

**And the days went by .... like the clouds in a stormy night ....**

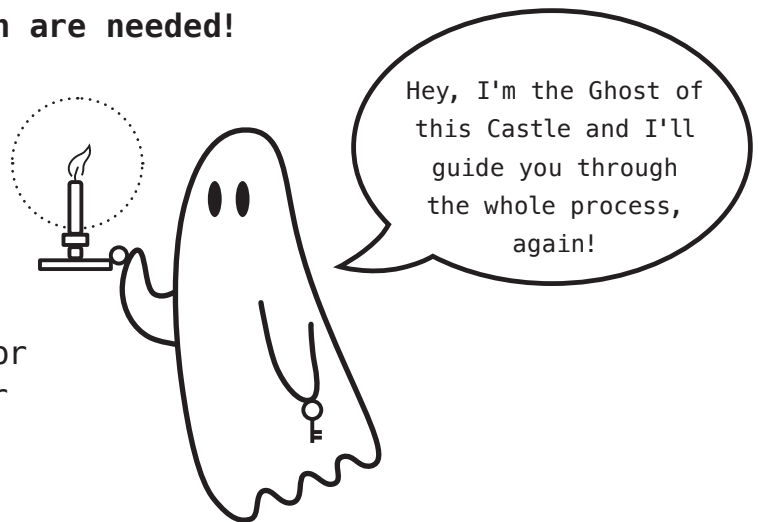
You know these days .... you end up bored, in your room, watching the ceiling. But this is over, now. Today, we'll build the Atari Punk Console! This circuit is a popular sound machine which uses two 555 Timer Chips or a single 556 dual timer IC.

### **What is an Atari Punk Console ???**

The original circuit, called a "Sound Synthesizer", was published in a Radio Shack booklet: "Engineer's Notebook: Integrated Circuit Applications" in 1980 and later called "Stepped Tone Generator" in "Engineer's Mini-Notebook - 555 Circuits" by its original designer, Forrest M. Mims III (Silicon Concepts, 1984). But the Kaustic Machines Crew named it "Atari Punk Console", because of its LoFi sounds, which resemble the old Atari noises, from the early video game history.

### **This is the list of parts, which are needed!**

- 2 x 555 Timer IC
- 2 x 8 pin IC-socket ( better )
- 1 x 1 K Ohm Resistor
- 1 x 4,7 K Ohm Resistor
- 3 x 470 K Ohm Potentiometer
- 1 x Led
- 1 x 100 nf unpolarized Capacitor
- 1 x 10 nf unpolarized Capacitor
- 1 x 10 uf polarized Capacitor
- 1 x 1 uf polarized Capacitor
- 1 x Wire (simple solid core)
- 2 x Switches
- 1 x Audio Jack and a small Speaker

