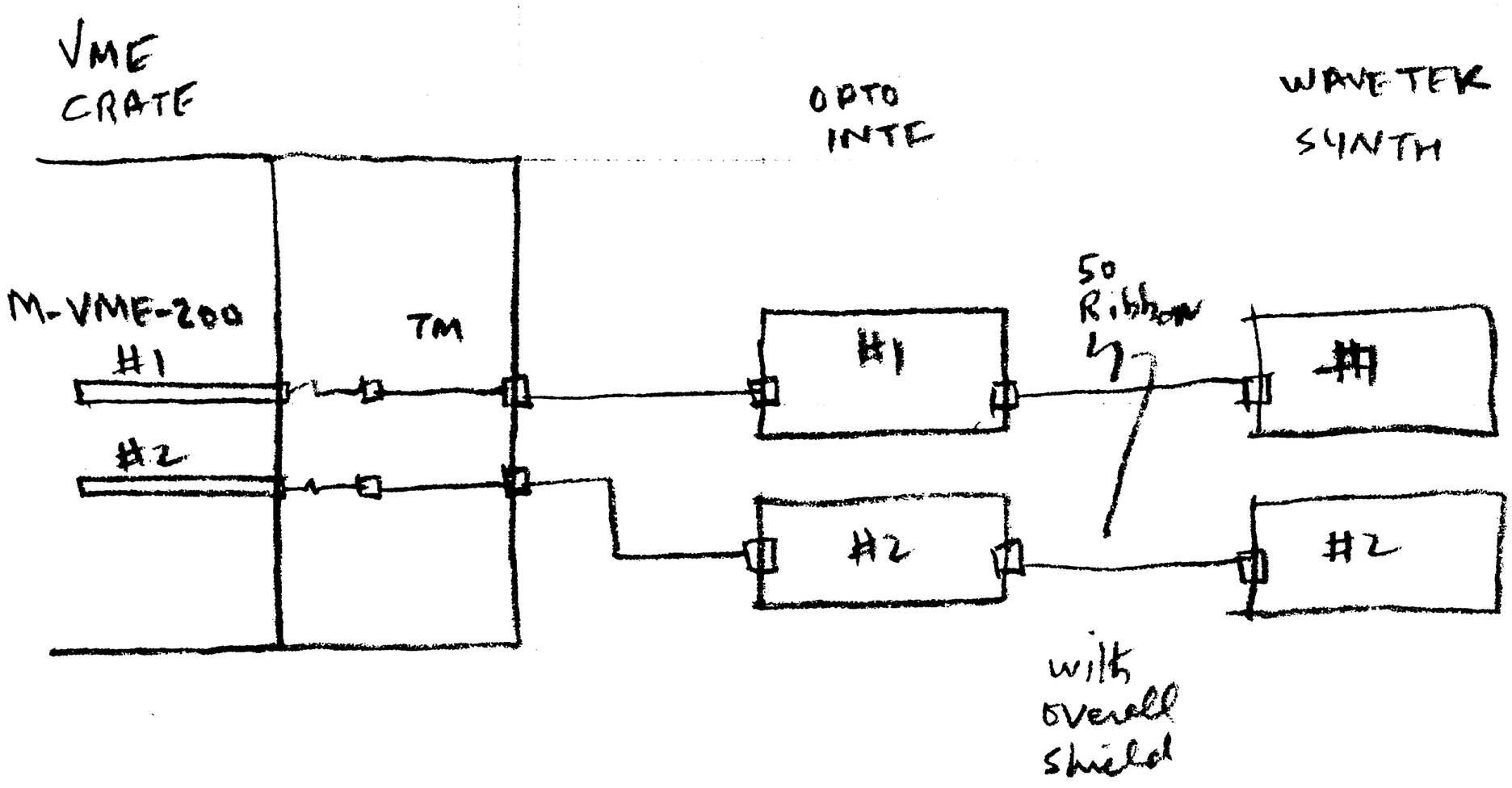
BROOKHAVEN NATIONAL LABORATORY

BY O. Singh DATE 5/5/94 SUBJECT RF SYNTH WAVETEK 5130A COMPUTER INTERFACE SHEET No. ____ OF ____

