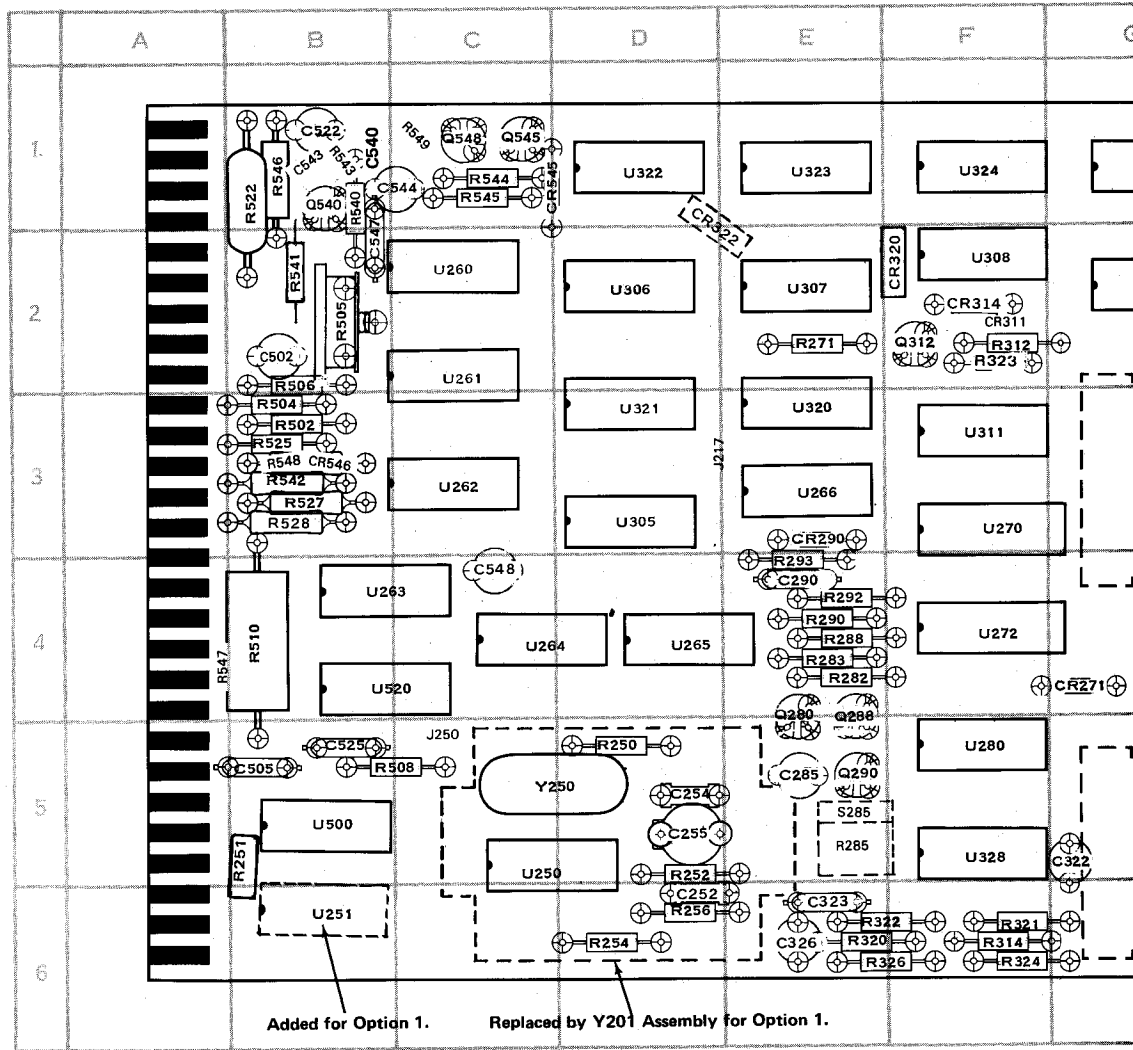


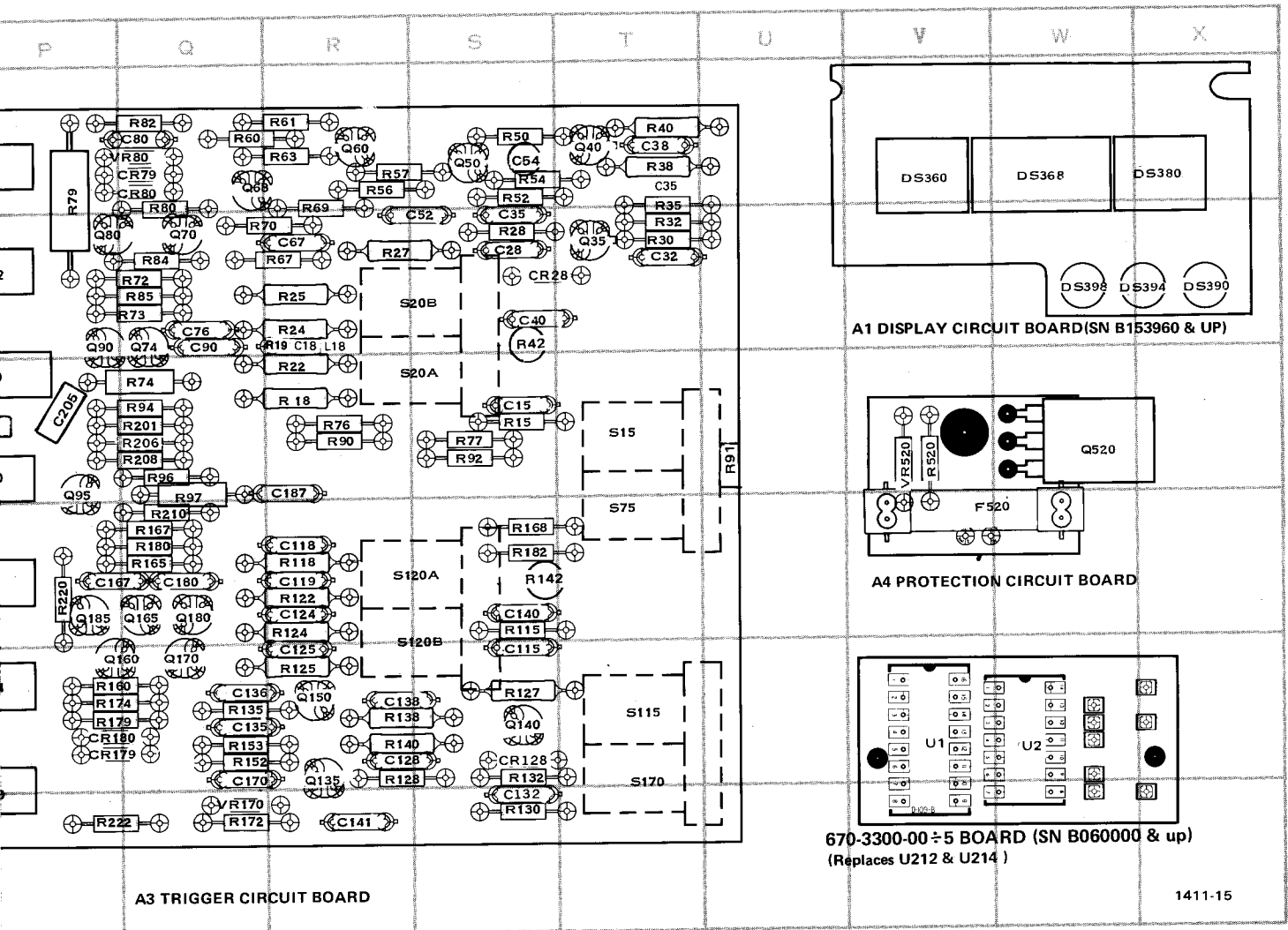
BLOCK DIAGRAM



A2 MAIN

CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC
C15*	S3	C124	R4	C252	D6	C344	H4	CR28	S2	CR378	H5	DS380	X1	C372	H5
C18	R2	C125	R5	C254	D5	C345	H4	CR79	Q1	CR379	H5	DS390	X2	C373	H5
C28	S2	C128	R5	C255	D5	C346	G4	CR80	Q1	CR380	H5	DS394	X2	C374	H5
C32	T2	C132	S6	C270	L5	C347	H4	CR128	S5	CR384	H5	DS398	W2	C375	H5
C35††	S2	C135	Q5	C285	E5	C371	L1	CR179	P5	CR385	I5			C376	H5
C35	T1	C136	Q5	C290	E4	C502	B2	CR180	P5	CR386	J4	F520*	V4	C377	H5
C38	T1	C138	R5	C322	G5	C505	B5	CR260	J4	CR391	J5			C378	H5
C40	S2	C140	S4	C323	E6	C522	B1	CR270	L6	CR395	J5	J17	J4	C379	H5
C52	S2	C141	R6	C326	E6	C523	O2	CR271	G4	CR396	J4	J18	K4	C380	H5
C54*	S1	C167	P4	C330	I2	C525	B5	CR290	E3	CR399	J5	J19	K4	C381	H5
C67	R2	C170	Q5	C332**	†	C540**	B1	CR311	F2	CR545	C1	J207	N1	C382	H5
C76	Q2	C180	Q4	C334**	†	C543**	†	CR314	F2	CR546*	B3	J208	N4	C383	H5
C80	Q1	C187	R3	C335	I2	C544	C1	CR320*	D2	DS275	N4	J217	D3	C384	H5
C90	Q2	C205*	P3	C336**	†	C547	B2	CR322*†	D1	DS360	V1	J218	G4	C385	H5
C115	S5	C210	P3	C338**	†	C548	C4	CR364	I5	DS364**		J250	C5	C386	H5
C118	R4	C211*	O3	C341	H4	C549	O2	CR368	I5	DS368	W1	L18	Q3	C387	H5
C119	R4			C342	H4			CR372	I5	DS372**		L523	N2	C388	H5
				C343	H4					DS376**		L549	O2	C389	H5

REV I, FEB 1979



A3 TRIGGER CIRCUIT BOARD

A1 DISPLAY CIRCUIT BOARD(SN B153960 & UP)

