2003-Aug-11

Report of Discussions at DESY

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In the order of "DESY check list on Aug.11" I will describe the results.

In short; No change in the packing list of Kobe and Shinshu.
Tsukuba can omit a regulator from the packing.

1) Inspection on what to borrow from Korbel.

There is no electronics pool at DESY now. Each group has their own. Therefore, if Korbel does not have them, we need to bring them from Japan.

Their trigger logic, which they have now, is usable for our purpose with minimum modification; replace trigger counter input from two finger counters to four trigger counters we will bring from Japan.

a) electronics

CAMAC

Interrupt Register ; we do not need to bring it from Japan.
Coincidence Register ; their LRS2341S works fine. It generates LAM.
Scaler ; We need to bring it as we planned.
ADC2249A ; many available as expected.
Number of empty slots ; 10. detail will be described at the last of this documents.

NIM

analog dividers ; we will bring them as we planned.
discriminators ; they have many. we do not have to bring them from Japan.
4-fold coincidence ; we will bring one as planned.
2-input 1-veto logic unit; 4-fold above is OK. we do not need to bring another.
gate generators; we will bring one (Kaizu 0290) as planned.
logic FI/FO ; we will bring one from Japan. their LRS429 is in use with their own configuration. we need to add this to the list.
clock ; we will bring from Japan we planned.
visual scalers ; we will bring from Japan as planned.
analog delays; they have only two. we need to bring a lot.
Instead, they have cable delays of 25ns. 50 cables may be available.
Number of empty NIM slots ; many. enough.

b) HV supplies

They have enough. They have LRS 4032A (32ch?) supply with SHV output.

c) LV supplies

They have only two; 20V x 2. (ZUES-Japan has three, and we need 4. So OK.)

d) Cables

They have
Lemo 35m x 27
Lemo 30m x 81
Lemo 25m x ?? (total of these should be more than 150.)
BNC 17m x 4 (we can use these four).
There is no chance that 10m-long BNC can reach from detectors to the counting room. Therefore 10m-long BNC will not be brought.
SHV cable panel exists in the area. What we need to have is a ~4m cables from the panel to out detectors. They have those cables.

e) misc.
gas Ar/ethane 50/50 ; available. how to pay must be discussed.
They have a regulator and a flow meter.
synchro-scope ; LRS9540A without printers.
multi-meter ; do not expect to much
short lemo cables and connectors ; do not expect too much.
level/theodolite/tripods; confirmed that we can borrow for set-up.
detailed survey will be done by beam-line team
tool kit; do not expect too much

2) Inspection on what to borrow from ZUES-Japan
a) step-down transformer ; Toyozumi-dengen KD-1000 x 2. 1KVA capacity.
100V-output receptacle = 2 pins.
b) LV supplies ; 40V/3A x 2ch + 15V/25A x 1ch. (Korbel has 2ch)
c) misc.
synchro-scope ; tek 5104 without printer, but with a printer port and LAN connector.
If a printer is connected, screen hard copy can be taken.
SHOULD WE BRING A PRINTER or can we find one at DESY ?
multi-meter ; a few fluke available.
tool kit ; one box available.

3) DAQ
a) PC ; redhat linux. No writable device.
They simply store all data on HD. If we bring CD-R module (USB?), it may be able to be connected (not sure). Network copy to a PC which has CD-R or DVD-R would be the best.
b) Program
Made by Dr.Erika Garutti for their application.
There are no manuals.
How to change CAMAC configuration is easy (she says). If we send her our proposed configuration, she will make a new table for us beforehand.
Learn how to use it; seems easy. It has nice GUI.
Stored Data ; binary. They have conversion program to root ntuples and paw ntuples.
(root is recommended. They use root. paw is not well tested)
c) Configuration
NIM/CAMC
Trigger Logic is simple.

TFx &TFy with self-veto for rate suppression, where TF is a finger counter.
We will replace it with T1L&T1R&T2L&T2R with self-veto.
We will read out their TFx/TFy for drift-chamber check.
With this simple logic, signals come 20ns after the ADC gate opens in the case of using 25m-long cables.

CAMAC
#1 ; empty
#2 ; coin.reg. LRS 2341S
#3 ; TDC (LRS)
#4-8 ; ADC 2249A
#9; empty
#10 ; ADC 2249A
#11-14 ; empty
#15-18 ; ADC 2249A
#19-23; empty

NIM
Report Later.

d) IP addresses
Not easy to get ports at the counting room. They use special network connectors. application and arrangement beforehand may be needed.

3) Experimental Area
distance from T1/2 to the counting room ; 17m-needed. 10m-cable does not reach.
Available length of the area along the beam line is about 6m.
moving tables; three available. we use two of them.
100 kg capacity, about 100 cm span for both up/down and left/right.
remote-controlled (manually) from the counting room.
We will send a drawing of the table platform where we need to have fixing screw holes. One has ~1m x ~1m table (to be used for DC and TC), and another has ~80cm x 80cm (to be used for SHmax).
Beam-line team will set up the tables to where we want to locate, and connect cables between tables and controllers.
It is our responsibility to check their connections are right or not.
Location of our detectors ; free, to some extent. we need to inform them our proposal of location.
Crane will be operated by the supporting team. Only 9;00-16;00 of weekdays.
Beamline scratches exist for both x and y.
We do positioning of our detectors. Then they will do precision survey.
They may be able to provide up to 7 GeV. No problem up to 5GeV. Spectrum becomes bad (tailed) higher than 5GeV, and installation of vacuum pipe or helium bag is needed.

4) Transportation
had discussion with Mr.M.Roeseler.

I need to send him final list of equipments as soon as possible.
I need inform him AWB# as soon as possible.
He needs a few days for his business after arriving at DESY. Therefore,
in order to receive our equipments on Sept.8, it must arrive at Hamburg on 3rd,
come to DESY on 4th, then we can receive it on 8th. We are in more hurry.
They have experience with Nittsu.

5) Hostels

It is confirmed that on-site hostels #32 or #33 will be assigned.

6) Configuration/schedule

Korbel's MiniCAL will sit behind our SHmax. It depends on our request how many channels of it will be read out. Not all channels because we use 80 of its cables.

miniCAL ; 3x3 tower, each tile has 5cm x 5cm x 5mm-thick sizes.
sandwiched with 2cm-Fe.

His finger counters are available. (2mm-wide, 1cm-thick, one x + one y cross.)
The week of 9/8 is for set-up.

9/8 13:00 moving stage re-arrangement.
9/8 17:00 Radiation Safety lectures
9/9,10 our detector instalation
9/11 Their detector position survey, Gas ventilation/detector installation.
This could be slipped to 9/12 if we can not finish our work before that.

The week of 9/15 and 9/22 will be data taking.
We can not disconnect their cables until 9/15.

7) Radiation Work

We need to have one-hour lecture. No exam.
We do not need to bring any documents from Japan.
Film badges are handed. They can provide dose report.