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HEBT STEERING (HEBST)

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Collider Accelerator Department
Brookhaven National Laboratory

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AGS DIVISION TECHNICAL NOTE

NO. 160

HEBT STEERING (HEBST)

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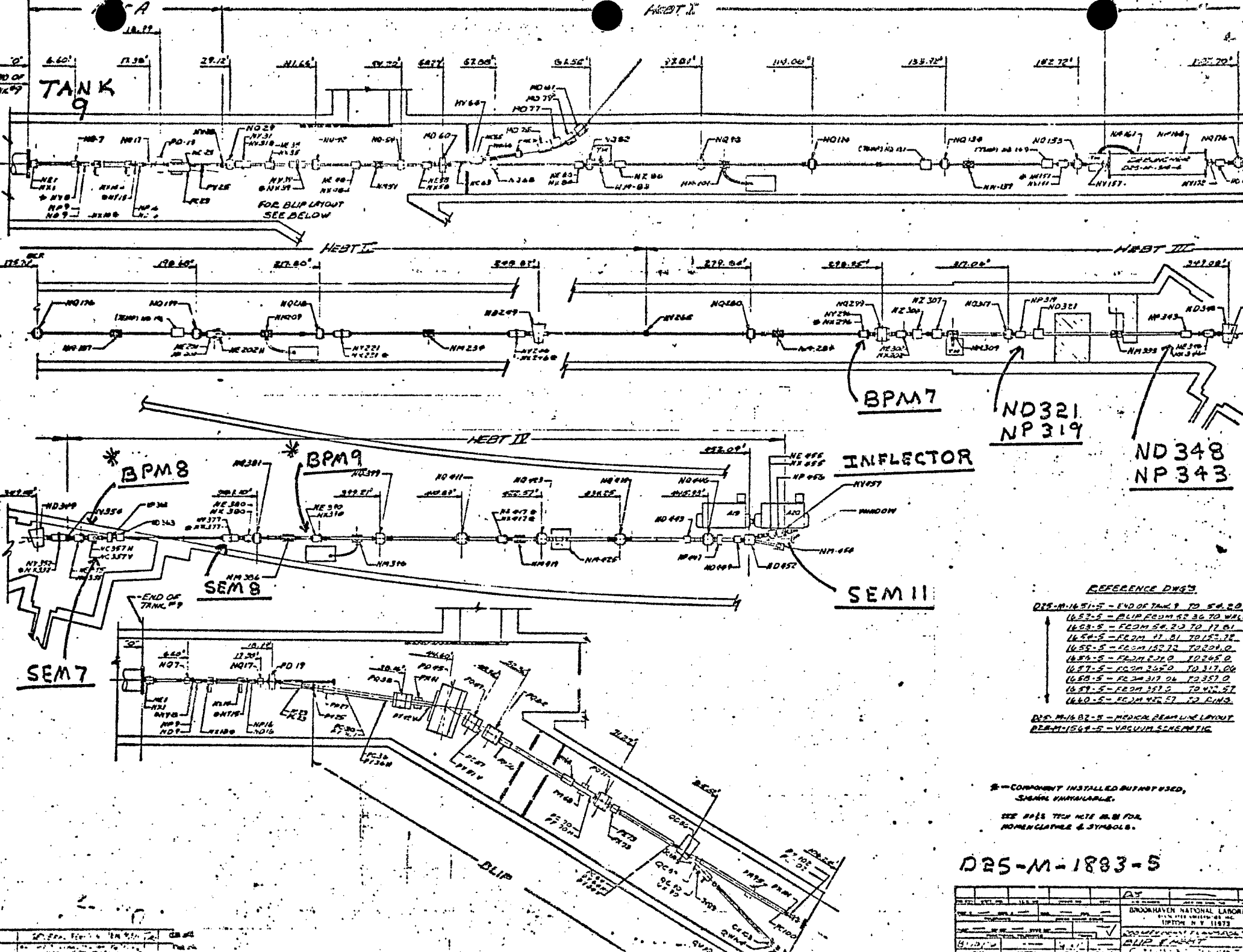
PURPOSE: To read position monitors and control four dipoles in HEBT line refer to HEBT drawing.