A4 PROTECTION CIRCUIT BOARD

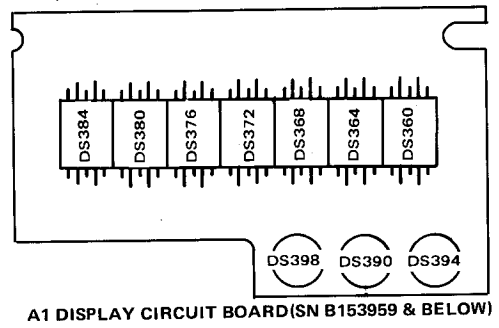
670-3300-00÷5 BOARD (SN B060000 & up)
(Replaces U212 & U214)

1411-15

GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC	CKT NO	GRID LOC
L1	R505	B2	R547*†	A4			U264	C4			VR80	Q1
L3	R506	B2	R548	B3	U1*	V5	U265	D4			VR170	Q6
L3	R508	C5	R549*	C1	U2*	W5	U266	E3			VR520*	V3
K5	R510	B4			U200	O3	U270	F3				
L3	R520*	V5	S20A	R3	U210	O3	U272	F4	U328	F5		
L3	R522	B1	S20B	R2	U212*	O2	U280	F5	U330	J1	Y250	C5
K5	R525	B3	S15	T3	U214*	O1	U305	D3	U332	J2	Y251	C5
L4	R527	B3	S75	T4	U220	O5	U306	D2	U333	M1		
L3	R528	B3	S120A	R4	U224	O5	U307	E2	U335	M2		
K5	R540	B1	S120B	R5	U226	O4	U308	F2	U337**	M3		
L4	R541	B2	S115	T5	U250	C5	U309	G2	U340	H4		
L4	R542	B3	S170	T5	U251	C5	U310	H2	U350	K5		
L6	R543*†	B1	S250†	I5	U260	C2	U311	F3	U352	M3		
L6	R544	C1	S260†	I3	U261	C2	U320	E3	U354	M5		
B3	R545	C1	S270†	M4	U262	C3	U321	D3	U500	B5		
B3	R546	B1	S275†	M4	U263	C4	U322	D1	U520	B4		
			S285†	E5								

* See Parts List for serial number ranges.
** Components deleted.
† Located on back of board.
‡ Alternate location.

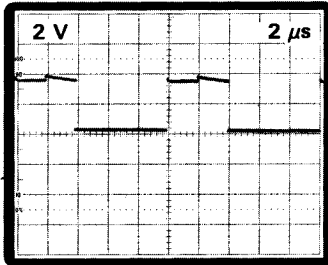
‡OPT 4 ONLY



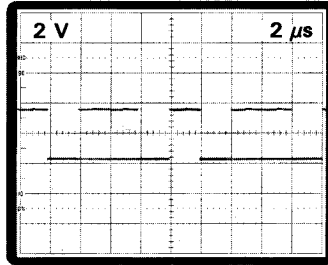
A1 DISPLAY CIRCUIT BOARD(SN B153959 & BELOW)

Waveform Conditions. 400 mV, 1 kHz squarewave applied to both Channel A and Channel B inputs. FUNCTION switch set to PERIOD B. CLOCK RATE switch set to 10 ms, all front-panel pushbuttons out, HOLD control counterclockwise, RESET pushbutton pressed and released.

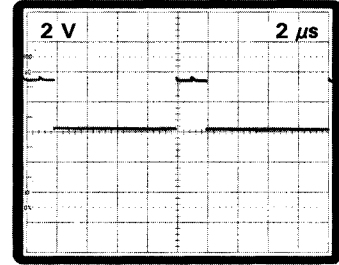
1



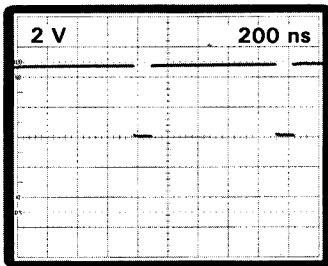
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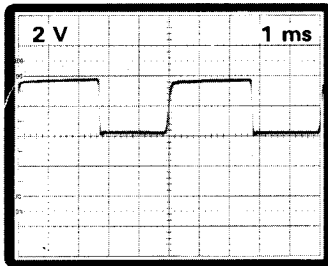
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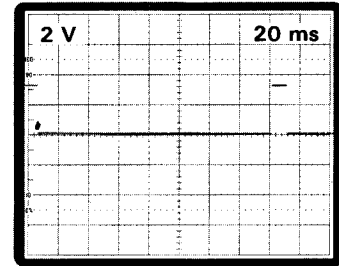
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5

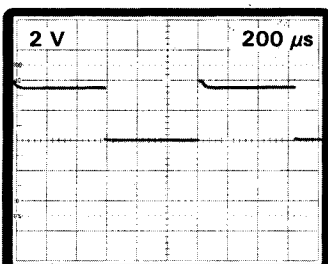


6

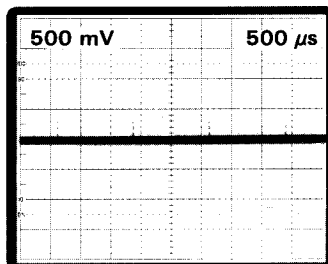


FUNCTION switch is set to .01 s.

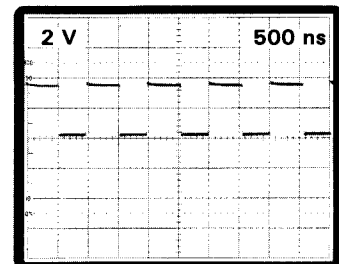
7



8

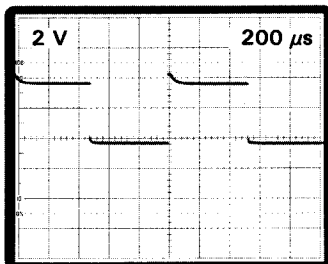


9

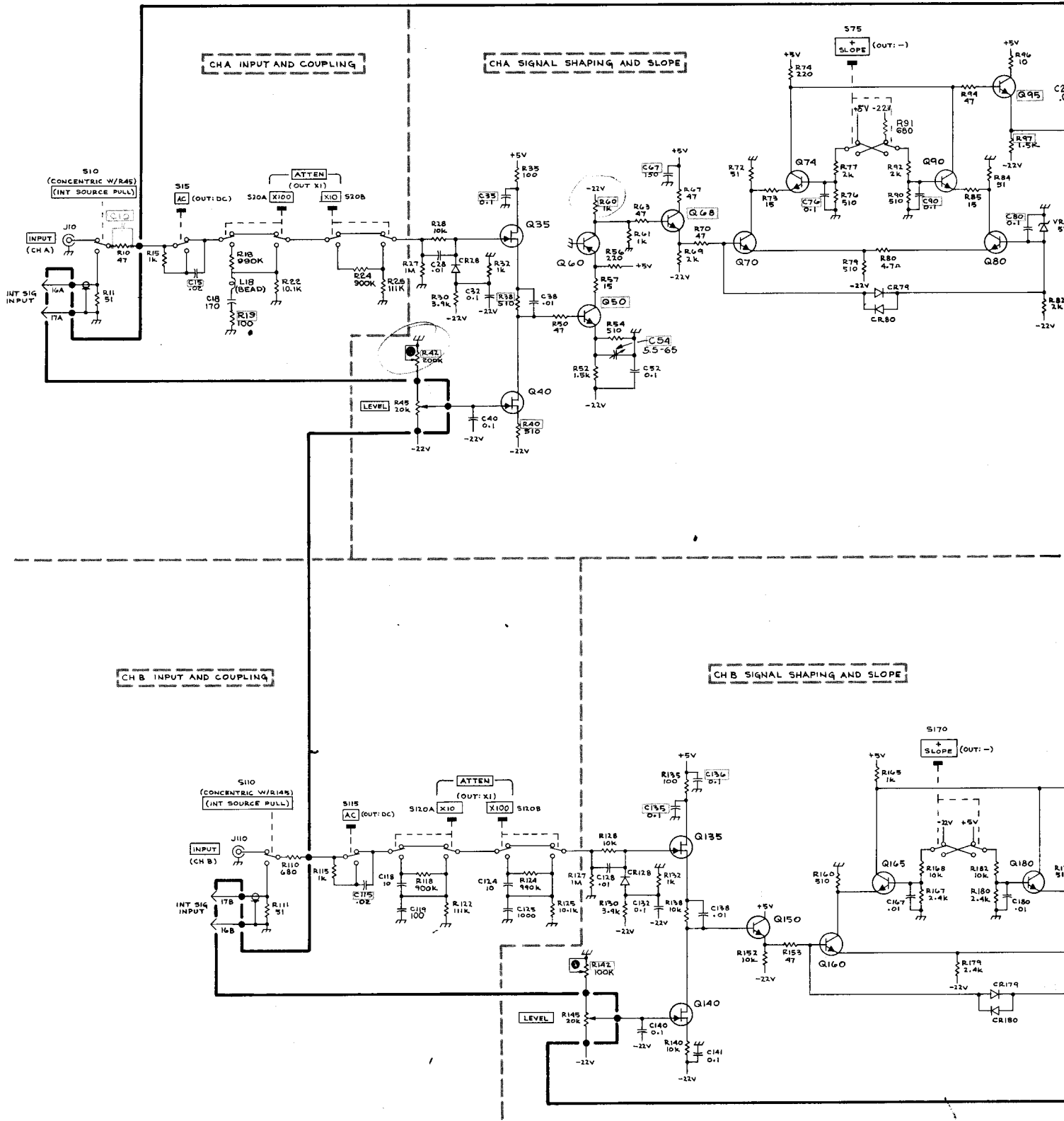


FUNCTION switch is set to .1 s.

