

RADIO FREQUENCY WEAPONS TECHNOLOGY

by Manuel Cereijo

Guaracabuya
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Alamar
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Area 51 Armed
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Radiobiological
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Islamic Group
Armed Services
Committee
Research and
Development
Panel Army
Technical Escort
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It is a concern in the scientific community the proliferation of RF weapon technologies. Compact explosive driven RF munitions can be used against a variety of targets including land mines, sea skimming missiles, and Telecommunications Systems. The Soviet Union had a large diverse RF weapons program and remnants of this work continue today within FSU countries and Cuba.

We should also be interested in RF weapon technologies because of:

- Rapid advances in RF sources and antennas
- Increased interest in other countries (including Cuba) in RF weapons and RF mitigation
- Increased susceptibility to microwaves of miniature solid state electronics
- It is well understood that the US is disproportionately more vulnerable to RF attacks than are less developed nations
- Modern Metal Oxide Semiconductor technology, on which most of our critical national infrastructures depend, unless deliberately protected or hardened, is extremely vulnerable to even low-power electromagnetic pulses.

State of the art semiconductors are becoming more vulnerable to the effects of radio frequency energy as semiconductors become smaller and smaller. The devices melt as a result of heating from currents induced by the RF pulse. High power microwave, HPM, sources produce short, very high power, narrow band pulses, often billions of watts in billionths of a second (nanoseconds). If HPM waveforms are in band, they can efficiently couple energy into target and energy is available to disrupt or to cause damage to sensitive "front door" components that are connected to antennas.

However, if HPM are not in band, the energy must enter through a "back door" and coupling to the target is generally poor. Ultra wideband, UWB, sources generates a much wider band of frequencies and thus ensure that some energy is at a frequency to efficiently couple to the target. This area of UWB has been aggressively research by China and Cuba.

Two recent technologies have minimized the size of these devices. They are now quite compact and can be powered by small hand-carried energy sources. They can penetrate up to 200 meters with an accuracy

Hizbollah External
Security
Organization
Hollinger
International
Hoover Institution
Human Intelligence
HUMANITARIANS
Igor Domaradsky
Igor Rodionov
InfoGlide
information warfare
Immunology In-Q-
Tel In-Q-Tel
Interface Center
International Sikh
Youth Federation
Internet Corporation
for Assigned Names
and Numbers
Investigative Group
International IRA
Isaac Cohen Isaac
Levi Islamic Army
of Aden Islamic
Jihad Islamic Jihad
Israeli Defense
Forces Israeli
Division 5 Izz al-
Din al-Qassam
Brigades Jaish-e-
Mohammed Jiang
Zemin JIMAD John
Gannon John
Hopkins University
John Jay College
Joint Program
Office for
Biological Defense
Joint Service
Chemical Biological
information
Systems (JSCBIS)
Joint Strike Fighter
Joint Vaccine
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Jose Ramon
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Kuattiah Kurdistan
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Lashkar-e-Taiba
Lassa fever
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Main Intelligence
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Marburg Marine
Corps Response

Asymmetric tactics
 Atlantis Babbar Khalsa
 Bejucal BEMA Inc
 BIDS Bill Patrick Bill
 Richardson Biohazard
 Biological Integrated
 Detection System
 Biopreparat Biosafety
 Bioweaponer Bioweapons Bluff
 Arsenal Bonfire Boronin
 Botulinum Brent Scrowcroft
 Brucecellosis Cadmium
 Caribbean Radiation Early
 Warning Systems Carnegie Moscow
 Center Carnivore CBAC
 (Chemical Warfare/Chemical
 Biological Defense (CW/CBD)
 Information Analysis Center)
 CBIRF/CBS CDC Cellular
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 Coordination Center Center for
 Civilian Biodefense
 Studies Center for Defense
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 Democracy and Technology
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 Budgetary Assessments
 Center for Strategic and
 International Studies Center for
 the Study of Intelligence
 Centers for Disease Control
 and Prevention Central Incident
 Response Group Charlie Bailey
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 Network Chemical and
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of 1% of the distance, and up to 1000 meters with a lower resolution. RADAN is a compact high current electron accelerator that is smaller than an attaché case, weighs approximately 10 pounds and can be used as a "jammer", or as a computer destructive device, with a properly installed small directional antenna.

Any wire or electronic component is, in fact, an unintended antenna. Appropriate RF signals can target computers and influence or destroy the computer's performance. Besides the technologies mentioned above, we also have low energy radio frequency, LERF, which in spite of using much less energy can be as effective as HPM. The impact of LERF on computers and computer networks can be devastating. They are cheaper (some \$800 dollars), need less high technology, and even a limited attack could have serious consequences.

The risk presented by radio frequency weapons is growing. Intelligent sources suspect that China and Cuba are working in these areas in two places in Cuba: Wajay, near Bejucal and Guines, and in an isolated farm near Santiago de Cuba.

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 May 2001



Force Marine general Charles
 Wilhelm MASINT
 Mass casualty weapons
 Measurement and Signature
 Intelligence Media
 Most Mediasnap
 Medical Chemical and Biological
 Defense Medstatistika
 MEMS Menwith
 Hill Michael Sheehan Micro-
 electromechanical systems Mikhail
 Kasyanov Mikhail Kolesnik MINREX
 Mirzabekov Molecular biology
 Mosaic Group Muons Mustafa
 Labzi Myelin toxin NASA X-43
 National Center for Infectious Disease
 National Foreign Intelligence
 Program National Intelligence Council
 National Photographic Interpretation
 Center National Security Adviser
 NCID NEST netEraser Network
 Security Solutions NFB Nicolai
 Leonov Nikifor Vasiliev Nikolai
 Petrov Nikolai Stoilyov Nikolai
 Uinkov NIPC NSS NTT NTV Nuclear
 Emergency Search Team Obolensk
 Oleg Ignatiev Open Source Intelligence
 Osama bin Laden OSI OSINT OSS Inc
 Osvaldo Sanchez Cabrera Palestinian
 Islamic Jihad Pasechnik
 Pathogenic agents Patthogeb
 Countermeasures program Patrick
 Kelley Paul D. Wolfowitz PC-SPI-S
 People's Mujahideen Peptides PGIS
 Pinkerton Global Intelligence Services
 PKK Plum Island Program for
 monitoring Emerging Diseases
 Program Manager for Chemical
 Demilitarization PROMED Q fever
 QIC Radiation poisoning Radio
 Electronic Station Cuba Ramon Garcia
 Rand Corp RASP Rem Petrov
 Revolutionary Peoples' Liberation
 Party-Front Richard Clarke Richard
 Falckarath Rickettsiae Robert
 Castelli Robert Phillip Hansen
 Robert Steele