SentryHound-Pro™ features 4 super-sensitive ferrous sensors per pole, advanced false trigger rejection and rugged design for quick security deployments in under 30 seconds.

Manta Ray™ handheld ferrous wand detects cell phones (on or off) or electronic devices hidden in pockets, bags or even behind walls or inside packages.

Berkeley Varitronics Systems
Wireless Detection
732-548-3737
sales@bvsystems.com
www.bvsystems.com

In this digital age, cell phones and personal electronic devices have become the #1 security problem in government, military, law enforcement and correctional facilities. Security details require fast and accurate screening of all staff and visitors to ensure that NO PERSONAL ELECTRONIC DEVICES are allowed in secured zones.

Berkeley Varitronics Systems, Inc. (BVS) sells thousands of wireless TEST, SECURITY, SAFETY and CYBERSECURITY products around the world every year.

- BVS is a 50-year old, family business
- BVS headquarters located in Metuchen, NJ
- BVS products made in the USA

UNDERSTANDING FERROUS DETECTION for SECURITY SCREENINGS

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HISTORY

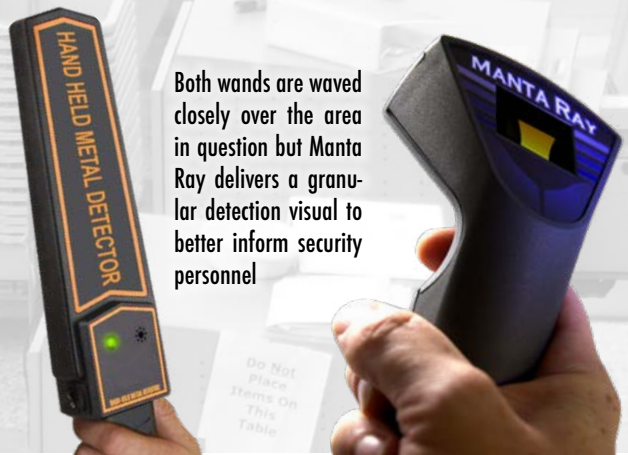
Both metal detection and ferromagnetic detection devices have each been around for over hundred years but neither was used for security screening until metal detectors first began appearing in airports in the early 1970s. Since then, little has changed in the technology behind either but the items they both seek to detect have changed a lot over the past few decades.

THE PROBLEM

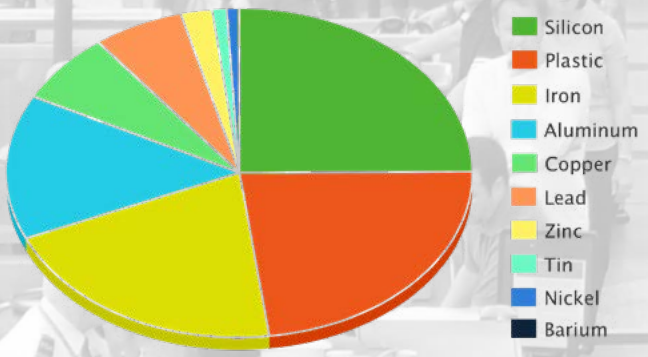
Initially installed to just detect weapons such as guns and knives, today's security portals are tasked with detecting items that are not only smaller and easier to conceal, but also ubiquitous. These days, everyone carries a cell phone and many also carry wearables such as watches, earbuds, smart glasses and even tablets on their person. This may not sound like a security issue but to secured facilities containing valuable intellectual property, personnel or nearby wireless networks, every smart phone becomes a potential weapon.

SOLUTIONS

Screening for metal or ferrous materials comes in two basic forms: handheld detecting wands and walk-through portals. Many checkpoints utilize both approaches allowing security personnel to screen all foot traffic and then pause to perform more granular inspections. Constant false triggers can bring foot traffic to a grinding halt so it's crucial to keep the flow of pedestrians uninterrupted.



Both wands are waved closely over the area in question but Manta Ray delivers a granular detection visual to better inform security personnel



SMARTPHONE MATERIALS BREAKDOWN

Modern smart phones are comprised of less metal than they used to be putting most metal detectors at a distinct disadvantage to ferrous detectors. This is because while there is only a small amount of ferrous material (speakers, microphone, vibration alerts) in most electronics, ferromagnetic detection is much more sensitive while at the same time, false triggering less than common metal detection. This is partly due to the science behind ferrous detection as well as ubiquity of non-ferrous metals used in so many of our common lifestyle items such as clothing, personal items, jewelry, medical implants, etc.

HOW IT ALL WORKS

Ferromagnetic detection works by detecting the small changes in the earth's magnetic field as something ferrous passes by its sensors. Metals containing ferrous materials include iron, steel and some alloy combinations also containing these metals. Metal detection works by transmitting an electromagnetic field to metallic objects which then become energized and transmit back their own detectable field. Metal detectors detect iron and steel as well as aluminum, copper, tin, lead, zinc, gold, silver, brass and many other common metals. Both types of detection can be adjusted for sensitivity which affects range. However, the range of detection is always limited to a few inches for wand detectors and a few feet for larger portal detectors. In order to ensure that all potential contraband gets detected, sensitivity can be increased but that also invites an increase in false triggering on mostly innocuous items such as coins, jewelry, medical implants, etc.. Security personnel must find the right balance between effective security screening and maintaining constant foot traffic.

COMMON METALS

Due to its design, all metals can be detected by a standard metal detector but only ferrous metals will trigger a ferrous detector. This make ferrous detection ideal for identifying trace amounts of ferrous metal found in personal electronic devices without being triggered by many other common metals.

COMMON FERROUS METALS	COMMON NON-FERROUS METALS
Iron	Aluminum
Steel	Copper
Chromium	Lead
Manganese	Zinc
Nickel	Tin
Silicon	Gold

Make sure your detection portal is taller than the average person and that the sensors at both top and bottom extend their detection range fully to detect contraband hidden in hats as well as shoes.

Some ferrous detection portals are sensitive enough to detect any devices between the sensor poles and even indicate approximate location in relation to the sensor layout saving search time for each trigger detection.

Single pole portals work great for narrow corridors but two pole configurations can double your detection range and create gated security checkpoints virtually anywhere.