

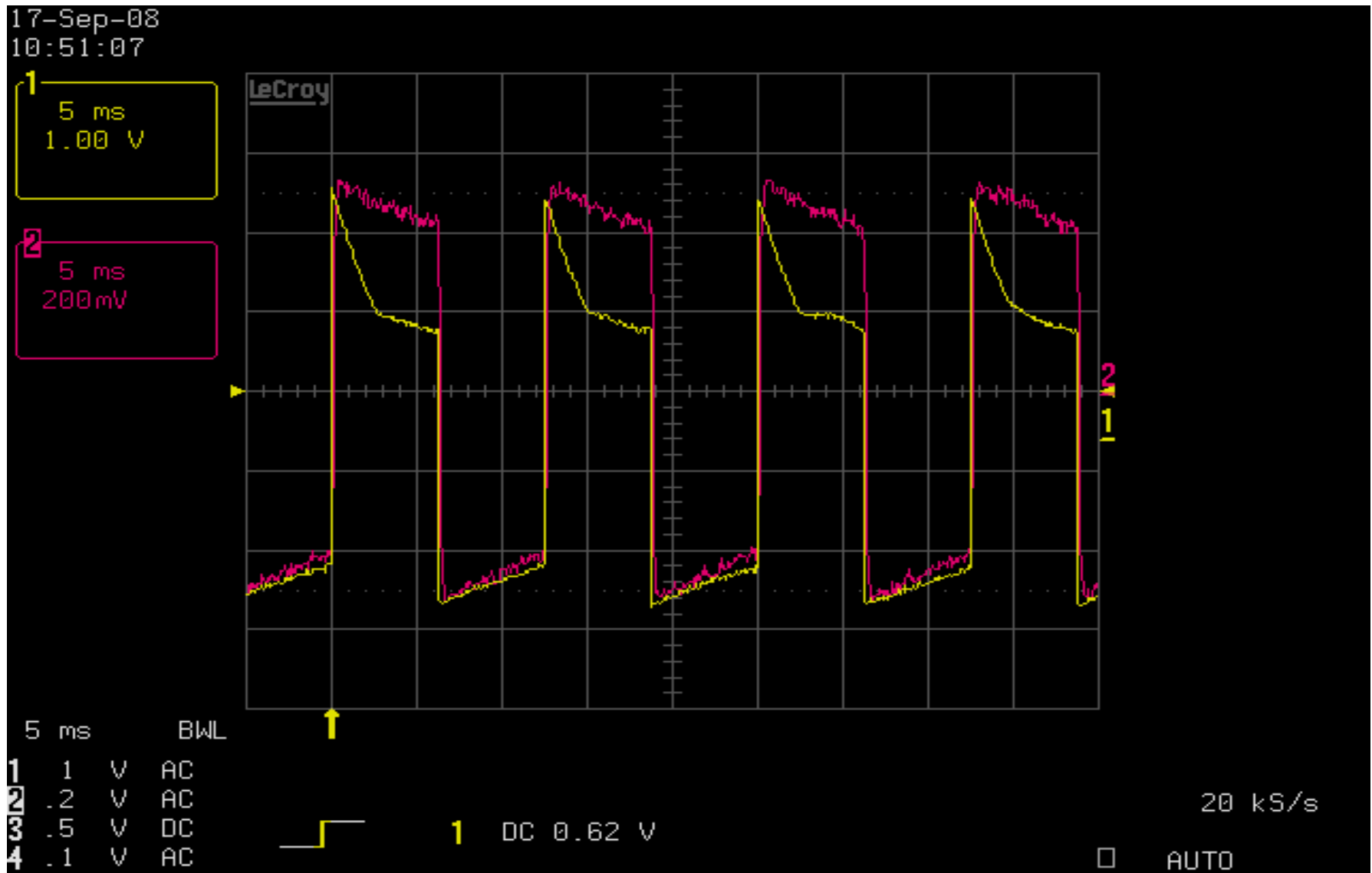
## Switch the noise diode with a 80 Hz signal

- Done at the VLBA
- VLBA BBCs and IFs have a synchronous power detector.
- The power detector provides: *Signal – Reference* for the specified average period.
- It allows to avoid the *calon/caloff* cycles.