10



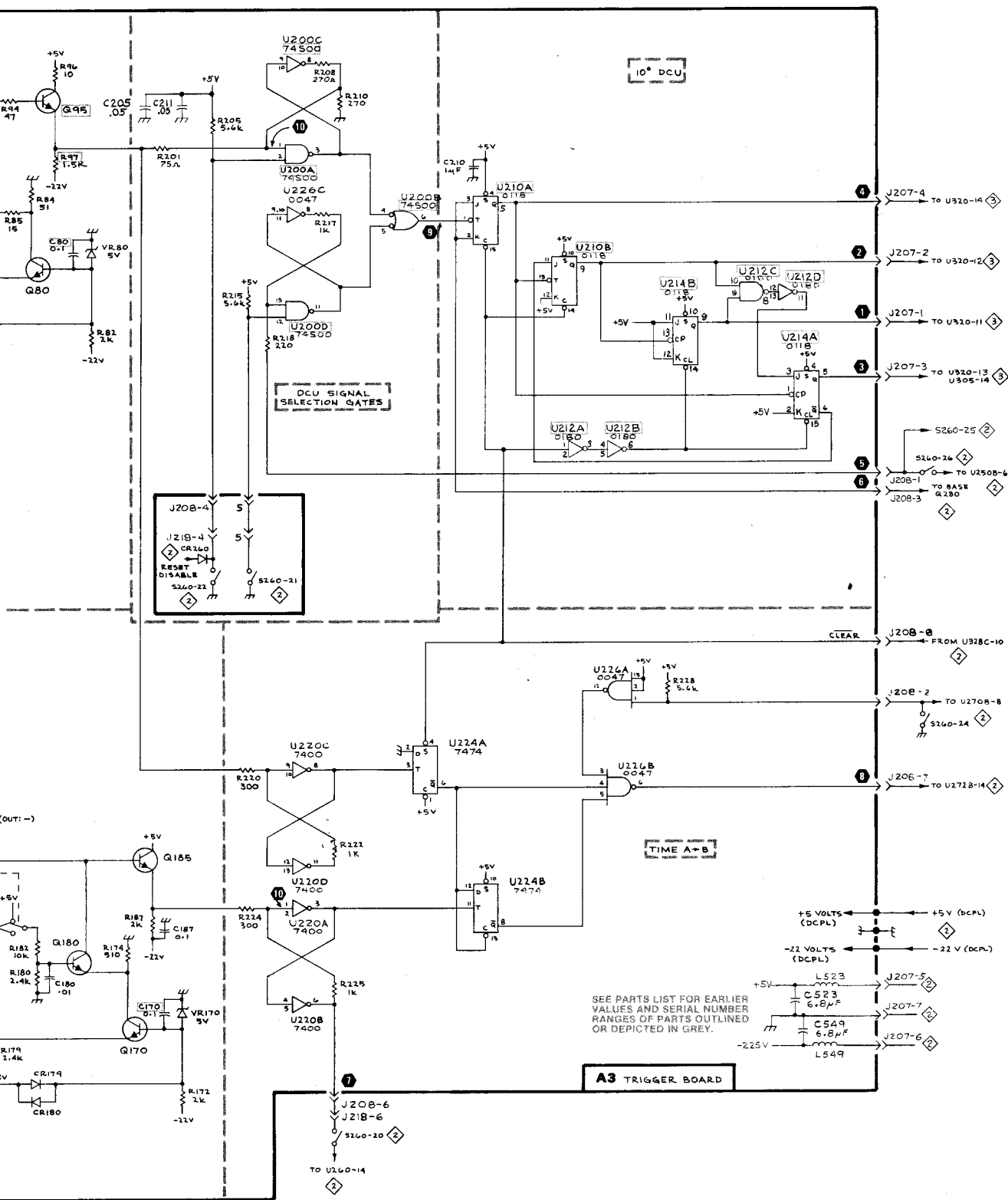
FUNCTION switch is changed to TIME A-B.



DC503

REV F APR 1980

TR 18
5N



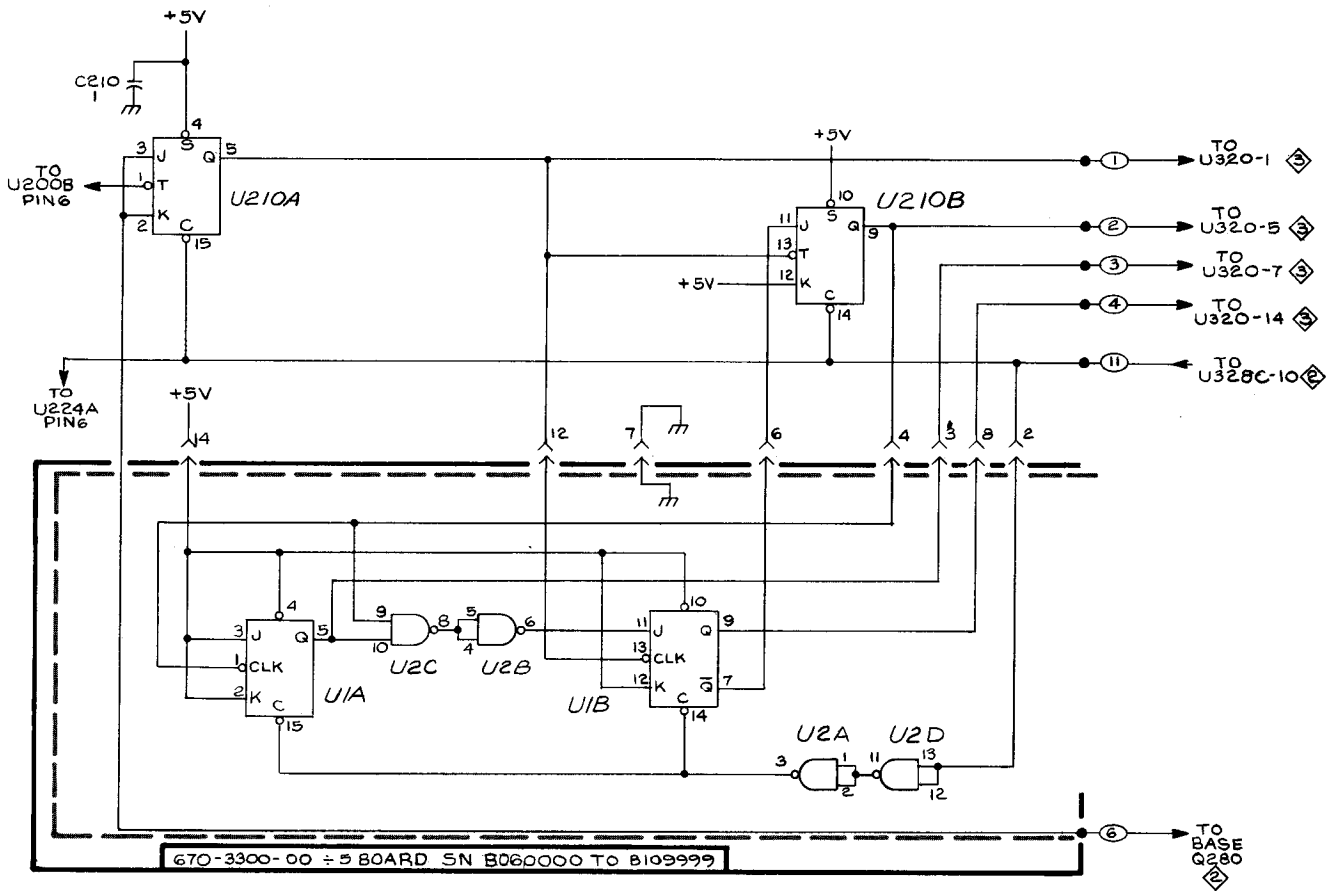
TRIGGER AMPLIFIER
SN B110000-UP



1411-16
TRIGGER AMPLIFIER ① DFH
SN B110000-UP

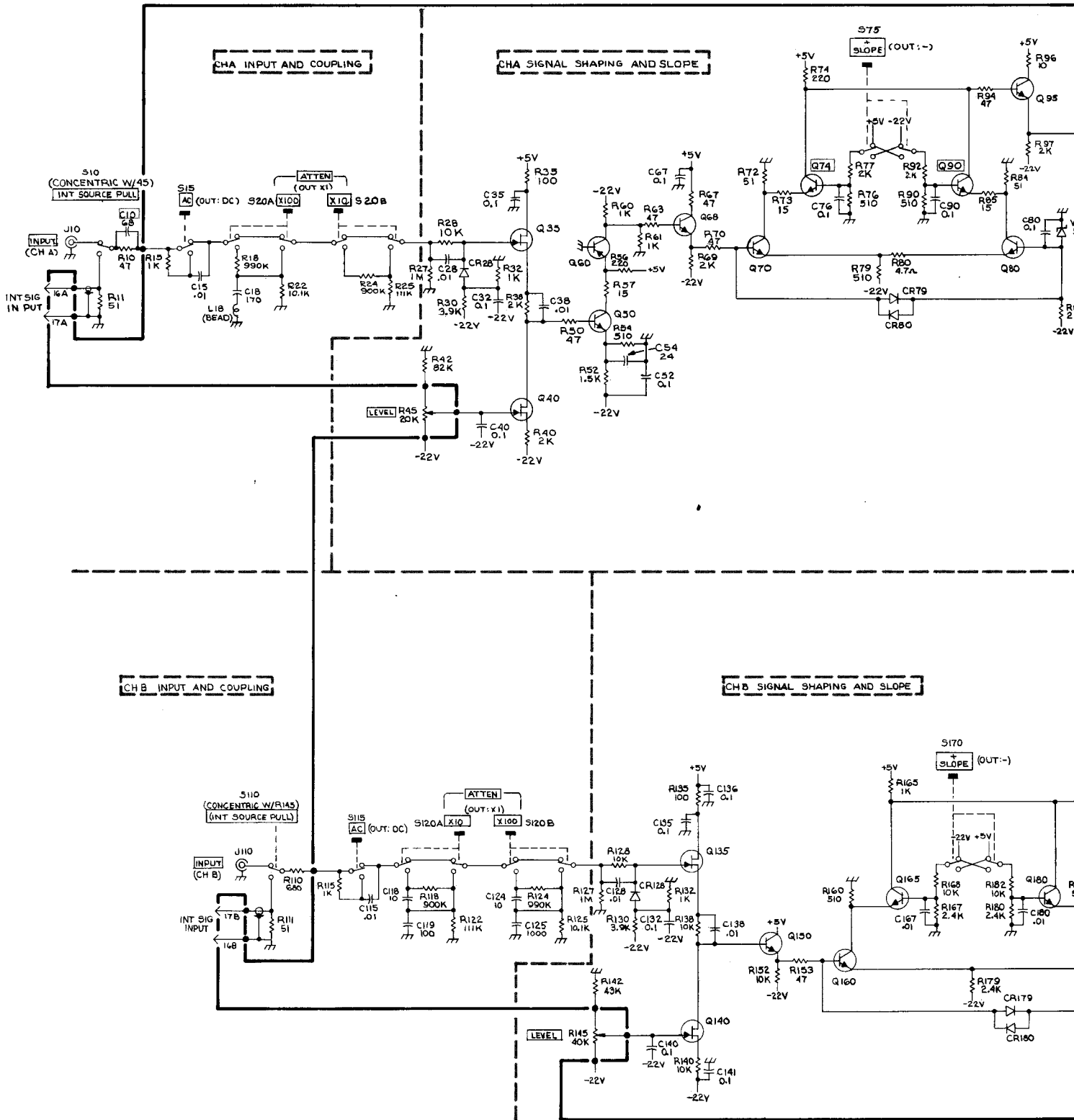
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

