

## Bare Minimum Colloidal Silver Generator

### Ugly But It Works

by Ken Welch in Houston

I put this colloidal silver generator together in 1998 to be part of my Y2K emergency supplies. I wanted something that would cost almost nothing to make (except for the silver), and take virtually no room in a backpack or bug-out bag. Most generators use silver wire. I chose these flat 1-ounce silver bars because they were instantly available at a local coin store, and they contain enough silver to make C.S. for several lifetimes.

Why make your own colloidal silver? First, it's a lot cheaper than buying your C.S. from someone else. Second, you can make up a batch any time you want, with no waiting. Is the C.S. you make as good as what you can buy in stores? Yes, except for a supercharged product made by American Biotech Labs (SilverSol). Their C.S. is clearly more powerful, but it is overpriced and in a crisis you may not be able to obtain the product. And the potency may simply be a matter of degree. In other words, you can probably get most of that product's power simply by taking a larger amount of your home-brewed solution.



In this photo I am about to make a batch of C.S., and you can see everything I will be using. Obviously, the C.S. generator is incredibly simple.

This is a good design to study because it includes the essentials and nothing else. You will have a full understanding of what is necessary and then, if you are inventive, you can easily design your own much fancier system if you wish. Or just bite the bullet and purchase one, of course.

A colloidal silver generator operates on the same principle used in electroplating, which is the process of placing a very thin coating of one metal onto another. Two pieces of metal are placed in a solution and an electrical current is passed between them. As electrons leave the donor metal they take with them tiny particles of that metal, and carry them through the solution to be deposited on the object being plated. Many of these particles don't make it across the gap, and remain in the liquid instead. They are so small they remain suspended in the liquid, rather than settling to the bottom of the container. If silver is the donor metal, you have made a colloidal silver solution which can be used for many health-related purposes.

This is an electrical device, so there is one minimum skill that you must master, or otherwise obtain. That is the ability to connect electrical conductors, like two wires, so that electrical current can flow from one to the other. This just means you must have metal-to-metal contact, and some means of maintaining that contact. Being slightly older than the average bear I used solder, a soft metal alloy that melts and joins two metals together when all are heated with a soldering iron or torch. Been doing it since I was ten years old. There are some fairly simple alternatives, though I'm sorry to say that glue is not one of them. I'll go over some of these other methods in the discussion below.

On this page I will give you all the information you need to assemble the generator. On the next page, you will see this amazing device in action.

For the system pictured above:

#### Parts:

- three or four snaps-and-wires connectors for nine-volt batteries.
- two flat silver ingots clearly marked ".999 fine."
- two pieces of insulated electrical wire, each about a foot long.
- (wire should be stiff enough to be bent into a shape and stay that way)

**Consumables:** Distilled water, and three nine-volt batteries.

**Other:** A glass container with a wide mouth, and a stick—in this case a cheap ball-point pen.

**Notes:** You can easily get by with just two batteries and two connectors. I simply wanted a little extra voltage. Technically, you can get by with a single piece of silver—as if you were plating silver onto any piece of conductive metal. If you get the direction of the current flow wrong, however, you end up making colloidal "something else" which you certainly would not want to drink. Two pieces of silver keep the design fool-proof. With a hacksaw you could cut one of these silver bars lengthwise and end up with two narrow strips that would work just fine. Might only last for 40 or 50 years, though.

#### CONNECTIONS



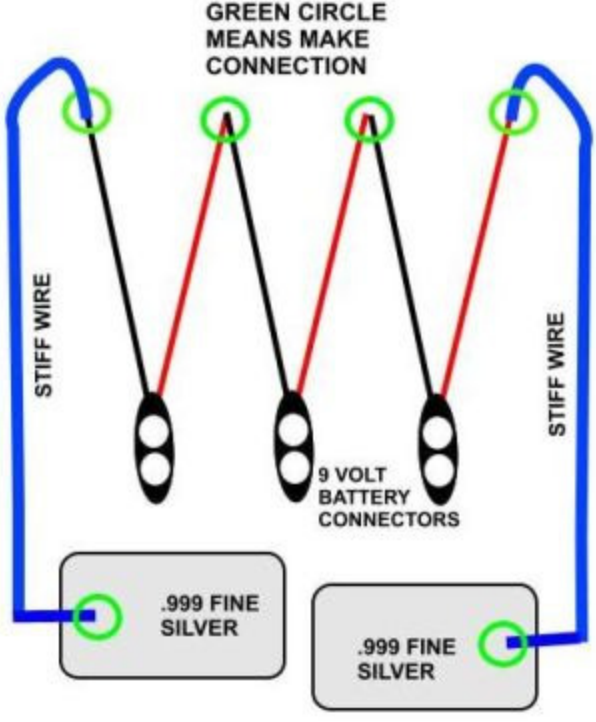
Here are the three 9-volt connectors. A little plastic hat holds the two snaps that mate with each battery. From the end comes a red and a black wire about four inches long.

