



# Consultative Committee of Time and Frequency

14<sup>th</sup> Meeting of the  
working Group on Two-Way Satellite Time and Frequency Transfer

## Station Report NMI-VSL



# VSL Organisation of T&F

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# VSL 4 Cs Clocks High performance





# Time measurement system



# VSL Activities

## *Maintain UTC(VSL) via*

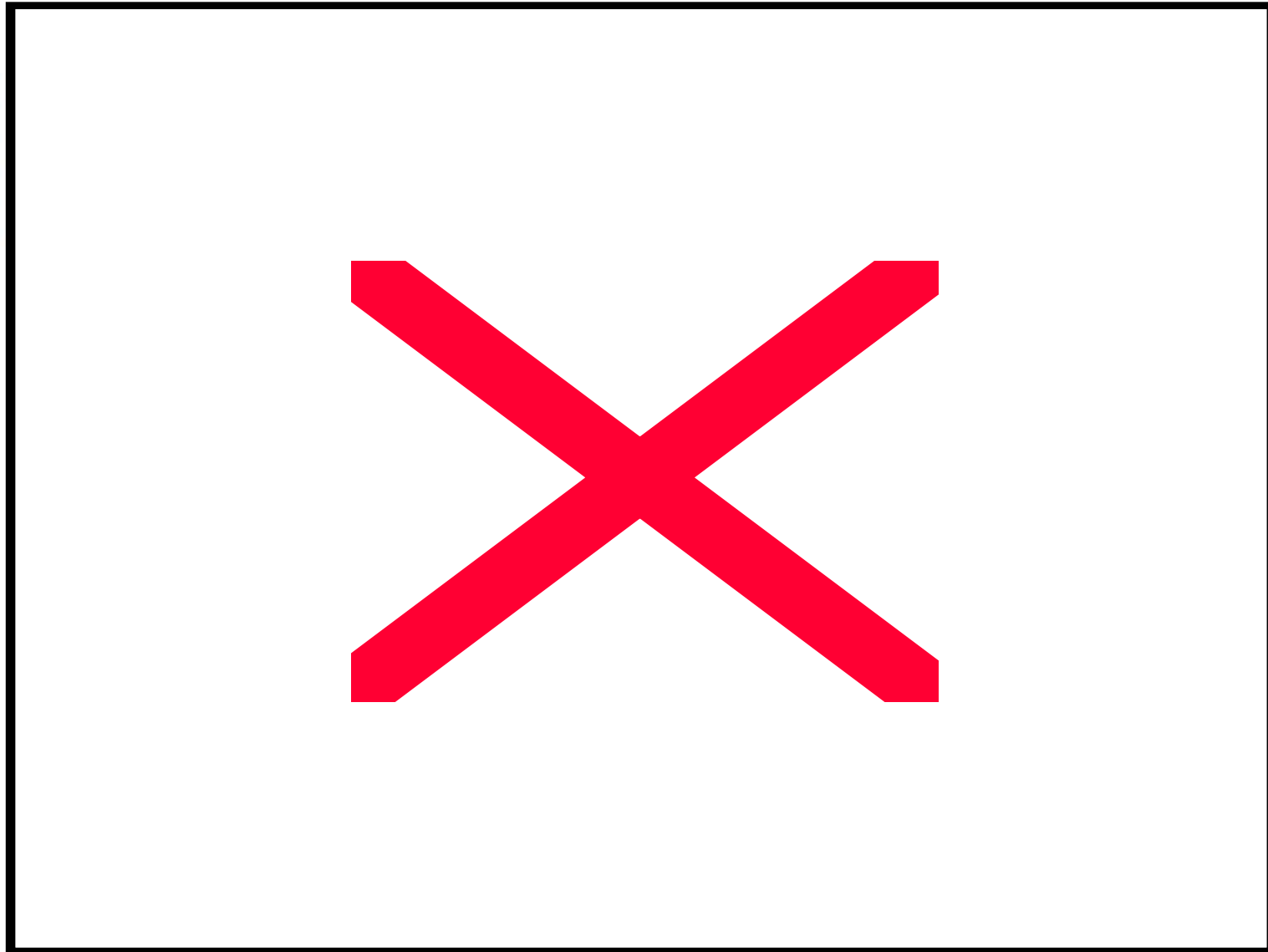
- TWSTFT via Mitrex modem & Satellite simulator
- CV GPS 1 channel CA code (NBS type)
- CV GPS/Glonass multichannel receiver (3S Navigation R100)
- CV GPS/Glonass multichannel P3 (Topcon)