## What you need

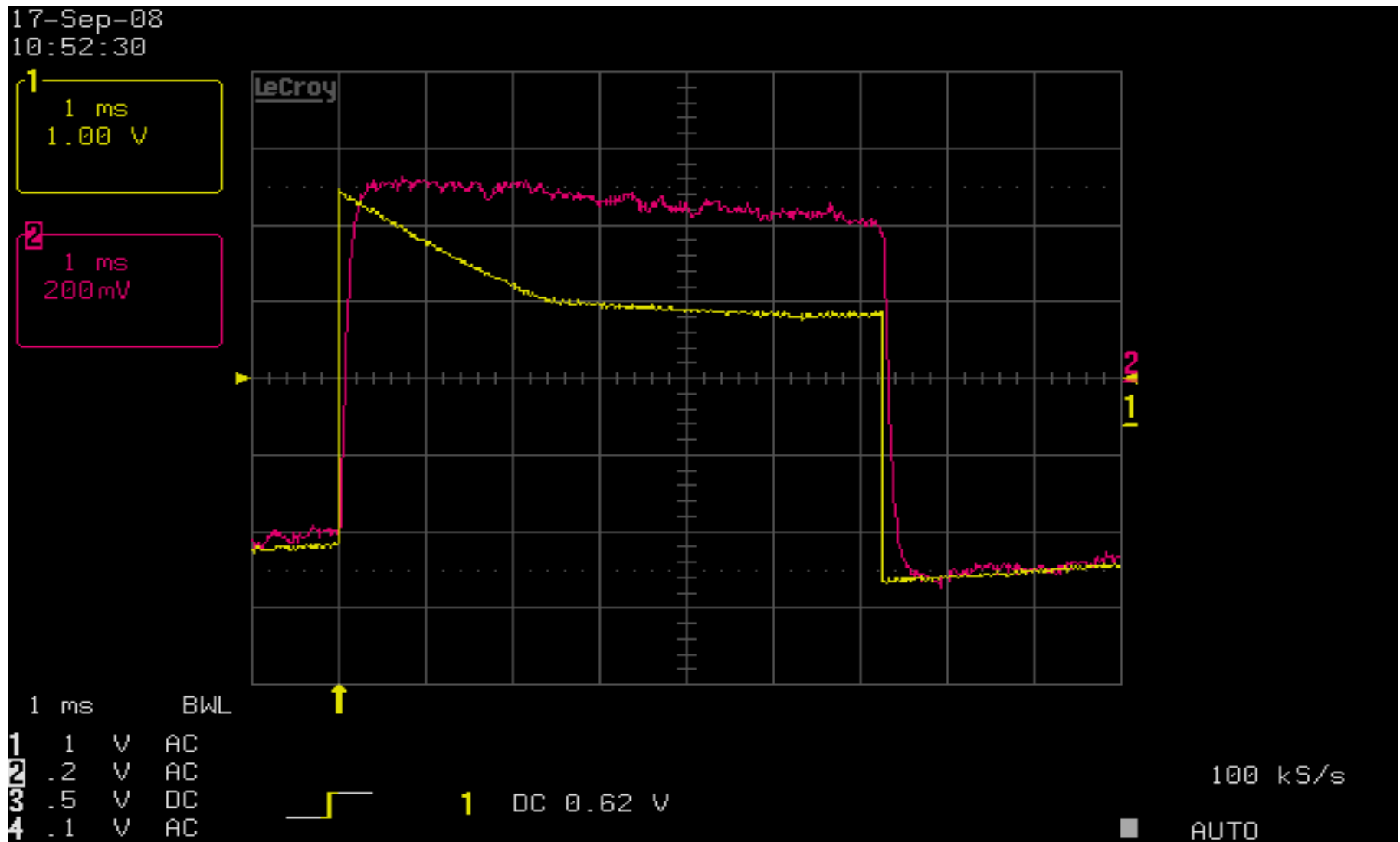
- 80 Hz. This signal is available at the station timing module: 4 outputs inside the box. Just make a hole and install one BNC connector.
- Noise diode driven by a switching power supply.
- Control board to setup the noise diode in 3 positions: ON, OFF, 80 Hz. See [OAN report 2006-15](#)
- Patch the FS (done by Dave Graham)

IF output with a switching noise diode (4 cycles)



Period/2: 6.25 ms

Delay: 75  $\mu$ s



## Tests

- Dave Graham has patched FS 9.10.3
- We measured  $T_{\text{sys}}$  with all BBC detectors and the results are similar to those obtained with traditional ON/OFF cycle.

## To be done

- Test onoff
- Include patches in the FS code.
- Implement in dBBCs?