

***STATUS OF CONTROL SYSTEM FOR AA AND AC***

V. Chohan

This note summarises the status of the control system to date (September 1986) and is effectively a copy of the transparencies presented for the AC Running-in meeting of 22nd September, 1986.

STATUS OF CONTROL SYSTEM FOR AA + AC

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NEW CONSOLES

- : Installed in 1985 already
- : Speed augmentation in MCR to 9600Baud - June '86
- : File Modules with RAMs / EPROMs ; backup etc in progress

Special Mobile Console for Running-in from ACR Ready - Aug'86

It will be used in ACR from a PACX line which will be available in ACR as well as Equipment room.

For the duration of the ACOL shutdown, this console is used in in the AA Lab. This of course had some special problems due to the parallel line-printer operation running at 1200 Baud. We need to change the INIT file in the EPROM again to run from ACR when the time comes.

Spares issue: seems to be OK with the SPS ; A complete spare crate is in the little lab of ACR ( but needs a better 'home' )

NEW NORD-100

- : Was made operational during the pbar run for LEAR in June 1986. However, a lot of effort went into making things work & NONE in documenting all the necessary steps pursued to arrive at the operational level ! DOC is absolutely vital since the AA is a different set-up compared to other CPUs in the PS Div ( Alan Crutcher departs from CERN in the middle of Nov. 86) ( A skeleton Documentation note Crutcher/Chohan in pipeline)

SPEED ASPECTS : Just like the MCR Console, all the ACR consoles should run at higher speeds; however, time needed to find a technical solution among the various possibilities that would be acceptable by the CO group exploitation-section. They are 'married' to Current-loop for maintenance & simplicity reasons while the commercial world sells products with RS232/V24 standards for Modems .

PACX LINES IN AA HALL + ACR : In the process of being installed ; this will enable hardware depannage in the Hall193, mobile console operation and access to <TT> computer for Ray Sherwood for for TT2 sem-grids if needed.

MODIFICATIONS TO LOCAL CONTROL ROOM (ACR): All of the systems "providers" have been consulted over the period of last 1 year as to their needs. Finally, all existing rack owners have to stay within their existing space since no expansion is possible except in the cables room below. This option has been taken up by Closed Orbit PU system hardware ( 5 half racks used below to liberate space upstairs). RF, Radiation, Stochastic Cooling, DC Trafos, & Kickers needs have all been catered for.

Outstanding problems : Vacuum Mimic display panel location  
(R.Brown's LeCroy3500 disappears?)

< hopefully no major ACR requirements for Target  
Area Specials - (unknown so far) or for new  
Security System >

INSTALLATION OF THE 2ND CAMAC LOOP

Scheduled for 2nd/3rd week of October and finish by end-Nov. '86

CO group knows about it : ( G. Baribaud )  
P. Bobbio for empty crates + tests  
C. Dehavay for standard modules etc  
additional serial Driver in Mother crate

All above assumes no major hitches from Barry Williams and that  
V. Glaus & the cabling team have no catastrophic problems. Steve  
Gustar is responsible for all the related aspects including racks  
installation. THIS SHOULD NOT BE DELAYED AS IN THE PAST !!

ANALYSES OF REQUIREMENTS ON A SYSTEM-TO-SYSTEM BASIS

( on-going since end -1985 )

Power : }  
Vacuum : } → → Done first to satisfy MARCH '87 Milestone  
Water : } ( All completed early 1986 )  
Cryogenics : } ( 2nd iteration in Nov/Dec '86)

( power supplies for 6-poles in AC ring were 'forgotten'  
and discovered by this analyses )

Stochastic Cooling Movements : }  
Transverse Feedback/Dampers : } All Completed Aug/Sept 1986  
Kicker Magnets & related aspects : }

Stochastic Cooling Switches : } Nearly completed & documented  
Stochastic Cooling Power Amplifiers: } " " "

Closed Orbit PUs : }  
New DC Transformer in AC } → → All completed except for detailed E.M.  
Semgrids AC to AA : } Properties Definitions etc.  
( 2nd Iteration: G. Benincasa :Sept/Oct '86)

TV Screens : Done already at the time of new Ej. Line - Jan '86  
New reorganisation with E.Sigaud but no major software  
changes. 2nd Iteration by X-mas '86 (V. Chohan)

Scrapers : New, Faster Motors ; Hardware needs known ; E.M. known;  
For AA , only a cable per scraper from Quad to new Single.  
For AC, final documentation to be prepared before end-86  
Hardware delivery not before Feb. '87.

