
Oasys Operation Manual

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1.Schematic of System

Hardware list

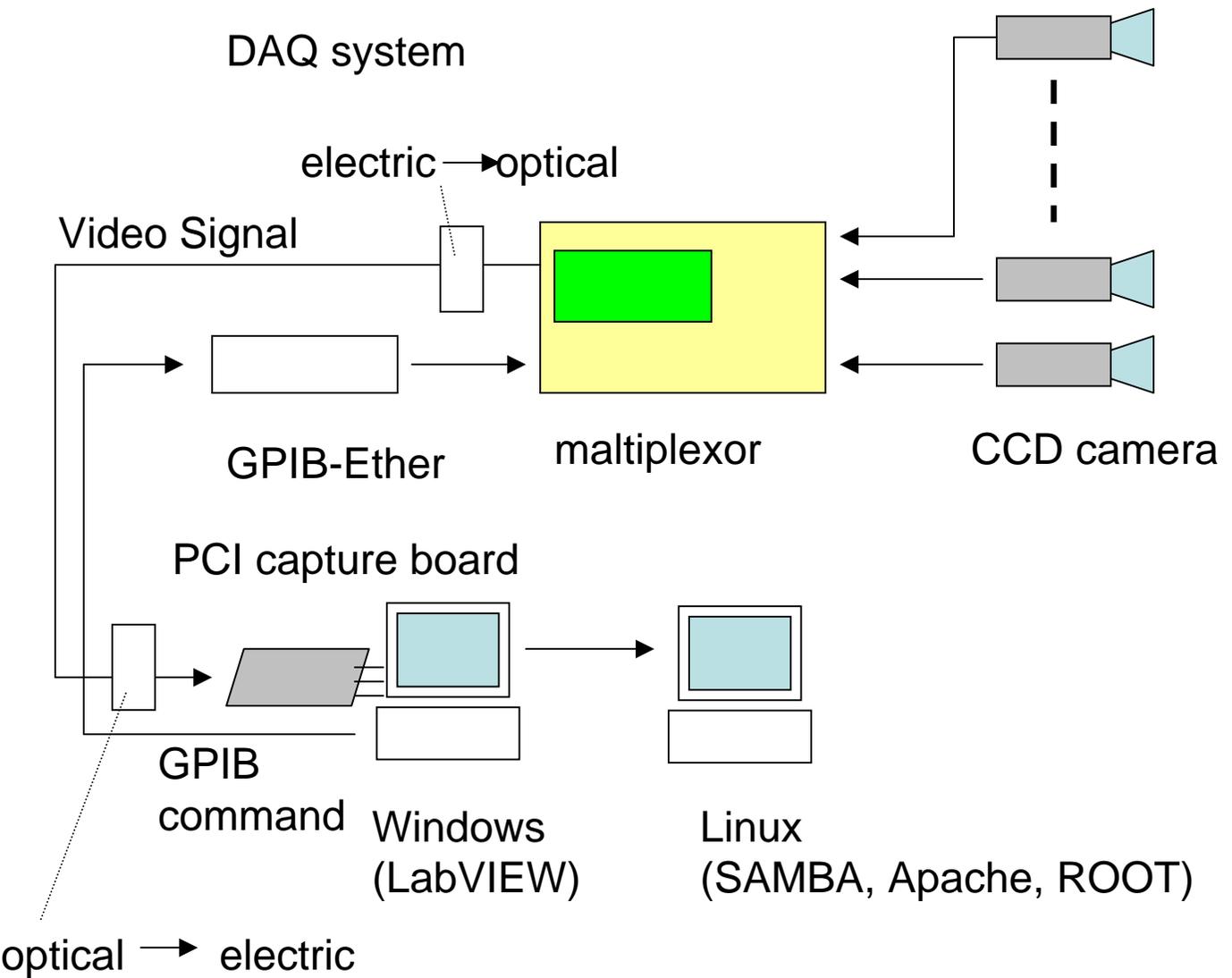
- CCD Camera 56/arm
- Multiplexer : Keithley 7011 *2 (north and south)
 GPIB Address 0::7
- GPIB-Ether Interface : National Instrument GPIB-Ether 100
 North IP : 130:199.98.211
 Ethernet Address : 08:00:11:09:25:A5
 South IP : 130.199.99.135
 Ethernet Address : 08:10:11:17:DD:B5
- PCI Capture Board : National Instrument IMAQ PCI-1407