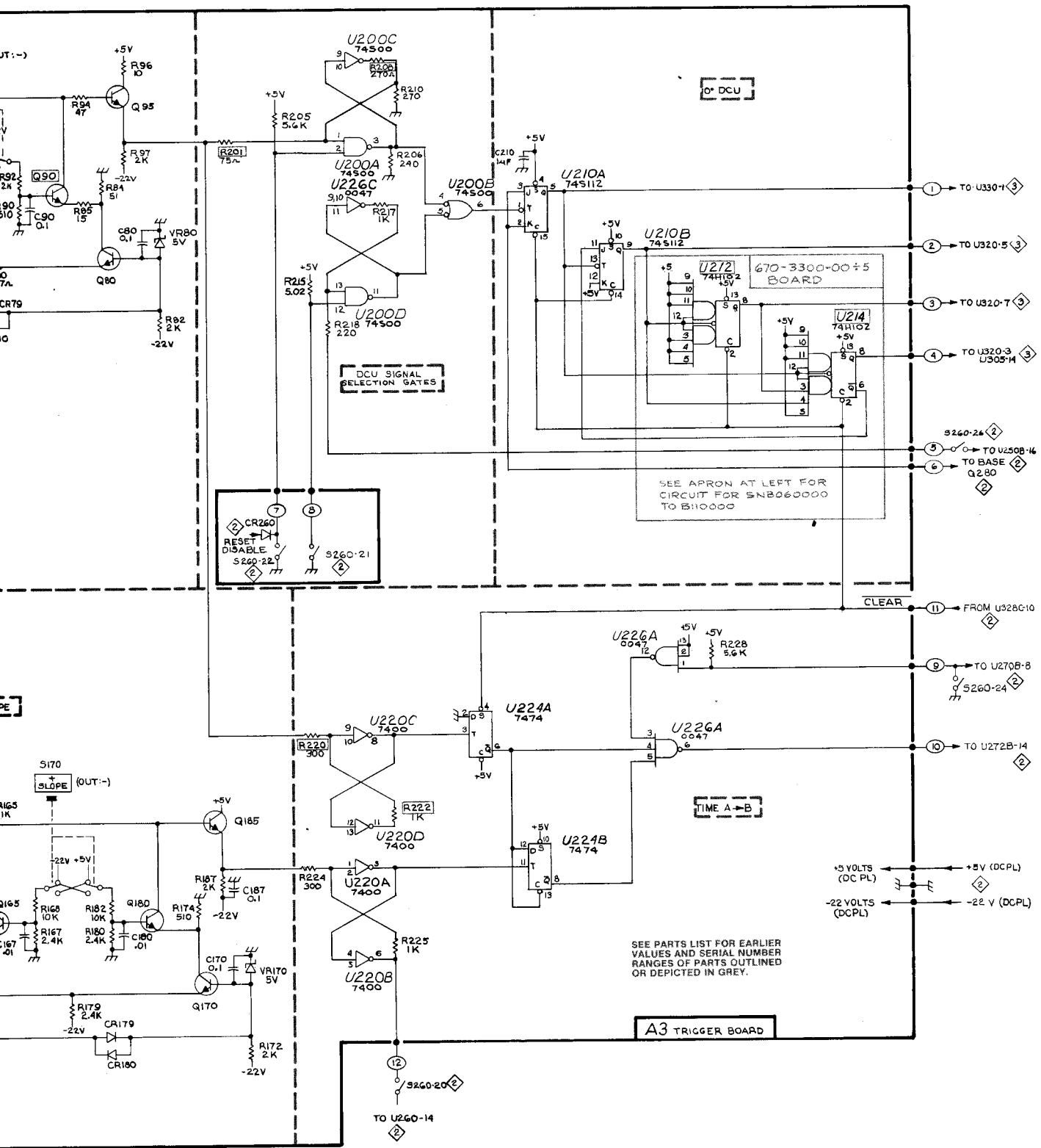
A3 TRIGGER BOARD



TRIGGER AMPLIFIER
 SN RFI CW R 11mm







14-11-17
 TRIGGER AMPLIFIER 1 NS 374
 BELOW 3NB110000

TRIGGER AMPLIFIER
 SN BELOW B110000



SEE PARTS LIST FOR EARLIER
 VALUES AND SERIAL NUMBER
 RANGES OF PARTS OUTLINED
 OR DEPICTED IN GREY.

A3 TRIGGER BOARD

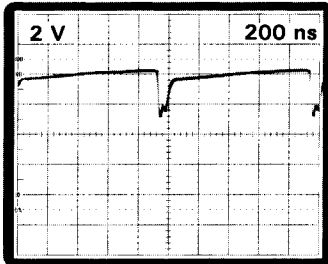
TIME A-B

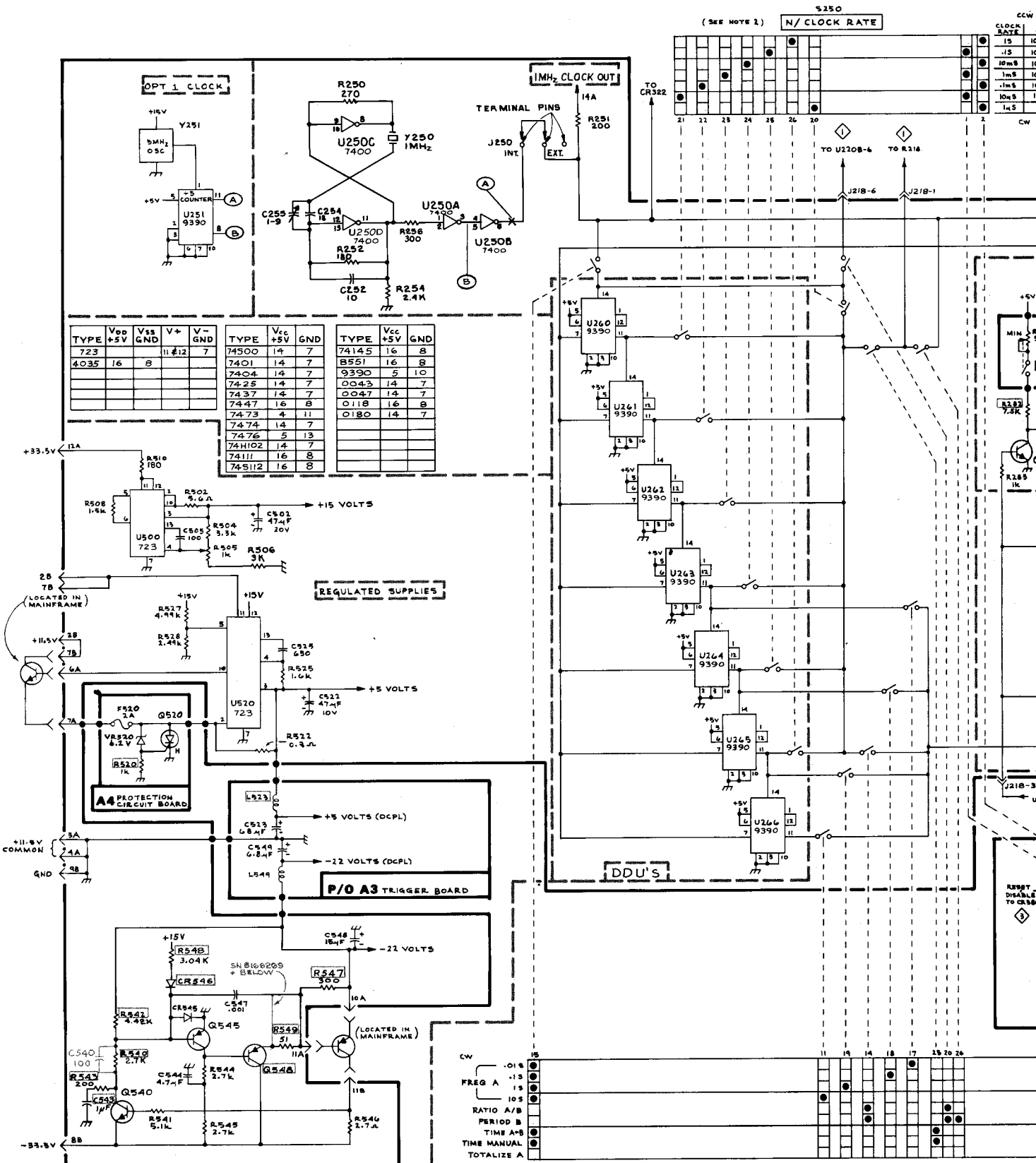
DCU SIGNAL
 SELECTION GATES

DCU

Waveform Conditions. 400 mV, 1 kHz squarewave applied to both Channel A and Channel B inputs. FUNCTION switch set to PERIOD B. CLOCK RATE switch set to 10 ms, all front-panel pushbuttons out, HOLD control counterclockwise, RESET pushbutton pressed and released.