Systems not defined completely & awaiting analyses

RF Control : Would look very similar to existing AA RF control . D. Shaw will prepare a dossier of what exists at the Hardware level and we shall continue in Nov. '86 to the controls detailed layout. No major E.M. additions or modifications are foreseen.

RF Function Generators : No major changes are foreseen . J-P Potier's confirmation is needed for extension. (Nov '86)

Pulsed Systems ( Li Lens, Horn, etc) : Conceptually similar to the New Horn controls introduced by C.Scheffre & J. boucheron in early 1986 ; Standard Quad. to Single combination. However, new E.M. has to be defined.

GPPC Requirements for Timing: ( Under study by T. Eriksson + F. Pederson )  
( end-Nov '86 )

This is needed for final crates contents-layout and location for each sub-system needing timing (e.g. , kickers ) ; However, No E.M . changes or modifications are necessary. The existing E.M. "TIM" has 200 Eq. nos. of which we use < 100 today.

Surveillance of Timing : New proposal ; needs study & definition ; E.M. will follow if necessary. We could probably start-up AC+AA before it is ready.

EQUIPMENT MODULES STATUS

SYSTEM	Hopefully Untouched	EMs needing no extensions or mods. 'cept Address changes or additions	EMs needing Data-table extension in additional no. of eqpmnt	New EMs but exist already elsewhere so copied	Modification to existing EM: property change or new prop'ty	Complete NEW EM Required
Power			POW			
Water	WCO					
Vacuum AA+AC	VPI/VGI VVS/etc			BVPI BVVS		
Cryogenics					STCR	
Kicker Systems	OIL KEJ	KFD	KFA KGE			
Transverse Feedback			KTF			
Timing	TIM DCD					TSRV
RF Cavity Func. Genr			RFC GFF/GFT			
Stochastic C. Switches + Pwr Amplfrs.	RFA					CSW CPA
Stochastic C. Movements						SCMT
Pulsed Li Lens/Horn						PSYS
Stepping M.	STM					
AA Orbit PU AC " "	UHV					PUAC
AA DC TRAFO AC " "	TRD					TRAC
AA Fast Transformers	TRF					
TV Screens	MTV					
Scrapers (AA + AC)				VLSP		
Semgrids						SGAC
General I/O Register				IORE		
General 32-word ADC						GADC
Spectrum Analyser	SPA					
Digitizer	DGTZ					
Shutters	SHU					

APPLICATIONS PROGRAMS FOR ACR OPERATION ( List NOT exhaustive )

Vacuum	:	New for ACR	L.Henny
Power Suplies	:	extend existing	SvdM
Refrigeration	:	" "	R.Brown
Kickers	:	New for AC Inj + Ej	T.Fowler/G.Adrian
Pulsers & -Horn-look-alikes	:	Modify existing	J.Boucheron
Alarms	:	extension	SvdM/R. Brown
Timing Utilities	:	extension	T.Eriksson
RF Cavities Contrl:	:	New + Modifications	SvdM
RF Functions	:	new files	SvdM
<u>BASIC</u> Stoch. Cooling	:		
-movements	:	New	SvdM
-Switches(AA+AC):	:	modification	SvdM
-Amplifiers	:	New + modifications	SvdM
-Stepping Motors:	:	extensions	SvdM/C.Metzger
Transverse Feedb. :	:	extension	KH Schindl
Controls Utilities:	:	extension	R. Brown
-Addresses etc.	:		
Target Area	:		
-Interlocks etc :	:	New	R. Brown

BASIC  
M'EMENTS

Orbit PUs (AC)	:	New	SvdM/L Rinolfi
TV Screens	:	extension	C.Metzger/BvDorpe
Scrapers (AA)	:	Name change for EM call	SvdM
" (AC)	:	New but copied from AA	SvdM
DC Trafo (AC)	:	Only Hardware Test prgm (direct usage in other prgms)	G.Gelato/Benincasa
Acceptances(AC)	:	New + Modifications	SvdM
Digitiser Applictn:	:	Extensions + New	Chohan/SvdM

NEW M'ENT

Semgrids(AC to AA):	:	New	H. Koziol
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M'ENTS USING  
SCHOTTKY PU

Machine Tunes(AC) :	:	Modifications + new	SvdM
AC Yield	:	New	"
etc.	:		