

## Low EMF telephone review

This article reviews three commercially available low EMF telephones, and one do-it-yourself project

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People who have electrical hypersensitivity (EHS) often have trouble tolerating telephones. The problem is usually the magnetic coil in the handset, but can also be electronics inside the phone, sound quality, etc.

A solution is to use “tube phones”, where the sound travels inside an air tube, just as in a stethoscope. Several individuals have come up with this idea. At least one of them was inspired by a doctor’s stethoscope.

The four phones reviewed here are all tube phones. They all have the speaker away from the phone user, with the sound travelling to the ear using an air tube. Two models also use an air tube to transfer speech from the mouth to the microphone.

The phones all require a telephone wire from either a telephone landline or a fixed wireless device. It is not possible to build a low-EMF handheld cell phone or cordless phone, as they need to radiate in order to work.

In areas without telephone landlines, a fixed wireless device may be usable if the antenna is placed far away from the user. There are prototype versions of true zero-EMF fixed wireless devices (see end of article).

### **Tip using a tube phone**

Some tube phones have two tubes, so the user speaks into a tube, which transfers the sound to a microphone. With this setup it is necessary to speak directly into the tube, i.e. the handset should be held so the lower part is directly in front of the mouth and not resting on the chest, which works okay with a regular handset.

## **The less EMF phone**



This is the lowest cost phone that is commercially available. It is the only model available from a vendor in North America.

The phone itself is an ordinary phone, with no shielding of any kind. It has simple electronics inside, so it doesn't radiate much. The phone is powered by disposable batteries, so there is no transformer or power supply.

The phone has an outlet for a special headset. The headset has a sound tube that goes to one ear, so there is no speaker coil held against the head.

The speaker and the microphone are housed in a little plastic case, which rests against the chest of the user. Some people hold it a few inches away from the chest to limit the radiation from the speaker (see picture).

The cable can be extended, so you can sit well away from the phone. One person uses a 12-ft (4 meter) extension cable.

The headset can be used with any phone that has a jack outlet. There are various sizes of jacks, so a converter may be needed. These are available from electronics stores.



The phone is available in the United States from Less EMF ([www.lessemf.com](http://www.lessemf.com), 1-518-608-6479) for about \$90. The headset alone costs about \$20.

This is a simple, low-cost option. Some people do well with it, while others are too sensitive to tolerate it. The problem is probably the little speaker hanging from the headset, and perhaps also the sound quality, which some people complain about.

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### **The clamp-on tube phone**





This device clamps on to a regular telephone handset. Two sound tubes transfer the sound to and from the regular handset to a second handset that has no wires in it at all. The tubes are made of plastic, while the handset is either wood or plastic.

This system is handy for travelling, as it can quickly be installed on motel phones, pay phones, etc. The “cups” attaching to the handset are adjustable, so they should fit any regular phone. It will not fit most cellular phones.

This phone works well. The sound quality is good, though it is dampened some by the tubes, so it can be hard to hear soft spoken people. It doesn't fit well on some phones with a small microphone. The assembly takes up more room than the phone itself. It could be kept under a table or on a table. The assembly doesn't fit into the phone cradle, so something else has to be used to “hang up”, such as a piece of rock, a metal pipe or a small brick.



*Coupler mated with handset*

These phones are produced as a cottage-industry by various individuals in Sweden. The cost is about \$200, plus bank fees and import duties (if any).

The sources tend to change over time, but try these Swedish websites:

[www.hogfeldt.com](http://www.hogfeldt.com)

[www.rtk.se](http://www.rtk.se)

## The “Cadillac” phone



This is the best and most expensive model available. The main part of the phone is a regular mass-produced phone, which has been modified with shielding and a grounding cord. The regular handset has been replaced with a two-way tube-phone, which fits nicely in the cradle.

This setup looks very much like a normal phone. The only visual difference is that the cord to the headset is thicker and the little gray brick attached to the cord. The phone works and feels like any ordinary phone. This is a very nice model.

The phone comes with a grounding cord. It enhances the effectiveness of the shielding inside the phone, if the grounding cord is connected to a good ground, such as a grounding rod. It can also be connected to the house ground, through a grounded electrical outlet. The house ground should be used with caution, as it can worsen things if it carries dirty electricity (which is very common).

Many people simply do not connect the grounding cord to anything at all.

A new version has recently become available. Called the KM2, it appears to use the same technology with just a different main phone. We have not tested the KM2, but expect it to be as good as the phone pictured.

These are also produced in Sweden, and cost about \$400, plus bank fee and any import duties. It is available from online vendors in Sweden, such as:

[www.hogfeldt.com](http://www.hogfeldt.com)

### The homebrew model



For those who are a little handy, there are plans available on the web for building a low-EMF phone yourself (see the end of this article).

The result works well, but it is a Rube Goldberg-looking thing, that is not very sturdy. The owner will need to be able to repair it now and then, as the little wires tend to break after a year or so of use. This design is not sturdy enough to be moved around much. Another complaint is that a plastic tube has to be stuck in the ear, which can be irritating for a while (until hard skin builds up?).



*Using the homebrew model, with tube stuck into the ear.  
Picture courtesy of Thilde Jensen, from her picture book The Canaries.*

The design relies on a donor phone, which is cut up and converted. Not every phone will work; older models work best.

The author is aware of at least four people who have used this phone successfully, but it is not for everyone.

### **Other phones**

We are aware of another manufactured phone sold by RTK in Sweden. It is not a tube phone but relies on a piezoelectric speaker in the handset. Piezoelectric speakers do not generate magnetic fields, but tend to produce sound of lesser quality. We have not evaluated this product. It is available from: [www.rtk.se](http://www.rtk.se)

To search for any other vendors or phones on Swedish websites, try the following Swedish words: “luftslangs telefon” and “slanglur.”

### **For more information**

More articles about low EMF telephone issues, including plans for the homebrew model, are available at: [www.eiwellspring.org/telephone.html](http://www.eiwellspring.org/telephone.html)

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