

Importance of Electronic Surveillance in Criminal Investigation

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Abstract - The overall aim of this paper is to survey the number of crimes happening in India and in other countries. What exactly is the problem with India and the solutions has been suggested. Basically the paper gives idea how the other countries reduces number of crimes by using various electronic surveillance. This paper describes what exactly electronic surveillance is and the types of Electronic Surveillance in Criminal Investigation.

Key Words: Surveillance, Cellular Device, device, Electronic Surveillance, passive, active, cellphones.

1. INTRODUCTION

Electronic surveillance way of monitoring a home, business or individual. Electronic surveillance is done through computer or mobile phone. Mobile phone surveillance is an important tool. Geographical location tracks the location for finding where the subject is. Mobile phone surveillance helps in a way that its text messages and phone records can be used as evidence in the court. It is actually use to stop or prevent crime and helps to keep citizens safe. Computer and Phone Surveillance used for investigation by providing personal or location data. Many banks, business and companies are under surveillance to keep companies and customers safe. Surveillance means close observation of a person or a group especially the one who are under suspicion or the act of observing or the condition of being observed. Newly added surveillance technologies are Internet Surveillance, CCTV Surveillance, Telephone and Email Id Surveillance.

1.1 Types of Electronic Surveillance in Criminal Investigations [2]

1. Electronic Monitoring
2. Fixed Surveillance
3. Stationary Technical Surveillance
4. Three Person Surveillance
5. UnderCover Operations

1. Electronic Monitoring: Electronic Monitoring refers to email, fax, telephone and internet communication. According to US Government Electronic Monitoring requires court order. Criminal Justice Agencies can monitor an individual location and alerted to any unauthorized movements. Three Reasons why and where Electronic Monitoring is used:[3]

i. Detention: Detention also called as House Arrest/Home Confinement.[3] It is like Prison time. It is confined by the authorities to a certain residence. It is applied to criminal cases where prison is not appropriate measure. The person under detention is not allowed to communicate with anyone. If communication happens it is directly monitored.

ii. Restriction: Individual does not enter in prohibited areas.

iii. Surveillance: Surveillance where Electronic Monitoring use to keep surveillance on people without actually restricting their movements.

2. Fixed Surveillance: Fixed Surveillance or stakeout meaning Period of surveillance. Requires police officers to observe secretly people and places from distance. According to criminal justice Officer-Michael Palmiotto Two Person Approach considered more desirable. Two Person Approach: It helps to switch positions periodically so suspect cannot doubt on them. The subject is stationary. Surveillance may move around for closer observations as they have to maintain proper surveillance. It should be well-planned.

3. Stationary Technical Surveillance: The recording equipment and camera is placed in parked car by the investigator. Vehicle present in an area where lot of attention can be gained such as parking lot. Sometimes also called as Unmanned Surveillance.

4. Three-Person Surveillance: It is difficult but provide advantages. Officers can frequently change the positions and reduces the chances of detection. The technique use is ABC Method: Person A is behind the suspect and then the second officer Person B and Person C is to opposite side always ahead or behind the suspect. It is complex technique but effective.

5. UnderCover Operations:[3] In this officer plays active role in revealing the criminal activities. To go undercover it is needed to hide ones identity for the purpose of gaining the trust of targeted individuals in order to gather information or evidence.

2. Literature Survey

India is facing many problems relating to criminal Investigation. As crimes is going on increasing day by day. There are many problems because of which it is difficult to stop the crime. The first problem is number and quality of police force varies from state to state. Training of police restricted to simple policing and not exposed to modern technologies. Method and data crime content recorded varies from state to state this can be another problem. The criminal

cases such as of robbing , rape is increasing day by day. The robbery cases are so much that the thief cannot be able to track due to lack of technology. Many cases gets closed. This small case is nothing but even the big criminal cases like murder because of lack of investigation and evidence the cases gets closed.

Solution: The first solution could be criminal profiling[4] and data is to keep detailed records. The person who is brought into police station as a suspect should be fully body scanned. Keep all his data recorded such as bone structure, facial, dental profile, iris scan, fingerprint, DNA profile. Today software surveillance is done through camera located at public places. Data captured on basis of bone structure and facial recognition software. So if criminal or terrorist passing through any public area we can pick them from the crowd of real world.