- Windows Machine
 oasys1(north) : oasys1.phenix.bnl.gov (130.199.98.243)
 oasys2 (south): oasys2.phenix.bnl.gov (130.199.98.244)
- Linux Machine
 oasys3 : oasys3.phenix.bnl.gov (130.199.98.245)

Software list

- LabVIEW (Windows)
- ROOT (Linux)
- SAMBA server (Linux)
- Apache (Linux)

DAQ system



directory/file list

Windows (Both oasys1 and oasys2 are same)

- | | | |
|----------------------|----------------|----------------|
| E:\¥LabOAsys | ¥OAsysRun.exe | program |
| | ¥data¥confDAT¥ | configure file |
| | ¥data¥error¥ | error log |
| | ¥data¥hist¥ | histogram |
| | ¥data¥image¥ | image |
| | ¥data¥raw¥ | raw data |
| | ¥source¥ | source |
| ¥¥OAsys3¥OAsys3-smb¥ | | SAMBA |

Linux (oasys3)

¥data1¥u¥OAsys-samba	¥north¥hist	histogram
	¥north¥html	html
	¥north¥image	image
	¥north¥raw	raw data
	¥south ¥ hist	histogram
	¥south¥html	html
	¥south¥image	image
	¥south¥raw	raw data
	¥online	online analysis

2 . How to use

Bring up

◆Bring up Hardware (3 steps)

1.Check Muon Tracking LV

Note!

The MuTr LV system should only be turned on by muTr experts. So,when the LV power has been turned off, ask to the MUTR expert

. Rack Power

The status of low voltage rack power for the MuTr can be seen on the screen of phoncs12, which is located at the north west corner of the counting room. It is commonly used to control LV for entire PHENIX.In the "Rack Monitoring and Control" window, you can find 6 segments of MuTr low voltage control (NMT1, NMT2, NMT3, SMT1, SMT2, and SMT3).

Click "ON" button of voltage control and check indicator above the "ON" button turns from **Green** to **Red**.

. Low Voltage

On the same screen as "Rack Monitoring and Control" there are graphical user interface windows called "SMT" for the south muon arm and "NMT" for the north. Click "Crate A" and "Crate B" button, and check "Crate A" and "Crate B" button turns from **Green** to **Red**.

North MuTr Low Voltage Control
Wednesday, September 01, 2004 09:24:55

Inverter Power is OFF
 Busbar Power is ON

St 2	Station 3					GL-CL#2	Camera
1	2	3	4	5	6	7	
0.7	0.1	0.9	0.5	0.7	S3 O 5.4	CH1	2.315
0.04 A	0.03 A	0.03 A	0.04 A	0.04 A	0.00 A	CH2	2.328
0.8	0.2	0.4	0.6	0.8	S3 O 5.6	CH3	2.334
0.04 A	0.04 A	0.03 A	0.04 A	0.07 A	0.00 A	CH4	2.334
					S3 O 7.8	CH5	
					0.06 A	CH6	
34.13	32.95	32.97	32.07	36.54	33.94		37.47

AC OK
BUS OK

always zero bad current readback

Crate B TOP
Crate B

Only muTr experts can turn on this LV
Must check LV distribution GUI first * Boards With Full Temp Indication

