

HP4825 Memory Bus

	2	1
MAD8	0	0 MAD0
MAD9	0	0 MAD1
MAD10	0	0 MAD2
MAD11	0	0 MAD3
MAD12	0	0 MAD4
MAD13	0	0 MAD5
MAD14	0	0 MAD6
MAD15	0	0 MAD7
-12V	0	0 +12V
-5V	0	0 +12V
RdO	0	0 OptMap
ROMSEL	0	0 CartALE
<u>SysOE</u>	0	0 +5V
<u>CartOE</u>	0	0 +5V
MRdy	0	0 +5V
<u>STM</u>	0	0 Gnd
<u>WF</u>	0	0 Gnd
MemClk	0	0 Gnd
Word	0	0 Gnd
+7.5V	0	0 Gnd
	40	39

HP9825 Ext Ctrl

Gnd	2	1	0 B01
Gnd	0	0	B02
Gnd	0	0	\overline{Rst}
Gnd	0	0	CPV28
Gnd	0	0	MAD8
Gnd	0	0	MAD9
Gnd	0	0	MAD10
Gnd	0	0	MAD11
Gnd	0	0	MAD12
Gnd	0	0	MAD13
KL Sel	0	0	MAD14
CPV81	0	0	MAD15
DMapClk	0	0	MAD7
\overline{Inca}	0	0	MAD6
\overline{ALEn}	0	0	MAD5
\overline{CPUW}	0	0	MAD4
\overline{CPUSTM}	0	0	MAD3
D2MapClk	0	0	MAD2
\overline{STMa}	0	0	MAD1
$\overline{MAD0is}$	0	0	MAD0

HP9825 I/O Bus

	1	2
$\overline{1000}$	•	• $\overline{1008}$
$\overline{1001}$	•	• $\overline{1009}$
$\overline{1002}$	•	• $\overline{10010}$
$\overline{1003}$	•	• $\overline{10011}$
$\overline{1004}$	•	• $\overline{10012}$
$\overline{1005}$	•	• $\overline{10013}$
$\overline{1006}$	•	• $\overline{10014}$
$\overline{1007}$	•	• $\overline{10015}$
$\overline{PA3}$	•	• \overline{FLG}
$\overline{PA2}$	•	• \overline{STS}
$\overline{PA1}$	•	• $\overline{IC2}$
$\overline{PA0}$	•	• $\overline{IC1}$
-12V	•	• \overline{IRH}
+12V	•	• \overline{IRL}
+5V	•	• \overline{Int}
+5V	•	• \overline{Dout}
Gnd	•	• \overline{IOSB}
Gnd	•	• \overline{DMAR}
Gnd	•	• \overline{Init}
I/Oclk	•	• \overline{Rst}
	39	40

HP9825 Interface slot

Gnd C1	A > +5V
$\overline{10D0}$ C2	B > $\overline{10D1}$
$\overline{10D2}$ C3	C > $\overline{10D3}$
$\overline{10D4}$ C4	D > $\overline{10D5}$
$\overline{10D6}$ C5	E > $\overline{10D7}$
$\overline{10D8}$ C6	F > $\overline{10D9}$
$\overline{10D10}$ C7	H > $\overline{10D11}$
$\overline{10D12}$ C8	J > $\overline{10D13}$
$\overline{10D14}$ C9	K > $\overline{10D15}$
\overline{InE} C10	L > \overline{Init}
\overline{IRH} C11	M > \overline{FLG}
\overline{IRL} C12	N > \overline{STS}
$\overline{PA0}$ C13	P > $\overline{IC1}$
$\overline{PA1}$ C14	R > $\overline{IC2}$
$\overline{PA2}$ C15	S > \overline{IOSB}
$\overline{PA3}$ C16	T > \overline{Dout}
Shield C17	U > \overline{DMAR}
+12V C18	V > -12V

HP9825 ROM Cartridge slot

o	o	$\overline{\text{Wr}}$
o	o	Word
-5V	o	+12V
+5V	o	Gnd
MAD0	o	ALE
MAD2	o	MAD1
MAD4	o	MAD3
MAD6	o	MAD5
MAD8	o	MAD7
MAD10	o	MAD9
MAD12	o	MAD11
MAD14	o	MAD13
$\overline{\text{CartOE}}$	o	MAD15
o	o	
o	o	

HP9825 System ROM slot

MAD14	o	MAD15
MAD12	o	MAD13
MAD10	o	MAD11
MAD8	o	MAD9
MAD1	o	MAD0
MAD3	o	MAD2
MAD5	o	MAD4
MAD7	o	MAD6
Rd	o	$\overline{\text{SysOE}}$
ALE	o	+7.5V
o	o	Gnd
o	o	Gnd
o	o	Gnd
-5V	o	Gnd
+12V	o	+5V

HP9825 Keyboard Connectors

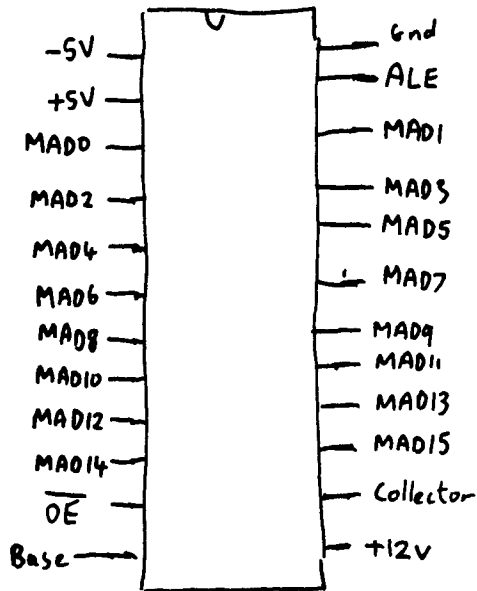
C14	C1	>	LED
C15	C	>	
R0	C	>	Lock
R1	C	>	Shift
R2	C	>	Reset
R3	C	>	Grnd
R4	C	>	R7
R5	C	>	R6

C0	C1	>	C13
C1	C	>	C12
C2	C	>	C11
C3	C	>	C10
C4	C	>	C9
C5	C	>	C8
C6	C	>	C7

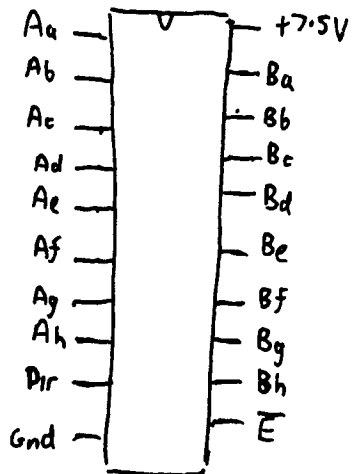
HP9825 Display Connector

C4	C1	>	+5V
C2	C	>	C3
C0	C	>	C1
Cfg	C	>	RunLED
Grnd	C	>	+5V
Grnd	C	>	SelData
Grnd	C	>	SelClk

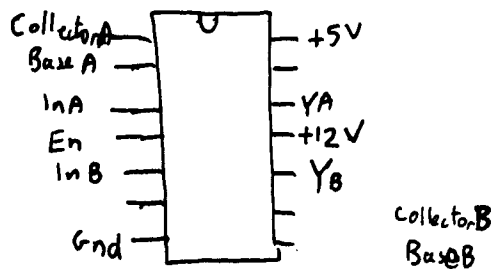
HP 16kbit ROM



Octal Inverting Bus Transceiver 1820-1584



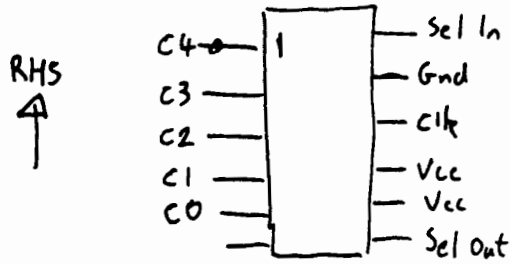
Dir	\bar{E}	
X	H	HighZ A, B
H	L	B → A
L	L	A → B

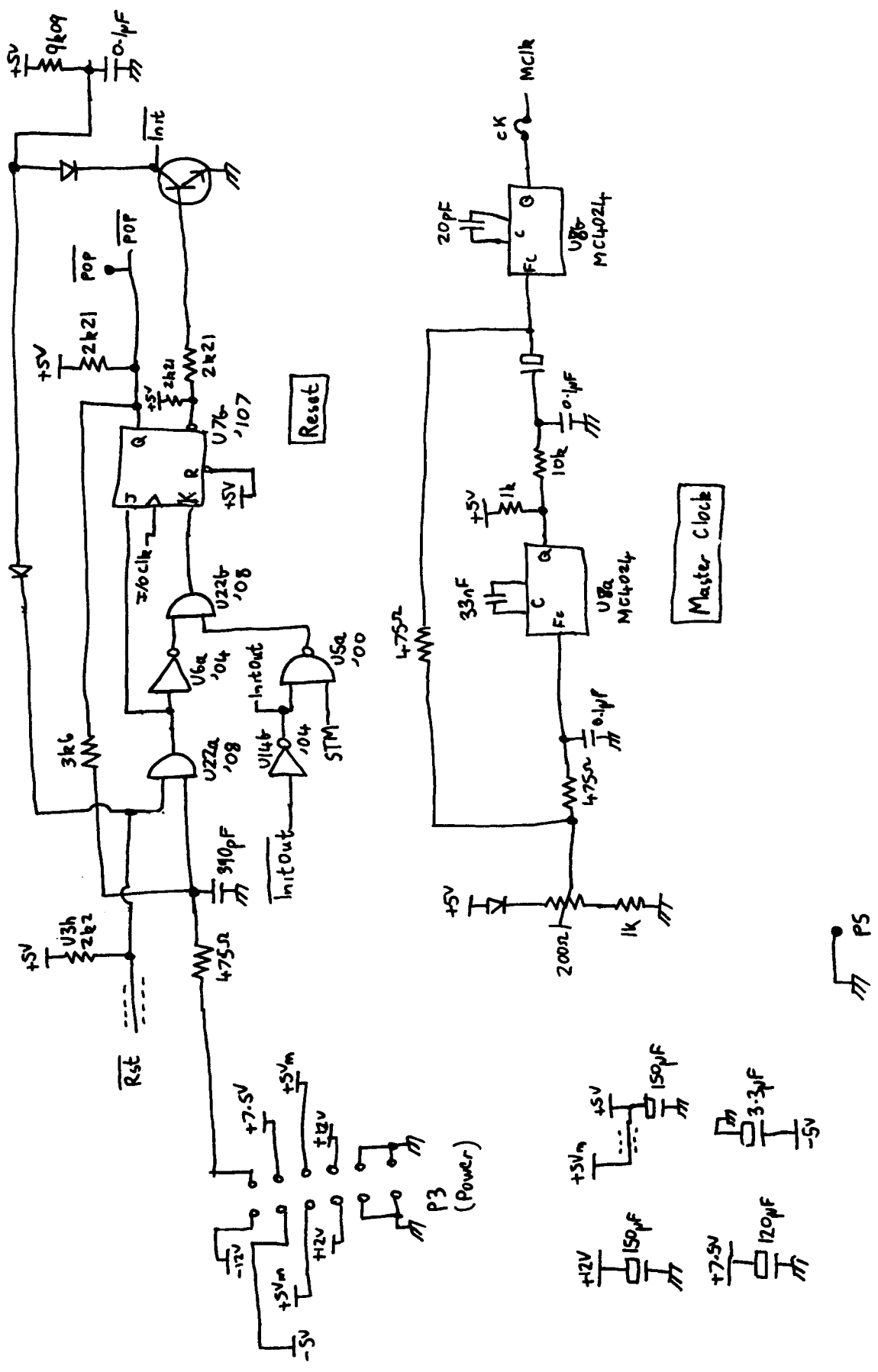


75322

HP 1990-0553 Display

(Top View)

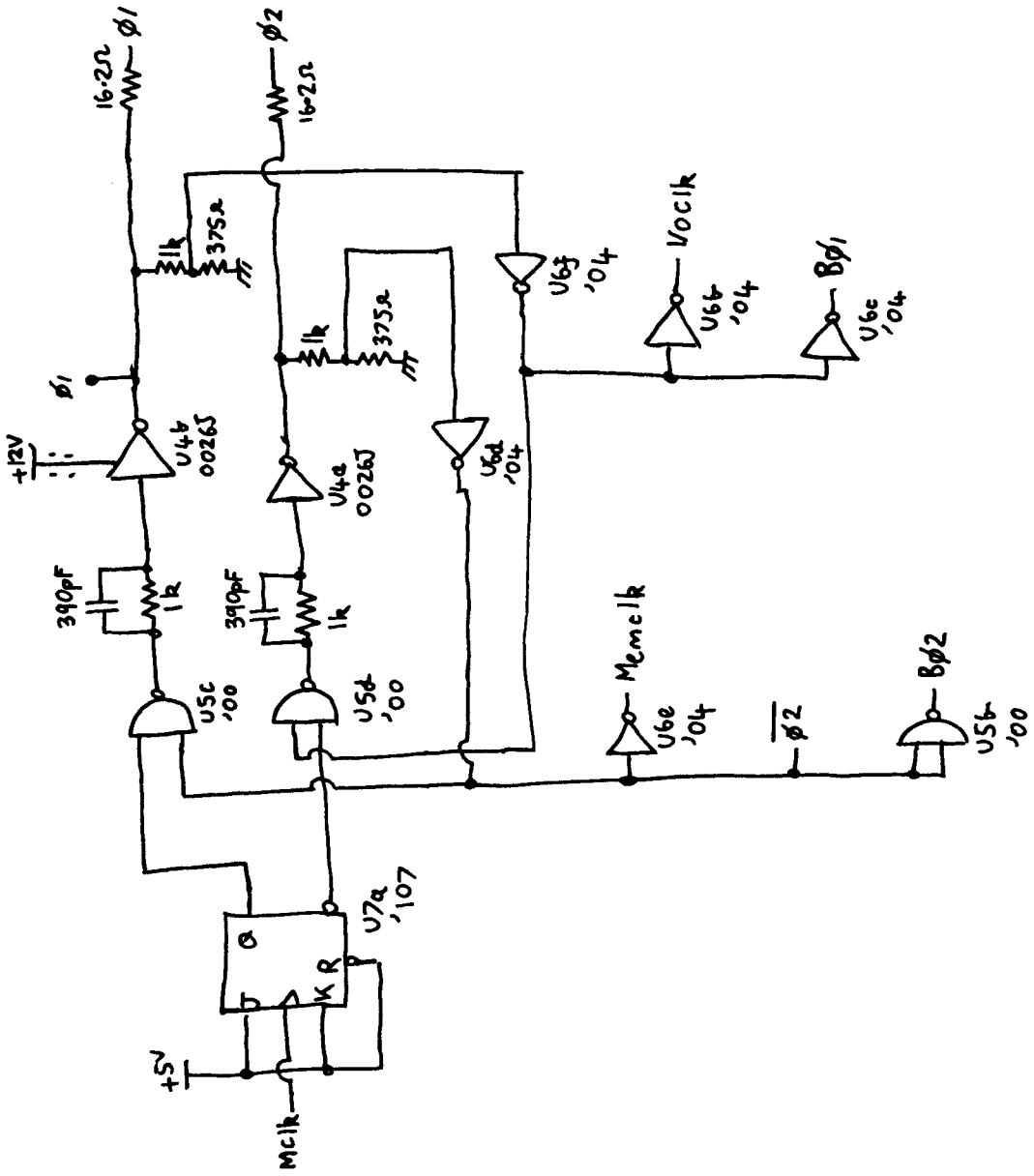




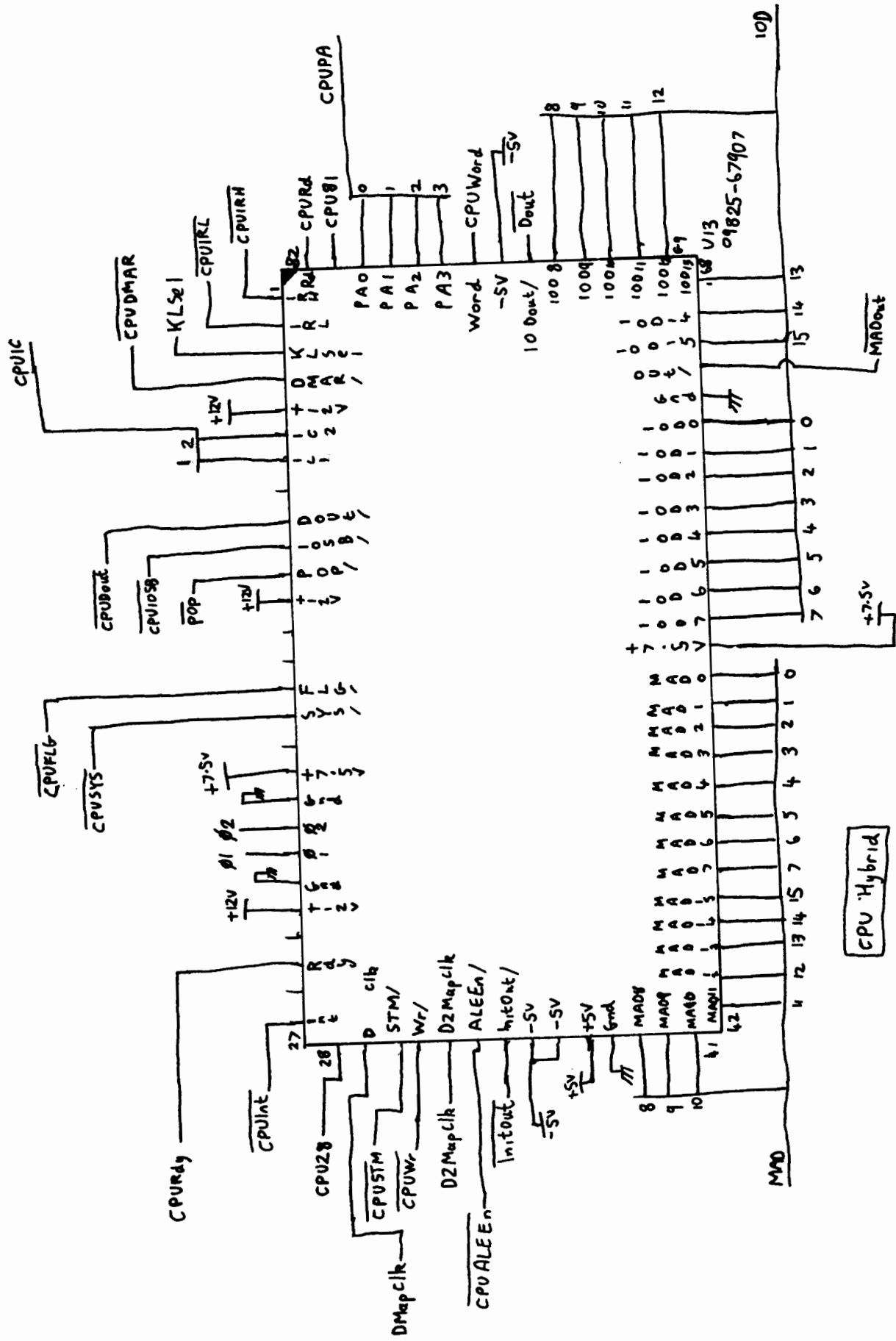
PS
(Earth to ROM Backplane)

