Trigger Inhibits

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Ace Training

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Overview

- **Trigger inhibits implemented using commercial modules**
  - **NIM and Camac logic in 1RR12D**
- **16 primary inputs.**
  - **can be masked individually from RunControl**
  - **Controlled from muon scintillator camac**
    - **Must include b0musc00 in a run to use inhibits**
  - **OR of the inputs sent to the Global Level 2 board in the Trigger Supervisor crate**
  - **Status on LED panel above Ace console**

Overview, 2

- **Two classes of inputs:**
  - Signals from the FIX MCS control system
    - Includes trips, but takes seconds(?) to reach inhibit
    - Can be masked separately from iFix
  - Fast trip signals from power supplies
    - msec time scale
    - minimize chance of corrupt data
      - Most common source of inhibit
- **Logic:**
  - $TI_i = (iFix_i + Trip_i) * Mask_i$
- **Some inputs direct from iFix, others require some NIM logic**

iFix Inputs

- **Specify status of particular components.**
  - limited number of inhibit channels
  - divide separate functions within a system to separate MCS output channel
  - combine elements for one piece of experiment from various monitors
    - Example: CCAL includes
      - PMT HV
      - CES HV
      - CES LV
- **Key idea:**
  - **Everything should be green on the inhibits iFix page**

Inhibit channel assignments

- 0 Solonoid
- 1 SVX
- 2 ISL
- 3 COT
- 4 TOF
- 5 Central Calorimeter
- 6 Plug Calorimeter
- 7 Central Muon (CMU, CMX, CMP)
- 8 IMU
- 9 CLC
- 10 L00
- 11 TeV Events
- 12 [unassigned]
- 13 Rack Protection
- 14 VME Power Supplies
- 15 [unassigned]

Summary of iFix Signals

Channel	Tag	Computer
1	SVX_HV	svxiicon
2	ISL_HV	svxiicon
3	COT_HV	cot2
4	COT_LV	cot2
5	TOF_HV	tof1
6	TOF_LV	tof1
7	CENTRAL_HV	pisabox
8	CES_HV	muon3
9	CES_LV	voltman
10	XENON_OFF	pisabox
11	PLUG_HV	cdfephv
12	PES_LV	voltman
13	MUON_HV	muon3
14	MUON_LV	voltman
15	CSP_CSX	cdfccu
16	IMU_HV	muon3
17	IMU_LV	voltman
18	CLC_HV	clc
19	RACKS	cdf_s3
20	VME_POWER	voltman
21	CSP_CCU	cdfccu
22	IMU_CCU	cdfccu
23	L00_HV	svxiicon

TRIGINHIBIT.GRF

8/21/02
11:49:51 AM

Trigger Inhibit Status

CLOSE

DISABLE	SVX B5W11 layer 0 SVX System Power	DISABLE	CES High Voltage	DISABLE	IMU High Voltage
DISABLE	ISL B5W5 layer 0 ISL System Power	DISABLE	CES Low Voltage	DISABLE	IMU Low Voltage
DISABLE	L00 B1W5 layer 3 L00 System Power	ENABLE	Xenon Flasher Status Not Implemented	ENABLE	CLC High Voltage Not Implemented
DISABLE	COT High Voltage	ENABLE	Plug Calorimeter Not Implemented	ENABLE	Relay Rack Status Not Implemented
ENABLE	COT Low Voltage Not Implemented	DISABLE	Plug Shower Low Voltage	DISABLE	Low Voltage Power
ENABLE	TOF High Voltage DISABLED	DISABLE	Central Muon High Voltage	DISABLE	Muon Scintillator (CCU)
DISABLE	TOF Low Voltage	DISABLE	Central Muon Low Voltage	DISABLE	IMU scintillator
DISABLE	Central Calorimeter	DISABLE	Muon Scintillator (Pisa box)		