Station 1	Station 2					GLINK-CLINK #1
1	2	3	4	5	6	7
0.1	0.3	0.1	0.3	0.5	N/A	St1
0.01 A	0.01 A	0.06 A	0.04 A	0.00 A	-0.00 A	0.01 A
0.2	0.4	0.2	0.4	0.6	S2 O 7-8	S2 O 1-3
0.01 A	0.01 A	0.05 A	0.04 A	-0.05 A	0.01 A	0.00 A
					S3 O 1-2	S2 O 4-6
					0.00 A	-0.00 A
32.65	32.27	31.64	31.78	31.08	31.05	31.29

AC OK
BUS OK

Crate A BOTTOM
Crate A

Low Voltage

Rack Power

September 01, 2004 09:24:58

FBC W01 W01A
 FBC W02 W02A
 FBC W03 Door Alarm
 FBC W03 Door Alarm
 DC HV Heat
 PCW1 Heat
 PCW2 Heat
 FBLE0 W05A
 FBLE1 W05A
 FBCE3 W05A
 FBZE1 W05A
 FBLE3 Door Alarm
 FBLE1 Door Alarm
 FBDE3 Door Alarm
 FDU1 Door Alarm
 DCE Heat
 PCB Heat

ECN11 TEC FEM	ECB11 TEC FEM	BB2 HV	WCN11 ACB FEM	WCS11 FDU SCPC LV
ECN12 TEC FEM	ECB12 TEC FEM	BB1 FEM	WCN12 FDU MT HV	WCS12 SC4 FEM
ECN13 FICH FEM	ECB13 FPH LV	MVD FEM	WCN13 FBCE LV	WCS13 FDU SCPC HV
ECN14 FBOL HV	ECB14 RBH FEM	WCB1 FDU HV	WCN14 SCPC HV	WCS14 FDU MB HV
ECN21 FDU HV	ECB21 TV FEM	WCB2 FDU HV	WCN21 Magnet HV	WCS21 Magnet HV
ECN22 TV FEM	ECB22 FDU HV	WFC	WCN22 Magnet HV	WCS22 Magnet HV
ECN21 LV	ECB21 TEC FEM	SFC	NMT1 Multi HV	SMT1 Multi HV
ECN22 TEC FEM	ECB22 FDU HV		NMT2 Multi HV	SMT2 Multi HV
ECN41 CBN HV	ECB41 TV FEM		NMT3 Multi HV	SMT3 Multi HV
ECN42 TEC FEM	ECB42 SDR HV		NMT1 Multi HV	SMT1 Multi HV
ECN43 BHC PC HV	ECB43 FDU HV		NMT2 Multi HV	SMT2 Multi HV
ECN44 E1401 Trg	ECB44 FDU HV		NMT3 Multi HV	SMT3 Multi HV

ECB FDU HV

2. Turn cameras on

To turn cameras on, use graphical user interface called “North (South) Muon Tracking Low Voltage Power Control” (NMTLV_2.0, SMTLV_2.0).

On this window, you can see “Turn Cameras On” button and 56 segment

of camera indicators.