09825-66511
09825-69517

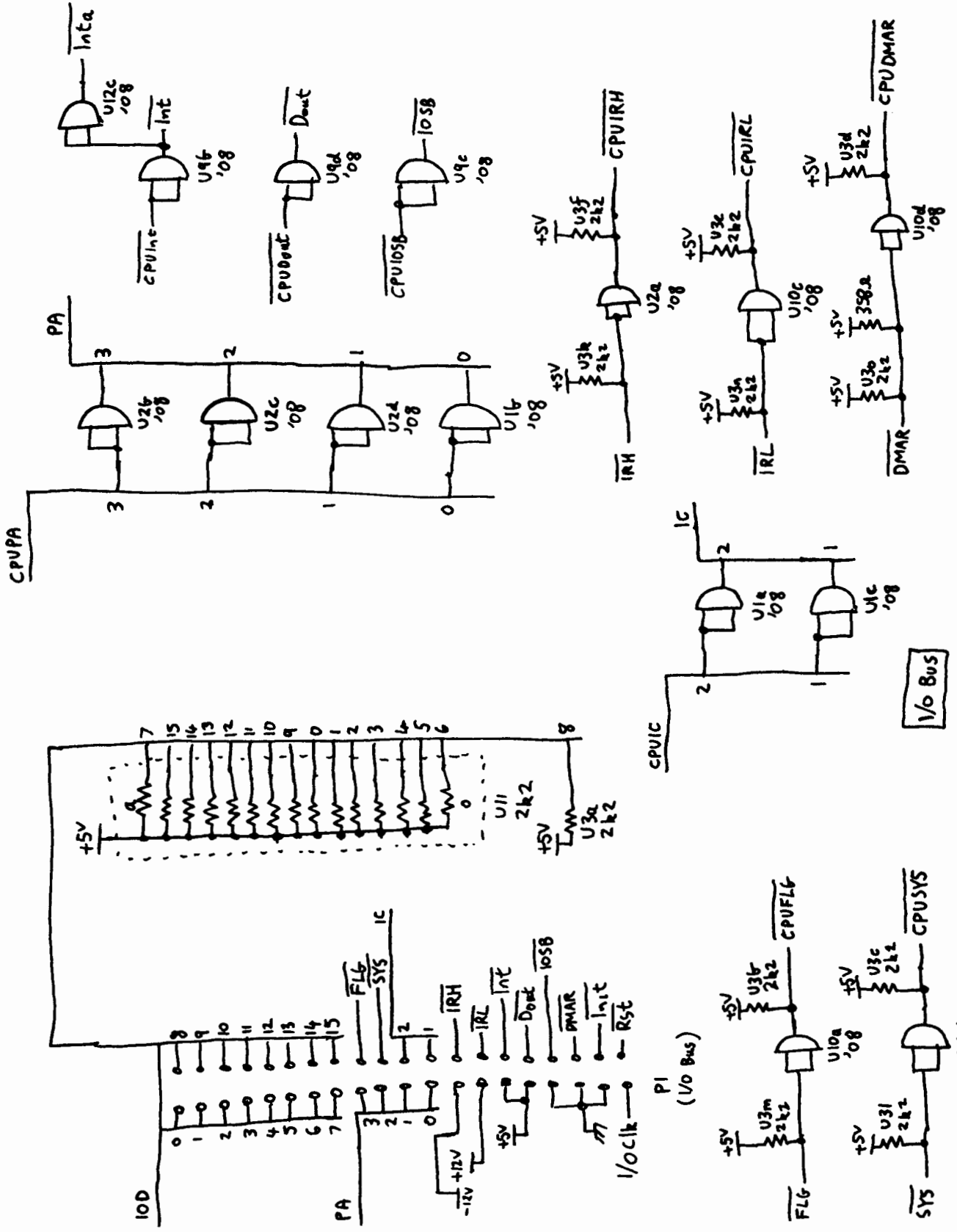
HP9825 CPU PCB Sheet ①

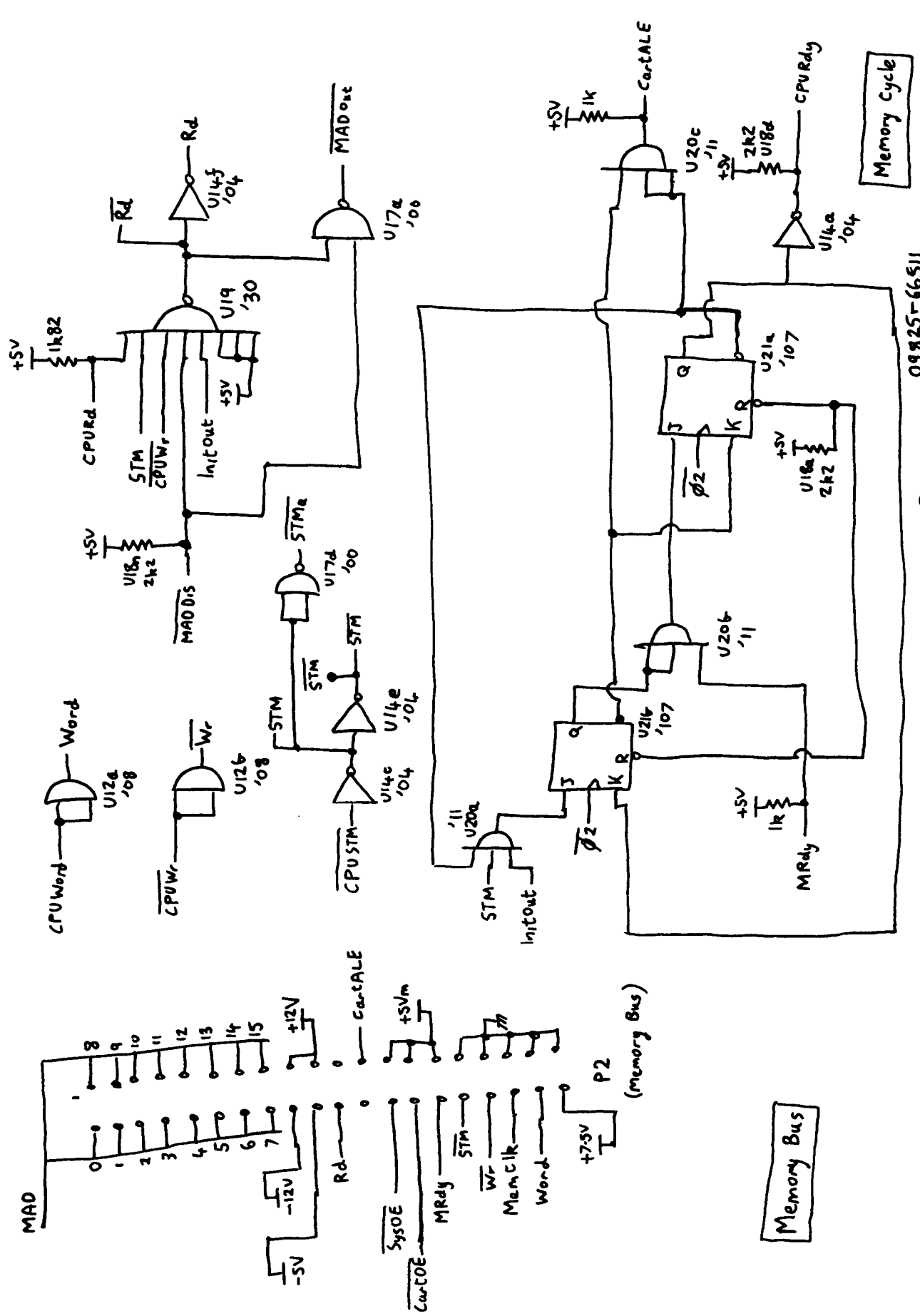


CPU clock



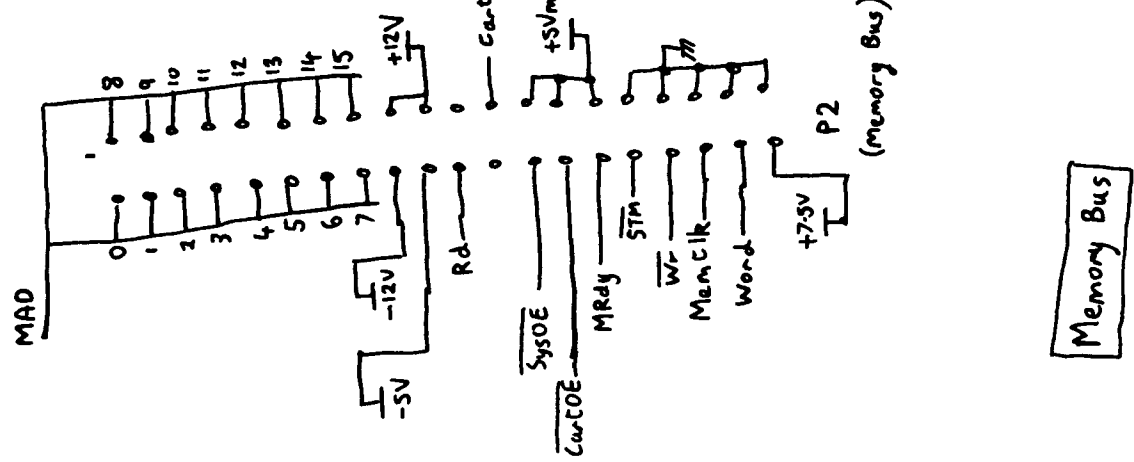
09825-66511
09825-69517



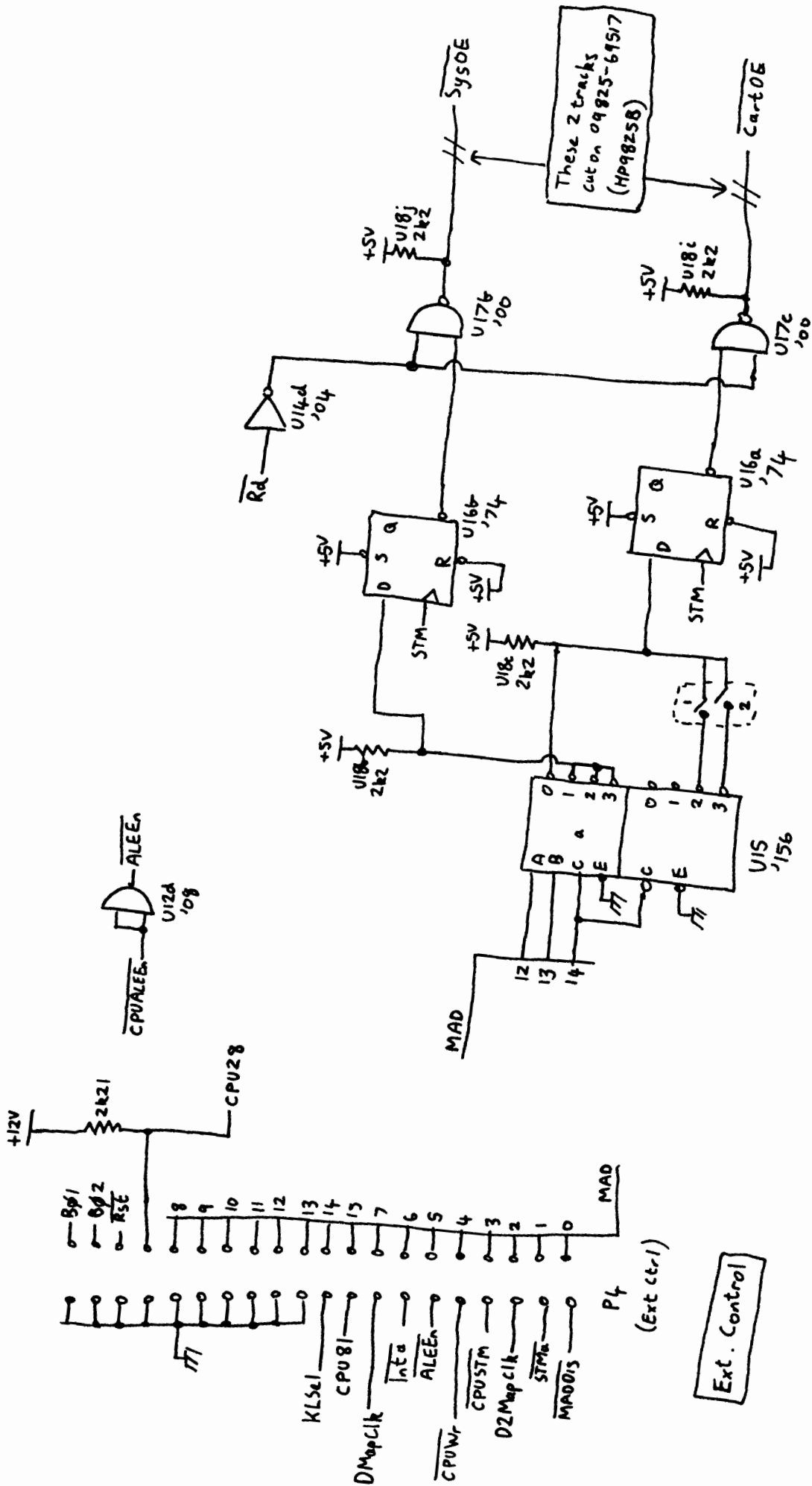


09825-66511
09825-69517

HP9825 CPU PCB Sheet 5



Memory Bus

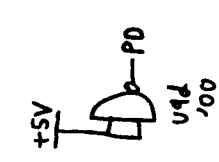
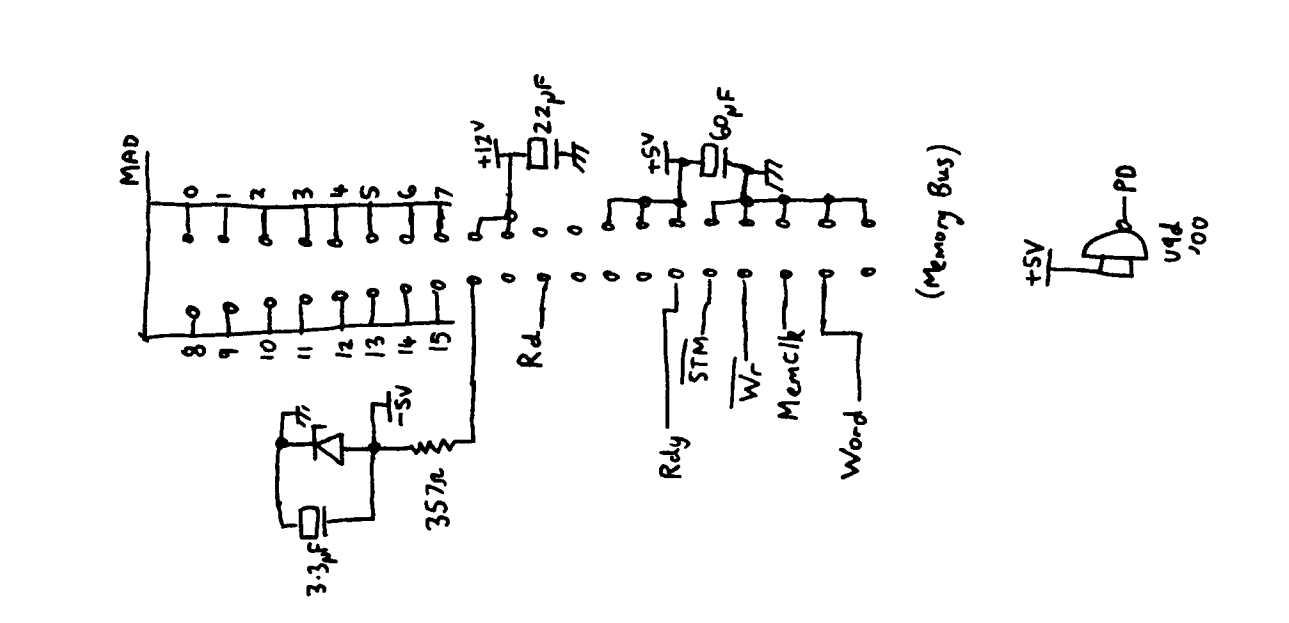
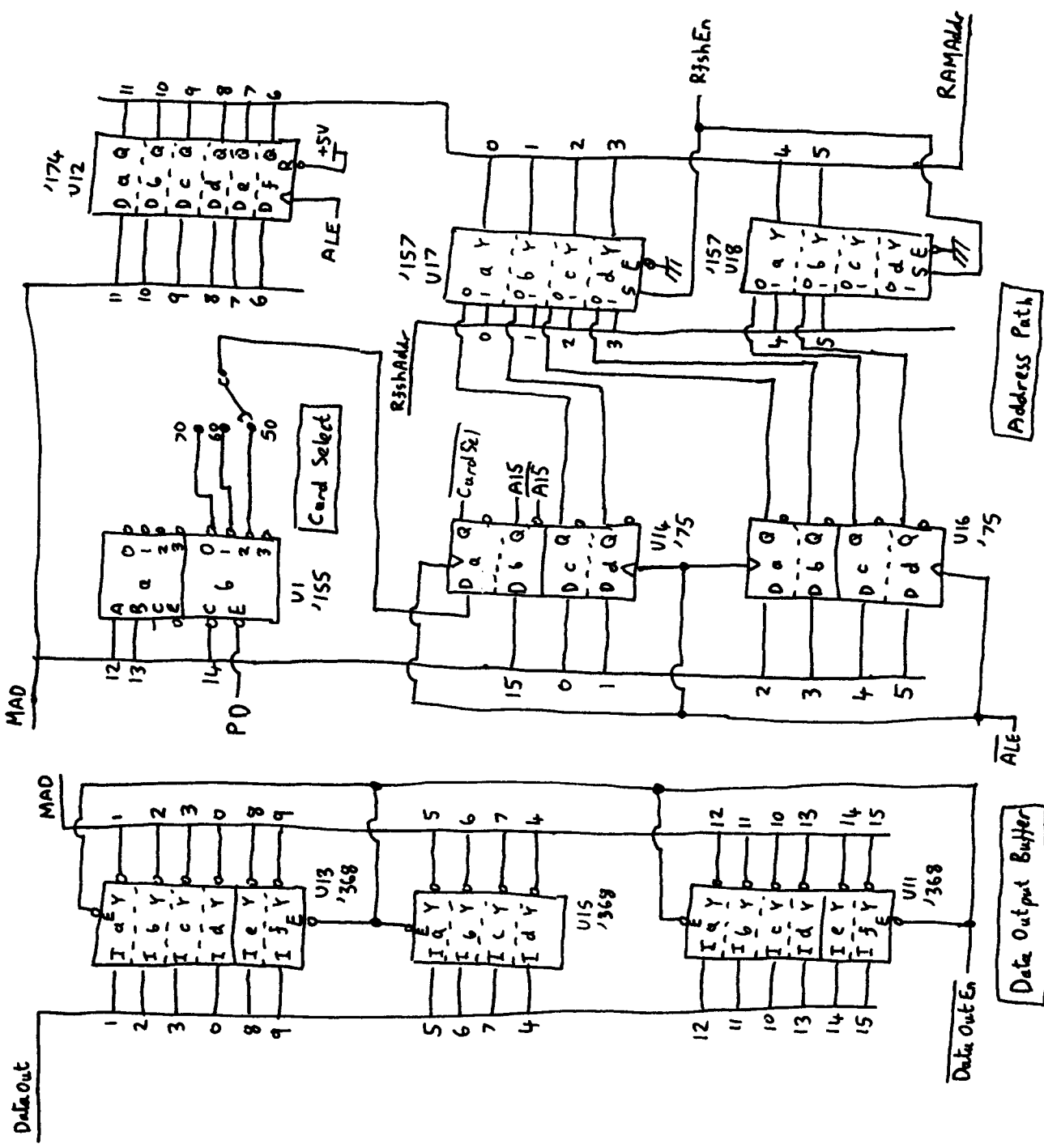


09825-66511
09825-69517

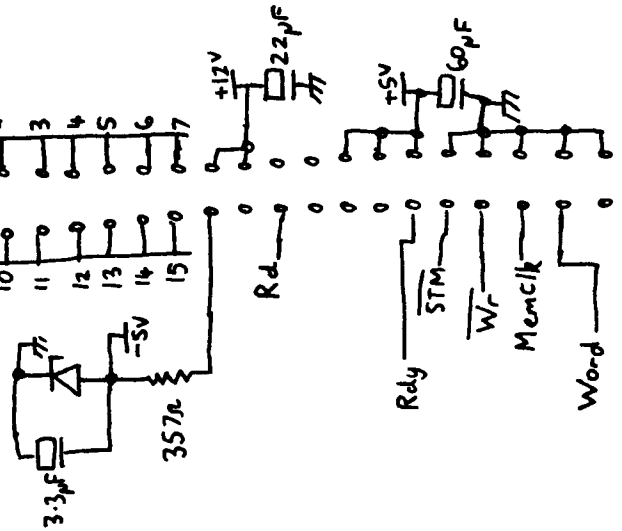
HP9825 CPU PCB sheet 6

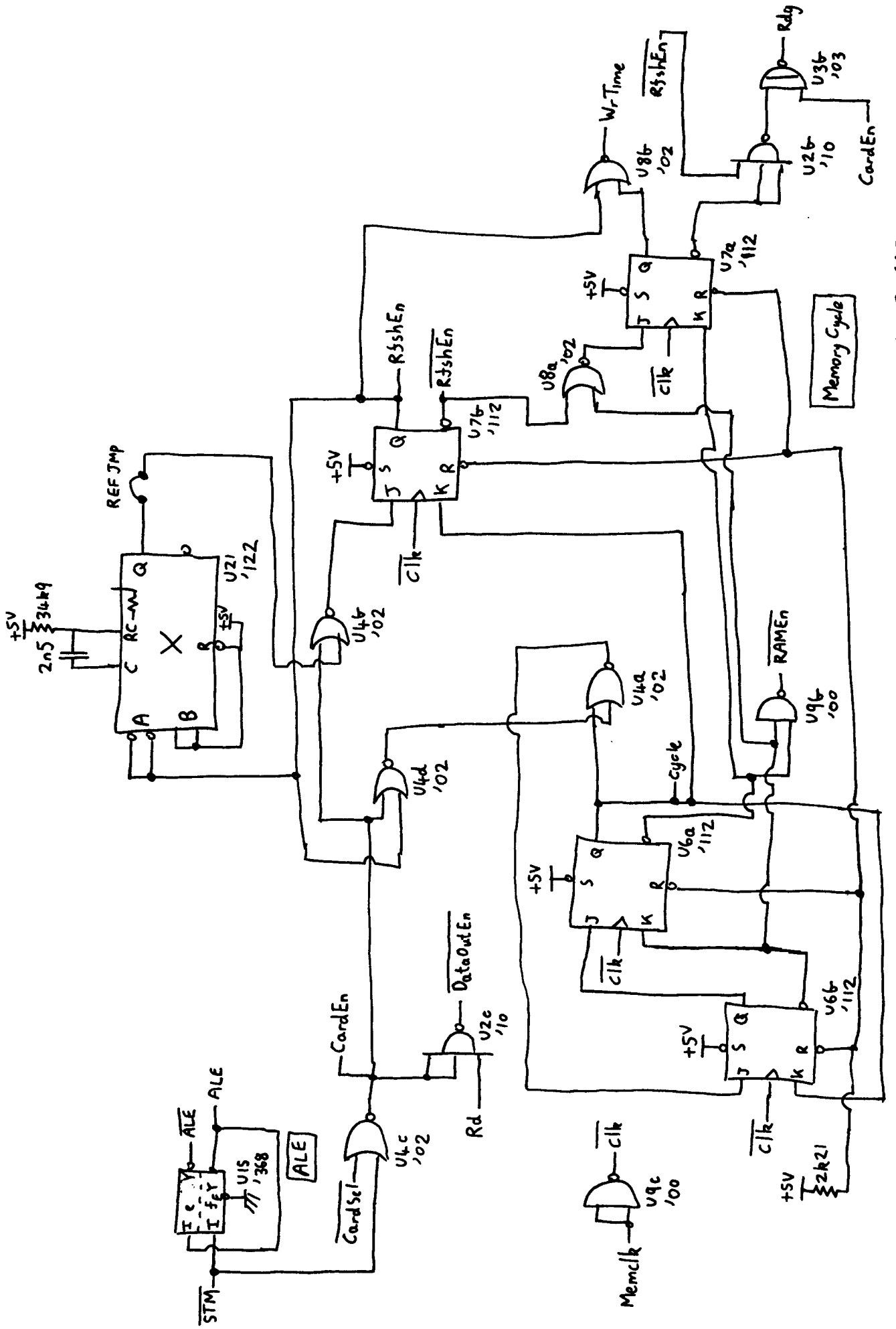
Ext. Control

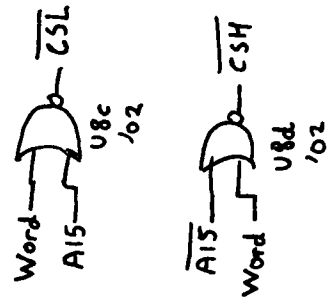
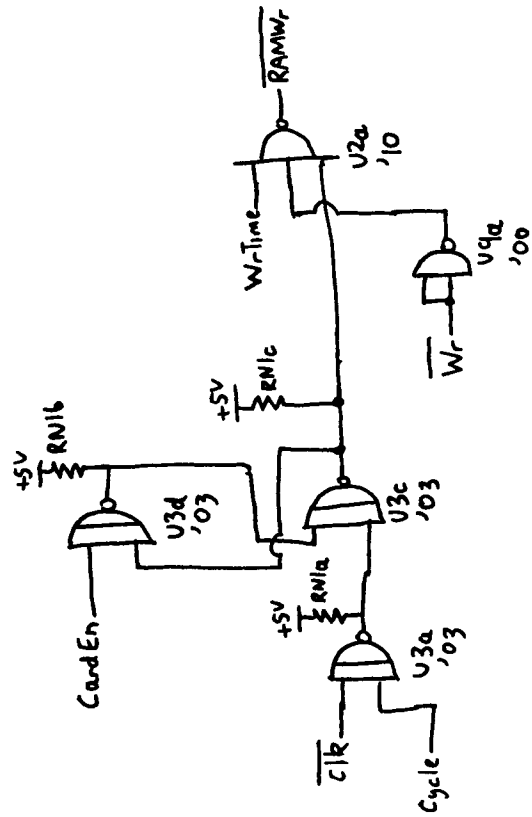
P4
(Ext ctrl)



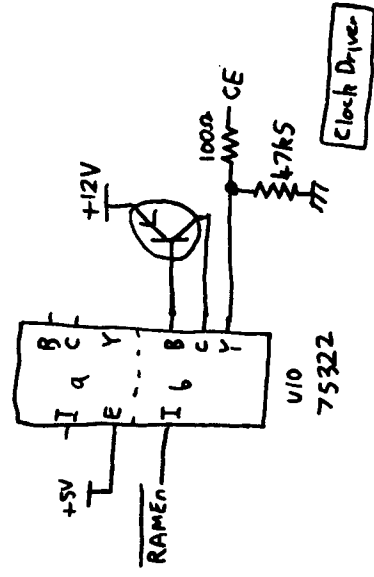
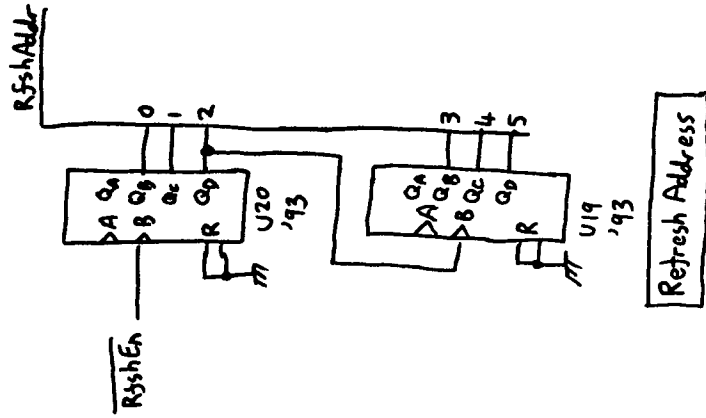
(Memory Bus)

