l1.2 trigger

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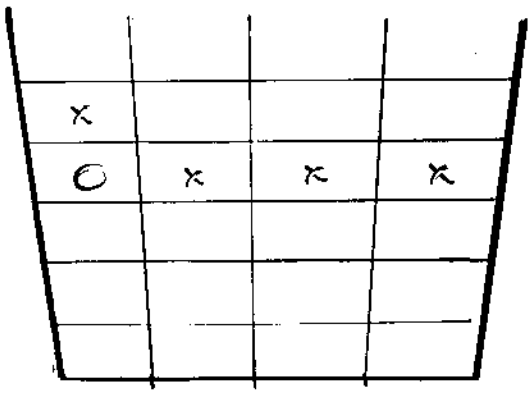
1. RSHEX+
2. HEXafterburner

1 RSHEX+



online implementation of RSHEX and some of the ELVETO cuts

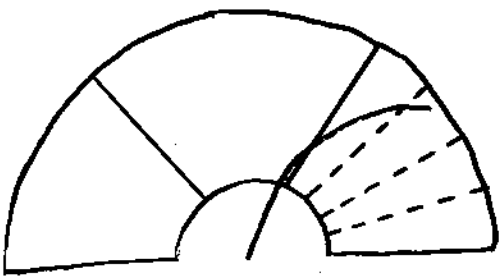
for given stopping counter veto events with FERA above threshold

a) in the other hextant sectors within the same layer
b) in the counter above the stopping counter

i.e. 4 counters x 2 ends = 8 FERA channels to check

2 HEXafterburner

HEX: only one or two adjacent hextants hit



afterburner: allow two adjacent hextants only if T.2 hextant and stopping hextant <u>differ</u>, i.e. when there is a hextant crossing

inputs to L1.2

stopping hextant
stopping sector
T.2 sector
} SCF

stopping layer
hit hextant bits

RS FERA data

memory lookup MLU

8 addresses to lookup

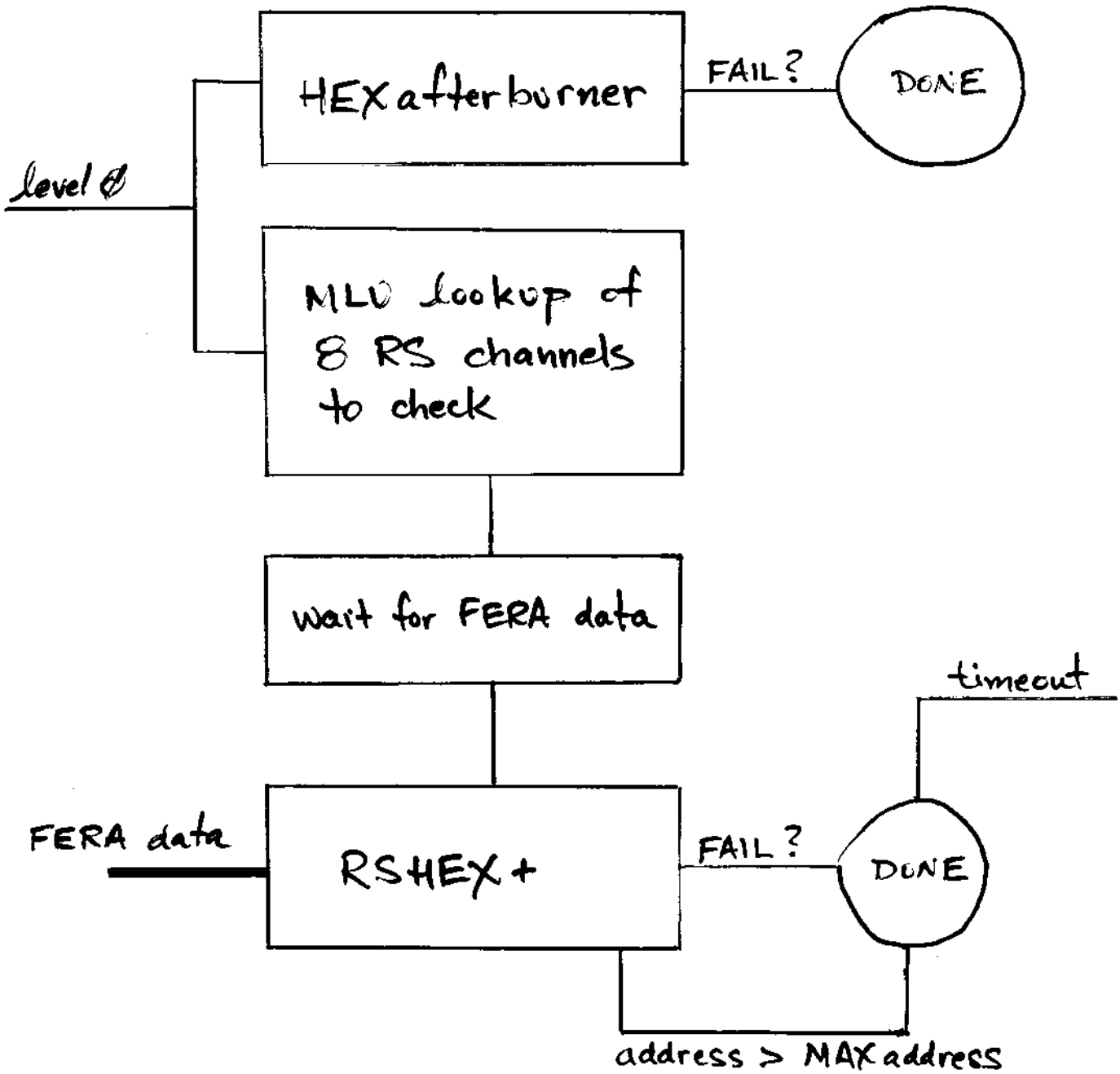
8 neighbors × stopping (hex, sec, lay) = 13 bits
(hex, sec, lay: 10 bits)

each translated to (VSN, SA)
SA: 4 bits
VSN: 8 bits (we use only 7)

hardware

1 LeCroy 2366 Xilinx

1 LeCroy 2373 16 (in) × 16 (out) MLU
OR
2 LeCroy 2372 13 (in) × 8 (out) MLU's



N.B. Hexafterburner can be switched off

hardware status

2366 Xilinx board has arrived ✓
2373 MLU – delivery date 21 March
⇒ we have 2372's
cabling: go over details tomorrow

software status

Xilinx and two 2372 MLU's programmed ✓
some testing done at Princeton

Detailed tests needed

- start tomorrow
- e.g. feasibility of tests with cosmic rays; like turning off top half of the detector...

Goal

l1.2 ready and as debugged as possible at beam turn on 1 April.