Click “Turn Cameras ON” button and check indicator turn on **Red**

You must check the racks and crates are on

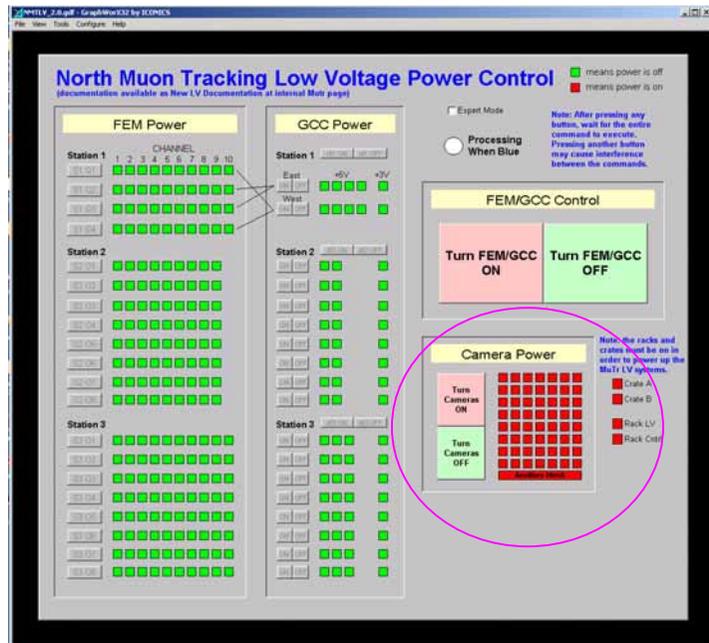


Fig. North Muon Tracking Low Voltage

3. Turn light source on

At last, turn light source using graphical user interface called “North (South) Muon Tracker monitoring” (MuTr.N, MuTr.S).

Click “light source” control and check it turn on **Red**.

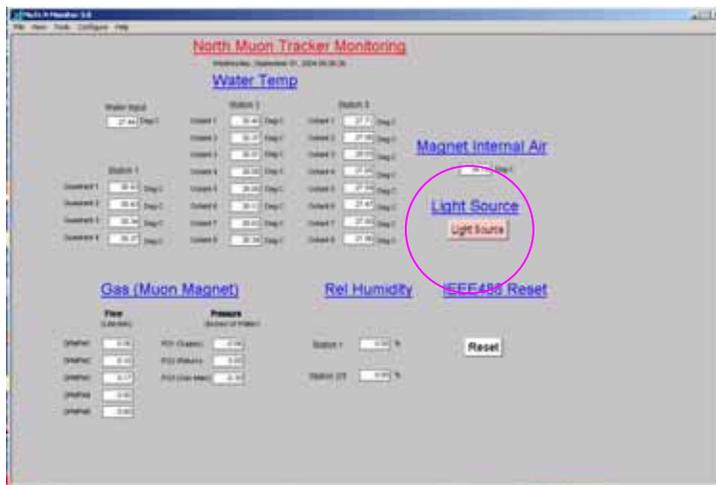


Fig. North Muon Tracker monitoring

Note : GPIB Reset is obsolete.

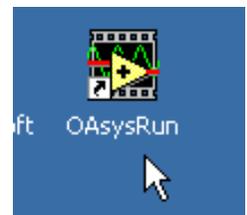
Because, it is never needed in the new DAQ system.

◆ Bring up DAQ Software

*You must done procedure bellow both oasys1 and oasys2, which is allocated in the rack room.

Double click "OAsysRun " on the Desktop or directly bring up executable file

(Program Path E:\¥LabOAsys¥OAsysRun.exe)



Error check

When you would bring DAQ software up, automatically data taking will be started and system take data every 10 min. After you bring DAQ software up, you should check if system works properly or not. Checking procedure is as bellow.