11

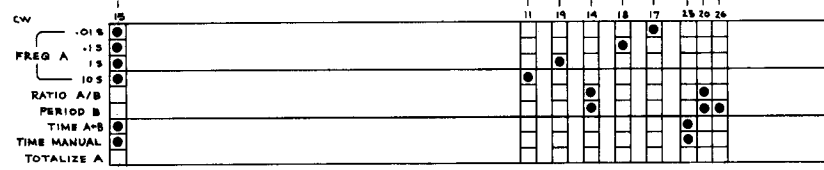
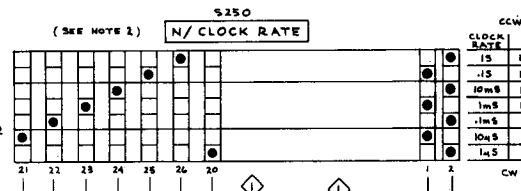




TYPE	Vcc	Vcc	V+	V-
723	+5V	GND	11 #12	7
4035	16	8		

TYPE	Vcc	Vcc	GND
74500	14	7	
7401	14	7	
7404	14	7	
7425	14	7	
7437	14	7	
7447	16	8	
7473	4	11	
7474	14	7	
7476	5	13	
74H102	14	7	
74111	16	8	
745112	16	8	

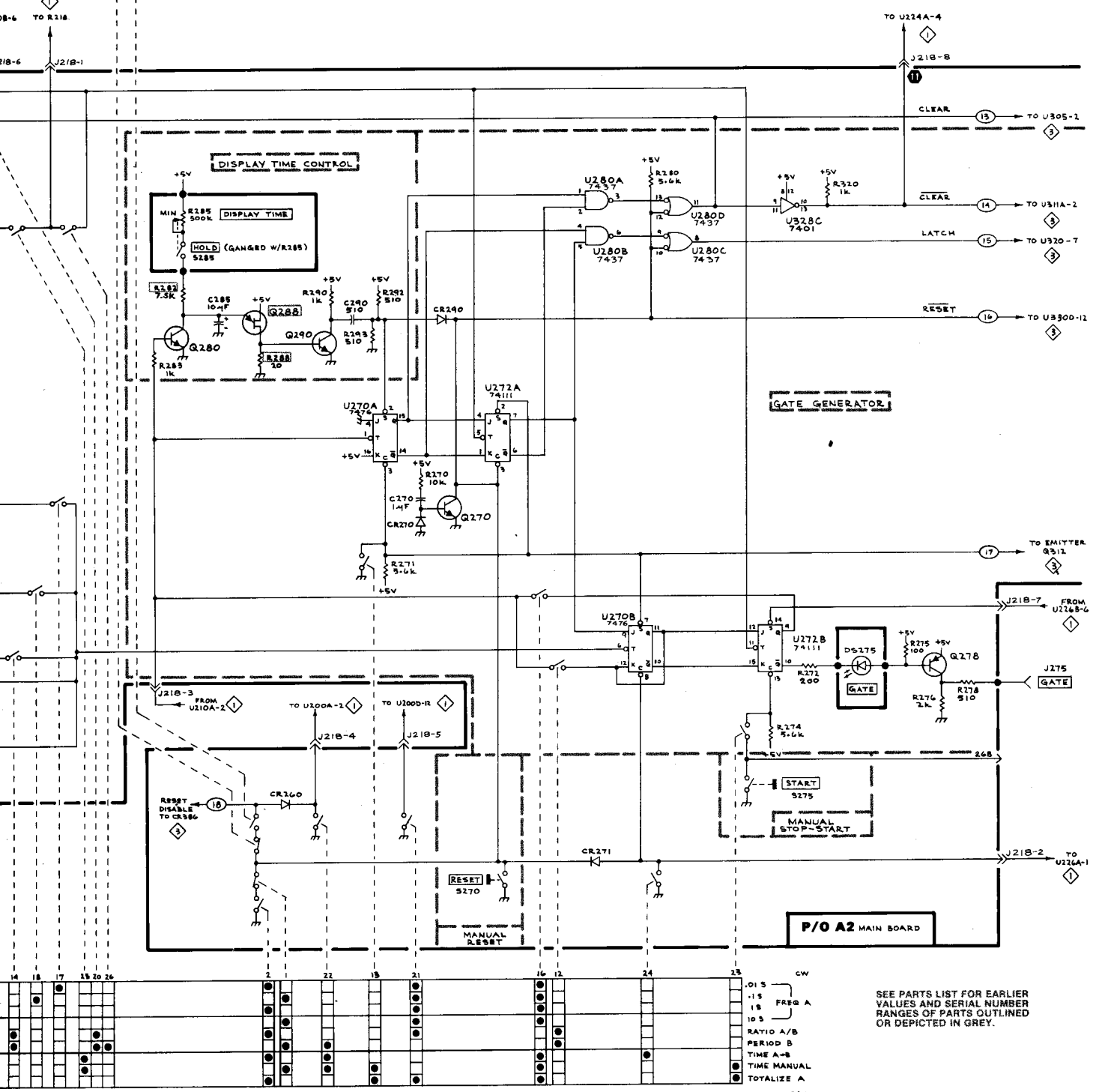
TYPE	Vcc	Vcc	GND
74145	16	8	
B551	16	8	
9390	5	10	
0043	14	7	
0047	14	7	
0118	16	8	
0180	14	7	



CLOCK RATE		CLOCK RATE	N
●	15	10 ⁴	
●	.15	10 ⁴	
●	10ms	10 ⁴	
●	1ms	10 ⁴	
●	.1ms	10 ⁴	
●	10μs	10 ⁴	
●	1μs	10 ⁴	
●	14S	1	

NOTES:

- BETWEEN DETENT POSITIONS OF THE **FUNCTION** SWITCH, CAMS 1 AND 2 PROVIDE CONTACT CLOSURES TO RESET COUNTING CIRCUITRY.
- BETWEEN DETENT POSITIONS OF THE **N/CLOCK RATE** SWITCH, CAMS 1 AND 2 PROVIDE CONTACT CLOSURES TO RESET COUNTING CIRCUITRY EXCEPT IN THE FREQ A AND TOTALIZE A POSITIONS OF THE **FUNCTION** SWITCH.



FUNCTION (SEE NOTE 1)
5260

COUNTER TIME BASE AND CONTROL 2 DEH 674

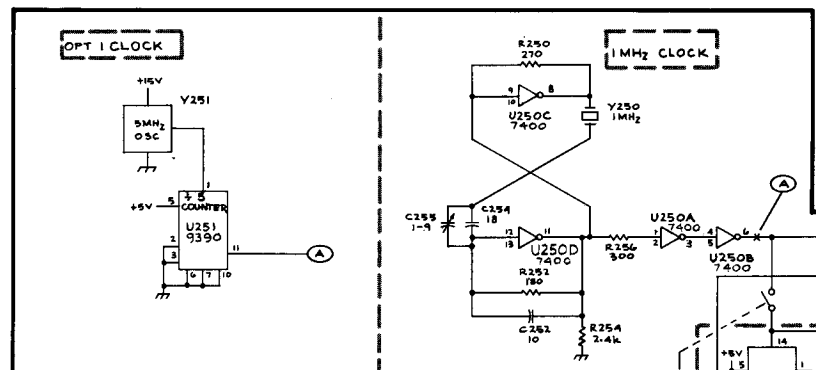
SN 810000-UP

SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

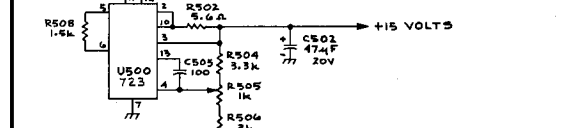
COUNTER, TIME BASE & CONTROL SN B10000-UP

9250
(SEE NOTE 2) N/ CLOCK RATE

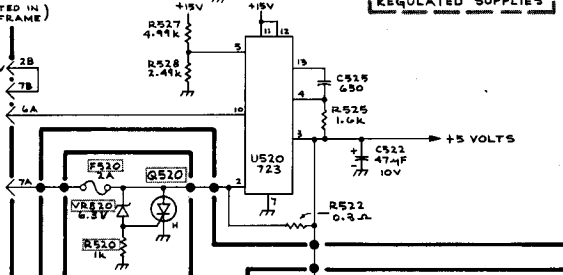
CLOCK RATE	N	CW
15	10 ⁴	
15	10 ⁴	
10mS	10 ⁴	
1mS	10 ³	
1mS	10 ³	
10mS	10	
1mS	1	



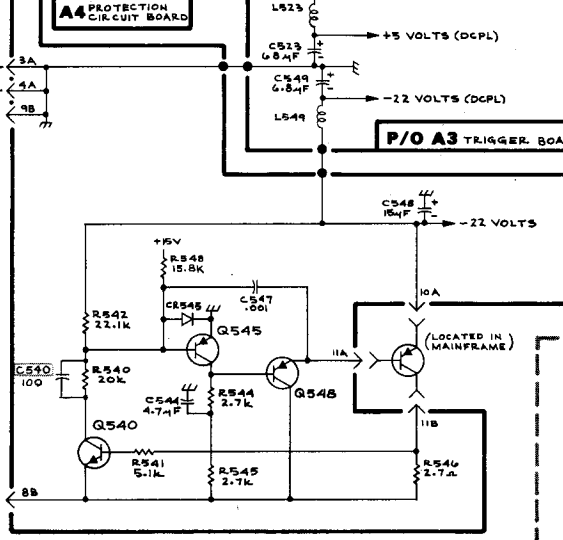
TYPE	VDD +5V	VSS GND	V+	V- GND	TYPE	Vcc +5V	GND	TYPE	Vcc +5V	GND
723			11	7	74500	14	7	74S112	16	8
4035	16	8			7401	14	7	74145	16	8
					7404	14	7	8551	16	8
					7425	14	7	9390	5	10
					7437	14	7	0043	14	7
					7447	16	8	0047	14	7
					7473	4	11	0118	16	8
					7474	14	7	0180	14	7
					7476	8	13			
					74H02	14	7			
					74111	16	8			