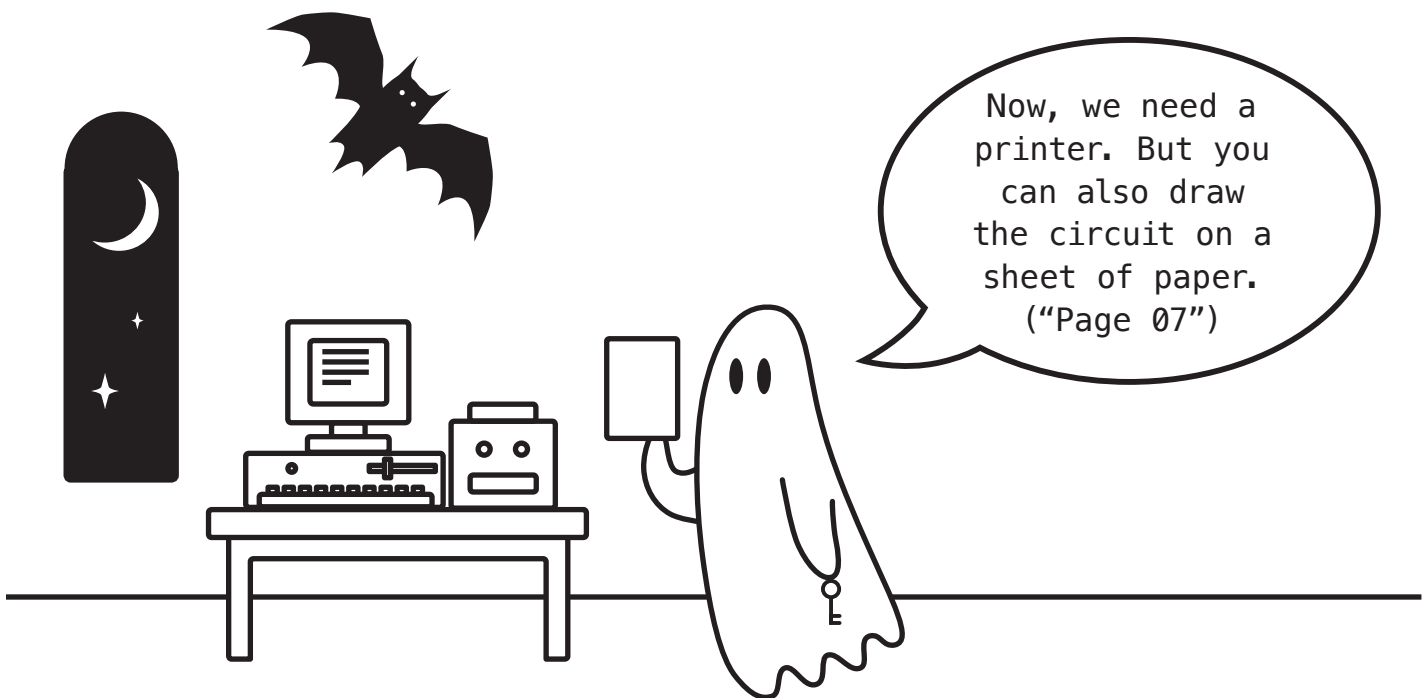


### **Grab Your basic tools:**

- 1 x Soldering Iron
- 1 x Solder (Stannol 1 mm Flowtin TSC would be the best choice)
- 1 x Wire Cutter (scissors if you don't have one)
- 1 x pliers
- 1 x printer
- 1 x one piece of cardboard from the back of your college-block
- 1 x compasses (or another spiky tool, to poke the holes)
- 1 x open window /// a well ventilated room

If you want to build this little circuit, please have a look at issue one, of this small magazine. I did a whole description, how you can build your own cardboard circuit. It is cheap, good for practise and a good alternative, to test things out, when you have nothing, to etch a circuit.

This circuit was tested by me and the prototype works until this day. So I think everything should go well. I'll build it again. Just to make shure, everything is correct.

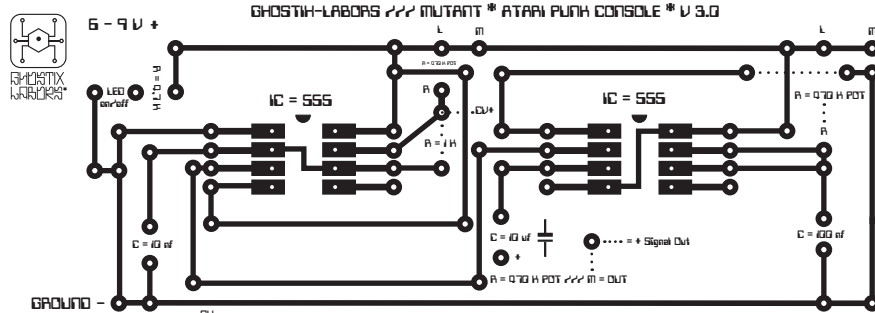


### The Start >>>

On the next page, you'll find your circuit. But make shure that your printer settings are correct, before you print this file. Don't stretch the file to 100 % of the A4 format. This is a common option, but these pages are already prepared, and should have the right measurements. There is a small, black cube on the left side, of the following page. This is your control mark and if this cube is 1 cm x 1 cm tall, the diameters of your circuit boards are correct.