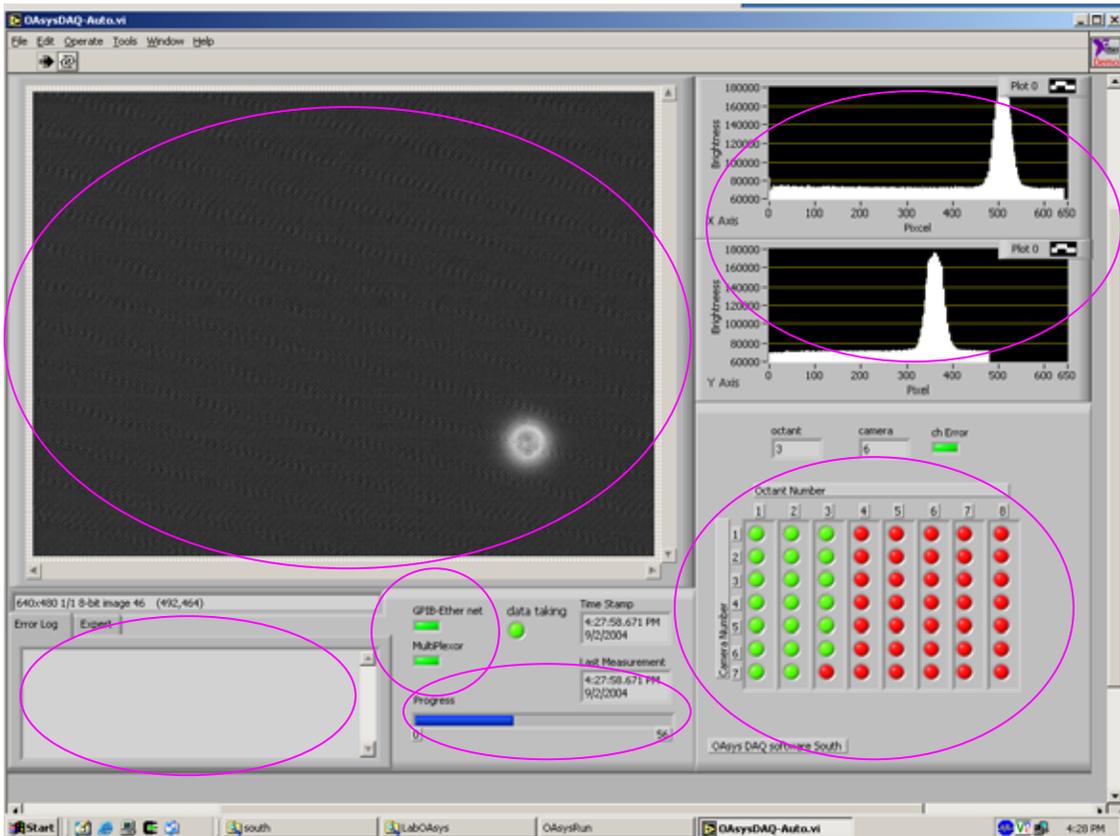


Fig. DAQ software (on Windows)

Check it

- ✓ Is there light image on display? Look
- ✓ Is there peak on the histogram? Look
- ✓ GPIB-Ether interface & Multiplexer status is tuned on Green ? Look
- ✓ Each CCD status should be Green ? Look

image display
if there are no signal from CCD, gray image will be displayed.

Note : Good CCD has peak but some one has no light spot at all. List is shown later.

Histogram display

GPIB-Ether interface status (upper) and,

Multiplexer status (lower)