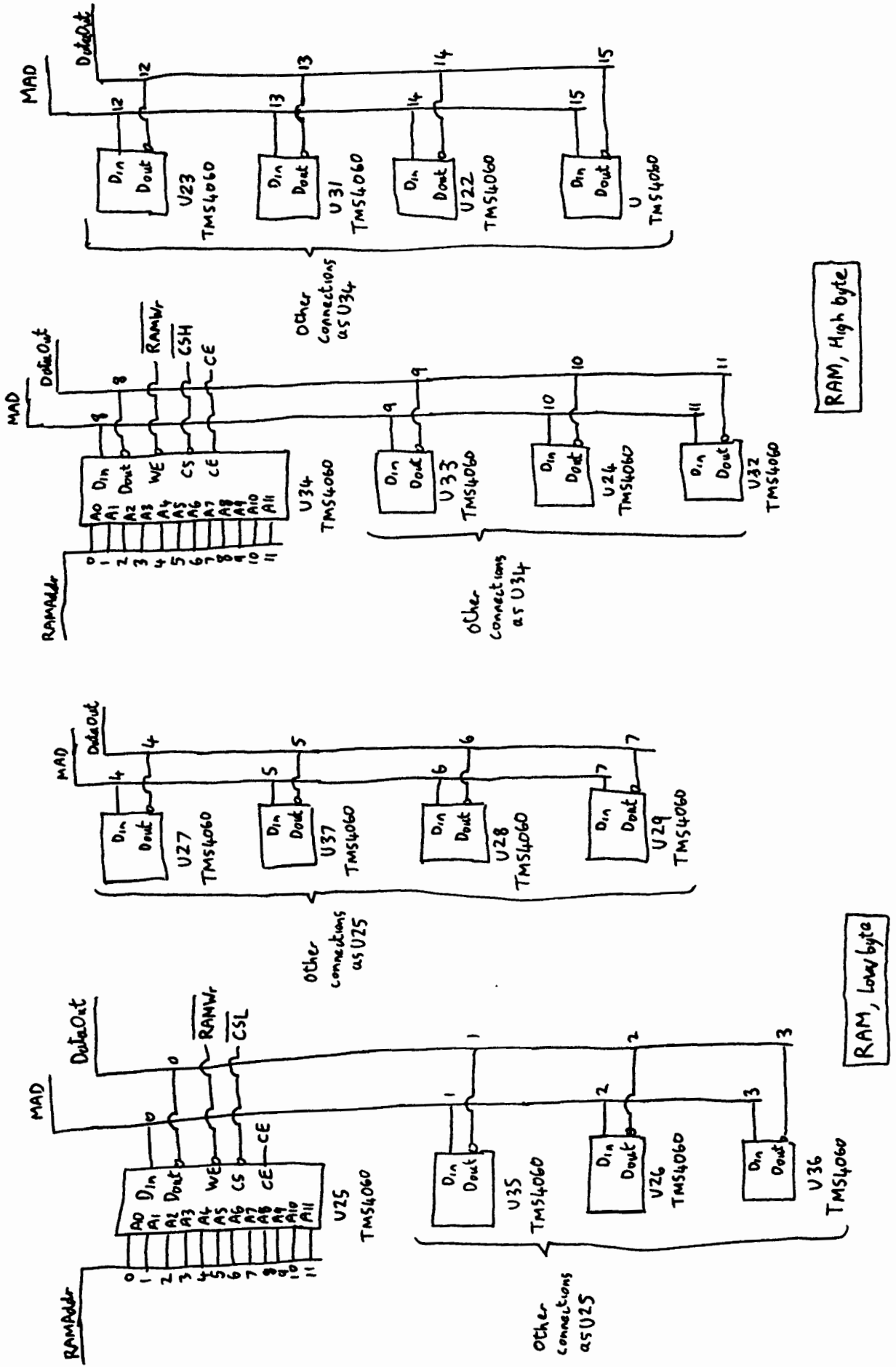


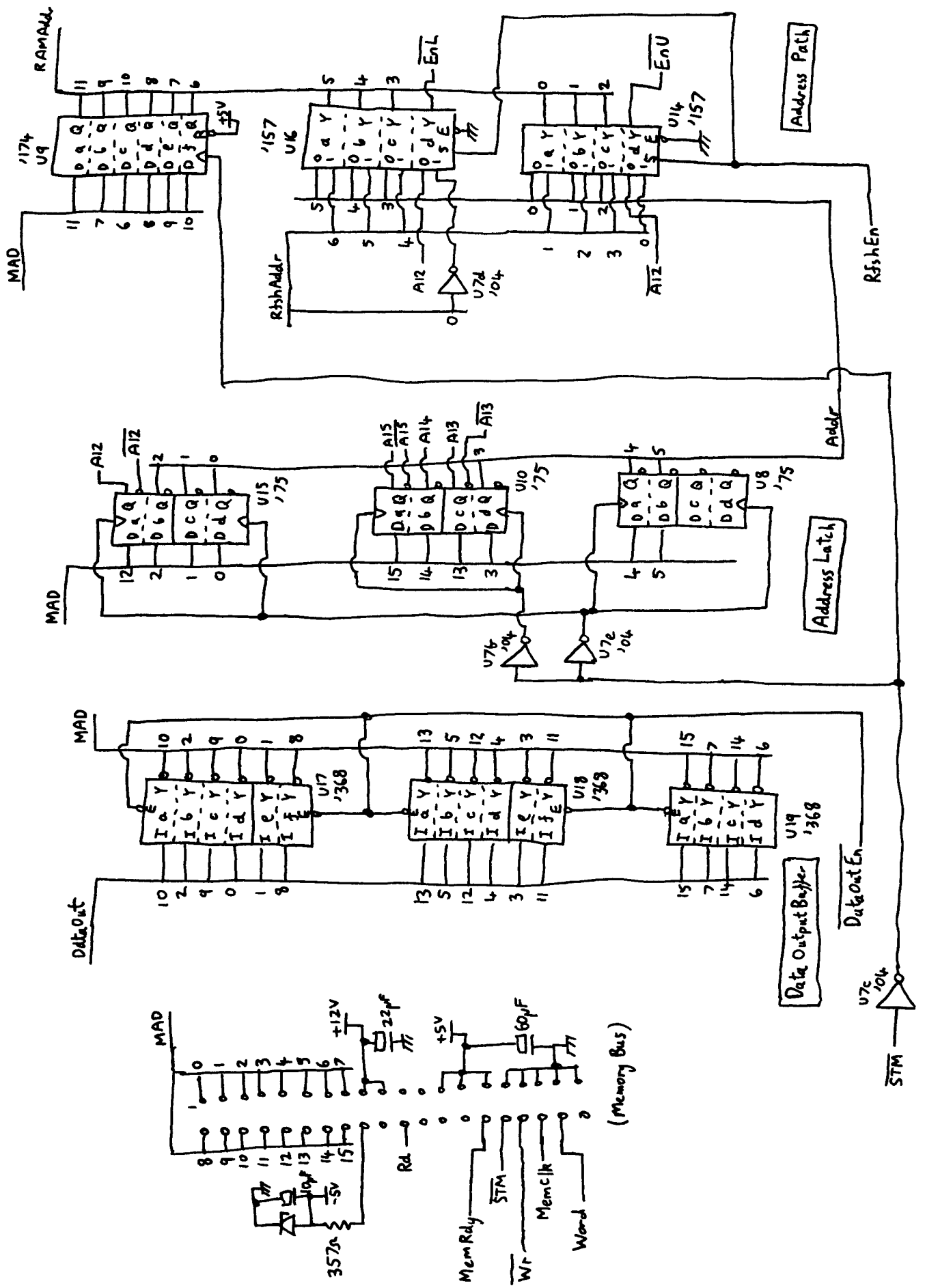


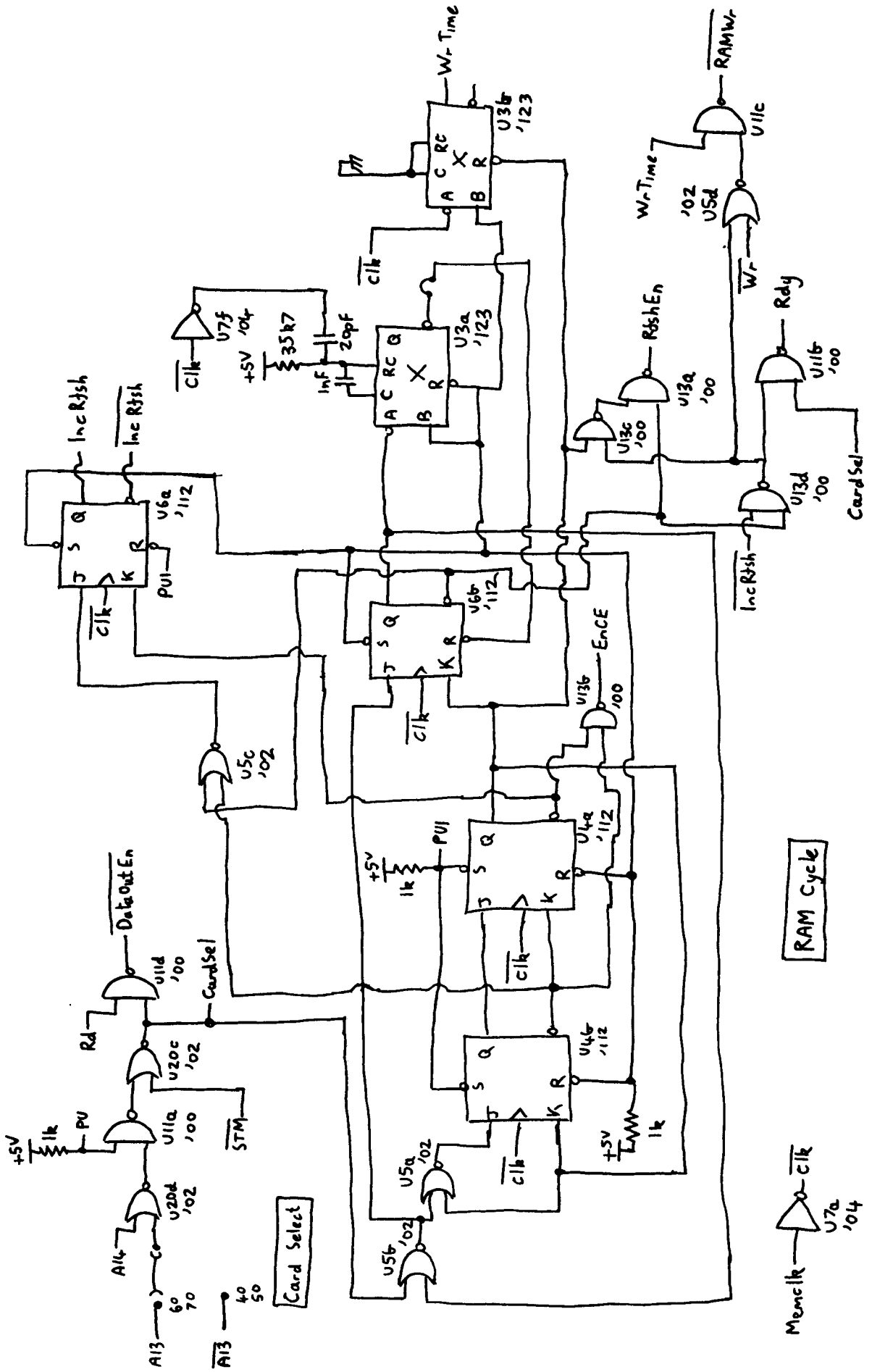


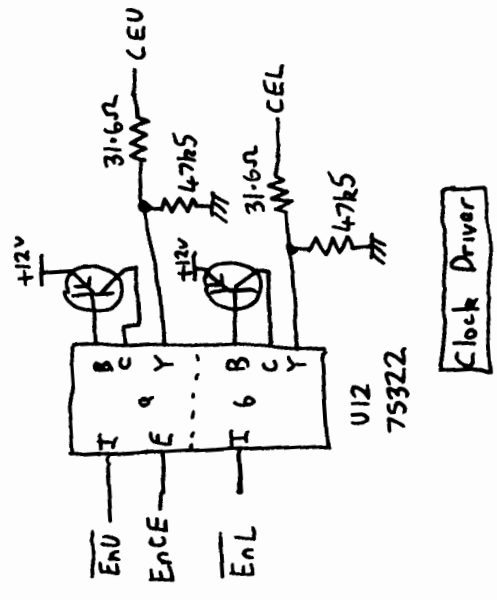
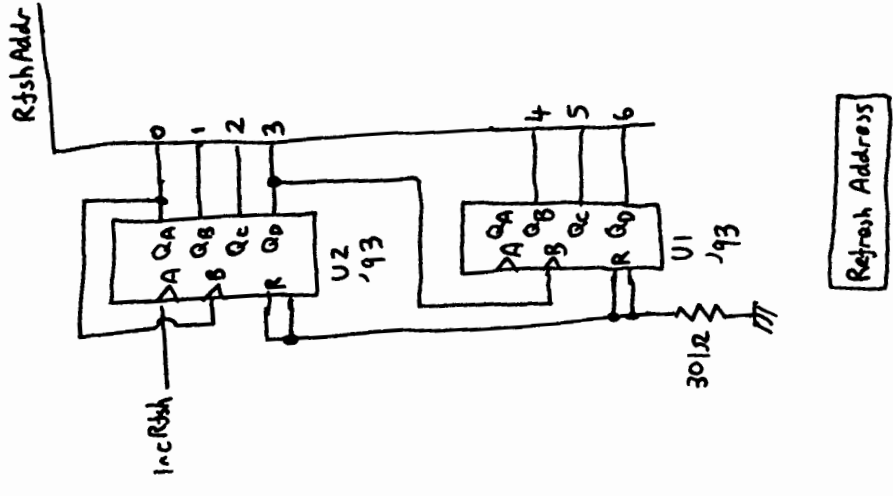
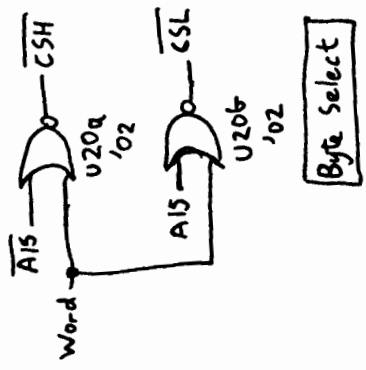
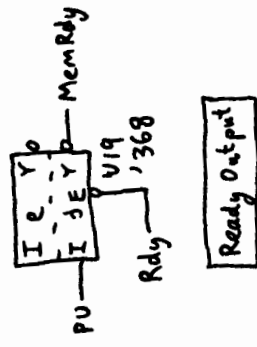
Byte Select

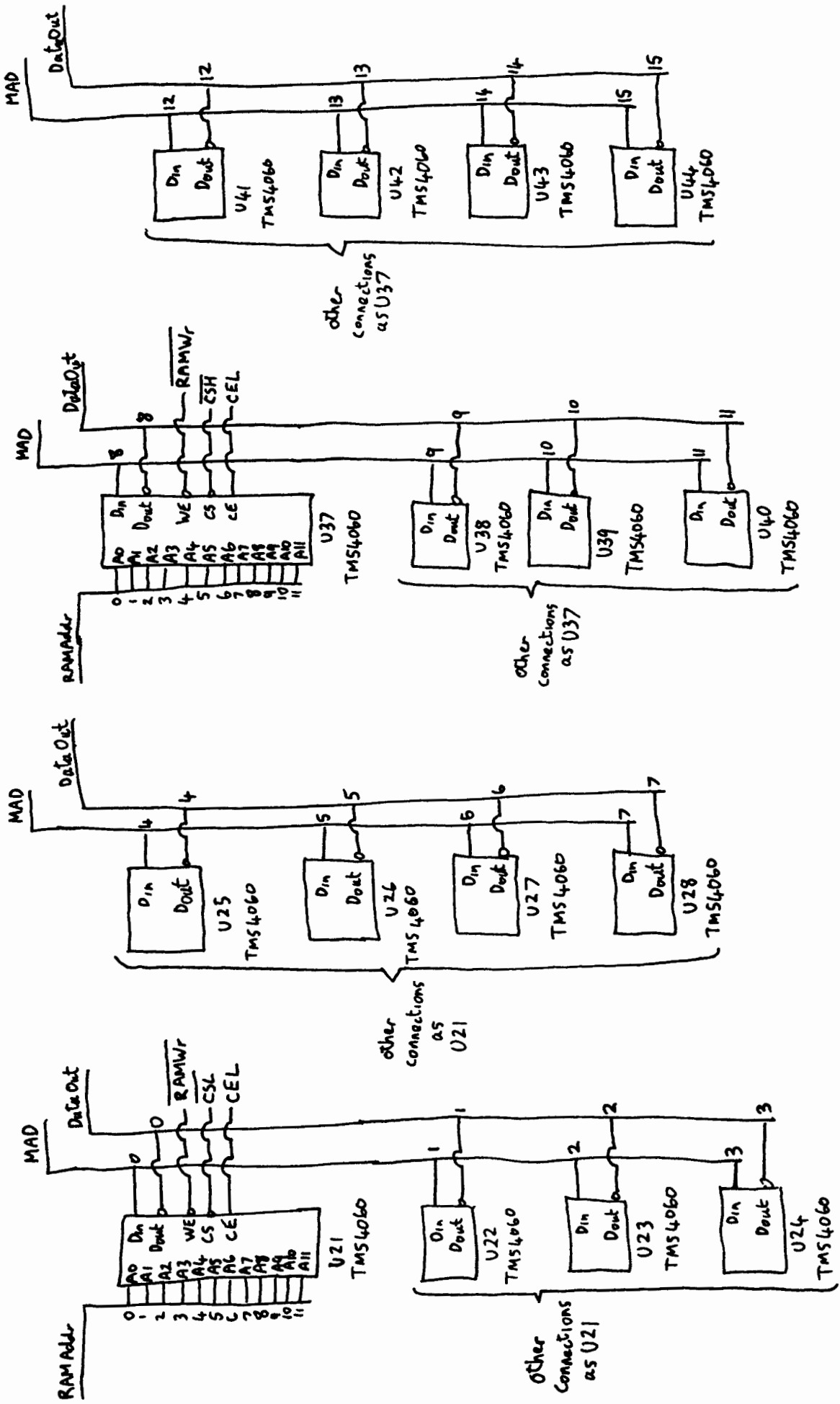




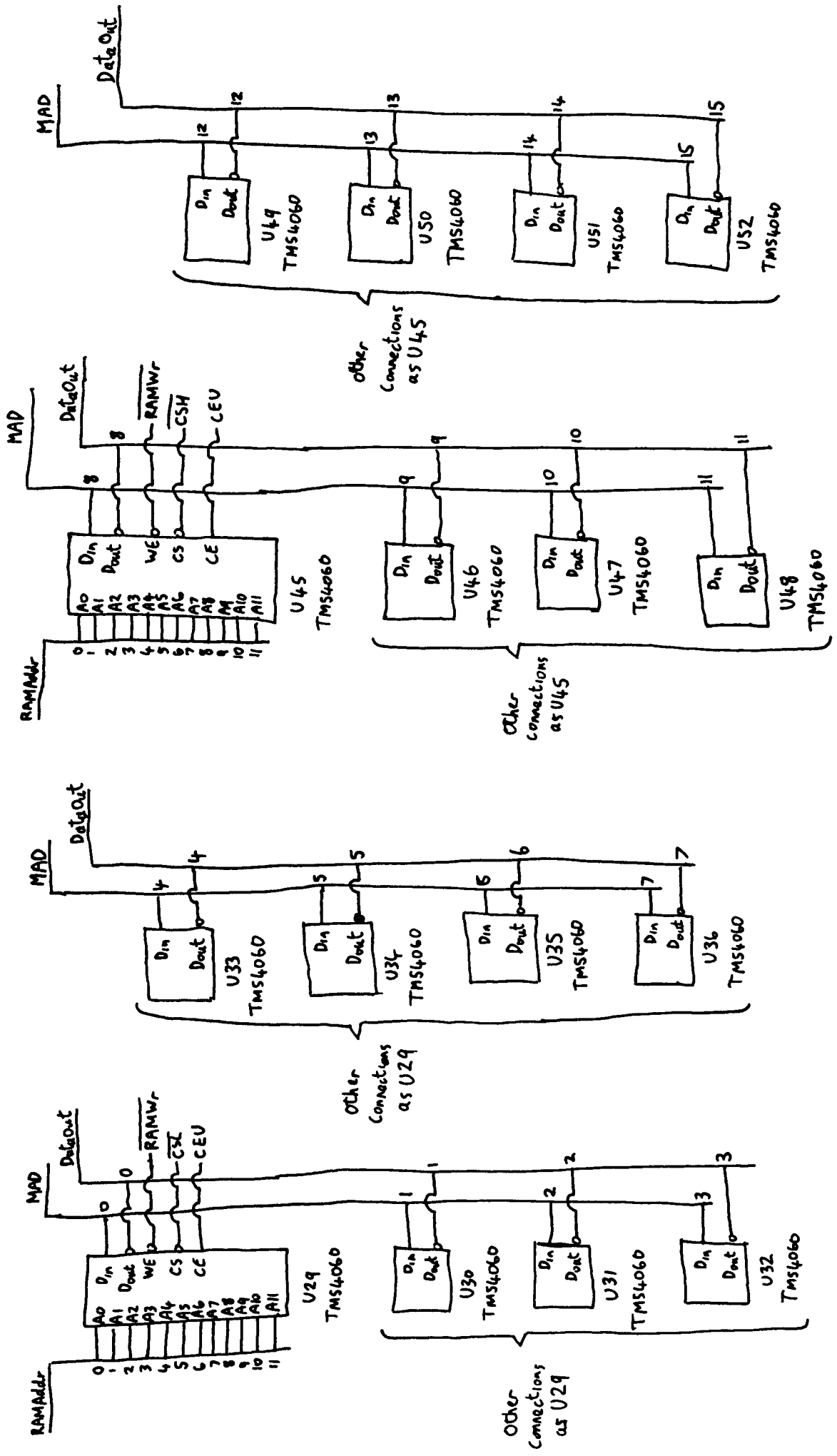




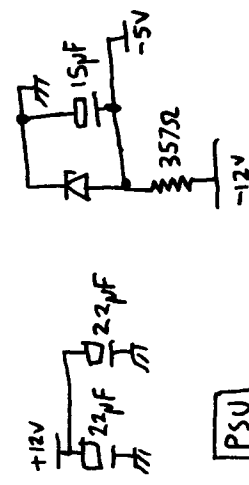
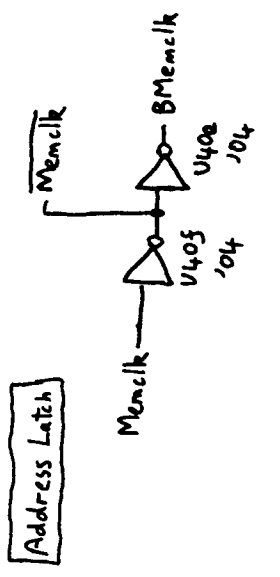
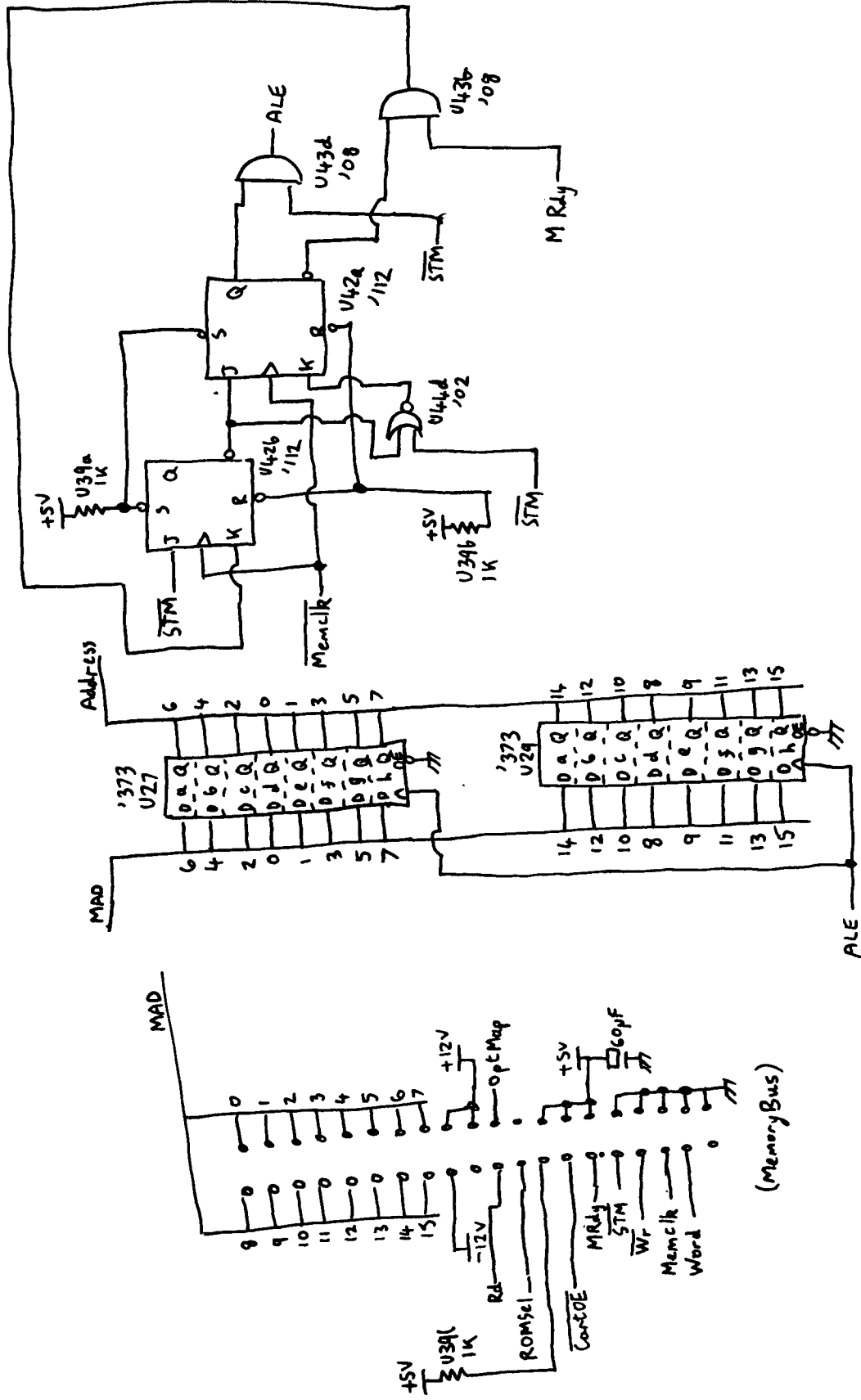


