

DAQ for helios

First Step :

connect DAQ Compute inside the exp hall :

open a terminal and input : sshdig

 Password: gam\$hippie (directory: /home/dgs)

 gotoacq (directory:
/global/devel/systems/helios/h060)

 ./heliosCommander*

Then enter the interface of DAQ

Interface of DAQ

Data not saved in ACQ mode

Data saved in Run mode

HELIOS Main: H057 He6

PV Access

Globals

Old DGS Control

Ind. Boards

VME1 VME2

VME3 VME4

Misc

Timing Zero Det.

Array

Threshold L B R T

Trace L B R T

Recoil

All Params

Triggering

Master Router 1 Router 2

Polarity Pileup Mode

Both Accept ExtTTCL

Thresholds

X 0

Y 0

Trigger Select

	Man/Aux Trig	Raw	Veto-able
1	<input type="checkbox"/>	0	0
2	<input checked="" type="checkbox"/>	47040	47040
3	<input type="checkbox"/>	0	0
4	<input type="checkbox"/>	0	0

Master Trig Output Control

NIM 1 AnyTrig NIM 2 AnyTrig

Startup & ACQ/Run Control

ACQ On/Off

ACQ On

Save Data

Not Saving

Copy/Sort

Copy

Start Run

Stop Run

Generate IOC

Soft

Trig

IOC 1

IOC 2

IOC 3

IOC 4

Startup Params

Setup Trigger

Setup Digitizer

Setup Other

Monitors

Master

NIM In B

NIM In A

TS roll

Fast Str

rsvd

rsvd

rsvd

L Init State 1

L Init State 2

L Init State 4

L Init State 8

Trig Veto

All Lock

Lock Error

Router 1 2

NIM In B

NIM In A

R Lock

Fast Str

CPLD 1

CPLD 2

CPLD 4

CPLD 8

L Init State 1

L Init State 2

L Init State 4

L Init State 8

All Lock

Lock Error

Live Timestamps by Board

	VME01	VME02
MDIG1	7565	7566
MDIG2	7565	7565
MDIG3	7565	7566
MDIG4	7565	7566

	VME03	VME04
MDIG1	7565	7565
MDIG2	7565	7565
MDIG3	7565	7565
MDIG4	7566	7565

TCP/IP Rate Buffs Avail Send Buffs

	Rate	Buffs Avail	Send Buffs
VME1	0.0	396	0
VME2	0.0	396	0
VME3	0.0	396	0
VME4	0.0	400	0

ZERO Rates [pps]

de 0 e 0 rf 63130

Array Rates [pps]

	left	bottom	top	right	
1173	1636	861	711	604	524
13918	13431	8317	3938	2830	2571
108	120	84	93	18	27
184	287	277	333	277	316

Recoil Rates [pps]

	de	rf	
7233	4373	25689	18899

attention that the buffer value don't drop rapidly !!

Pay

ACQ on

/global/devel/systems/helios/h057/edm/screens/HELIOSMain.edl (on digios1)

HELIOS Main: H057 He6

PV Access

Globals
Old DGS Control
Ind. Boards: VME1, VME2, VME3, VME4
Misc: Timing, Zero Det.

Array: Threshold, Trace (L, B, R, T)
Recoil: All Params

Triggering

Master Router 1 Router 2
Polarity: Both, Accept
Mode: EXTTCCL

Thresholds: X, Y

Trigger Select:
1 Man/Aux Trig
2 Sum Hits X
3 Sum Hits Y
4 Sum XY

Trigger Rates:
Raw Veto-able
2 47040 47040

Master Trig Output Control:
NIM 1 AnyTrig, NIM 2 AnyTrig

Startup & ACQ/Run Control

ACQ On/Off: **ACQ On** (circled)
Save Data
Not Saving
Copy/Sort: Copy
Generate IOC: Soft, Trig, IOC 1, IOC 2, IOC 3, IOC 4
Startup Params: Setup Trigger, Setup Digitizer, Setup Other
Monitors

Start Run (green), Stop Run (red)

Live Timestamps by Board

	VME01	VME02
MDIG1	7565	7566
MDIG2	7565	7565
MDIG3	7565	7566
MDIG4	7565	7566

	VME03	VME04
MDIG1	7565	7565
MDIG2	7565	7565
MDIG3	7565	7565
MDIG4	7566	7565

Master Router1 Router2
7872 7873 7873

TCP/IP Rate

	Bufs Avail	Send Bufs
VME1	396	0
VME2	396	0
VME3	396	0
VME4	400	0

ZERO Rates [pps]

	de	e	rf
	0	0	6313

Array Rates [pps]

	left	bottom	top	right
	1173	13918	108	184
	1636	13431	120	287
	861	8317	84	277
	711	3938	93	333
	604	2830	18	277

Recoil Rates [pps]

	de	e	rf
	7233	4373	25689
	7165	113	28196
			18899
			24553

ACQ off

HELIOS Main: H057 He6

PV Access

Globals

Old DGS Control

Ind. Boards

VME1 VME2
VME3 VME4

Misc

Timing Zero Det.