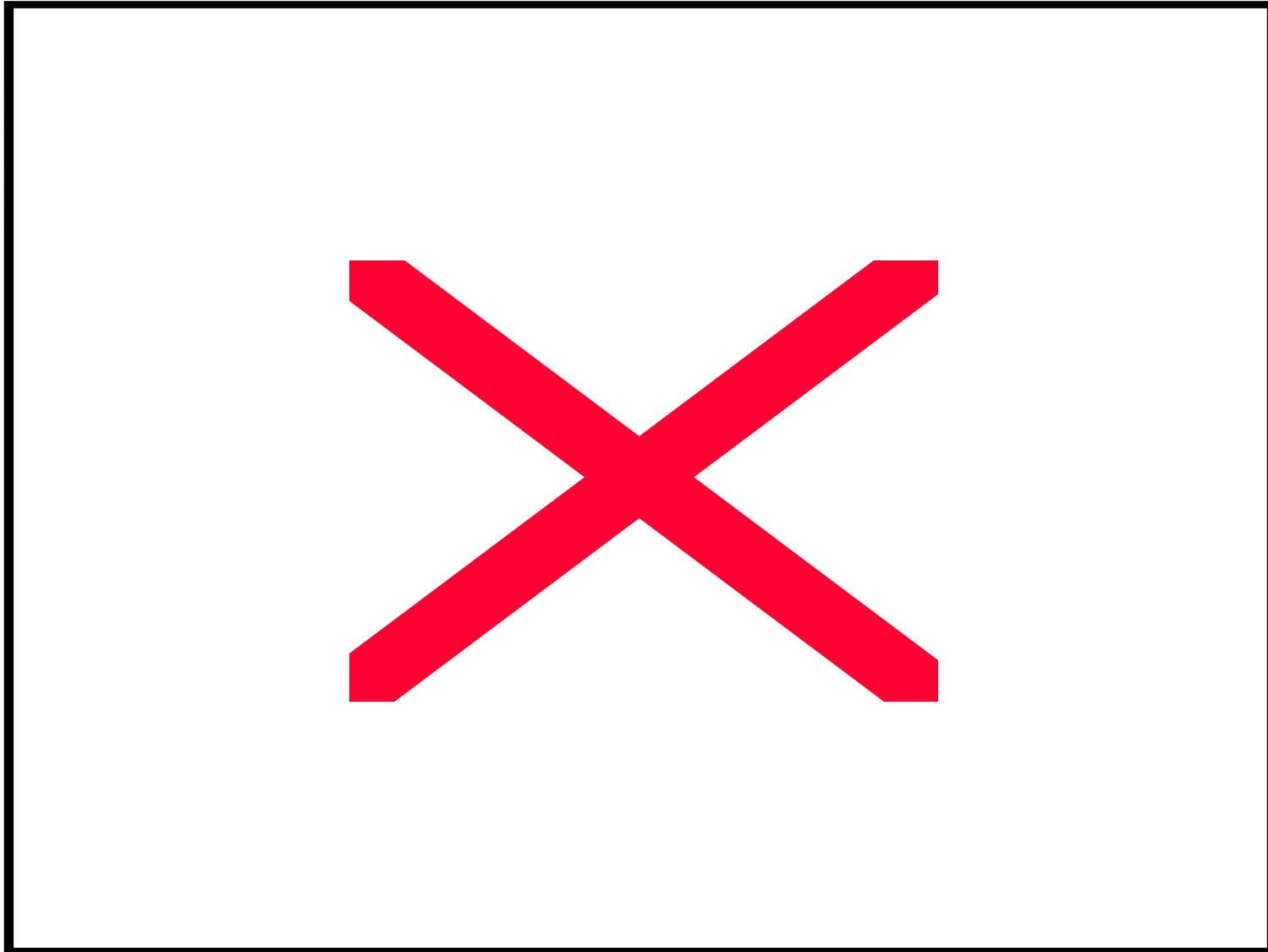
## Changes in 2006

- Topcon legacy E receiver installed for GPS CV P3 measurements.  
Data available on VSL FTP site
- TWSTFT Upconverter replaced
- Improved Satellite Simulator.  
(temperature controlled)

