

LOGIC DIAGRAMS for DISC STORAGE UNIT

November 1, 1974


basic / FOUR corporation

A Subsidiary of Management Assistance Inc. (MAI)
1335 South Claudina Street, Anaheim, California 92805



PROPRIETARY INFORMATION

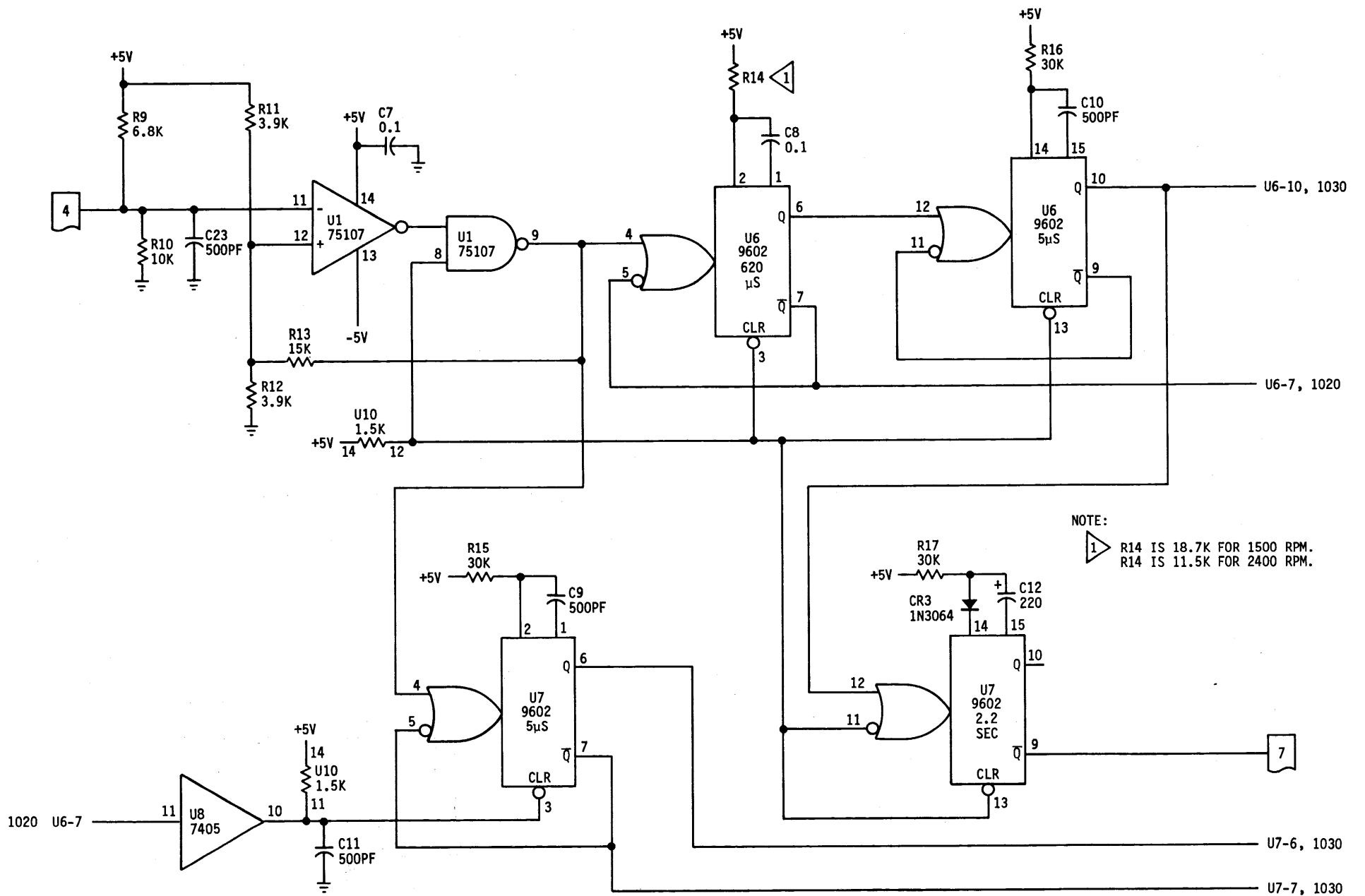
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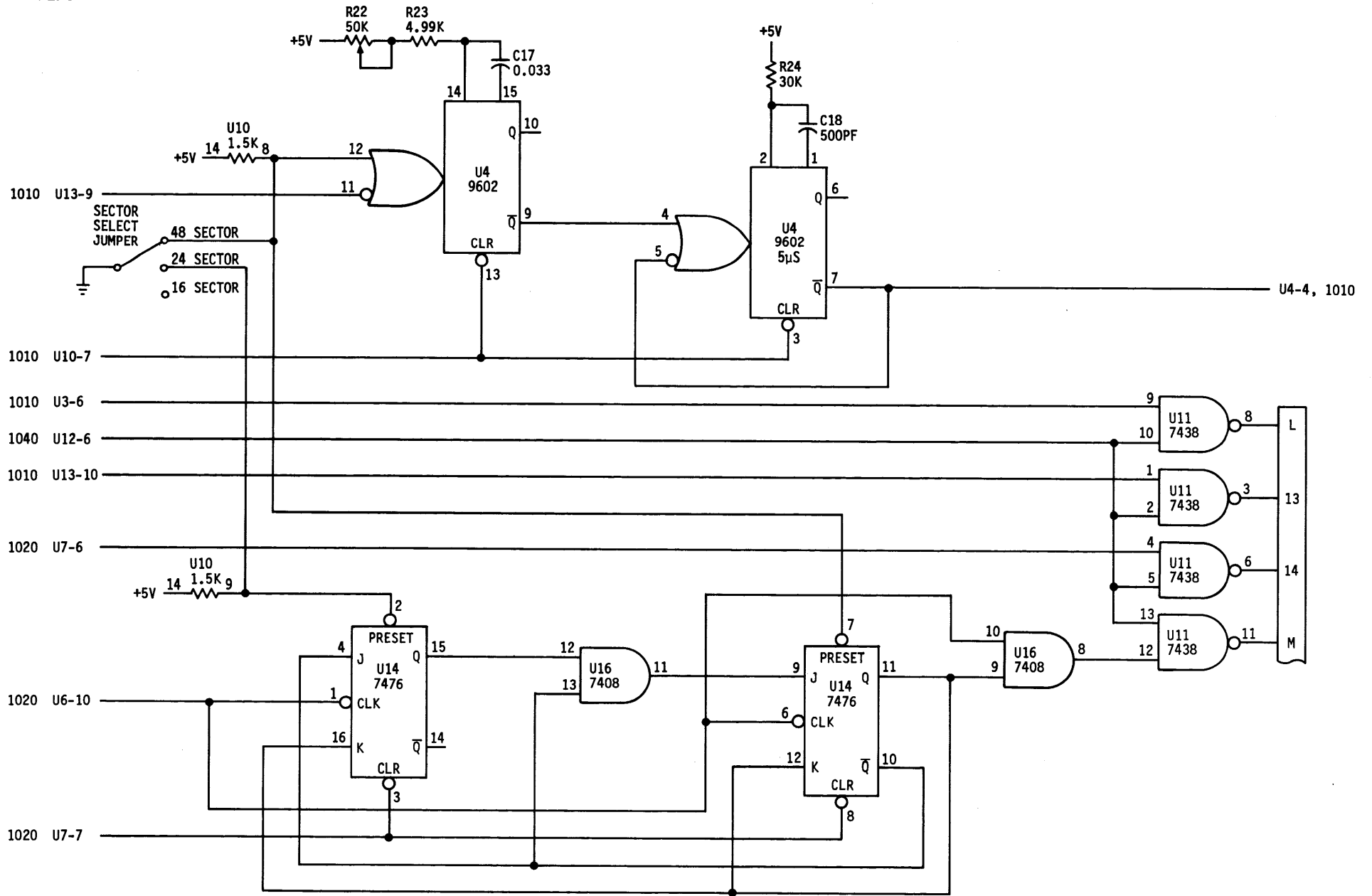
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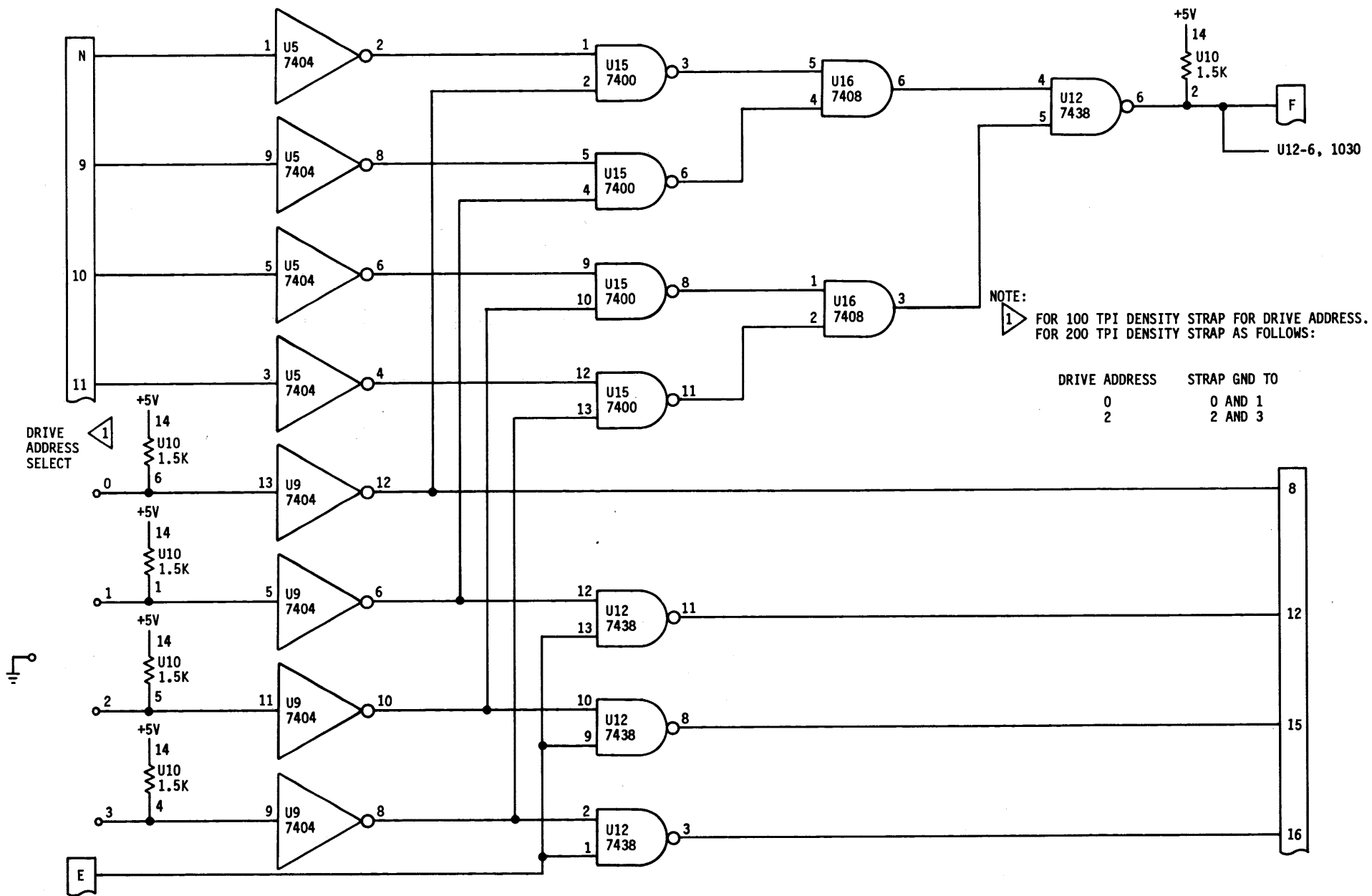
	<u>Unit</u>	<u>Page</u>	<u>Revision Date</u>
A5 Interface Board Connector		1000	Original
A5 Interface Board (5 Sheets)		1010 thru 1050	Original
A2 Read-Write Board Connector		2000	Original
A2 Read-Write Board (6 Sheets)		2010 thru 2060	Original
A4 Servo Card No. 1 Connector		3000	Original
A4 Servo Card No. 1 (5 Sheets)		3010 thru 3050	Original
A3 Servo Card No. 2 Connector		4000	Original
A3 Servo Card No. 2 (6 Sheets)		4010 thru 4060	Original
A1 VFO (1500-2400 RPM) Connector		5000	Original
A1 VFO (1500-2400 RPM) (10 Sheets)		5010 thru 5100	Original
Motherboard Connectors (3 Sheets)		6000	Original
Motherboard (24 Sheets)		6010 thru 6240	Original
Terminator Board Connector		7000	Original
Terminator Board (2 Sheets)		7010 thru 7020	Original

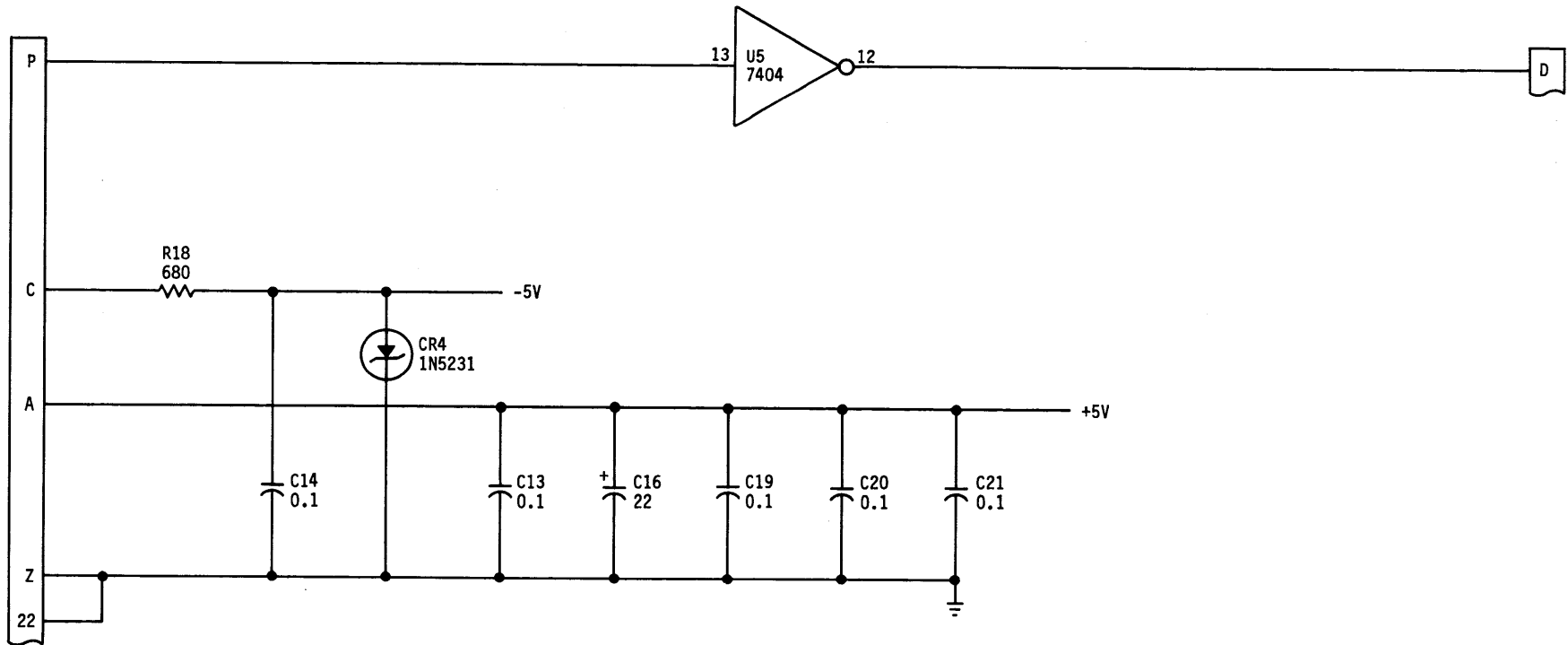
		A5	
1010	XDUCER SIG REM SECTOR	5	}
1010	+70% SPEED	6	
1020	XDUCER SIG FIXED SECTOR	4	
1020	+SPIN STOPPED	7	
1030	SECTOR REM	L	
1030	INDEX REM	13	
1030	INDEX FIXED	14	
1030	SECTOR FIXED	M	
1040	DRIVE SELECT 0	N	
1040	DRIVE SELECT 1	9	
1040	DRIVE SELECT 2	10	
1040	DRIVE SELECT 3	11	
1040	ACCESS READY	E	
1040	DRIVE SELECT	F	
1040	DRIVE ADDRESS 0	8	
1040	ACCESS READY 1	12	
1040	ACCESS READY 2	15	
1040	ACCESS READY 3	16	
1050	SET CYLINDER	P	}
1050	SET CYLINDER	D	
	SECTOR COUNT 1	K	
	SECTOR COUNT 2	J	
	ADDRESS BUS 1	18	
	ADDRESS BUS 2	U	
	ADDRESS BUS 4	T	
	ADDRESS BUS 8	19	
	ADDRESS BUS 16	V	
	ADDRESS BUS 32	21	
	ADDRESS BUS 64	W	
	ADDRESS BUS 128	20	
	ADDRESS BUS 256	X	
	SELECT LOWER HD	Y	
	SELECT FIXED DISC	H	
	D.F. WRITE DATA	R	
	READ GATE	S	
	WRITE GATE	17	
	RESTORE	1	
	ADDRESS ACK	2	
	ADDRESS ACK	3	
1050	+5 VOLTS	A	}
1050	-15 VOLTS	C	
1050	GROUND	Z	
1050	GROUND	22	

NOT USED

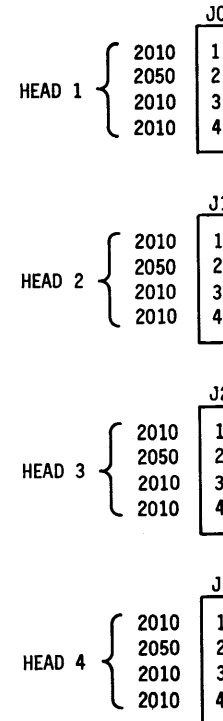
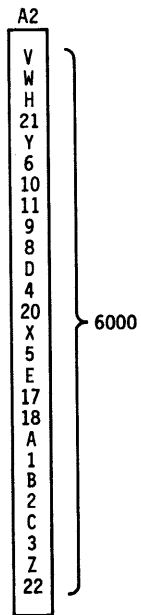


