

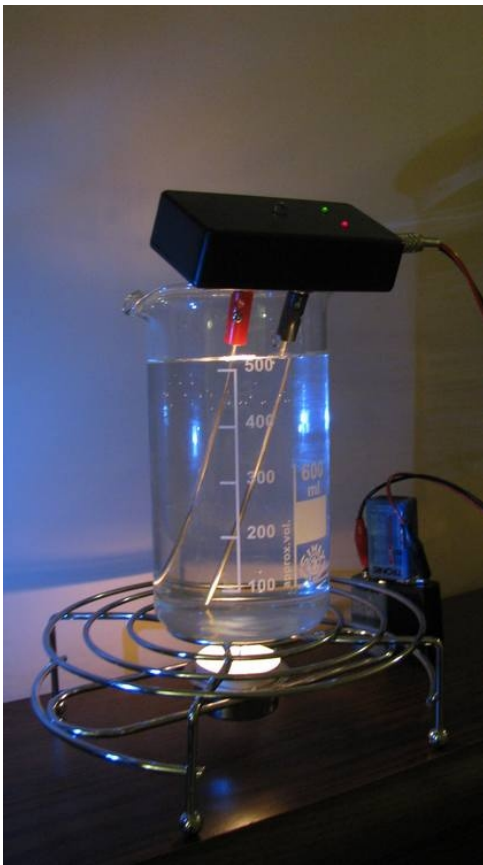
## Some aspects of colloidal silver (CS) making

*I was asked by a Spooky2 community member how to limit current while making colloidal silver (CS). I'll answer this question, but, to put the subject in a sensible context, I'll also elaborate a bit on some other aspects of making and using CS. This is my personal view of CS, I'm not an MD either, I don't claim this view is true, it just works fine for me.*

Drinking CS is a powerful healing method. After launching *Srebro Koloidalne* e-book, I've talked to dozens of people who told me how much CS helped them to recover from different ailments. We are talking about a clear, 5 – 10 ppm product made with the use of pure silver and distilled water. It works especially well, when used alternatively a couple times a day with H<sub>2</sub>O<sub>2</sub> (or a lot e.g. 1 litre - of ozonated water).

I believe in drinking CS made only on my own. If you buy this product, what you get may be (and usually is) just anything. There exists a lot of false „information” about CS on the Internet. One such a piece of so called *info* relates to quantities of CS suggested for ingesting. You can see advice such as „take just 2 teaspoons a day, blah blah, blah”; what they „forget” to tell you is, that these doses relate to supplementation and not healing. One must drink much, much more to trigger anti-parasite actions of CS. I used to (and still do, if in need) drink three glasses of 5 – 10 ppm CS a day for weeks and it only brings advantages. I didn't notice any disadvantages, and no, it did not influence beneficial bacteria. The only condition: CS must be drunk with tiny sips; drinking a glass of it should take at least a few minutes.

### *General aspects of making colloidal silver the R. Back's improved way, the basics*



*Pic 1: CS making - gravitational stirring (a candle). The electrodes polarisation changes every 15 s.*

1. Use distilled/de-mineralized water, the TDS meter shouldn't indicate more than 1-2 ppm of water impurities, as I see it, 0 ppm is desirable

2. Use pure silver electrodes: 999 or 9999 silver; but 9999 over 999 is mostly pure marketing, don't catch the bait, very few of us has got NASA equipment ;- ) to tell the difference (which is often non existing; what costs here is testing)

3. Having small particles in CS means good quality of this product (why? bigger active surface as well as ability to neutralize viruses)

4. It is a must to profoundly limit the current of electrolysis, I often assume 1,3 mA /square inch surface of one electrode, I also never exceed 3,6mA, no matter what the electrode surface is

*Quality of the final product* much improves, if we stir the solution while the process of making CS is being carried out.

#### *How to stir?*

1. mechanically (e.g. using a micro motor and micro propeller or professional hot plate magnetic stirrer)

2. gravitationally (just heating via using, for example, a candle)

3. electro-kinetically (the poles polarisation changes every several seconds, which changes the direction of ion movement)

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I like to use all three methods simultaneously.