CHKD. BY ____ DATE ____ JOB No. ____

DEPT. OR PROJECT ____

G. Frisbie



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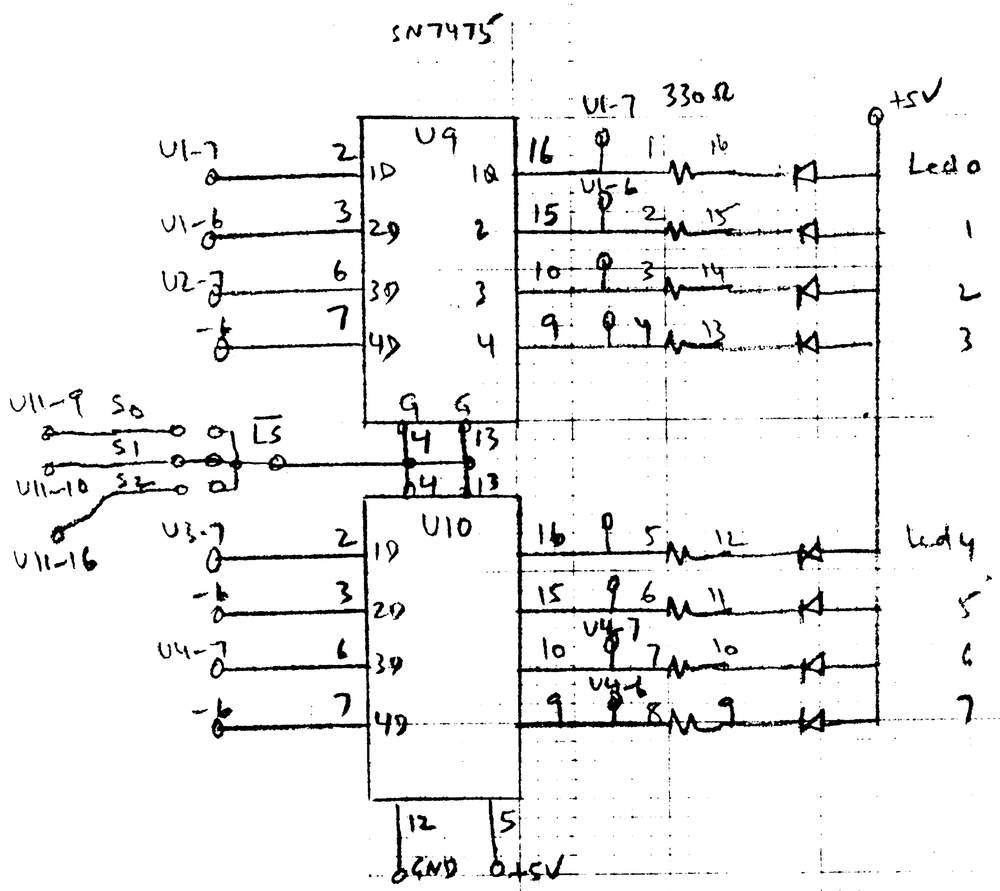
Rev A 4/27/94