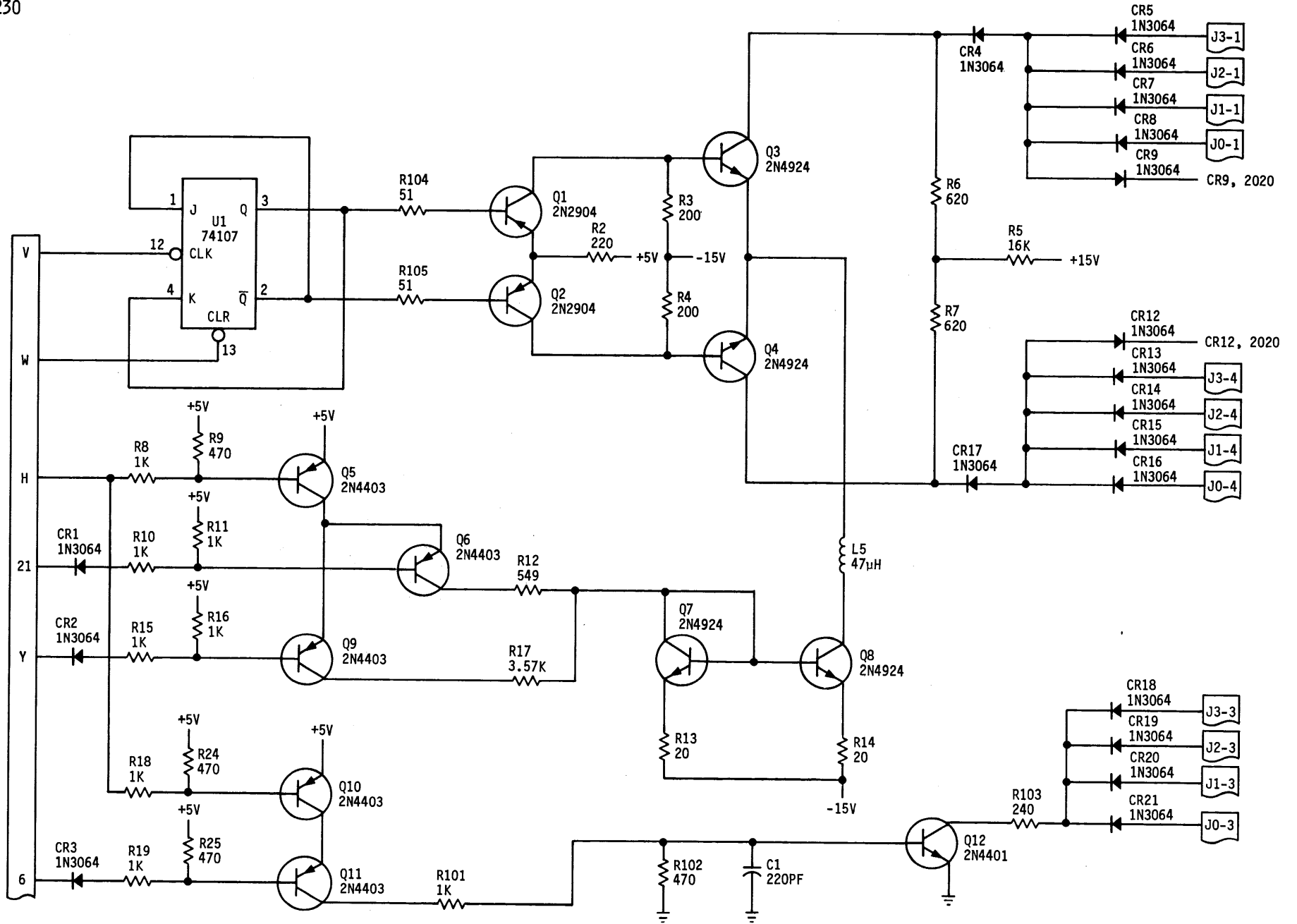


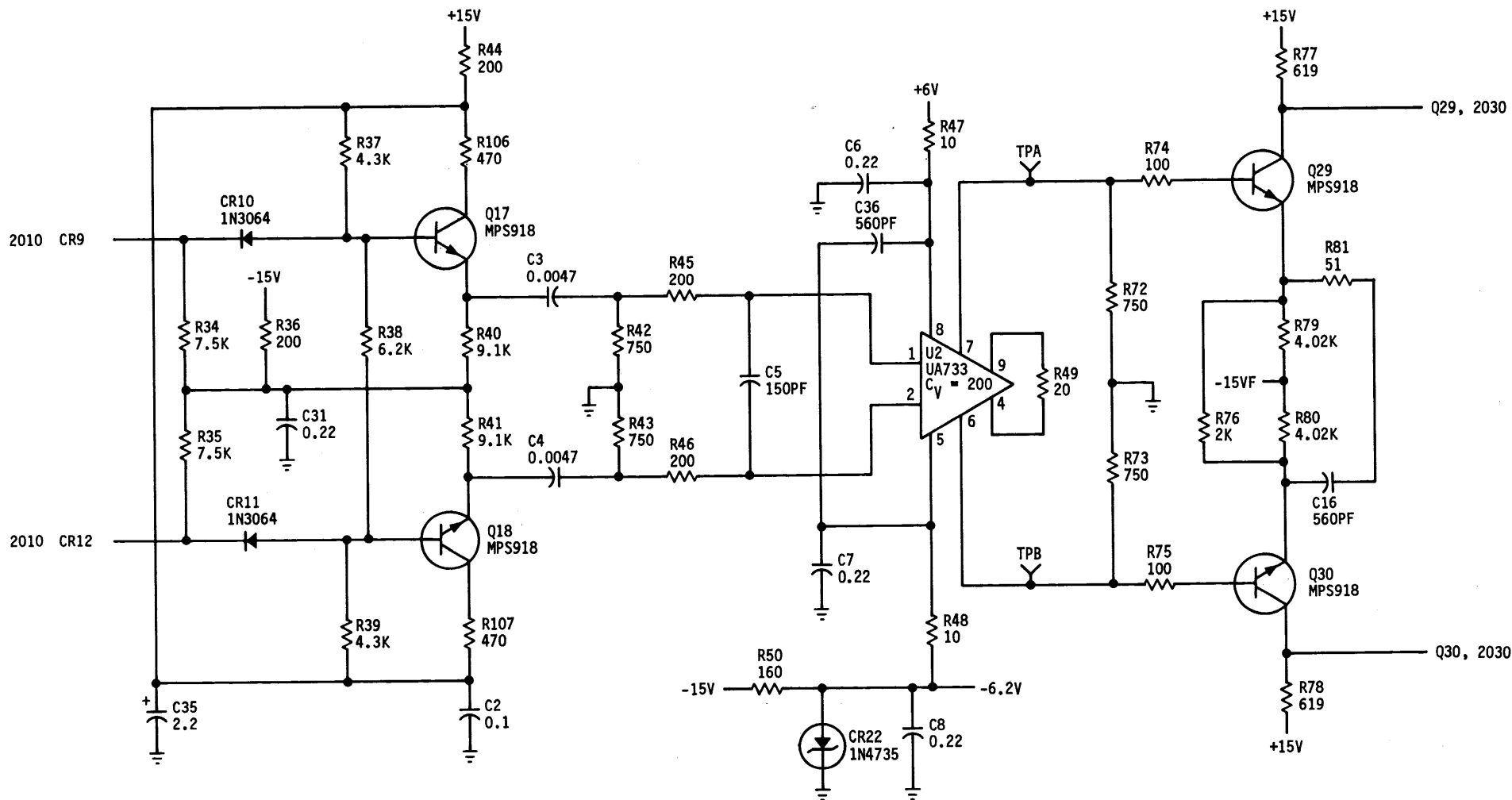


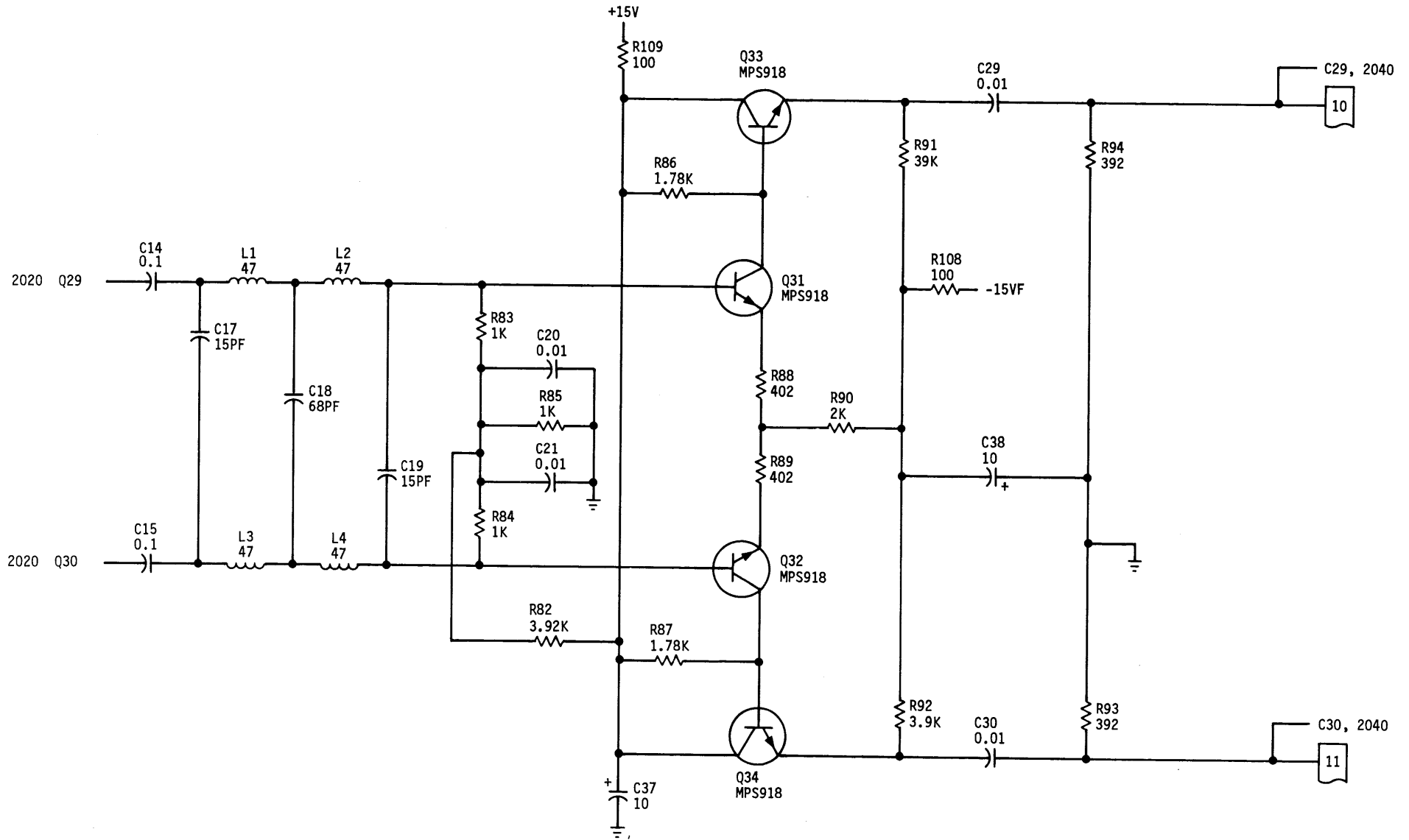


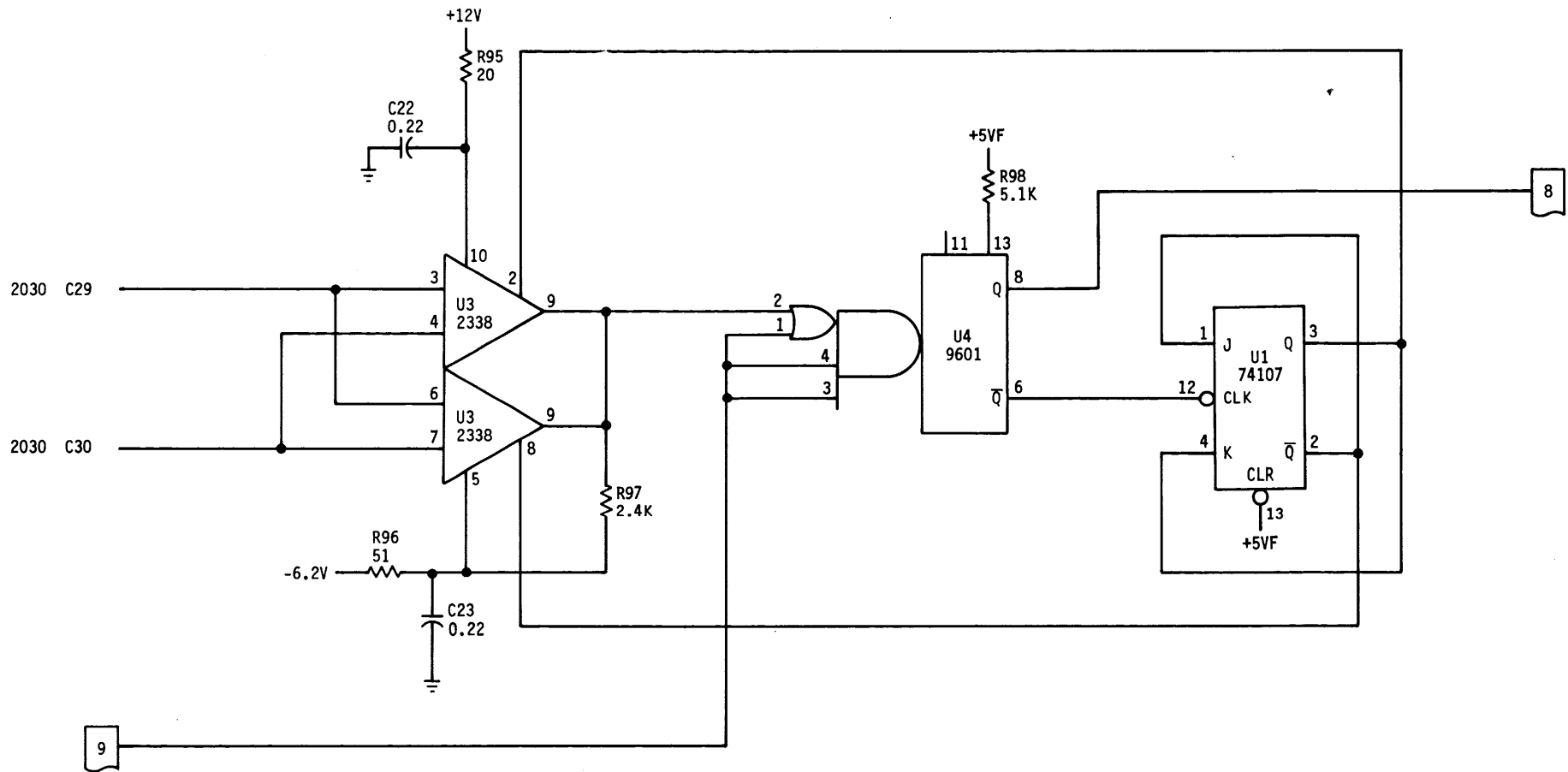
2010 D.F. WRITE DATA
 2010 +SELECT WRITE GATE
 2010 POWER SAFE
 2010 -SELECT WRITE GATE
 2010 REDUCE WRITE CURRENT
 2010 SELECT ERASE GATE
 2030 +LIM READ SIGNAL (TP)
 2030 -LIM READ SIGNAL (TP)
 2040 -SELECT READ GATE
 2040 +RAW DATA
 2050 SELECT HEAD 0
 2050 SELECT HEAD 1
 2050 SELECT HEAD 2
 2050 SELECT HEAD 3
 2050 HEAD 0 SELECT
 2050 HEAD 1 SELECT
 2050 HEAD 2 SELECT
 2050 HEAD 3 SELECT
 2060 +5 VOLTS
 2060 +5 VOLTS
 2060 +15 VOLTS
 2060 +15 VOLTS
 2060 -15 VOLTS
 2060 -15 VOLTS
 2060 GROUND
 2060 GROUND

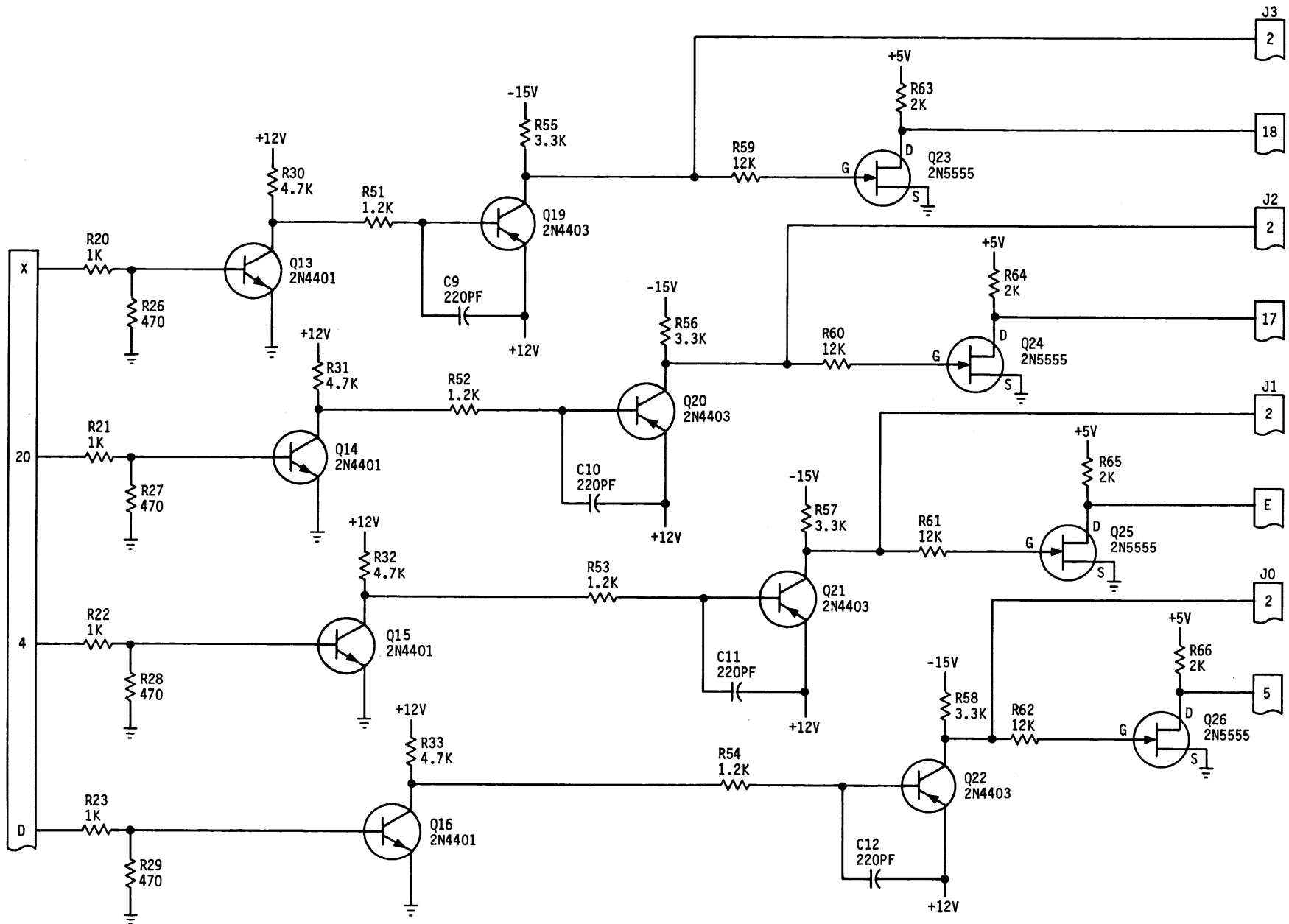


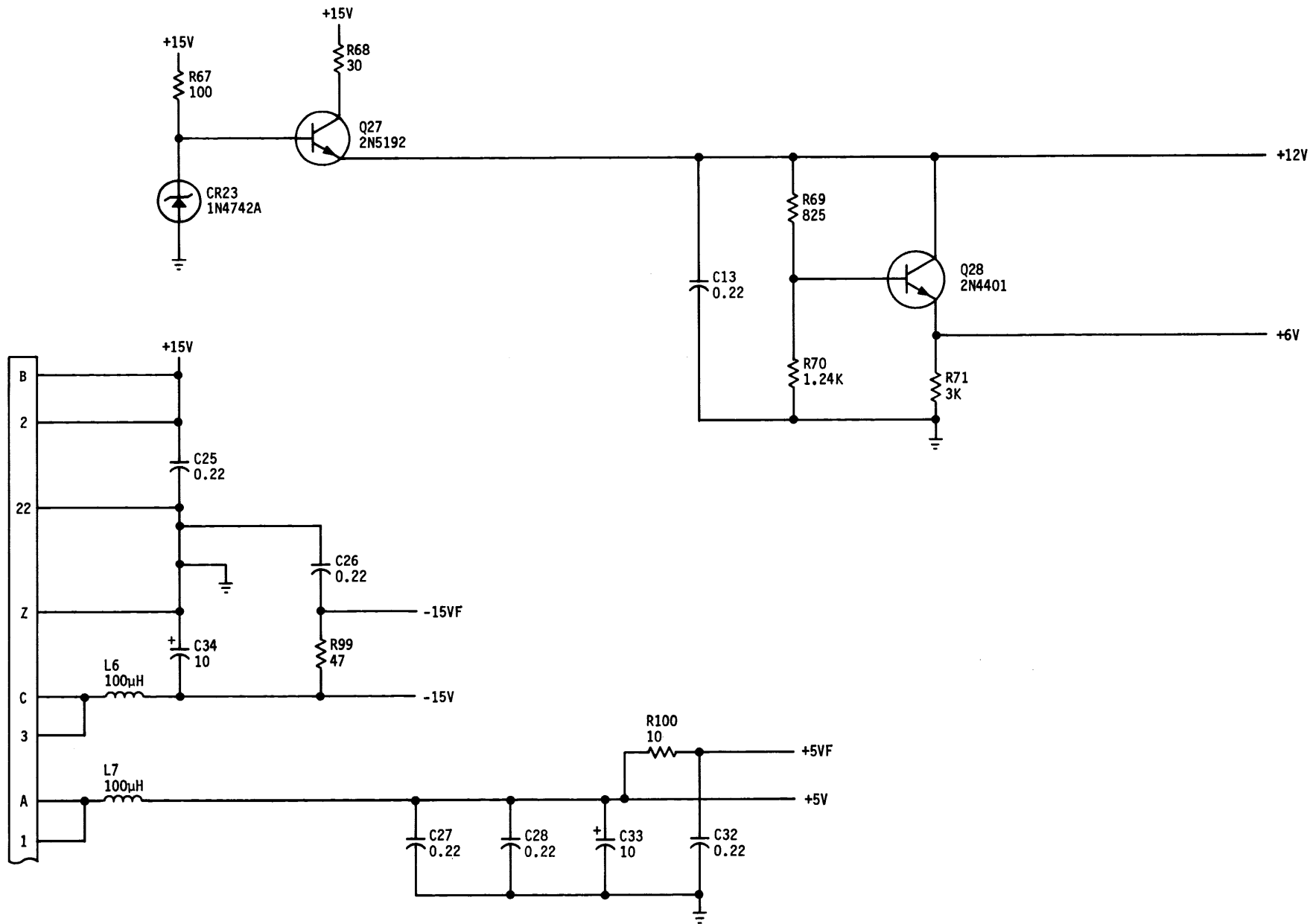




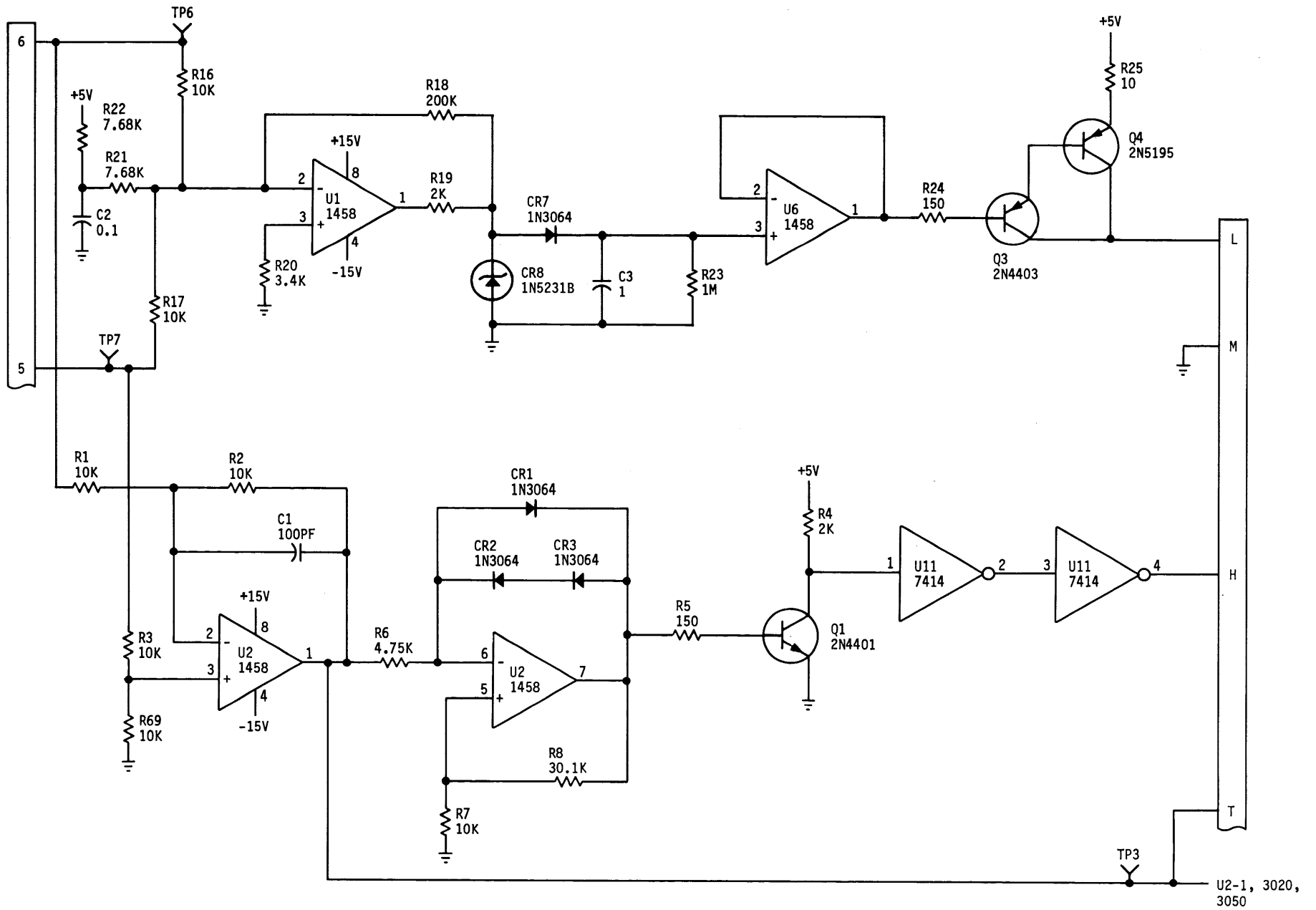


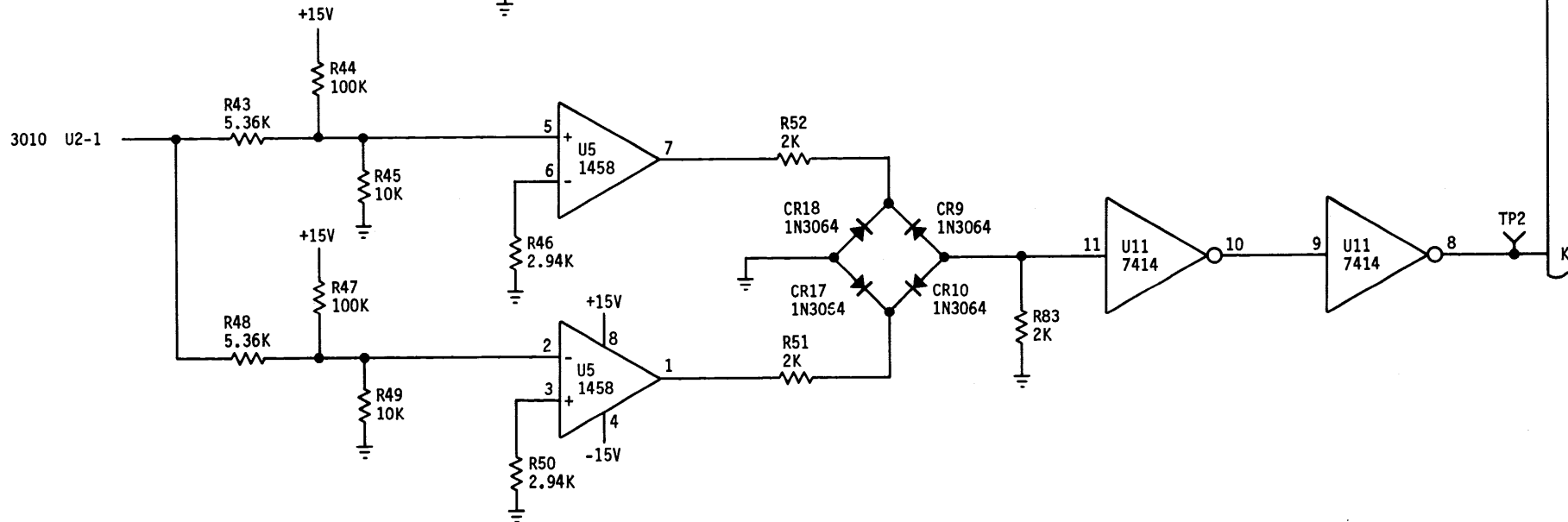
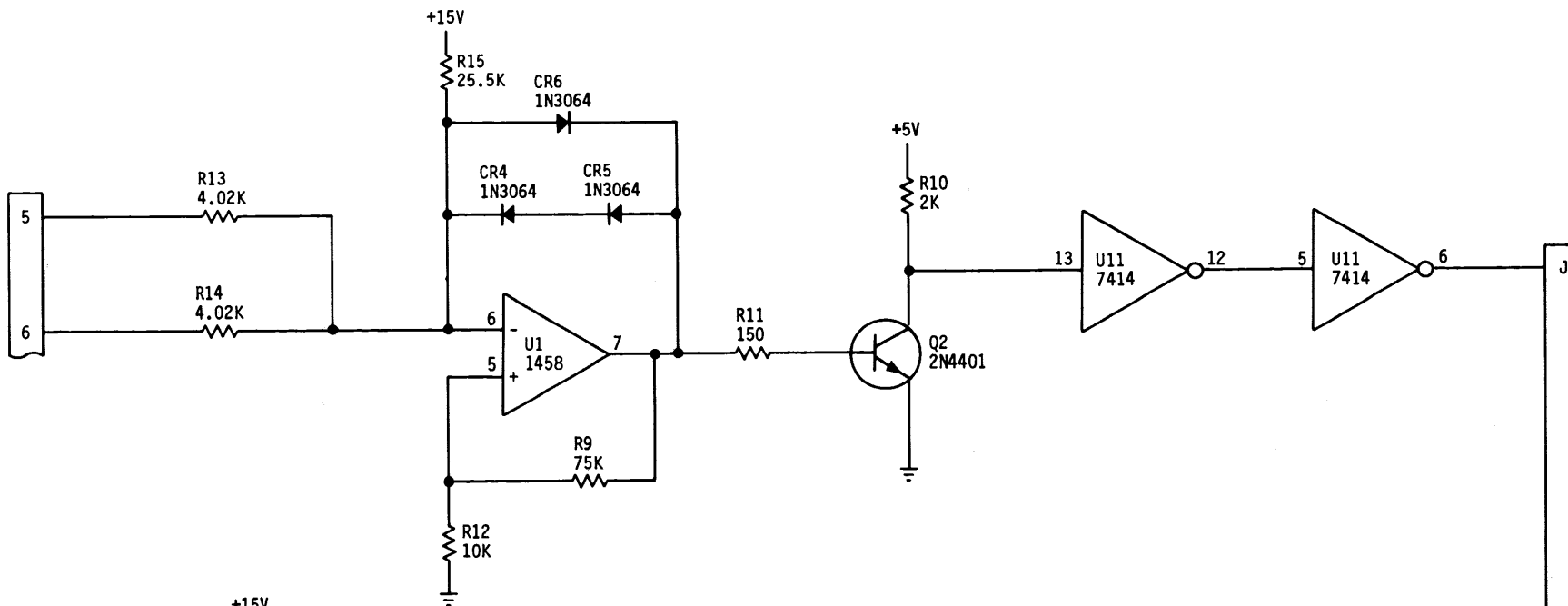


