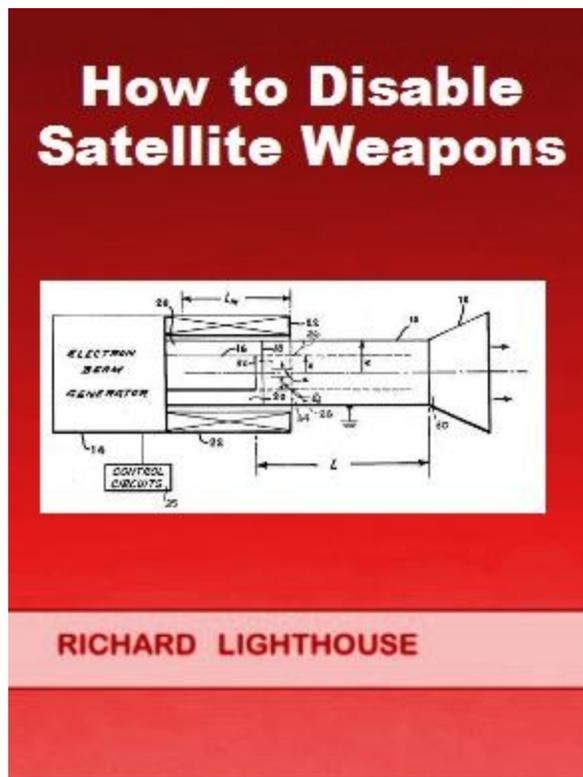


How to Disable Satellite Weapons



By Richard Lighthouse

How to Disable Satellite Weapons

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"The individual is handicapped by coming face-to-face with a conspiracy so monstrous he cannot believe it exists."

– *J. Edgar Hoover, former FBI Director*

"The CIA and FBI are behind most, if not all terrorism."

--- *Ted Gunderson, former FBI Chief*

How to Disable Satellite Weapons

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Abstract

Rev 1C - This short ebook describes the basic ideas for disabling a satellite from the ground. By inducing resonant vibration in the satellite, it makes it difficult or impossible to use the satellite weapon system. Almost every satellite in orbit is vulnerable to the microwave beams that are described in this document, and this can be done very inexpensively. Satellites all around the world are being used to attack civilians and invade their rights. The U.S. Air Force Space Command at Schriever Air Force Base, operates hundreds of satellites with weapons. According to one Air Force Sargent, they operate 7 satellite constellations with 9 different weapon systems. Each one of these satellite weapons depends on a stable, quiet, and still platform. Resonant vibration can be induced into the satellite using a inexpensive ground-based microwave cannon, or a Vircator-type system. Resonant frequencies for the satellite frame are typically around 10 Hz to 50 Hz, which can be induced by pulsing the ground-based microwave system. Or alternately, the fuel tank resonant frequency of 5,000 to 25,000 Hz can be induced by using two separate frequency sources from the ground, that are differentially tuned to the fuel tank resonant frequency. The solar panels are another option that can be exploited to disable the satellite, and cause it to consume all of its fuel. Most satellites have no defense against this type of countermeasure. Instar Engineering recommends testing the completed satellite in the frequency range of 20 Hz to 2000 Hz, for resonant frequencies. Outside of this range, most frequencies are likely to dampen out.

A simple ground system can consist of used car batteries, used microwave components, waveguides, precision pointing system, and the proper wiring. This \$3000 system can disable a \$500 million dollar satellite.

An alternate system that is more expensive, but more reliable as a countermeasure – is to target an area of the sky, such as a cluster of satellites, and use a directed energy weapon (DEW) that pulses and sweeps a certain signal range, such as 10 Hz to 50 Hz, pulsing the microwaves. This would reasonably guarantee that the satellite frames were vibrating. It would require a much larger ground system and expend more energy, but it would not require any precise pointing system.

It is the opinion of this author, that the Air Force's primary satellite weapons are stationed on the GPS satellites that operate in Mid-Earth Orbits (MEO); this includes the latest Iridium satellite constellation. These satellites have a 12 hour orbital period, and move slowly across the sky, making them easy targets. See the maps on www.In-The-Sky.org

RLighthouse.com

Introduction

The design of a modern satellite is basically a large fuel tank, with electronics, antennas, and solar panels attached to the outside of the tank. A satellite is very vulnerable to vibration. Once it is vibrating, it can take hours for the frequencies to dampen out, rendering the satellite useless for any precise pointing or targeting. The satellite really has no defense against this kind of countermeasure. A continuous targeting using microwave pulses can permanently

disable a satellite within weeks or months, because it will expend all of its fuel trying to correct its orientation and position.