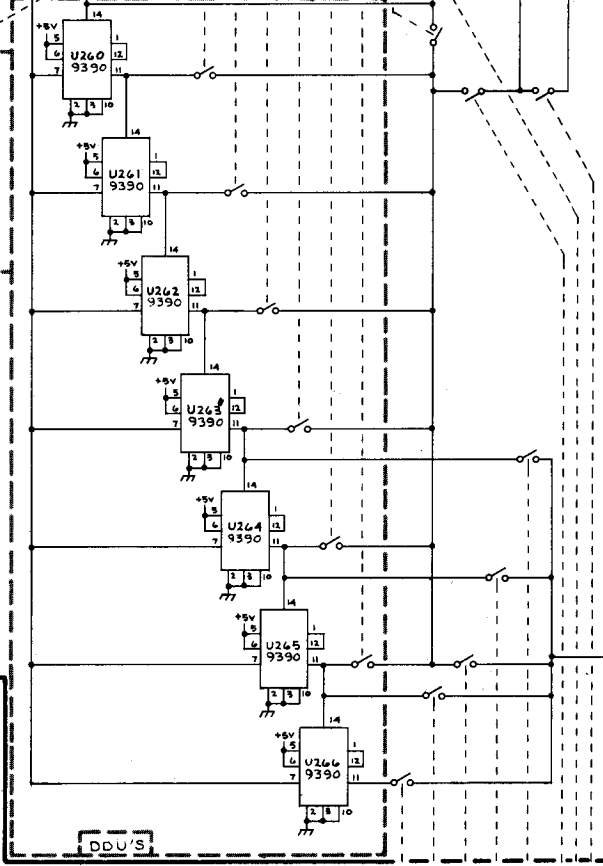
REGULATED SUPPLIES



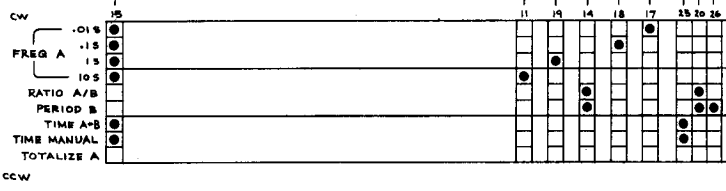
P/O A3 TRIGGER BOARD



DC 503



DDU'S



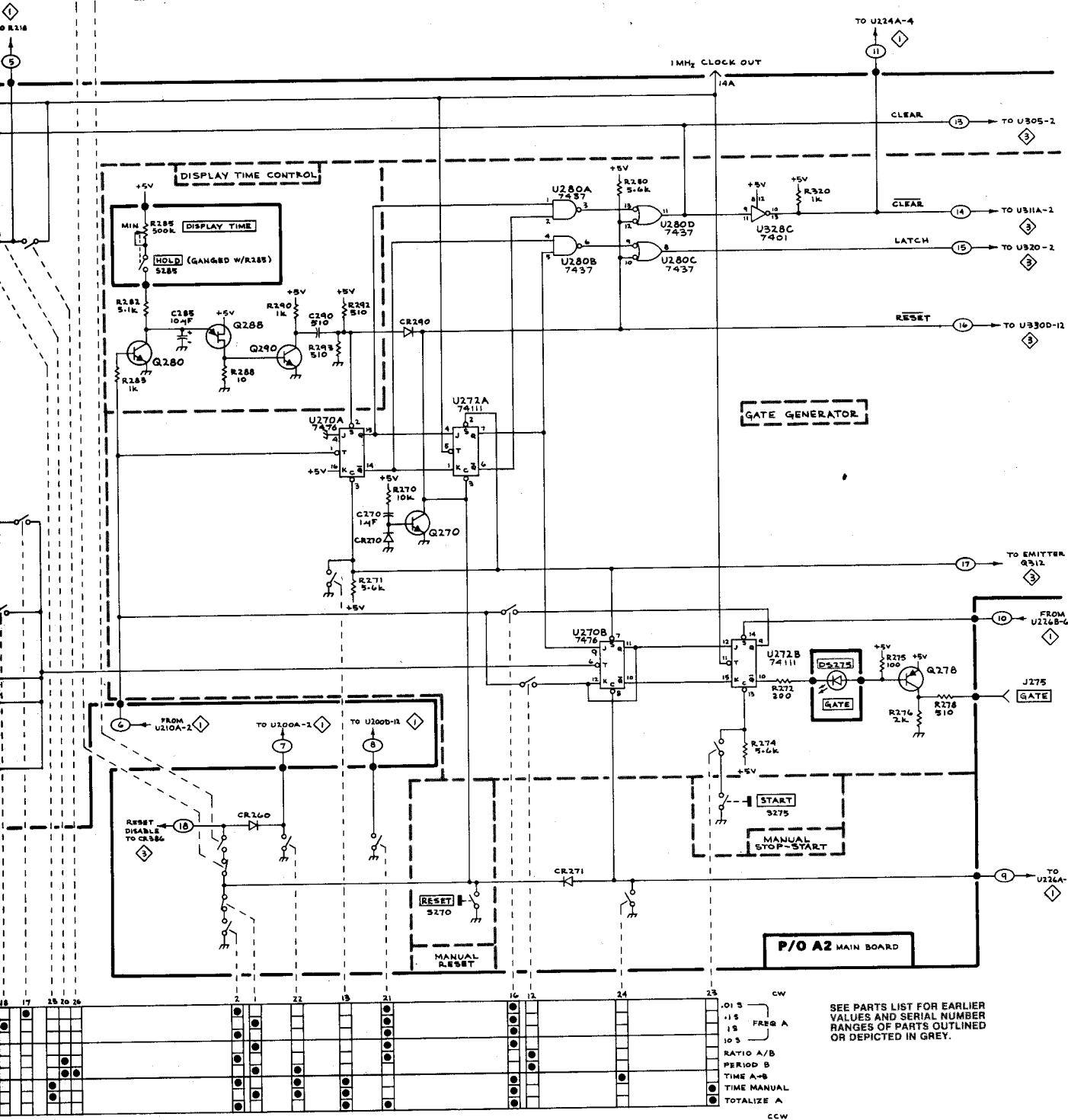
1411-19
REV E, FEB 1979

FUNCTION 5260

CCW		CLOCK RATE		N	
●	15	10 ⁶	10 ⁶	●	15
●	15	10 ⁵	10 ⁵	●	15
●	10ms	10 ⁴	10 ⁴	●	10ms
●	1ms	10 ³	10 ³	●	1ms
●	1ms	10 ²	10 ²	●	1ms
●	10μs	10	10	●	10μs
●	1μs	1	1	●	1μs

NOTES:

- BETWEEN DETENT POSITIONS OF THE [FUNCTION] SWITCH, CAMS 1 AND 2 PROVIDE CONTACT CLOSURES TO RESET COUNTING CIRCUITRY.
- BETWEEN DETENT POSITIONS OF THE [CLOCK RATE] SWITCH, CAMS 1 AND 2 PROVIDE CONTACT CLOSURES TO RESET COUNTING CIRCUITRY EXCEPT IN THE FREQ A AND TOTALIZE A POSITIONS OF THE [FUNCTION] SWITCH.



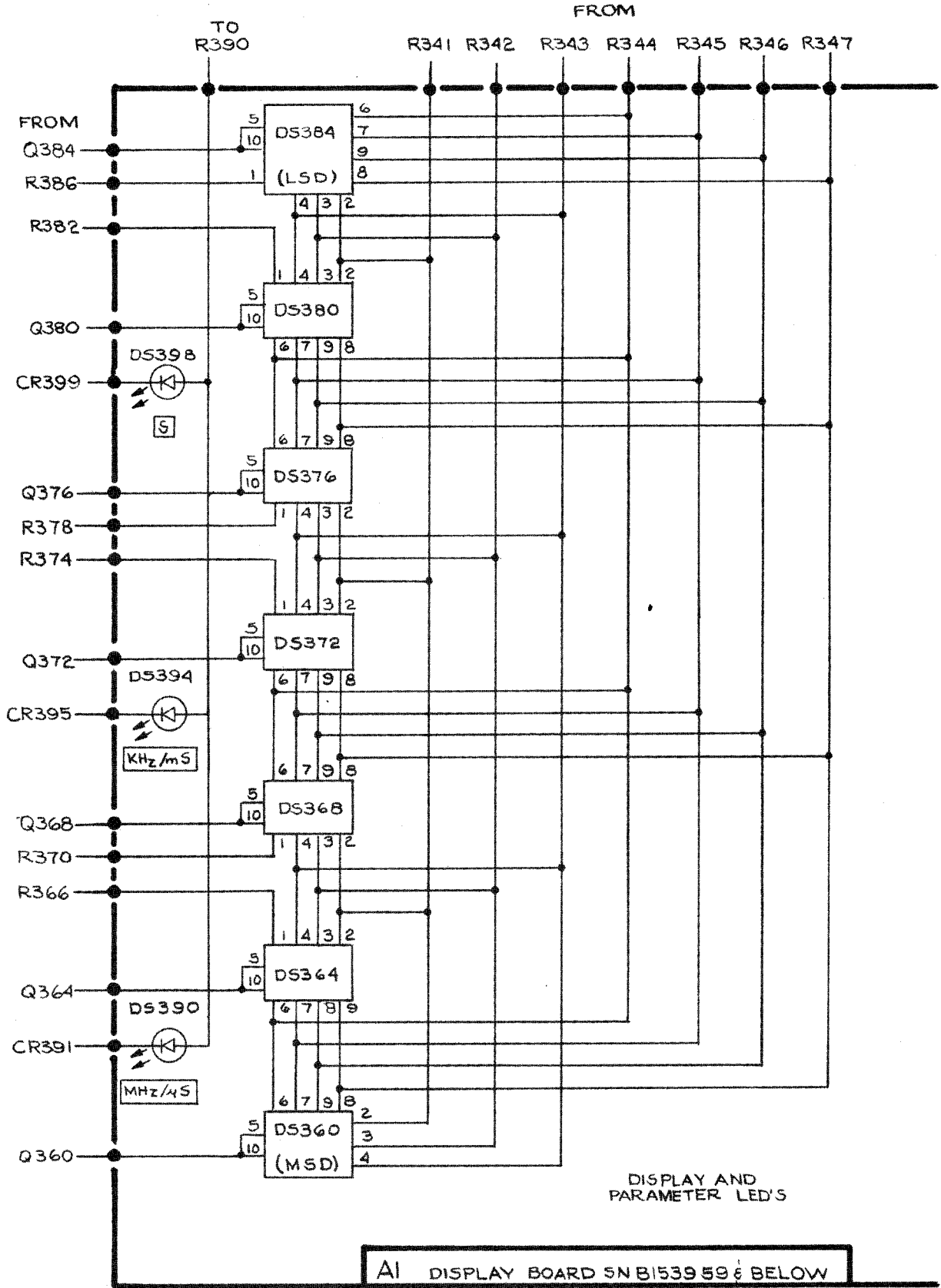
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

FUNCTION (SEE NOTE 1)
5160

COUNTER TIME BASE AND CONTROL 2 DEH 975
SN B109999 & BELOW

COUNTER, TIME BASE & CONTROL
SN B109999 & BELOW

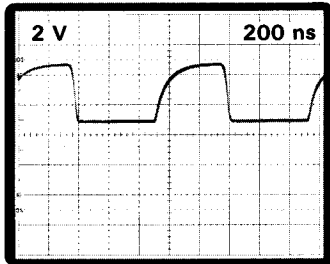
DC 503



DISPLAY BOARD
SN B153959-BELOW

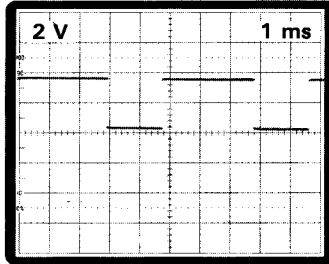
Waveform Conditions. 400 mV, 1 kHz squarewave applied to both Channel A and Channel B inputs. FUNCTION switch set to PERIOD B. CLOCK RATE switch set to 10 ms, all front-panel pushbuttons out, HOLD control counterclockwise, RESET pushbutton pressed and released.

