

International Committee on  
Global Navigation Satellite Systems

# Proliferation of GPS/GNSS Jammer Devices

# Disclaimer

*The views and opinions expressed herein do not necessarily reflect the official policy or position of any government agency*

# Jamming vs. Spoofing

- Jamming is intended to prevent a receiver from acquiring, tracking, or navigating with GNSS signals
- Spoofing is intended to fool a receiver so it provides false position, navigation, and/or time (PNT)
  - Thus allowing the Spoofer to control the victim's PNT
- Smart-Jamming is intended to cause receivers to acquire false signals, which either:
  - Prevents navigation (*with less power than for jamming*),
  - Or, causes false (*but uncontrolled*) PNT results



# What Are Jammers?

Generally includes devices commonly called signal blockers, GPS jammers, cell phone jammers, text blockers, etc

- Illegal radio frequency transmitters
- Designed to block, jam, or otherwise interfere with authorized radio communications

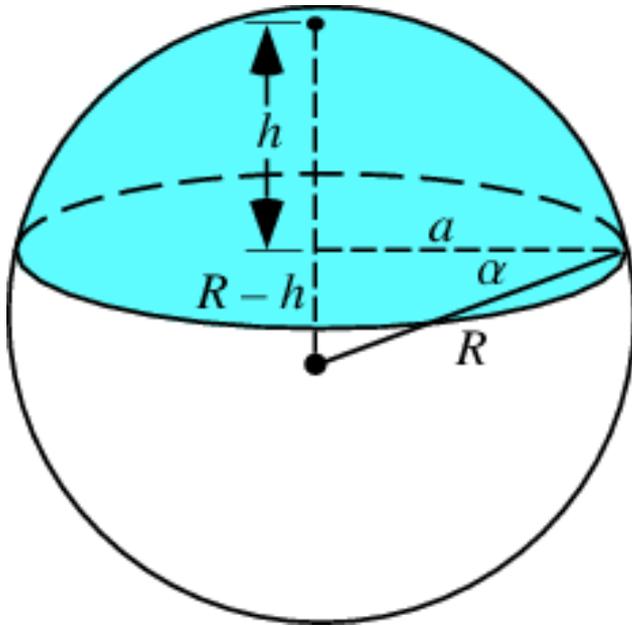


# How do jammers work?

- A jammer can *block all radio communications* on any device that operates on radio frequencies within its range.
- *Emits radio frequency waves* that prevent the targeted device from establishing or maintaining a connection.
- Generally *does not discriminate* between desirable and undesirable communications.
- Jammers can:
  - prevent your cell phone from making or receiving calls, text messages, and emails;
  - prevent your Wi-Fi enabled device from connecting to the Internet;
  - prevent your GPS unit from receiving correct positioning signals; and
  - prevent a first responder from locating you in an emergency.