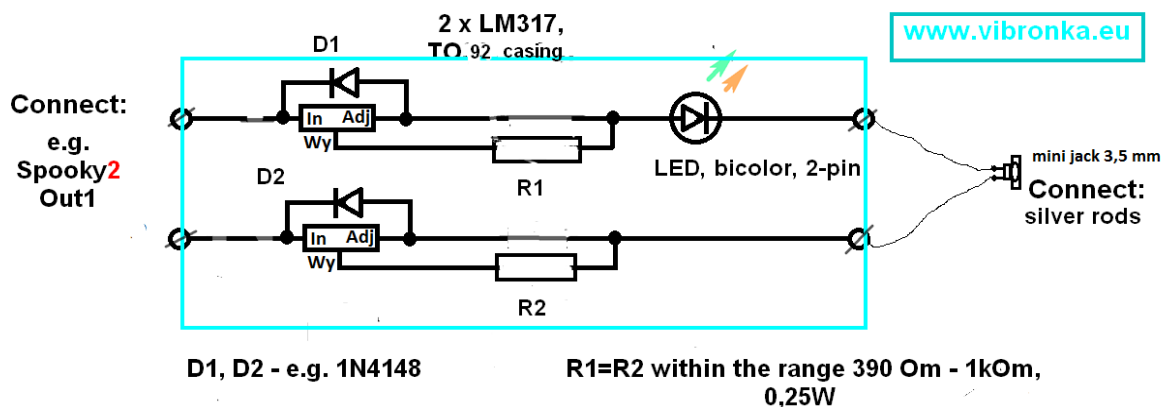
What is interesting about electro – kinetic „stirring”? Apart from periodical change of ions move direction (hence we've got stirring), it has the function of cleaning (or rather self-cleanig) electrodes via silver oxides splitting.

If we use constant current (or Hulda Clark's style zapper signal ) all the time while making colloidal silver, one side effect is silver oxides, visible as black particles floating in the solution, on its surface and richely sticking to electrodes. Therefore some people, making CS, periodically remove the oxides, rubbing electrodes with paper handkerchief from time to time. But when we decide to use a maker featured with the ability to automatically change electrodes polarization every several or several tens of seconds, there's no need to clean/rub the electrodes. The electrodes keep self-cleaning “by themselves”. I don't want to go into explaining the chemistry of this process in detail here, believe me, this process of electrodes self-cleaning goes on. No need to clean electrodes. That's why this is my routine procedure to employ electrode polarization.

*Another important factor for the CS quality is the necessity of using a good current limiter*

The first CS maker, devised by Robert Beck, used a small bulb as a limiter and optical alarm. However, such a bulb needs a current of several tens mA to light and by then a lot of big, unwanted silver particles have been in the solution. With time, Beck's project got developed. Now we know we should use a better current limiter, which prevents electrodes from donating big silver particles to the solution.

If we want to apply automatic changing of electrodes polarization, we must use a bit more complicated limiter. Its schematic you can see below.



When R1=R2=1kOm is used, max. current is limited to roughly max. 1,3 mA  
When R1=R2=390Om is used, max. current is limited to roughly max. 3,6 mA

## Proposed, simple "two way" current limiter to be used in home CS makers

Pic 2: A simple two-way CS current limiter.

Pic 2 shows my CS current limiter. The LED diode displays the process current direction and intensity. Spooky2 may be used to make very good quality colloidal silver CS, contributing desired

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frequencies to our „magic potion”.

When I make a CS maker for a family member, I usually use a 5-12 V wall adapter connected to the input of a DC/DC converter, adjusting the converter output voltage up to the voltage in the range of 27 – 30 V. Then a simple circuit keeps changing the polarisation of this voltage every dozen or so seconds. The periodically changed voltage from the circuit „feeds” silver rods with the use of current limiter (Pic 2).