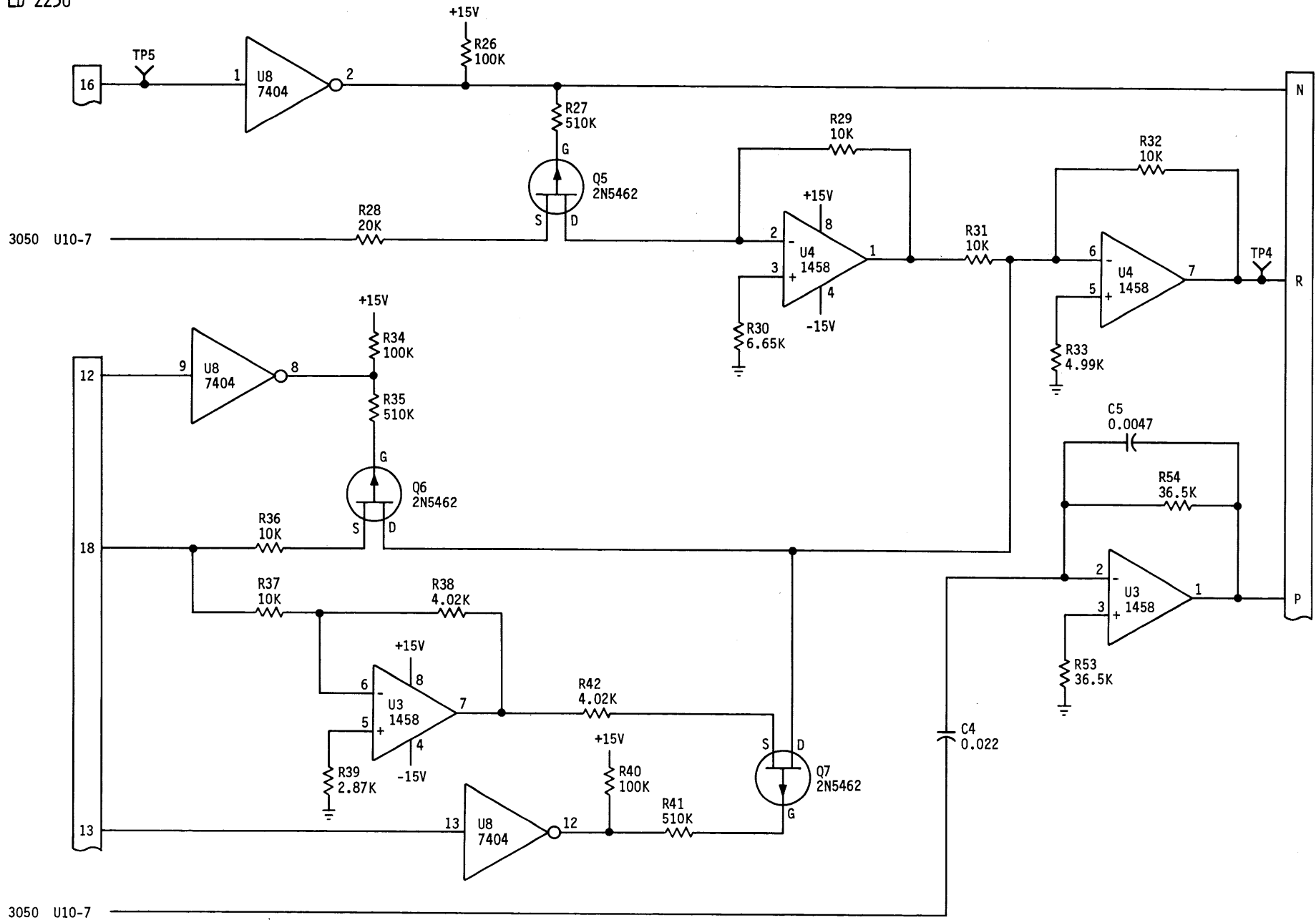


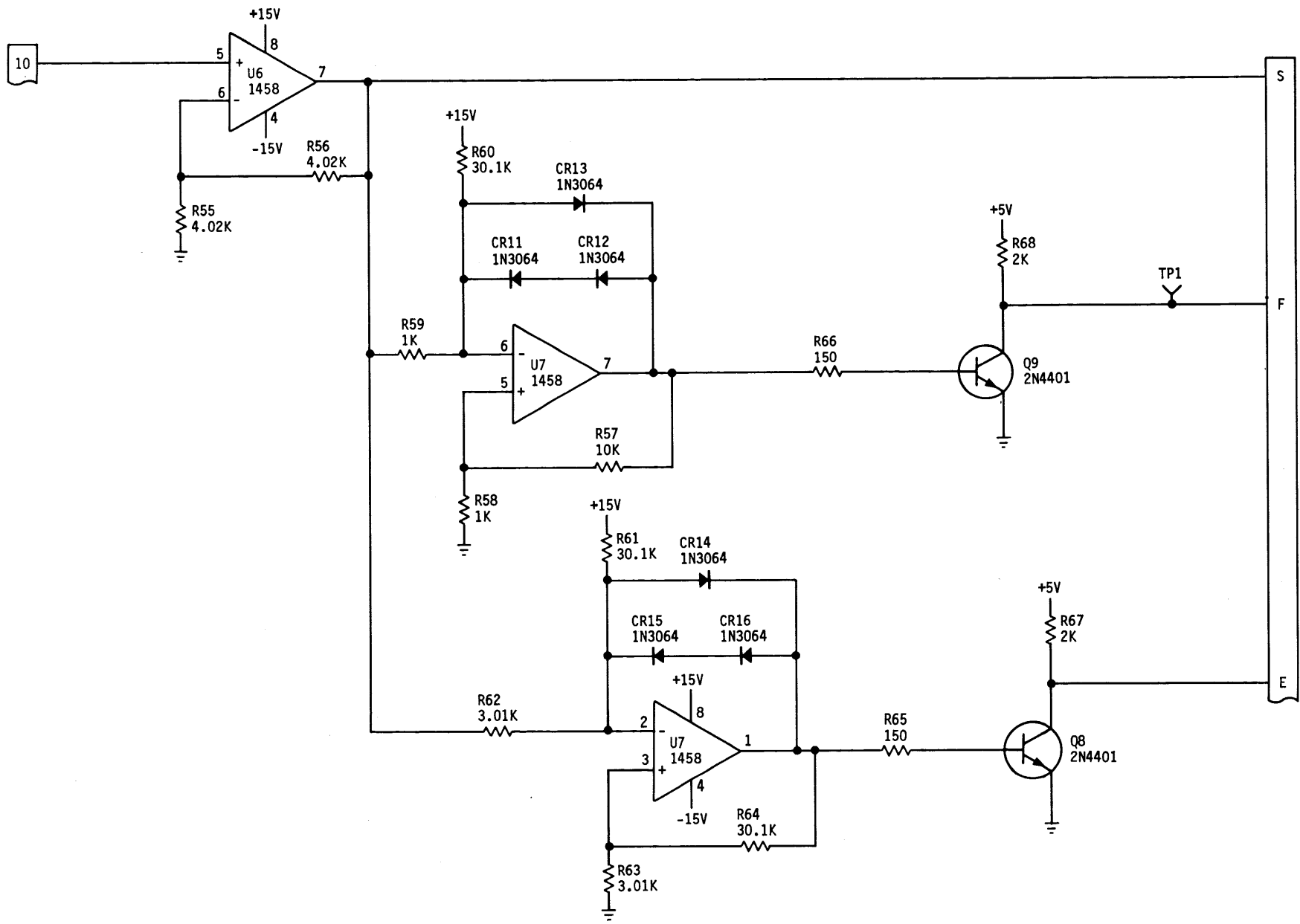


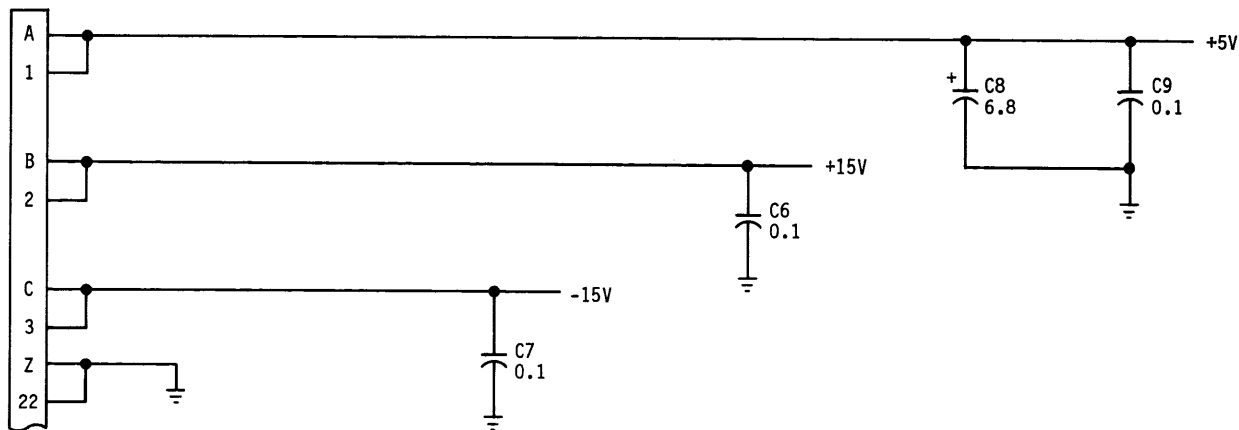
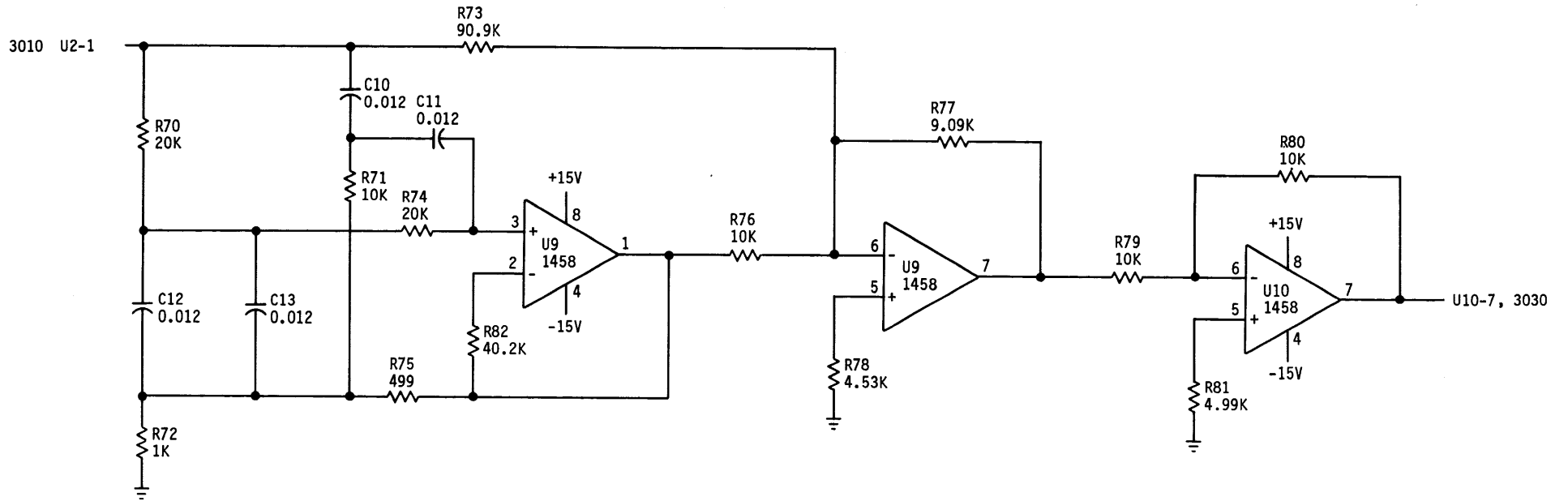
			A4
3010,	3020	ØB	6
3010,	3020	ØA	5
	3030	-LINEAR ZONE ENABLE	16
	3030	-FWD DRIVE	12
	3030	SHAPED ERROR	18
	3030	-REV DRIVE	13
	3040	HM	10
	3010	+A-B	H
	3020	+A+B	J
	3010	LED DRIVE	L
	3010	LED RETURN	M
	3030	-LINEAR SWITCH	N
	3030	POS. DR.	R
	3010	LINEAR SIGNAL (TP)	T
	3030	LINEAR TACH	P
	3020	+ARRIVAL ZONE	K
	3040	HM (TP)	S
	3040	-TRACK 000	E
	3040	-HOME POSITION	F
	3050	+15 VOLTS	B
	3050	+15 VOLTS	2
	3050	-15 VOLTS	C
	3050	-15 VOLTS	3
	3050	+5 VOLTS	A
	3050	+5 VOLTS	1
	3050	GROUND	Z
	3050	GROUND	22





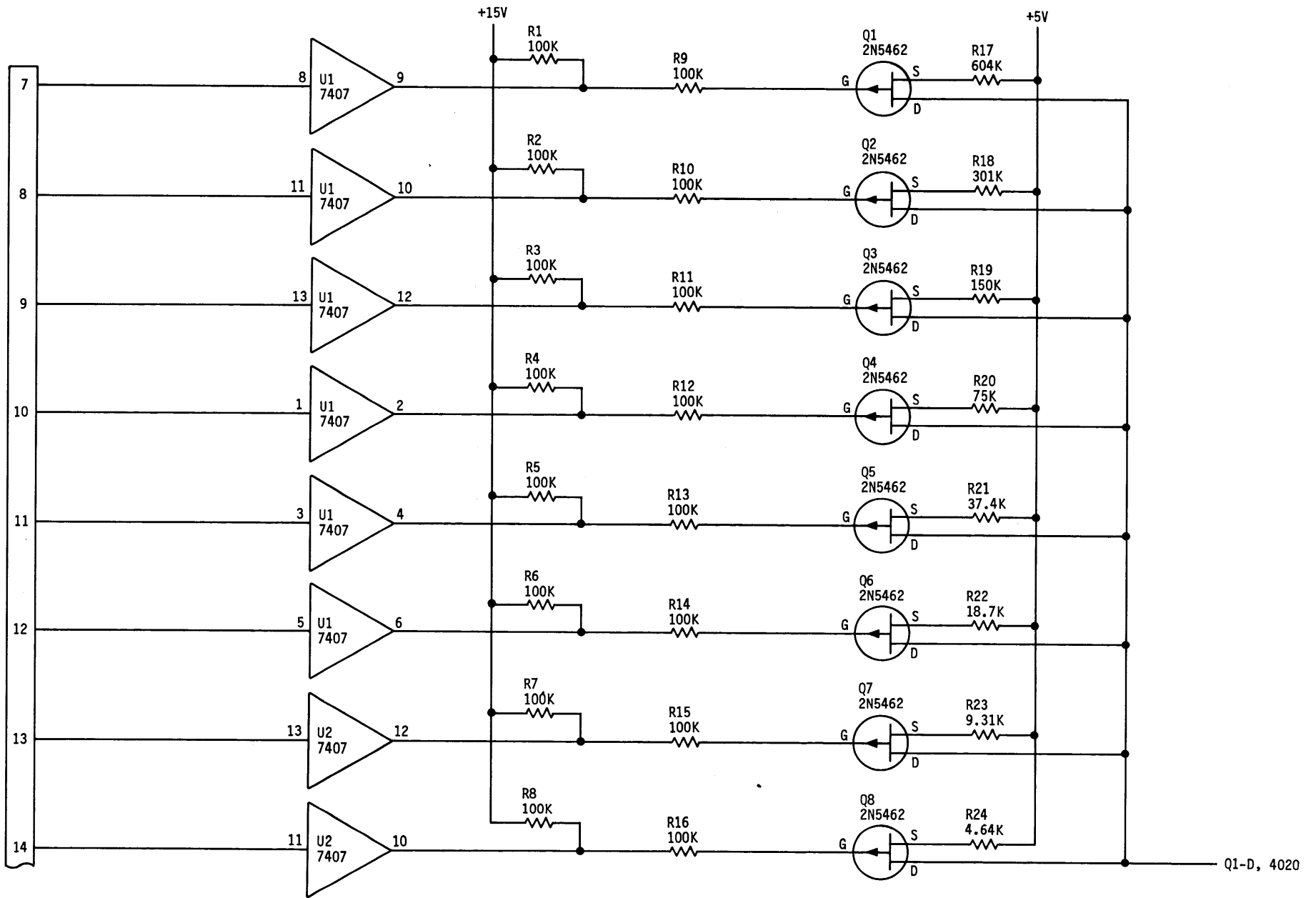


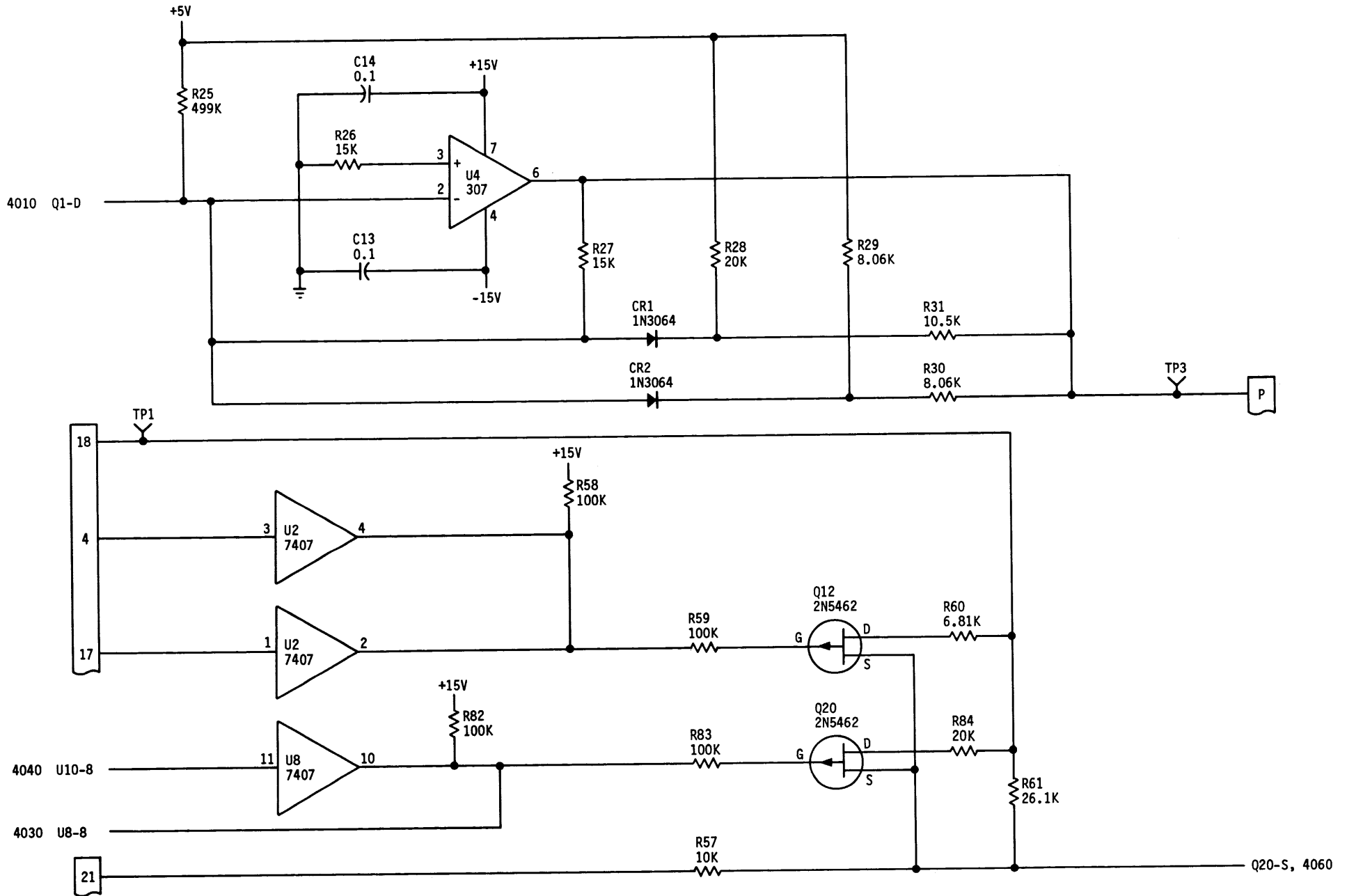


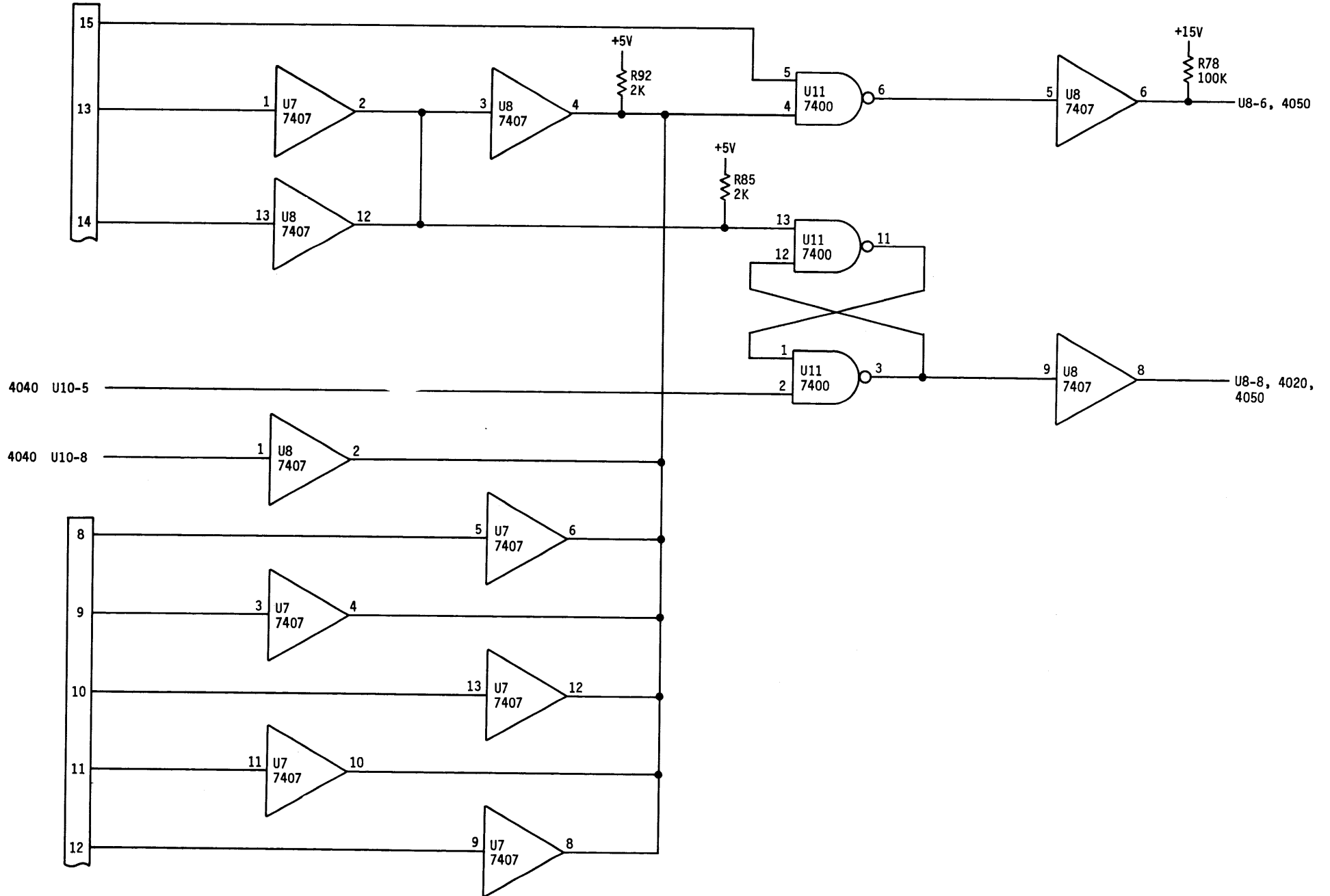


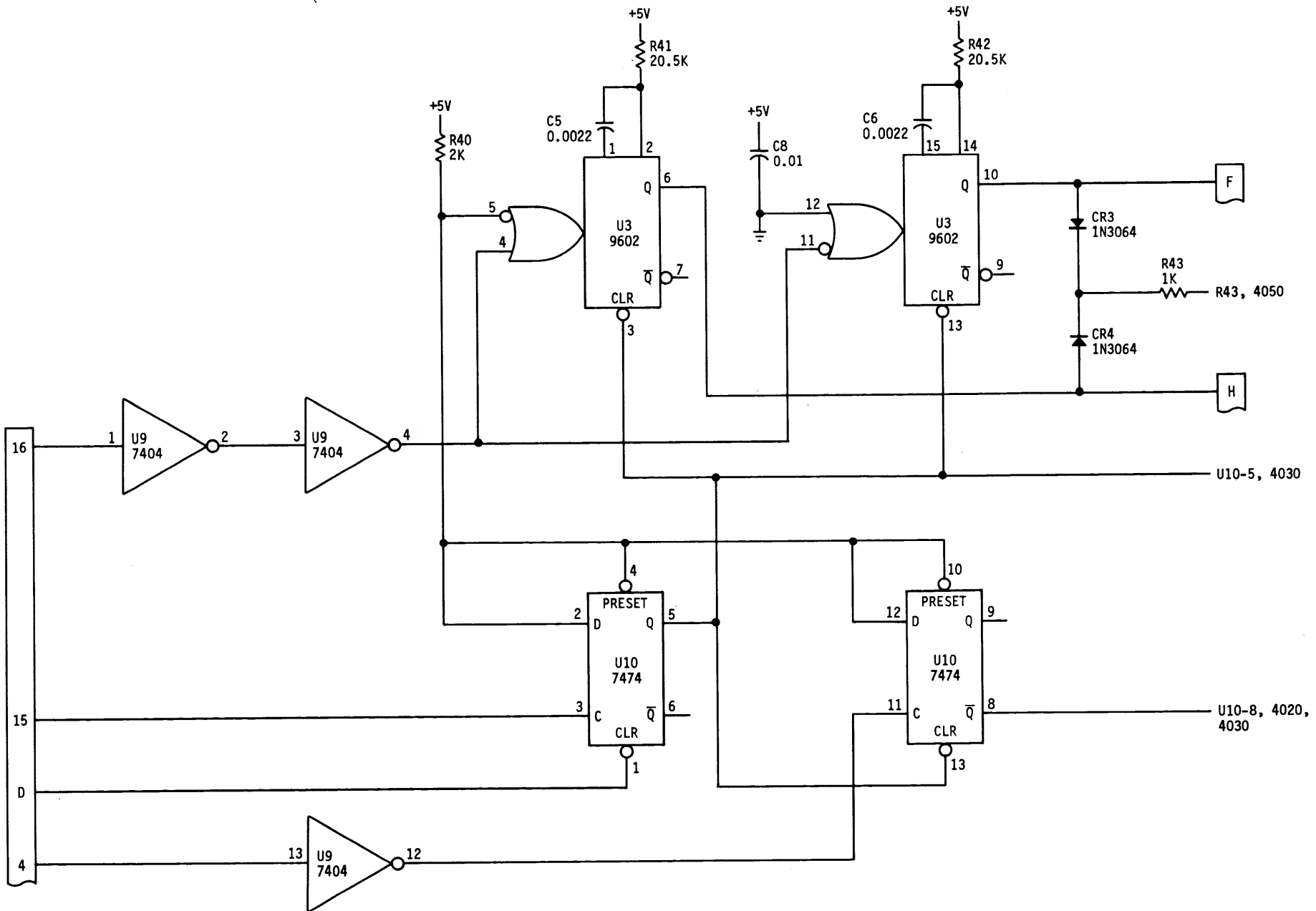
	A3
4010 -DIFF 1	7
4010, 4030 -DIFF 2	8
4010, 4030 -DIFF 4	9
4010, 4030 -DIFF 8	10
4010, 4030 -DIFF 16	11
4010, 4030 -DIFF 32	12
4010, 4030 -DIFF 64/256	13
4010, 4030 -DIFF 128/256	14
4020, 4040 -LINEAR ZONE ENABLE	4
4020 -INITIALIZATION	17
4040 +[(A+B) + (A-B)]	16
4030, 4040 +(A+B) A4, J	15
4040 -LOAD CYL REG	D
4050 -REV ENABLE	5
4050 -FWD ENABLE	6
4050 -LINEAR SWITCH	19
4050 LINEAR TACH	20
4020 SHAPED ERROR	P
4020 I FEEDBACK	18
4040 +REV LATCH SET	F
4040 +FWD LATCH SET	H
4060 REV PREAMP DRIVE	J
4060 FWD PREAMP DRIVE	K
4050 TACH DRIVE	X
4060 +5 VOLTS	A
4060 +5 VOLTS	1
4060 +15 VOLTS	B
4060 +15 VOLTS	2
4060 -15 VOLTS	C
4060 -15 VOLTS	3
4020 POS. DR.	21
4060 GROUND	Z
4060 GROUND	22

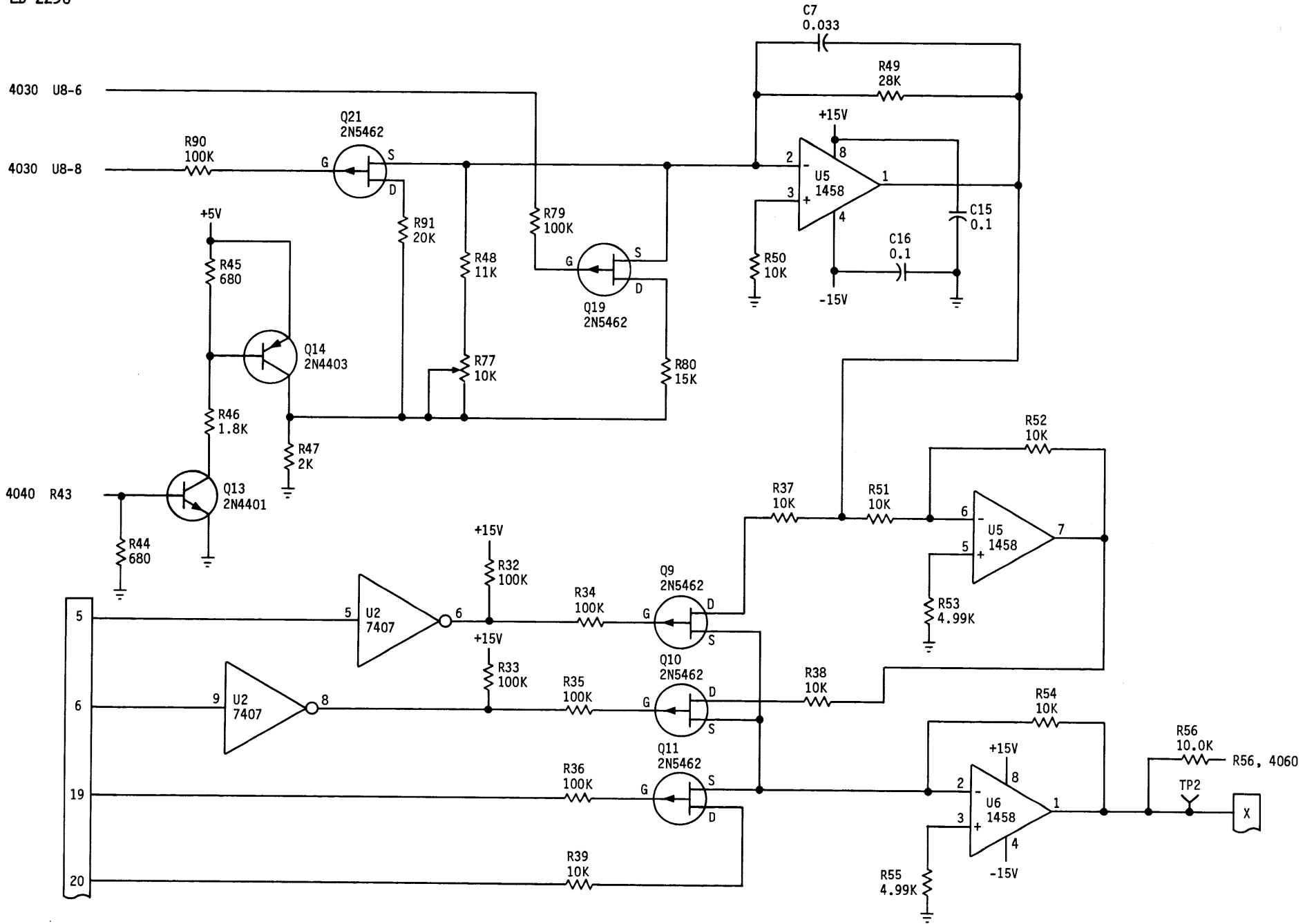
6001

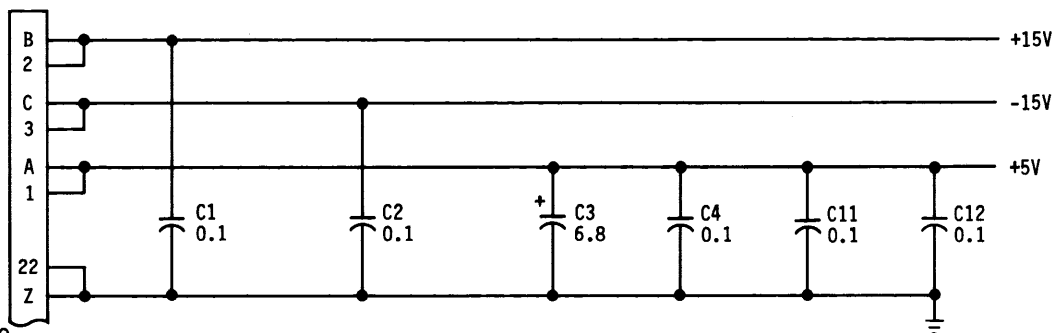
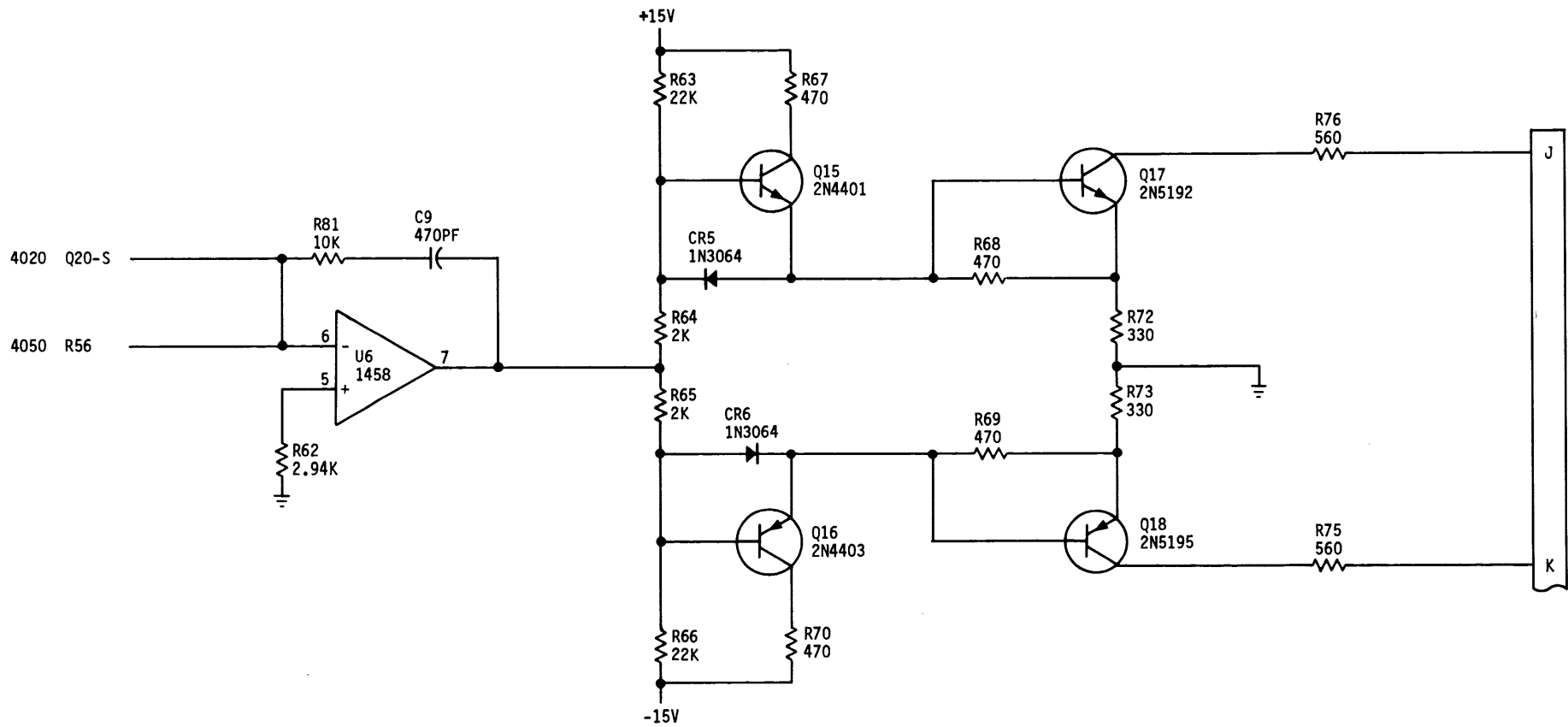