# TWSTFT Satellite Antenna Link to PAS-4

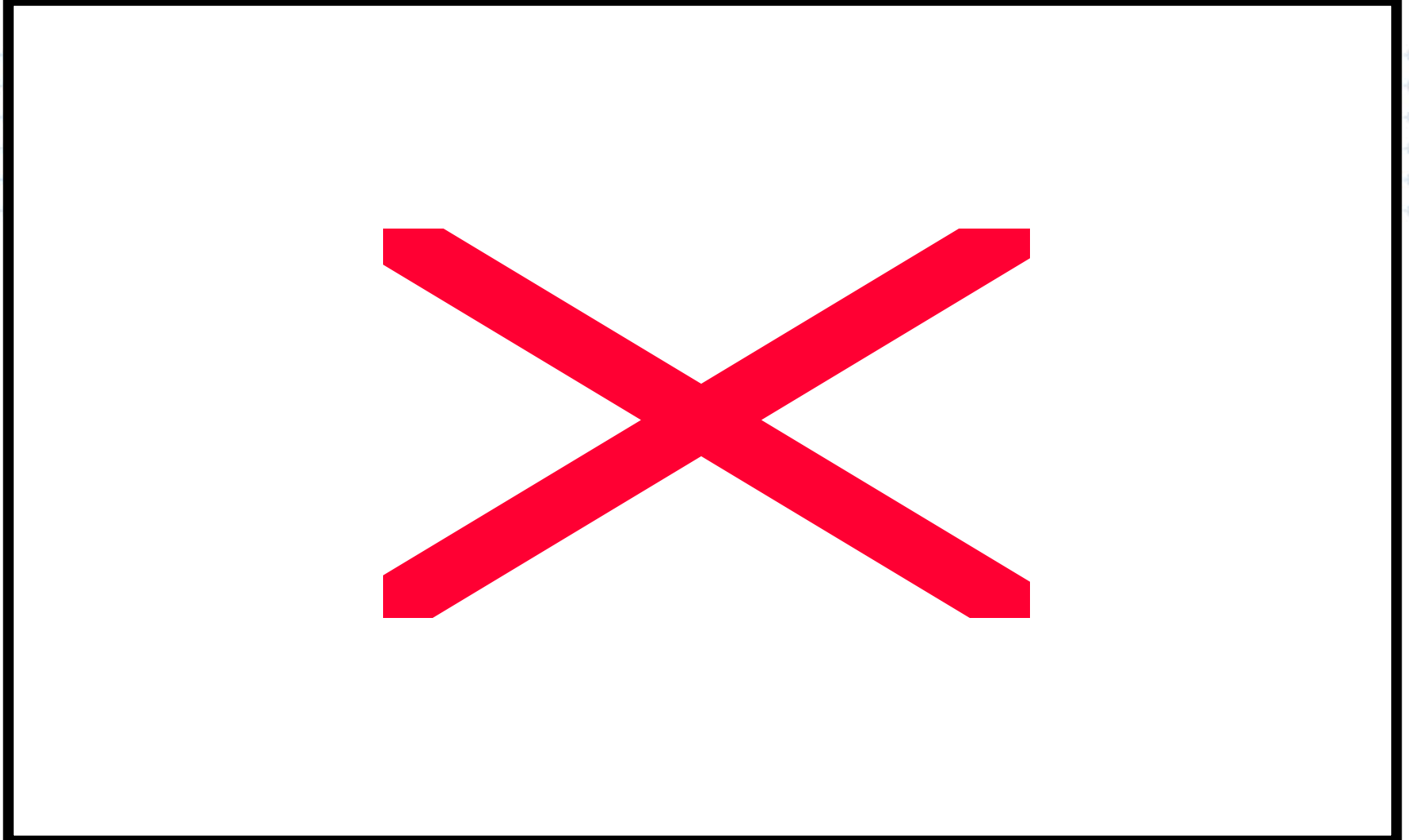


# New Satellite Simulators





# Satellite Simulator Results





## Future Work

- Down converter replacement
- Satellite Simulator Synthesizer change
- Change from Mitrex to Satre modem
- Galileo measurements
- Clock ensemble time scale