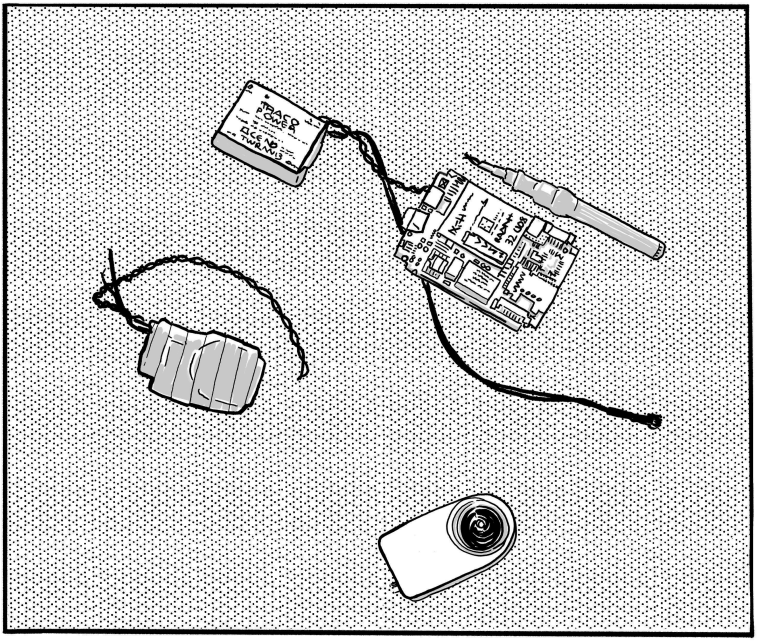
About
Ears and Eyes



Ears and Eyes

Original text in English

No Trace Project

notrace.how/earsandeyes

Cases are not included in this zine. They can be found on the website, as well as in the full zine, which is also available on the website.

Contents

About Ears and Eyes

The *Ears and Eyes* project is a searchable database of cases of physical surveillance devices (microphones, cameras, location trackers…) hidden by law enforcement and intelligence agencies to surveil people or groups engaged in subversive activities. Our goal is to help the potential targets of such surveillance practices to better understand and resist them.

Overview

This section provides a brief overview of the surveillance devices included in the database. It is intended to answer common questions you can have about such devices.

When are they installed?

Microphones found inside a power outlet in a building in Bologna, Italy, in January 2018.[1]

[1] https://notrace.how/earsandeyes/#bologna-2018-01

Hidden physical surveillance devices are typically used by law enforcement and intelligence agencies to obtain information about a target when traditional surveillance methods are insufficient. For example, if a suspect never talks about sensitive topics on the phone—making the monitoring of their phone useless—law enforcement may resort to installing a hidden microphone in the suspect's home, in the hope of capturing interesting conversations. In many countries, the installation of such devices is regulated by law and must be approved by a judge.

Devices are often installed for long-term surveillance, and may remain in place for weeks, months, or years before being removed or, in some cases, discovered by the people under surveillance. They can also be installed for short-term surveillance of specific events.

Where are they hidden?

Microphones and a GPS tracker found in the fuse box of a car in Lecce, Italy, in December 2017.[2]

In buildings

Microphones and cameras can be installed in buildings to surveil what goes on inside. Such devices have been found:

- Inside objects: electrical outlets, ceiling lights, air vents, power strips, intercom systems and electric meters.
- Inside furniture: an amplifier, a television, a printer and a kitchen hood.

[2]https://notrace.how/earsandeyes/#lecce-2017-12

- Behind walls, ceilings, and floors.

Microphones and cameras can also be installed in buildings close to the actual place under surveillance. Typically, they are installed behind windows so that they can monitor the place under surveillance, its main entrance, or the way leading to it.

In vehicles

Microphones and location trackers can be installed in all types of vehicles: cars, trucks, motorcycles, bicycles, etc. Such devices have been found:

- In parts of vehicles that are accessible from the outside: inside a wheel, in a spare wheel bracket, on a rear bumper, behind a horn grid, behind a battery ventilation grid, or inside a bicycle seat. They are sometimes held in place with magnets.
- Inside vehicles: between a car body and its interior coating, inside a car ceiling, in an interior air vent, inside a car seat head, behind a speedometer or inside a fuse box.

Other

Microphones and cameras can also be installed outdoors. Such devices have been found:

- In urban environments: in streets surrounding places under surveillance, including inside a fake electrical box[3] or inside a fake rock.[4]
- In rural environments, hidden in vegetation.

[3] https://notrace.how/earsandeyes/#torino-2014-02
[4] https://notrace.how/earsandeyes/#cuneo-2019-06

How do they work?

A device equipped with a SIM card found in a vehicle in Italy, in August 2019.[5]

Power supply

Devices require a power supply, which can be either a battery or the electrical system of the building or vehicle in which the device is installed, or both. In rare cases, they may be powered by Power over Ethernet (PoE).

To save battery power and make it harder to detect them, the devices may not be powered on all the time. Some microphones can turn on only when there is sound. Some cameras can use an infrared sensor to turn on only when there is motion. Some location trackers installed on vehicles can turn on only when the vehicle is turned on, or only when it is moving by using a motion sensor.

Data collection

Different devices can collect different kinds of data:

- Microphones can record sound.
- Cameras can record images. Some cameras have infrared vision, allowing them to "see in the dark".

[5] https://notrace.how/earsandeyes/#italy-2019-08

- Location trackers can record their geographical location. They usually use the Global Positioning System (GPS), allowing them to record their location almost anywhere on the surface of the Earth. In rare cases, deivces equipped with SIM cards can record their own location by connecting to the mobile phone network and using the cell towers they connect to as geographic references.