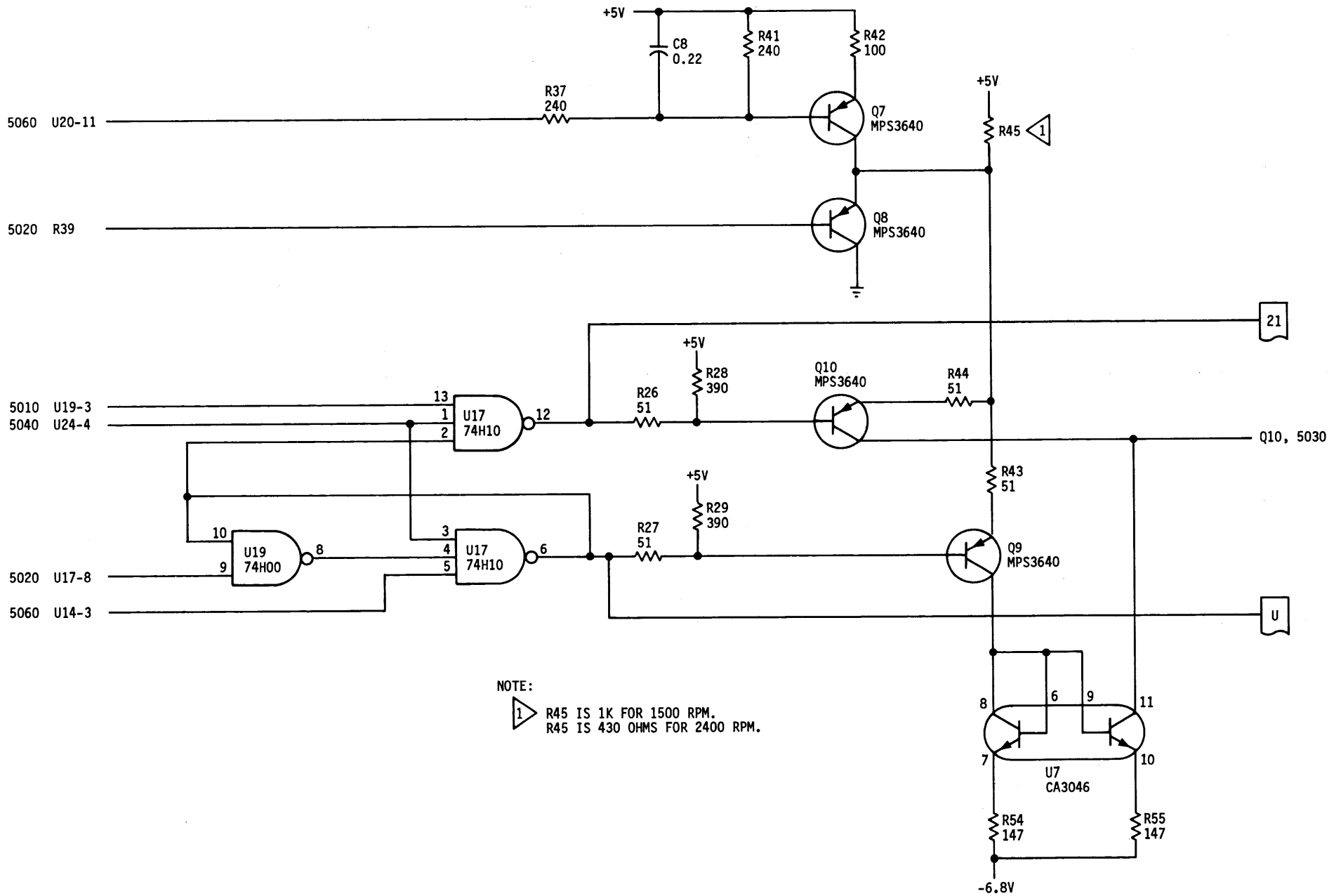


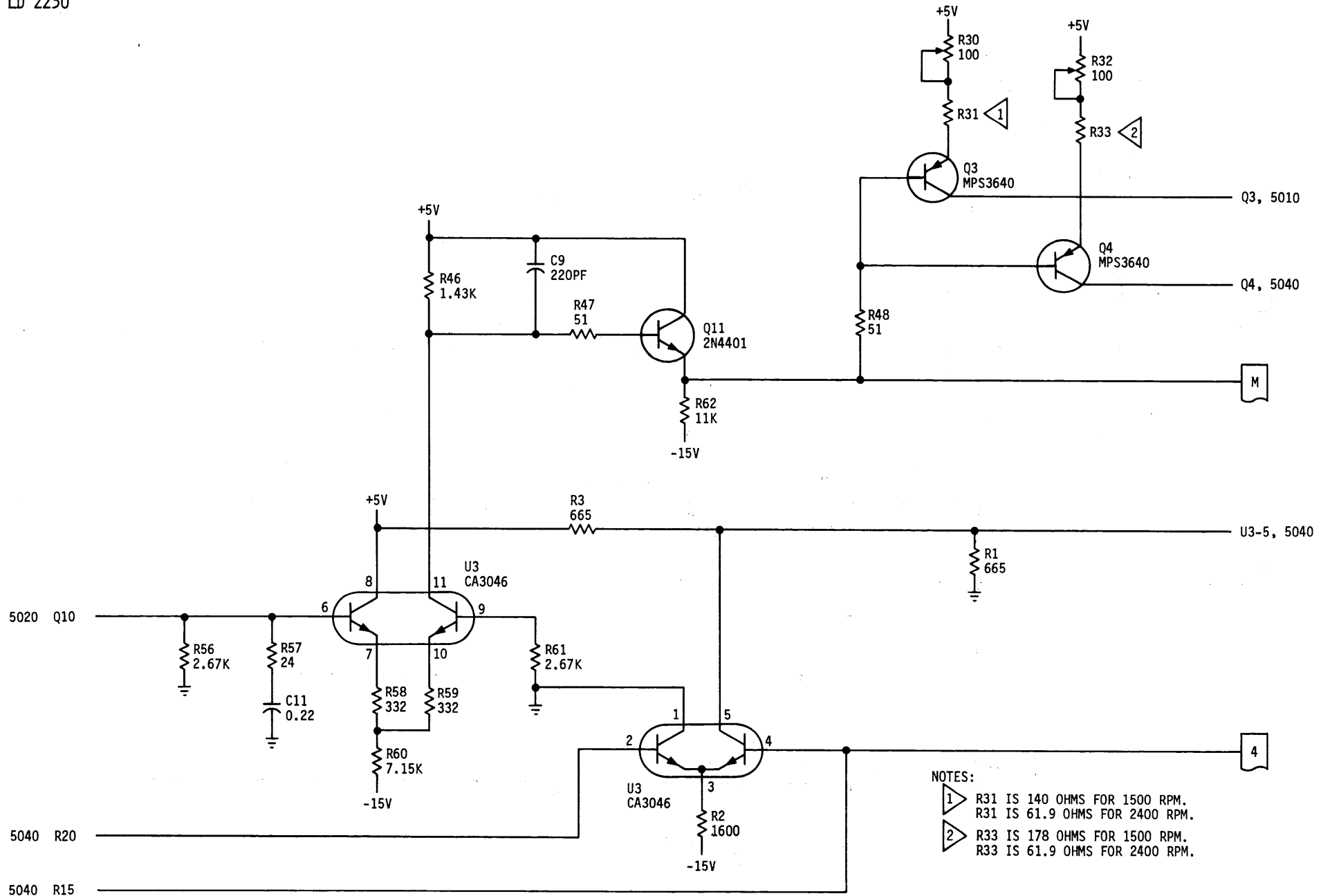
LD 2230
DISC STORAGE UNIT

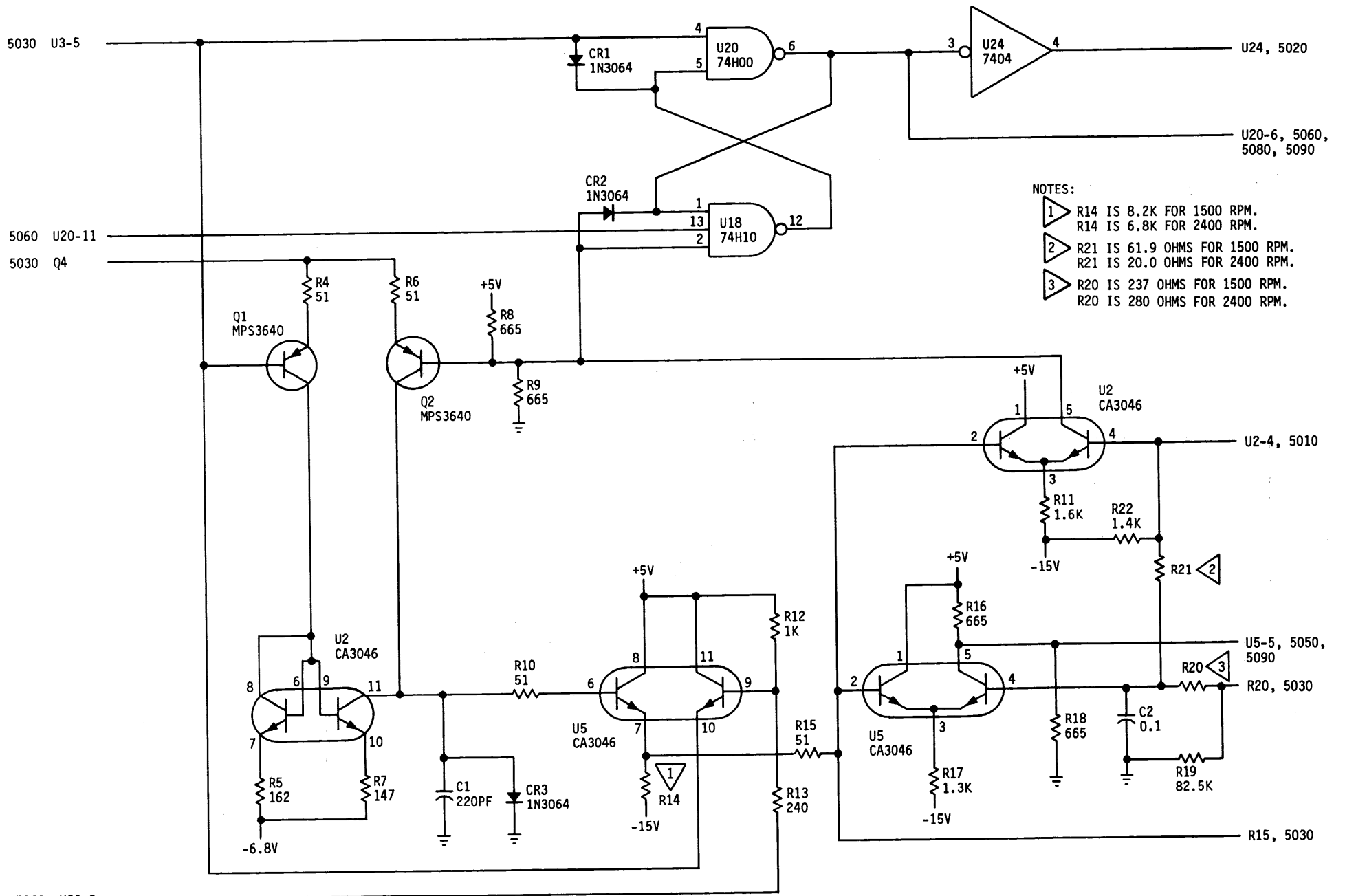
A3 SERVO CARD NO. 2 (SHEET 6 OF 6)

		A1
	5060 +DELAYED READ GATE	20
5050,	5060 +READ GATE	W
	5050 -TEST DATA GATE	Y
	5060 +RAW DATA	X
	5020 -LEAD COR (TP)	U
	5020 -LAG COR (TP)	21
	5030 +CORRECTION (TP)	M
NOT USED	-SEPARATOR OPTION	13
	5030 +CUR CNTRL OSC (TP)	4
	5060 +OSC START LATCH (TP)	P
	5050 -RD DATA LATCH (TP)	R
	5050 -DATA (TP)	19
	5090 +READ GATE TRIGGER (TP)	5
	5050 -READ DATA	9
	5060 -READ CLOCK	K
	5060 +RAW DATA CLOCK (TP)	15
	5080 +1F RD CLK CONTROLLED	V
	5090 +READ DATA LATCH	S
	5080 -1F RD CLK CONTROLLED (TP)	17
	5100 +5 VOLTS	A
	5100 +5 VOLTS	1
	5100 -15 VOLTS	C
	5100 -15 VOLTS	3
	5100 GROUND	Z
	5100 GROUND	22

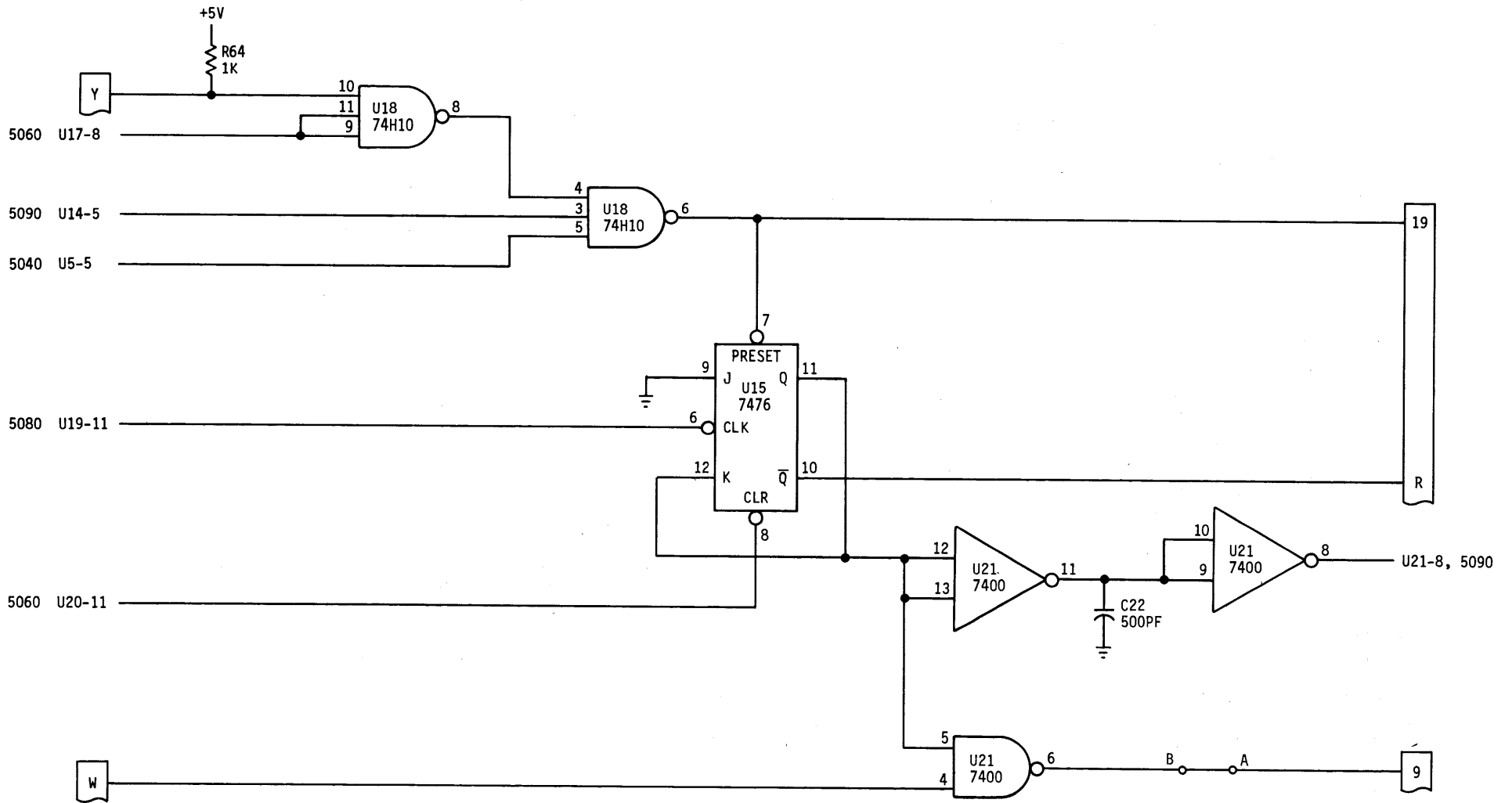
} 6001

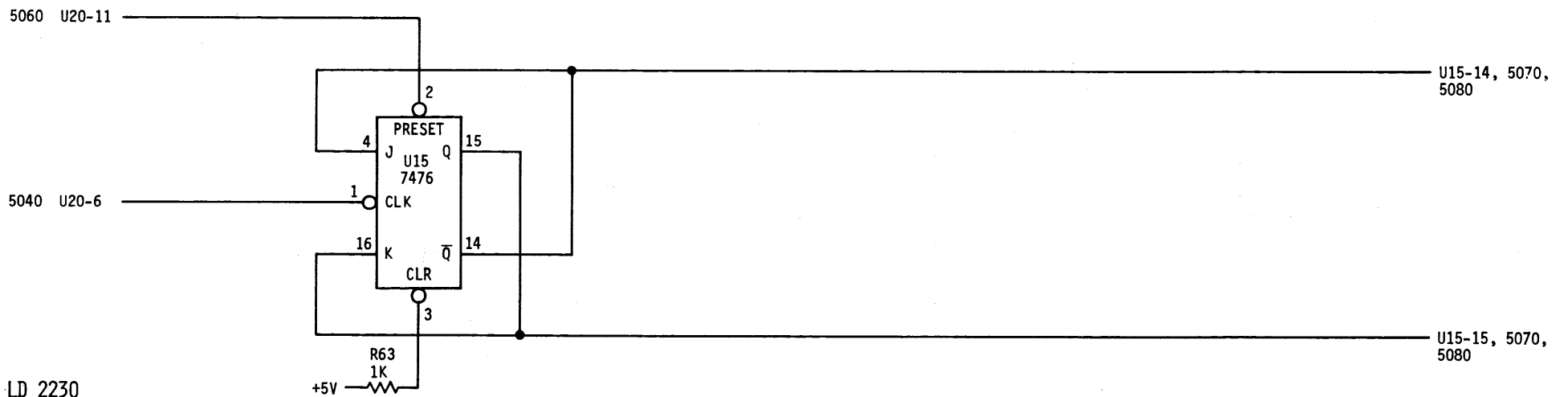
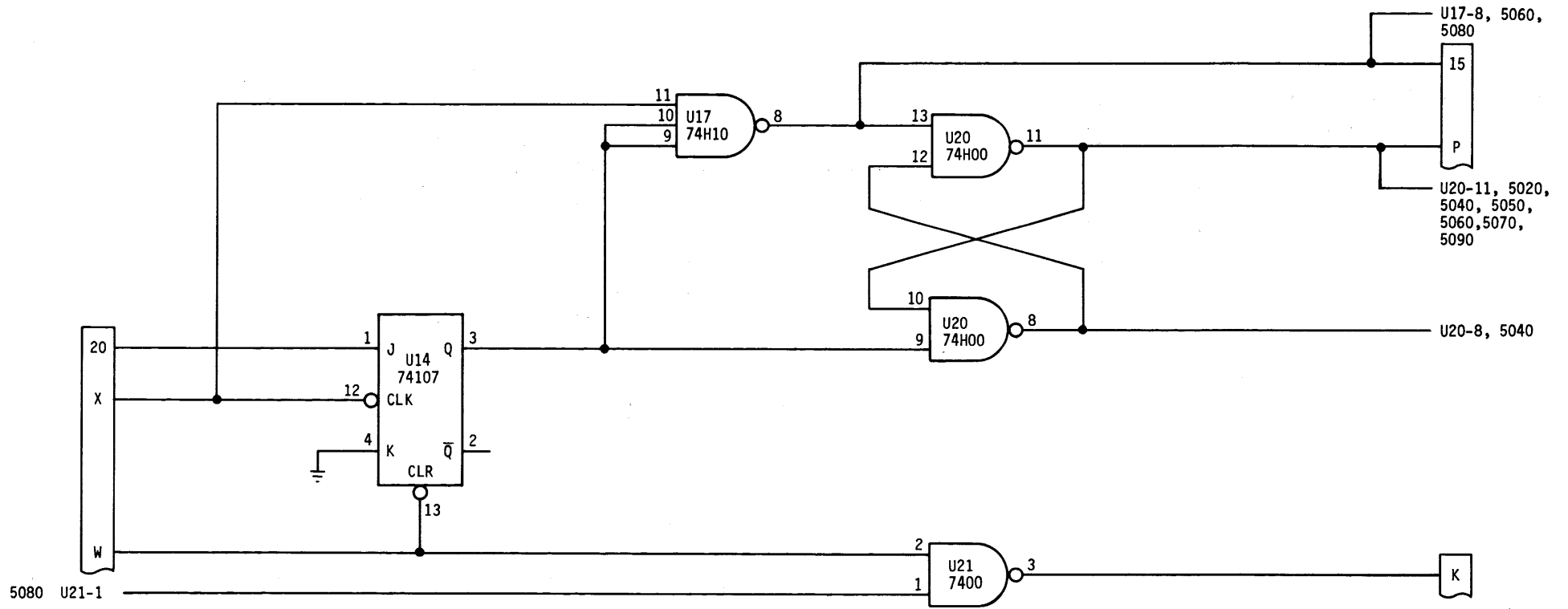