indicator means

Good: **Green**

Bad : **Red**

CCD camera status 7 camera/octant * 8 octant

indicator means

Good : **Green**

Not measured yet or Bad: **Red**

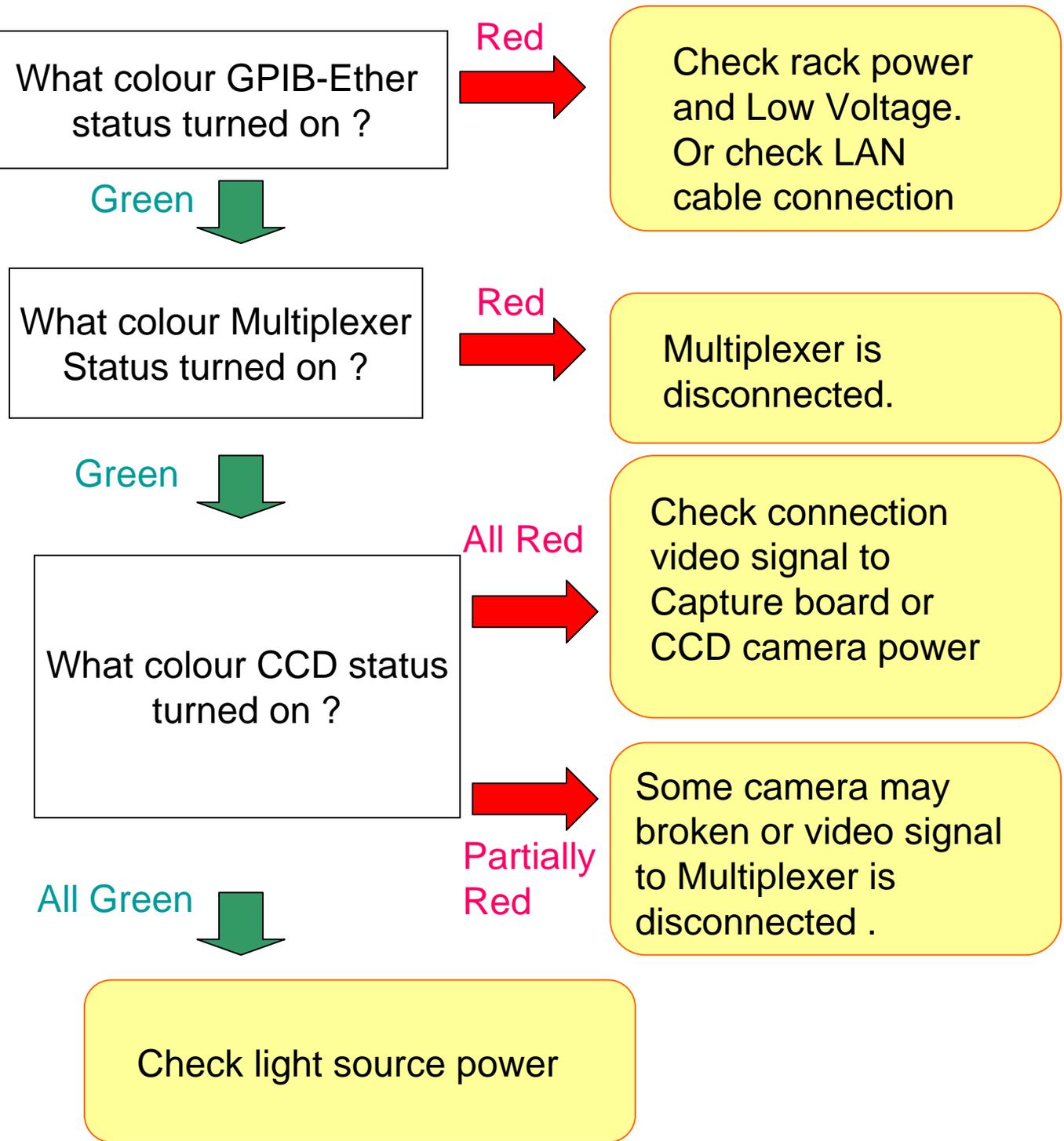
Note : if you wait more than 10 min, should not be Red

Progress bar

Error log & expert tab

Error handling

In case of at least 1 CCD camera turned on Red or no light image in the image display for all CCD camera, you should manage error according to procedure bellow.