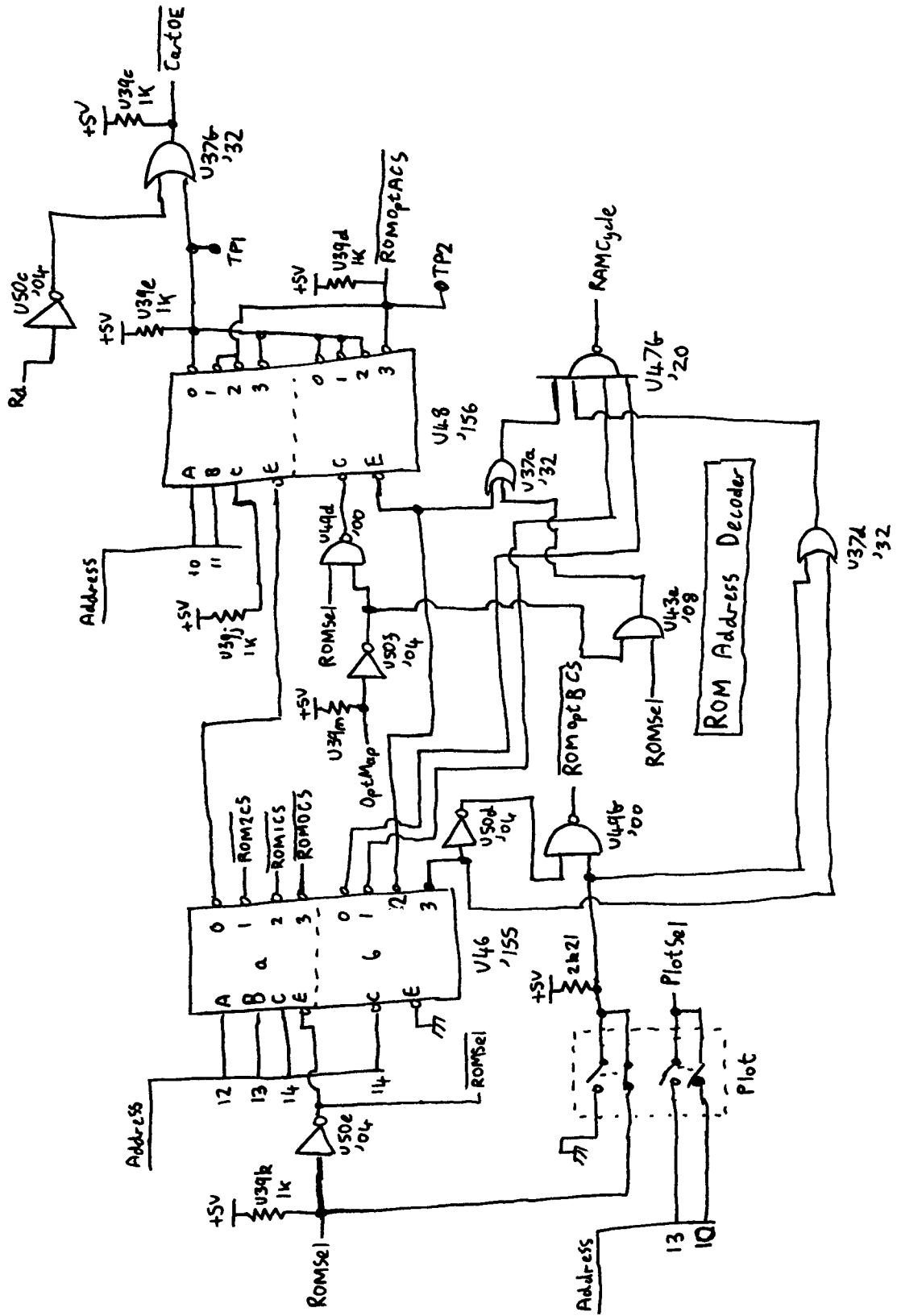


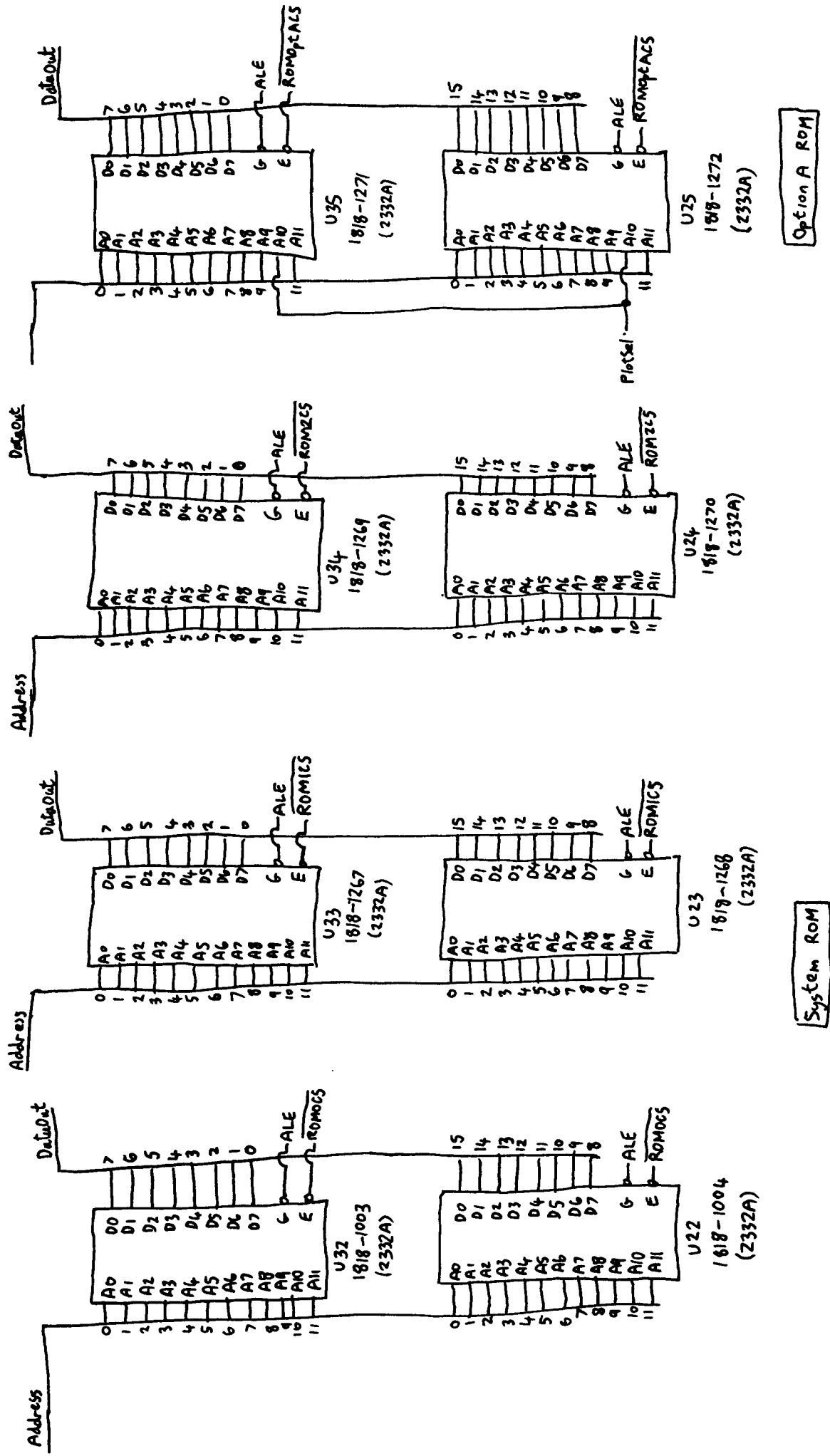
RAM, low bank

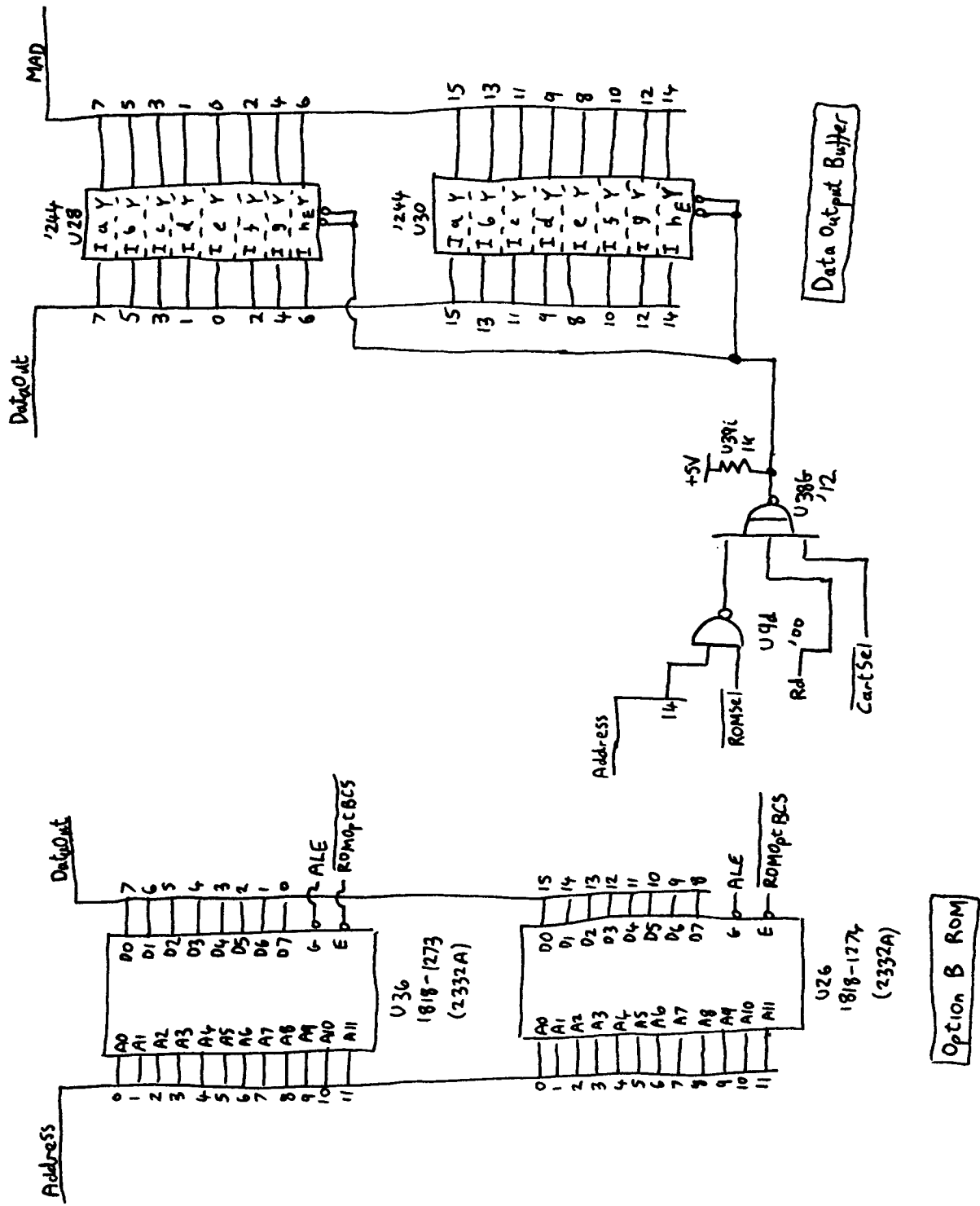


RAM, upper bank



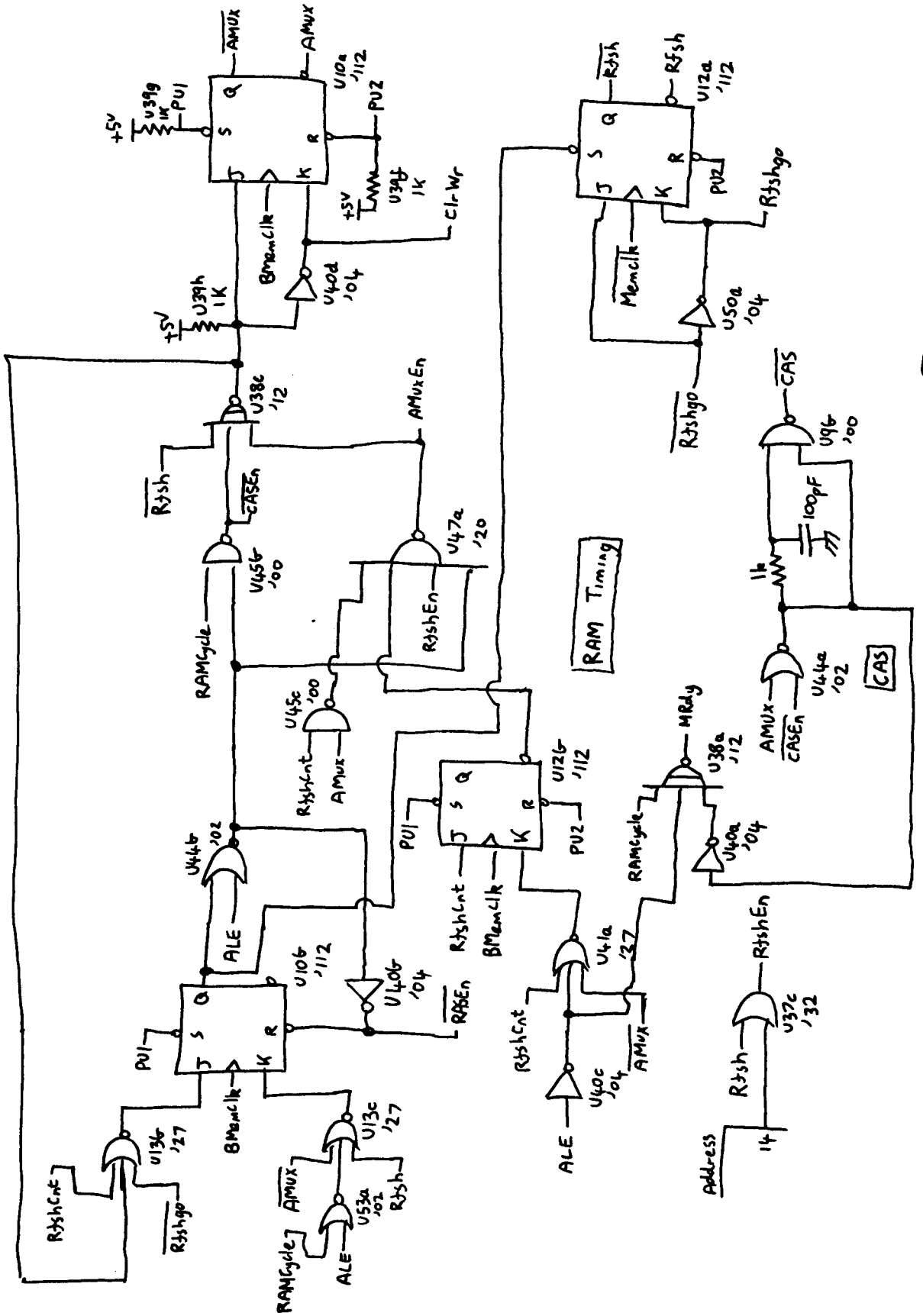


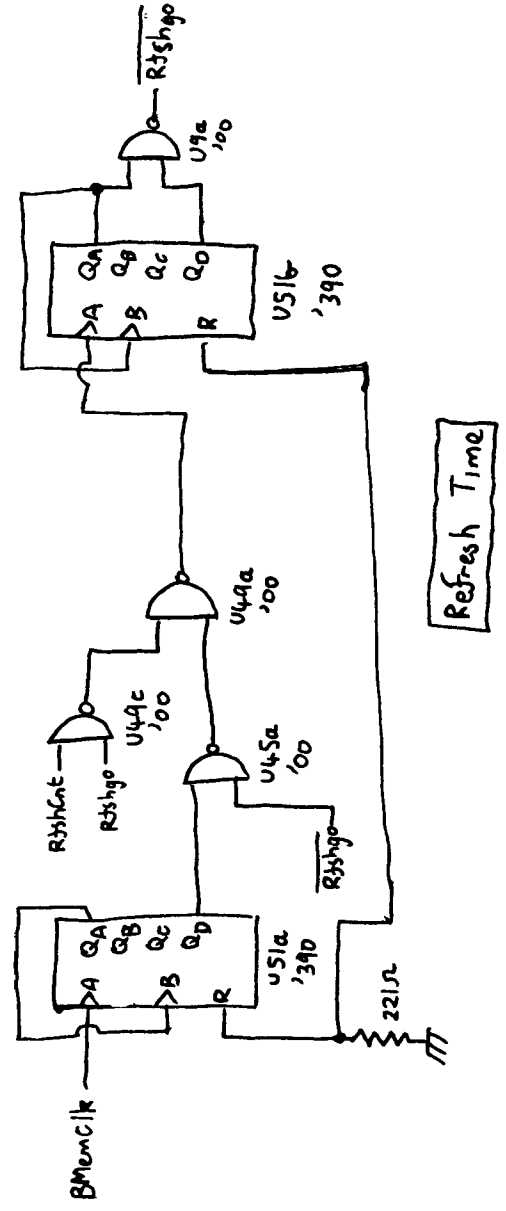
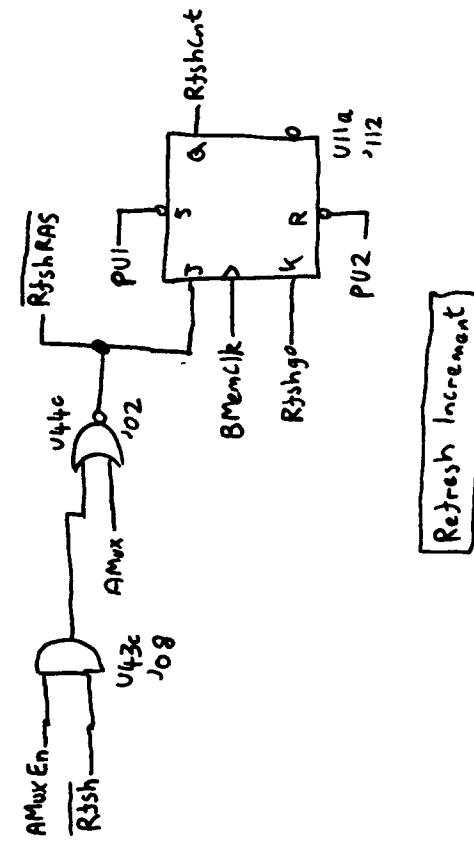
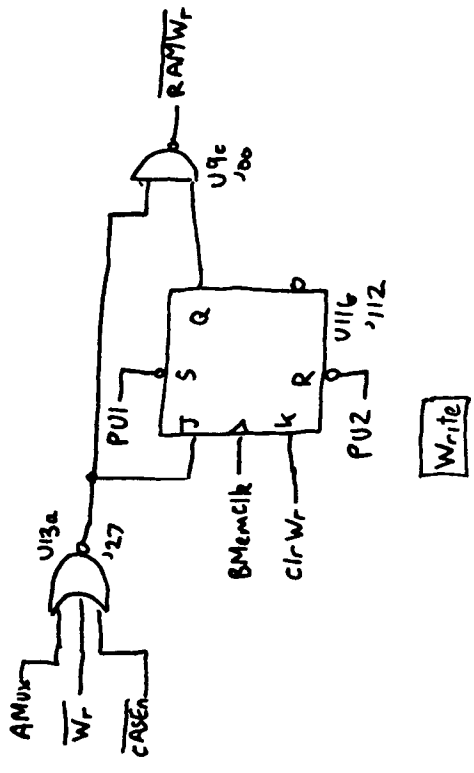