Rev B 5/4/94

Rev C 6/7/94



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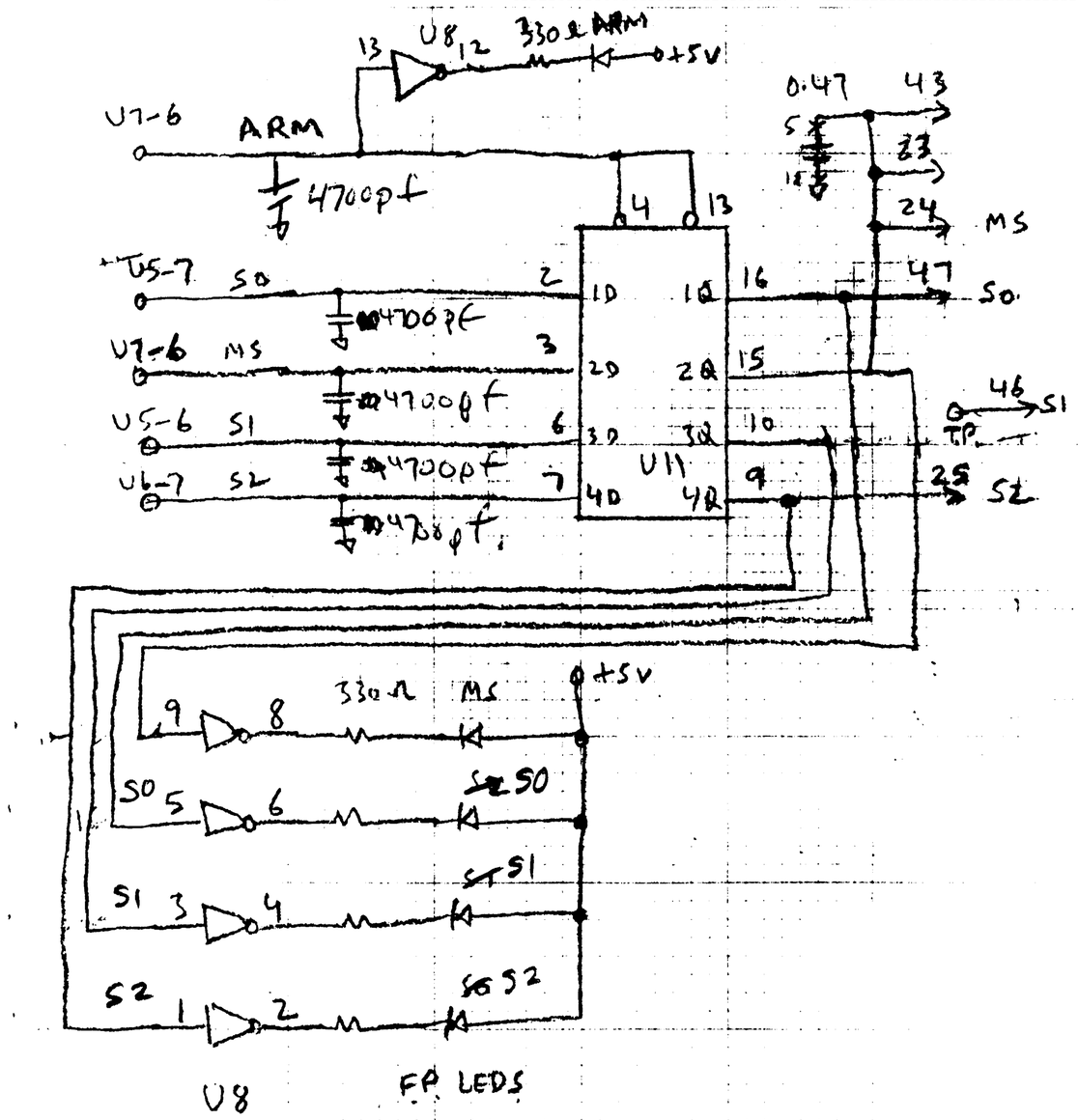
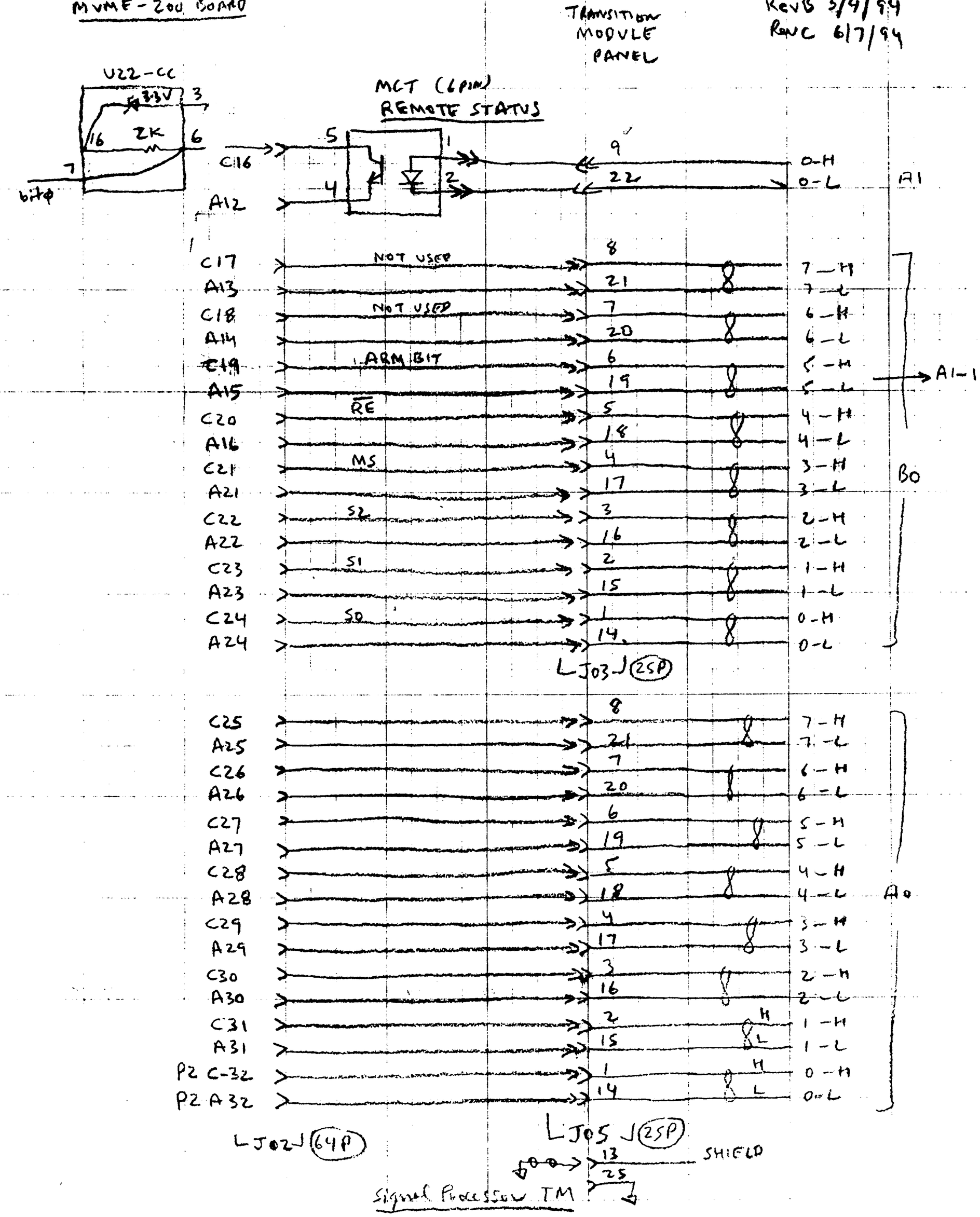