LOCATIONS: Two horizontal dipoles ND 321 and ND 348, two vertical dipoles NP 319 and NP 343. Position monitors are located at BPM8 (NX355) and BPM9 (NX390), also read tank 9 current and BPM7.

METHOD: Using a high speed digitizer and multiplex switch to read position monitors. Block diagram #1.

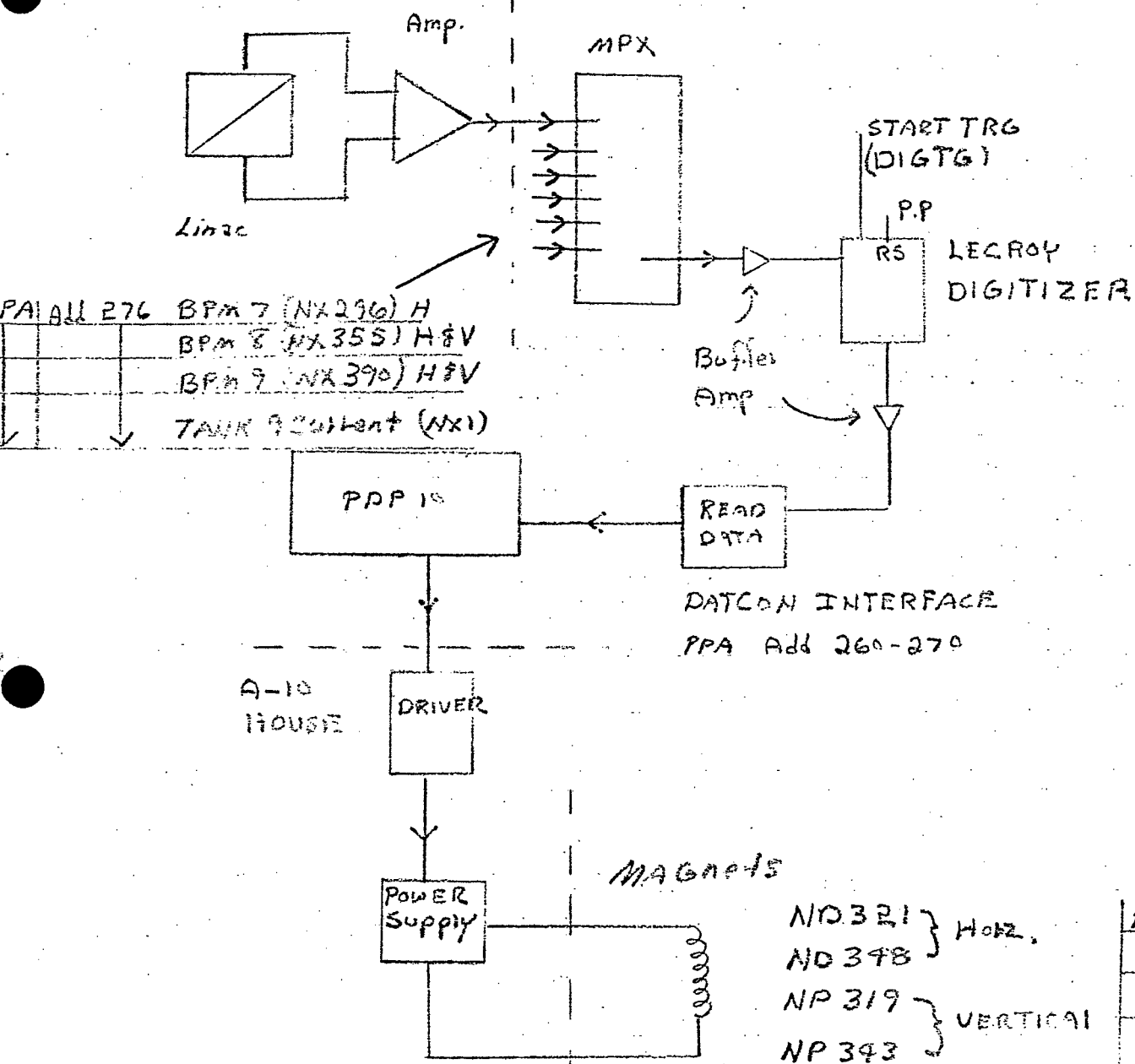
OPERATION: Program name HEBST located in R R (25,13) - This program allows the user to read or correct the steering at BPM8 and BPM9 it also reads tank 9 current and BPM7. The device used to read is a 1024 bit digitizer which start reading data by DIGTG (Digitizer Trigger). It is also necessary to read multiplex DIMXA to switch position monitor signals.