12

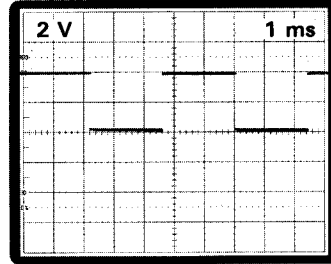


FUNCTION switch is set to TIME MANUAL.

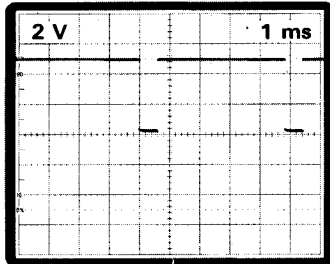
13



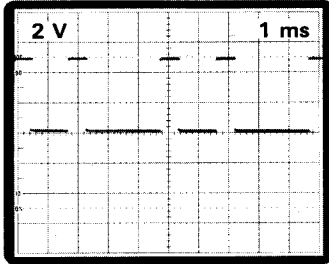
14



15

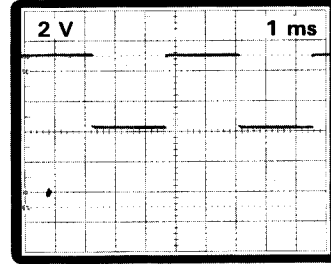


16

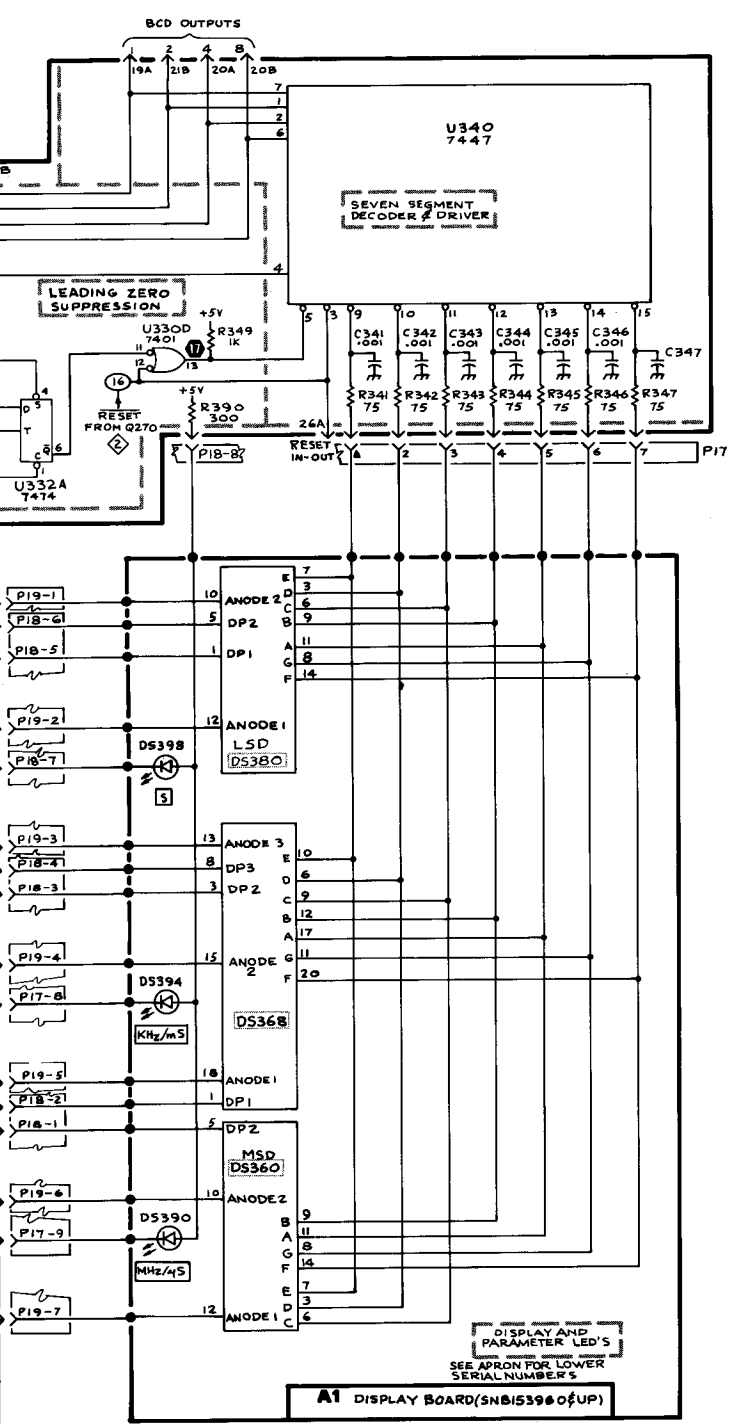
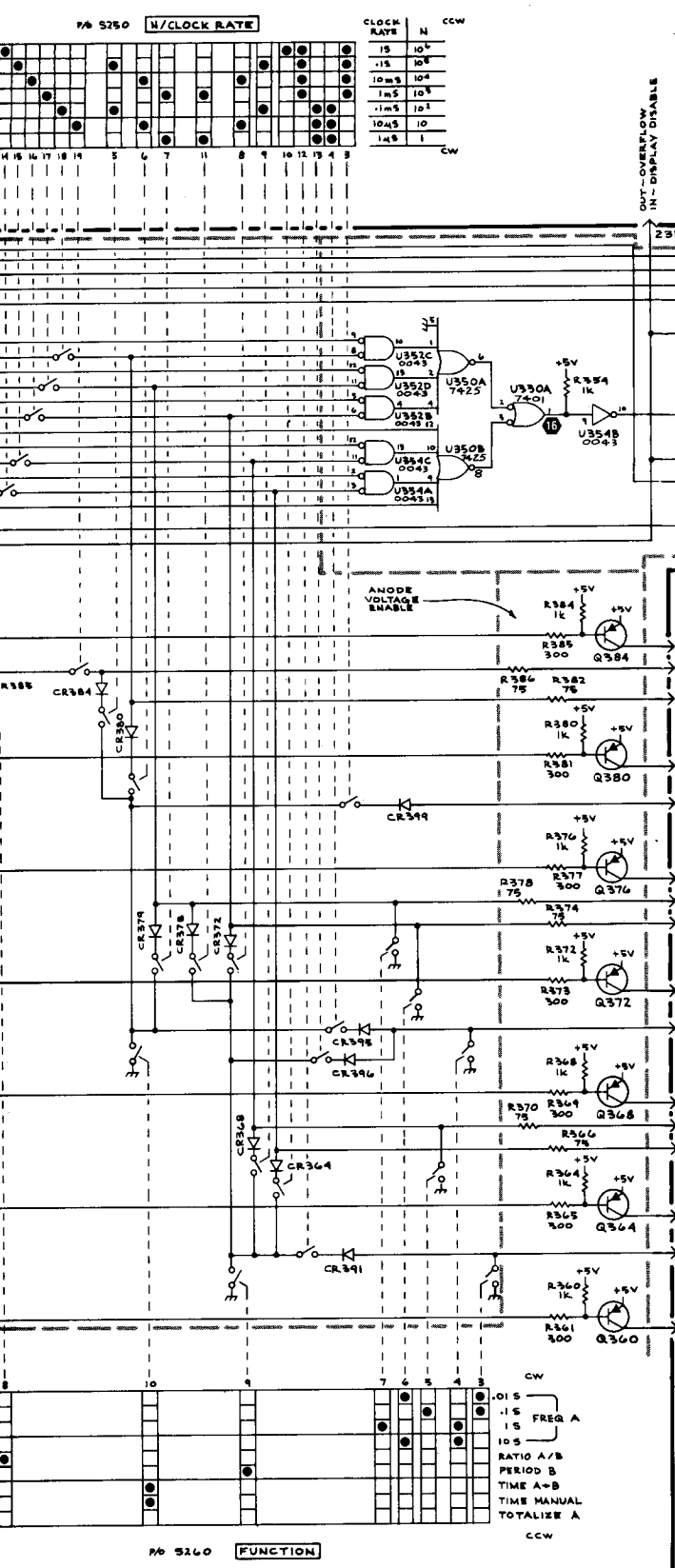


RESET BUTTON must be pressed.

