation mode by clicking on the presentation mode button on the bottom left of the MaxMSP Application.



The now following explanation is made for the objects in normal view, if you don't find them in the presentation mode go to the *objects in presentation mode* chapter.

How to use/play the patch:

1. Click the red button on the dark **red bang button** on the top left corner that says „Activate Patch“.



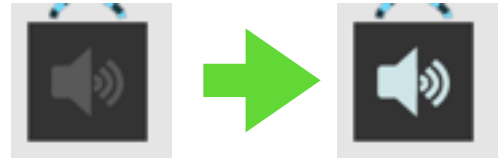
2.1 You can start the Play Mode by clicking on the **green toggle button** that says „PLAY ON/OFF“.



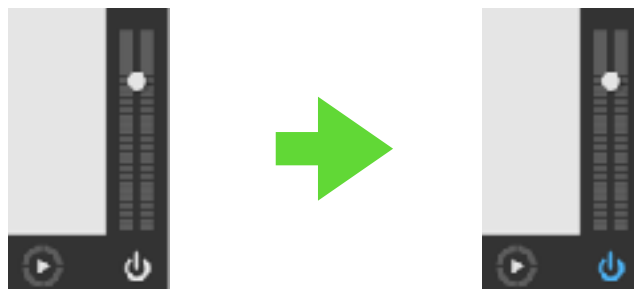
2.2 The Sequence should be playing now. You can see that it's running if the **bluish bang buttons** light up.



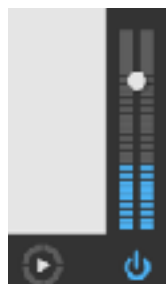
3. On the bottom of the patch there is a speaker symbol that marks the end of the patch, just click it so that it turns on and starts to light up in a light blue color.



Congrats! You just turned on the audio of you MaxMSP application! Another way to do this is to use the audio on/off button at the bottom right corner of the application.



Now you should hear an audio signal and the two bars close to audio on/off button you just pressed should project some volume (light up too).



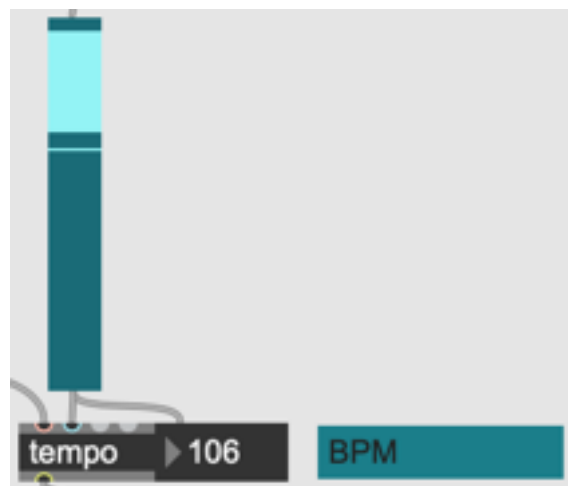
In case you can't hear any sound and the two bars don't light up, just go to the *TROUBLESHOOTING* section a few pages down. If this solves the problem come back here and proceed with the tutorial.

There are multiple ways on how you can manipulate the played sequence and the audio it puts out to your ears.

4. You can change the length of the sequence. It can be four, eight or sixteen steps long. You can change it by clicking on the **bluish bang button**. There's a number box nearby that shows the current sequence length.

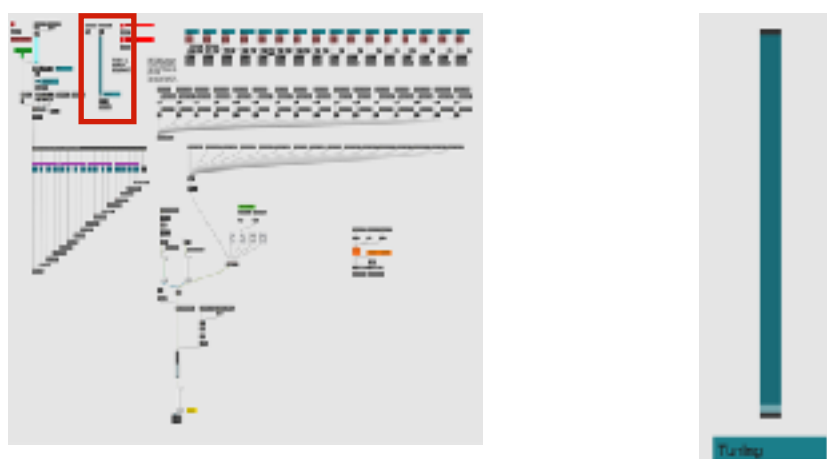


5. You can also change the tempo of the sequence. It's displayed and processed in „bpm“, which means *beats per minute*. The sequence can be from 19 up to 145 bpm. You can adjust the bpm value with the **bluish vertical slider**.



6. You can change the tuning of the whole sequence and of each individual step separately.

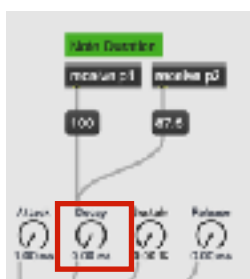
6.1 To change the tuning of the whole sequence, use the **bluish vertical slider**. It's written „Tuning“ besides it and you can also see a number box that shows you the current value.



6.2 To change the value of each individual step you need to look at the 16 **dark red dial knobs**. You can see the steps each knob is routed to written in a **blue box** above it. Below the knobs you can find **number boxes** that show the current state of the knobs. They can differ from zero to twenty four, which means you can tune every step up to two octaves higher than the main tuning of the sequence. Like this you can make the sequence play a simple melody.



