

# Comments on GRETA-aux. detector trigger issues

## GRETA fast trigger

for aux. detector

- Part of triple overlap coincidence: particle- $\gamma$ -RF
- Purpose 1: ensure particle- $\gamma$  correlations; prepare off-line random subtraction
- Purpose 2: accept the MHz clock signal provided by GRETA
- Example for acceptable latency: Phoswich Wall  $\sim$  700 ns (next slide)

## Additional GRETA Trigger

for GRETA

- Purpose: reduce GRETA rate to a “useful” amount
- Provided signal: perhaps from fast-trigger triple overlap
- Latency to be determined by GRETA team

Acceptable latency < 700 ns.

Otherwise the events sit too long in the ASIC chip, which creates pileup.

BTW we have here 70 ns cable delay.

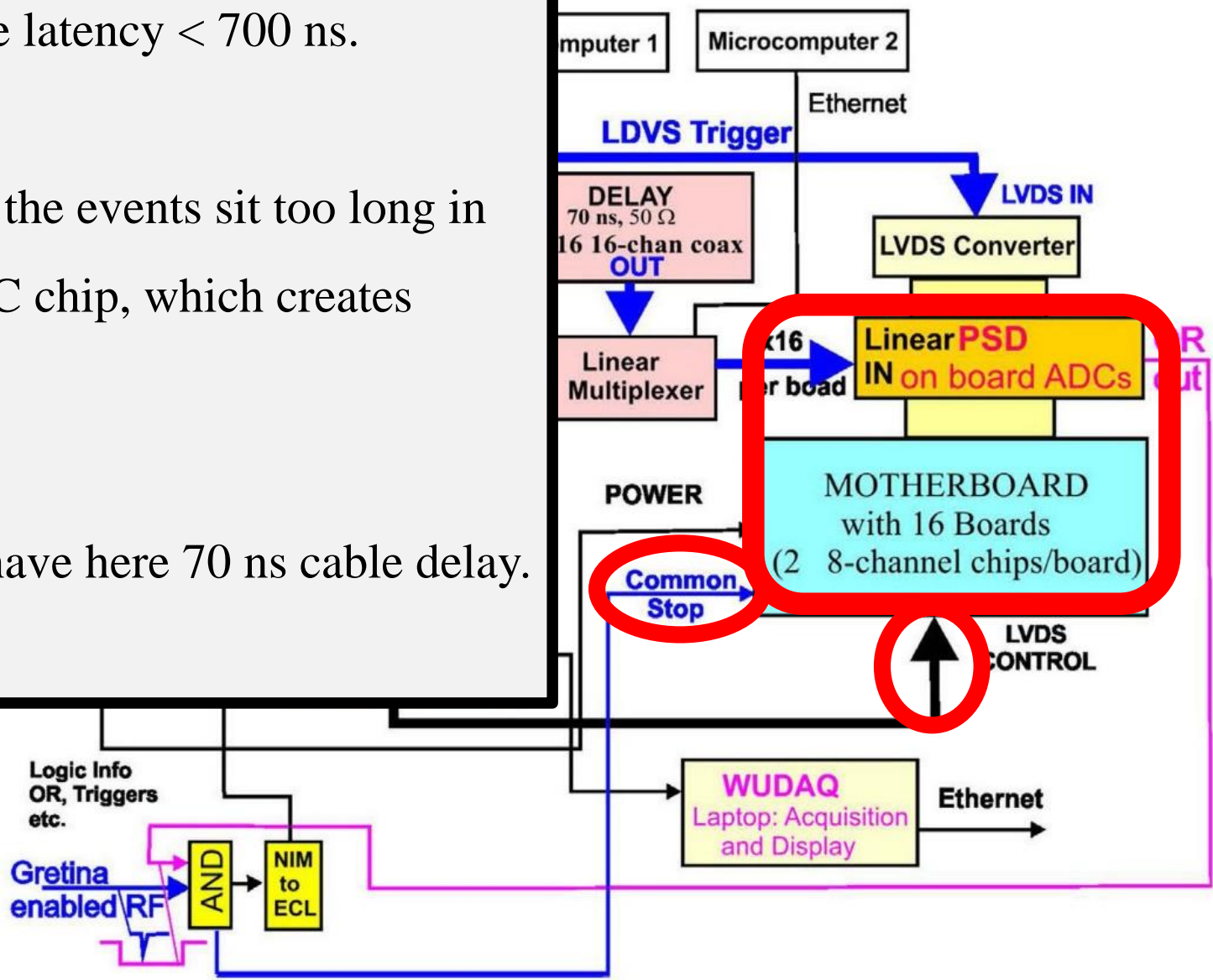


Fig. 14. data acquisition system. The thick and thin lines represent multi-wire (ribbon) and individual cables (Lemo), GRETA WS 11/30/17 (WR)

# Questions

GRETA is going to provide a fast trigger signal about 500 ns after time zero (when a  $\gamma$  ray hits GRETA). Is this also sufficiently fast for an overlap coincidence with all the other aux. systems?

How clean is the fast signal GRETA is providing to us?