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Overview of Worldwide Pay TV Piracy Countermeasures

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DIGITAL TV PIRACY STATUS



Modified Original SmartCard Programmer

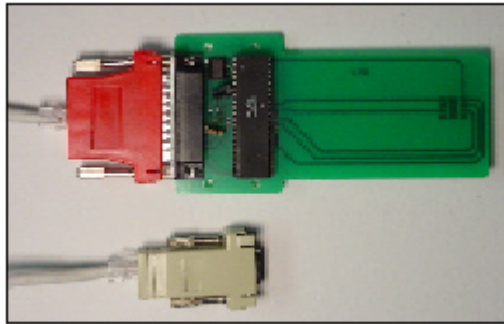
- Myth: converting from analog to digital will stop piracy
- Fact: AEPOC reports loss of €200 million due to piracy in 1996[†]
- Fact: European estimates losses increased to €1 billion annually in Europe in 2003[†] despite digital conversion
- Fact: Estimated loss of \$1-4 billion yearly in North America[‡] despite digital conversion

[†] Report from the Commission of the European Communities on the implementation of Directive 98/84/EC on the legal protection of services based on, and consisting of, conditional access, April, 2003.

[‡] Various Sources: The Bridge, Vol. 2, No. 4, pp. 6-7, April 2003; Satellite Busines News, Vol. 14, No. 16, August 14 2002.

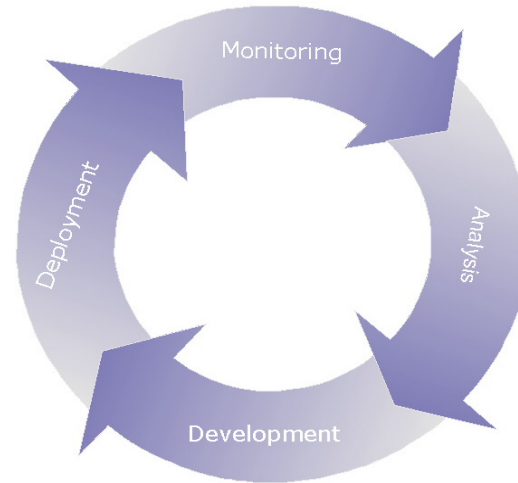


SAMPLE DTV PIRACY DEVICES



ANTI-PIRACY RESPONSE CYCLE

- Monitor field activity
- Gather information and analyse pirate device
- Develop appropriate counter-measure



- Select best timing for counter-measure deployment
- Safely deploy the counter-measure



ANTI-PIRACY MEASURES

- The piracy market exists because
 - There is consumer demand
 - Supply of demand is a lucrative business
 - Illegitimate suppliers and users don't fear the consequences
- Fundamental categories of preventive measures
 - Technical: increasing difficulty to hack
 - **Ethical: making piracy morally unappealing**
 - **Legal: fear of consequences**
- Broadband & Internet Security Task Force, 1997/1998 *Theft of Service Focus Groups* Key Findings:
 - Cable piracy is seen as a victimless crime; and few US subscribers perceive cable theft as "criminal."
 - Consumers do not believe there is a direct, negative effect on them due to theft of service.
 - **Quote: "If it was being enforced, so many people wouldn't be doing it."**



- North America (Related legislation: Digital Millenium Copyright Act)
 - Prohibits the possession, use, promotion or advertising of unlawful of devices
 - 32 states prohibit the simple possession of an illegal decoder
 - Stronger criminal penalties for violators, prison sentences and heavy fine- up to 16 years in prison and 2.5 million \$US
 - Giving plaintiffs the right to recover actual damages *plus* the defendant's profits, or a maximum award of up to 60,000 \$US for each unlawful device
- Europe[†]
 - 11 countries impose criminal and civil liabilities for end-user pirate viewing
 - Ireland (1990: Imprisonment and / or fine up to 2 years & £20,000 on conviction on indictment for installing pirate equipment)
 - UK (1988; 1998: imprisonment up to two years for possession of a pirate device)
 - France (possession or acquisition with intent to use pirate device ; imprisonment (up to 2 years) and / or fine (up to Euro 30'490)

[†] Report from the Commission of the European Communities on the implementation of Directive 98/84/EC on the legal protection of services based on, and consisting of, conditional access, April, 2003.



CONSEQUENCES OF STATUS QUO

- Cable and satellite operators
 - Decreased average revenue per user (pirate users don't pay)
 - Increased operating costs (deploying counter-measures is costly)
 - Higher content prices (increased rates due to lower PPV royalties)
- Government
 - Pirates do not pay taxes
 - Operators and suppliers pay less tax on fewer goods sold
- Consumers
 - May be swindled by pirates
 - Higher prices for legitimate subscribers (results from increased operating costs)
 - Lower quality of service
- Content providers
 - Less revenue from video sales and rentals due to pirate viewing



CONCLUSION

- Cycle being confirmed in Hong Kong
 - September 2001: HKC installed a new digital system to improve quality of service and stem analog piracy
 - March 2003: 18 months later, new digital pirate devices start to become available in specialty shops
- Hong Kong Cable TV and Nagravision are investing in countermeasures
- Worldwide experience shows that technology isn't enough
- The missing piece in Hong Kong is the strong legislation that is being enacted elsewhere
- What will be the consequences of inaction for Hong Kong?
 - Hong Kong could become a piracy haven
 - Recurring loss of tax revenues to the Government
 - Loss of quality programming and local and overseas investments
 - Loss of attractiveness of Hong Kong as a regional broadcasting hub
 - Recurring loss of revenue to Pay TV companies
 - Recurring loss of revenue to local and international content providers