Array

Threshold L B R T
Trace L B R T

Recoil

All Params

Triggering

Master Router 1 Router 2

Polarity Pileup Mode

Both Accept EXTTC

Thresholds

X

Y

Trigger Select

1 Man/Aux Trig

2 Sum Hits X

3 Sum Hits Y

4 Sum XY

Trigger Rates

	Raw	Veto-able
1	0	0
2	0	0
3	0	0
4	0	0

Master Trig Output Control

NIM 1 **AnyTrig** NIM 2 **AnyTrig**

Startup & ACQ/Run Control

ACQ On/Off

ACQ Off

Save Data

Not Saving

Copy/Sort

Copy

Generate IOC

Soft

Trig

IOC 1

IOC 2

IOC 3

IOC 4

Startup Params

Setup Trigger

Setup Digitizer

Setup Other

Monitors

Start Run **Stop Run**

Live Timestamps by Board

	VME01	VME02	
MDIG1	9667	9668	
MDIG2	9669	9668	
MDIG3	9667	9668	
MDIG4	9669	9668	
	VME03	VME04	
MDIG1	9668	9668	
MDIG2	9668	9668	
MDIG3	9668	9668	
MDIG4	9668	9668	
	Master	Router1	Router2
	5511	5512	5513

ZERO Rates [pps]

de	0	e	0	rf	0
----	---	---	---	----	---

Array Rates [pps]

left	0	0	0	0	0	0	0
bottom	0	0	0	0	0	0	0
top	0	0	0	0	0	0	0
right	0	0	0	0	0	0	0

Recoil Rates [pps]

de	0	0	0	0
e	0	0	0	0

Master

NIM In B

NIM In A

TS roll

Fast Str

rsvd

rsvd

rsvd

Init State 1

Init State 2

Init State 4

Init State 8

Trig Veto

0

All Lock

Lock Error

Imp Sync

Router 1 2

NIM In B

NIM In A

R Lock

Fast Str

CPLD 1

CPLD 2

CPLD 4

CPLD 8

L Init State 1

L Init State 2

L Init State 4

L Init State 8

0

All Lock

Lock Error

Link L Error

TCP/IP Rate Buffs Avail Send Buffs

	TCP/IP Rate	Buffs Avail	Send Buffs
VME1	0.0	400	0
VME2	0.0	400	0
VME3	0.0	400	0
VME4	0.0	400	0

Start Run(1)

HELIOS Main: H057 He6

PV Access

Array

Globals

Old DGS Control

Ind. Boards

VME1 VME2

VME3 VME4

Misc

Timing

Zero Det.

Triggering

Master Router 1 Router 2

Polarity Pileup Mode

Both Accept EXTTCCL

Thresholds

X

Y

Trigger Select

1	Man/Aux Trig	<input type="checkbox"/>
2	Sum Hits X	<input checked="" type="checkbox"/>
3	Sum Hits Y	<input type="checkbox"/>
4	Sum XY	<input type="checkbox"/>

Trigger Rates

	Raw	Veto-able
1	0	0
2	0	0
3	0	0
4	0	0

Master Trig Output Control

NIM 1 AnyTrig NIM 2 AnyTrig

Startup & ACQ/Run Control

ACQ On/Off

ACQ Off

Save Data

Not Saving

Copy/Sort

Copy

Generate IOC

Soft

Trig

IOC 1

IOC 2

IOC 3

IOC 4

Startup Params

Setup Trigger

Setup Digitizer

Setup Other

Monitors

Start Run

Stop Run

Live Timestamps by Board

	VME01	VME02
MDIG1	9667	9668
MDIG2	9669	9668
MDIG3	9667	9668
MDIG4	9669	9668
	VME03	VME04
MDIG1	9668	9668
MDIG2	9668	9668
MDIG3	9668	9668
MDIG4	9668	9668