But how to use Spooky2XM generator to make CS with the use of desired frequencies? After a short research I decided to use just Out1 output, connected to the input of the current limiter (Pic 2). Silver rods are hooked up to the output of the current limiter.

A simple example:

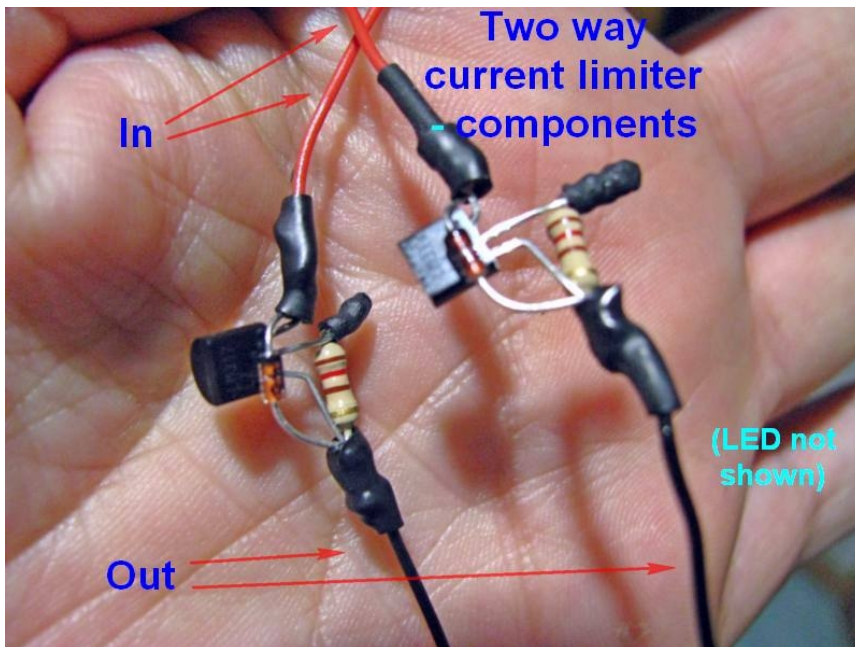
I want to use two frequencies, e. g. 1000 Hz and 10000 Hz. I also want the electrodes to change polarisation every 15 seconds. Let's create a custom set using John's software and David's manual. Let's name the set CS1, and it can look like this: `1000=15 D95 W2 A20 O100,1000=15 D95 W2 A20 o100,10000=15 D95 W2 A20 O100,10000=15 D95 W2 A20 o100`

What I get is a square wave positive (+100 offset) signal 1000 Hz for 15 seconds, then the same but negative (-100 offset) signal. Then again the same, but the frequency of the signal is 10000 Hz. The whole set resulting from these data lasts for one minute and it repeats a desirable number of times or in a loop, according to our wish. The changes of the offset every 15 s. translates into changes of electrode polarisation, of course.

I measured the Spooky2 Out1 voltage, it's about 5 V. I had expected nearly 10 V, so I connected an oscilloscope to see, what was going on. What I saw was a signal typical of D50 (not D95!) parameter, I mean 50% and not 95 % duty cycle, which worried me. It may account for just 5 V Spooky Out1 output voltage and not nearly 10 V.

Why didn't I use *Inverse+Sync* mode? Because Out2 output gives me alternate voltage disrespecting the value of O (offset) parameter : O100 or o100.

Anyway, the 5 V voltage also works, making CS. The process of making CS just lasts longer. Smaller voltages influence mainly the initial phase of the process. I like to counteract to



longer process, adding some ready CS from a previous batch to the new one (10 – 20 %), which shifts the intensity of the electrolysis process to a higher level, shortening time needed to get the desired strength of the solution.

Still, I'm not satisfied with just 5 V and I invite fellow researchers :- ) to contribute to improving this idea with some „digging” and improvements, which may be possible.

***Beside and below: „gallery” and some additional information.***

Pic 3: Current limiter components- how to put together.

The components (Pic 3) are assembled following Pic 2 schematic.

