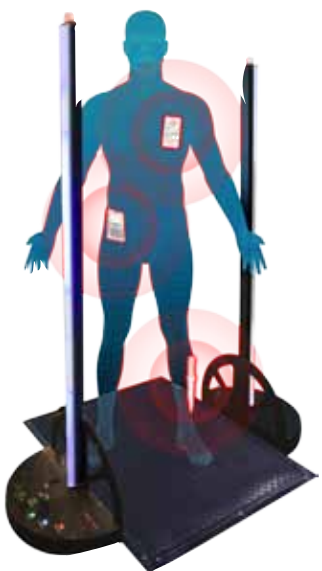
How Detectors Sniff Out Cell Phones Up to a Mile Away

The ubiquitous cell phone poses a huge problem for facilities such as schools, prisons and courthouses. Students utilize them to cheat on tests, and criminals use them to intimidate witnesses, run their illegal operations and orchestrate kidnappings and escape attempts.

Berkeley Varitronics Systems offers a complete line of devices for sniffing out contraband or unauthorized phones. They fall into two main types:

Material detection devices like the Manta Ray™ and SentryHound™ pick up the ferromagnetic materials built into the phones. They have a range up to several feet and are excellent for finding phones that are not transmitting, but are not practical for detecting them over a large area such as a classroom or prison yard.



SentryHound™ detects ferromagnetic material found in all cell phones

Radio frequency (RF) detection devices like the PocketHound™ and WolfHound-PRO™. They can pick up the radio waves cell phones emit up to 150 feet away indoors and 1 mile outdoors (line of sight).

Let's take a closer look at how these long distance phone sniffers work, starting with a little background on cell phones and cell towers.

PocketHound™ detects RF signature of any cell phone up to 75 feet away

What are the operational modes of cell phones?

Active: The device is on a call, transmitting data or receiving data from the cell tower. At least one of the antennas is on and sending/receiving signals.

Standby: The device is on, but not in use. The device briefly and periodically communicates with the tower. Depending on the cellular technology this interval can range from a few seconds up to 30 minutes.

Airplane: The device is on, but is not transmitting or receiving wireless signals.

How do cellular networks work?

Think of a cellular network as a very large Wi-Fi network, with the cell phones as connected devices and the cellular towers as overlapping hotspots. All cell phones can connect to the network when they are powered on and not in airplane mode, even when they do not have an active plan or phone number. When a cell phone is turned

on, its first action is to connect to the nearest tower. The carrier's network then determines whether the phone has service and can make calls or transmit data.

Can the WolfHound-PRO and PocketHound find phones in active or standby mode?

Yes. If a phone is within range of the PocketHound™ or Wolfhound-PRO™ when it communicates with the tower, they can pick it up. When a device is in active mode, it is constantly sending and receiving RF signals. Examples of active mode include being on a call, streaming video or music and downloading applications. Phones in standby mode are more difficult to zero in on due to the longer inactivity intervals, but the detectors will tell the operator at least one phone is in the area.

Wolfhound-PRO™ is the most sensitive cell phone detector available

Can the Wolfhound-PRO and PocketHound find Phones that are off or in airplane mode?

No. When a device is powered off or in airplane mode (also known as flight mode) all of the wireless antennas are inactive. If you want to find phones that are off or in airplane mode, the Manta Ray should be your choice. It detects phones at close range by picking up ferromagnetic material used in their construction.

Feature phones and smartphones, what's the difference?

Feature phones are the traditional cell phone. They usually lack data capabilities but may be able to take pictures and send email. They are small, inexpensive and easy to conceal. Feature phones still make up the bulk of contraband devices seized in prisons. They also allow students to cheat by texting.

Smartphones are a cross between a cell phone and a PDA. When equipped with a data plan, they have the ability to connect to the Internet and perform most of the functions of a computer. Smartphones are larger and more expensive, but as prices fall they are becoming more common and a bigger problem for educational and correctional facilities.

Are smartphones or feature phones more of a problem?

Both. It's important to remember both types allow criminals and cheaters to communicate with accomplices on the outside, and so both pose a threat to public safety and educational integrity.

Which are easier to find, smartphones or feature phones?

Smartphones can be easier to find when loaded with apps that sync automatically such as email, weather data and messaging. A smartphone with fewer apps communicates no more frequently than a feature phone using the same technology.

How do I find more information?

If you have more questions about how your facility can put a stop to criminals and cheaters communicating with the outside world, contact Berkeley Varitronics Systems today.

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