RF Synth Wavetek - 5130 A
TM INTERFACE

O. Singh 4/20/94
RevA 4/27/94
RevB 5/4/94
RevC 6/7/94

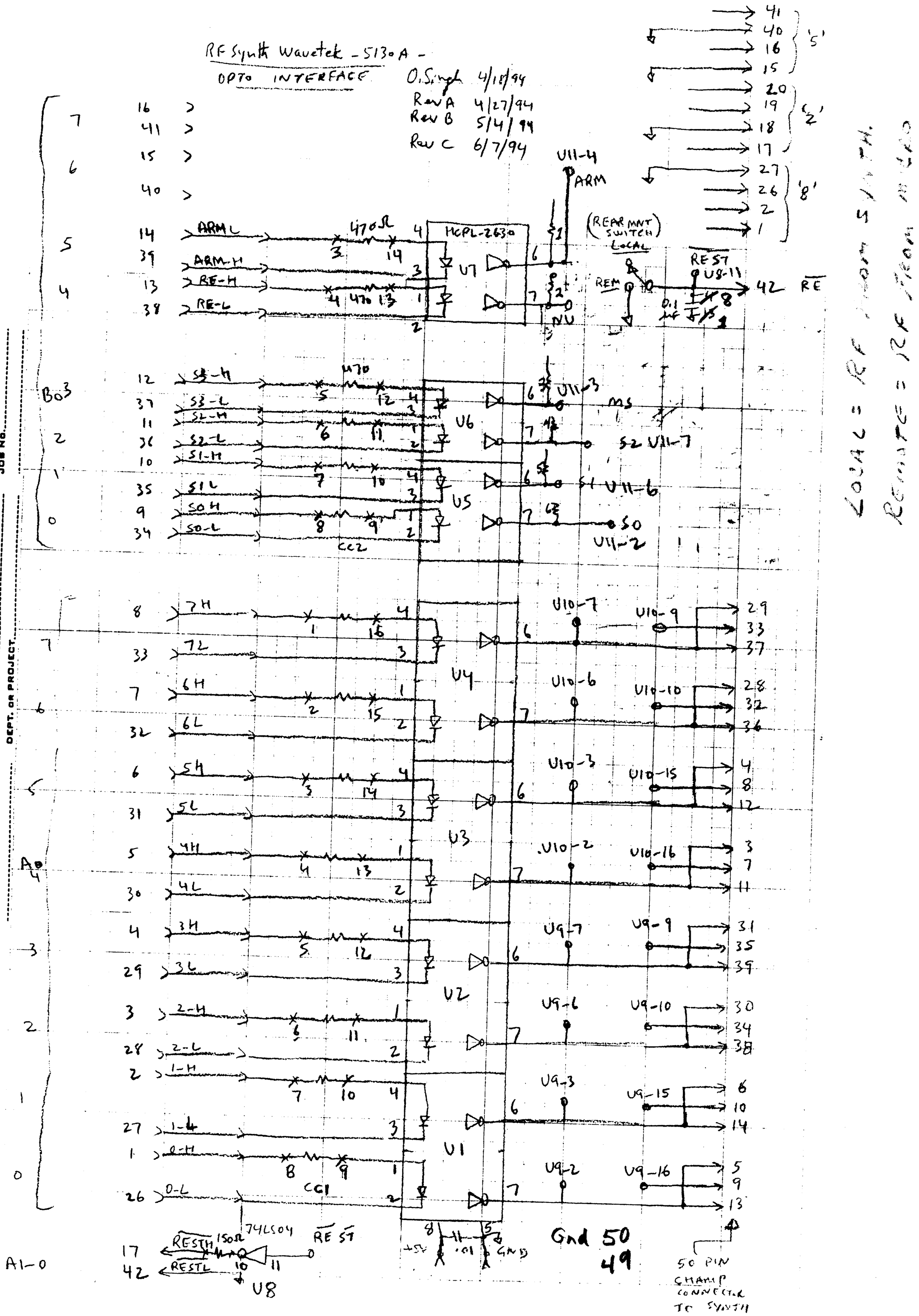


SHEET NO. ____ OF ____
JOB NO. ____
SUBJECT ____
DEPT. OR PROJECT ____
DATE ____
BY ____
DATE ____
CHKD. BY ____

RF Synth Wavetek - 5130A -

OPTO INTERFACE

O. Singh 4/18/94
Rev A 4/27/94
Rev B 5/4/94
Rev C 6/7/94



LOCAL = RF FROM SYNTH
REMOTE = RF FROM HPIB

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M-VME 200 INTERFACE to RF Synthesizer O. Singh 4/20/94

① Freqlo Controls 0.1 HZ, 1 HZ, 10 HZ, 100 HZ

② Freqhi Controls 1 KHZ, 10 KHZ

③ "52.8 MHZ" will be hard wired

④ Port A_0, B_0 are output ports

⑤ Port A_1 is input port ; B_1 is not used.

