

MINUTES of the ALEPH TRIGGER MEETING

(Held at CERN on feb. 17th, 1988)

Present:

Barcelona:

Bari: G. Raso, F. Ruggieri

Beijing:

CERN: J. May, M. Pilawa, E. Simopoulou

Clermont: D. Pallin

Copenhagen:

Demokritos:

Ecole Polytech.: D. Zwierski

Edinburgh:

Frascati: P. Laurelli

Florida S. U. :

Glasgow J. Lynch, H. Walley

Heidelberg: O. Braun, R. Geiges, C. Geweniger, P. Hanke, M. Panter, K. Tittel

Imp. College: P. J. Dornan, S. Dugeay, A. Munns

Innsbruck:

Lancaster: A. Finch, S. Snow

Mainz:

Marseille:

MPI München: W. Blum, P. Cattaneo, G. Lütjens, U. Stiegler

Orsay: J. Lefrançois

Pisa: C. Bradaschia, L. Foa

Rutherford: M. S. Madani Bozorg, D. Salmon, J. C. Thompson,

R. H-way Coll.: P. March, A. K. McKemey, M. Saich

Saclay: A. Joudon, E. Lanson, E. Locci, A. Roussarie

Sheffield:

Siegen: U. Schäfer, H. Seywerd

Trieste: G. Ganis, G. Giannini, L. Rolandi

Wisconsin:

1) R. Geiges presented the cosmic trigger as it is foreseen by the trigger group. His transparencies are attached to these minutes. In general, everybody agreed to the proposed scheme. The discussion on the role, the main trigger supervisor (MTS) will play, were postponed to the presentation of J.-F. Renardy in the online meeting at the same day.

During the discussion the following comments and questions were raised :

a) During installation the endcaps will probably not be close to the barrel. This holds at least for phase I of the cosmic trigger.

b) The two calorimeters will be running synchronously. (See minutes of last trigger meeting, 25. 11. 87, 4. c.) The ECAL would be paralyzed by a trigger coinciding with its refresh period. So there must be a "PAUSE" during this time intervall. The HCAL needs synchronization not to loose too many of its short cycles during the ECAL refresh. The responsible people of the two calorimeters on one side and of the trigger supervisor on the other should have a final discussion on the proper timing.

c) The "T0" signal from the trigger logic will be ECL. Everybody accepted this.

d) The ITC will get "T0" directly even in phase II when DAQ is running. (See minutes of last trigger meeting, 25. 11. 87, 3. d.) It should be checked, if it is sufficient to have this signal independent of "BUSY", in other words if a "T0" doesn't harm the read-out during "BUSY".

e) The "T0" signals from the barrel and the endcaps should stay independent even in phase II.

f) HCAL can run with a non-inflammable gas (argon - CO₂) from about late summer 88 onwards. The efficiency is expected to be 50%.

2) K. Tittel announced the next meeting of the background study group in the name of V. Hepp, who couldn't be present. The transparencies are attached.

3) In future times the layout and the trigger meeting will be in the same room, layout at 9.00 h, trigger at 11.00 h.

Next Meeting: wednesday, 14th september 1988
 at 11. 00 h
 place: CERN, bat. 32, room: see aleph notice board