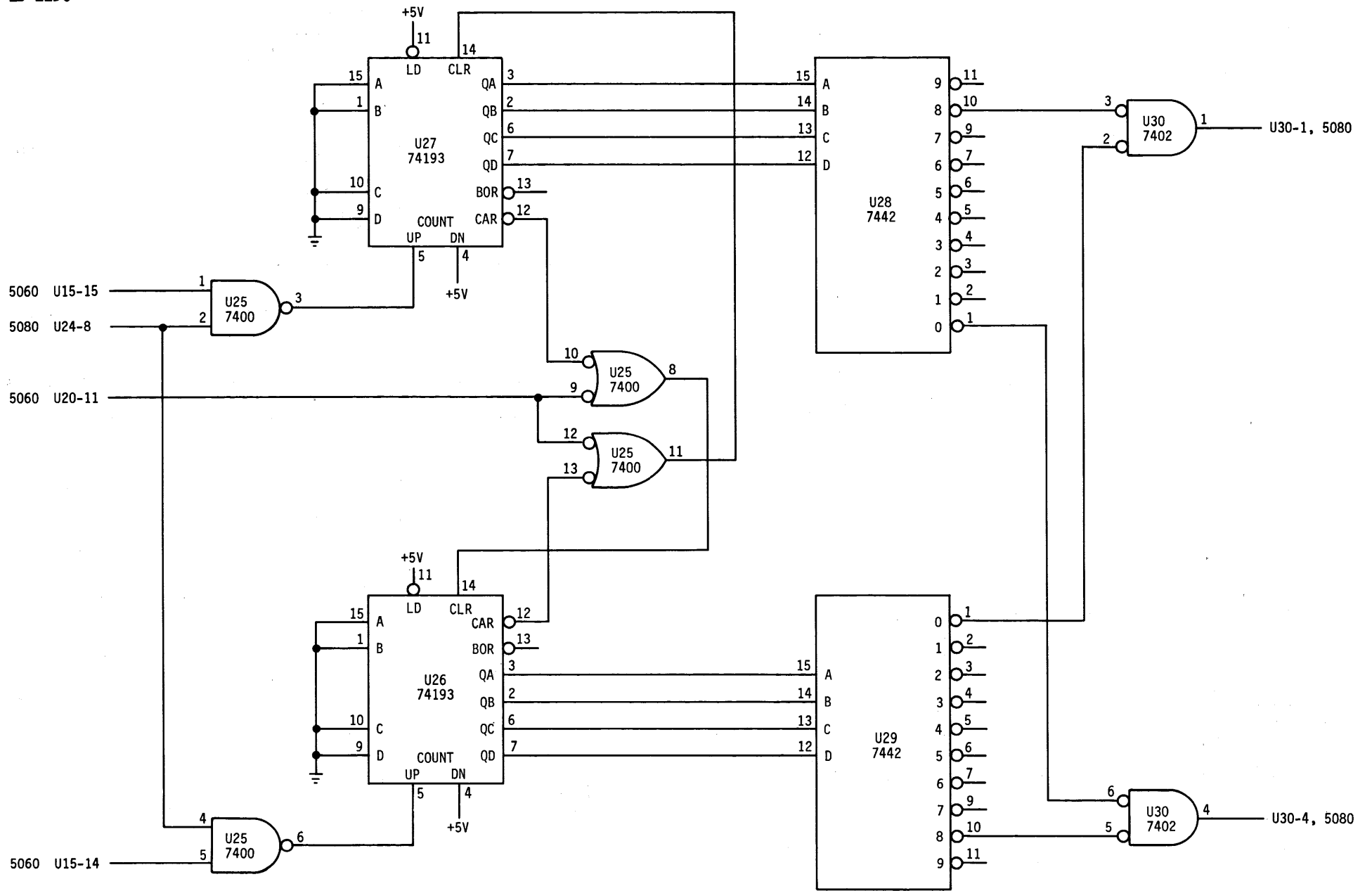


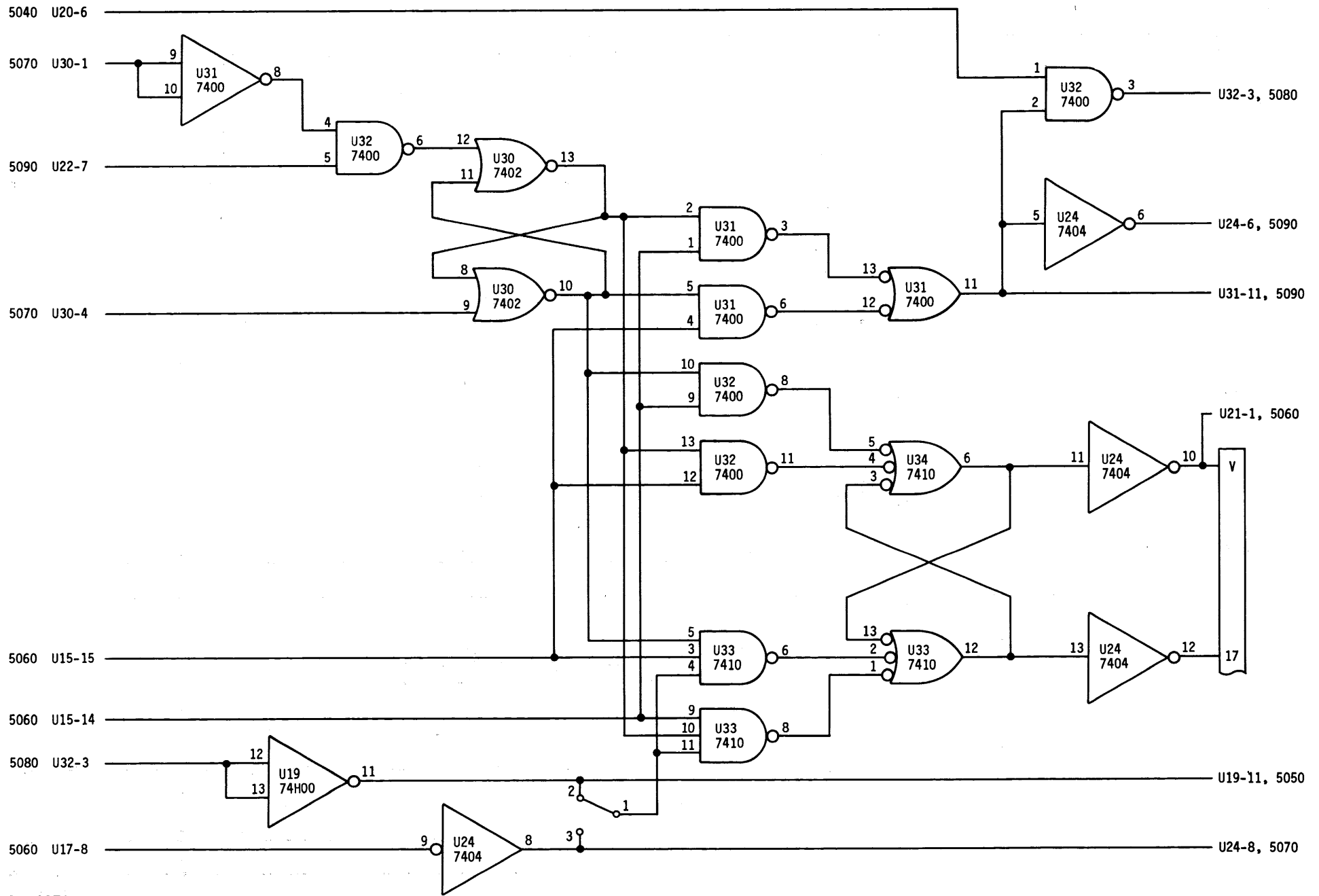


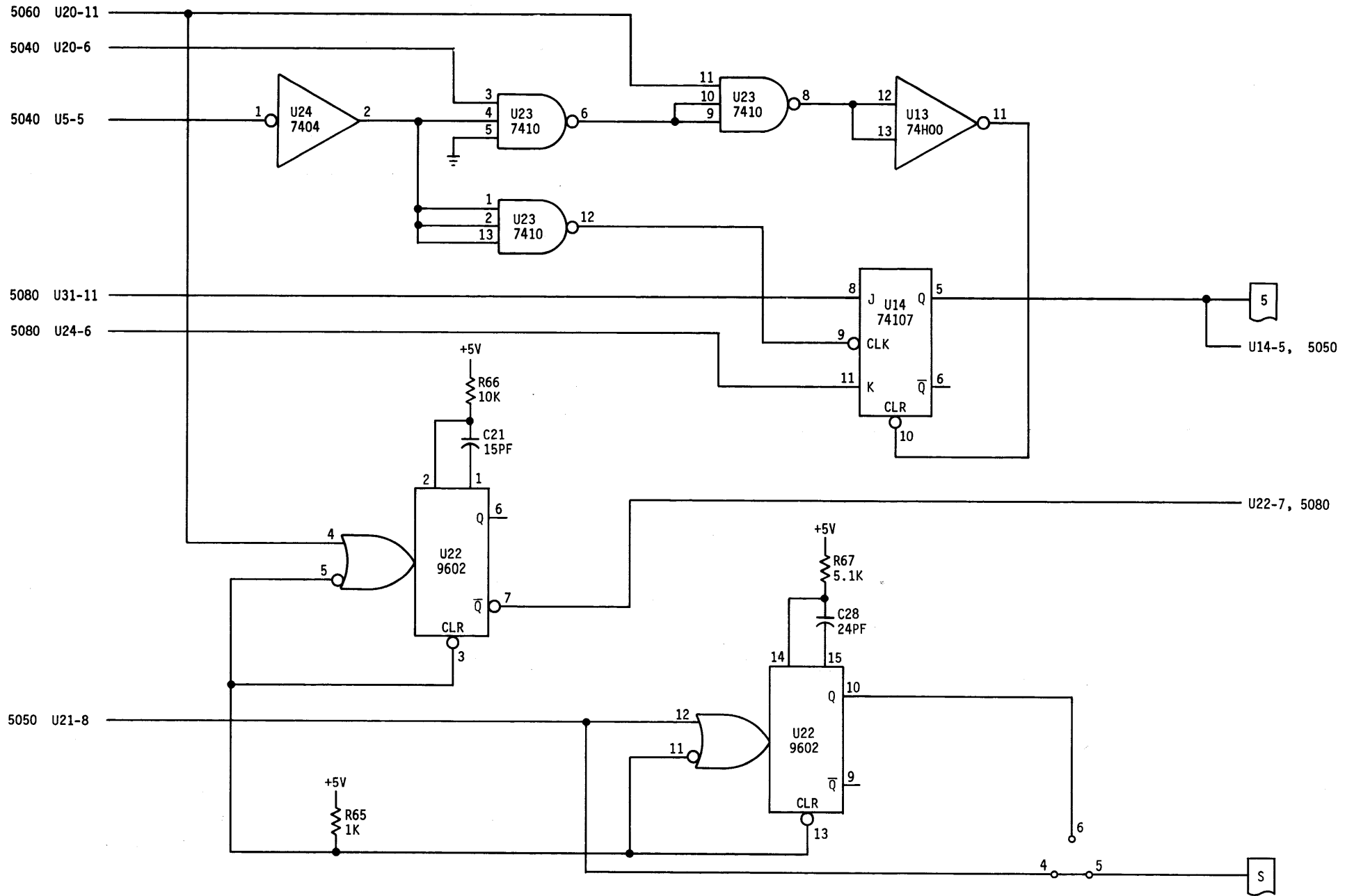
- NOTES:
- 1 R14 IS 8.2K FOR 1500 RPM.
R14 IS 6.8K FOR 2400 RPM.
 - 2 R21 IS 61.9 OHMS FOR 1500 RPM.
R21 IS 20.0 OHMS FOR 2400 RPM.
 - 3 R20 IS 237 OHMS FOR 1500 RPM.
R20 IS 280 OHMS FOR 2400 RPM.

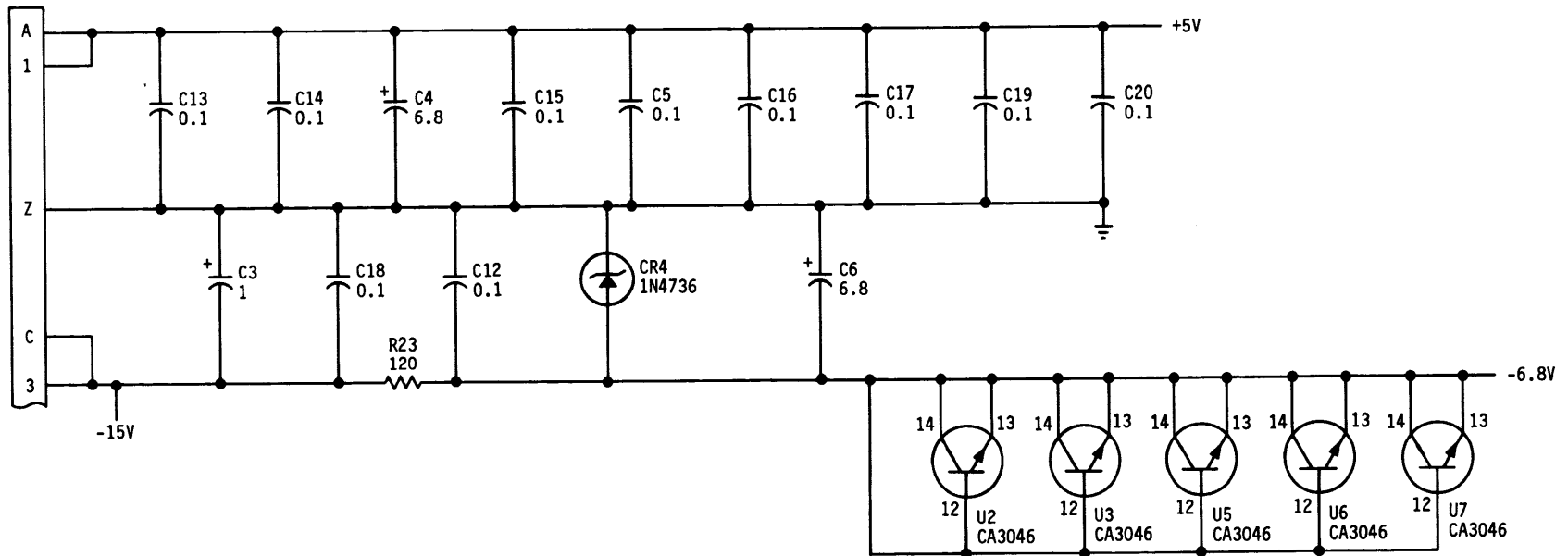












		A5	
6050, 6100	6080 XDUCER SIG REM SECTOR	5	}
	6060, +70% SPEED	6	
	6080 XDUCER SIG FIXED SECTOR	4	
	6050 +SPIN STOPPED	7	
	6100 -SECTOR REM	L	
	6100 -INDEX REM	13	
	6100 -INDEX FIXED	14	
	6100 -SECTOR FIXED	M	
	6070 -DRIVE SELECT 0	N	
	6070 -DRIVE SELECT 1	9	
	6070 -DRIVE SELECT 2	10	} 1000
	6070 -DRIVE SELECT 3	11	
	6150 ACCESS READY	E	
6040, 6220, 6230	6150, +DRIVE SELECT	F	
	6040 +DRIVE ADDRESS 0	8	
	6100 -ACCESS READY 1	12	
	6100 -ACCESS READY 2	15	
	6100 -ACCESS READY 3	16	
	6010 -SET CYLINDER	P	
	6150 +SET CYLINDER	D	
	6010 -ADDRESS BUS 1	18	} NOT USED
	6010 -ADDRESS BUS 2	U	
	6010 -ADDRESS BUS 4	T	
	6010 -ADDRESS BUS 8	19	
	6010 -ADDRESS BUS 16	V	
	6020 -ADDRESS BUS 32	21	
	6020 -ADDRESS BUS 64	W	
	6020 -ADDRESS BUS 128	20	
	6020 -ADDRESS BUS 256	X	
	6030 SELECT LOWER HD	Y	
	6030 SELECT FIXED DISC	H	} 1000
	6160 -D.F. WRITE DATA	R	
	6080 -READ GATE	S	
	-SECTOR COUNT 1	K	
	-SECTOR COUNT 2	J	
	-WRITE GATE	17	
	-RESTORE	1	
	-ADDRESS ACK	2	
	-ADDRESS REJ	3	
6090	+5 VOLTS	A	
6090	-15 VOLTS	C	
6090	+15 VOLTS	B	
6090	GROUND	Z	
6090	GROUND	22	

		A2	
6020	+D.F. WRITE DATA	V	}
6220	+SELECT WRITE GATE	W	
6050	-POWER SAFE	H	
6220	-SELECT WRITE GATE	21	
6220	+REDUCE WRITE CURRENT	Y	
6220	-SELECT ERASE GATE	6	
6080	+LIM READ SIGNAL (TP)	10	
6080	-LIM READ SIGNAL (TP)	11	
6220	-SELECT READ GATE	9	
6040	+RAW DATA	8	
6240	+SELECT HEAD 0	D	} 2000
6240	+SELECT HEAD 1	4	
6240	+SELECT HEAD 2	20	
6240	+SELECT HEAD 3	X	
6230	-HEAD 0 SELECT	5	
6230	-HEAD 1 SELECT	E	
6230	-HEAD 2 SELECT	17	
6230	-HEAD 3 SELECT	18	
6090	+5 VOLTS	A	
6090	+5 VOLTS	1	
6090	+15 VOLTS	B	
6090	+15 VOLTS	2	
6090	-15 VOLTS	C	
6090	-15 VOLTS	3	
6090	GROUND	Z	
6090	GROUND	22	

		A4
6080	ØB	6
6080	ØA	5
6130	-LINEAR ZONE ENABLE	16
6130	-FWD DRIVE	12
6080	SHAPED ERROR	18
6130	-REV DRIVE	13
6080	HM	10
6110, 6130	+A-B	H
6110, 6120, 6130	+A+B	J
6080	LED DRIVE	L
6080	LED RETURN	M
6090	-LINEAR SWITCH	N
6090	POS DR	R
6090	LINEAR SIGNAL (TP)	T
6090	LINEAR TACH	P
6140	+ARRIVAL ZONE HM (TP)	K
6150, 6160	-TRACK 000	S
6140	-HOME POSITION	E
6090	+15 VOLTS	F
6090	+15 VOLTS	B
6090	-15 VOLTS	2
6090	-15 VOLTS	C
6090	+5 VOLTS	3
6090	+5 VOLTS	A
6090	GROUND	1
6090	GROUND	Z
6090	GROUND	22

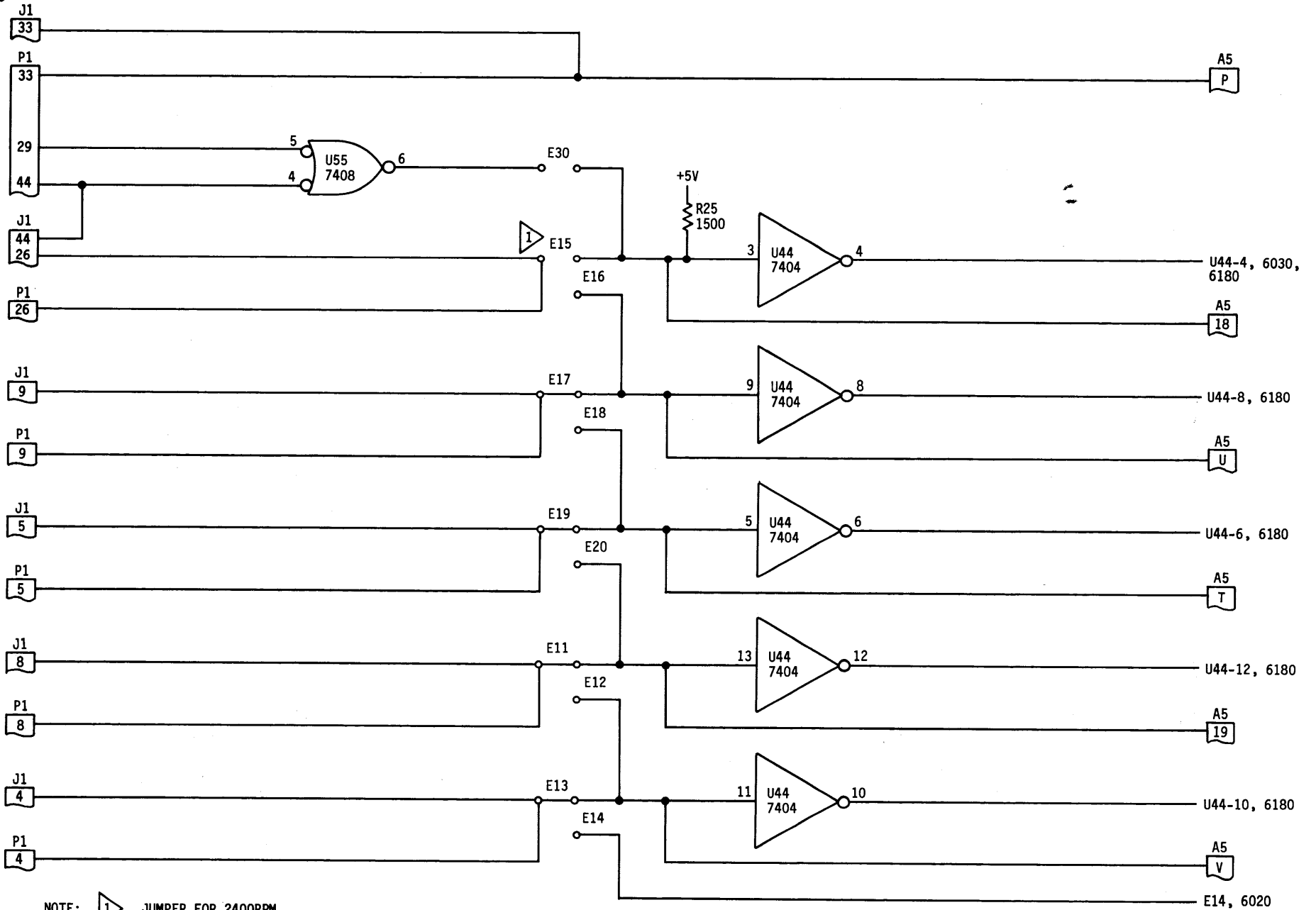
		A4	A5
6200	-DIFF 1		7
6200	-DIFF 2		8
6200	-DIFF 4		9
6200	-DIFF 8		10
6200	-DIFF 16		11
6200	-DIFF 32		12
6200	-DIFF 64/256		13
6200	-DIFF 128/256		14
6130	-LINEAR ZONE ENABLE		4
6160	-INITIALIZATION		17
6110, 6130	+[(A+B) + (A-B)]		16
6110	+(A+B) A4, J		15
6150	-LOAD CYL REG		D
6120	-REV ENABLE		5
6120	-FWD ENABLE		6
6090	-LINEAR SWITCH		19
6090	LINEAR TACH		20
6080	SHAPED ERROR		P
6080	I FEEDBACK		18
	+REV LATCH SET (TP)		F
	+FWD LATCH SET (TP)		H
6080	REV PREAMP DRIVE		J
6080	FWD PREAMP DRIVE		K
6080	TACH DRIVE (TP)		X
6050, 6060	+70% SPEED		M
6090	GROUND		E
6090	POS DRIVE		21
6090	+5 VOLTS		A
6090	+5 VOLTS		1
6090	+15 VOLTS		B
6090	+15 VOLTS		2
6090	-15 VOLTS		C
6090	-15 VOLTS		3
6090	GROUND		Z
6090	GROUND		22

		A1
6020	+DELAYED READ GATE	20
6220	+READ GATE	W
NOT USED	-TEST DATA GATE	Y
6040	+RAW DATA	X
	-LEAD COR (TP)	U
	-LAG COR (TP)	21
	+CORRECTION (TP)	M
6040, 6060	-SEPARATOR OPTION	13
	+CUR CNTRL OSC (TP)	4
	+OSC START LATCH (TP)	P
	-RD DATA LATCH (TP)	R
	-DATA (TP)	19
	+READ GATE TRIGGER (TP)	5
NOT USED	-READ DATA	9
NOT USED	-READ CLOCK	K
	+RAW DATA CLOCK (TP)	15
6040	+1F RD CLK CONTROLLED	V
6040	+READ DATA LATCH	S
	-1F RD CLK CONTROLLED (TP)	17
6090	+5 VOLTS	A
6090	+5 VOLTS	1
6090	-15 VOLTS	C
6090	-15 VOLTS	3
6090	GROUND	Z
6090	GROUND	22

