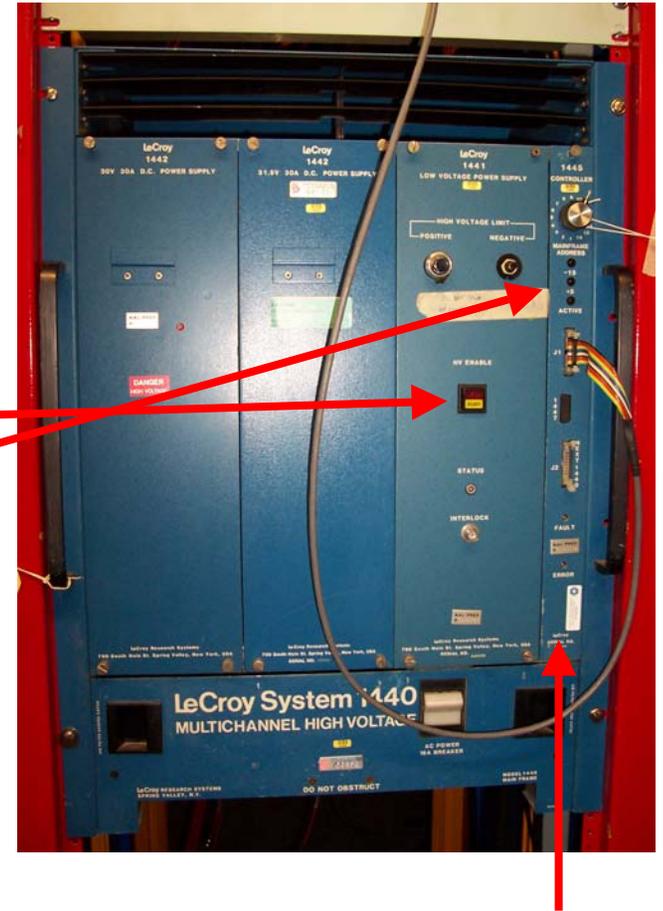


PROCEDURE for Setting the HV

N. Saoulidou 07-17-04

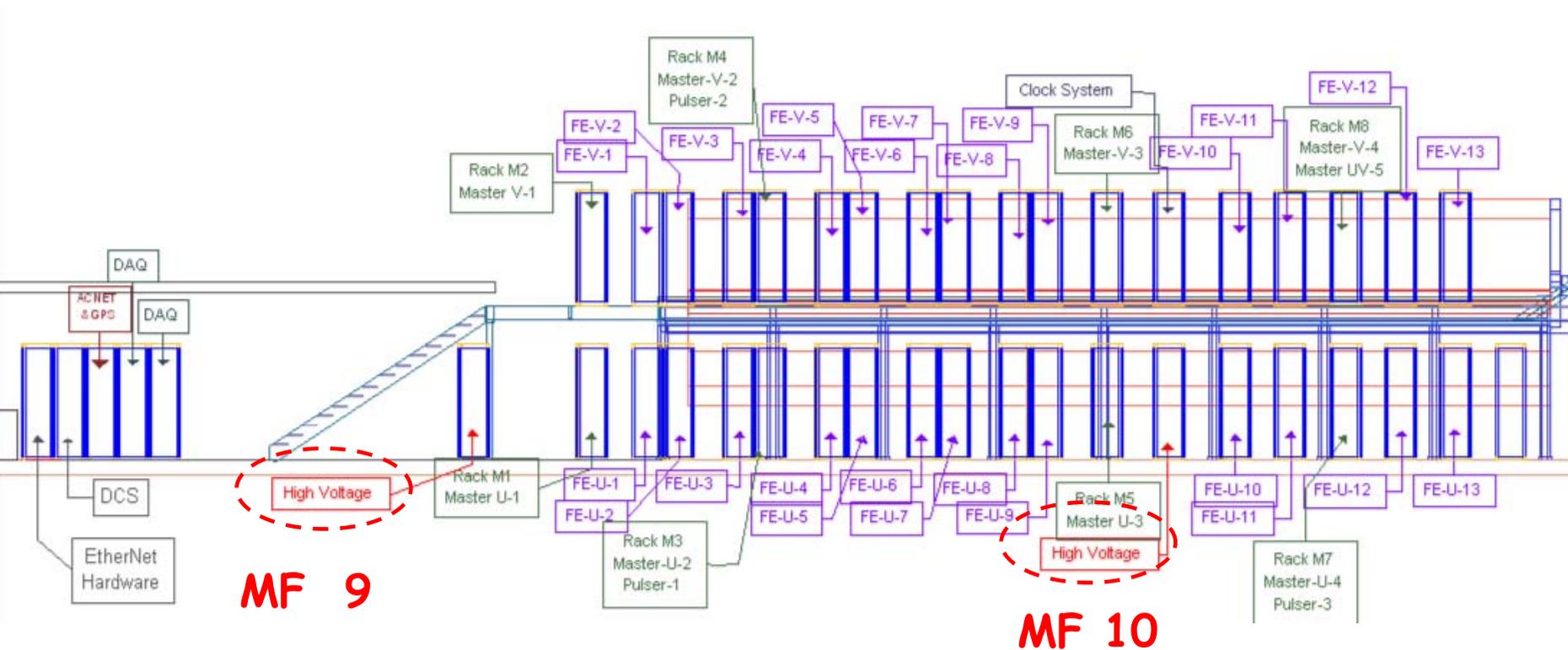
Procedure (steps explained in following slides)

