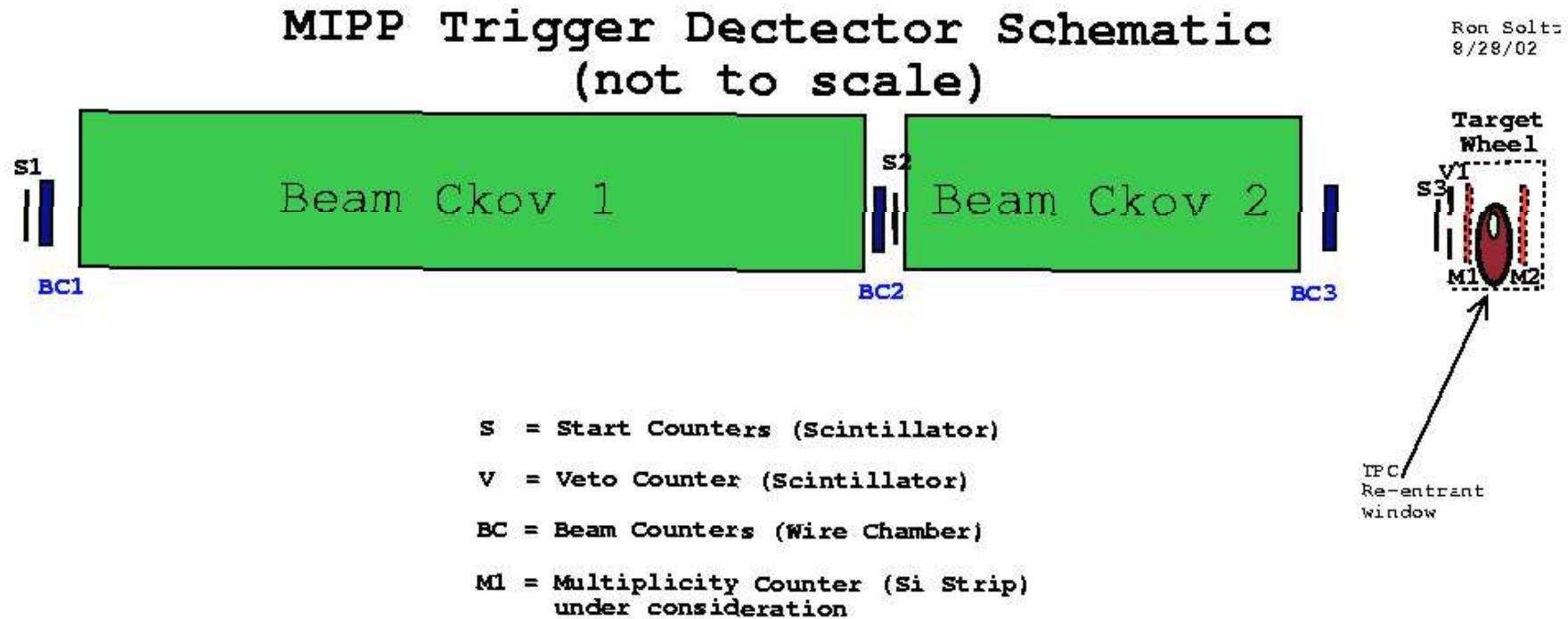


# MIPP Trigger Discussion

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...where we last left off...