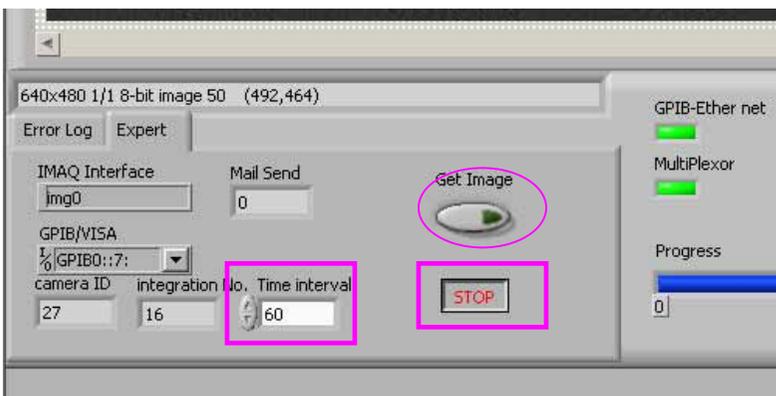
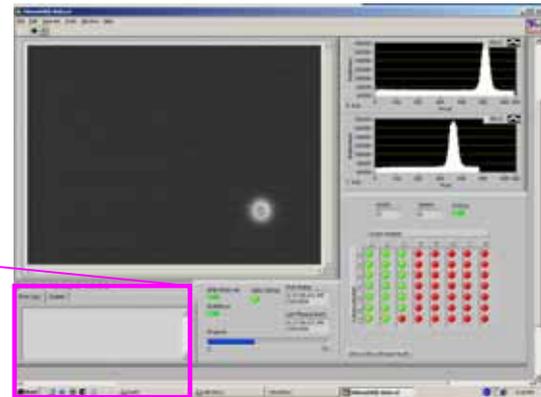
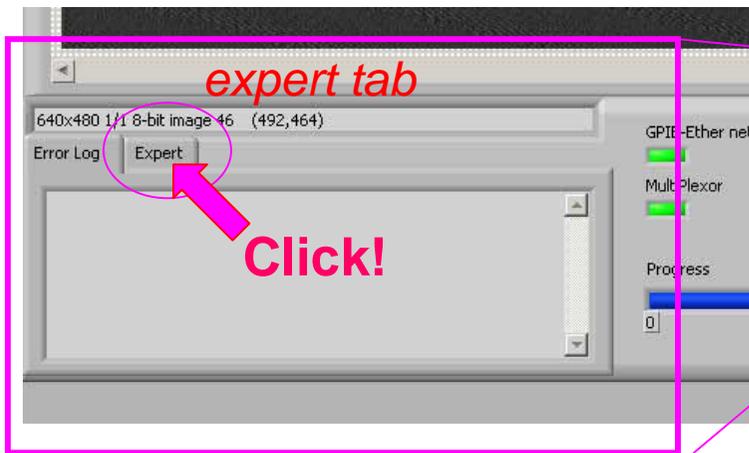


If system does not work correctly yet after your error management, or in case of any other error, Call expert.

System control

If you are DAQ expert, you can control some measurement parameter from DAQ software graphical user interface. To control DAQ, you should do as bellow.

1. Click “expert” tab in the left bottom of the window.
2. Then tab window change as bellow picture. From this window, you can control some part of DAQ system.



Get Image button
Start measurement immediately
Stop button
Stop measurement
Time interval control
Set time interval among measurement in seconds.
(default value : 600 sec)

Exit or Restart

If you want to kill or restart program, do as bellow.

- 1.Go to “expert” window.
- 2.Click “STOP” button.

If system is during data taking, program will be stopped after it take 56 images for all CCD cameras

3.Close Window

4.If you want to restart program, double click program icon again.

The screenshot displays the DAysDAQ-Auto.vi software interface. The main window is titled "expert tab" in red text. The interface includes a large dark area for image display, two plots showing brightness vs. pixel (X and Y axes), and a control panel. The control panel has a "STOP" button highlighted with a pink circle and a pink arrow pointing to it with the word "Click!" in pink text. The control panel also shows "data taking" status, "Time Stamp", "Last Measurement", and a "Progress" bar. The bottom status bar shows the system tray with the Start button, user name "south", and the time "4:25 PM".

Camera #	1	2	3	4	5	6	7	8
1	Green	Green	Green	Green	Green	Red	Red	Red
2	Green	Green	Green	Green	Green	Red	Red	Red
3	Green	Green	Green	Green	Green	Red	Red	Red
4	Green	Green	Green	Green	Green	Red	Red	Red
5	Green	Green	Green	Green	Green	Red	Red	Red
6	Green	Green	Green	Green	Green	Red	Red	Red
7	Green	Green	Green	Green	Green	Red	Red	Red