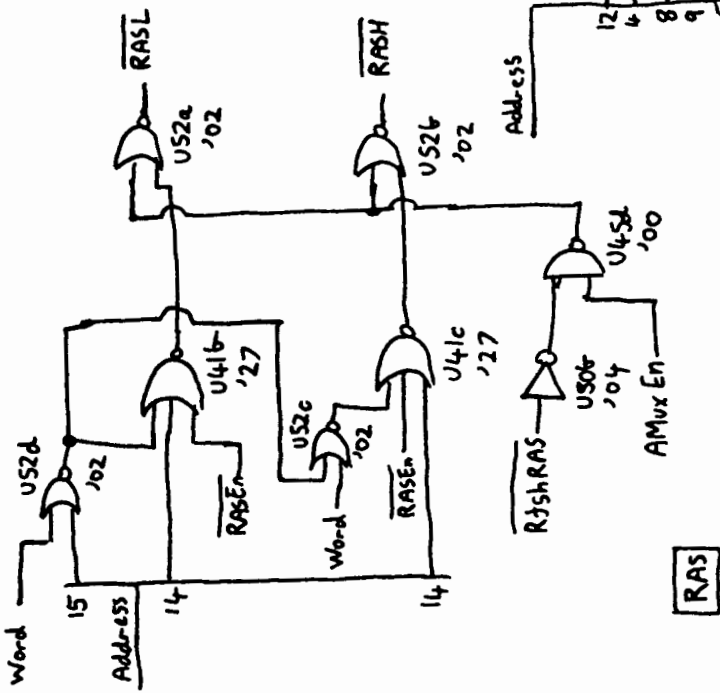


Option B ROM

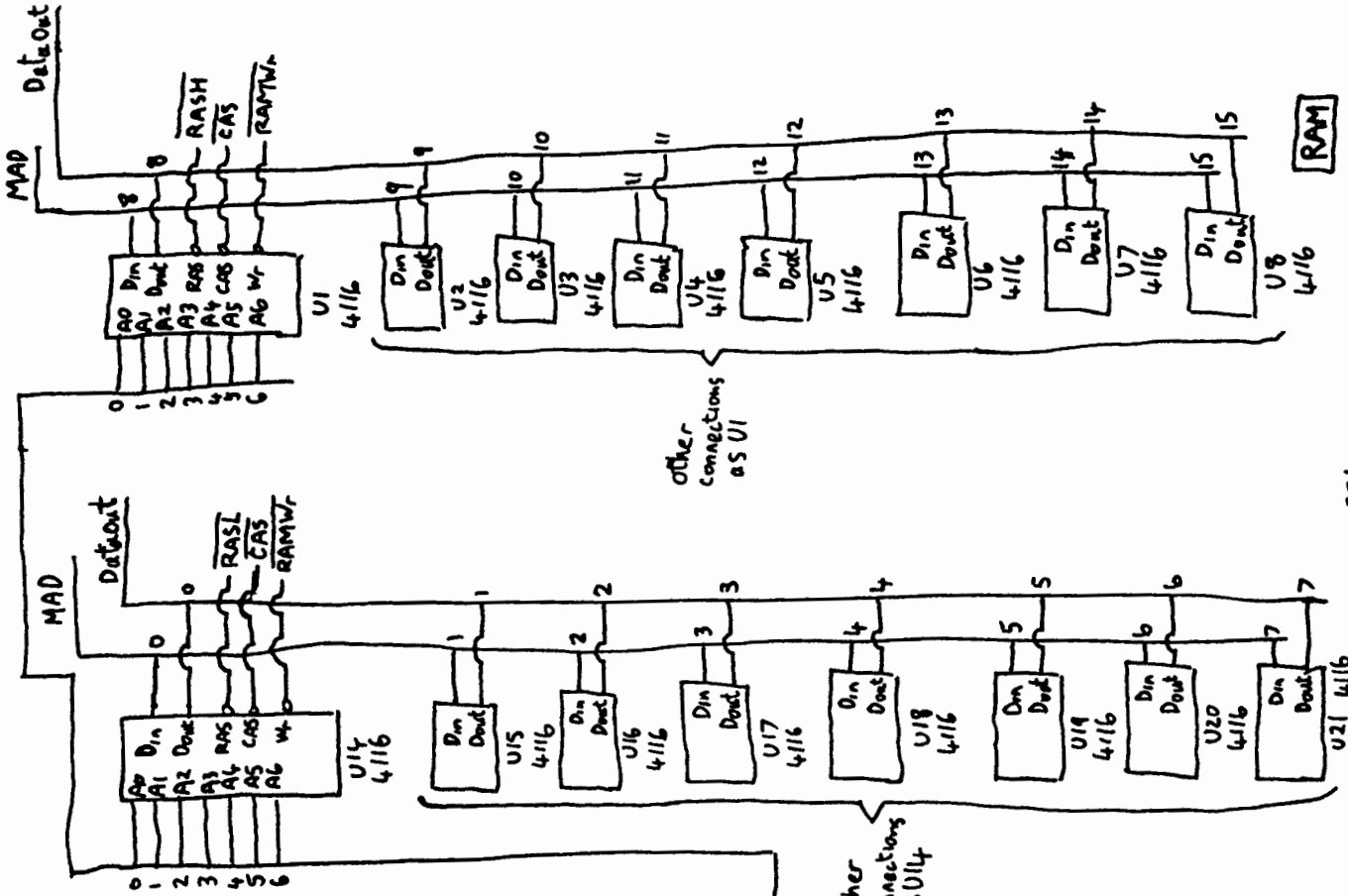
Data Output Buffer







RAM



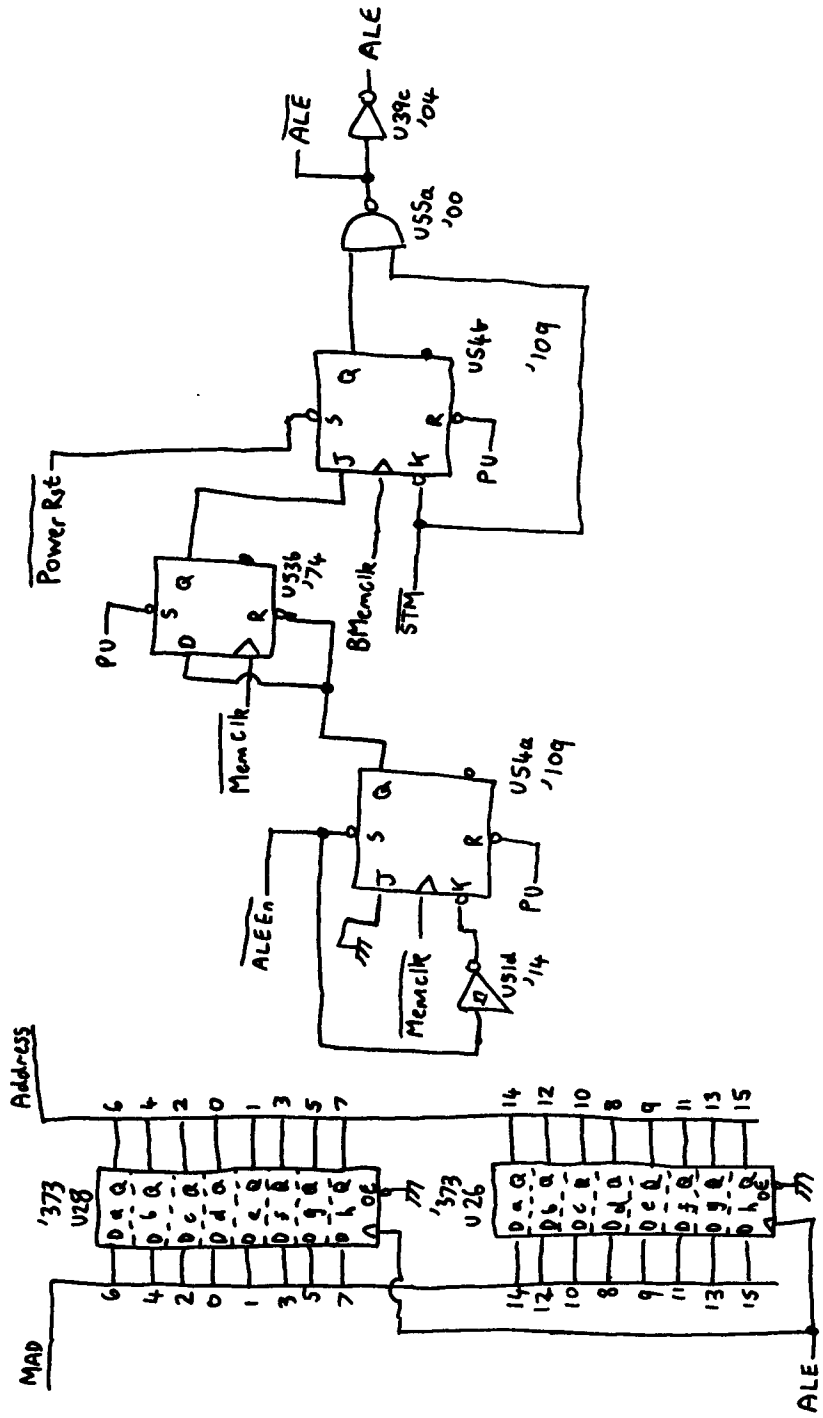
09825-69524

⑦

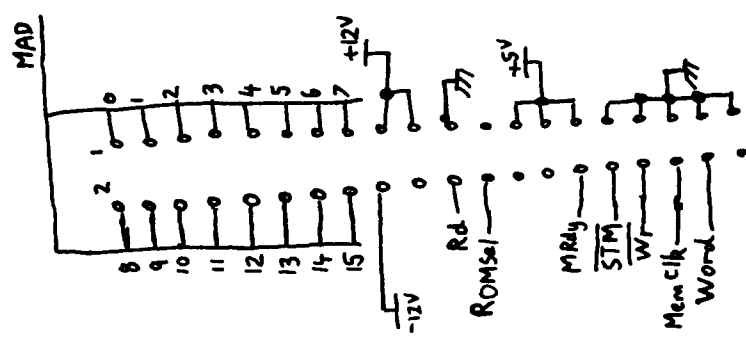
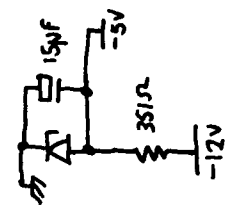
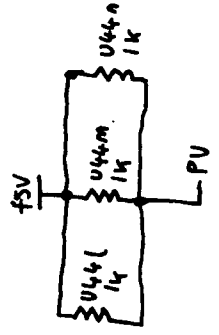
ROM/RAM PCB Sheet

HP9825

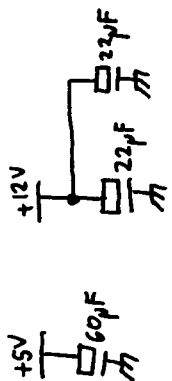
RAM



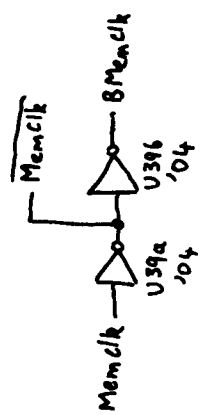
Address Latch

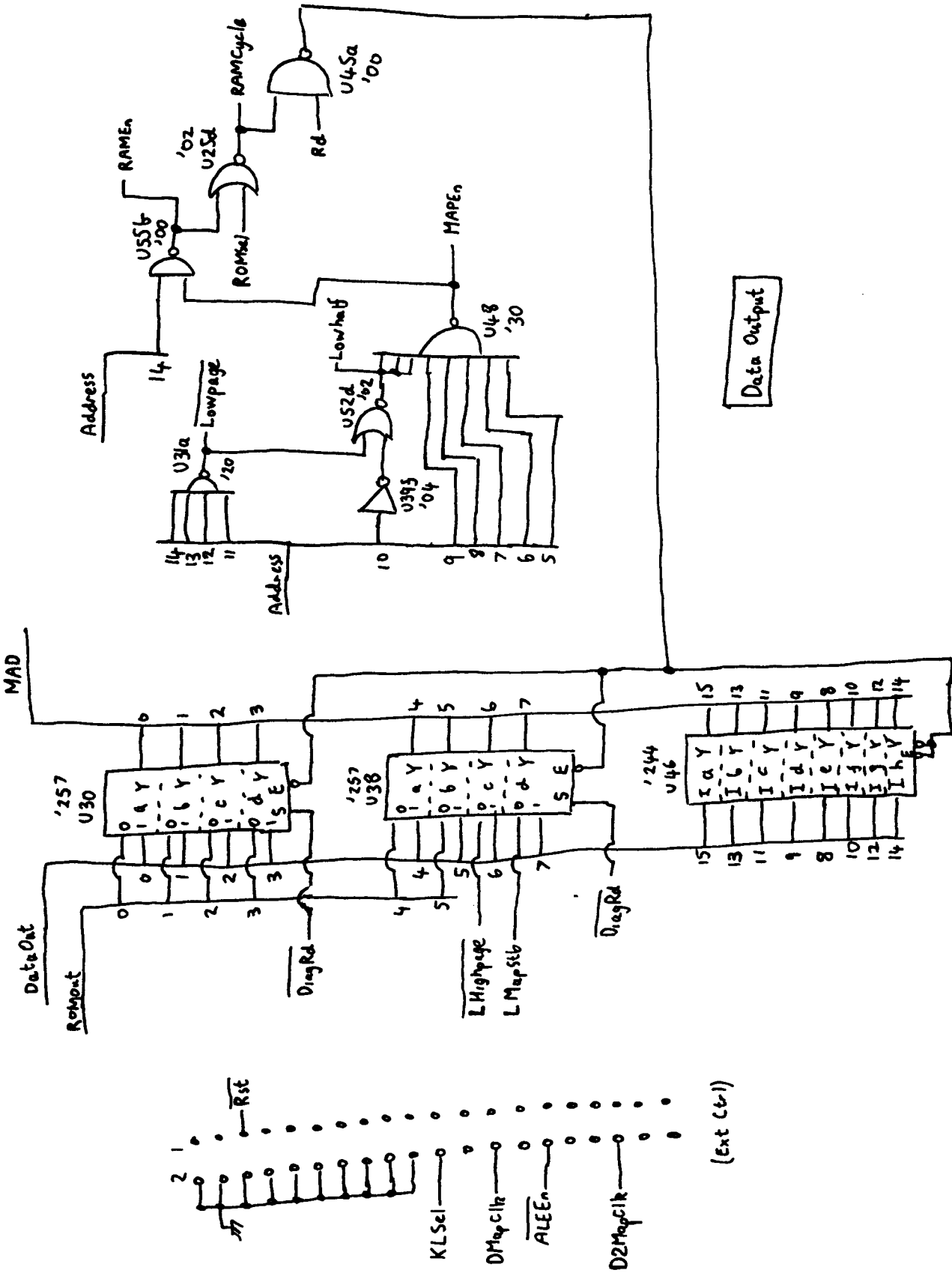


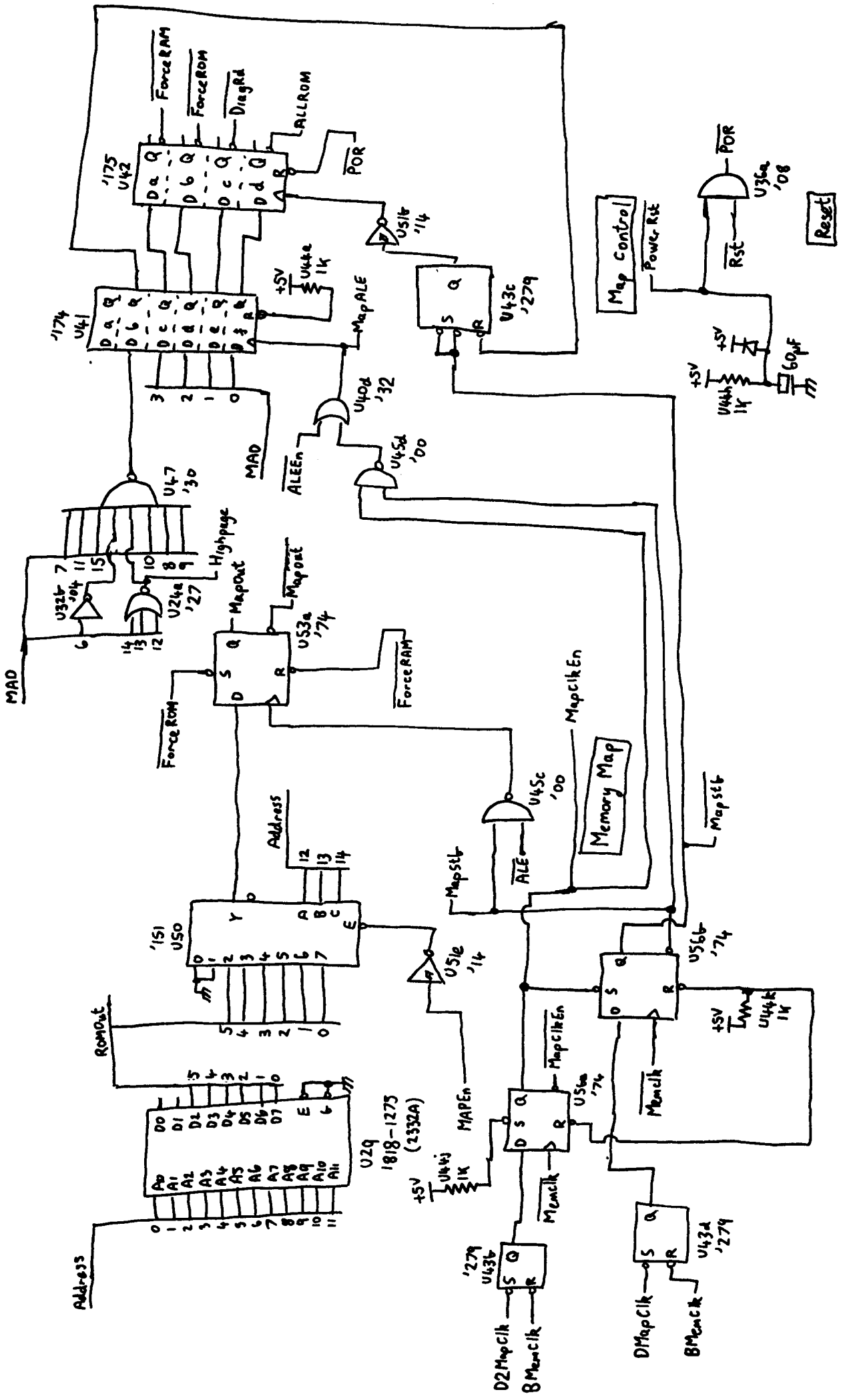
(Memory Bus)

