

Satellite Interference – from the Satellite Operator Perspective

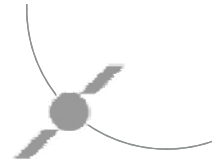
Wednesday 27- 28th November 2012 – Geneva EBU

Mark RAWLINS

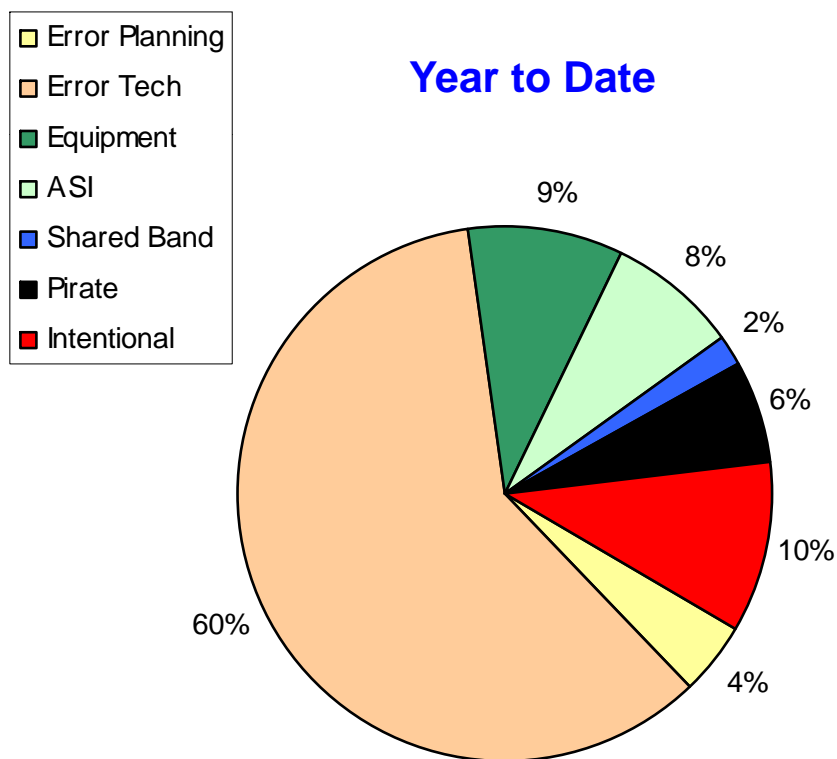
Head of Payload Engineering and Operations, Eutelsat



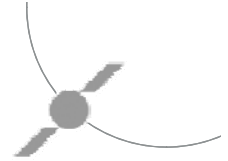
Interference to Satellite services



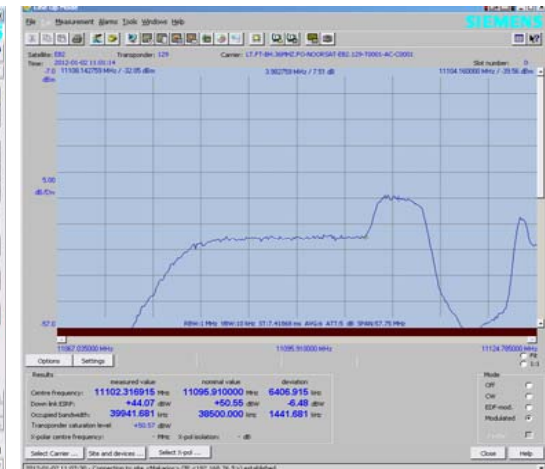
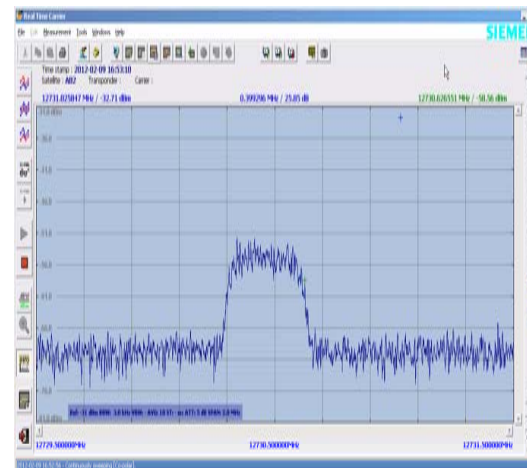
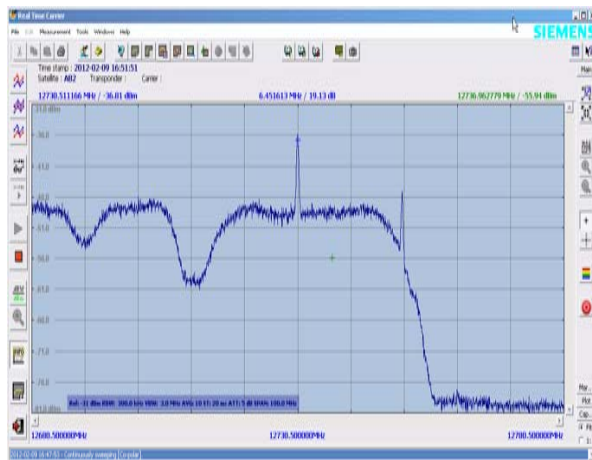
1. Causes
2. ACTION FOCUS – Reducing Interference
3. ACTION FOCUS – Broadcaster, Regulatory and Government Engagement
4. ACTION FOCUS - Technical Solutions