	Master	Router1	Router2
	5511	5512	5513

ZERO Rates [pps]

de e rf

Array Rates [pps]

	left	bottom	top	right
	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0

Recoil Rates [pps]

	de	e		
	0	0	0	0
	0	0	0	0

Master

NIM In B	<input type="checkbox"/>
NIM In A	<input type="checkbox"/>
TS roll	<input type="checkbox"/>
Fast Str	<input type="checkbox"/>
rsvd	<input type="checkbox"/>
rsvd	<input type="checkbox"/>
rsvd	<input type="checkbox"/>
Init State 1	<input checked="" type="checkbox"/>
Init State 2	<input type="checkbox"/>
Init State 4	<input checked="" type="checkbox"/>
Init State 8	<input type="checkbox"/>
Trig Veto	<input type="checkbox"/>
0	<input type="checkbox"/>
All Lock	<input checked="" type="checkbox"/>
Lock Error	<input type="checkbox"/>

Router 1

NIM In B	<input type="checkbox"/>
NIM In A	<input type="checkbox"/>
R Lock	<input checked="" type="checkbox"/>
Fast Str	<input type="checkbox"/>
CPLD 1	<input type="checkbox"/>
CPLD 2	<input type="checkbox"/>
CPLD 4	<input type="checkbox"/>
CPLD 8	<input type="checkbox"/>
L Init State 1	<input checked="" type="checkbox"/>
L Init State 2	<input type="checkbox"/>
L Init State 4	<input checked="" type="checkbox"/>
L Init State 8	<input type="checkbox"/>
0	<input type="checkbox"/>
All Lock	<input checked="" type="checkbox"/>
Lock Error	<input type="checkbox"/>
Link L Error	<input type="checkbox"/>

Router 2

NIM In B	<input type="checkbox"/>
NIM In A	<input type="checkbox"/>
R Lock	<input checked="" type="checkbox"/>
Fast Str	<input type="checkbox"/>
CPLD 1	<input type="checkbox"/>
CPLD 2	<input type="checkbox"/>
CPLD 4	<input type="checkbox"/>
CPLD 8	<input type="checkbox"/>
L Init State 1	<input checked="" type="checkbox"/>
L Init State 2	<input type="checkbox"/>
L Init State 4	<input checked="" type="checkbox"/>
L Init State 8	<input type="checkbox"/>
0	<input type="checkbox"/>
All Lock	<input checked="" type="checkbox"/>
Lock Error	<input type="checkbox"/>
Link L Error	<input type="checkbox"/>

Imp Sync

Start Run(2)

Input the run number

(no repeated)

NOTICE
High magnetic field
2.50 T
HELIOS_notice_sign.pdf

Globals
Old DGS Control
Ind. Boards
VME1 VME2
VME3 VME4
Timing

Master

NIM In B	NIM In A	R Lock	Fast Str	CPLD 1	CPLD 2	CPLD 4	CPLD 8	L Init State 1	L Init State 2	L Init State 4	L Init State 8	Trig Veto	0	All Lock	Lock Error	Link L. Error

Imp Sync

	VME01	VME02
MDIG1	11647	11648
MDIG2	11647	11647
MDIG3	11647	11648
MDIG4	11647	11648

	VME03	VME04
MDIG1	11649	11647
MDIG2	11647	11647
MDIG3	11647	11647
MDIG4	11647	11647

	Master	Router1	Router2
	13751	13752	13752

de 0 e 0 rf 0

	TCP/IP Rate	Bufs Avail	Send Bufs
VME1	0.0	400	0
VME2	0.0	400	0
VME3	0.0	400	0
VME4	0.0	400	0

	left	bottom	top	right
Array Rates [pps]	0	0	0	0
	0	0	0	0
	0	0	0	0
	0	0	0	0

	de	e	rf
Recoil Rates [pps]	0	0	0
	0	0	0

Start Run(3)

Pay attention that the buffer value

don't drop rapidly !!