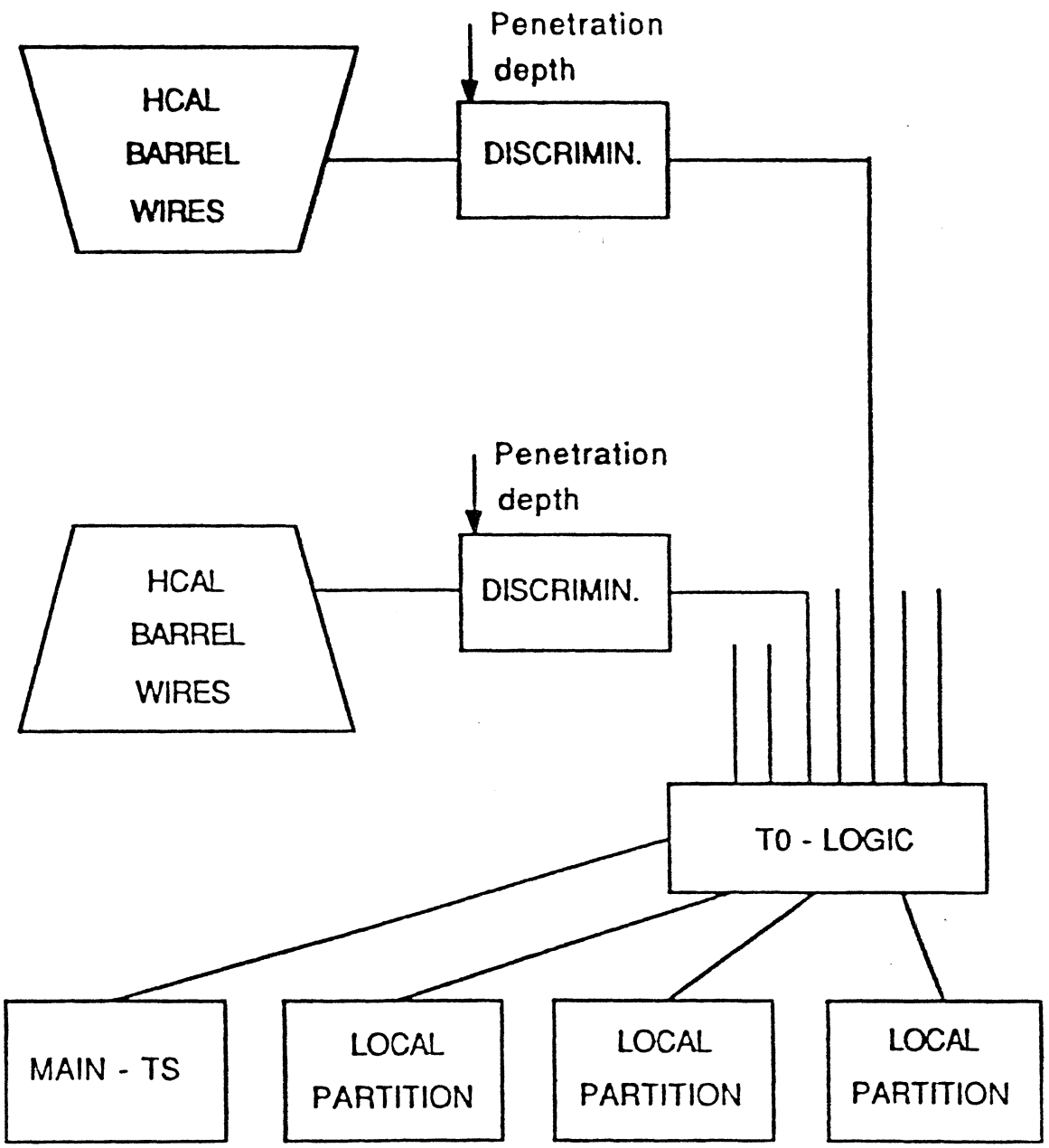
COSMIC TRIGGER

(final version)

- The trigger will be derived from HCAL-wire signals.
- The wire signals from each HCAL module are discriminated on the penetration level of tracks (adjustable by screwdrivers).
- A trigger signal (T_0) is generated by coincidences of signals from modules opposite in ϕ .
- The T_0 signal may be distributed by direct cables or via the Main Trigger Supervisor.
- Total delay time between particle passage and output of T_0 signal
 - ~ 300 nsec (board)
 - ~ 335 nsec (cable)
- Trigger rate of the coincidence:

| | |
|----------------------|------------------------|
| opposite top module | 0.1 s^{-1} |
| module at 30° | 0.075 s^{-1} |
| module at 60° | 0.024 s^{-1} |