Figure 1. WGS satellites with large solar panel arrays.

How to Disable the Satellite Weapon:

Step 1. Try to determine the resonant frequency of the base frame or the fuel tank. There are a number of mathematical methods that can be used. The satellite base frame is typically 10 Hz to 100 Hz. And the fuel tank is typically between 5,000 to 25,000 Hz. By targeting the resonant frequency of one of these components, the entire satellite will vibrate. It is also possible to sweep this frequency range, which ensures that the correct frequency is targeted.

The other alternative is to target the solar panels. If they are rigidly attached to the satellite, then the panels can be gently "pushed" causing a small rotation on the vehicle. This forces the satellite to consume a large amount of fuel, correcting its position, which can shorten its useful life. Satellites like the WGS - Wideband Global SatCom are particularly vulnerable because the solar panels are very long, creating a large moment arm when "pushing" on it.

These satellites really have no effective defense. They are sitting ducks.

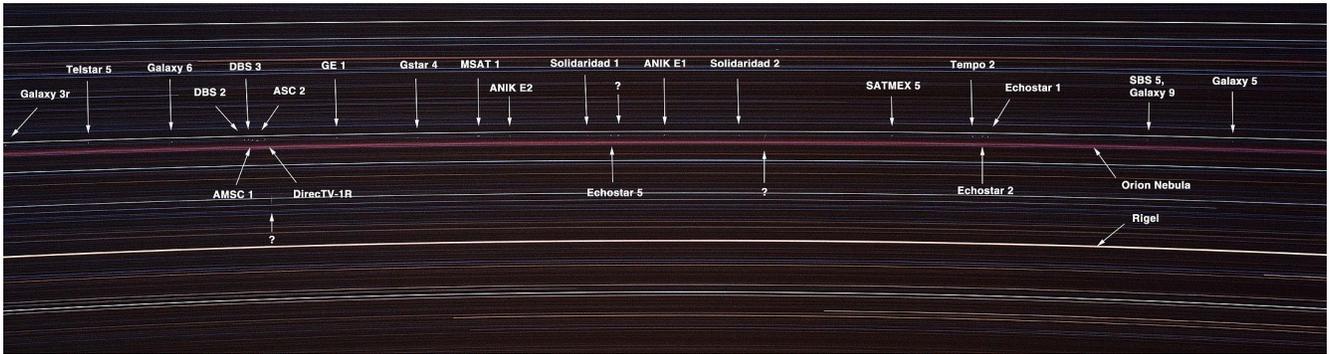


Figure 2. Some HEO satellites in the night sky. This image was made using an extended exposure time, which makes the background stars move with the earth's rotation.