# MIPP Triggers & Detectors

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- Triggerable Detectors

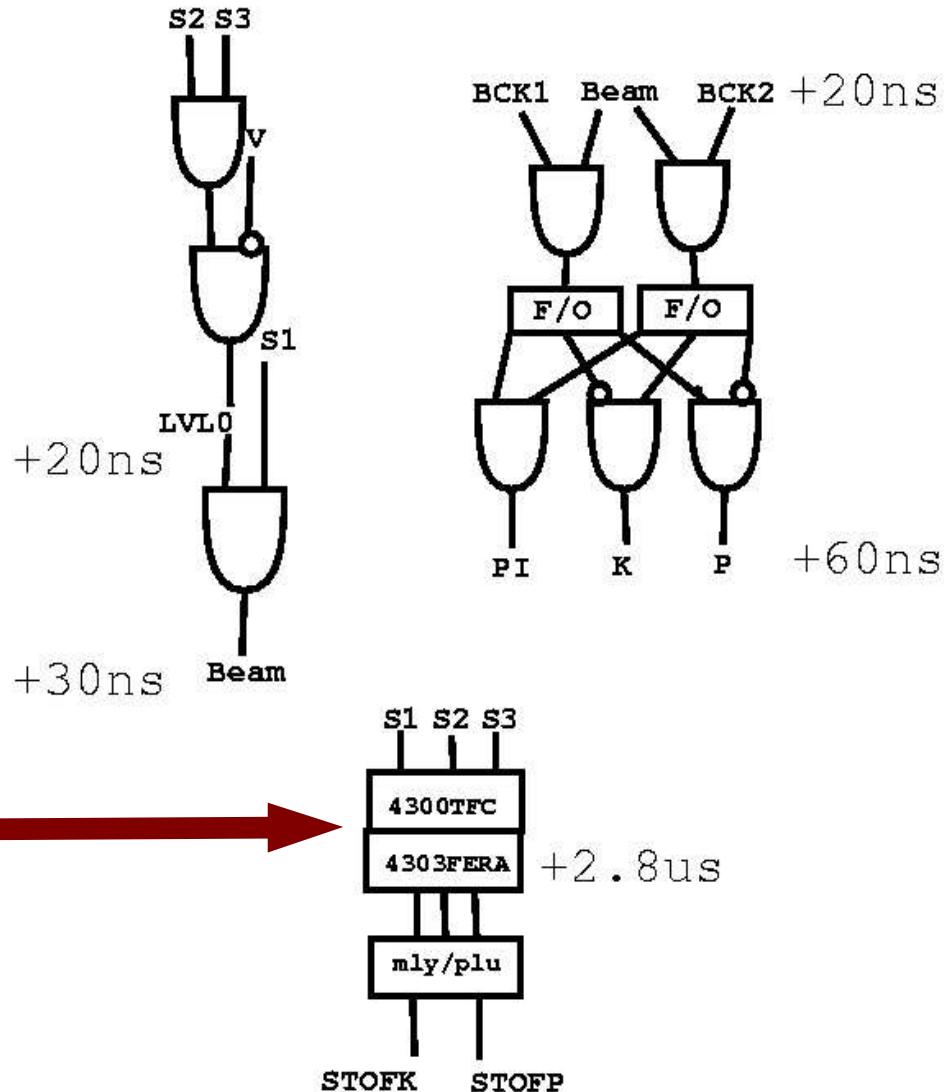
- Beam Chamber (BC1-3)
- Beam Scintillators (S1-3)
- Beam Cerenkovs (BCK1-2)
- Veto Counter (V)
- Time of Flight (TOF)
- Drift Chambers (DC1-3)

- Trigger Signals

- Pre-triggers (fast)
  - $LVL0 = S2 * S3 * \overline{V}$
- Beam definitions
  - Beam =  $S1 * LVL0$
  - PI/K/P = Beam \*  $\overline{BCK1} * \overline{BCK2}$
  - Klo = Beam \*  $\overline{BCK1} * STOFK$
  - Plo = Beam \*  $\overline{BCK1} * STOFP$
- Interactions
  - BE-INT = Beam \* BC2 \* BC3 \* DC3
  - TOF-INT = Beam \* TOFmult
- Exclusive triggers ...
- Scaledowns...

# Beam Trigger Logic

- Most Beam triggers simple
- Timing is more than just gates  
it's a long experiment



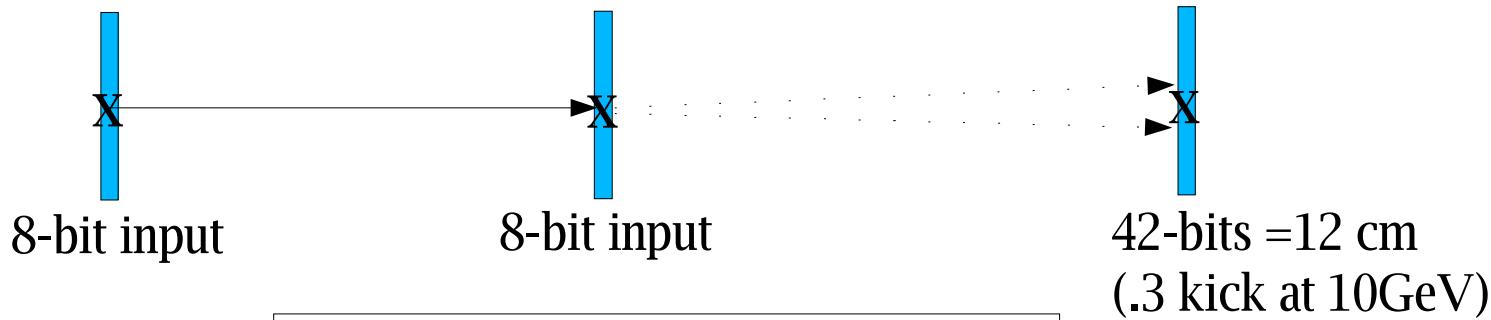
- TOF triggers for  $K/P < 10\text{GeV}$ 
  - Fast Encoding takes time
    - LeCroy 4300 TFC
    - LeCroy 4303 FERA

# Int Trigger Logic

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- 2 Interaction triggers

- BE-TOF (mult) **?-discussion-?**
- BE-INT (roach motel)
  - E690 chambers have trigger cards 8-wires to bit pattern
  - 3mm pitch, BC1/2/3@-40/-12/-5m, DC3/4@5/13m
  - pointing precision: 0.1-0.2mrad, verification: 0.04-0.08 mrad (rms)
  - 100GeV M.S. ~0.04mrad (BCK2), 0.07 (Pb-targ), 0.06 (rich/ck/tof)



- 59 bit ULM can do this job
- MLU can help (47++ at SC)

# MIPP Trigger Timing