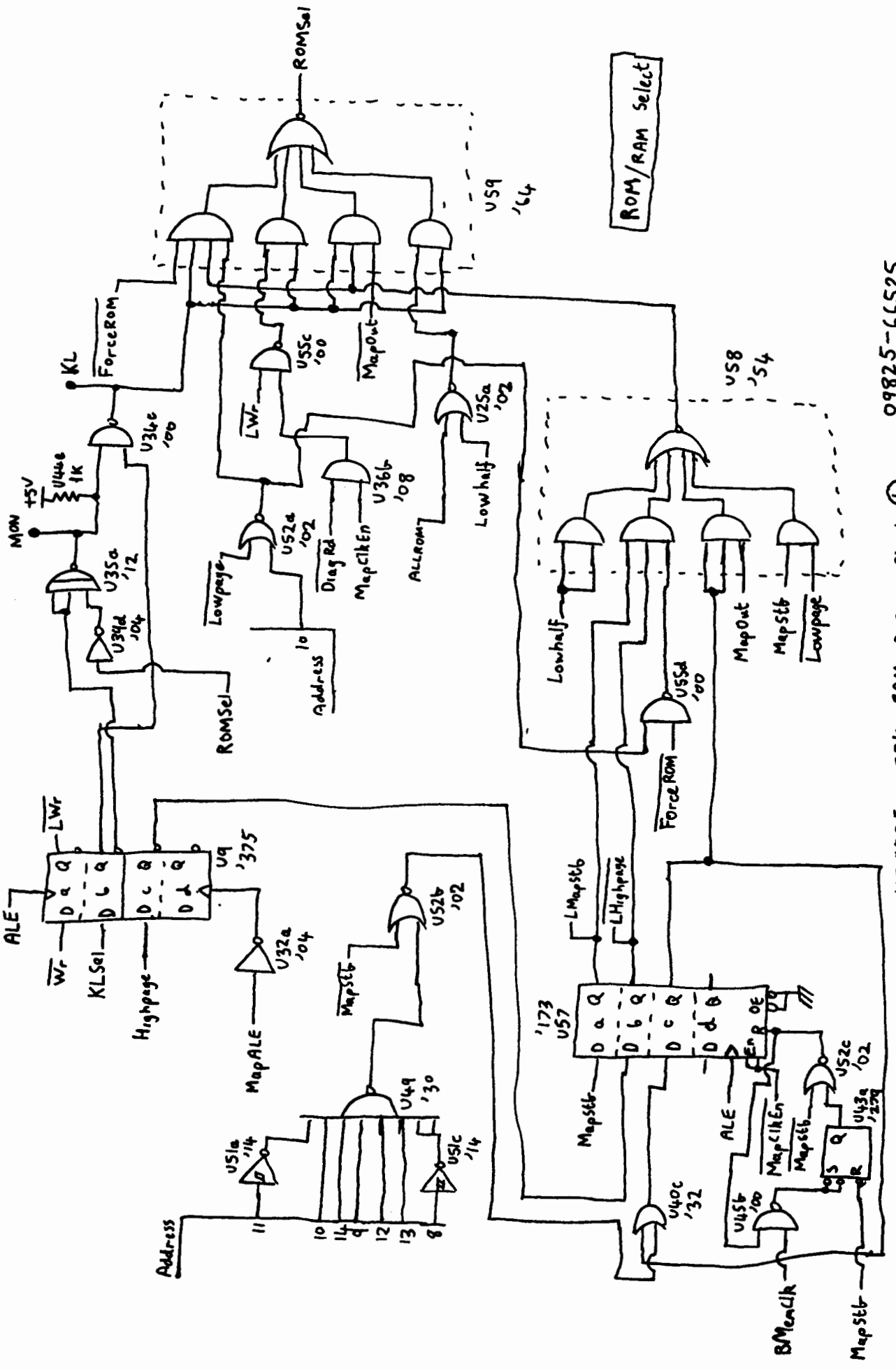


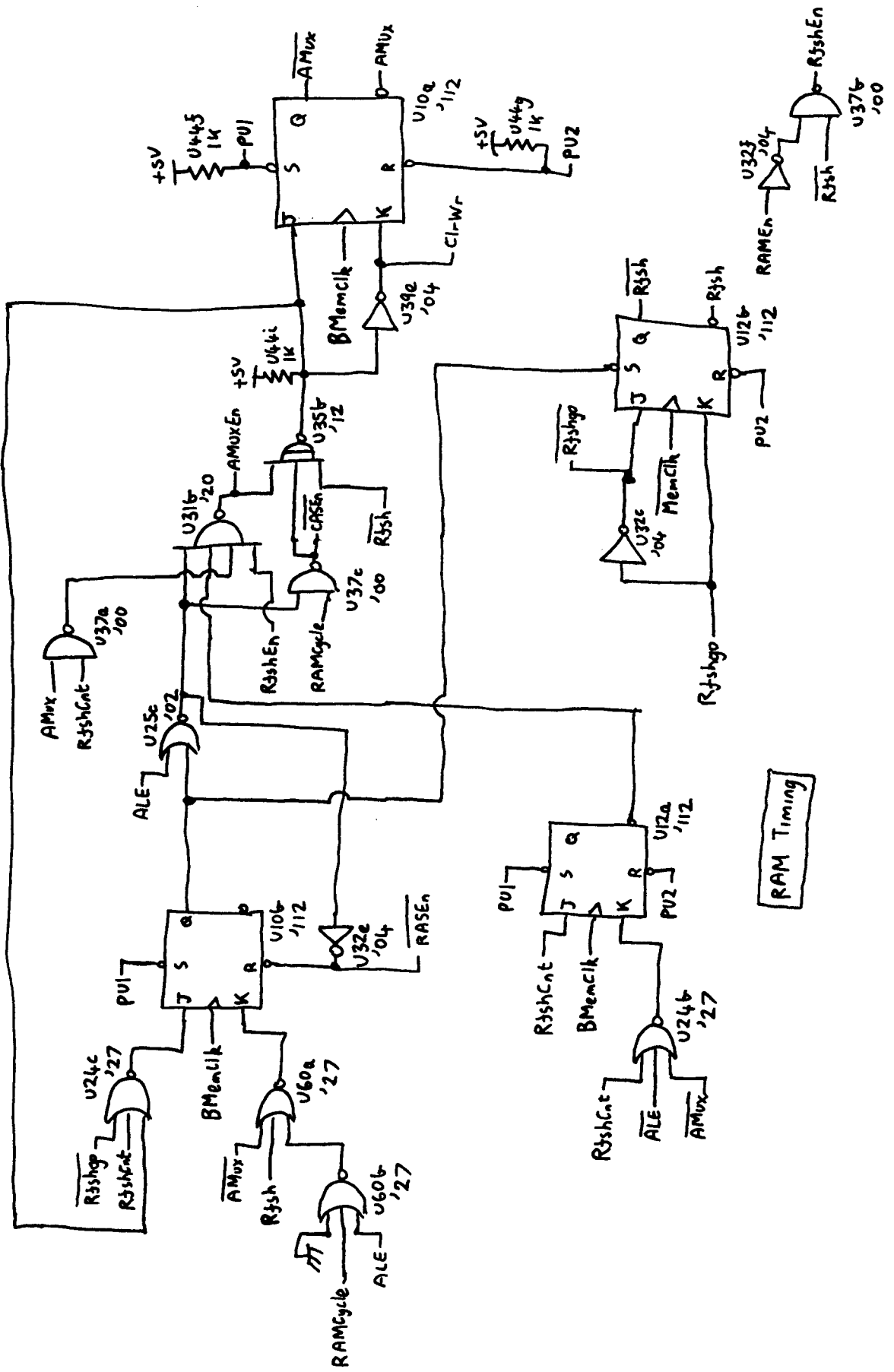
PSU

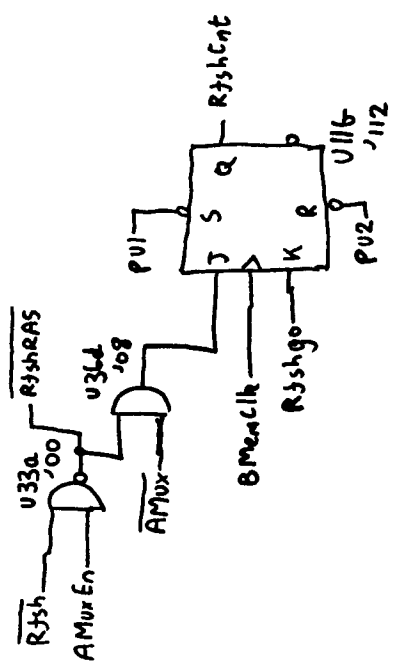
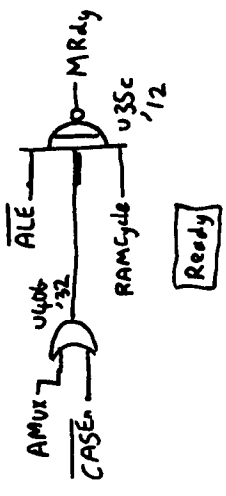
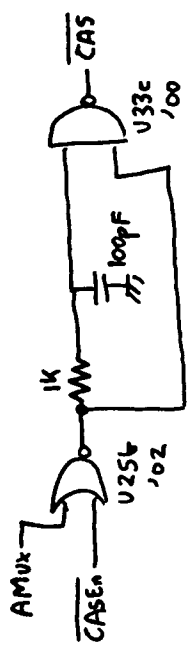
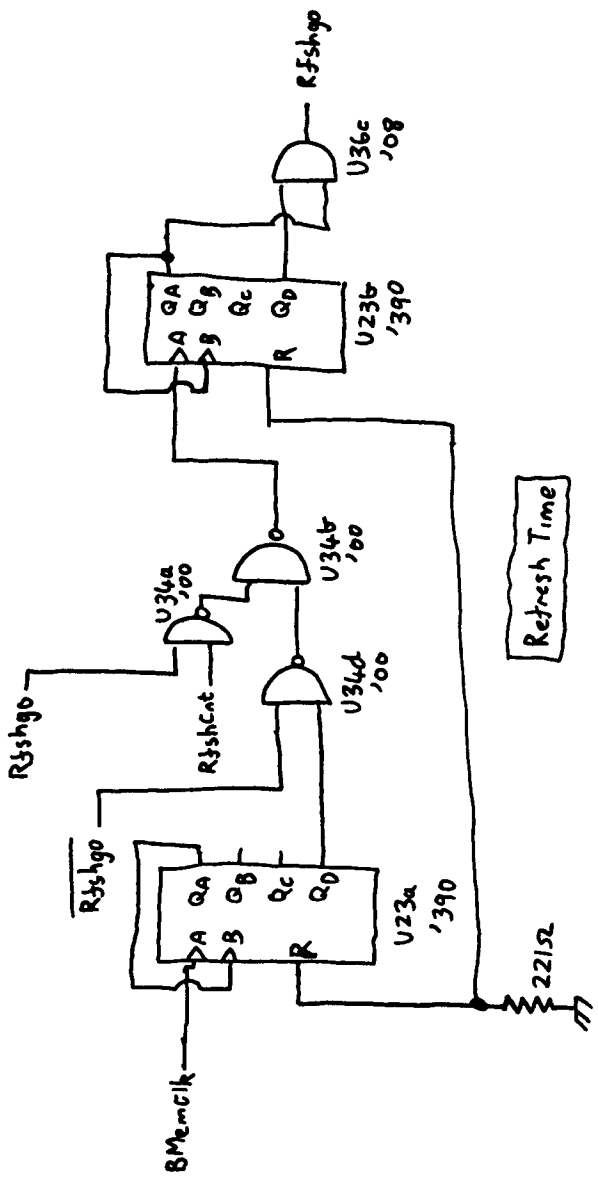




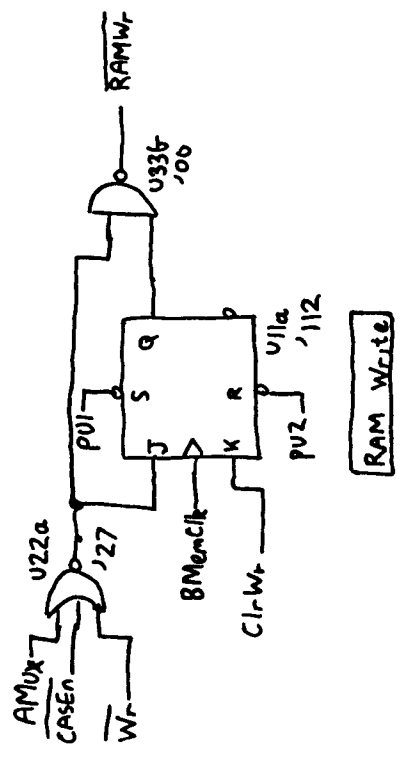


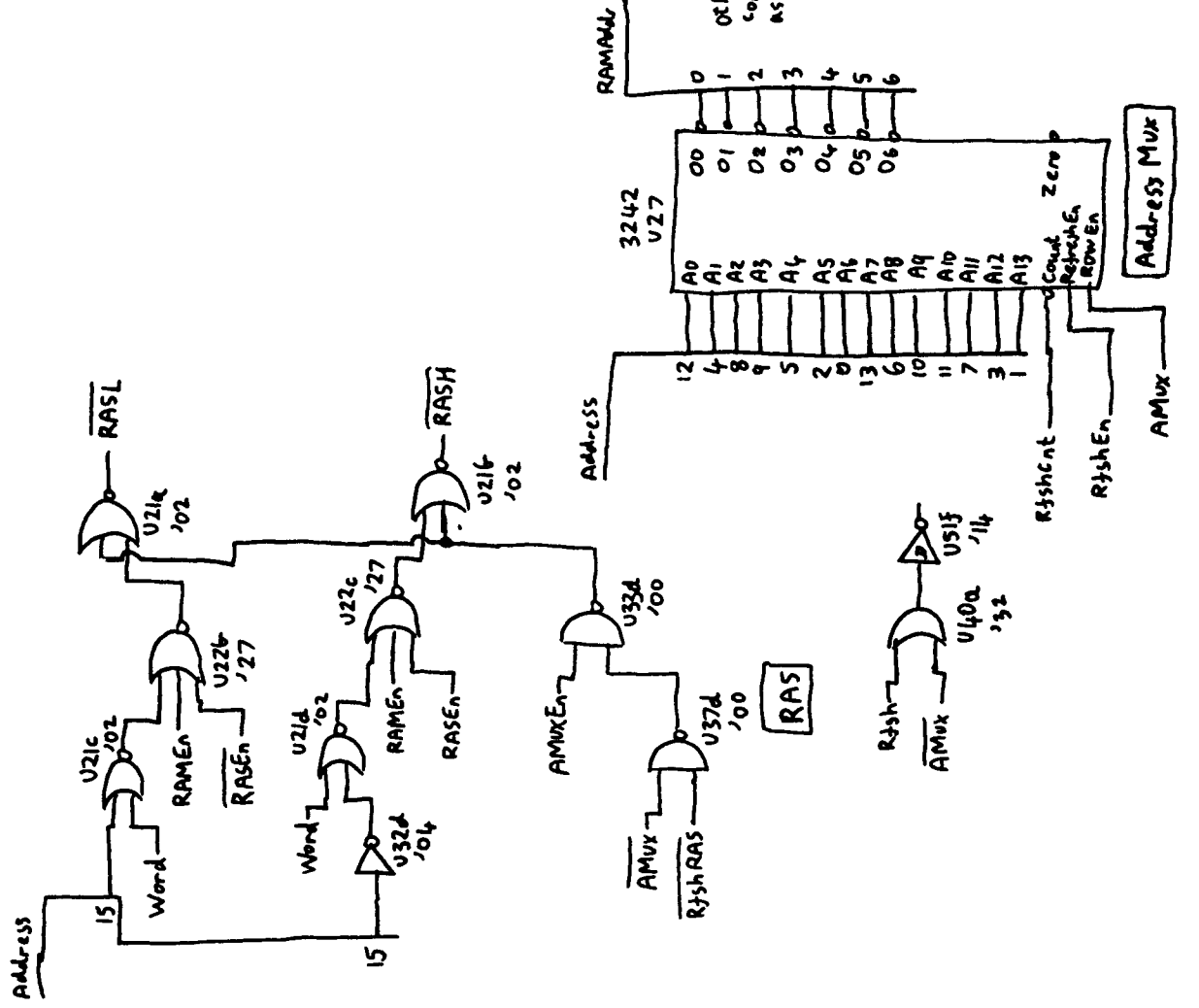
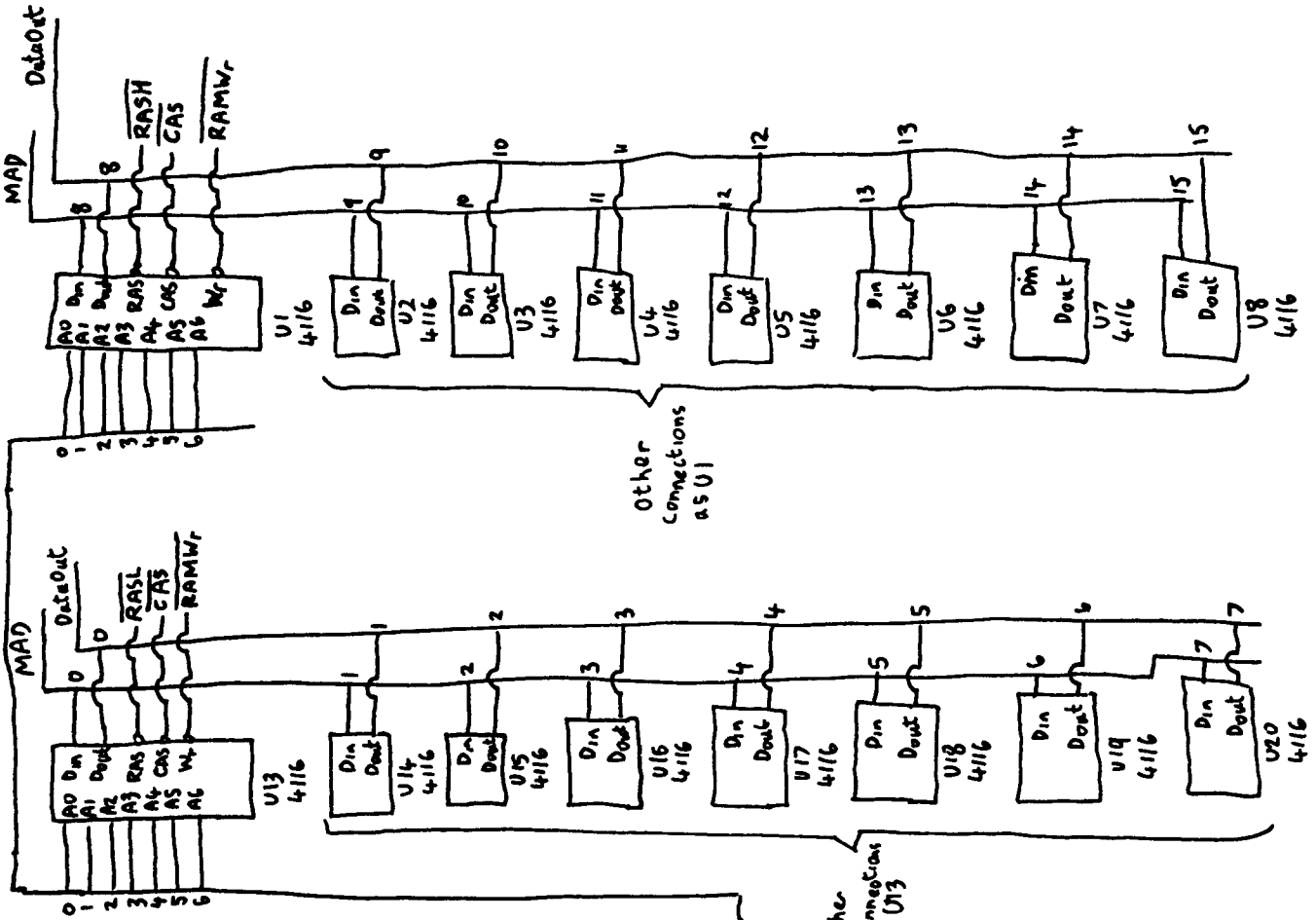


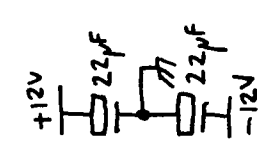
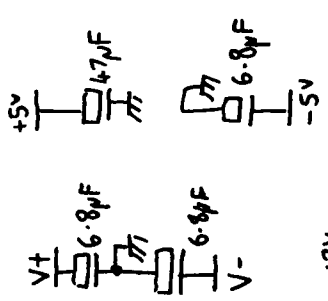
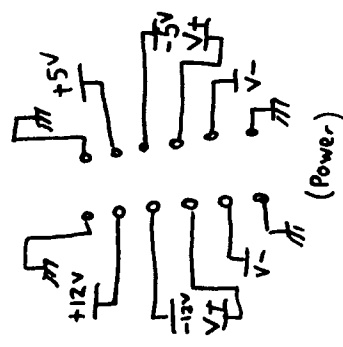
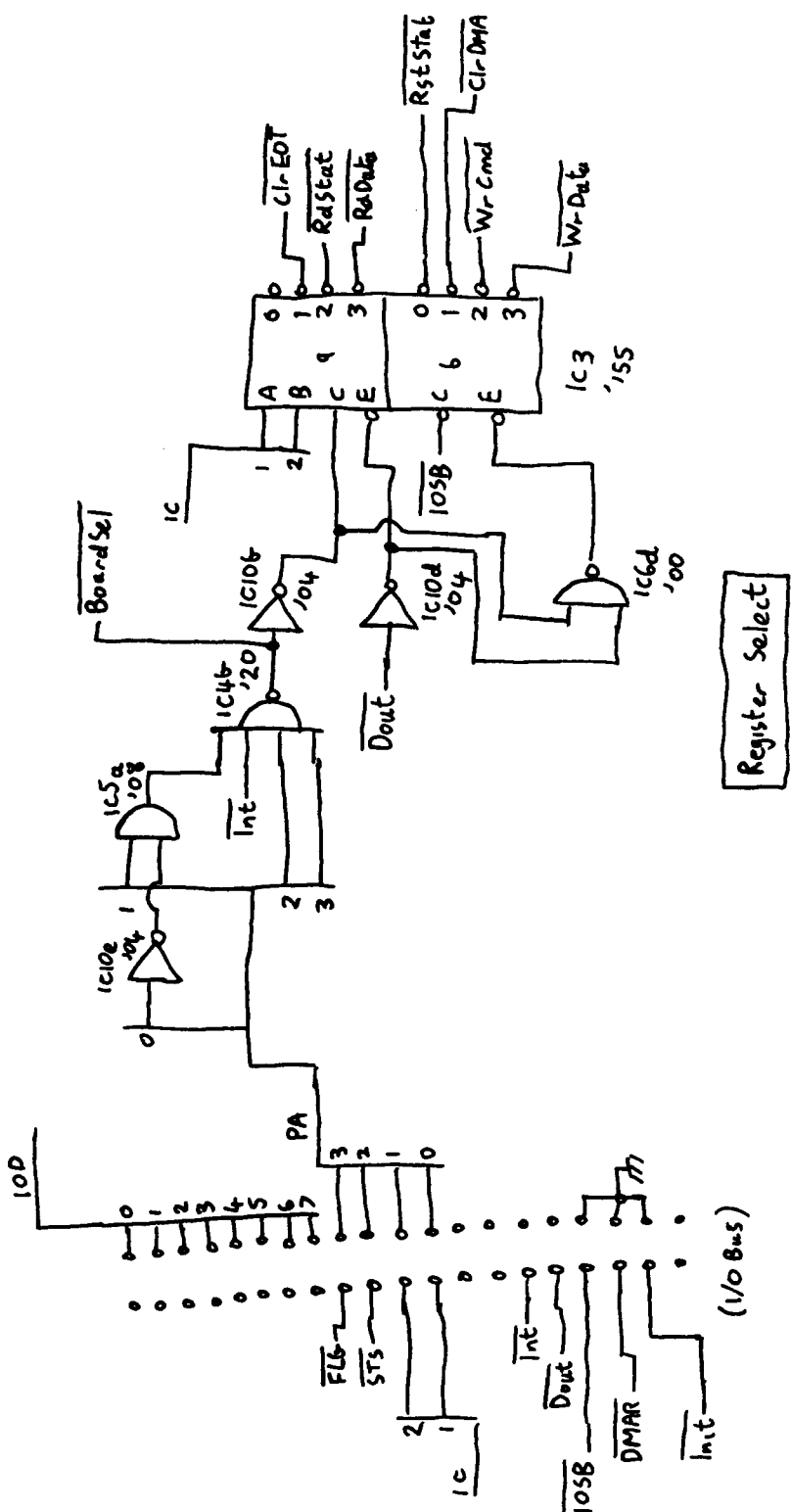




