

PS/OP/Note 86-49
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Controls Layout for the Antiproton Collector

ITEMS : Power Supplies for AC, AC-AA Transfer & Inj. Line
Cooling Water System
TV Screens

TV SCREENS FOR BEAM OBSERVATION

The Scintillation screens for the AC ring and the new transfer lines (i.e., Inj. after target as well as AC-AA Line) will all be included as part of the reorganised, existing MTV system. The reorganised system will be on the new Camac loop (loop2, crate 26, RA-AC 233). All the relevant hardware will be reorganised and centralised in Bldg. 193 and E.Sigaud/CO can provide the details. The object of this note is to define the equipment module aspects for the new equipment and the appropriate Video observation channel numbers through which the new screens may be viewed. As far as the video observation is concerned, no changes are foreseen except the extension in the number of modules in the SOS crate in ACR RAJ002.

New MTV Screens for ACOL Start-up

The new, additional ones under <AA> control will be as follows:

- 2 in the AC Ring
- 2 in the AC-AA transfer line
- 2 in the new Injection-line after target
- 2 transferred from <T> controls to <AA>

In addition, the existing screens MTV0068 & the Li lens Screen MTV 0060 will both be computer controlled and renamed MTV6008 & MTV9059. The Li lens screen will have no screen control; only the camera and light will be controllable like the present target screen.

The SOS video system will cater for the above additional channels of observation. 4 additional channels will be provided for the Target area surveillance cameras. The Control of the Video observation will remain as it is via the <TREES> computer with the "SOS" Defined function on the <AA> extended for additional lanes.

Control & Acquisition Parameters

The control commands from the equipment module MTV will be the same as the existing ones & no changes are foreseen; the acquisition parameters will also be the same except that additional bits are provided for status for each screen. This therefore involves a change in the properties STAQ & SAQD.

The property SAQD will have 5 bits per equipment acquired in a single 16-bit word; this means that for each group of 3 equipments, SAQD remains unchanged. A new property SAQD1 will be introduced, giving the 5 bits per equipment as an acquisition word; this could be used for detailed hardware status analyses. The meanings for the 5 bits per Equipment in SAQD1 are as follows:

LSB=	Bit 0	= 1	means	screen IN
	" 1	= 1	"	screen OUT
	" 2	NOT USED	except for	AA.MTV2210 & AC.MTV5303 VETO Interlock
	" 3	= 1	"	Screen in LOCAL mode
	" 4	= 1	"	Hardware Fault

The property STAQ is the principal property used upto now for status and will continue to be so. STAQ is the decoded version of SAQD1, valid for each equipment. The property STAQ returns a single number per equipment and the value has the following meanings:

Returned value =	1	means	Screen IN
" "	0	" "	OUT
" "	8	"	Screen in LOCAL
" "	16	"	Hardware Error

If STAQ returns 16 or 8, it is recommended to use SAQD1 to get the detailed status.

Hardware Layout

The detailed hardware layout has been done by E. Sigaud with rack assignments and cabling arrangements as agreed upon by S. Gustar & V.Glaus.

Equipment Numbers in Equip. Module "MTV" & Lane Nos. for Def.Func."SOS"

The existing 13 equipment numbers will remain unchanged so that only the new screens in the AC ring and the new transfer lines will have to be added. This means that the five or so different programs existing today in ACR or MCR for the existing AA ring, Ejection line & Inj-before-target do not need any modifications. The whole list is given below for the sake of completeness:

<u>Eq.No. "MTV"</u>	<u>Name (old Name)</u>	<u>"SOS" Lane</u>	<u>Comment</u>
01	MTV9043 (MTV0037)	03	
02	MTV9064 (MTV0061)	04	No screen Control
03	MTV6068 (MTV0083)	05	
04	MTV0101 (Same)	06	
05	MTV0402 (MTV0306)	07	
06	MTV2210 (same)	08	
07	MTV8026 (same)	09	
08	MTV8049 (same)	10	
09	MTV9031 (MTV0019)	02	
10	MTV6008 (MTV0068)	17	
11	MTV8001 (same)	18	
12	MTV8005 (same)	22	
13	MTV8063 (same)	21	
14	MTV8091 (same)	23	ex <Tt> screen
15	MTV2603 (same)	24	" " "
16	MTV7001	25	AC to AA Line
17	MTV7045	26	" " " "
18	MTV5303	27	AC Stopper
19	MTV5308	28	AC Injection
20	MTV6028	29	new in "dog-leg"
21	MTV6048	30	" " "
22	MTV9059 (MTV0060)	31	No Screen control
Target Area Surveillance	SURV.01	32	Video Obsv. only
" " "	SURV.02	33	" " "
" " "	SURV.03	34	" " "
" " "	SURV.04	35	" " "
Clearing System Monitor		36	" " "
Residual gas Analyzer Monitor		37	" " "