⑥ PORT A_0 will send out data as per table 1.

⑦ Port B_0 will send strobe (-ve true) (2 ms)

B_0-0	S0	0.1 HZ, 1 HZ
B_0-1	S1	10 HZ, 100 HZ
B_0-2	S2	1 KHZ, 10 KHZ

⑧ B_0-3 MS will send master strobe ; to be send only after strobes B_0-0, 1, 2.

⑩ Bit A_1-0 is remote status Readback (-ve true)

⑨ Bit B_0-4 is remote command (+ve true)

⑪ Bit B_0-5 is reserved for 'Reset Sequence' and will be defined later.

TABLE 1

(+ve true) A_0-Data	B_0-strobe bit	Comments/device	
0-3	0	0.1 HZ	freqlo (0-9999)
4-7	0	1 HZ	
0-3	1	10 HZ	
4-7	1	100 HZ	
0-3	2	1000 HZ	freqhi (0-99)
4-7	2	10 KHZ	

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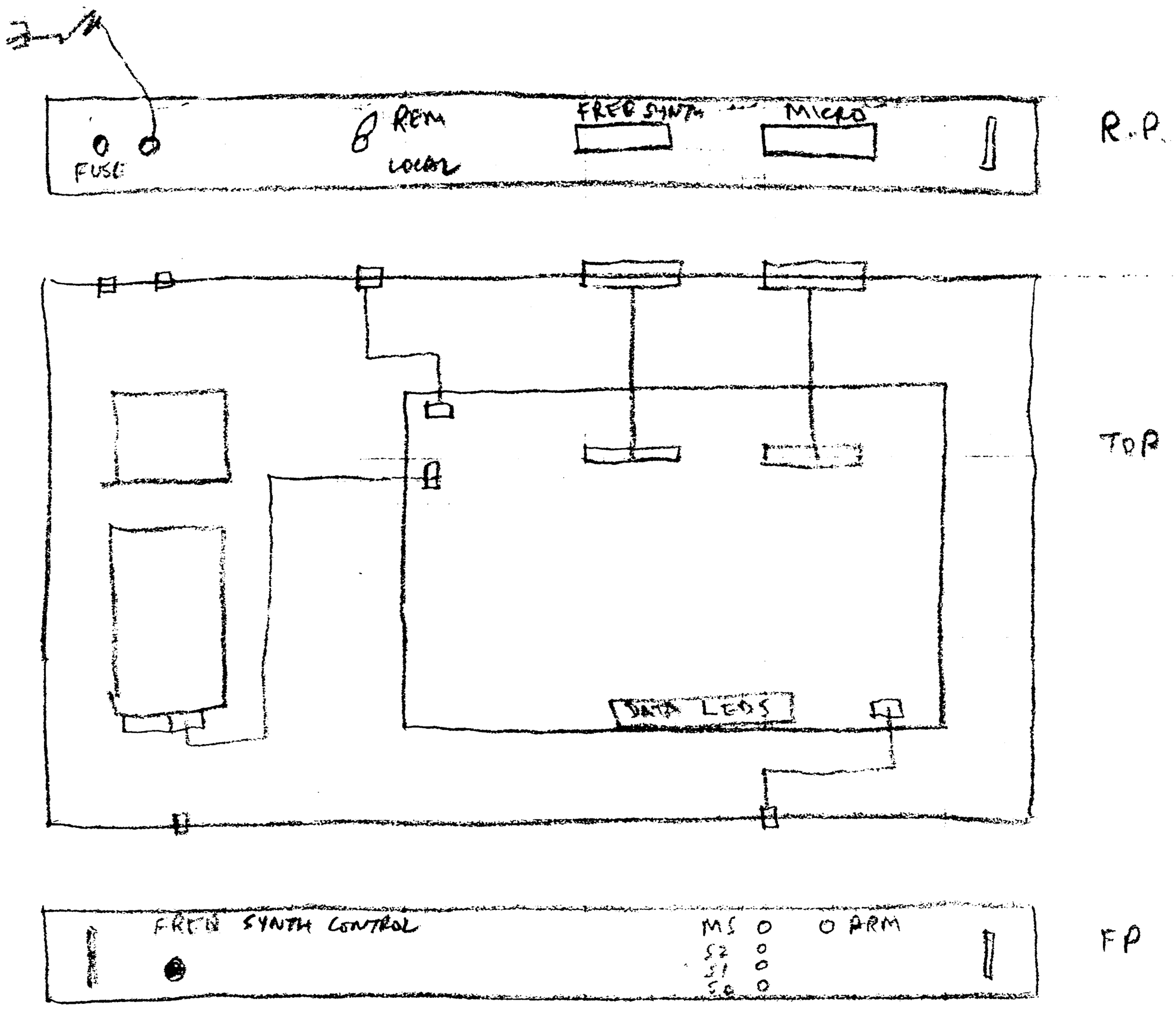
DEPT. OR PROJECT ____