“In”: can be connected to Out 1 of Spooky2XM. “Out”: connected to silver rods. It makes sense to use a 2 pin bi-color LED diode in series with electrodes. The LED indicates polarization, changing its colour. The intensity of light reflects, to some extent, the current amperage. At the beginning, if

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you use well distilled water, the LED is practically not lit, as the current is too small. As time passes, the LED is brighter and brighter. After getting some practise, you can, roughly, tell the current just looking at the LED.



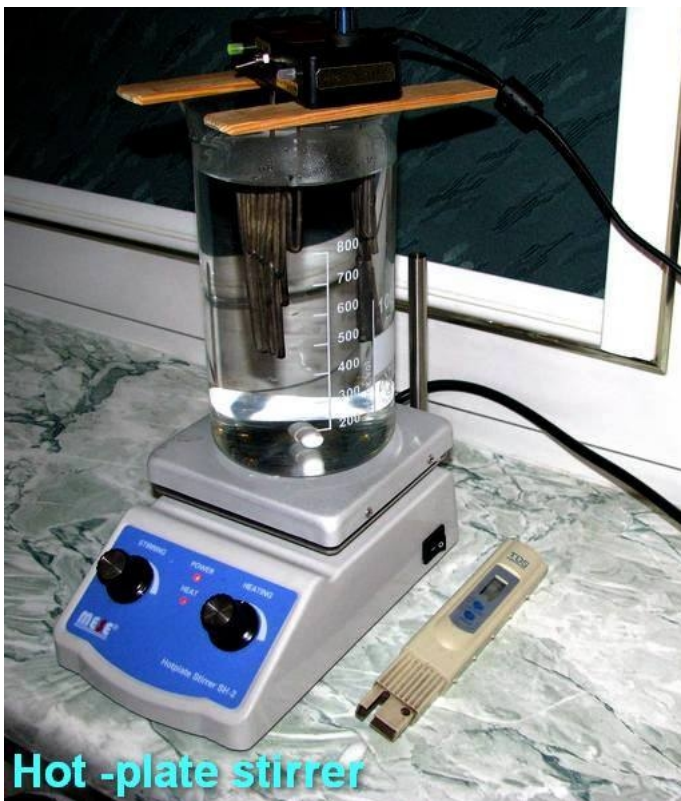
Pic 4: Silver electrodes, an exaple.

Big surface electrodes shorten electrolysis process and improve product (CS) quality via smaller current density.

I haven't experimented much with process amperages bigger than 3,6 mA. Still, 3,6 mA current is suitable.

Such electrodes work especially well with very good stirring.

What I mean saying very *good stirring* is a triple stirring already mentioned above (look at *How to stir*, p.1).



Hot -plate stirrer

Pic 5: Hot plate stirrer.

I always store my CS in a dark place, in a glass container. CS shouldn't be stored in a refrigerator.

Hot plate stirrer makes it possible to stir the batch mechanically (spinning magnetic field forces a piece of magnet encapsulated with plastic, put on the bottom of the one litre glass container, to rotate).

The plate is heated, which constitutes gravitational stirring. Both mechanical and gravitational stirring can be precisely controlled (notice the two dials in the picture). The third kind of stirring is polarization reversing every 15 seconds or so.

Employing such a kind of CS making works beautifully for me. The product is clear and does not deteriorate for many months.

I finish the process, when my TDS shows 18 – 20 ppm. Mind, that after the batch gets cool, its strength goes down to 8 – 11 ppm and it's normal.

The picture below shows an example CS maker (this one features an additional function of a Beck

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style blood cleaner.



Pic 6: A fast, big rods CS maker, I usually assume electrolysis process current = 3,6 mA (rods shown here can be seen also in Pic 5)

Using long silver rods shortens time needed to make good quality colloidal silver.

To conclude, CS produced in the way I described above, can be a real friend in need. Do not be afraid of it, befriend it, remember to drink it *en masse* whenever you need, and you will experience its power.