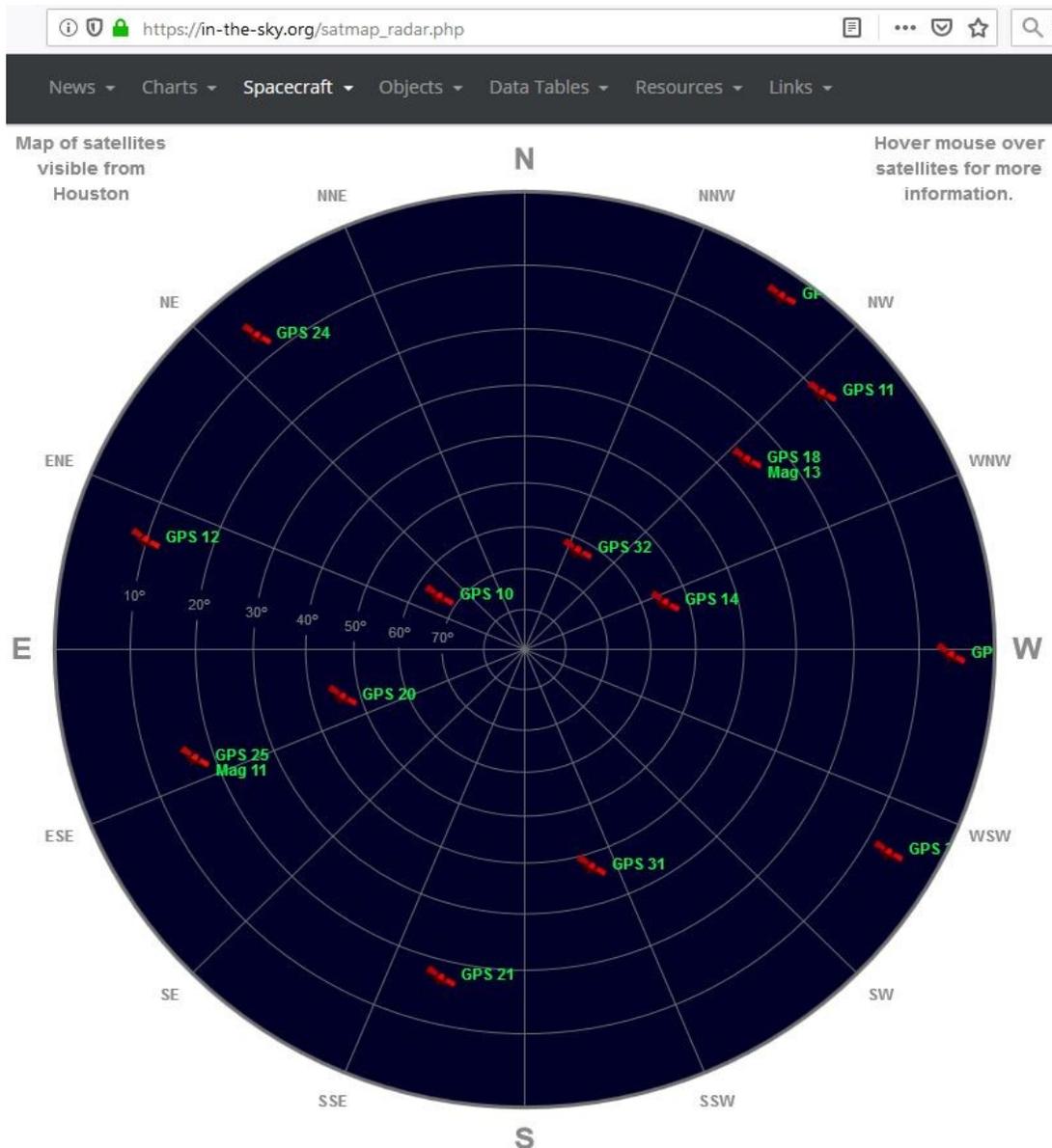


Figure 3. One example of satellite tracking from www.In-The-Sky.org
The chart can be set for any previous time period and most locations in the world.

2) Microwave Cannon - It is possible to design one large unit, or many small systems that feed into a single microwave cannon. Or you can also build a Vircator at a specific size. See the Titan Corporation technical paper and Patent number 4345220. "DEW capabilities of the Titan Corporation" by David Price, et al.

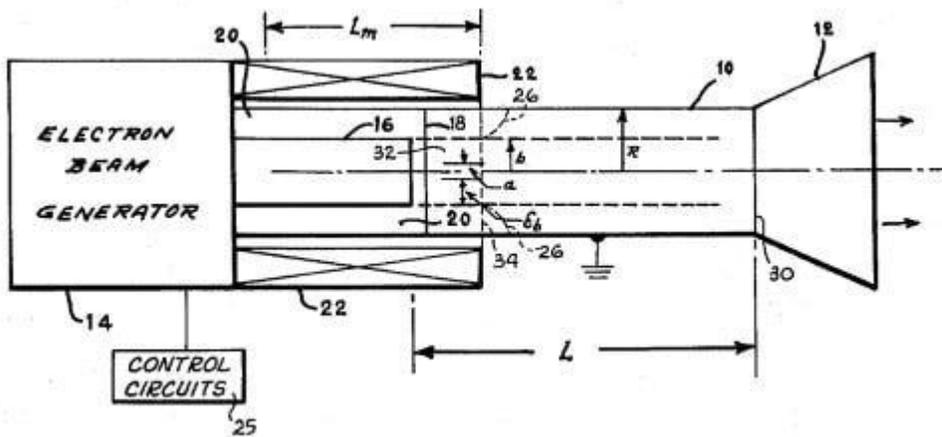


Figure 4. From Patent 4345220 for a Vircator microwave weapon.



Figure 5. Vircator built sub-scale for testing.