LAYOUT



BROOKHAVEN NATIONAL LABORATORY

BY_____DATE_____ SUBJECT_____

CHKD. BY_____DATE_____ _____

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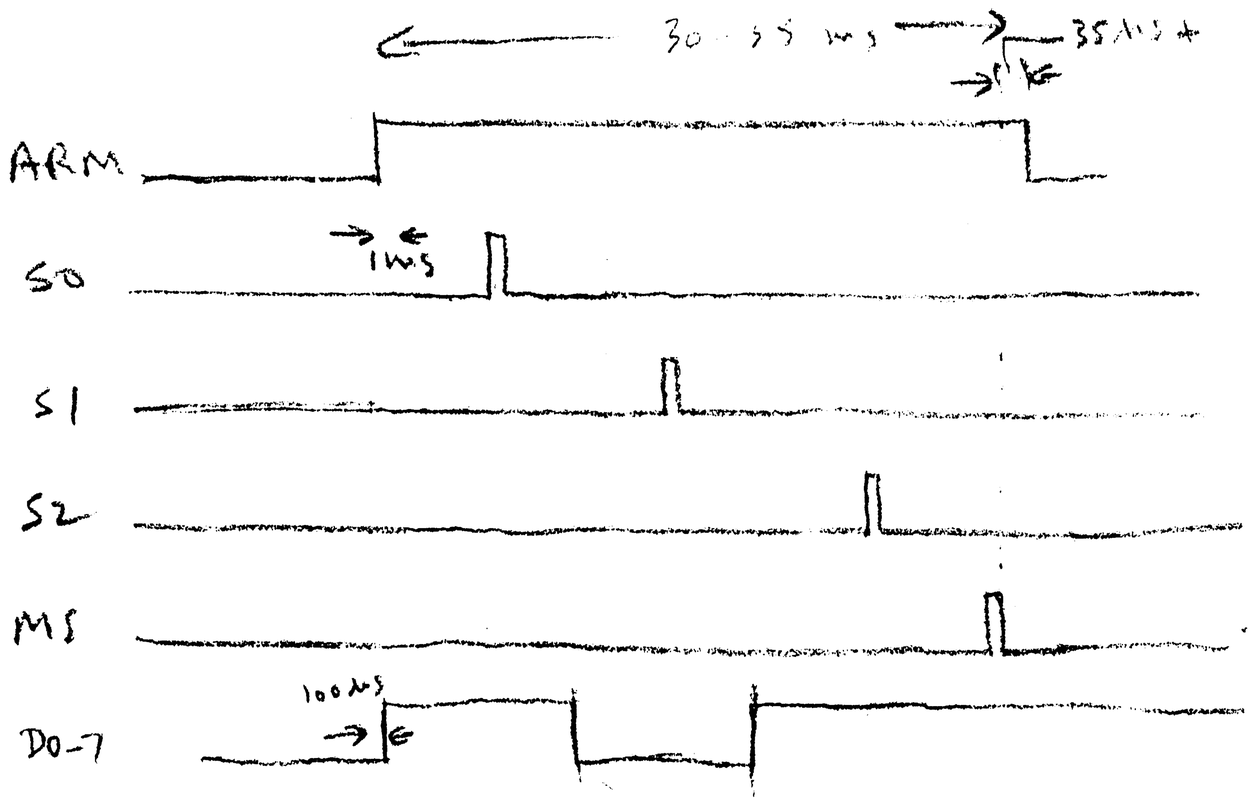
JOB No._____