- 1) Connect HV cables to Alier Boxes & to the LeCroy cards
- 2) Turn on HV rack : Turn on the RELAY box, turn on the LeCroy (after resetting some times the VA output latch on the RPS). You should see the HV Ready light ON and the three lights on the controller card ON as well. If you don't see that notify G.Rameika, N. Saoulidou or P.Stamoulis.
- 3) Change the hvmap.db file.
- 4) Run the HV control software.



HV Controller

Near Detector Electronics Rack Layout



- There are three types of Racks : **FE** (Front End) **RE** (Read Out) and **HV** (High Voltage).

HV Racks for the Near Detector (elements)



- **RACK ELEMENTS**

- RPS BOX

- RELAY BOX

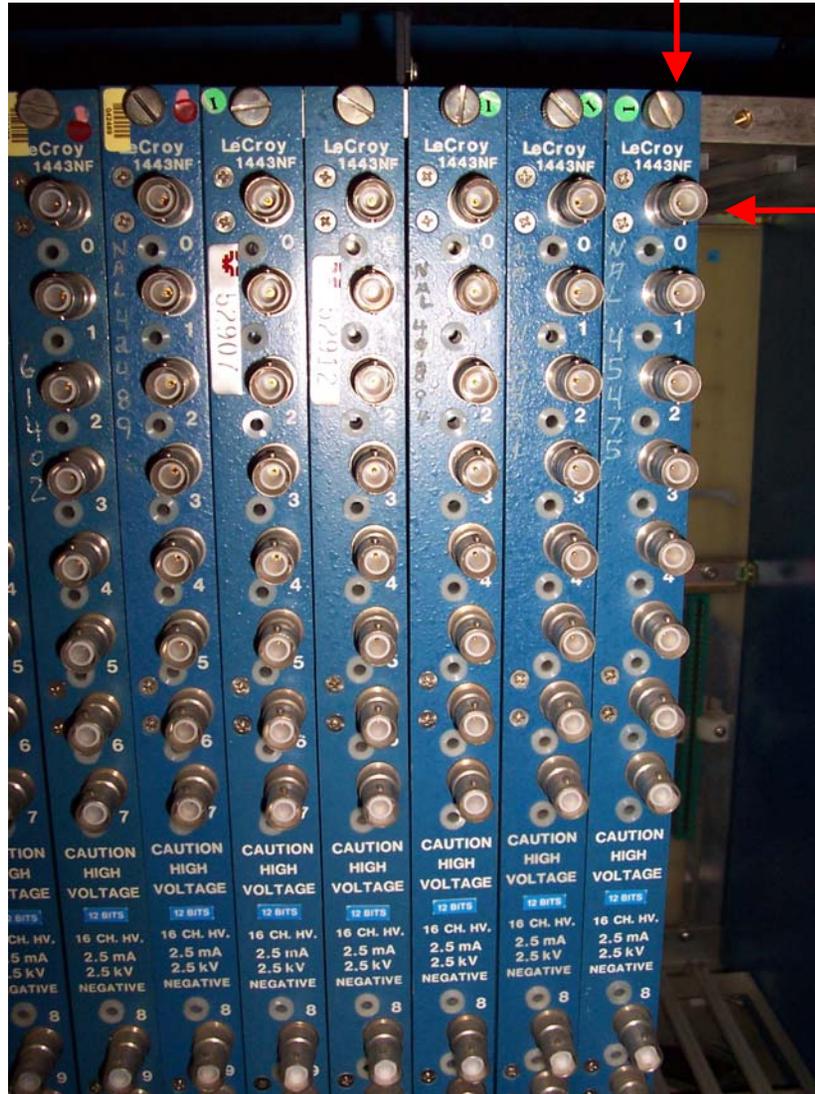
- EDAS BOX

- SMOKE DETECTOR (2)