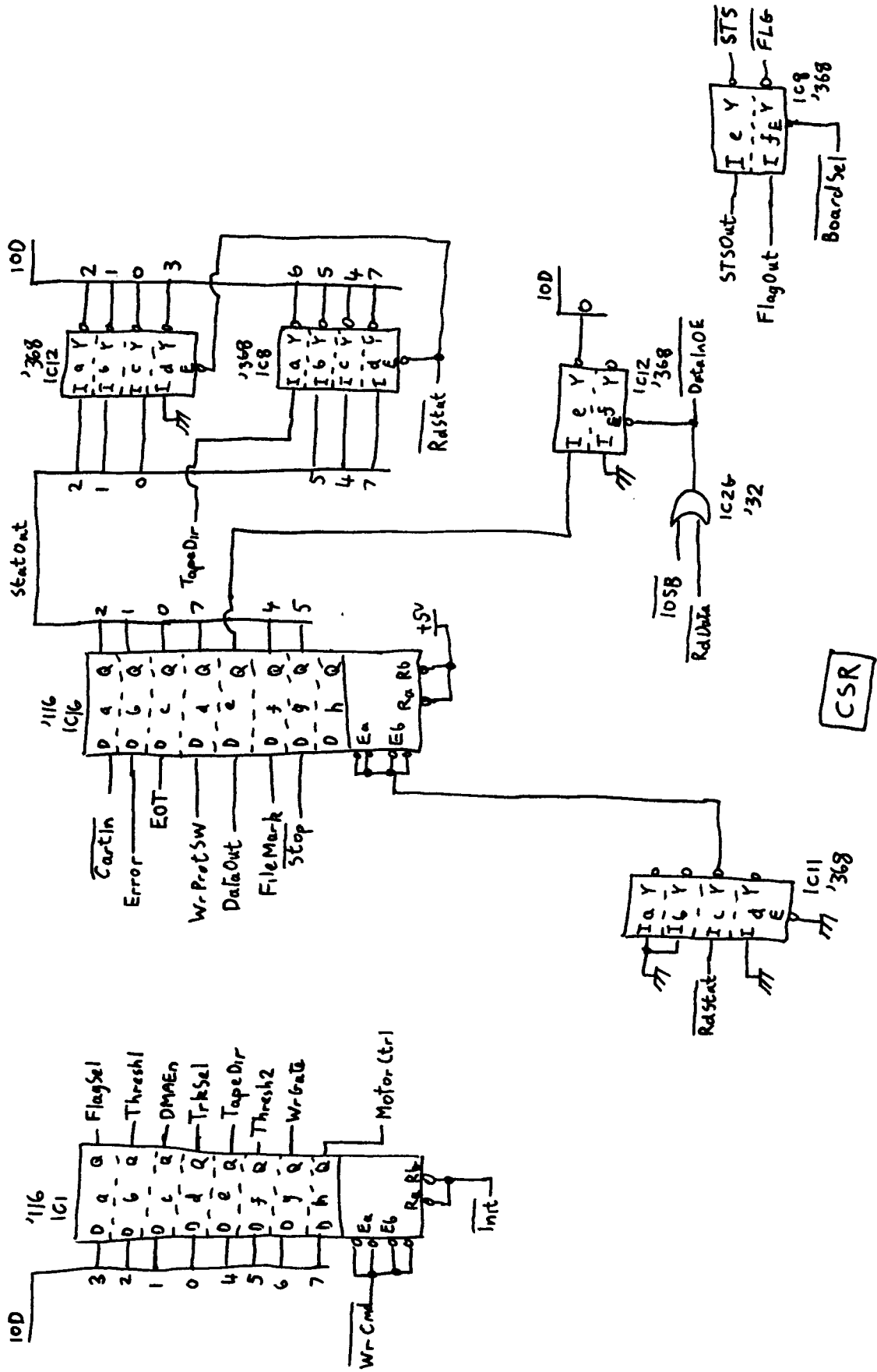
Refresh Increment





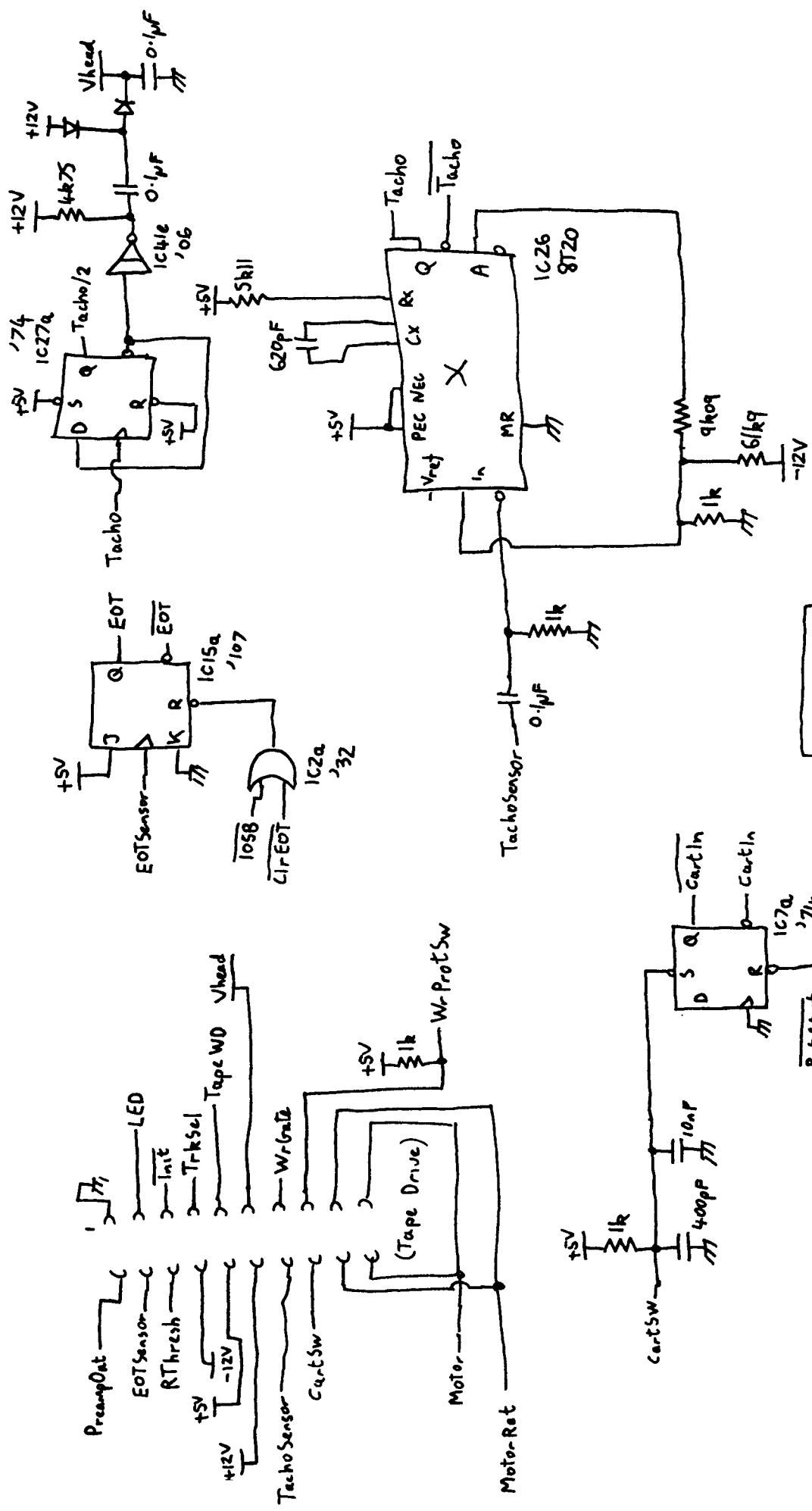


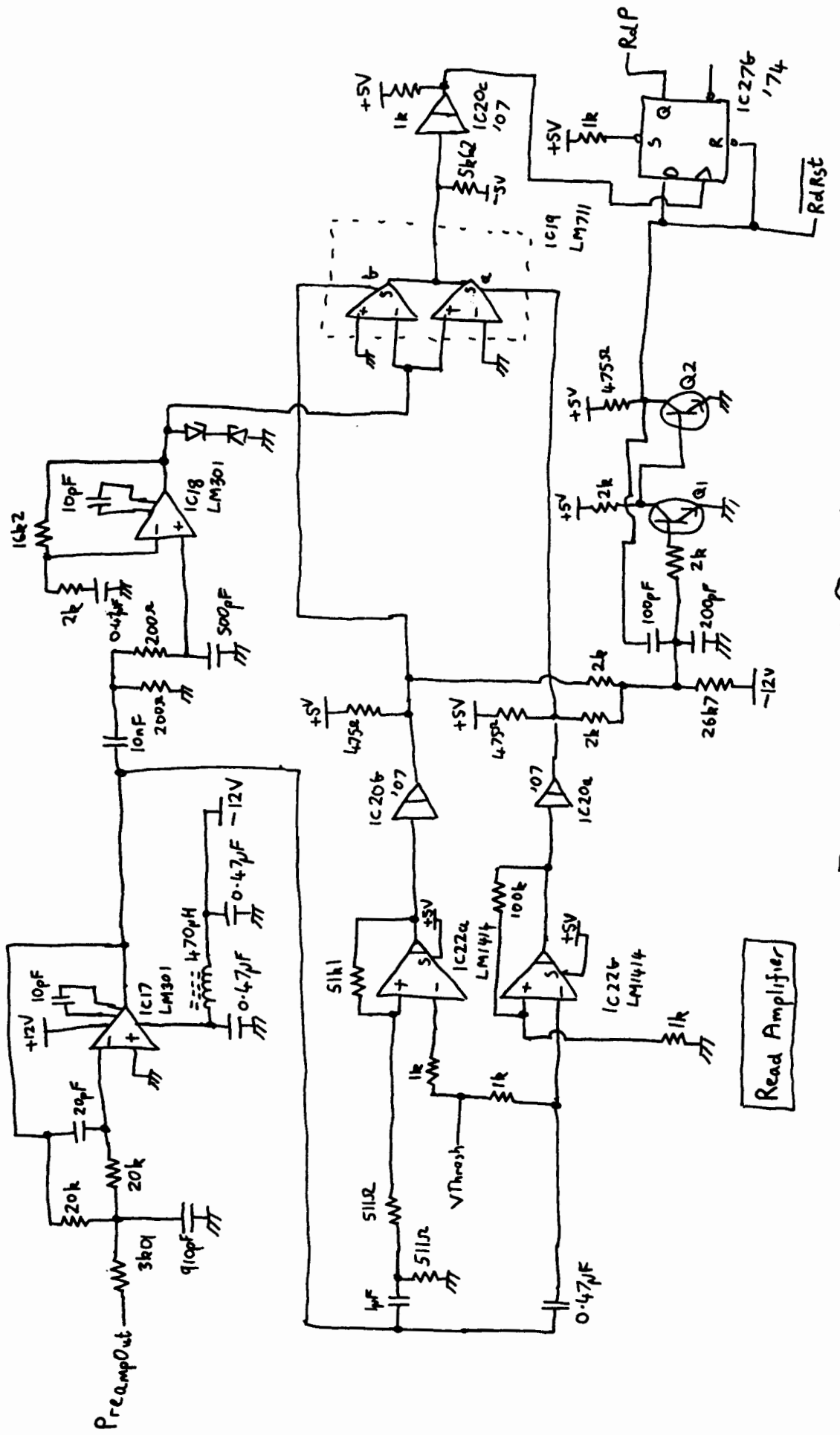
Power Input



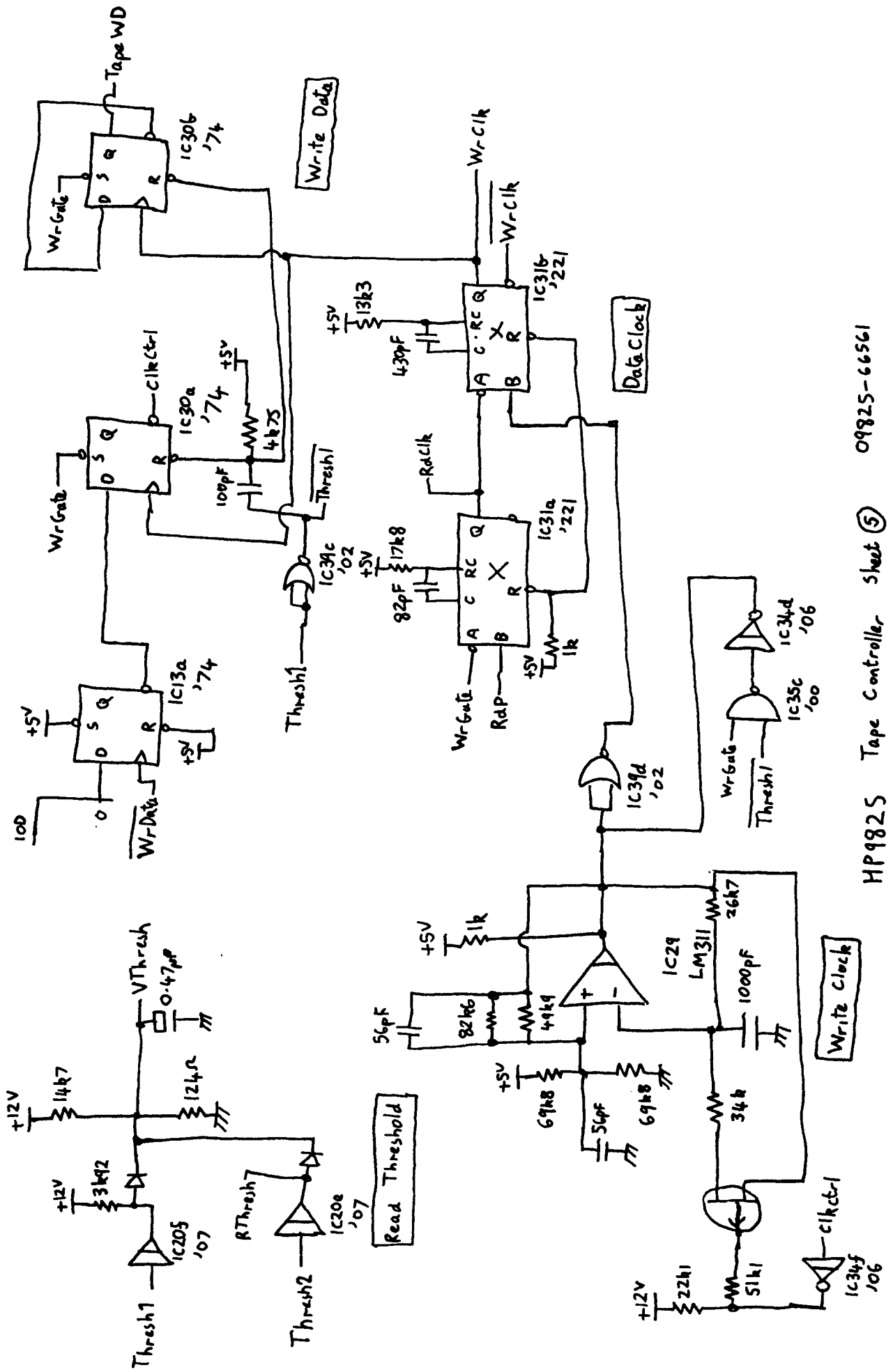
09825-66561

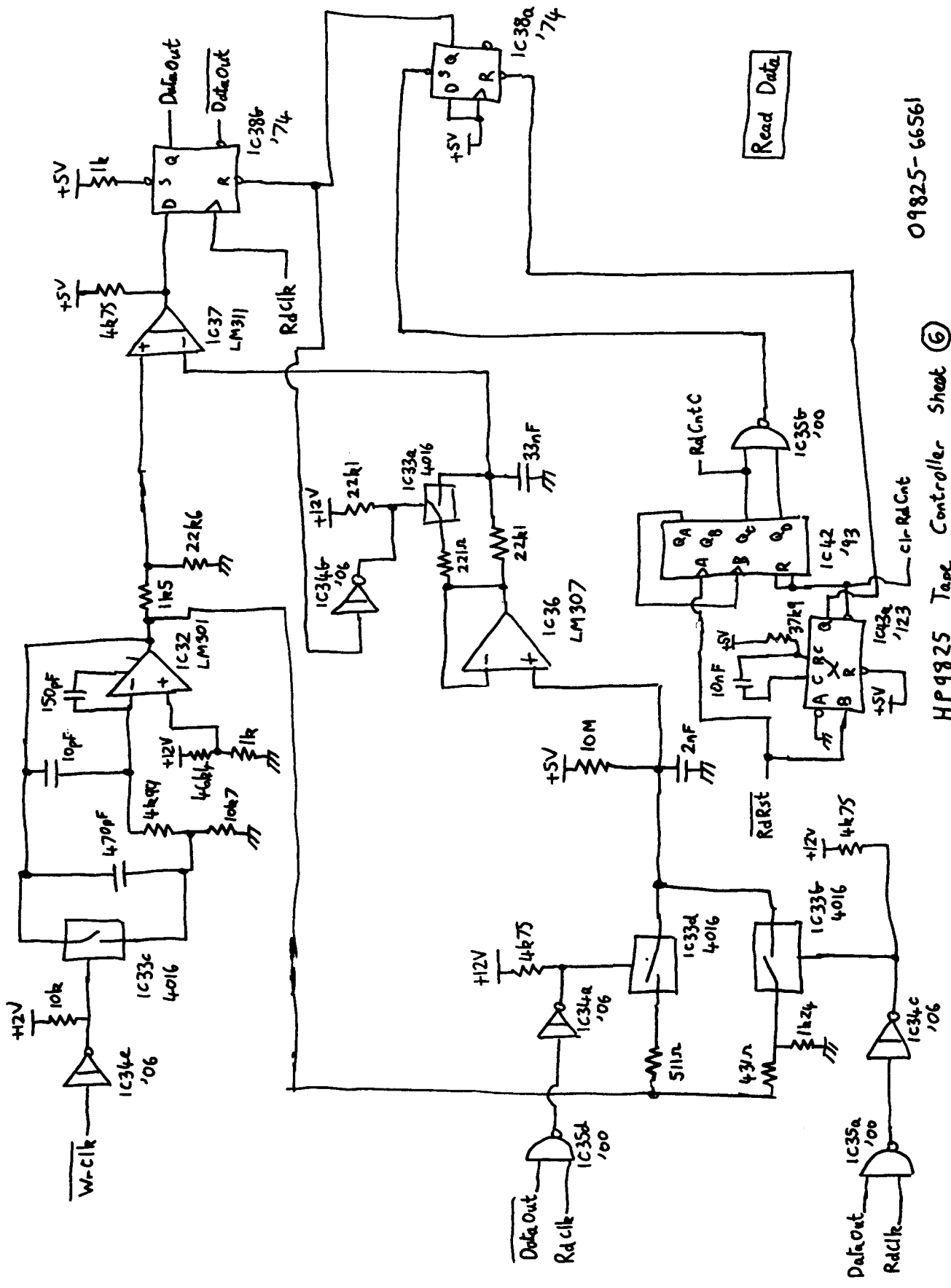
HP 9825 Tape Controller Sheet 2





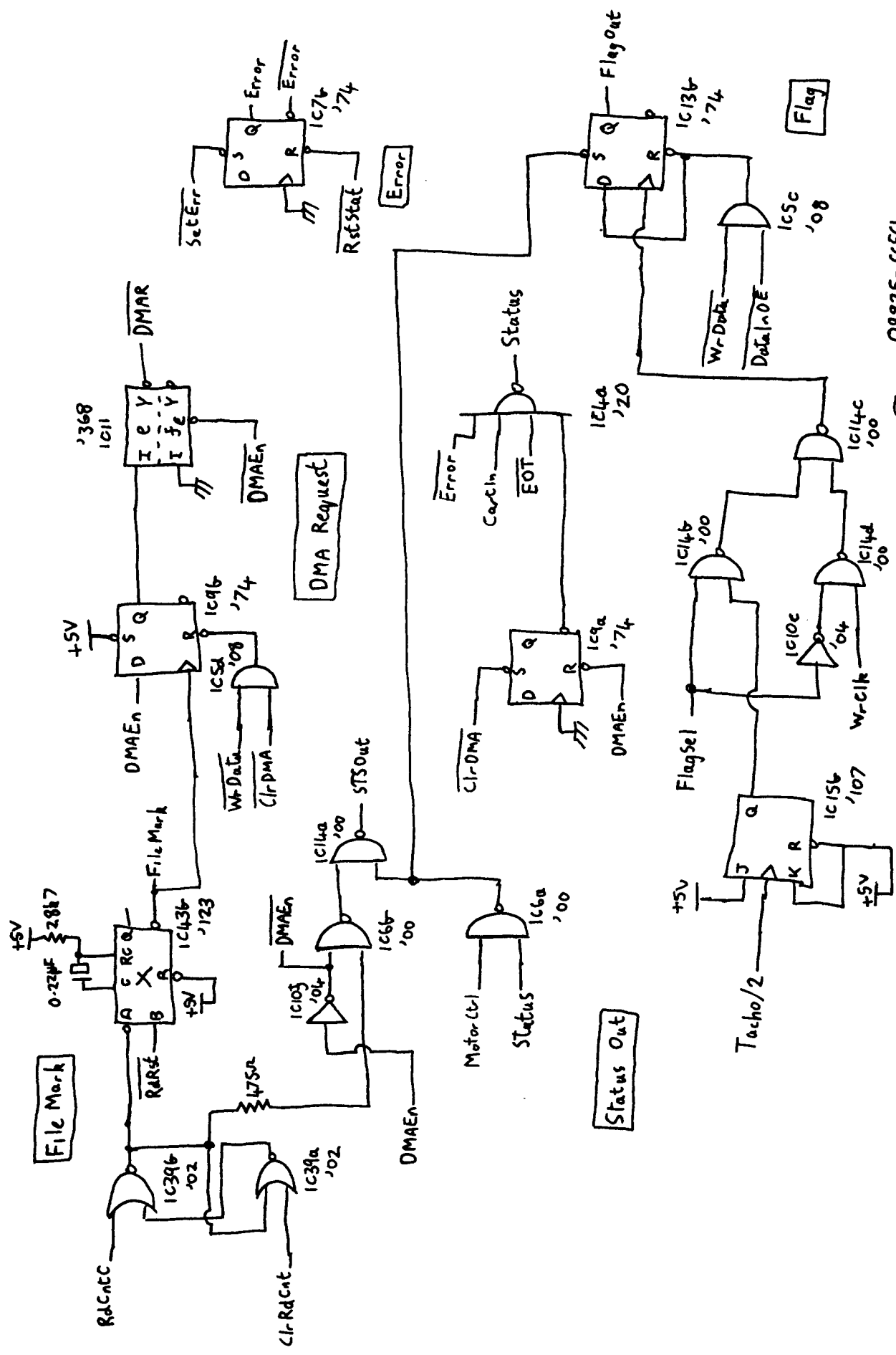
Read Amplifier





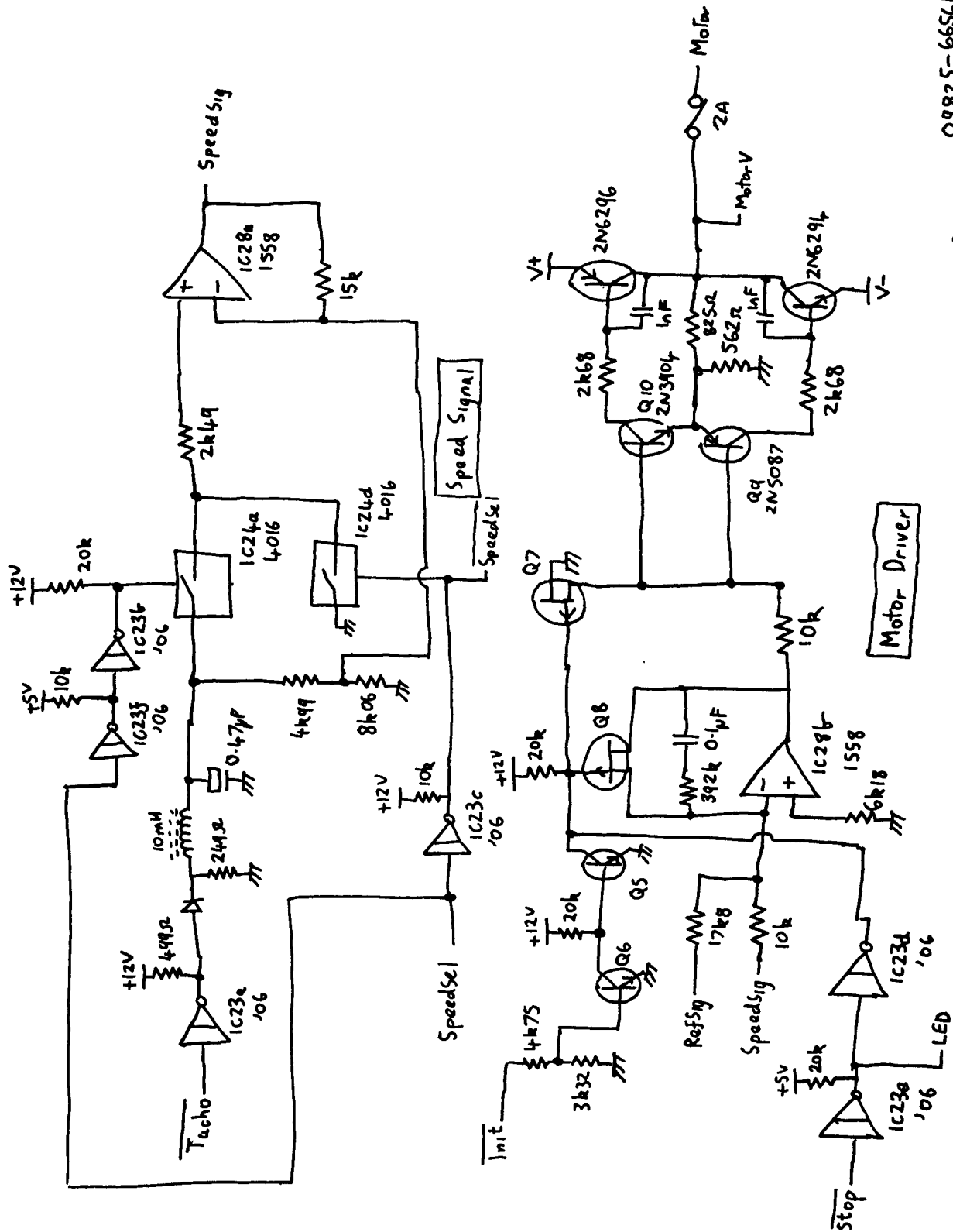
09825-66561

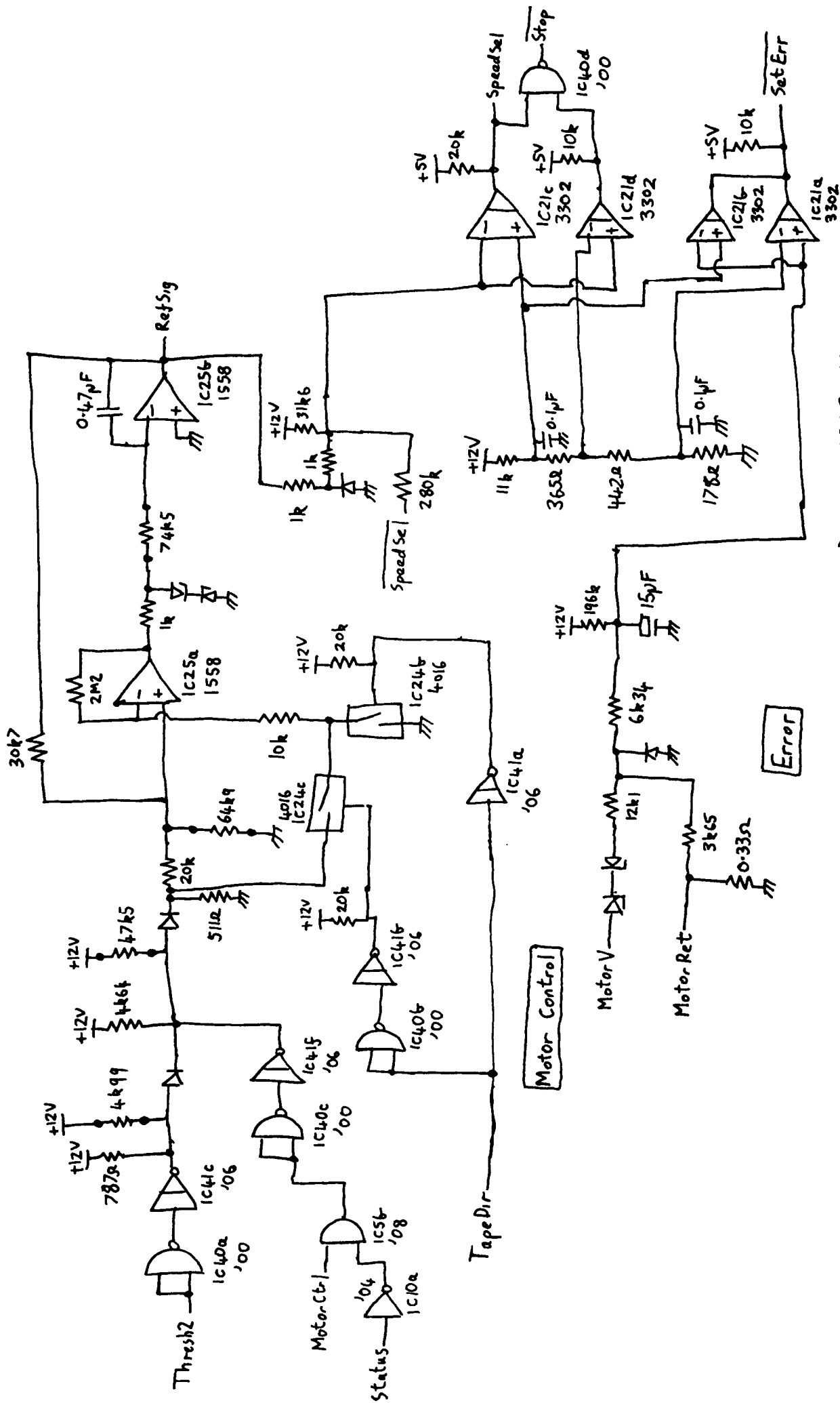
HP 9825 Tape Controller Sheet (6)