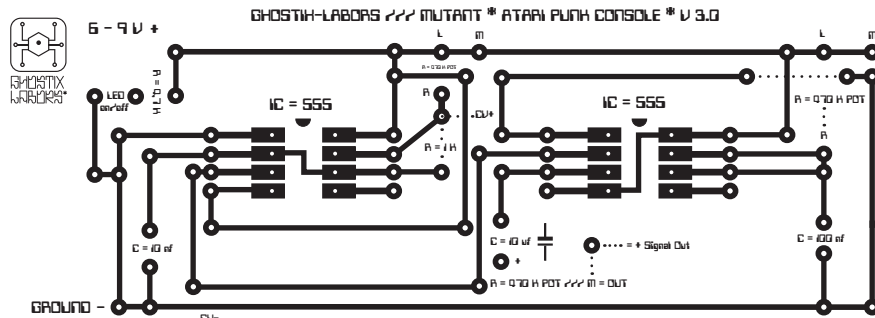
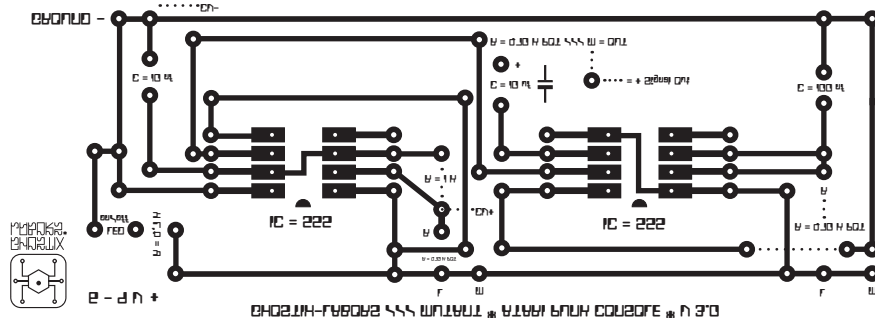
This Black Box has to be 1 cm x 1 cm then you should have the right measurements - to go forward with this print! >>>>>>>>

2 x Atari Punk Console / 3.3 DIAMETER 555 TIMER = 0.9 x 1.0 cm



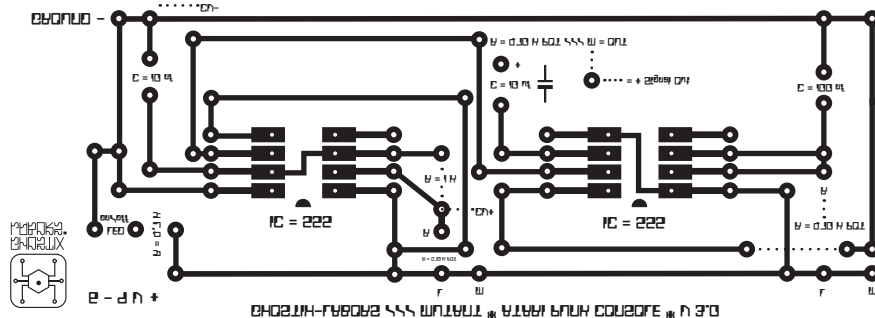
The new order is, to replace the two main Potentiometers with 500 k and the volume pot with a potentiometer in line.

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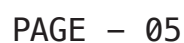
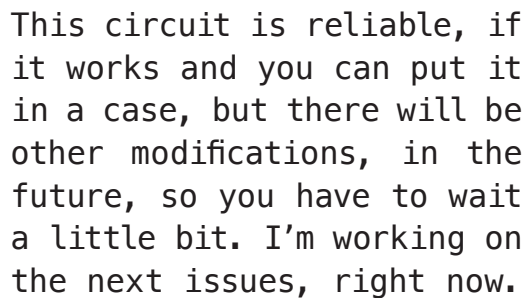


