How To Recover Gold And Silver From Scrap

If you're reading this article, you're probably a gold bug, or maybe a gold digger. Either way, you probably don't know that in 100,000 cellphones there's about 2.4 kilos of gold to be collected (as in recuperated) by a competent gold digger.

Yes, I know – 100,000 cellphones is quite a lot of old hardware. Besides gold, you'll also find 25 kilos of silver and more than 900 kilos of copper (that's almost a metric ton).

Considering the fluctuation in market prices, all that stuff combined makes for a cool quarter million dollars, give or take. The problem is, where on Earth can you get 100,000 cellphones and how can you get the gold out of those darn circuits?

How to Recover Gold from Electronics

Recycling electronics can be a lucrative business provided it's done on an industrial scale. For regular folk, this kind of enterprise is quite difficult and time consuming, especially if not done nice and proper. Now, if you want to make your own personal scrap fortune, today's your lucky day, so keep reading, I'm giving pearls here folks!

Besides cellphones, gold and other precious metals can be found in almost all types of electronic circuits, ranging from computer main-boards to processors and what not.

The idea is that instead of throwing your old gear in the garbage, considering that there's a small amount of gold in all types of circuits, how about putting that gold in your

pocket instead of making some scrap metal company rich?

Phones, laptops, cameras and the like are packed full of gold-plated circuit boards, due to the precious metal's excellent conductibility. Even scanners and printers have silver, gold, copper, and sometimes platinum inside their guts.

Besides being pretty expensive, as in precious, gold is a highly conductive and pliable metal which was used for thousands of years by humans as a highly valuable commodity, as it retains its value better than almost any other commodity.

Until Nixon nixed (pun intended) the Bretton Woods system in 1971, even the US dollar was backed by gold. Since then, the dollar lost a lot of its value, i.e. $1 in 1971 had the same purchasing power as $7 today (official figures), but take a load of this: back then an ounce of gold was $35, now it's like what, $1200 (it was almost $1900 at some point)?

So, you do the math and ask yourself if scrapping gold from old electronic gear is worth your time and effort. I am digressing – of course it is!

Let's recap: due to its excellent properties, gold is the material of choice for manufacturing various electronic parts in computers, cellphones and what not.

Removing the gold from scrap parts requires access to various equipment and it's a pretty complicated process. However, if you're well-armed with the right tools and knowledge, you can extract, refine, and maybe sell scrap gold, provided you have enough raw materials to extract it from.

As a general rule of thumb, considering that you'll have to deal with highly corrosive acids, you should perform all these operations outside and always use protective gear, such as gloves, goggles and even a respirator.

Here’s a short list for starting a gold recovery enterprise:

- rubber gloves
- goggles
- a rubber apron
- hydrogen peroxide 3% from your local pharmacy
- muriatic acid 31% (it’s available at hardware stores)
- methyl hydrate (this is basically 99% methyl alcohol) available at automotive supply stores or hardware stores (it’s used for fuel line antifreeze)
- a couple of large glass-made containers (a coffee pot would do the trick.
- a funnel filter (a drip-coffee filter)
- a stir stick made of plastic or glass
- a blow torch powerful enough to hard solder
- an accurate weigh scale (at least to one tenth of a gram)
- borax
- clay bowls or anything that has a melting point above gold
- a measuring cup
- and of course, a lot of scrap electronics.

The general rule is that you should collect any type of electronic scraps which are prone to contain gold inside, including computer processors, jewellery, gold tooth crowns, and old telephone wiring with an emphasis on outdated electronics, which may contain parts with a higher level of gold than modern ones.

Video first seen on indeedItdoes.

In the first step, you must sort the gold into gold-plated

parts: circuits which require cleaning, gold fingers, gold plated pins and so forth and so on.

Before working with chemicals, don’t forget to put on your safety gear.

In the second step, you must put the clean circuit boards and the gold fingers inside the coffee pot. Using a different container, mix one part hydrogen peroxide with 2 parts muriatic acid and add the mixture to the coffee pot until it just covers the gold-containing stuff inside (gold fingers for example).

You’ll have to wait for about a week for the process to complete and don’t forget to stir your concoction on a daily basis.

After 7 days have passed, it’s now time to collect your gold. You’ll see that the acid has darkened and there are flakes of gold floating around inside the coffee pot. If you pour the acid through the coffee filter, the gold flakes will be captured by the filter.

Save the acid though, don’t dump it. The remaining circuit boards/gold fingers must be checked out, the clean parts thrown away, and the uncleaned parts saved for re-dipping.

Now, pour some water through the filter and then flush using methyl hydrate to clean it.

In the next step, you’ll have to add borax to your “mined” gold. Borax works by reducing the melting point of gold from its regular 1063 Celsius. By adding some borax to your cleaned gold flakes, you’ll be able to melt your gold out of the heavy mineral concentrate to salvage it.

Next you’ll have to heat the clay bowl (don’t worry if it splits or cracks) and add borax. When the borax melts, put the gold flakes in too and add more borax, then heat it

continuously until you end up with a nice bead of gold. Let it cool and weigh it. There you have it, your own gold from scrap electronics.

That’s one method, the simplest actually.

Here’s an interesting tutorial about the top 10 most valuable computer processors, as in the ones with the most gold inside for recovery by weight counted down.

Video first seen on [eWaste Ben](#).

Here’s a detailed hard drive tear-down video tutorial, teaching you how to look for precious metals (gold, silver, palladium and aluminum) inside your old hard drives.

Video first seen on [Rob The Plumber](#).

Good luck and scrap hard!

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*This article has been written by **Chris Black** for Survivopedia.*