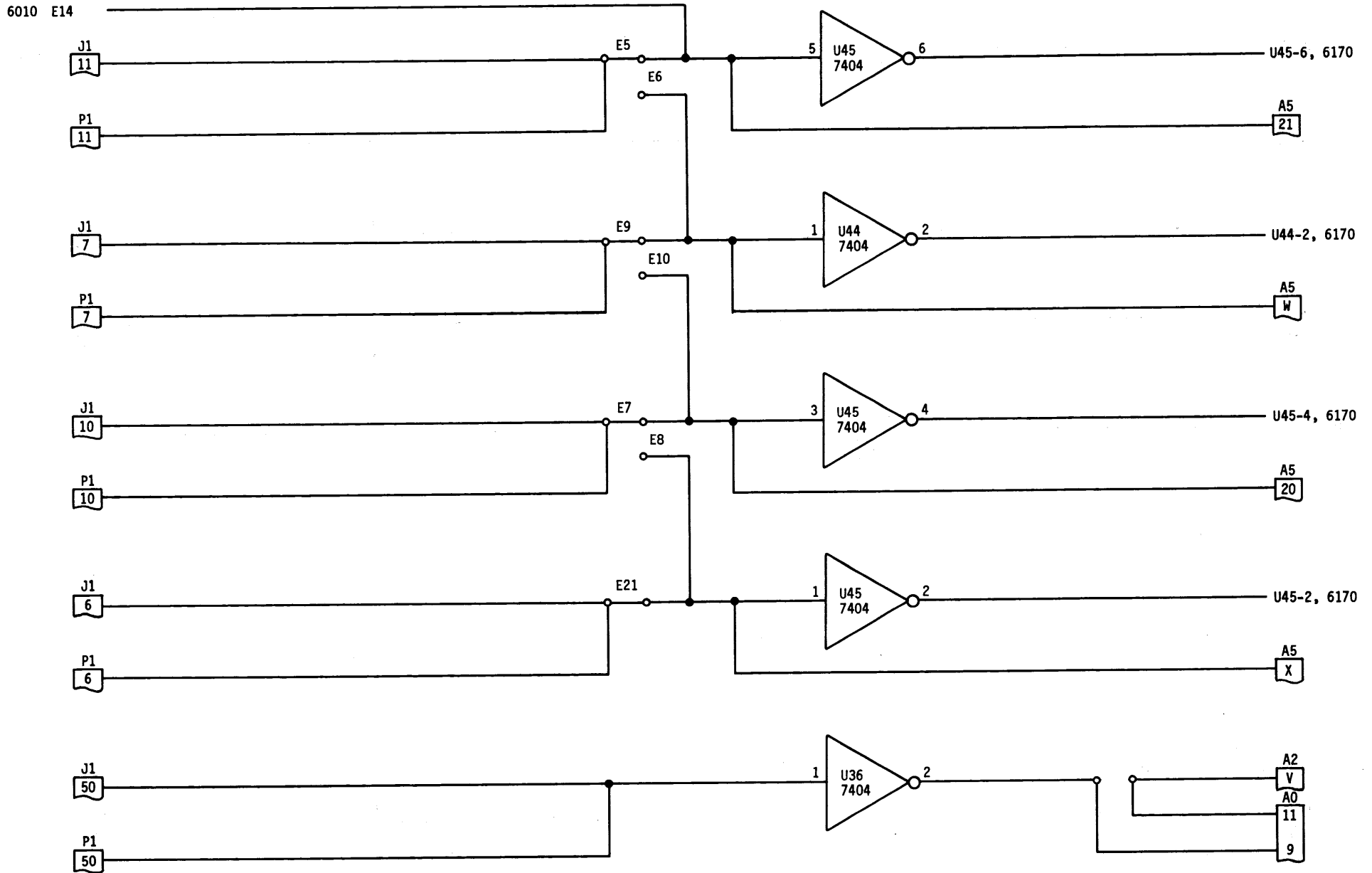
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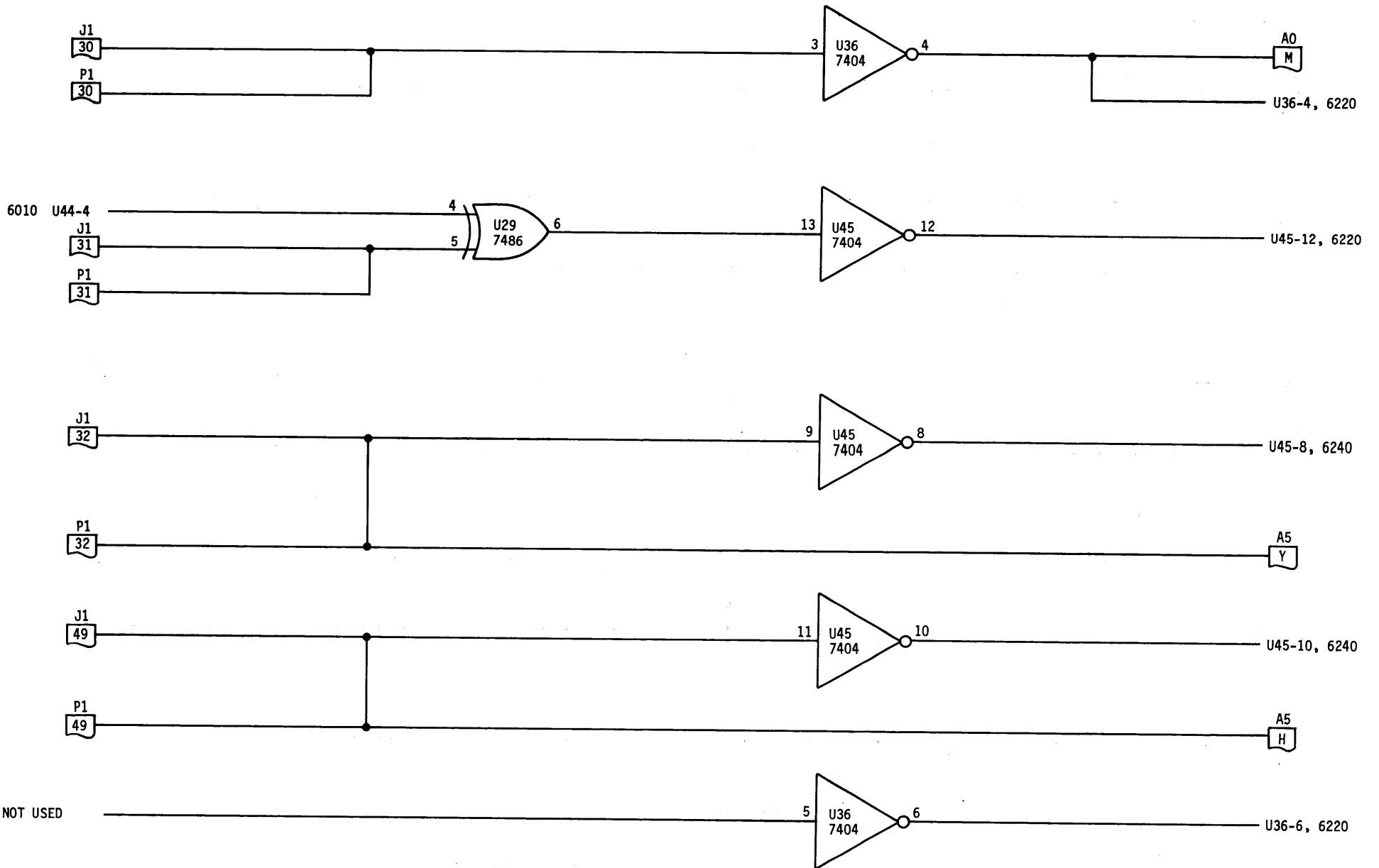
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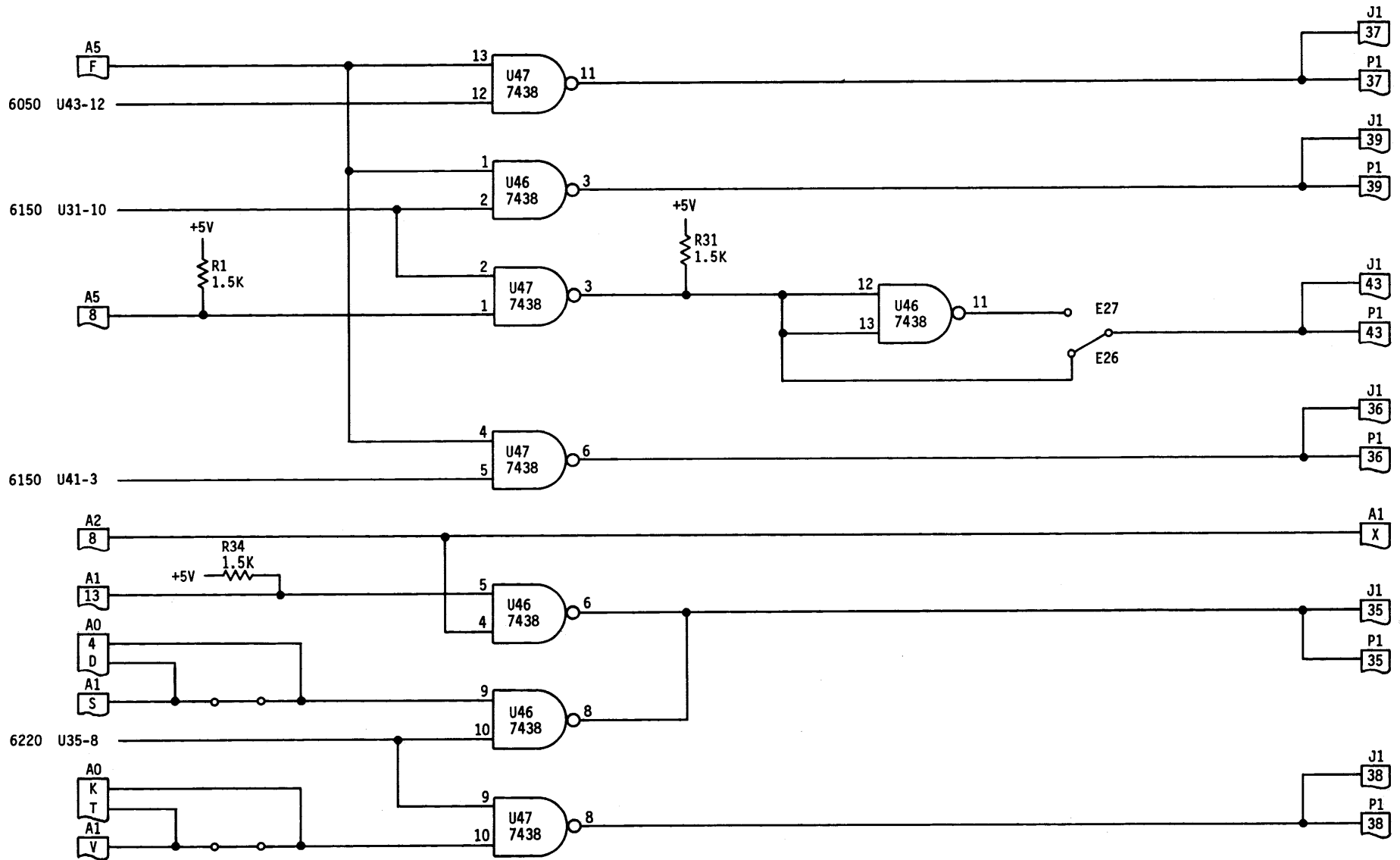
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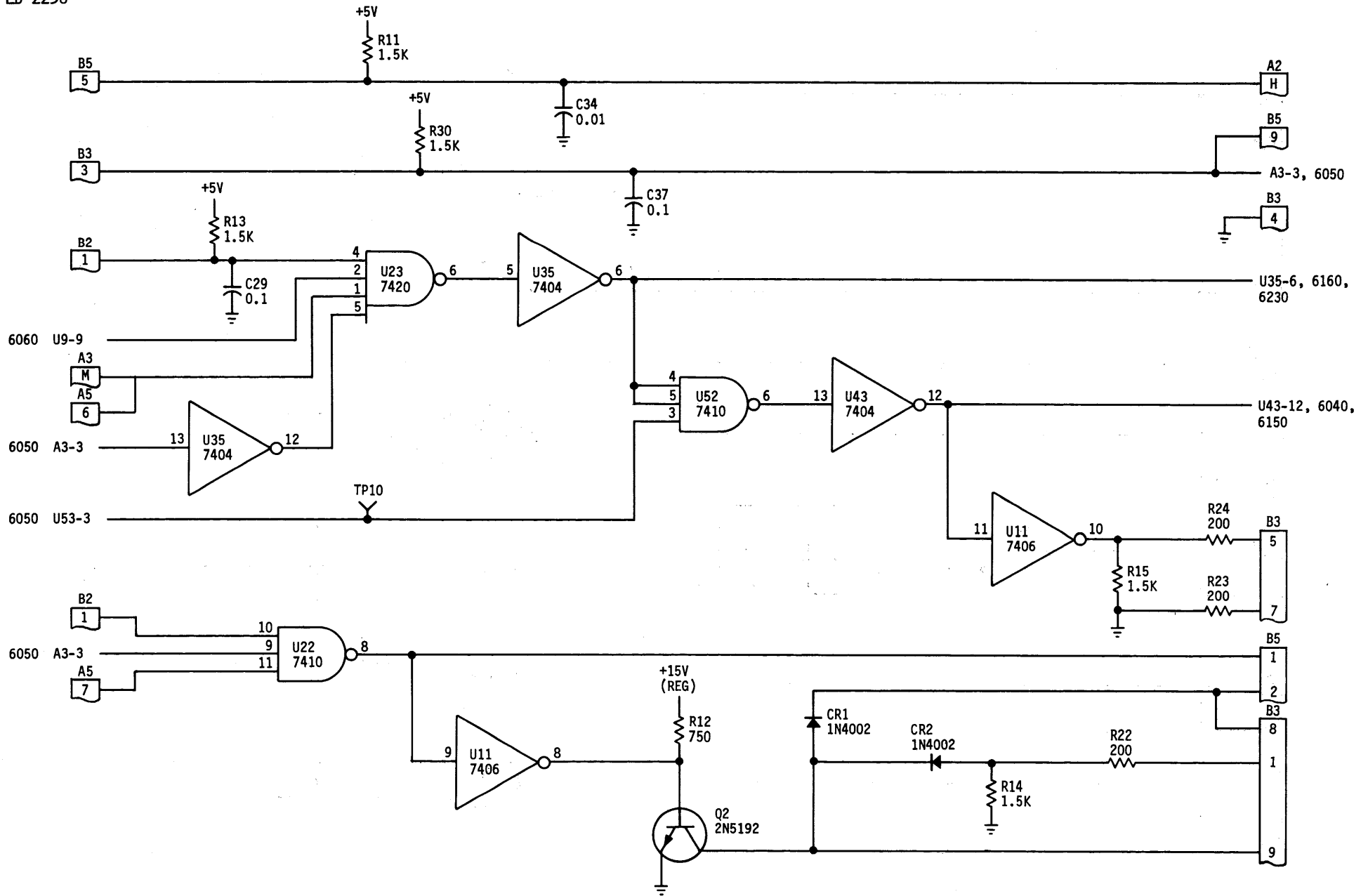