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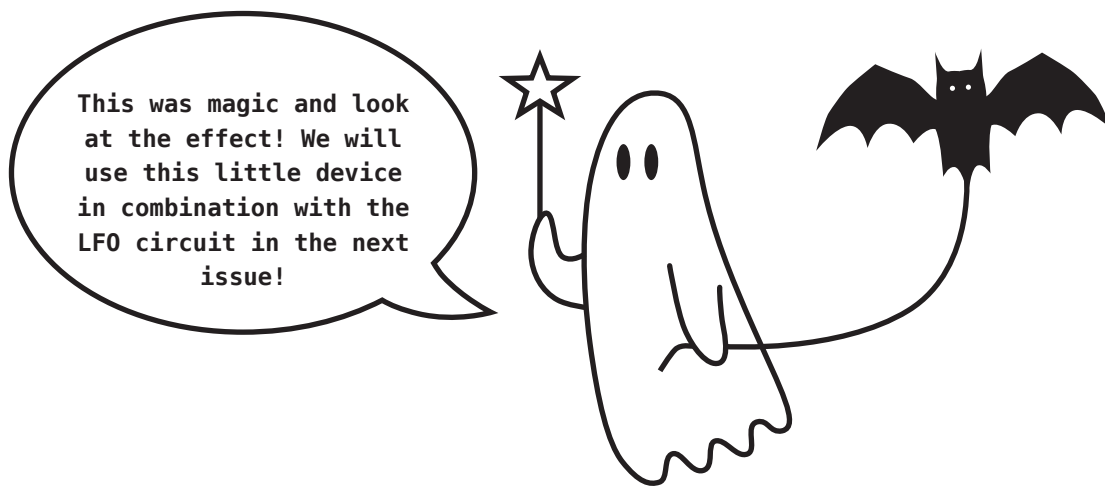


The diagram shows a 555 IC package and its corresponding 8-pin socket. The IC is a square package with pins numbered 01 through 08. The text "555" is printed on the package. Below the IC is an 8-pin socket, labeled "8 PIN - IC SOCKET", which has a central rectangular opening and eight circular pin holes arranged in a square pattern around it.



## **/// THE FINISHED CIRCUIT >>>**

Yeah, and congratulations, you've build your first  
>>>>>>>>>> Cardboard ATARI PUNK CONSOLE!!! ///



There are some things to say. The IC-Sockets have to be placed at first. The last components, which have to be placed on the board, are the 555 Timer IC's. Make shure, that your parts will have the right polarity. If your LED won't light up, then you have to check your connections.

Did you forget one??? Is there a short circuit???

Note, that the polarity of your battery has to be correct, too. Because this could be also an issue. If this polarity is wrong, the 555 Timer Chips, will get very hot and the LED won't light up. Mind the little notch on the 555 Chip and the IC Socket. There is a mark on the board, which you couldn't miss. All the notches must head in the same direction.

You don't have to place the LED directly to the circuit, you can also use wires, like I did it on the potentiometer, to mount it on the front of the case.

Your LED should light up, if everything is correct. Now you can adjust the frequency of the sound, by turning the potentiometers in both directions.

And what can we do with it??? My answer is: "A lot of things!" But this is a story for the next issue and then we will do some experiments with the first circuit from issue 01, "The Simple LFO" to make some noise!

### **/// THE CIRCUIT >>> DRAWN BY HAND**

It's no problem, if you don't have a printer. You can draw the circuit on a piece of paper and start from this point. The only problem with this variation is, that your measurements of the IC -Socket has to be correct. Just take a ruler and take the measurements. Draw the part for the IC-Socket and see, if it would fit in. Continue with the connections. The measurements of these are not so important, as long as they don't touch each other or get to close. The rest of the process, is similar, to the printed version. If your first side is drawn, just fold the piece of paper and you can copy the other side through the paper, by holding it to your window.

## **!!! WARNINGS !!!**

If you don't know, what you're doing, just ask your parents, they'll help you out. Otherwise, ask a friend or your science teacher, what to do, at first.

I'm not responsible for any harm, due to the use of the Cardboard Circuits. And I'm not responsible for any machine you'll fry. Make shure, you do the right thing and read my warnings. If you are not familiar with Circuit Bending, just find out more about it. There are pretty much online resources and diy-guides, in form of Video-Tutorials and books!

Voltages from Battery Powered devices up to 12 Volts are OK. If you aren't shure about an electrical device, please, ask your parents, first! Don't open expensive machines, which aren't yours and think twice about it. Because there is a difference between cheap toy keyboards and things you can't replace.

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