Timing



50 pin Champ male	Color	25 pin D male (J05 → A0)		
1 –	Brown	– 1	PA0 H	PIT_1
26 –	BIK	– 14	L	
2 –	red	– 2	PA1 H	
27 –	BIK	– 15	L	
3 –	orange	– 3	PA2 H	
28 –	BIK	– 16	L	
4 –	Yellow	– 4	PA3 H	
29 –	BIK	– 17	L	
5 –	Green	– 5	PA4 H	
30 –	BIK	– 18	L	
6 –	Blue	– 6	PA5 H	
31 –	BIK	– 19	L	
7 –	white	– 7	PA6 H	
32 –	BIK	– 20	L	
8 –	Brown	– 8	PA7 H	
33 –	red	– 21	L	
		– 25	Shield	

50 pin Champ male	color	25 pin D male (J03 → B0/A1)		
9 –	orange	– 1	PB0 H	PIT_1
34 –	red	– 14	L	
10 –	yellow	– 2	PB1 H	
35 –	red	– 15	L	
11 –	green	– 3	PB2 H	
36 –	red	– 16	L	
12 –	Blue	– 4	PB3 H	
37 –	red	– 17	L	
13 –	wh	– 5	PB4 H	
38 –	red	– 18	L	
14 –	Blue	– 6	PB5 H	
39 –	green	– 19	L	
15 –		– 7	PB6 H	
40 –		– 20	L	
16 –		– 8	PB7 H	
41 –		– 21	L	
17	white	– 9	PA0 H	PIT0
42	green	– 22	L	

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CHKD. BY _____ DATE _____ JOB No. _____

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Default values (set point) for RF Synthesizer

XRAY 52, 887, 4600

UV 52, 886, 3000

BROOKHAVEN NATIONAL LABORATORY

MEMORANDUM

DATE: May 20, 1994

TO: Control Room Operator

FROM: O. Singh and J. Safranek

SUBJECT: Remote control of x ray rf synthesizer

The remote control for x ray rf synthesizer is in test mode for this weekend (5/20/94 to 5/23/94). If any problems, please contact Om Singh. Following information should be helpful;

Computer control devices are xfreqhi and xfreqlo. xfreqhi should be set to 52887 (52.887 Mhz) and xfreqlo's nominal setting is 4600 (460.0 hz)(This setting is same as set by the front panel of rf synthesizer in the local mode at the present). The local/remote mode of the synthesizer can only be changed by a switch located on the front of rf synthesizer controller box (located just above the synthesizer and marked as xray controller). When this switch is toggled, observe the local/remote light on the front panel of the rf synthesizer, if interested, for your confirmation. On the computer, xfreqlo device also monitors the local/remote mode - off status means local; on status means remote. The command has no function at present time but it may be implemented in the near future to take place the switch function.

Procedure to change from remote to local mode:

1. It is suggested that it is done when there is no beam.
2. Observe the front panel setting and make sure it is set at 528874600.
3. Toggle x ray switch to local.
4. Read the frequency counter in the control room when bstore is set to 1. This should be 52,887,491 hz +/- 1 hz.(It is assumed that rf synthesizer had been on for several hours)

Procedure to change from local to remote:

1. It must be done when there is no beam.
2. Toggle x ray rf switch, located on the controller, to remote.
3. Set xfreqhi = 52.887 and setmag xfreqlo = 4600 in that order.(Important)
4. Frequency counter should read same as given in the above procedure.