National Security Agency (NSA) of United States used this technique widely. But data should be pass to every agency. From the USA TODAY it is known that the USA Police secretly track cellphones to solve routine crimes. The technique used is Stingray:

2.1 Technique-Stingray

Stingray: A suitcase size device act as a take cell tower. System installed in the vehicle so that, it can be moved anywhere tricks all nearby phones into connecting to it and feeding data to police. The Stingray is an IMSI-catcher with both passive (digital analyzer) and active (cell site simulator) capabilities. [1]



Fig -1: Stingray

2.2 How Stingray Cellphone tracking device works

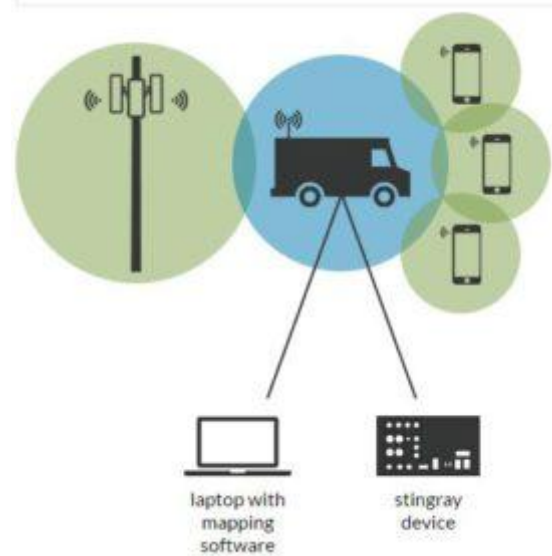


Fig -2: Stingray Technique

Device used in vehicle along with a computer with mapping software. It detects cellphone tower and gets target phone to connect to it. Once phone is detected a phone signal strength is measured. Vehicle then move to another location and again measures the signal strength. By getting signal strength the system can map a phone location.

3. Methodology

How it works: Stingray equipment operate on both passive and active mode. It works like wireless carrier cell tower. This system is typically fit in a vehicle so that agents can move in any place. It tracks all devices and it access using law enforcement.[5]

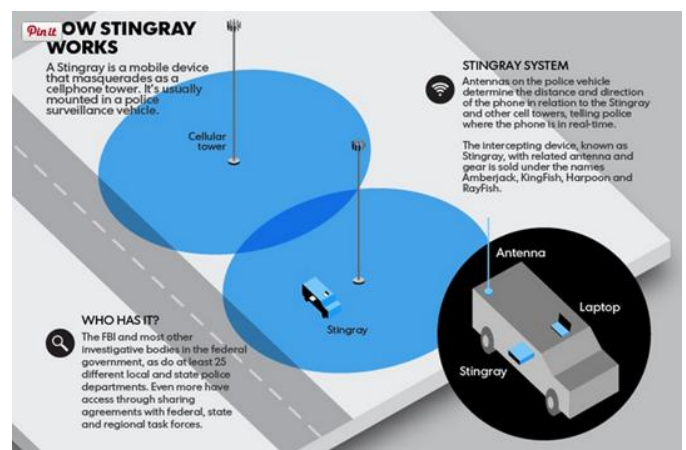


Fig -3: How Stingray Works

Sample paragraph Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

The modes are explained below:

A. Passive mode A StingRay that works in passive mode receive and analyze signals which is given by mobile devices and cell stations. Passive word itself explains that it does not directly communicate with mobile devices. It extracts information such as identification numbers, signal strength, and signal coverage areas. It works like mobile phones.[5]

B.Active mode: StingRay working in active mode will force each device in a predetermined area to disconnect from its legitimate service provider cell site and help to build a new connection with the attackers StingRay system.[5]

4. CONCLUSIONS

India has no choice but to learn and implement different strategies if it were to seriously want crime prevention and crime control. Data collection, availability and access is the first tool in this battle. The second is to bring new technologies like used in US and UK. This can help India to reduce the number of crimes. So it should use new and latest surveillance technologies.

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