If you go into feedback loop it will read data and correct automatically till tolerance is reached. If you just want to plot data it will switch through position monitors and store data and let you display in many forms. See examples of different plots. It will take about one minute to iterate all four dipoles to a tolerance of ± 6 counts. The calibration is 20 counts per mm.



Dis # 1

Position Monitors



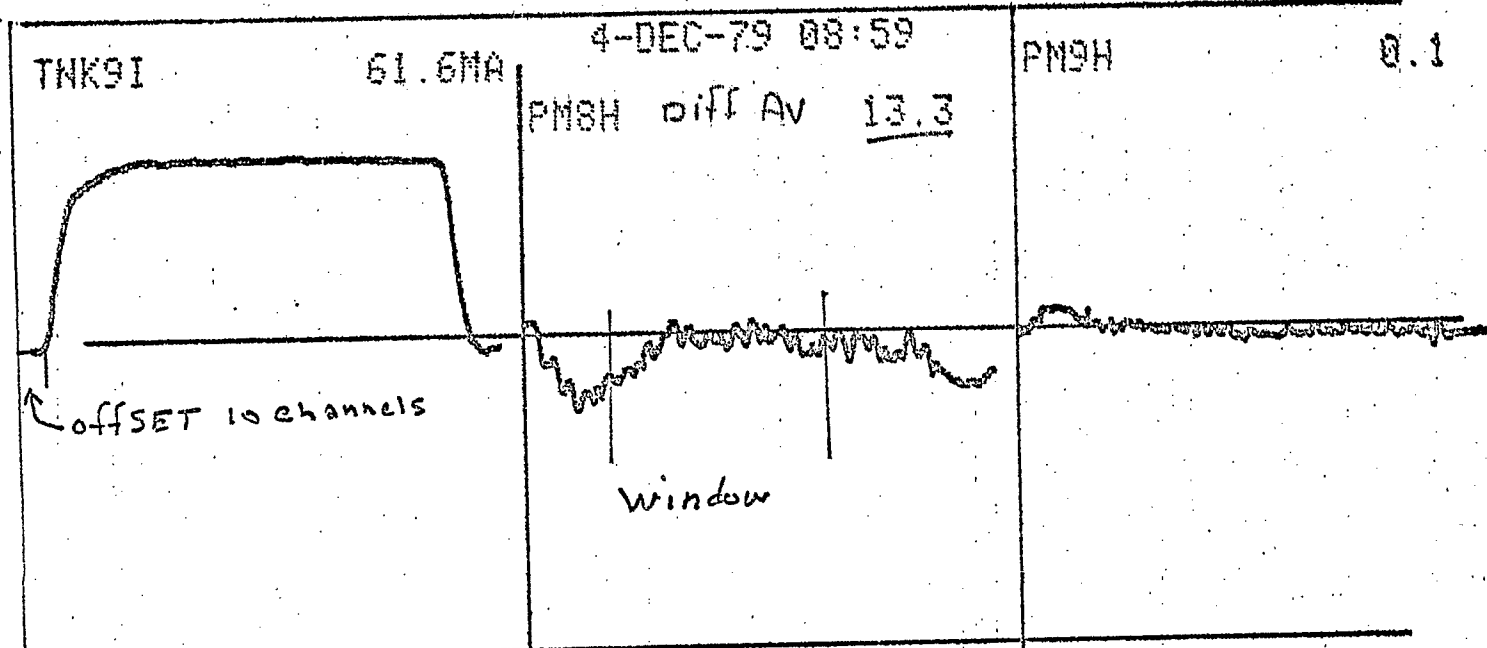
PAI	ALL 276	BPM 7 (NX 296) H
		BPM 8 (NX 355) H&V
		BPM 9 (NX 390) H&V
		TANK 9 content (NX1)