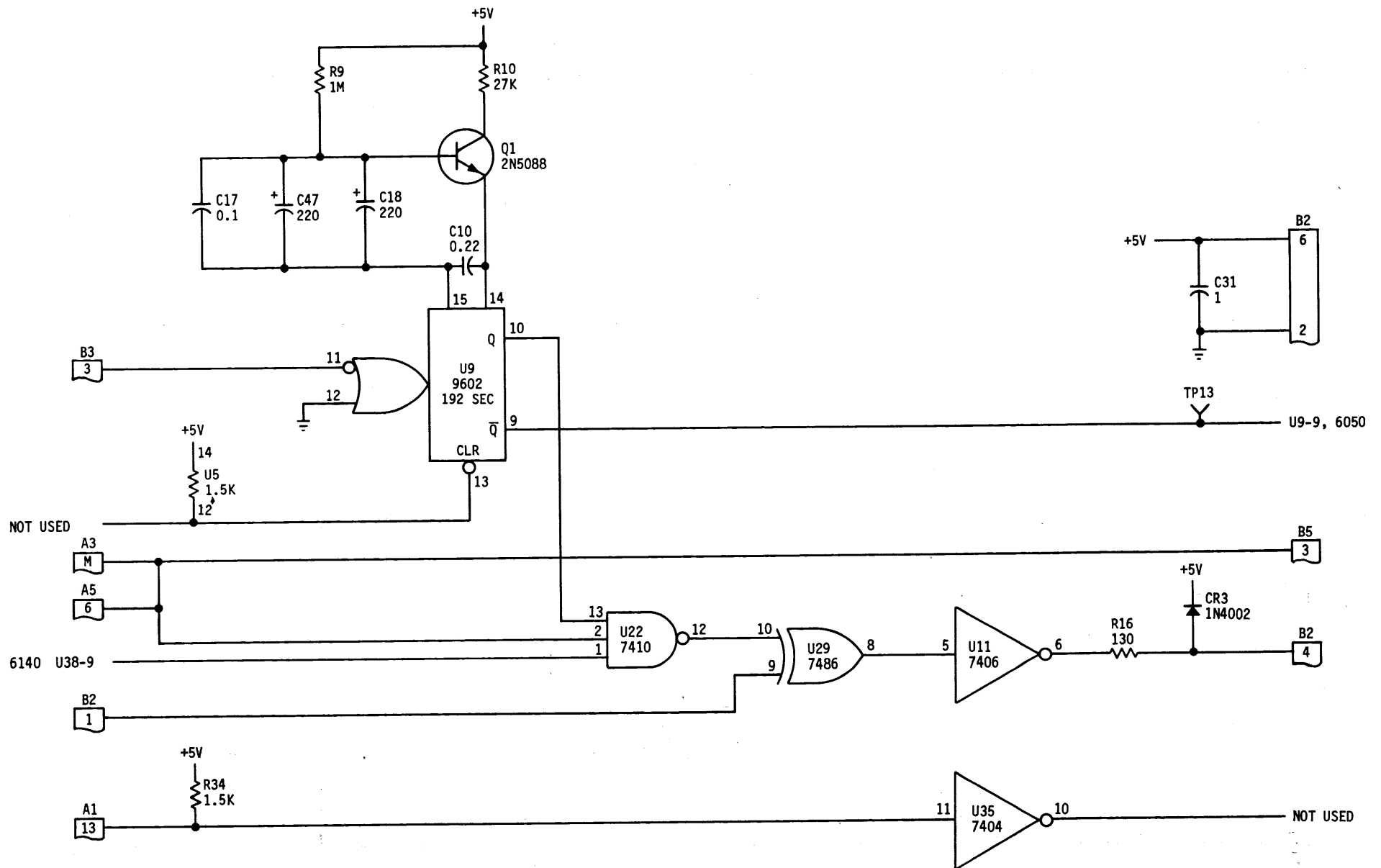
NOTE:  JUMPER FOR 2400RPM

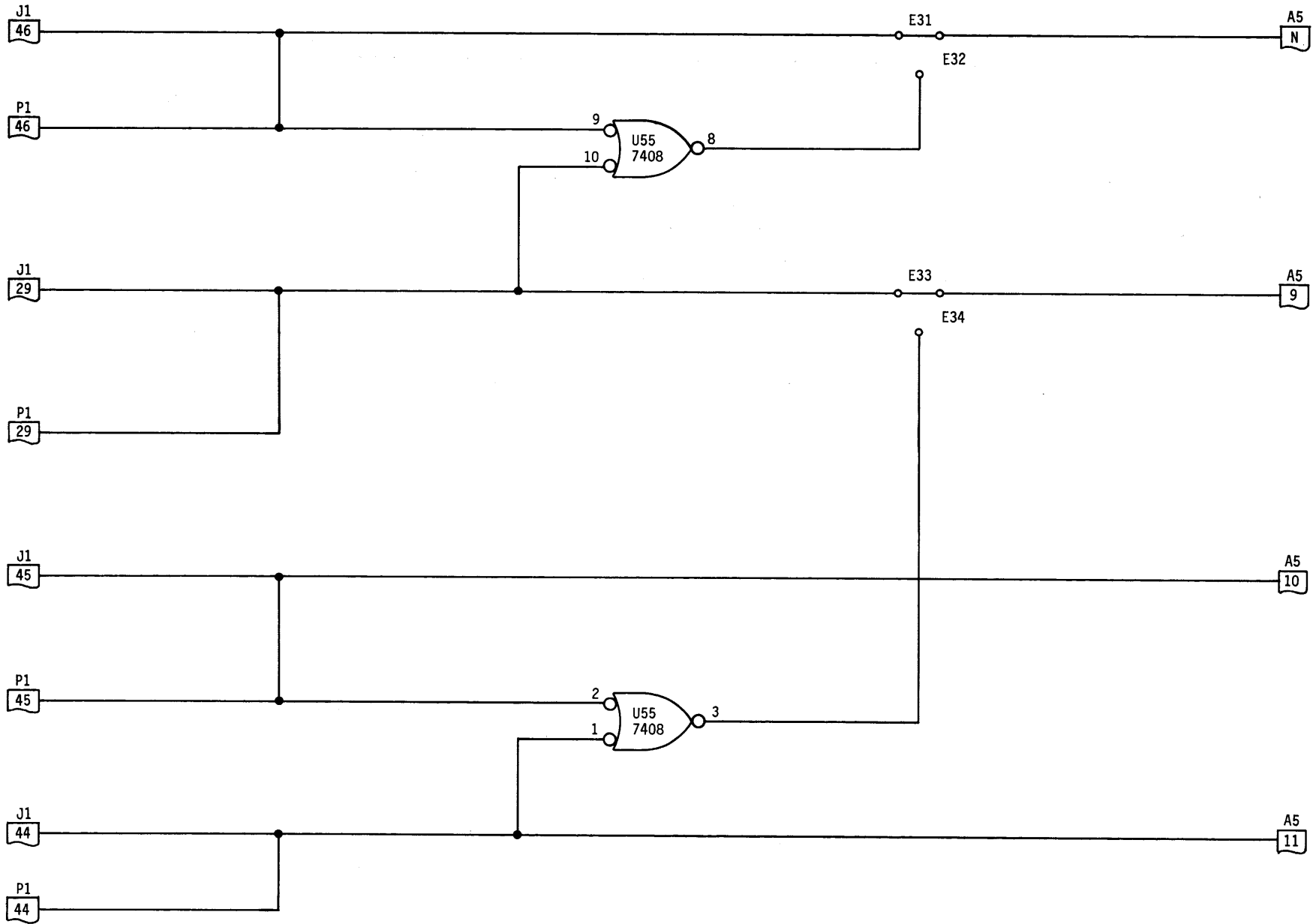


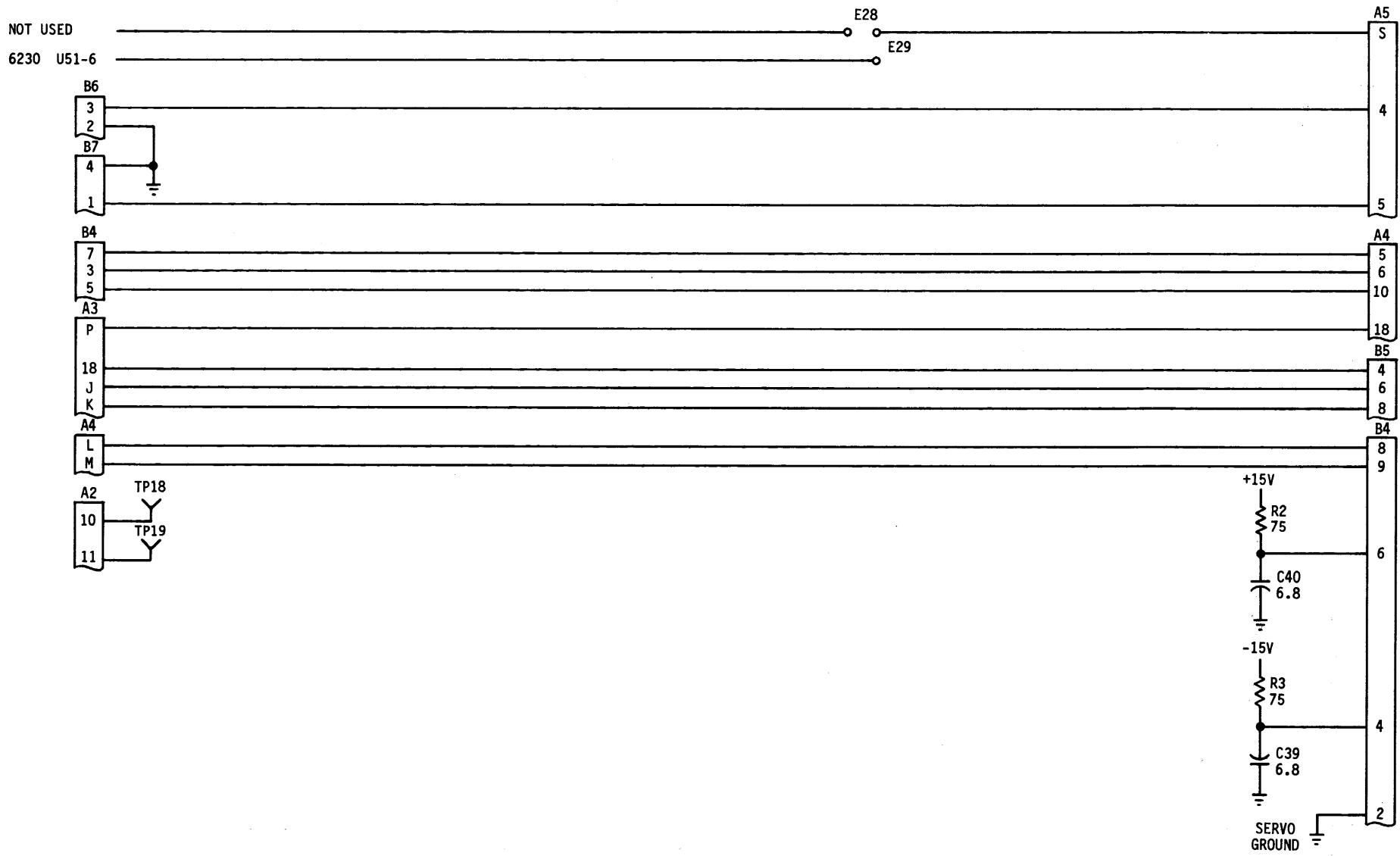


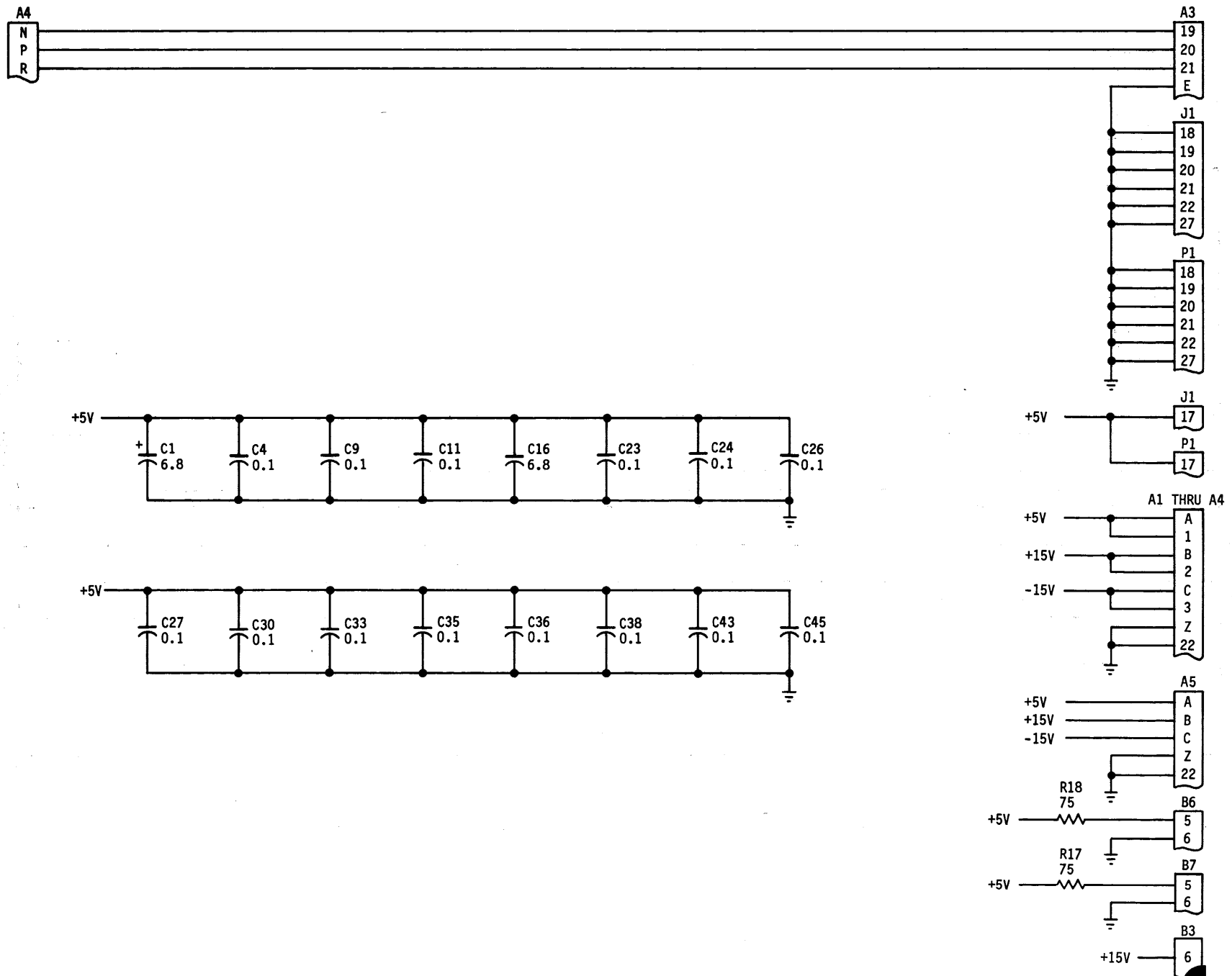


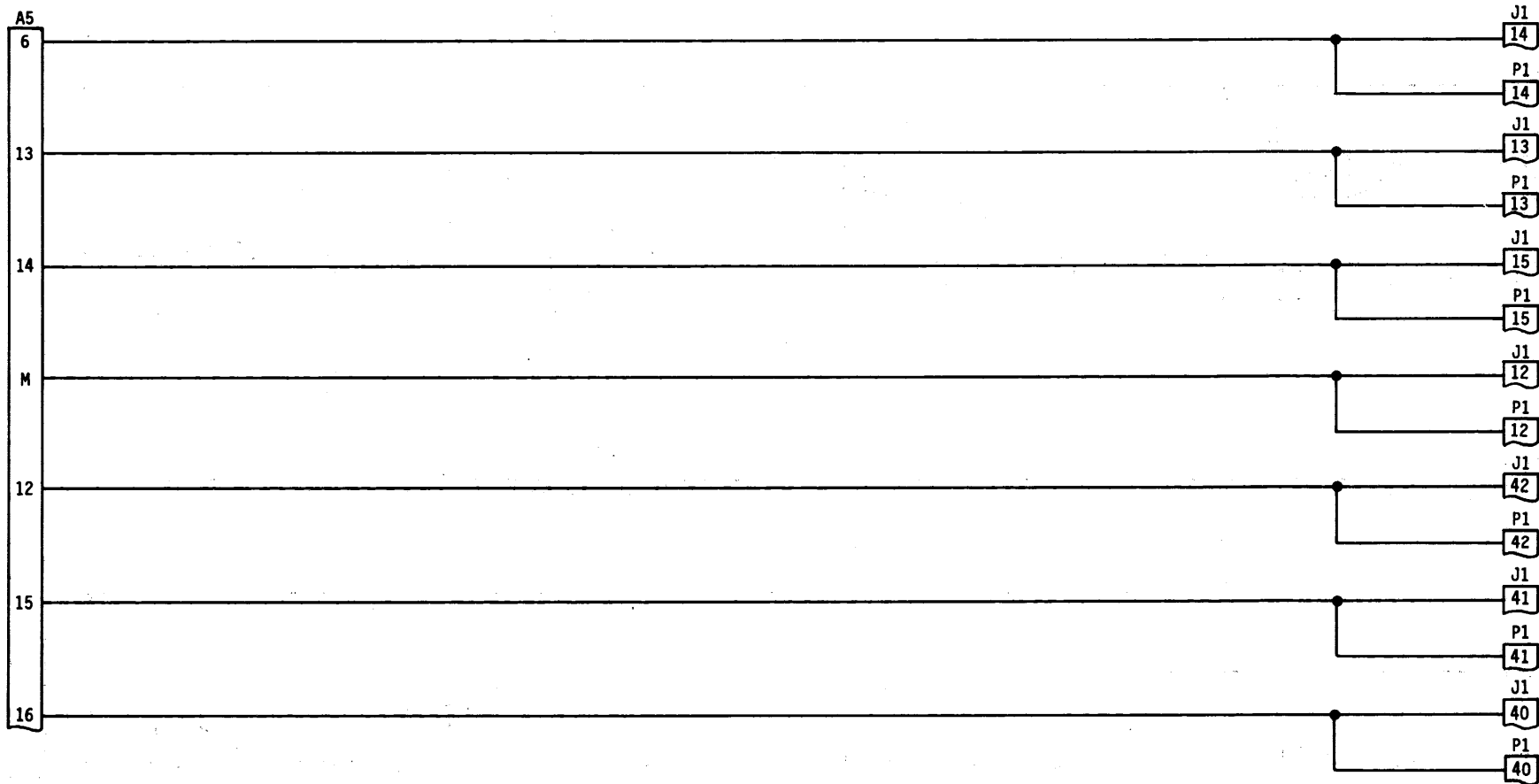


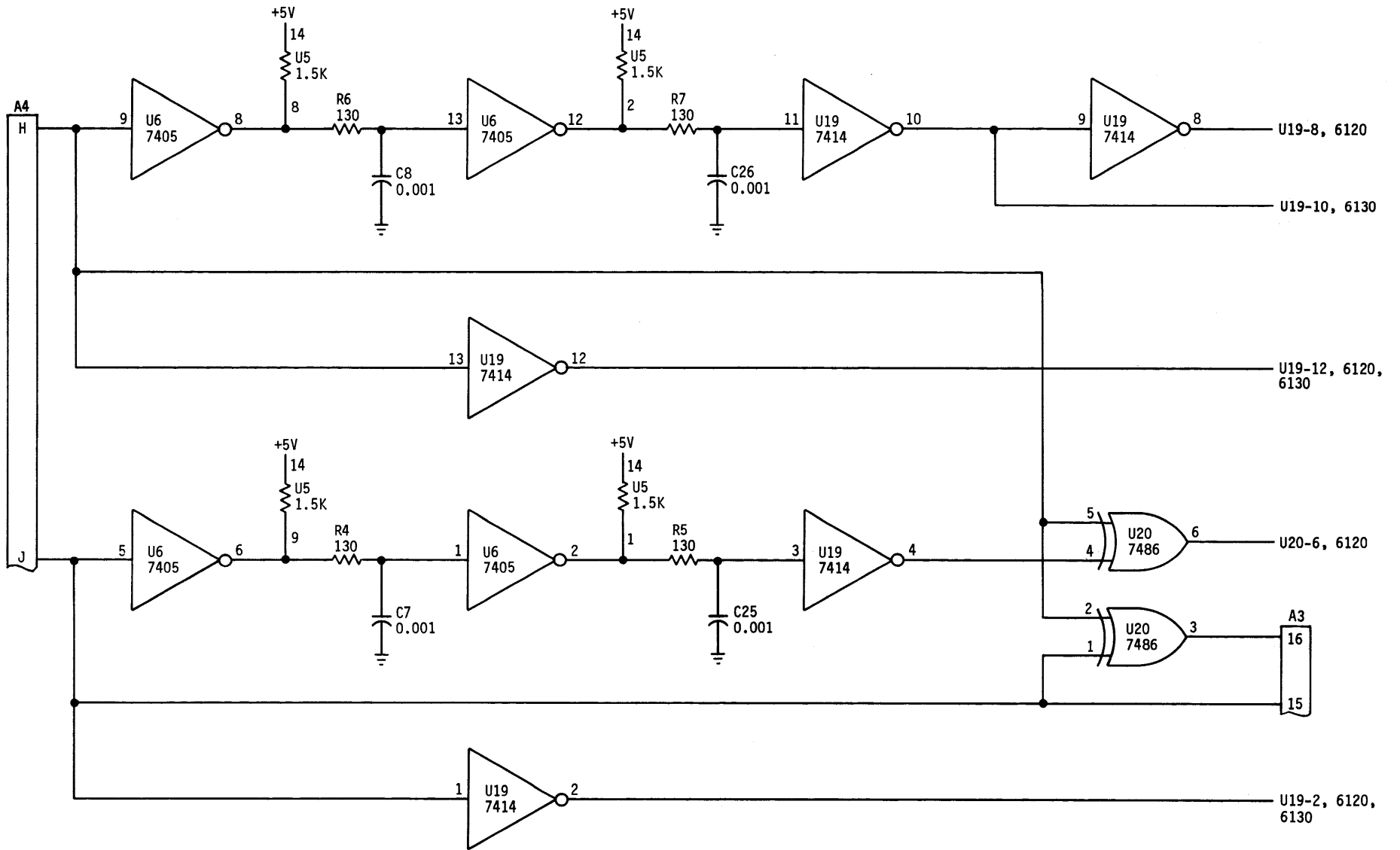


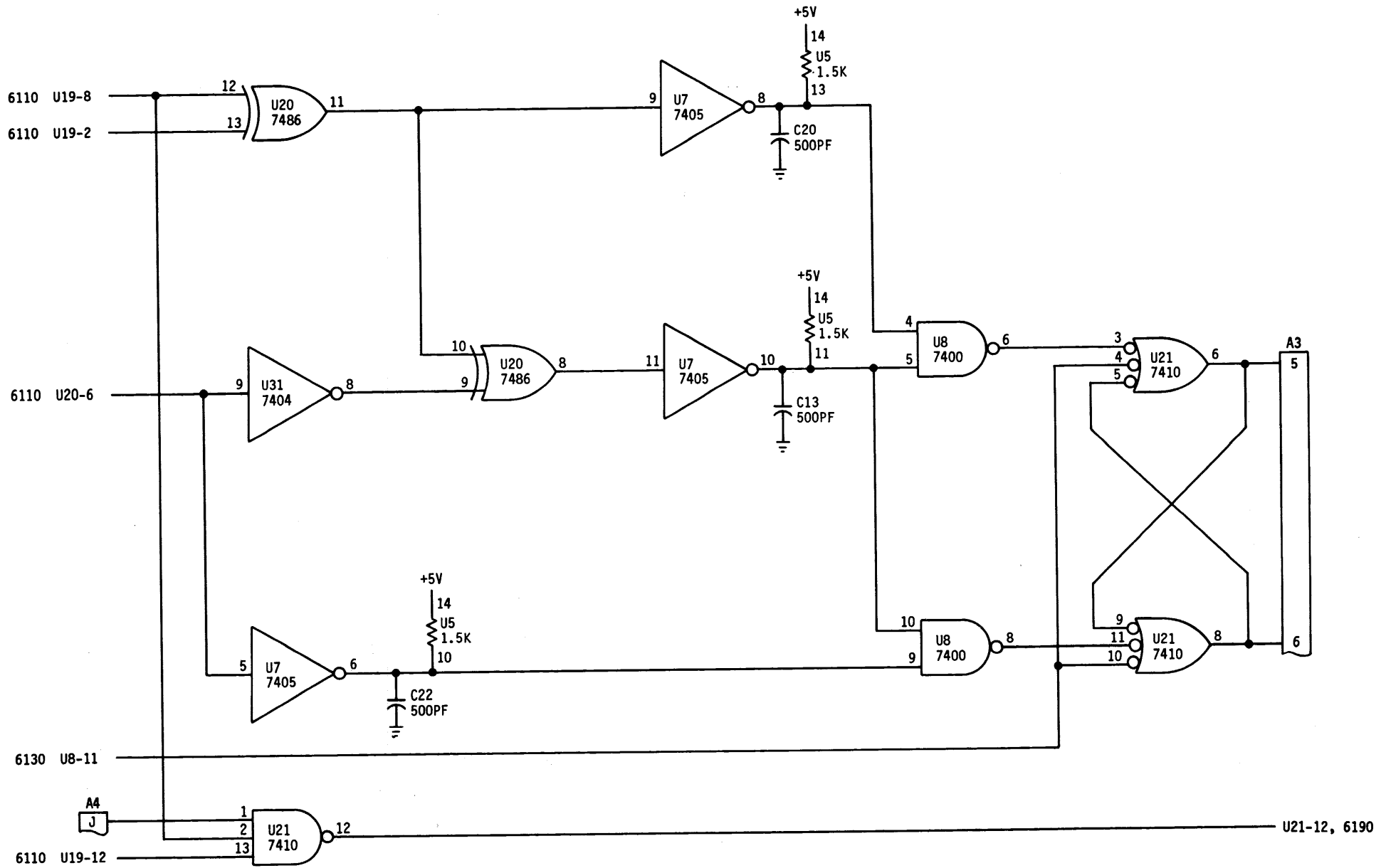


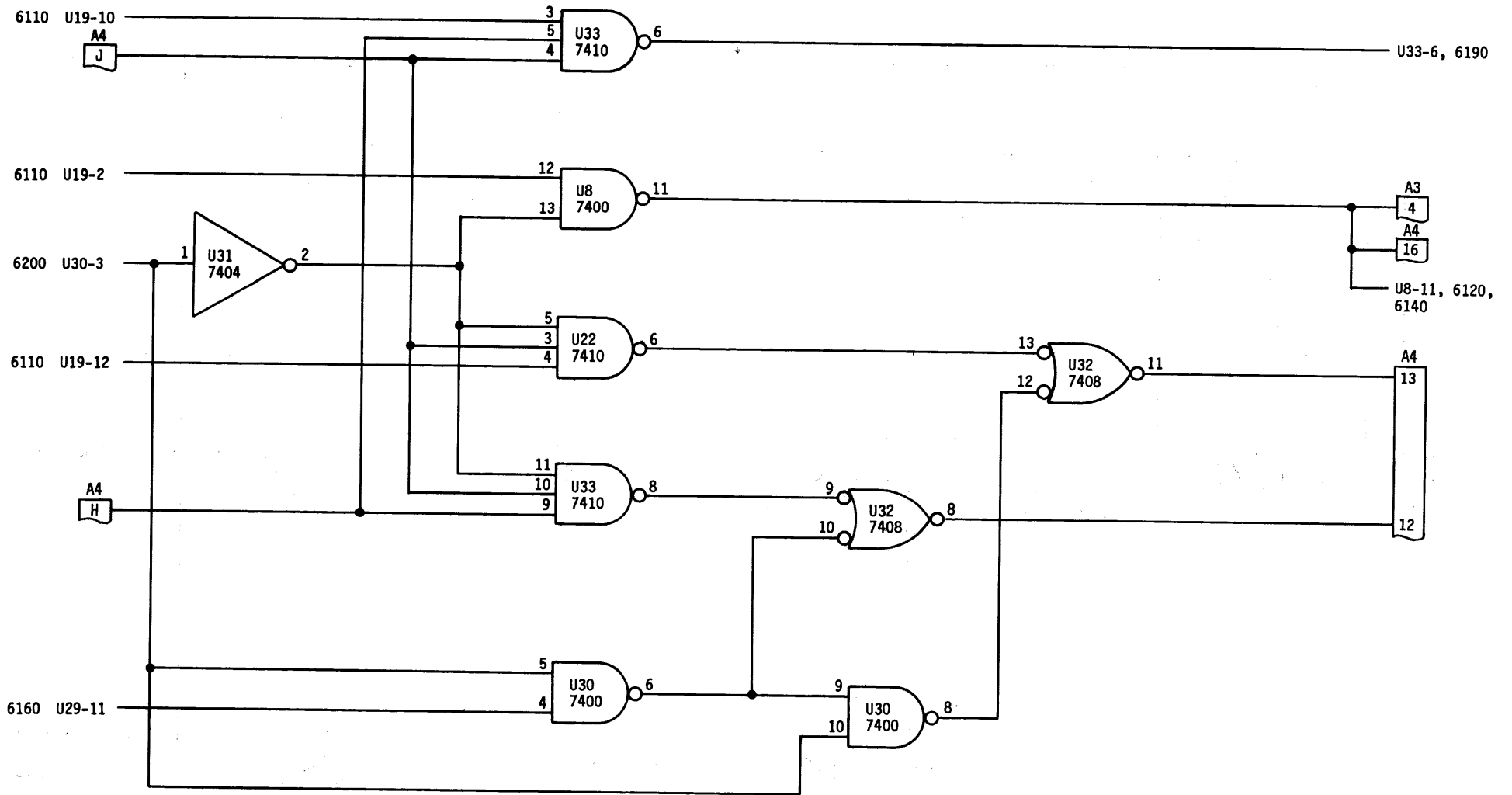


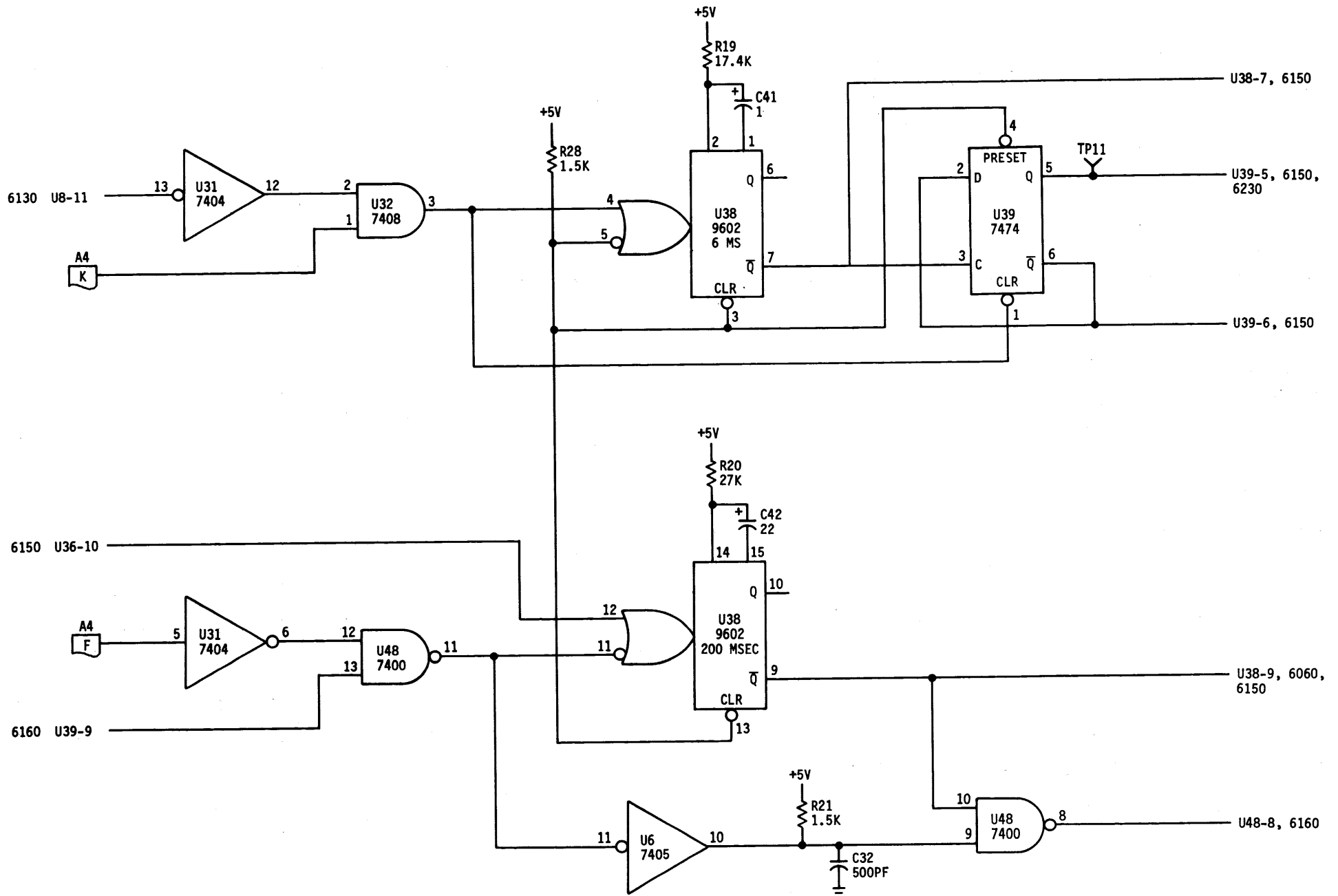


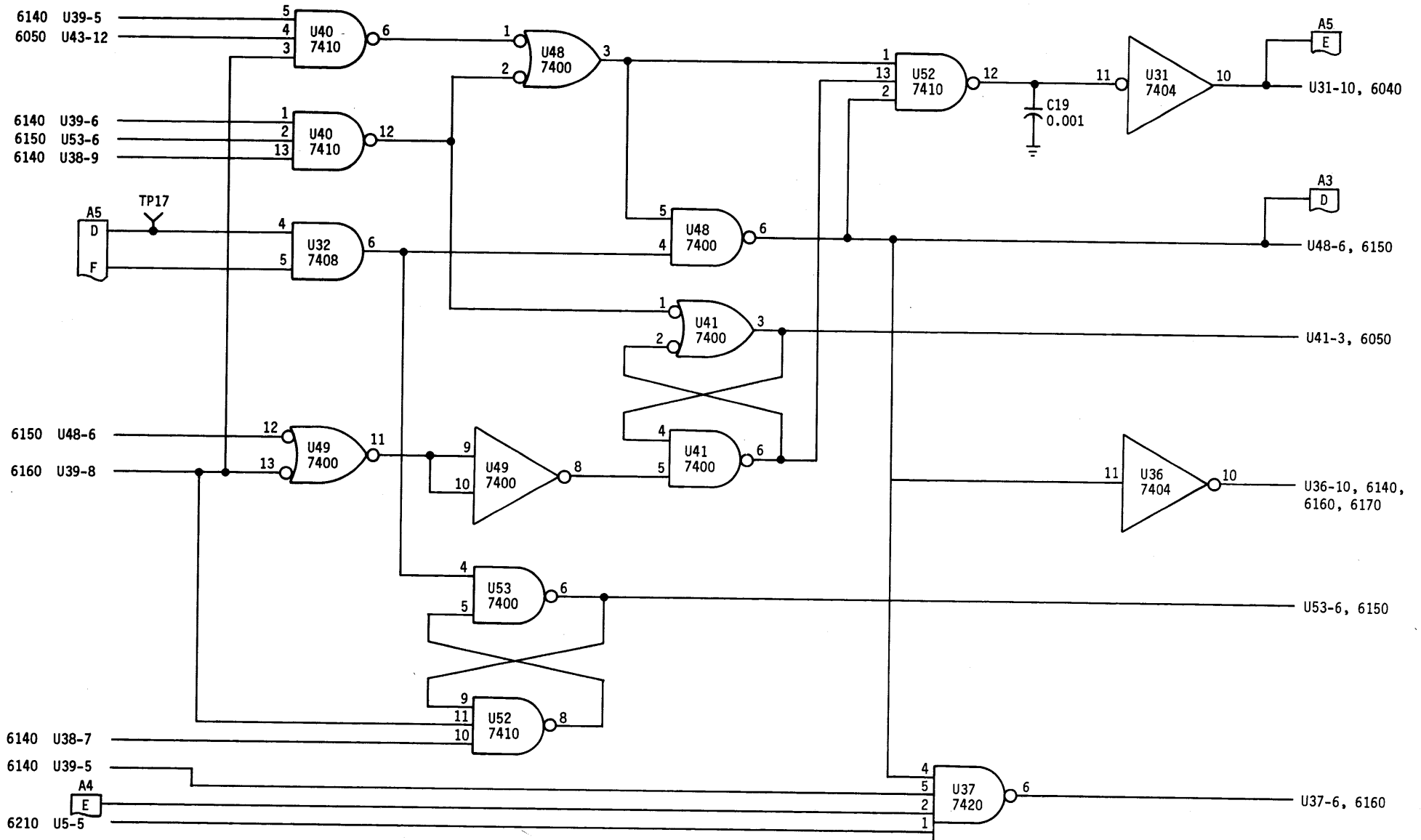


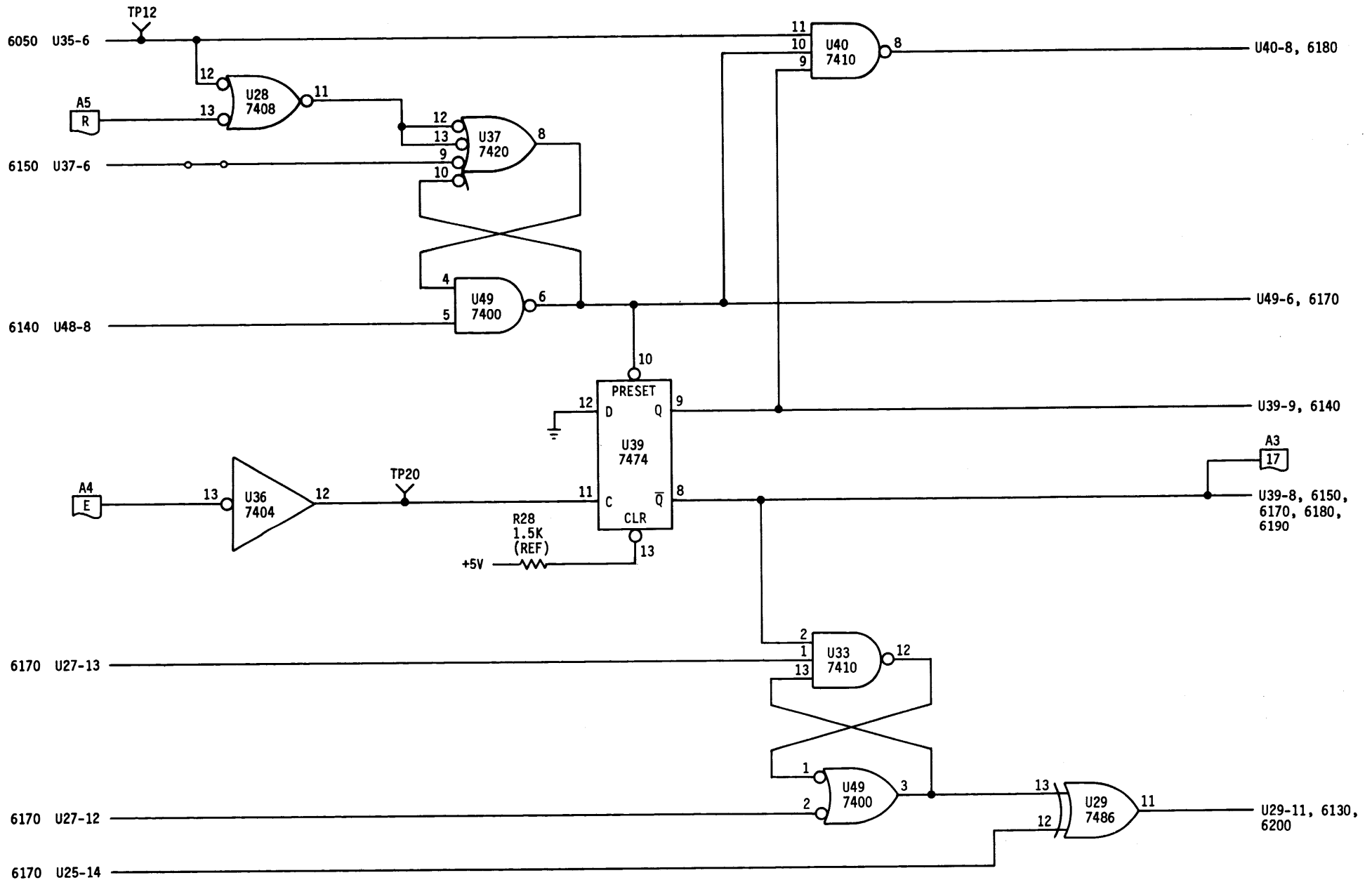


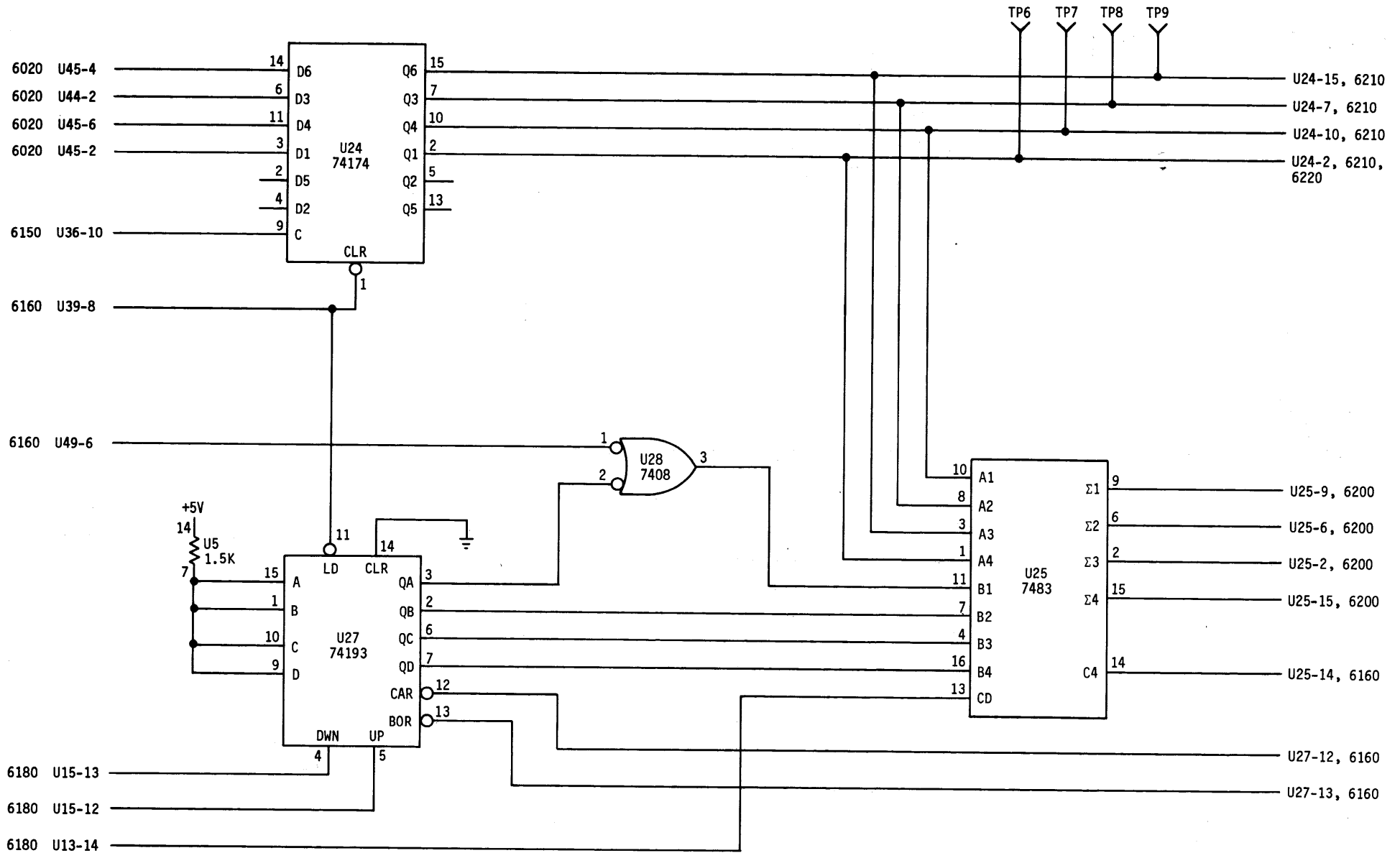


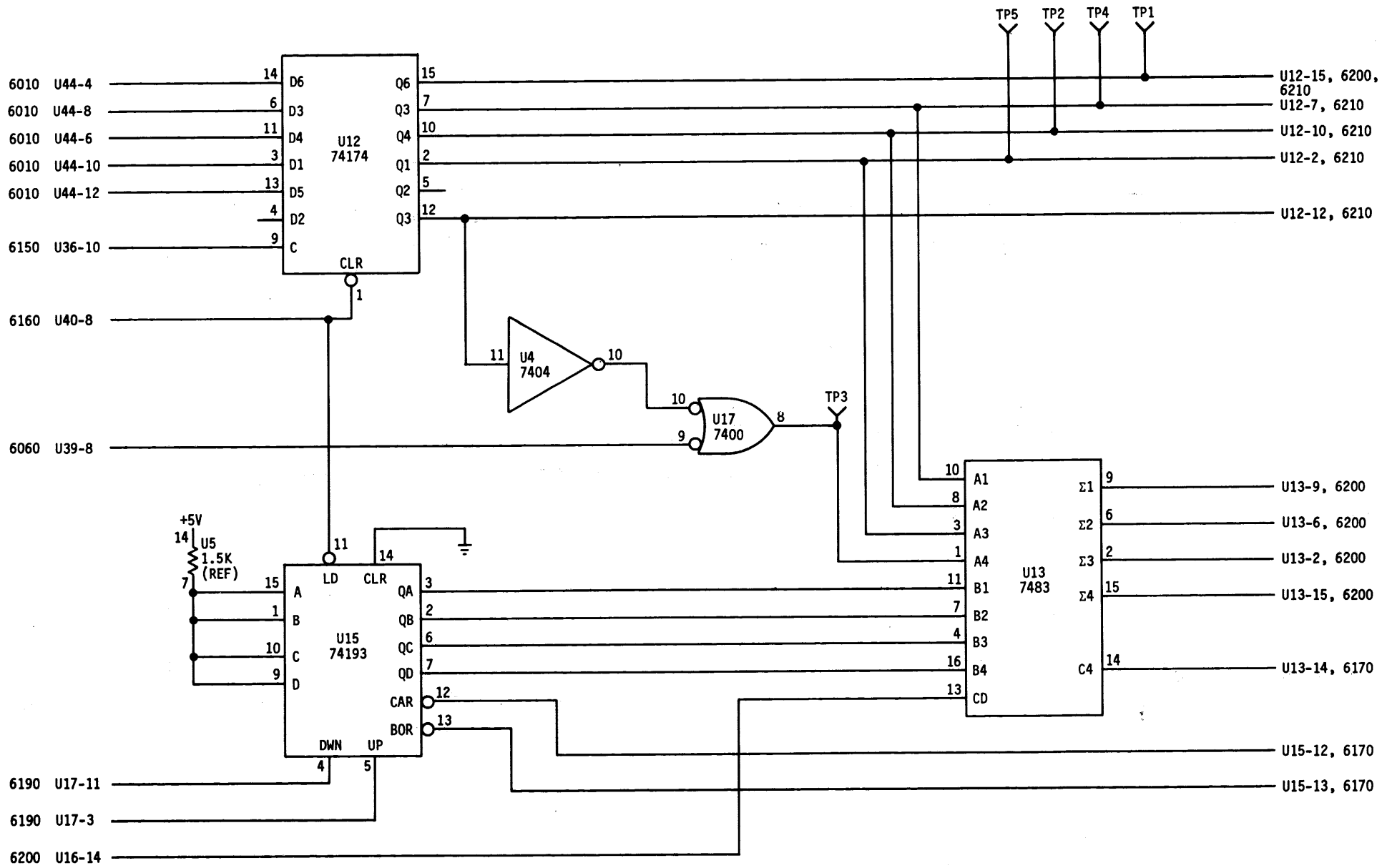


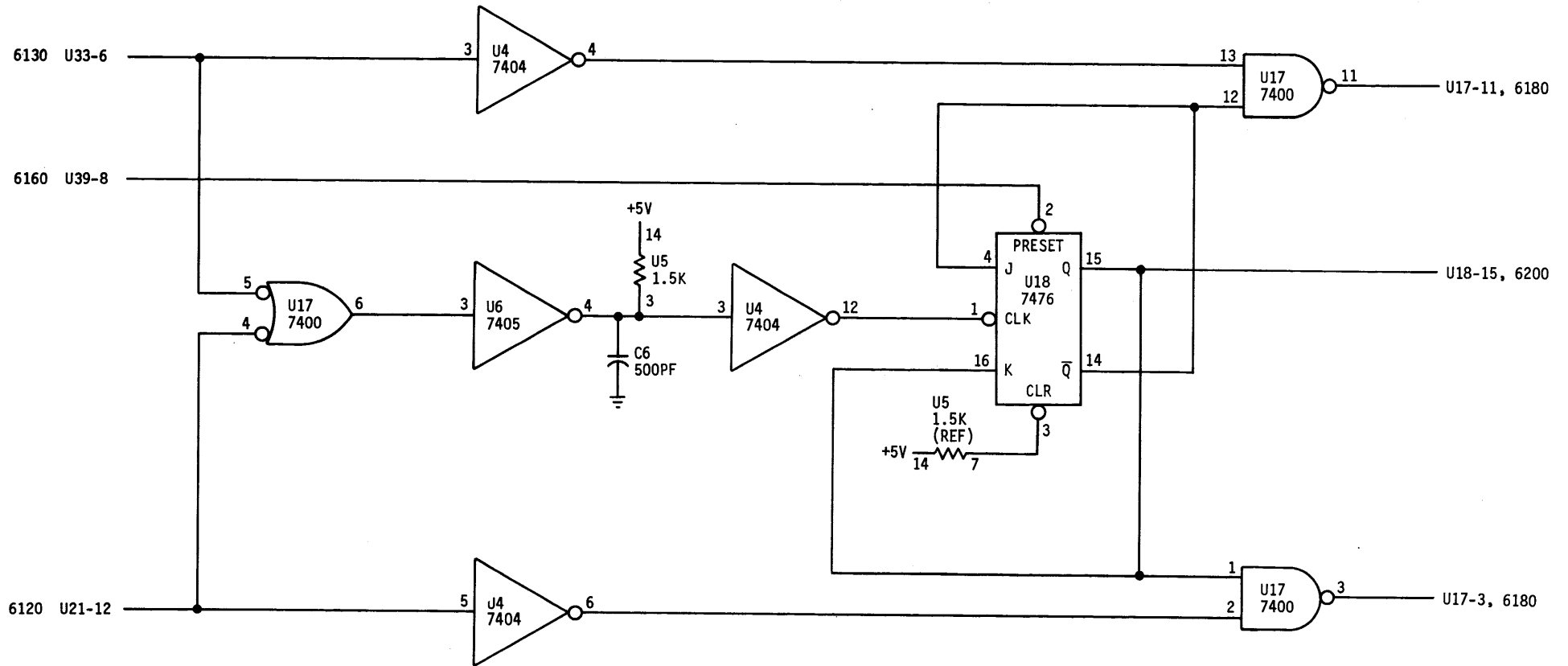


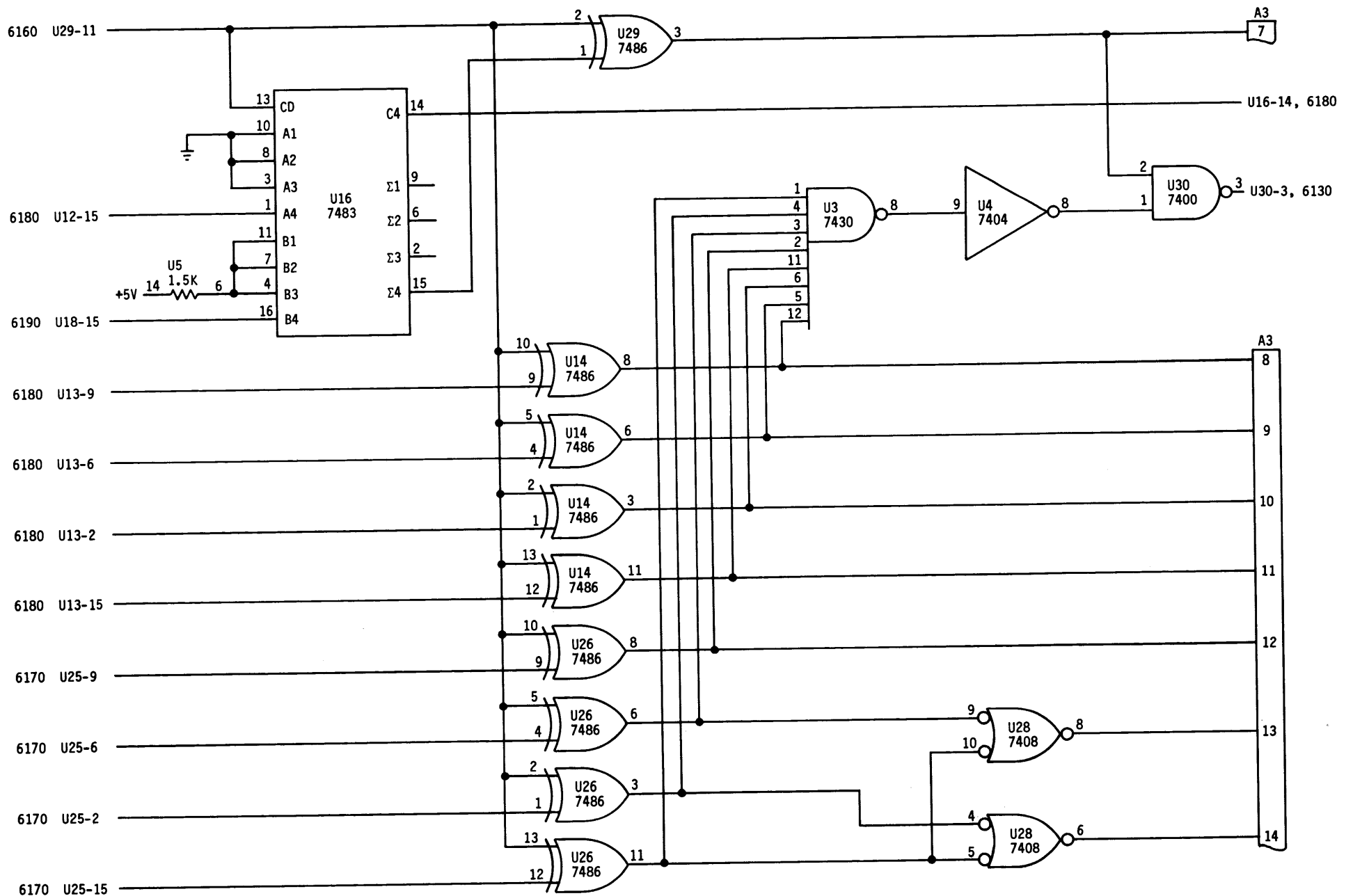




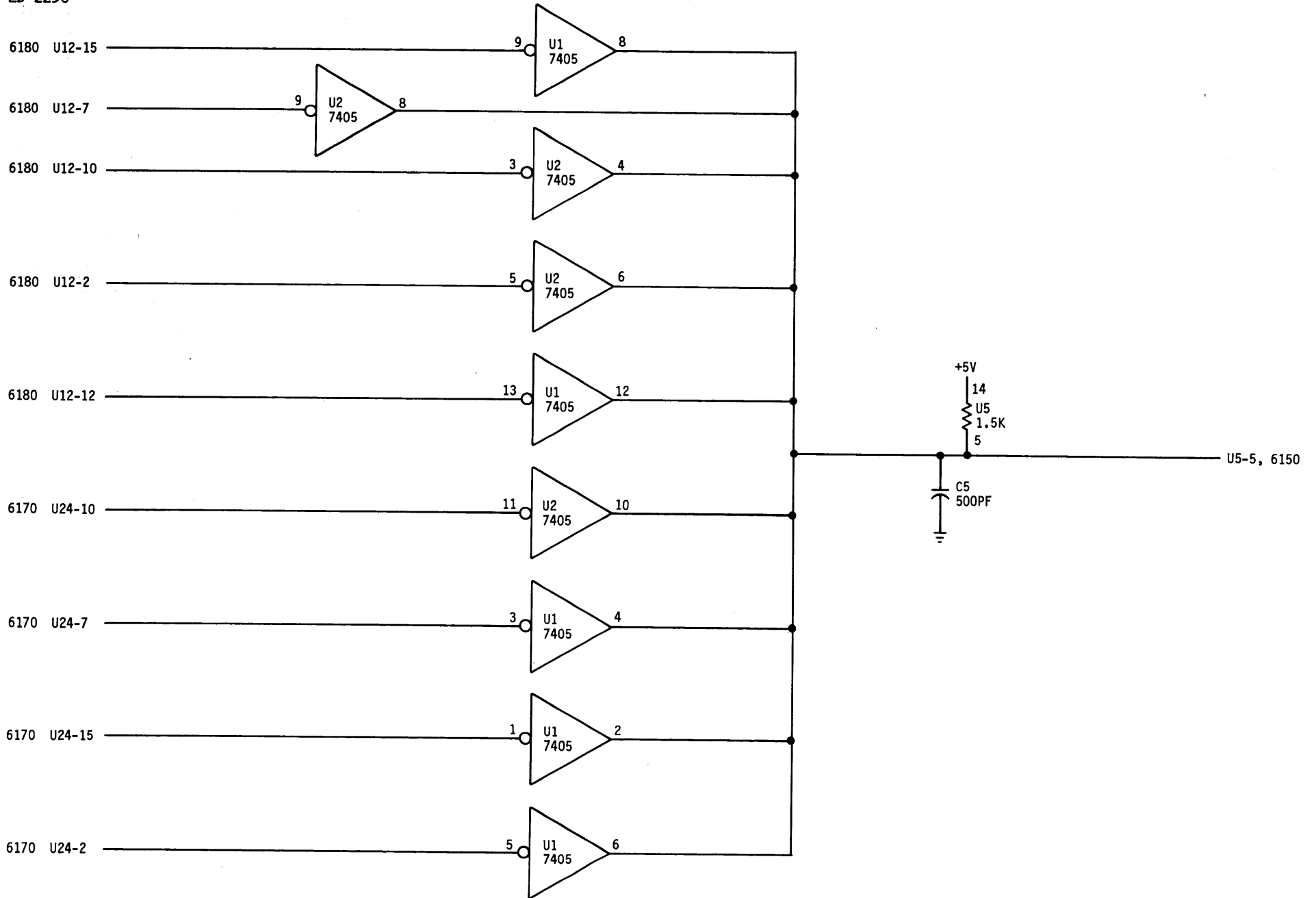


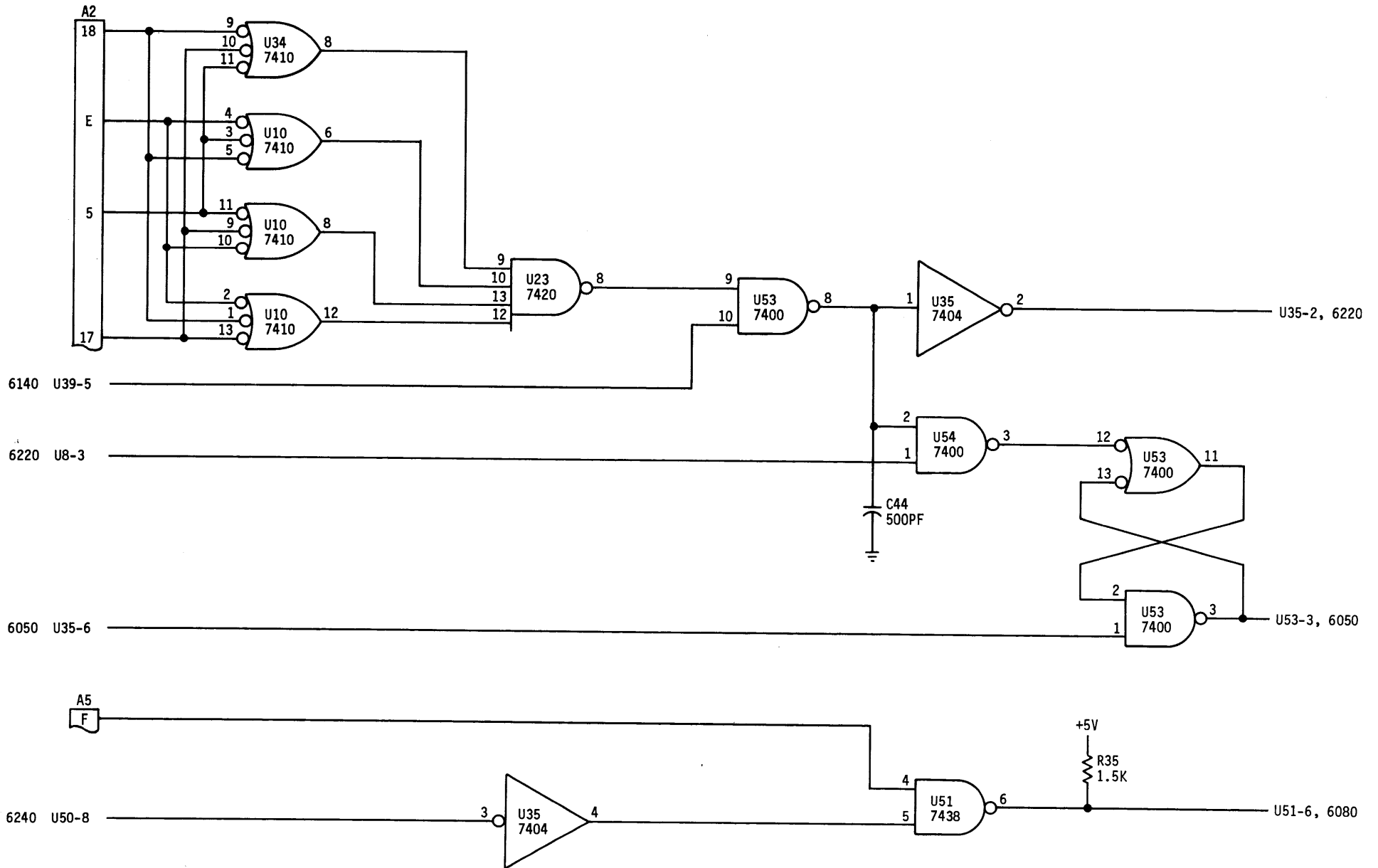


