

## PHOS trigger configuration

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More details look at “TRU and TOR manual”.

<b>Module</b>	<b>DCS board = alidcsdcb15**</b>
<b>2</b>	<b>84, 87, 86, 85</b>
<b>3</b>	<b>95, 94, 93, 92</b>
<b>4</b>	<b>88, 89, 90, 91</b>
<b>TOR</b>	<b>72</b>


### ***1. Start procedure***

- open terminal on **aldaqacr48**
- **ssh phs@alidcscom075**
- **84** // *logon on alidcsdcb1584*  
// *procedure repeat for all DCS boards*  
// *for TOR type tor*

## 2. Check TRUs status – OFF/ON

- ```
- rcu-sh r 0x5100
```

|                             |                              |
|-----------------------------|------------------------------|
| Most significant 4 hex bits | Least significant 4 hex bits |
| Branch B                    | Branch A                     |

0x7fff -> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  
  
*FEC's*      *TRU // TRU on*

0x7ffe -> 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 // *TRU off*

### 3. Initialize TRUs

```
$ cd /mnt/dcbw/tru-dcs-share/tru_script
```

**\$/TRU\_initial.sh** // *This should be done on every DCS board on which the TRUs*

*// are going to be used.*

After initialization, the screen looks like this:

```
A:0x8002:0x2034
0x8003:0
0x8002 0x4
0x8003:0
B:0x8002:0x102034
0x8003:0
0x8002 0x100004
0x8003:0
```

#### ***4. Configure TOR:***

- Start Tinserver
  - **ps** //on *alidcsdcb1572* to check whether the **Tinserver** is running or //not, if not, run “**./mnt/dcbw/starttinserver**” and check again.
- Check firmware

```
$cd /mnt/dcbw
$rcu-sh r 0x27 // check if the firmware is there
$0xNN // the version number
//if you get “no target answer” - FPGA doesn't have firmware yet
//and you need program it by typing:
```

**./program\_tor tor\_fpga2\_300611.bit** // version number - **0x56**.  
**!!//Previous ver. was “tor\_fpga4\_080311.bit”, version number - 0x53.**
- Initialize TOR
  - **rcu-sh b /mnt/dcbw/set\_register.scr**

#### ***5. Set the mask on the TOR side***

- **rcu-sh w 0x1b 0xabfe**

#### ***6. Check TRU trigger rate***

```
//on alidcsdcb1572 (dir /mnt/dcbw)
rcu-sh b read_counter_M2_in. scr
rcu-sh b read_counter_M3_in. scr
rcu-sh b read_counter_M4_in. scr
```

#### ***7. Set busy time 800 $\mu$ s***

- **rcu-sh w 0xaf 0x8340**

### ***8. Set TRU threshold***

```
./TRU_threshold_A.sh 0x0190  
./ TRU_threshold_B.sh 0x0190  
//do for all DCS boards  
//0x0190 ~ 2GeV
```

### ***9. Initialize modules***

- **!! M2, 3 – RESET → GoReady**
- **!! For M4 -- Configure → TriggerEnable.**
- **!! If you have done “GoReady” for M4,  
please, reinitialize TRUs in M4**

### ***10. Check L0 counting rate***

- **rcu-sh r 0x1f**