7. You can also adjust the note duration of every step. By this you can make the sequence output a staccato like sound or a nonstop flowing melody pattern. This is possible by moving the **transparent Decay knob**.



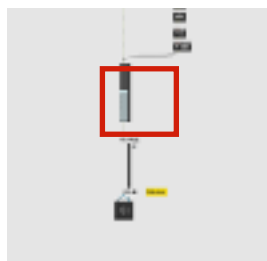
8. In addition it's possible to choose between a sine wave or a sawtooth wave that will be triggered by the sequencer. The sine wave sound is calm and smooth, the sawtooth sound is nasty and dirty. You can use the **orange dial knob** at the bottom right corner. With this you can also have both sine and sawtooth wave playing at the same time.



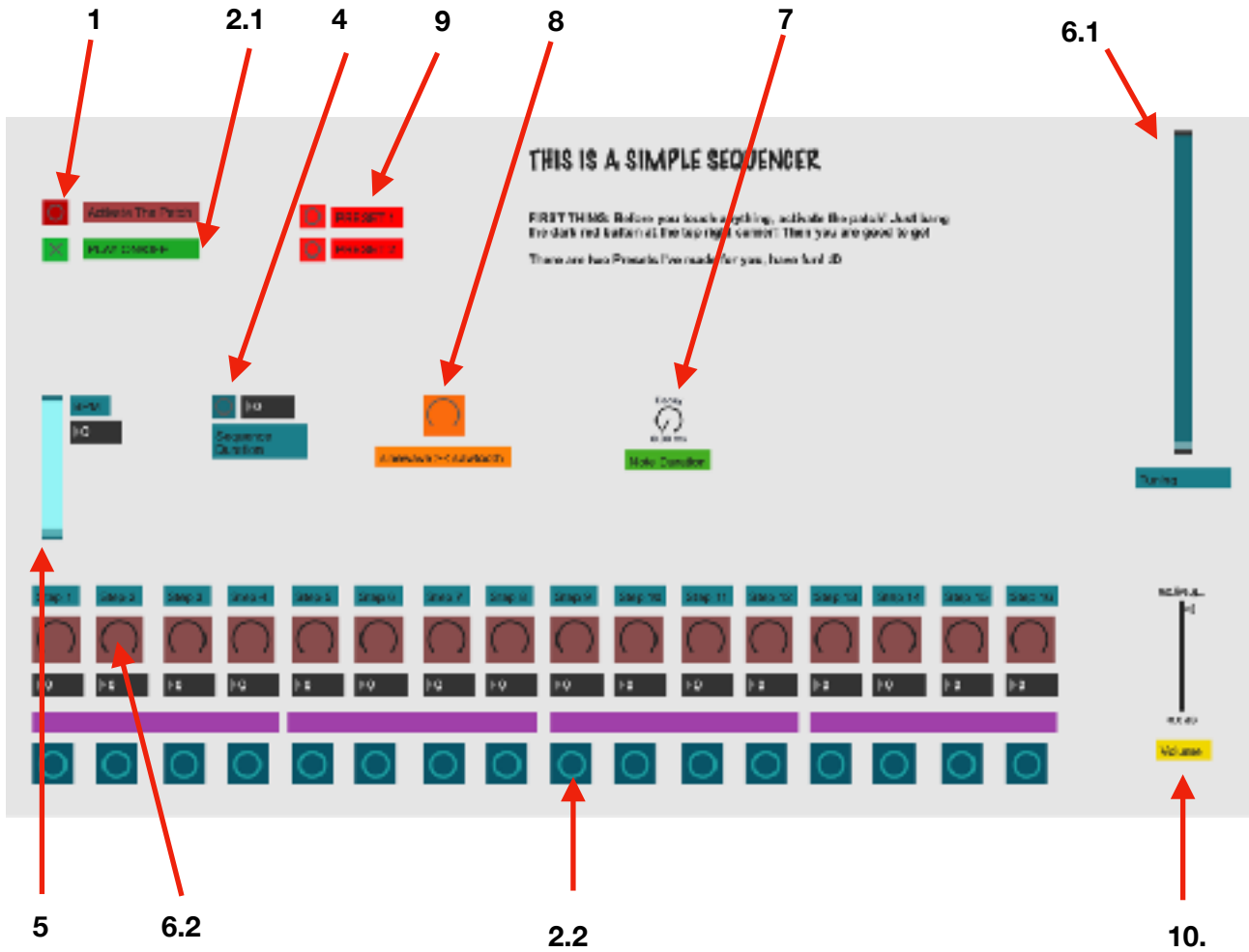
9. You also have two **stock presets** that come with the patch if you don't want to build a pattern from scratch. You find them at the top middle of the patch. To activate a preset, simply click on the bang button that's at the right of the preset.



10. Of course you can also adjust the volume of the whole sequence with a mast volume fader you can find at the bottom of the patch right above the speaker button we talked about before.



These ten functions can be found in the presentation mode!



Troubleshooting

In case you have trouble with the audio, means you've activated the patch, started the sequence and turned on the MaxMSP audio so the loudspeaker on the bottom of the patch lights up try these things in the given order until you fixed the problem:

A Choose a Preset! The Preset gives working values to the parameters that may be in a wrong position by default.

B Try playing with the knob 8 that chooses between sine and saw wave, this is a big troublemaker and the reason we need an „activate“ function for the patch...

C Try playing with the note duration knob 7. If the note length is at a value of zero the note is too short to be heard. Try something above zero.

D See if the audio device of your computer is set up correctly or if your audio output might even be disabled or muted or anything.

E If you still have no audio try to mess with every other knob or slider you can find in the patch until you can hear something.

F If all of this doesn't help, contact me via email: felix.geith@uni-weimar.de