Cell Phone Encryption

"Anyone remember the Clipper Chip?"

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Security News

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- SF LR hacked
  `http://www.theverge.com/2016/11/27/13758412/hackers-san-francisco-light-rail-system-ransomwar`
- Snoopers Charter
  `http://www.independent.co.uk/voices/snoopers-charter-theresa-may-online-privacy-inves html`
- MD5 poisoning `https://blog.silentsignal.eu/2016/11/28/an-update-on-md5-poisoning/`
- Shodan Membership $5
  `https://www.shodan.io/store/member`

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A brief history of cellphones

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- Analog
  - 0G
  - 1G
  - bag phones
  - car phones
  - bricks
- Digital
  - CDMA
  - GSM
  - LTE
  - 4G?

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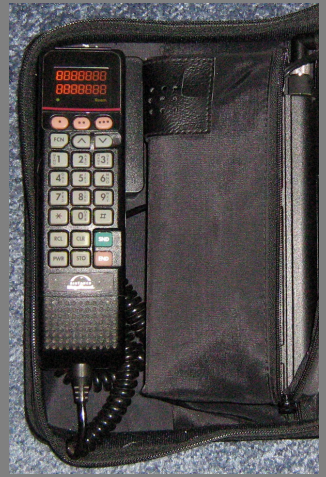
Analog

- 0G FM VHF half (later full) duplex (1946–2012)
  - large powerful towers that covered a long range
- 1G
  - smaller 'Cells'
  - digital signaling — analog voice
  - cellphone hackers — phone cloning and call interception
  - 800MHz blocking on scanners in US only



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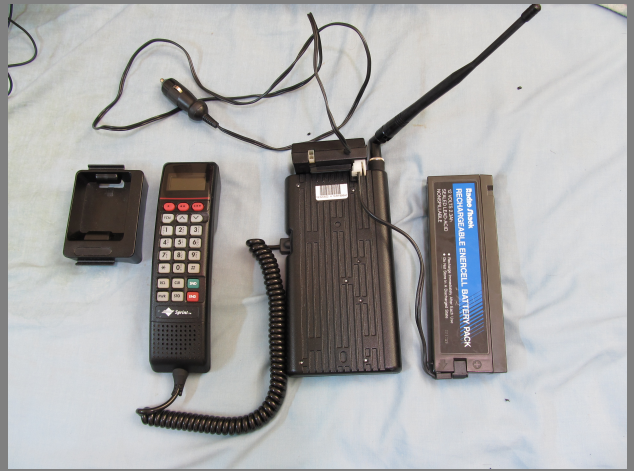
1. 0G only had 3 frequency pairs at first, everything was operator driven, mobile telephone service Bell/Motorola
2. this was later replaced by IMTS (1964) with the convience of **direct dial**
3. offered by both wireline common carriers and radio common carriers
4. IMTS had 25W at mobile station and 100–250W at base, unlike cellphones w/ 600mW
5. IMTS: limited number of customers, airtime expensive
6. 1G Advanced Mobile Phone System — started 1983 US no longer requiried by 2/2008
7. cloning involved recording the ESN/MDN and then adding it to another phone
8. 47cfr15.121

Bag Phone Full



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CDMA

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- C Division Multiple Access
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