PPC	ALL 436
	437
	440
	441

ring hebst line

- DRAWING# Position Monitor DOUBLE 1349-3
 MPX switch DO9-E499-3
 Buffer Amp DO9-E1180-2
 DATCON Interface DO9-E1161-3

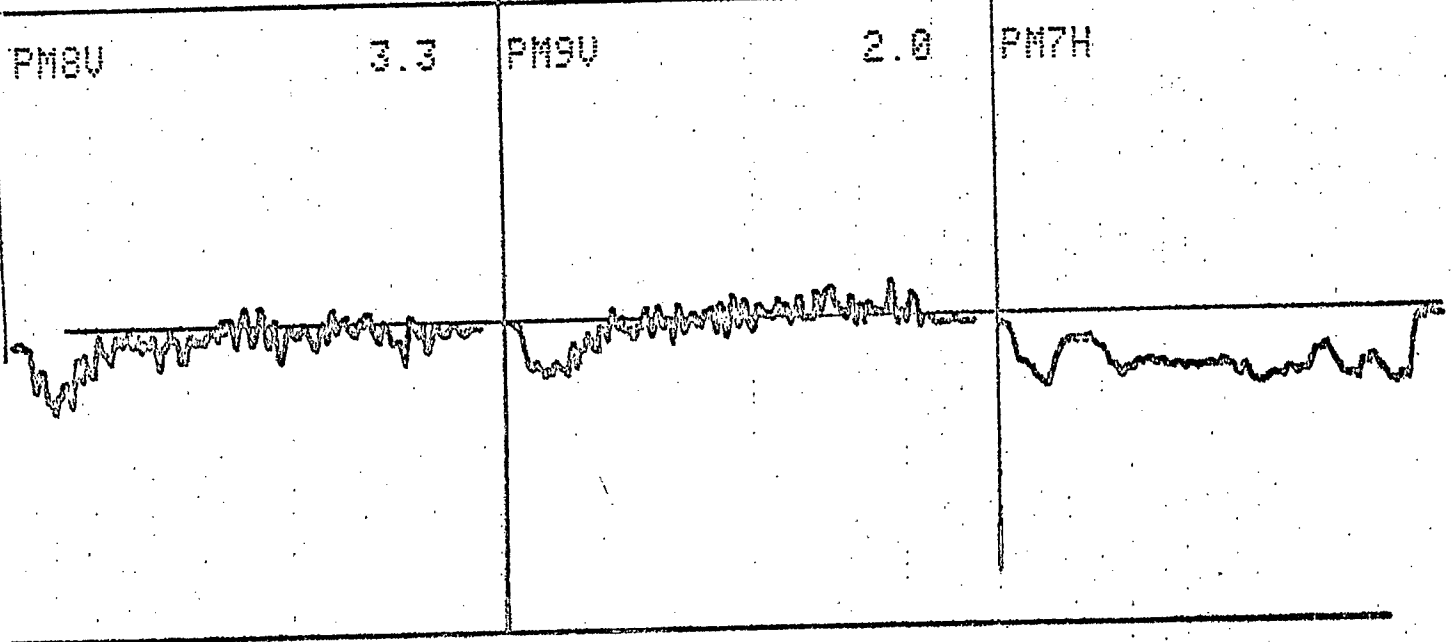
+128



← offset 10 channels

Window

-128
+128



-128

1/ 1 RIN DIG .SEL 11-OCT-79 10:21 14.2
 EQUIPMENT MODE COMMAND READBACK AT UNTM

* ND321	-568	ON	-570	2	
* ND348	392	ON	395	-3	
ND449	2180	ON	2177	3	
* NP319	-92	ON	-93	1	
* NP343	569	ON	617	-40	
NP447	40	ON	40	0	
NP456	-270	ON	-269	-1	
PM8H	2	AMP	-1	3	
PM8V	3	AMP	-3	0	
PM9H	4	AMP	0	4	
PM9V	12	AMP	-1	14	
DIMXA	TNK9I				0
DIMXB	PM7H				1
TNK9I	1	AMP	-1	2	
PM7H	0	AMP	-2	2	
LIN ND249	465		460	450	2
DIGTG	633	ON	10US	INJ	P

1 2 3 4 5 6 7 8
 SEL SET GETT SAUT CHNG BACK NEXT LIB