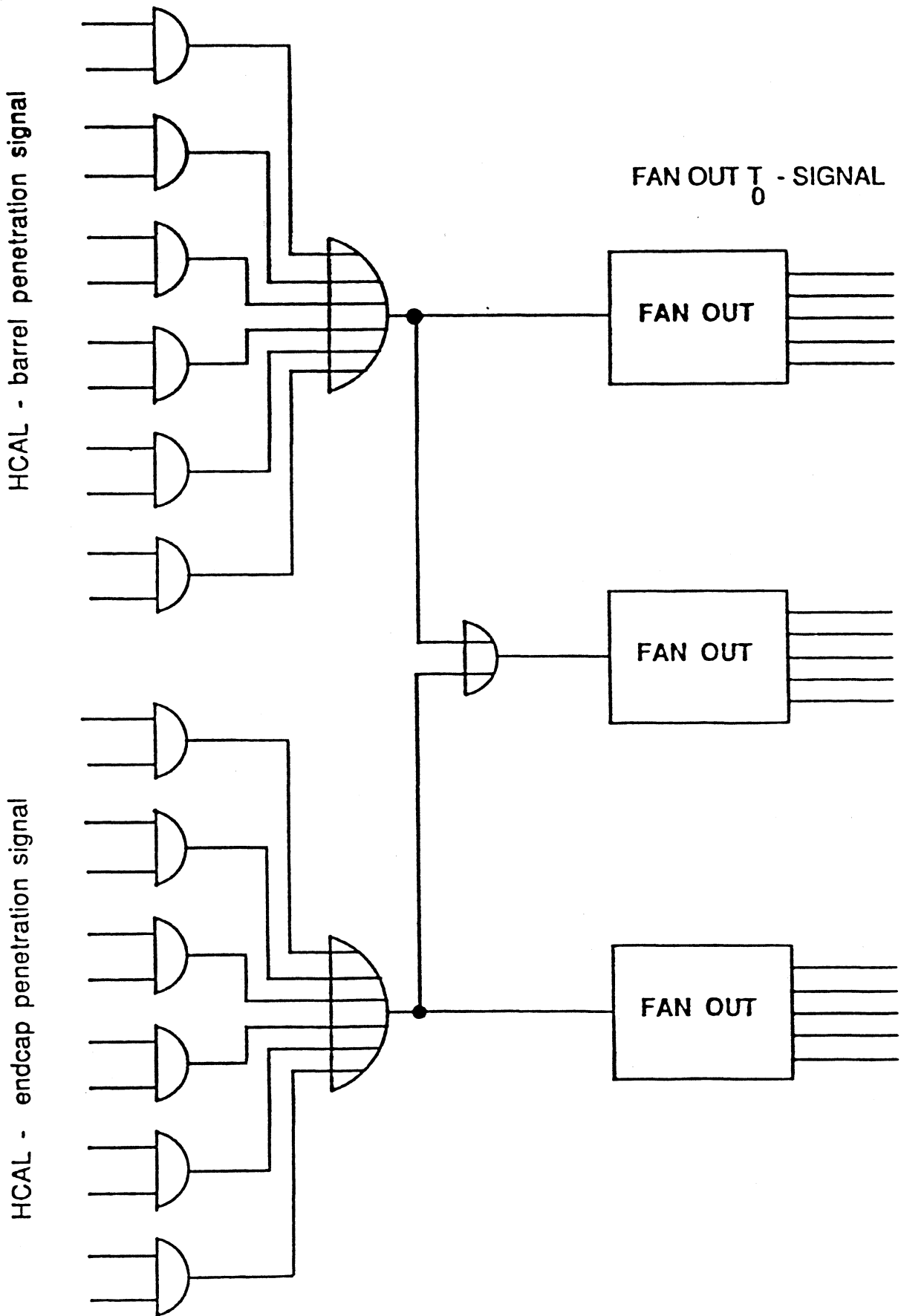
COSMIC TRIGGER BLOCK DIAGRAM



(running in 'cosmics' mode)

BX = T₀, GBX, EGBX are generated at the same time

COINCIDENCE LOGIC OF COSMIC TRIGGER



Announcement

Background study group

(convenor V. Hepp Heidelberg)

→ Proposed meeting:

Thursday, April 21st 2 p.m.
(during the reconstruction week)

- points to be discussed:
 - distribution of background in the different detector components
 - background from beam gas, beam wall and, since recently, from interactions in the "Holtey collimators"
- One representative from
VDET, ITC, TPC, LCAL, ECAL, HCAL, S.A.L.M.
should be present

→ G. v. Holtey recognized that his presentation during the ALEPH week created some confusion. Therefore he wants to stress that:

- His calculations agree with the previous HD calculations concerning the background seen by the detector

(< 1 kHz ; i.e. 1 event / 50 crossings)

- The additional background which is mentioned concerns only **his** luminosity monitor and only, to some extent, the ALEPH SALM.