I got mine from Radio Shack, a store that supports electronics hobbyists. These connectors are dirt cheap, but of course Radio Shack doesn't think so. Mine came in a package of four, and there is a use for the fourth one that I'll mention later.

I scrounged the stiff wire mentioned above from a box of electronic junk I had in the garage. See if you can do the same. Otherwise, both electronics stores and automotive parts stores carry wire.

Here is an assembly diagram that shows the connections that must be made. In my case, I twisted the ends of wires together and soldered them. I also covered the connections with heat-shrink tubing (Radio Shack again). You could use electrical tape or virtually any form of plastic tape, but they should be protected in this way.

A good option for joining the very thin wire from the battery connector to the larger stiff wire is the screw on caps found at many hardware stores for this purpose. Just twist the wires together tightly, insert them into the opening in the cap, and screw the cap down tight. This will probably take the smallest cap that is offered.



In an emergency, just twist the bare wires together and keep them physically separated from other wires while you make one batch.

Remember, the third battery (and connector) is optional. You can get by just fine with two.

You must strip about half an inch of the plastic insulation from the ends of the "stiff wire" to work with the bare metal strands for joining to the battery wires and to the silver. If this is an unfamiliar concept, then I strongly suggest that you ask among your friends and see if someone you know is more comfortable with this type of project. Remember, you can promise them all the colloidal silver solution they might want!

#### THE SILVER



Naturally, you want your silver to be as pure as possible. You must not use "sterling" silver, because that alloy includes other metals to make it softer and more workable for jewelry making. I don't know of any source for absolutely pure silver, which would be extremely expensive anyway. Instead, silver which is assayed to be 99.9% pure is what everyone uses, and it works just fine.

You can buy .999 silver wire from various sources on the web. However, this is the same purity as used in the "precious metal" business, and I used two one-ounce silver bars as I mentioned above. Whatever your choice, you must have that high purity that is guaranteed when you see the phrase ".999 FINE" stamped

into the metal.

This shows soldered connections - done with a small torch:



I used "silver solder" to make my connections. This solder is less corrosive than other kinds. It is not, however, jewelers solder which actually contains enough real silver to meet the Sterling standard of 92.5% purity. But I don't recommend that you try soldering to the silver bars like I did. It is almost impossible to get them hot enough. I ended up placing them on a fire-proof brick, and used a [small hand torch](#) (similar to those used to make the Creme Brulee dessert) to get one corner hot enough for the solder. You would not enjoy this. It works (as you can see) but it's neither fun nor pretty.

Instead, for a permanent connection I suggest you simply pick up a pair of small machine screws at the hardware store, with matching nuts. Drill a hole in the silver bar, bend your wire around the screw and tighten it down, trapping the wire between the screw head and the silver.

Another alternative is available at Radio Shack. Replace the stiff wire with "jumper wires." These have alligator clips already attached to each end. The alligator clip can clamp onto the silver and make the electrical connection. You will probably want to cut off the clip on the other end and use the twist-together method for attaching it to the battery wire.

You could also use a spring steel binding clip, like those sold at office supply stores, to clamp the wire to the face of the silver bar near one edge (you'll need three hands). In an emergency you could even try rubber bands to squeeze the bare wire against one edge. Even tape might hold the connection together long enough to make a single batch as long as you keep the tape out of the water.

Essentially, all you need is something that will squeeze bare metal wire up against the silver, and keep on squeezing for 20-30 minutes, while also holding the weight of the suspended silver pieces. Remember, when working with wire and trying to get that good metal-to-metal connection, the metal must be clean and bright. Scrape the wire with a knife blade or other metal tool to get that shiny appearance.

#### ASSEMBLING FOR USE

Now don't laugh at how clumsy this looks. Remember it was designed for emergency use. The only requirement here is that the silver has to be suspended in some way so that half to three quarters of it is immersed in the water. In this case, we simply use a single turn of the stiff wire to hang each silver bar from a ball point pen. At this point the jar is empty.



You will probably spend a few minutes fiddling with the wire to get the two silver bars to hang straight, with the flat sides facing each other. It doesn't have to be perfect, but it should look like this:



After you have the silver bars positioned in the jar you snap the batteries to the connectors. This may disturb your arrangement and you will get to readjust it a bit. The wires are long enough that the batteries simply rest on the table top. There should be no pulling on the wires from their weight.

This business of hanging loosely from a stick is probably the first thing you will want to improve, unless you like being able to roll up the silver and the wiring harness and put it in a pocket or an envelope like I did. You might, for instance, tape or glue the two wire loops in place so you don't have to position them each time. You could pass the two wires through holes in something flat, like a short piece of a plastic ruler, and thus have them automatically positioned for you. In fact, you could then mount your batteries right on this flat surface and avoid long lengths of wire.