gtReceiver4.c
WRITEGFORMAT=1
initReceiver: will use Server addr 192.168.1.21 and port: 9001
0,000 Mbytes; 0 KB/s; Fri Sep 15 20:14:42 2017; runtime: 0h 0,00m
opened file h057_run_99.gtd01_00_0101
0,513 Mbytes; 35 KB/s; Fri Sep 15 20:14:57 2017; runtime: 0h 0,25m

gtReceiver4.c
WRITEGFORMAT=1
initReceiver: will use Server addr 192.168.1.22 and port: 9001
0,000 Mbytes; 0 KB/s; Fri Sep 15 20:14:42 2017; runtime: 0h 0,00m
0,000 Mbytes; 0 KB/s; Fri Sep 15 20:14:57 2017; runtime: 0h 0,25m

gtReceiver4.c
WRITEGFORMAT=1
initReceiver: will use Server addr 192.168.1.23 and port: 9001
0,000 Mbytes; 0 KB/s; Fri Sep 15 20:14:42 2017; runtime: 0h 0,00m
0,000 Mbytes; 0 KB/s; Fri Sep 15 20:14:57 2017; runtime: 0h 0,25m

gtReceiver4.c
WRITEGFORMAT=1
initReceiver: will use Server addr 192.168.1.24 and port: 9001
0,000 Mbytes; 0 KB/s; Fri Sep 15 20:14:42 2017; runtime: 0h 0,00m
0,000 Mbytes; 0 KB/s; Fri Sep 15 20:14:57 2017; runtime: 0h 0,25m

```
.bashrc - emacs@malaguena.onenet
dgs@digios1:global/develop/systems/helios/h057
File Edit View Search Terminal Help
1 # .bashrc
2
3 # Source g
4 if [ -f /e
5
A saves/timing saved_all.2017-09-15.17-33
svn: warning: 'saves/trigger.txt' is already under version control
[dgs@digios1 h057]$ svn commit -m 'some modifications to triggering'
Sending
  edm/scripts/array_saved
Sending
  edm/scripts/helios_setup_digitizer
Sending
  edm/scripts/helios_setup_other
Sending
  edm/scripts/recoil_saved
Sending
  edm/scripts/timing_saved
Adding
  saves/array_saved_threshold.2017-09-11.15-33
Adding
  saves/array_saved_threshold.2017-09-12.11-15
Adding
  saves/array_saved_threshold.2017-09-12.11-20
Adding
  saves/array_saved_threshold.2017-09-12.11-25
Adding
  saves/array_saved_threshold.2017-09-12.15-54
Adding
  saves/array_saved_threshold.2017-09-15.09-13
Adding
  saves/array_saved_threshold.2017-09-15.09-14
Adding
  saves/array_saved_threshold.2017-09-15.17-32
Adding
  saves/ezero_saved_all.2017-09-15.17-33
Adding
  saves/recoil_saved_all.2017-09-12.16-12
Adding
  saves/recoil_saved_all.2017-09-15.17-32
Adding
  saves/timing_saved_all.2017-09-15.17-33
Sending
  saves/trigger.txt
Transmitting file data .....
Committed revision 321.
[dgs@digios1 h057]$ ls
edm/ heliosCommander* null saves/ temp trigger
[dgs@digios1 h057]$ Run Number 0 is underway
Done - Terminal Window is Free to use
```

	TCP/IP R	Rate	Bufs Avail	Send Bufs	Array Rates [pps]						
VME1	0.0		400	0	left	2	52	0	0	1	0
VME2	0.0		400	0	bottom	1	2	0	0	0	0
VME3	0.0		400	0	top	0	0	0	2	2	12
VME4	0.0		400	0	right	1	3	2	5	0	0

	Recoil Rates [pps]			
de	0	0	0	0
e	0	0	0	0

Should see all files opening after a few minutes

```
dgs@digios1:/media/DIGIOSDATA1/data/h057_he6
File Edit View Search Terminal Help
[dgs@digios1 h057_he6]$ ll -h h057_run_121.gtd0**
-rwxr-xr-x. 1 dgs dgs 955M Sep 16 08:41 h057_run_121.gtd01_000_0101*
-rwxr-xr-x. 1 dgs dgs 954M Sep 16 08:43 h057_run_121.gtd01_001_0101*
-rwxr-xr-x. 1 dgs dgs 955M Sep 16 08:45 h057_run_121.gtd01_002_0101*
-rwxr-xr-x. 1 dgs dgs 955M Sep 16 08:47 h057_run_121.gtd01_003_0101*
-rwxr-xr-x. 1 dgs dgs 954M Sep 16 08:48 h057_run_121.gtd01_004_0101*
-rwxr-xr-x. 1 dgs dgs 611M Sep 16 08:51 h057_run_121.gtd01_005_0101*
-rwxr-xr-x. 1 dgs dgs 2.6M Sep 16 08:49 h057_run_121.gtd02_000_0105*
-rwxr-xr-x. 1 dgs dgs 59M Sep 16 08:51 h057_run_121.gtd02_000_0107*
[dgs@digios1 h057_he6]$
```