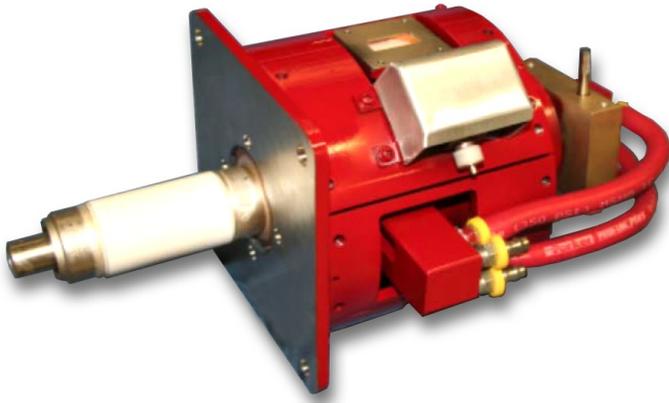


Figure 6. These high-power magnetrons operate at about 20,000 volts and 100 amps of current. That is more energy in one second, than what is consumed by 1000 typical households. This is not intended to be used as a weapon, but it gives the reader an idea of what can be done with high-power microwaves. These devices are not science fiction. This kind of unit could be incorporated into a larger system, that can disable satellites.

List of Satellite tracking websites:

In-The-Sky.org
satbeams.com
satbeams.com/footprints
lyngsat.com
geosats.com/satlist.html
celestrk.com/norad/elements
golombek.com
www.radio-electronics.com/info/satellite/satellite-orbits/geostationary-earth-orbit.php
en.wikipedia.org/wiki/Satellite_Data_System
<http://planet4589.org/space/log/satcat.txt>

For example, if a microwave cannon is sized for 30 used magnetrons (from a microwave oven), then modify half of the magnetron cavities for a difference of about 15,000 Hz to resonate the fuel tank. (These numbers are approximate.) When fired, the cannon will emit 2 frequencies, and the difference between the frequencies is equal to the resonant frequency in the satellite.

3) Install a precision pointing system and calibrate it using lasers. It can be tested and checked against ground targets that are a few kilometers distance. When viewed through a telescope, the satellite will “twinkle” when it gets hit and starts to vibrate.