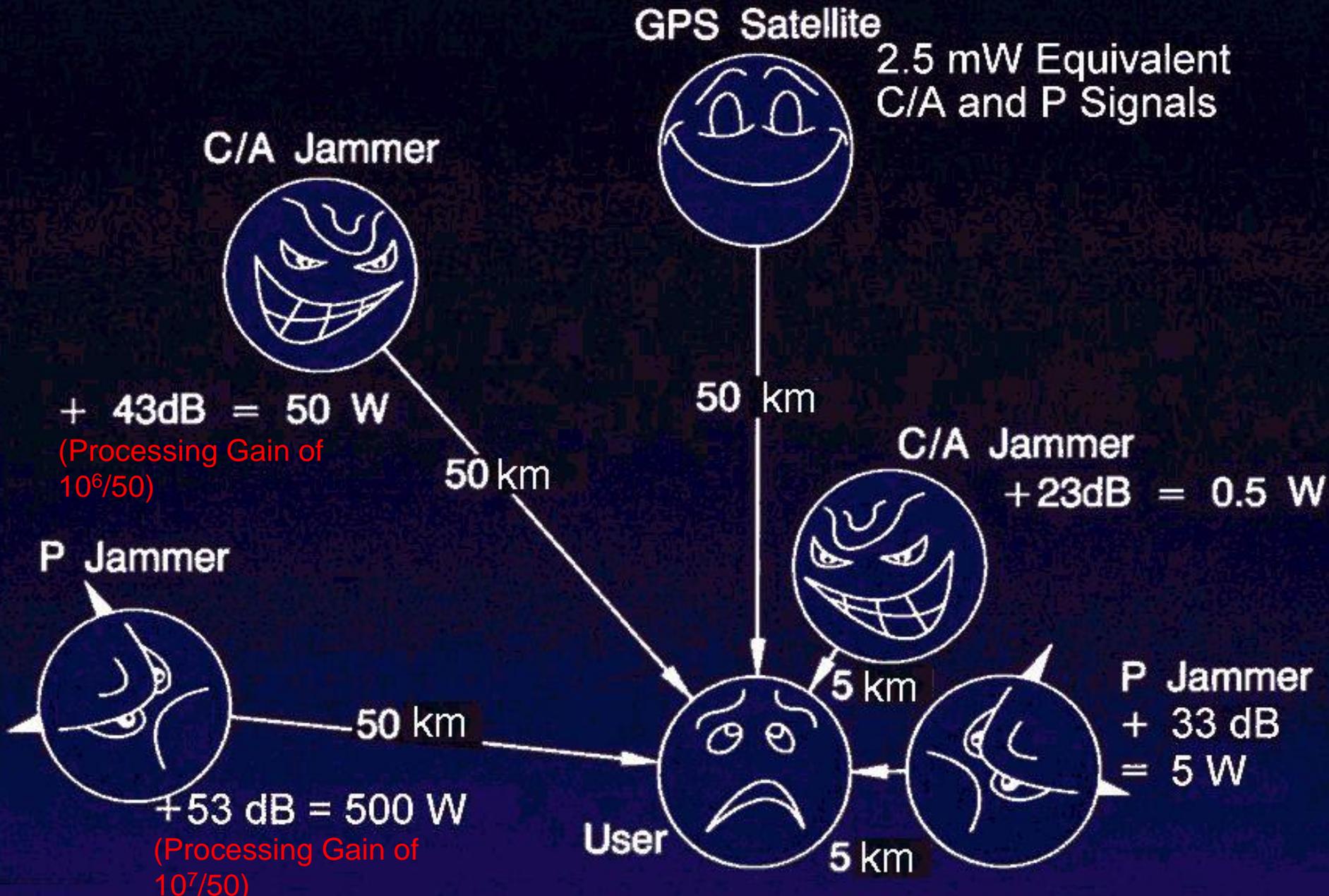
# Received GPS Signals are Weak



GPS defines the minimum C/A “open sky” signal power to be -158.5 dBW, 11 times weaker than calculated here

- Signals from each GPS satellite cover 38% of the earth or 194,244,017 sq km
- A 50 watt GPS transmitter thus provides  $\sim 2.6E-13$  Watts per square meter on the earth
- A hemispheric L1 antenna “capture area” is  $\sim 0.006$  m
- Received signal power thus is  $\sim 1.5E-15$  Watts (-148 dBW) or  $\sim 1.5E-12$  mW (-118 dBm)
- Very weak signals!!!

# The Near/Far Problem



# Jamming Sources

- Thrill seekers – interrupt GPS “for the fun of it”
- “Privacy” jammers, e.g., cigarette lighter devices
- Criminals
- Terrorists
- Government authorized services
  - Powerful adjacent channel signals causing overload
  - Higher order intermodulation products, e.g.,  $2f_1 - f_2$



# Jammers for Sale

Home Why Buy From Us Contact Us About Us F.A.Q. Articles Manuals Customer Testimonials Privacy Policy Shipping Returns

**Categories**

- Cell Phone Jammers
- Portable
  - Portable Accessories
- GPS Jammers
- Prison
- Vehicle
- Signal Detectors
- IED and VIP Protection
- Laser Radar
- WiFi
- High Powered
  - Indoor
  - Outdoor
- Government Contracts

**Home > GPS Jammers**

**GPS Jammers** Sort by: **Bestselling**

To prevent GPS monitoring on your person, cell phone, or vehicle, a GPS signal blocker will stop tracking signals. Maintain your privacy, keep your movements private, and avoid unauthorized surveillance by utilizing a jamming device.



**GPS Jammer**  
★★★★☆

For car, truck, bus, van, or even boat security, stop GPS tracking signals by simply plugging this into any cigarette lighter. It will protect you from being tracked.

Compare

~~\$499.00~~ **\$119.00** Quantity ▼

**Currency Converter**  
Choose a currency below to display product prices in the selected currency.

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EURO

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**Cell and GPS**  
★★★★★

One of our most popular combination units. It will silence all nearby mobile phones as always on local signal strength.

Compare



**GPS Mini**  
★★★★☆

One of the best GPS signal units available for sale, this pocket model will help you defeat GPS tracking. Block tracking signals on your person or vehicle in a 10 meter (30 foot) radius. Give those following your...

Compare

~~\$229.00~~ **\$139.00** Quantity ▼



**GPS Tracker Detector**  
★★★★☆

Locate Bugs with a GPS Tracking Detector Concerned about a covert GPS tracking device on your person or vehicle? Locate them with this GPS tracking detector. This high sensitivity GSM and GPS detector will not...

Compare

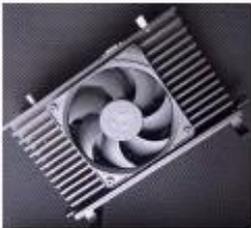


**Cell GPS Mini**  
★★★★★

This model is a fusion of our popular cell phone blocker mini and GPS jammer. It will create a silent zone and prevent unauthorized tracking signals on your person or vehicle in a 10 meter (30 foot) radius. Give those following your...

Compare

~~\$229.00~~ **\$159.00** Quantity ▼



**High Power Component**  
Not Rated

If you need a large area of coverage for military or law enforcement applications, this is for you. This high power unit will cover up to a 100 Meters, and is built into an attractive aluminum alloy case that is...

Compare

[COMPARE SELECTED](#) [ADD TO CART](#)

Thank You

Questions?