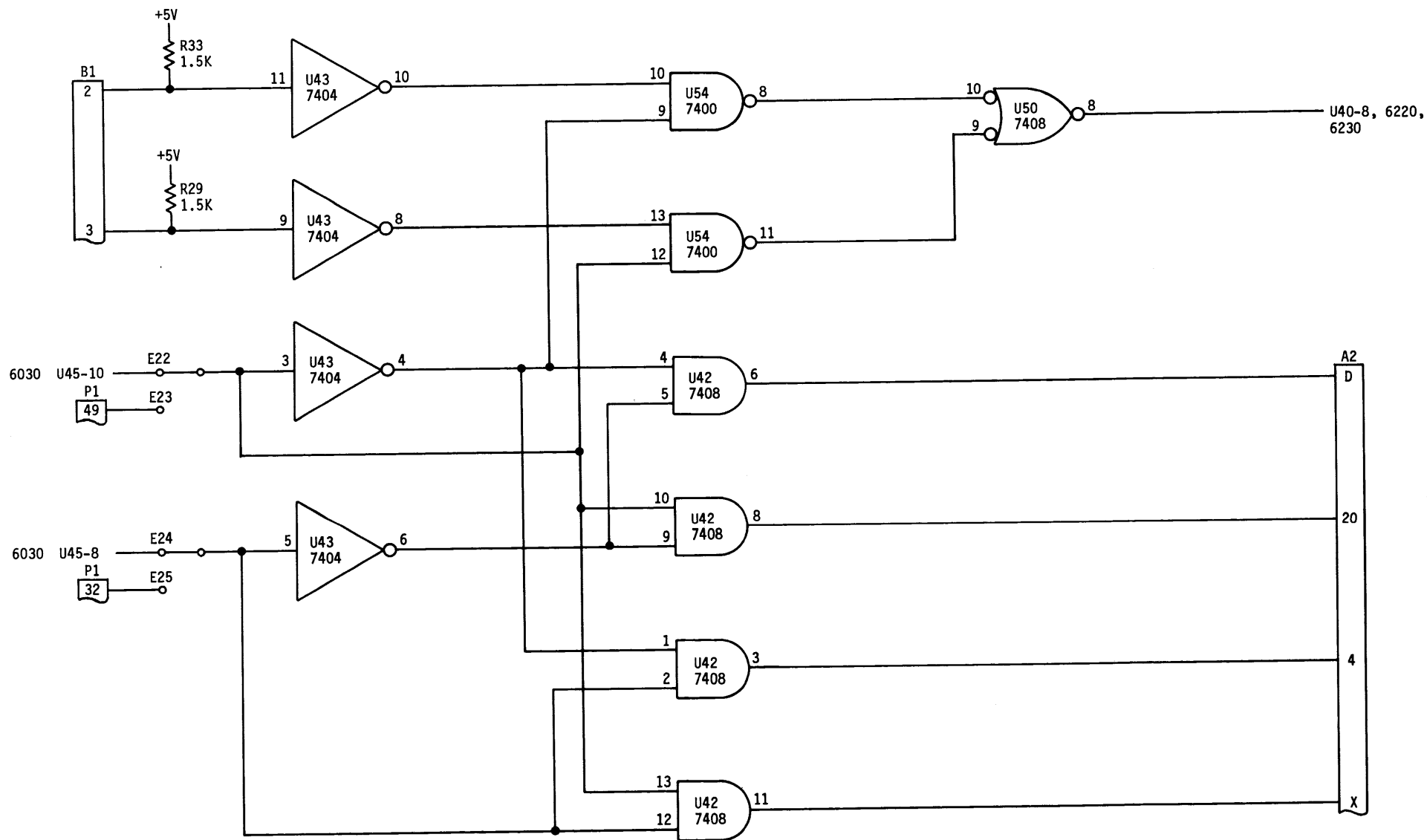




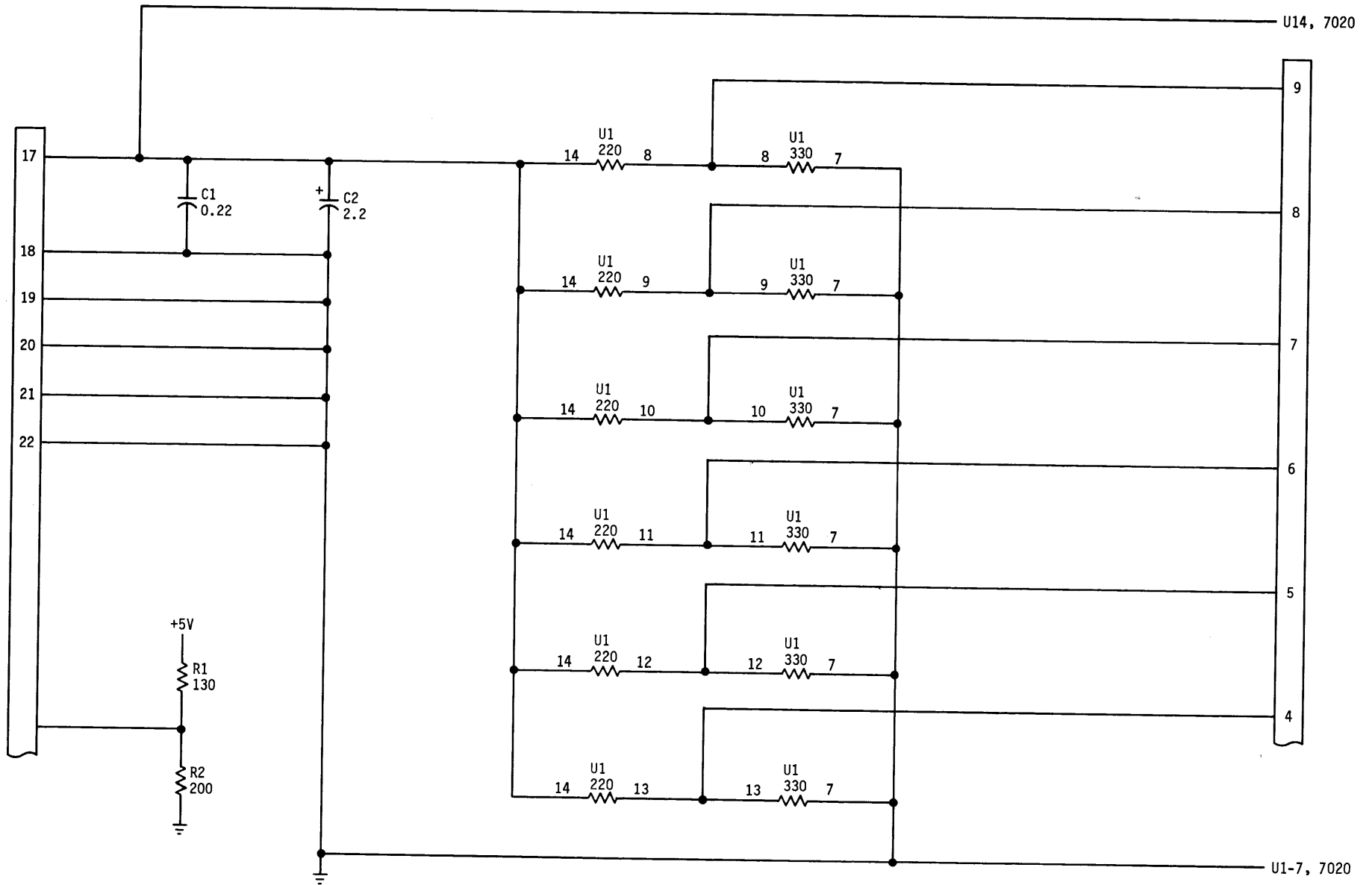
6170 U25-15
 LD 2230
 DISC STORAGE UNIT



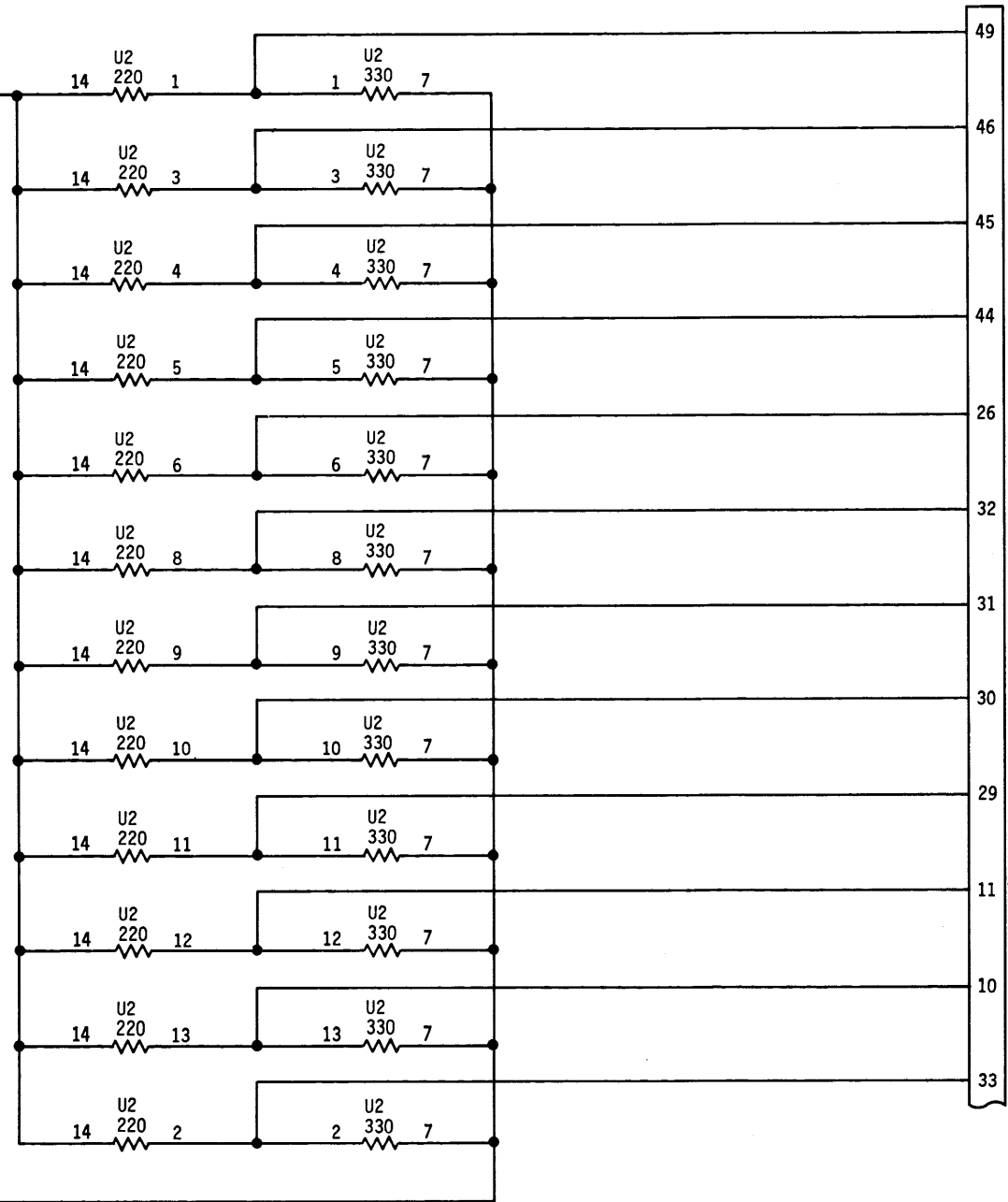




	J1	
7020 DISC SELECT	49	} 6002
7020 DRIVE SELECT 0	46	
7020 DRIVE SELECT 1	29	
7020 DRIVE SELECT 2	45	
7020 DRIVE SELECT 3	44	
7020 ADDRESS BUS 1	26	
7010 ADDRESS BUS 2	9	
7010 ADDRESS BUS 4	5	
7010 ADDRESS BUS 8	8	
7010 ADDRESS BUS 16	4	
7020 ADDRESS BUS 32	11	
7010 ADDRESS BUS 64	7	
7020 ADDRESS BUS 128	10	
7010 ADDRESS BUS 256	6	
7020 HEAD SELECT	32	
7020 WRITE GATE	31	
7020 READ GATE	30	
7020 SET CYLINDER	33	
7010 WRITE DATA	50	
7010 +5 VOLTS	17	
7010 GROUND	18	
7010 GROUND	19	
7010 GROUND	20	
7010 GROUND	21	
7010 GROUND	22	



7010 U1-14



7010 U1-7
LD 2230
DISC STORAGE UNIT

TERMINATOR BOARD (SHEET 2 OF 2)

7020