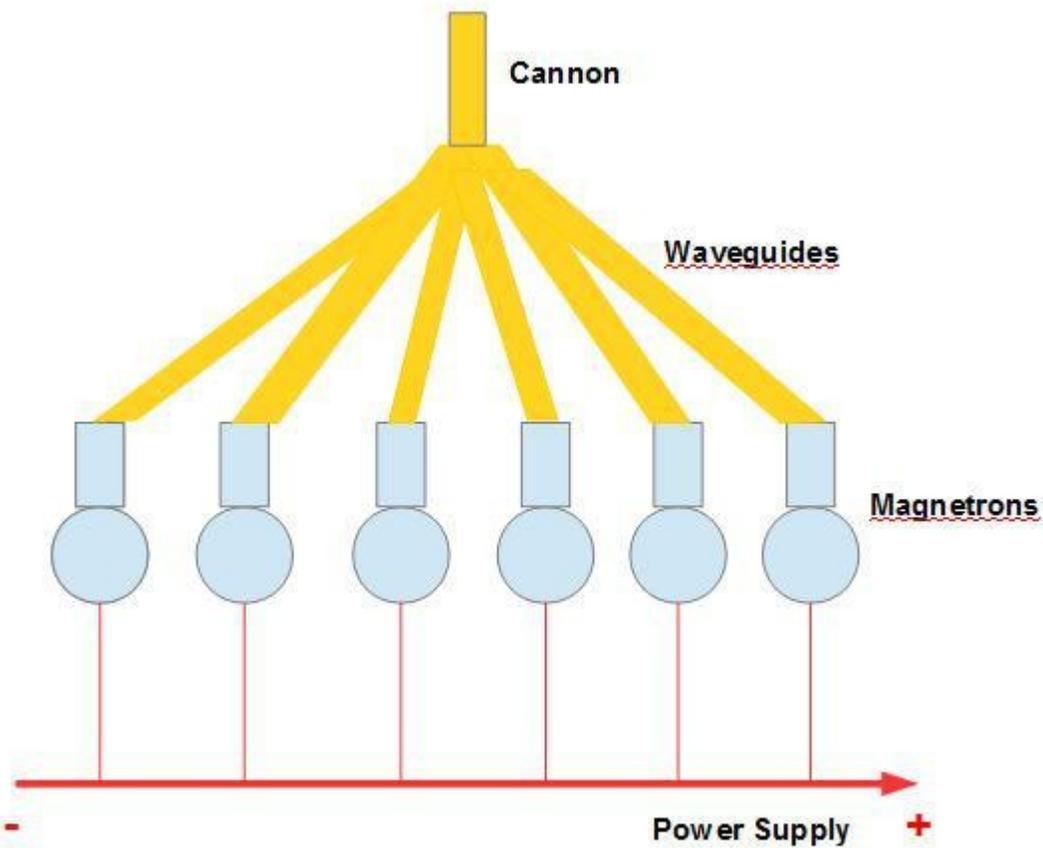


Figure 7. Microwave cannon basic design, consisting of car batteries, magnetrons, waveguides, and associated wiring that makes each magnetron fire at the same time. The focusing magnets should be sized for $1/6$ wavelength. In other words, if the wavelength is 6 inches, size the hole in the focus magnets for 1 inch.

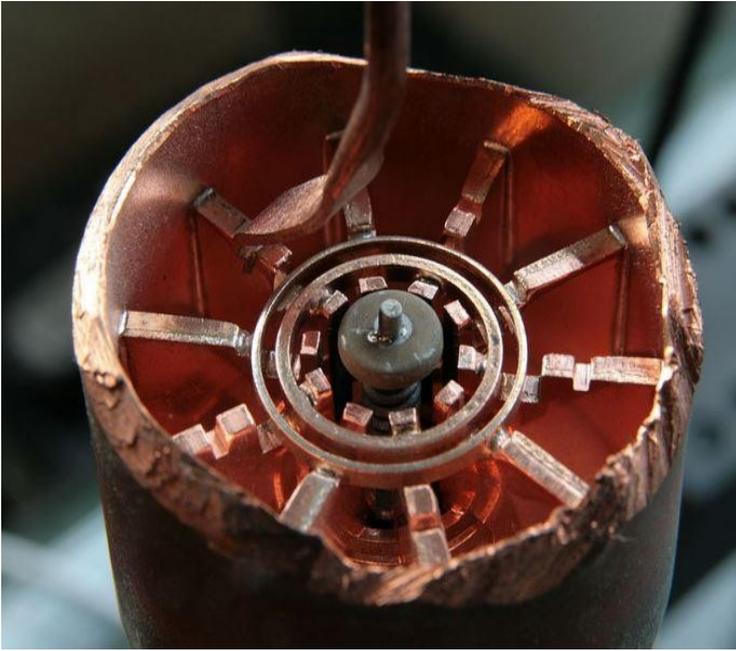


Figure 8. Magnetron cut open to show the cavities. By placing metal tabs inside the cavities, we can increase the frequency output. You do not want the magnetron operating at 2.45 GHz, because the atmosphere (water) will absorb most of its energy.

Conclusions

Described here are the simple instructions for constructing a ground-based attack system that can be used against geosynchronous (HEO) or MEO satellites, such as GPS satellites. Many of these satellites have weapons attached to the frame. It is likely that the Air Force attached weapons to the frame, just prior to launch, and the owners of the satellite (such as Iridium) do not know that a weapon has been attached to the frame. Most of these satellites in orbit are vulnerable to the vibration attack that is described in this ebook.

An alternate system that is more expensive, but more reliable as a countermeasure – is to target an area of the sky, such as a cluster of satellites, and use a directed energy weapon (DEW) that pulses and sweeps a certain range, such as 10 Hz to 4000 Hz, while pulsing the microwaves. This would guarantee that the satellite would be vibrated at their resonant frequencies. It would require a very large structure and expend much energy, but it would not require any precise pointing system.

This document is a living document. The author reserves the right to make corrections and changes.

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APPENDIX

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For more than 6 years, this author has been stalked, harassed, and threatened by US Government agents from the CIA, FBI, and NSA - because of the content of these ebooks. My home has been broken into, repeatedly. In May 2014, my girlfriend was drugged and kidnapped from LaGuardia airport. She was unconscious for more than 4 hours. This is not a joke. My computer, phone, and alarm system have been hacked, including those of my friends and family. It is truly sad and pathetic, these agencies have become criminal organizations. If something happens to me (disappearance, false criminal charges, sudden accident, etc) - my readers can be certain that the FBI and CIA were involved. I would never deliberately harm myself, it is against my beliefs. In my opinion, the CIA and the Council on Foreign Relations (CFR) are directing these criminal acts; David Rockefeller was the CEO and Chairman for many years.

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