United States

GPS Interference

Detection and Mitigation (IDM)

Rick Hamilton
GPS Information Analysis
U.S. Coast Guard Navigation Center

John Merrill
DHS PNT Program Manager
Office of Applied Technology Geospatial Management Office
Topics of Discussion

- Governance
- Existing/Emerging Threats Assessments
- Patriot Watch – A National Capability
  - Critical Infrastructure Key Resources
  - CONOPS Development
  - PNT Incident Portal/Central Data Repository
  - National Sensor Capability initiatives
Interference Detection & Mitigation (IDM)

- Identify
- Analyze
- Locate
- Attribute
- Mitigate
Existing and Emerging Threats
Product Reviews

1. **Fantastic service and it really works! ★★★★★**
   
   Posted by Unknown on 29th Jul 2010
   
   Fast delivery no hassles, fantastic

2. **Perfect! ★★★★★**
   
   Posted by Tony VALENTE on 20th May 2010
   
   I've worked in Japan and for some of the biggest companies in the world included Nike and playstation and K-1, and The Signal JAMMER is a first class company to order from. Better than ebay with customer service and great products to help you in this ever changing world.

3. **It works ★★★★★**
   
   Posted by Unknown on 4th Feb 2010
   
   I plugged it in and it knocked out my Tom Tom and XM Radio.

4. **Great GPS blocker ★★★★★**
   
   Posted by Greg USA on 15th Jan 2010
   
   This gadget is great. Within moments of plugging into my lighter all gps systems were completely blocked, including my Trak Stik. Great company to do business with...honest with good communication.
Regulations in the U.S.

U.S. Federal statutes and regulations generally prohibit the manufacture, importation, sale, advertisement, or shipment of devices, such as jammers, that fail to comply with FCC regulations.
Regulations in the U.S.

U.S. Federal Statutes – Communications Act

- 47 U.S.C. § 301 Unlicensed (unauthorized) operation prohibited
- 47 U.S.C. § 333 – Interference to authorized communications prohibited
- 47 U.S.C. § 302a(b) Manufacturing, importing, selling, offer for sale, shipment or use of devices which do not comply with regulations are prohibited
Regulations in the U.S.

Telecom Agency Rules - FCC

• 47 C.F.R. § 2.803(a) - marketing is prohibited unless devices are authorized and comply with all applicable administrative, technical, labeling and identification requirements.

• 47 C.F.R. § 2.803(e)(4) - marketing is defined as “sale or lease, or offering for sale or lease, including advertising for sale or lease, or importation, shipment, or distribution for the purpose of selling or leasing or offering for sale or lease.”
PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information 202 / 418-0500
Internet: http://www.fcc.gov
TTY: 1-888-835-5322

DA 11-250
February 9, 2011
Enforcement Advisory No. 2011-04

FCC ENFORCEMENT ADVISORY

CELL JAMMERS, GPS JAMMERS, and OTHER JAMMING DEVICES

CONSUMERS BEWARE: It is Unlawful to Use “Cell Jammers” and Other Equipment that Blocks, Jams, or Interferes with Authorized Radio Communications in the U.S.
UNCLASSIFIED

CIKR Sectors

Agriculture and Food

Banking and Finance

Chemical

Commercial Facilities

Communications

Critical Manufacturing

Dams

Defense Industrial Base

Emergency Services

Energy

Government Facilities

Healthcare and Public Health

Information Technology

National Monuments and Icons

Nuclear Reactors, Materials and Waste

Postal and Shipping

Transportation Systems

Water

UNCLASSIFIED
Extent of GPS Dependencies

GPS Supporting Power Grid Systems
- Energy Plants
- Substations
- Power Grids

GPS Supporting Banking Operations
- ATM Networks
- Stock Exchanges
- Banks/Nodes
- Internet Banking

GPS Supporting Transportation Systems
- Rail Yards
- Switching Towers & Signals
- C2 Centers
- Air Traffic Control
- Ship Routing

GPS Supporting Communications Systems
- Wireless Internet
- Relay Position To 911 Dispatch
- Comms Networks
- Access GIS/Map
Patriot Watch System

- **System-of-Systems approach to provide real-time monitoring (preparedness), location & notification (response) of GPS interference for protecting the Nations CIKR Sectors.**
  - Designed with government & commercial hardware
  - Persistent monitoring yields situational awareness
  - Timely response to anomalies
  - Sensor placement based on PNT CIKR Criticality
  - Remains operational when GPS systems is “stressed”

- Collective Effort by various USG entities

- Significant Cost and Risk reduction by taking full advantage of mature, existing systems
Patriot Watch - Concept

National capability to detect & mitigate GPS interference INCONUS, supporting PNT and CIKR resilience

Leverage technologies to rapidly detect and locate interference

Provide standard response process and protocols to notify of abnormality

Establish command & control authority to mitigate events

GPS Satellites

Monitoring Network

Control Center

Re-route traffic

Mitigating action
PNTIP Application Login Page

Login Email: [Blank]
Password: [Blank]

Logon to PNTIP   Reset

Change password?   Lost password?

Warning: This is a Federal Aviation Administration (FAA) computer system. 1370.79a

This computer system, including all the related equipment, networks and network devices (specifically including Internet access) are provided only for authorized U.S. Government use. FAA computer systems may be monitored for all lawful purposes, to ensure that their use is authorized, for management of the system, to facilitate protection against unauthorized access, and to verify the security of this system.

During monitoring, information may be examined, recorded, copied, and used for authorized purposes. All information, including personal information, placed on or sent over this system may be monitored. Use of this FAA computer, authorized or unauthorized, constitutes consent to monitoring of this system.

Unauthorized use may subject you to criminal prosecution. Evidence of unauthorized use collected during monitoring may be used for administrative, criminal or adverse action. Use of this system constitutes consent to monitoring for these purposes.
Due to pre-launch testing of Global Positioning System (GPS) satellites, GPS is unreliable and may be unavailable within a 5nm radius of Cape Canaveral, FL (282814n0803448w) at FL100 and FL 4,000ft AGL.

Authorized dates: 1 Jan 06 - 31 Dec 06.
QUESTIONS?

Rick.Hamilton@uscg.mil
703-313-5930

John.Merrill@dhs.gov
202-447-3731