Data storage

There are two cases:

- Many devices have internal storage, such as an SD card. This allows them to store the collected data so the spies don't have to continuously retrieve it.
- Some devices have no internal storage. They cannot store the collected data, which must be continuously retrieved by the spies, or it will be lost.

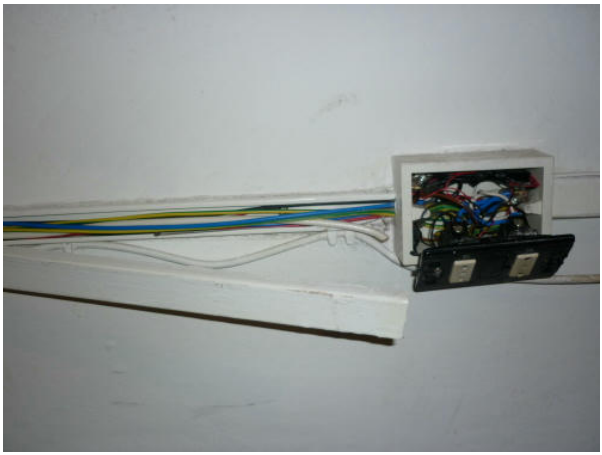
Data retrieval

Data collected by a device must be retrieved by the spies at some point. There are several techniques:

- Most devices are equipped with SIM cards, allowing them to send the collected data over the mobile phone network.
- In rare cases, devices are equipped with radio transmitters, allowing them to send the collected data over arbitrary radio frequencies. This technique requires another device, a receiver, to be nearby to receive the signal—the receiver can be hidden in a building or in a vehicle belonging to the spies.

If a device has internal storage, the spies can retrieve its data by physically accessing it.

How to find them?



A dismantled electrical outlet in which a microphone was found, in Lecco, Italy, in October 2010.[6]

Manual, visual search

The primary technique when searching for bugs in an area is a manual, visual search of the area:

- If you're searching a building, you can use appropriate tools to disassemble electrical outlets, multiple-socket adapters, ceiling lights, and any electrical appliances, looking for anything that shouldn't be there. You can also look inside furniture, basically anywhere a bug might fit.
- If you're searching a vehicle, you can look under the vehicle, inside the wheels, on the rear bumper, behind the vents, looking for anything that shouldn't be there. You can use appropriate tools to dismantle the interior, the ceiling, the dashboard, the seat heads, and so on. On motorcycles or bikes, you can look inside or under the seats. Unlike other vehicles, when searching a bike,[7] you can determine with a high degree of confidence whether or not a bug is present.
- If you're searching for cameras installed at the windows of buildings on a street, you may be able to see such cameras with binoculars.

[6] https://notrace.how/earsandeyes/#lecco-2010-10

[7] https://notrace.how/threat-library/mitigations/transportation-by-bike.html

- If you're searching for cameras installed in surveillance vehicles on a street, you can detect such vehicles with passive surveillance detection.[8]

Specialized detection equipment

A secondary technique when searching for bugs is to use specialized detection equipment. Such equipment can be purchased at specialty stores or on the Internet, and includes:

- Radio frequency detectors, to detect devices that are transmitting data on radio frequencies at the time of the search.
- Camera lens detectors to detect cameras.
- Professional equipment—spectrum analyzers, non-linear junction detectors, thermal imaging systems—which can be more effective, but is very expensive and complex to use.

Why to find them?

Searching for bugs in a comprehensive and effective manner requires an extreme degree of technical expertise. If you do not have that expertise, when searching for bugs in an area, you cannot be sure that you have found all the bugs present in the area. Therefore, the purpose of searching for bugs should be to prevent law enforcement and intelligence agencies from gathering information about you, not to consider an area free of covert surveillance devices. Incriminating conversations should always take place outdoors and without electronic devices.[9]

Methodology

To be included in the database, a case must meet the following conditions:

- A minimum amount of information must be available about the devices, such as where and when they were used, what they looked like,

[8] https://notrace.how/threat-library/mitigations/surveillance-detection.html

[9] https://notrace.how/threat-library/mitigations/outdoor-and-device-free-conversations.html

etc. The mere mention of a device in a news article or investigative file is not sufficient.

- The devices must have been installed or operated by a law enforcement or intelligence agency—or by a private company or militia acting as a law enforcement or intelligence agency.
- The devices must have been targeted at individuals or groups engaged in subversive activities. This specifically excludes devices that target government agencies or commercial companies.
- There must be a high likelihood that the case is real and not staged. We assess this likelihood based on our knowledge of how law enforcement and intelligence agencies operate and our experience with subversive networks.

For each case, the following information is provided where possible:

- The type of devices, the location and date they were discovered, and their components.
- Pictures of the devices.
- Additional relevant files, such as user manuals for the devices.
- Sources used to provide this information.

Contribute to Ears and Eyes

Contact

Do you know a case that is missing from our database? Would you like to edit one that is currently listed? To contribute to Ears and Eyes, whether through additions, improvements, criticism or feedback, get in touch with us:

notrace@autistici.org (PGP[10])

Translations

To translate Ears and Eyes to a new language or improve an existing translation, see this page.[11]

[10] https://notrace.how/notrace.asc

[11] https://notrace.how/translations.html

Ears and Eyes is a searchable database of cases of physical surveillance devices (microphones, cameras, location trackers…) hidden by law enforcement and intelligence agencies to surveil people or groups engaged in subversive activities.

No Trace Project / No trace, no case. A collection of tools to help anarchists and other rebels **understand** the capabilities of their enemies, **undermine** surveillance efforts, and ultimately **act** without getting caught.

Depending on your context, possession of certain documents may be criminalized or attract unwanted attention—be careful about what zines you print and where you store them.