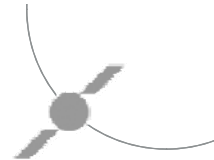
Reducing Interference



- Carrier ID
- Training Programs
- Ground Segment quality control – Type approvals and E/S testing – GVF MRA
- Statistical analysis - identification of problem areas
- Communication - Encouraging Good Working Practices
- SDA – Sharing information with other satellite operators



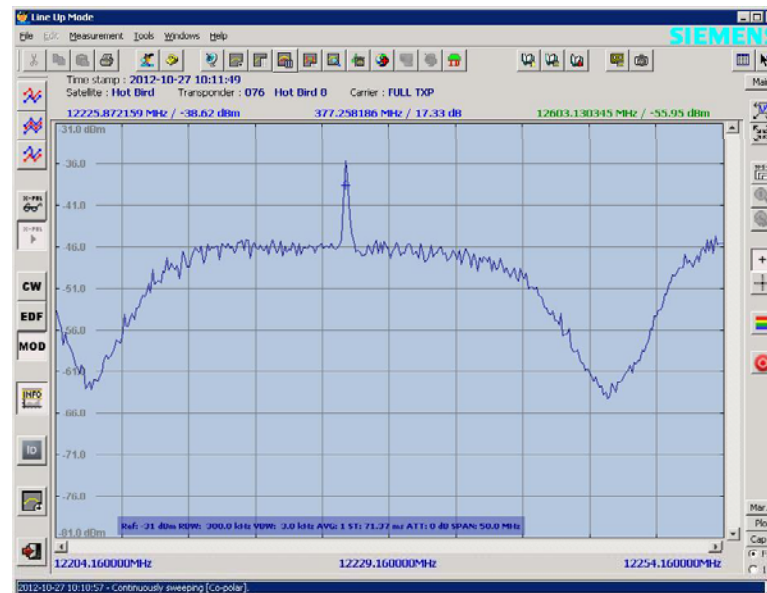
Intentional Interference – an increasing menace



- Blocking the transmission of legitimate satellite services
- Politically motivated
- Targets news channels such as BBC, VOA, France 24, Deutsche Welle
- Other channels affected by collateral damage
- Government and broadcaster support is being demonstrated and is showing effects.

Some Figures

- 2010 – 54 cases
- 2011 – 109 cases
- 2012 – 340 (to date)
- October 2012 - 70% of interference targeted BBC World and VOA





Deliberate Interference - Action Areas



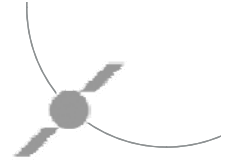
1. Working with customers and broadcasters to engage support by communicating the nature and origin of the interference.
2. Engaging government support.
3. Notification of incidents through national frequency coordination administrations (ANFR in France) through to the ITU – communication to the administration of the nation identified as the source of the interference.
4. Code of Conduct Agreement within ESOA – Guidelines of Best Practices with respect to Unintentional or Deliberate Interference of Satellite Signals
A Eutelsat coordinated document with other European satellite operators including SES and Intelsat.

Deliberate Interference requires engagement from ALL concerned parties: Governments, Regulatory, Broadcasters, Satellite Operators, Earth Station Operators.

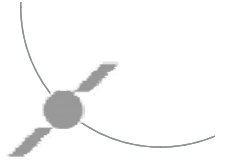
- **Future Satellite design – providing a geographically restricted access to the satellite as an alternative to large regional access.**
 - **Eutelsat has two satellites in the pipeline – E25B scheduled for launch mid 2013 and E8WB for Q3 2013.**
 - **Development of antennas on the satellite to create a “hole” over the geographical region identified as the origin of an interference.**
 - **Signal Suppression technologies**



The Space Data Association



- **A commercial satellite operator initiative that provides a secure Data Exchange Centre with the following objectives:**
 - Collects satellite position data to warn of potential collision scenarios
 - To speed up Interference Geolocalisation purposes:
 - Satellite orbital data
 - Satellite configuration data
 - Reference signal data
 - For Inter Operator Communication
 - Recent difficult interference scenarios
 - Assistance Requests



Thank You.