RADAR JAMMING IS LEGAL IN THESE STATES
WARNING

THIS TALK IS **ONLY** LEGAL IN THE FOLLOWING STATES

Legend:
- **RED** ILLEGAL
- **GREEN** LEGAL
WARNING

THIS TALK IS ONLY LEGAL IN THE FOLLOWING STATES

This talk is rated R for:
- Super Good Ideas
- Marginal Advice
- Offensive Language
- Brief Nudity

Legend:
RED ILLEGAL
GREEN LEGAL
Slides available now at
bit.ly/23police
Swearingen says he tested his proof-of-concept device on the streets of Kansas City with complete success before disassembling it to avoid trouble. "I take the freeway to work," he says. "There are no traffic signals." He criticizes
Excerpt from the Hacker’s Manifesto: The Mentor - Phrack Volume One, Issue 7, File 3 of 10
Are you a cop?
* This is not my car
* This is not my problem
WHAT IS RADAR?
IN THE 90s

MY DAD

* This is not my dad
The Doppler Effect
Police RADAR

RADAR speed detectors bounce microwave radiation off of moving vehicles and detect the reflected waves. These waves are shifted in frequency by the Doppler effect, and the beat frequency between the directed and reflected waves provides a measure of the vehicle speed.

\[ \frac{\Delta f}{f} = \frac{2v_{\text{target}}}{c} \]

*Where \( c \) is the speed of light

http://hyperphysics.phy-astr.gsu.edu/hbase/Sound/radar.html
• **X Band** is in the 8.0 to 12.0 GHz range
  (most common is 10.5 in the US / 9.4-10.6 in EU)
• **K Band** is in the 18 to 26.5 GHz range
  (most common is 24.12 - 24.17 in the US / 24.12 - 25.15 in EU)
• **Ka Band** is in the 26.5 to 40 GHz range
  (most common is 33.8, 34.6, 34.7, 35.5, 35.7 GHz in the US / 34.0, 34.3, 35.5 in EU)
• **Ku Band** is in the 12 to 18 GHz range
  (Ku is not used in the US, most common is 13.45 in Europe)
Police Radar Gun Frequencies

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  (most common is 10.5 in the US / 9.4-10.6 in EU)
- **K Band** is in the 18 to 26.5 GHz range
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- **Ka Band** is in the 26.5 to 40 GHz range
  (most common is 33.8, 34.6, 34.7, 35.5, 35.7 GHz in the US / 34.0, 34.3, 35.5 in EU)
- **Ka Band** is in the 12 to 18 GHz range
  (Ka is not used in the US; most common is 33.8 in Europe)

Defeat X band radar at 10.50000203125Ghz
Defeat K band radar at 24.12000466607143Ghz
Confuse? Ka band radar at 33.80000653869047Ghz

**Microwave Oven 2.4Ghz = -97,420,118 mph**

http://hyperphysics.phy-astr.gsu.edu/hbase/Sound/radar.html
WE HAVE A PROBLEM

good idea meter: RED
WE HAVE A PROBLEM
Google Maps Platform

Web Services ➔ Roads API
The Roads API returns the posted speed limit for a given road segment.
good idea meter: RED
Using a radar jammer is a federal offense that can result in a $50,000 fine and/or five years in prison.
* This is still not me
(LEGAL) EFFECTIVE COUNTERMEASURES
EFFECTIVE COUNTERMEASURES

- Uniden R3 or R7
- Escort Max360
- Radenso Pro M
- Valentine One w/BT
"The FCC doesn't regulate the light spectrum. That's done by the Food and Drug Administration"

–autoblog.com, 2011
LIGHT
* This is not my car either
CLASS 1 LASER
904nm (Invisible IR)
Speed = \frac{\text{distance}}{\text{time}}
Distance = \[ \frac{C \times T}{2} \]
(MOSTLY-LEGAL) EFFECTIVE COUNTERMEASURES

good idea meter: IDK I AM A METER, NOT A COP
Legend:
RED: ALL COUNTERMEASURES ILLEGAL
YELLOW: LASER JAMMING ILLEGAL
GREEN: ROCK & ROLL

*Luckily nobody is here from the DC Area
COTCHA
• ESP8266 Based Laser Jammer
• 12V Circuitry for Automobile Install
• 940nm Brute Force Mode
• Wireless Connectivity & Android App
• Legal in SOME STATES!
• Laser Gun Emulation Mode
• MIRT Mode (good idea meter: SUPER RED)
NOTCHACOTCHA IS FREEDOM
AMERICA!

*EXCEPT VIRGINIA
NOTCHACOTCHA

- D1 Mini (esp8266) : $1.50
- 2.2k Resistor : $0.03
- 3.3v Voltage Regulator : $0.54
- TIP102 Transistor : $0.08
- 940nm LED Array : $6.00

$8.15

bill of materials, code, and several other bad ideas at github.com/hevnsnt/NOTCHACOTCHA
This is only round one
Bill Swearingen / &bill / @hevnsnt

Slides available now
bit.ly/23police

Super duper thanks to:
@VortexRadar
thejunkyardmessiah
www.rdforum.org

kickass
@sec_kc / @networkgeek / @seckcory / @surbo

~#RexKC sucks and #23isReal~