- LeCroy 1440

HV Back Plane

HV CARDS & CHANNELS

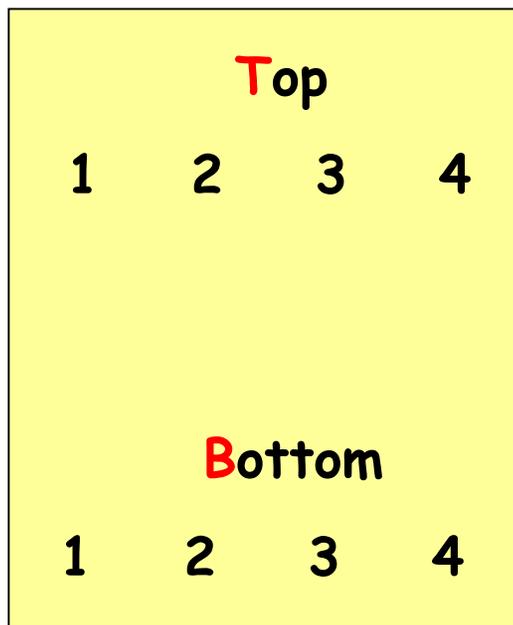


Card

Channel

Connecting the HV cables

1. All HV cables for PMTs that are not yet connected to planes should NOT be plugged into the LeCroy OR to the PMTs.
2. When PMTs are connected to planes DO NOT plug in the HV cables to them before you light leak test them.
3. When you light leak test them and plug the HV cables to them THEN plug the other end of the cable to the LeCroy checking carefully the LABELS on the cables on both ends.
4. HV CABLE LABELS : **HVMF 2** (mainframe 2 is mainframe 10)
(mainframe 1 is mainframe 9)



FE V9 (front end rack number)
1t (t=TOP self 1=PMT number)
CH 0 (CH= Channel on LeCroy)

← Standing in front of the rack facing the detector

HV software and control files

- 1) TURN ON THE HV RACK FIRST IN ORDER TO BE ABLE TO RUN THE HV CONTROL SOFTWARE)
- 2) SSH to the dcsdcp-nd machine with username minos and the usual passwd through the minos-gateway-nd machine (to which you have to have an account).
- 3) Go to /home/minos/hvsrc directory where you will need to :
 - 1) Edit and modify the hvmap.db file (see next page for explanation) :
(Uncomment the corresponding lines on the hvmap.db file for the PMTS you want to use and comment ALL the rest (this is valid only for the installation -commissioning phase since we do not want to turn ON and OFF tubes very often) .
 - 2) Type ./hv.exe to start the HV Control Program and issue the commands
 - 1) >ZERO
 - 2) >CLEAR
 - 3) >SET
 - 4) >READ

IF you get any READ errors (or demand and actual HV differ more than 10 Volt) then turn OFF the HV by typing:

> off

and contact either G.Rameika, N.Saoulidou or P.Stamoulis.

- 4) **FINALLY WAIT AT LEAST 1 hour before you start taking data in the evening commissioning phase and 6 hours when there is no plane commissioning and we want to perform detailed tests.**

HV Control Files : mfmap.db (don't need to change unless there is an emergency)

- mfmap.db : The file that contains the IP addresses of the EDAS boxes that talk to each LeCroy Controller.

```
*= hvcom.db
*=====
*= Communications devices for MINOS HV mainframes.
*=
*= 198.124.213.71:p W side SM 1 interface)
*=
*= Direct links over PC COM ports:
*= /dev/ttyS0 COM port 1 (On back of PC tower)
*= /dev/ttyS1 COM port 2
*=
*= Nat Longley 25 October 2001
*= Bob Webb 19 December 2002
*=====

* ID Label Device
* == =====
  9 NSouth 131.225.192.39:0
 10 NNorth 131.225.192.40:0
```

1) IF ANY PROBLEM OCCURES TO THE EDAS BOXES NO COMMUNICATION IS AVAILABLE. IF YOU SUSPECT SOMETHING LIKE THAT IS HAPPENING PING THEM TO SEE THAT THEY ARE ALIVE FROM THE minos-gateway-nd machine.

HV Control Files : hvmap.db

- hvmap.db : The file that contains the High Voltages that we want to set to each channel (=to each PMT).

*=====

=CALORIMETER SECTION=

*=====

* Alner boxes in Racks 8V and 8U

Top self PMT
(it would be **B**
for bottom)

	HV	PMT S/N	Rack	PMT box # (0 - 4)	Alner Box S/N
* A096-V0	10 11 00 -823	GA0555	V08-T0	054	←
* A096-V1	10 11 01 -831	GA0501	V08-T1	040	
* N098-V0	10 11 02 -787	GA0531	V08-T2	063	
* N100-V0	10 11 03 -820	GA0363	V08-T3	037	

PLANE NUMBER : Partial planes have one entry since they are read by one PMT, Full planes have two entries since they are read by 1.5 PMTs

Channel on LeCroys Card
Card on LeCroy
Mainframe (either 9 or 10)