Cell Phone Jammer

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WHAT IS A "JAMMER"?

- Cell phone jammers are devices that create a temporary "dead zone" to all cell phone traffic in their immediate proximity.
- It is an instrument used to prevent cellular phones from receiving and transmitting the mobile signals to a base station.

Other types of jammers include radar jammer and radio jammer.
WHY ARE JAMMERS USED?

- A cell phone jammer provides the ultimate solution in any area where cellular communications frequently cause nuisance either by loud incoming call ringer or resulting loud telephone conversations.
- Cell phone jamming devices were originally developed for law enforcement and the military to interrupt communications by criminals and terrorists. Examples include: security zones, public transport, classrooms, temples, TV & radio stations, jails, govt. buildings, military bases, industries etc.
SIZE OF A JAMMER

- Some cell phone jammers are made to look like actual phones. Others are briefcase-sized or larger. The biggest jammers used by police and the military can be mounted in vehicles for convoy security.
JAMMING BASICS

- A cell phone works by communicating with its service network through a cell tower or base station. Cell towers divide a city into small areas, or cells. As a cell phone user drives down the street, the signal is handed from tower to tower.
JAMMING BASICS...

- A jamming device transmitting on the same radio frequencies as the cell phone, disrupting the communication between the phone and the cell phone base station in the tower. It's called a denial of service attack.

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HOW JAMMERS WORK

- Jammers block cell phone use by sending out radio waves along the same frequencies that cellular phones use at a high enough power that the two signals collide and cancel each other out.
- This causes interference with the communication of cell phones and the towers to render the phones unusable. On most phones, the network would appear out of range.
- So Jammers work by either disrupting phone to tower frequencies or tower to phone frequencies.
INSIDE A JAMMER

Cell-phone jammers are very basic devices. They simply have an on/off switch and a light that indicates it's on.

Components of a jammer include:

Antenna: Every jamming device has an antenna to send the signal. Some are contained within an electrical cabinet. On stronger devices, antennas are external to provide longer range and may be tuned for individual frequencies.

Power supply: Smaller jamming devices are battery operated. Some look like cell phone and use cell-phone batteries. Stronger devices are plugged into a standard outlet or wired into a vehicle electrical system.
INSIDE A JAMMER...

Circuitry - The main electronic components of a jammer are:
- **Voltage-controlled oscillator** - Generates the radio signal that will interfere with the cell phone signal.
- **Tuning circuit** - Controls the frequency at which the jammer broadcasts its signal by sending a particular voltage to the oscillator.
- **Noise generator** - Produces random electronic output in a specified frequency range to jam the cell phone network signal (part of the tuning circuit).
- **RF amplification** (gain stage) - Boosts the power of the radio frequency output to high enough levels to jam a signal.

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RANGE OF A JAMMER

- The actual range of the jammer depends on its power and the local environment, which may include hills or walls of a building that block the jamming signal. The power depends on proximity to towers, indoor and outdoor settings, even temperature and humidity play a role.
- Most jammers only have a range of about 50 to 80 feet and will only effectively jam your immediate surroundings. Low-powered jammers block calls in a range of about 30 feet (9 m).
RANGE OF A JAMMER:

- Higher-powered units create a cell-free zone as large as a football field. Units used by law enforcement can shut down service up to 1 mile (1.6 km) from the device. They are available to cover large structures like office buildings, theaters and churches. They look like a miscellaneous box with wires sticking out & are usually mounted on walls or ceilings.
LEGAL ISSUES

- With the exception of Asian countries blocking cell-phone services by the general public is against the law in most countries like The United States, United Kingdom, Australia.

- Governments are trying to make the best possible use of jammers and planning to relax their restrictions on using them in standard places like churches, movie theaters and courthouses.
FUTURE ENHANCEMENTS

- While the law clearly prohibits using a device to actively disrupt a cell-phone signal, there are no rules against passive cell-phone blocking.
- Companies are working on devices that control a cell phone but do not "jam the signal."
- Cell-phone alerters are available that indicate the presence of a cell-phone signal. These have been used in hospitals where cell-phone signals could interfere with sensitive medical equipment. When a signal is detected, users are asked to turn off their phones.
CONCLUSION

- You certainly wouldn't want someone's jammer blocking a phone call to 911, you're trying to make. For example, a jammer hypothetically could be used by criminals who break into homes and want to prevent any calls for help. However, jammers can also be used for good.

- Maybe someday governments will relax their restrictions on jammers, and they will become standard in places like churches, movie theaters and courthouses. Until then, only government personnel and outlaw jammers will be able to enjoy some peace and quiet at the movie theater or the ride via public transportation to work.
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Thank You

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Arty Queries...