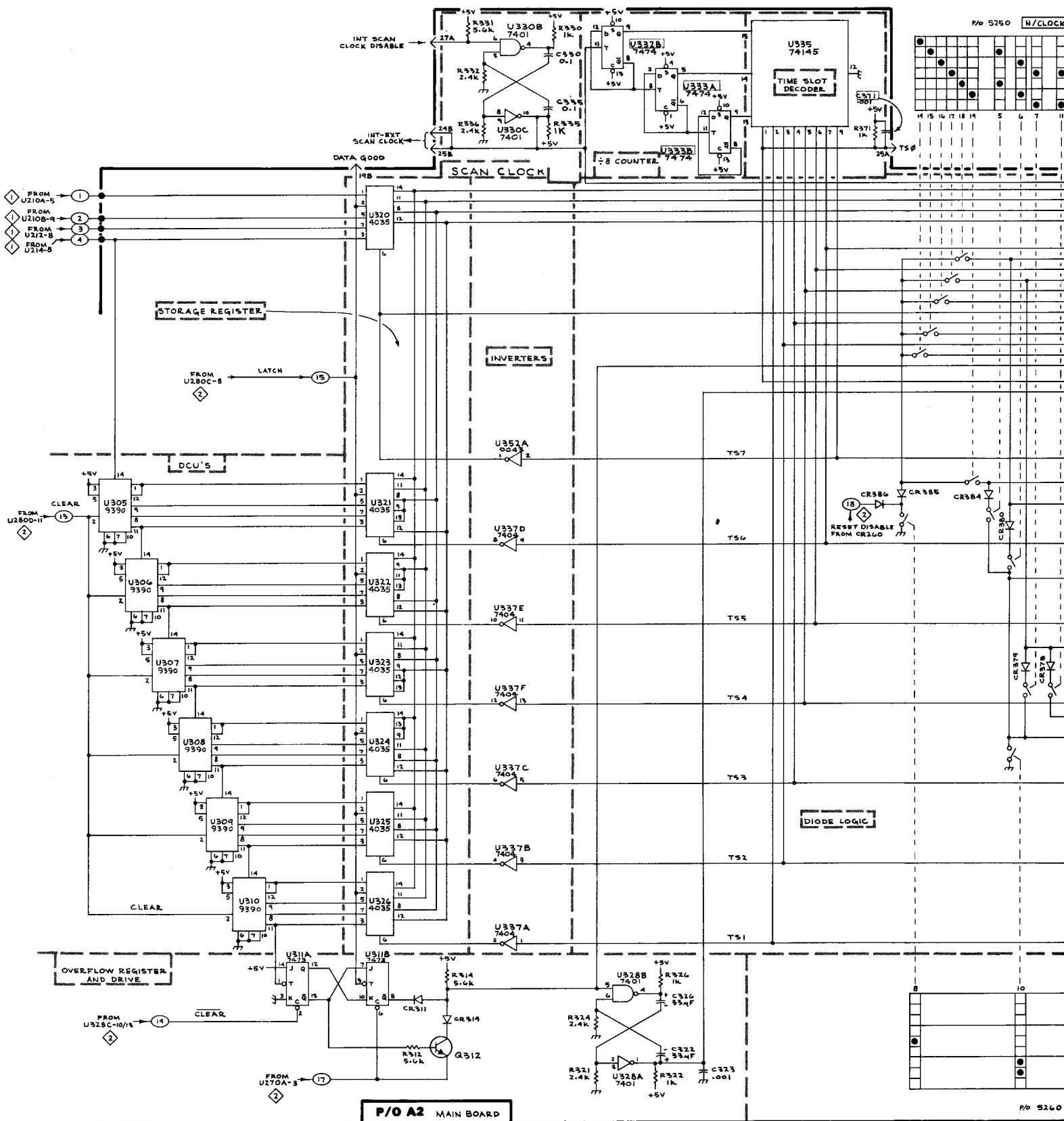
17



RESET BUTTON must be pressed.



SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

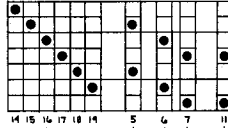


P/O A2 MAIN BOARD

DC 503

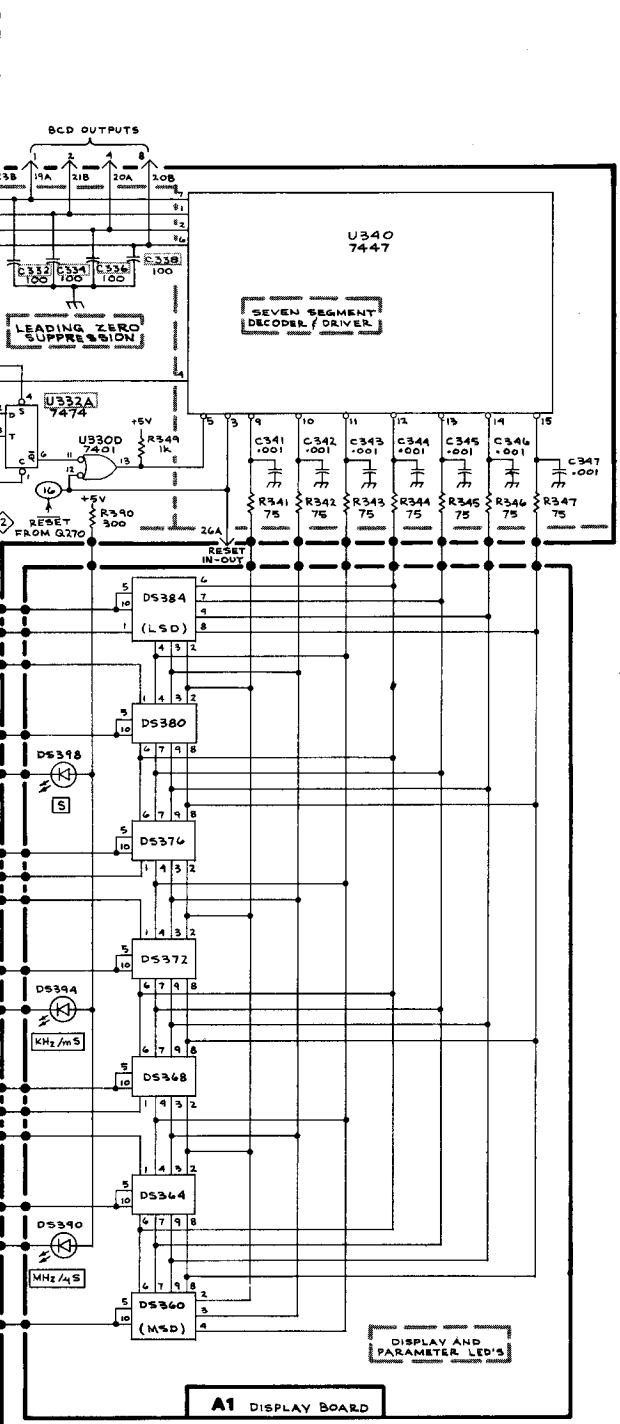
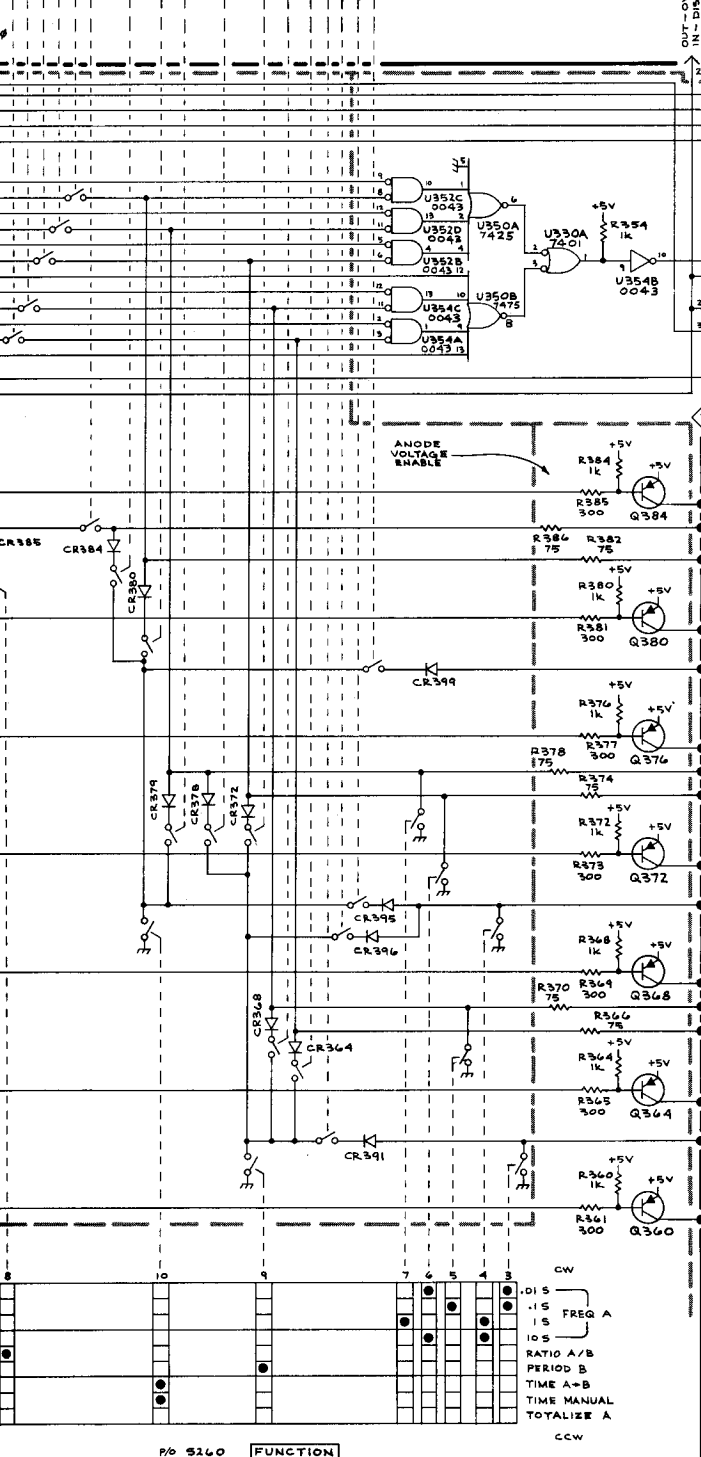
1411-21
REV JUN 1981

P/O S250 N/CLOCK



P/O S240

p/o 5250 N/CLOCK RATE		CLOCK RATE N		CCW	
15	10 ⁴	15	10 ⁴	15	10 ⁴
15	10 ⁴	15	10 ⁴	15	10 ⁴
10m3	10 ⁴	1m5	10 ⁴	1m5	10 ⁴
1m5	10 ⁴	1m5	10 ⁴	1m5	10 ⁴
1045	10	145	1		



SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.