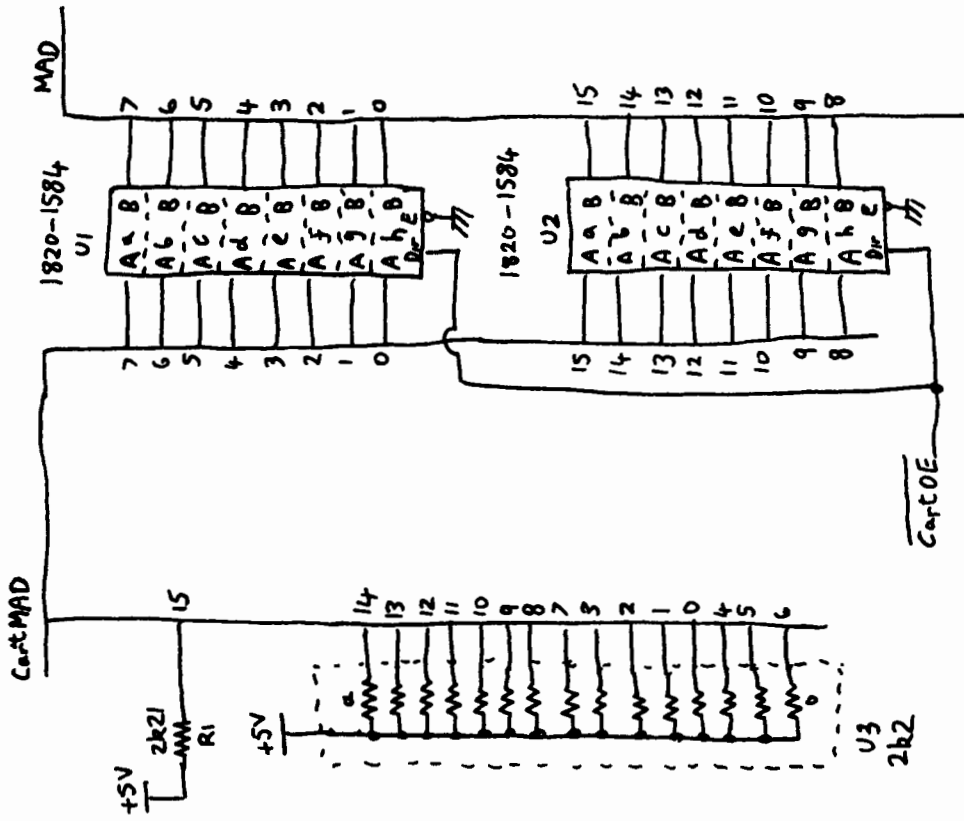


09825-66561

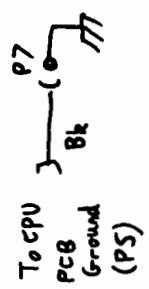
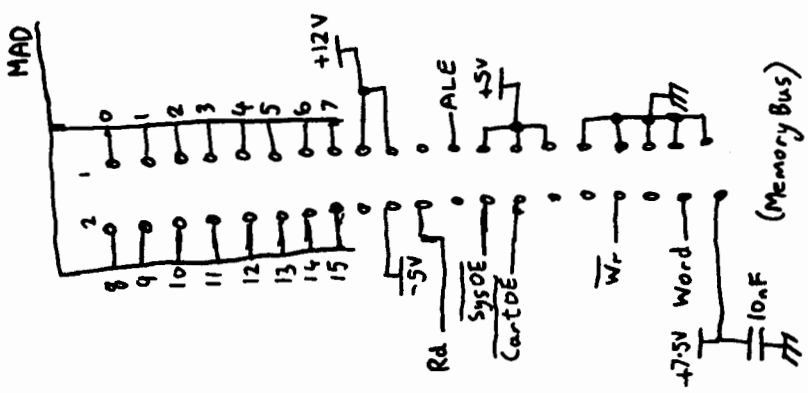
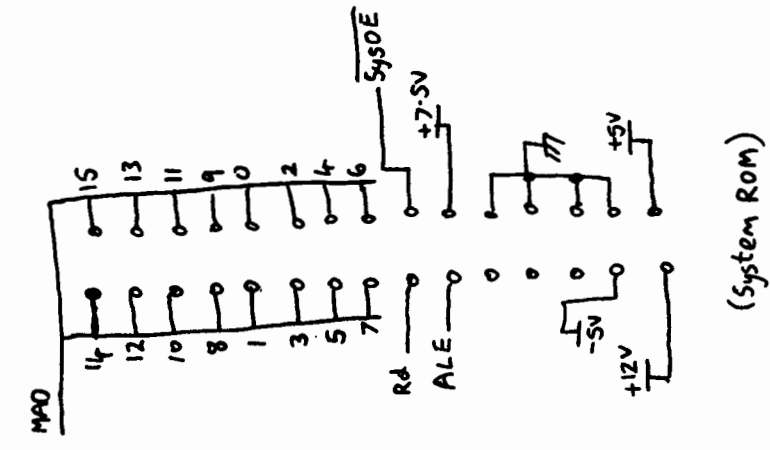
HP 9825 Tape Controller sheet 7

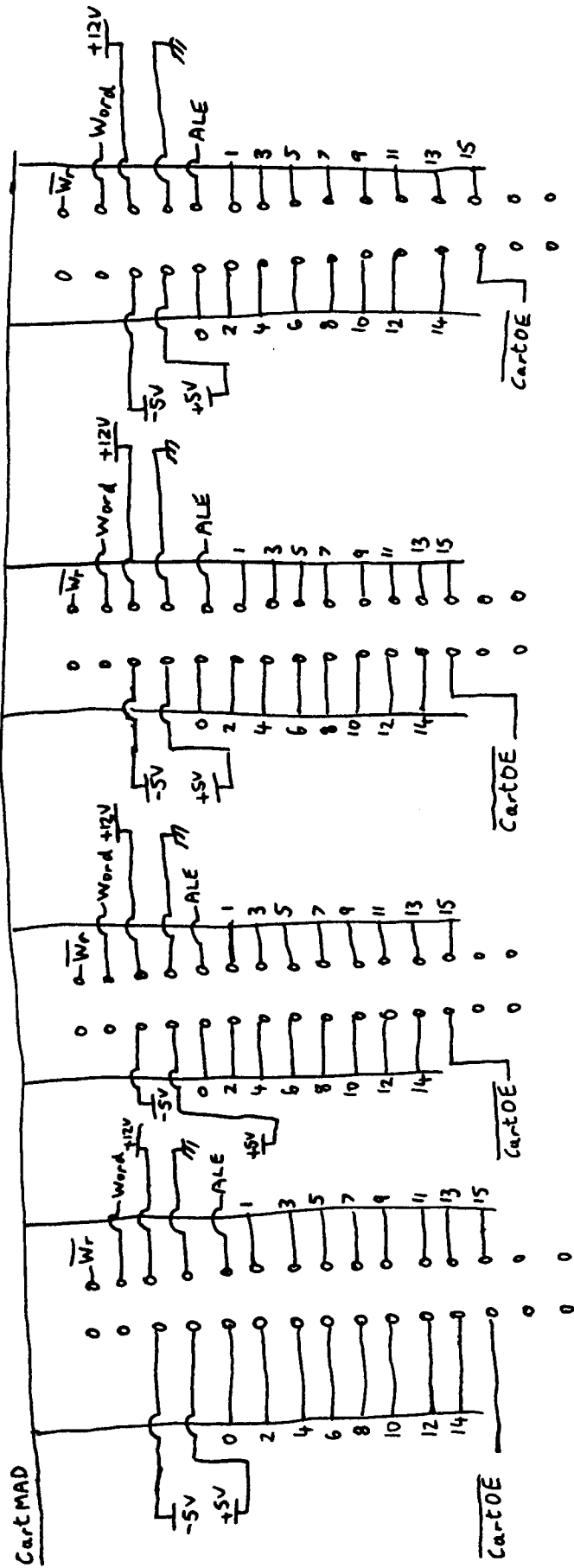




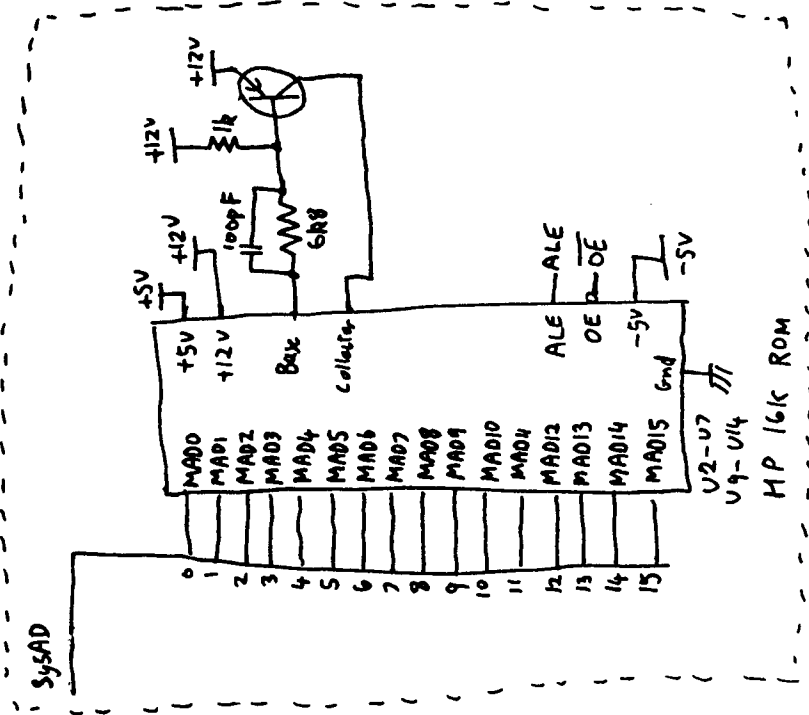


Bus Buffer





Cartridge Slots



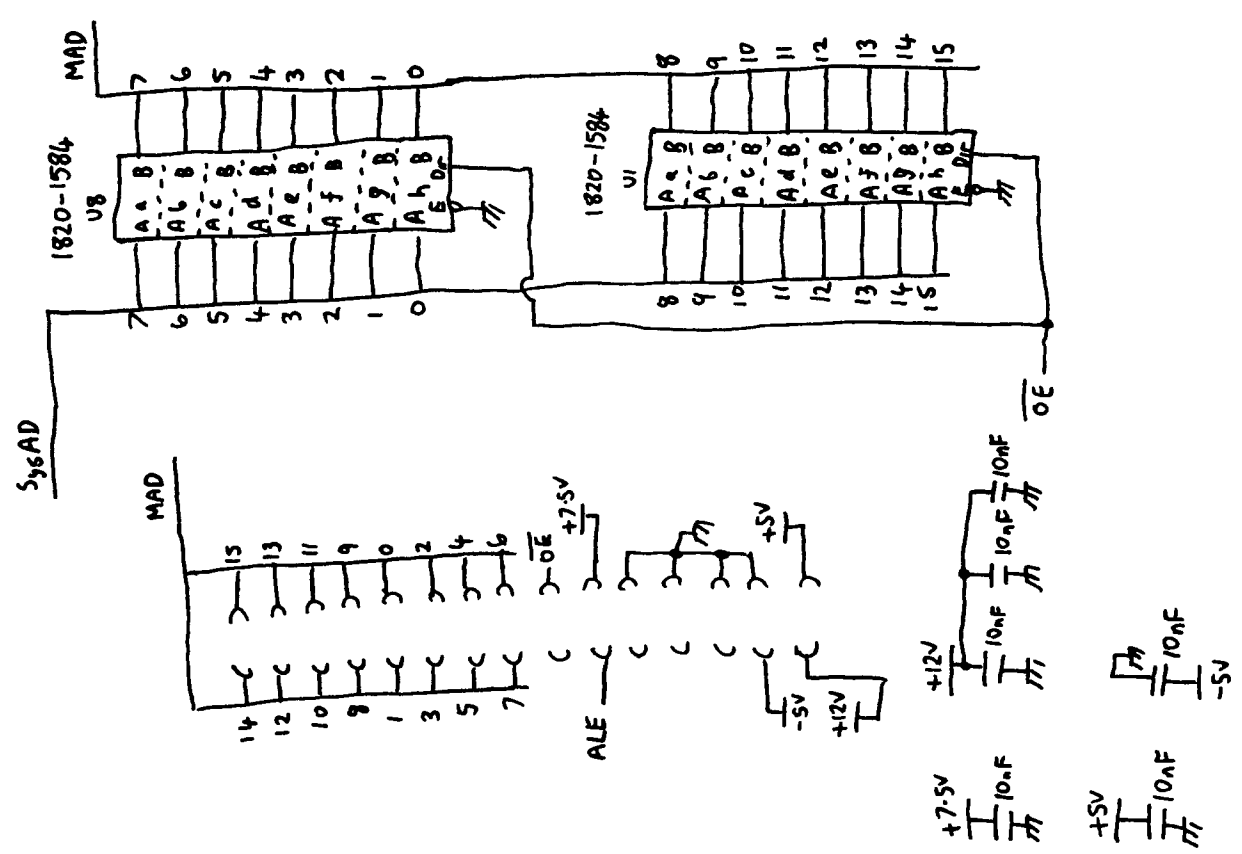
Typical of 12

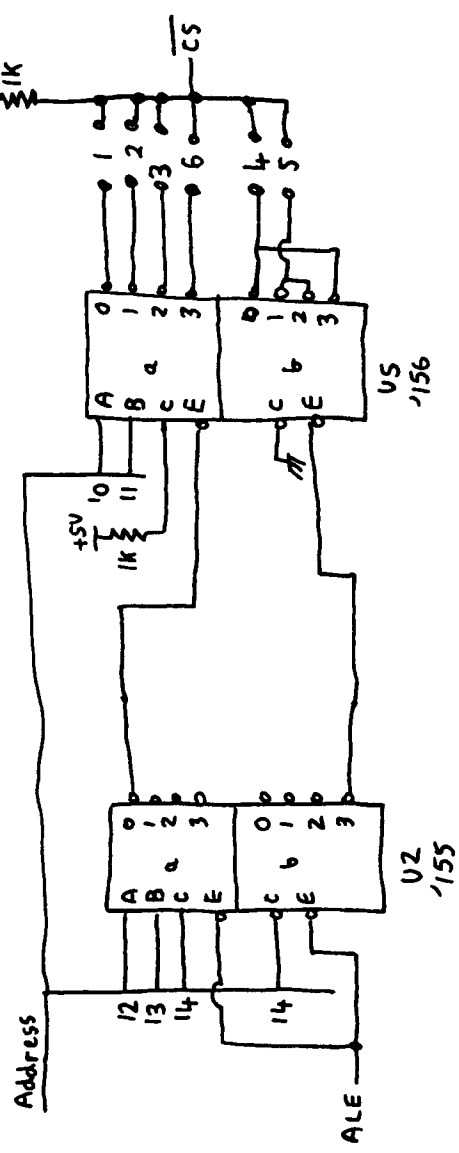
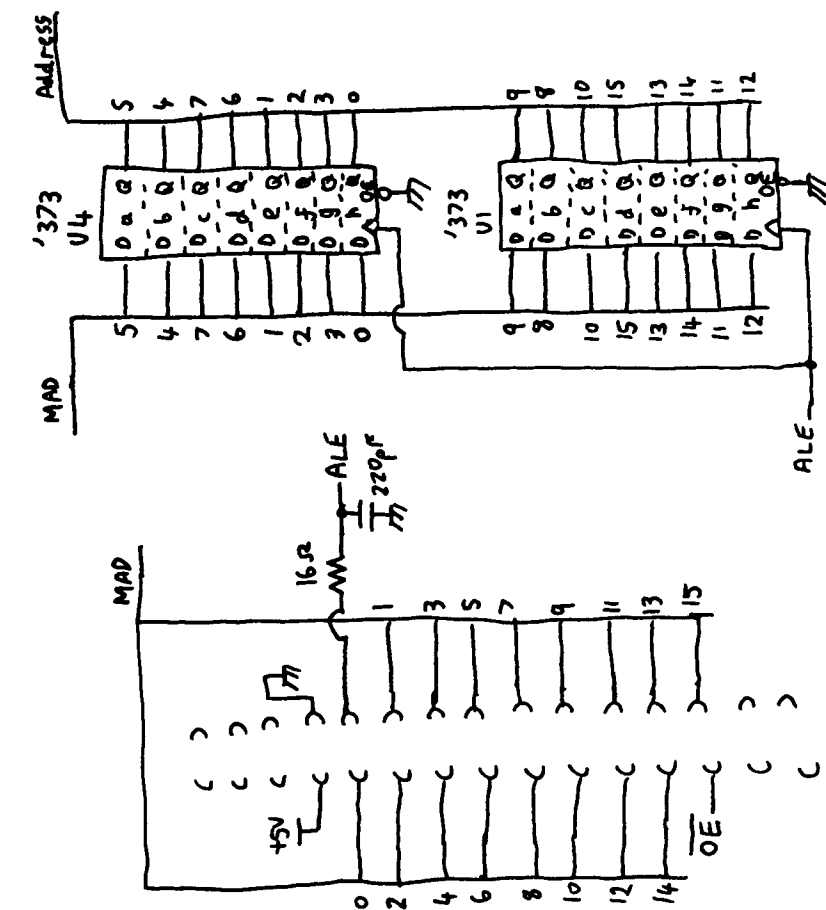
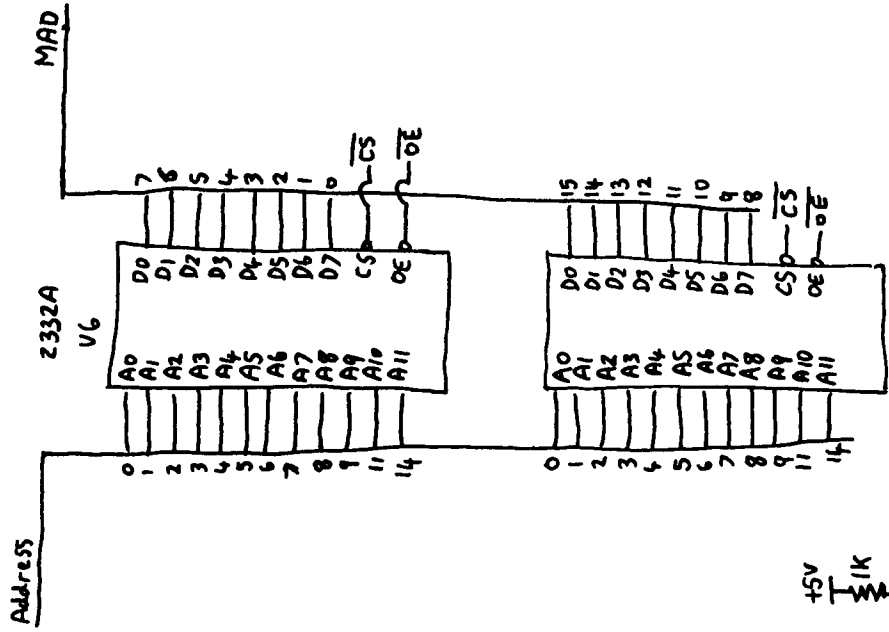
HP9831 BASIC

- U2 1818-2661
- U3 1818-2660
- U4 1818-2659
- U5 1818-2658
- U6 1818-2657
- U7 1818-2656
- U9 1818-2650
- U10 1818-2651
- U11 1818-2652
- U12 1818-2653
- U13 1818-2654
- U14 1818-2655

HP9831 System ROM Cartridge (also HP9825)

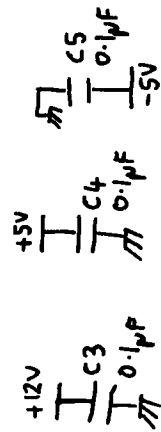
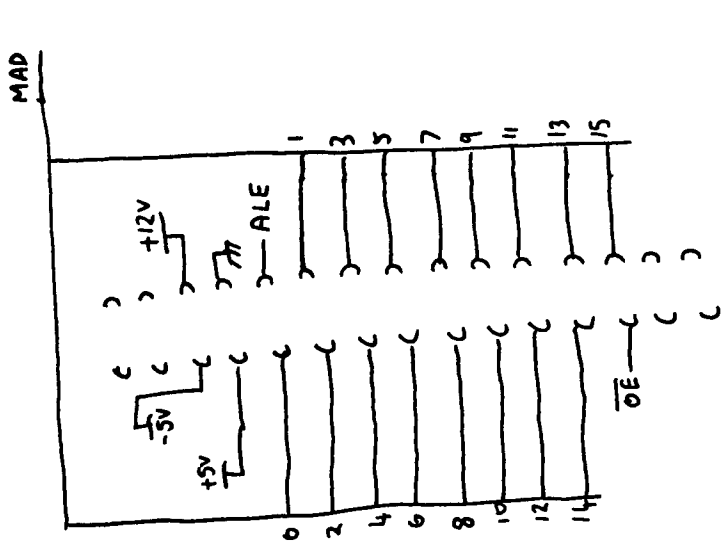
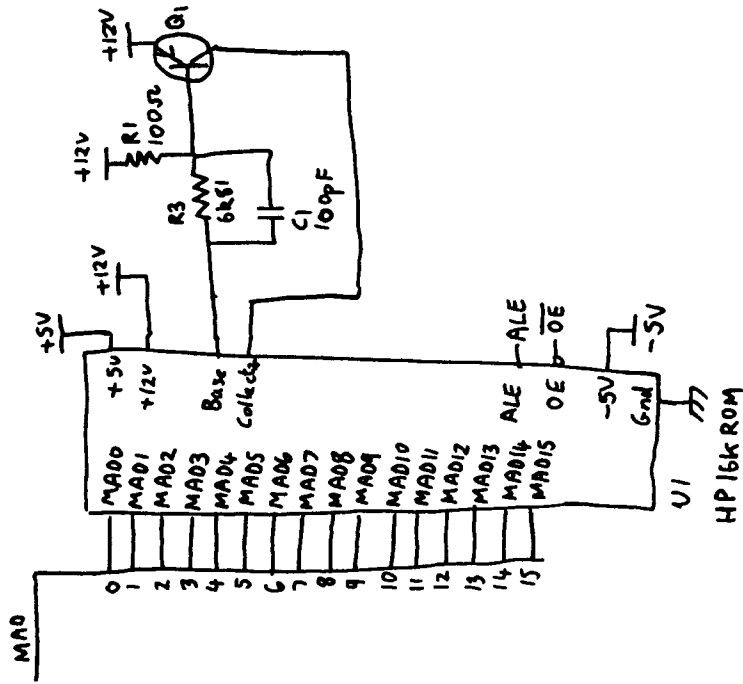
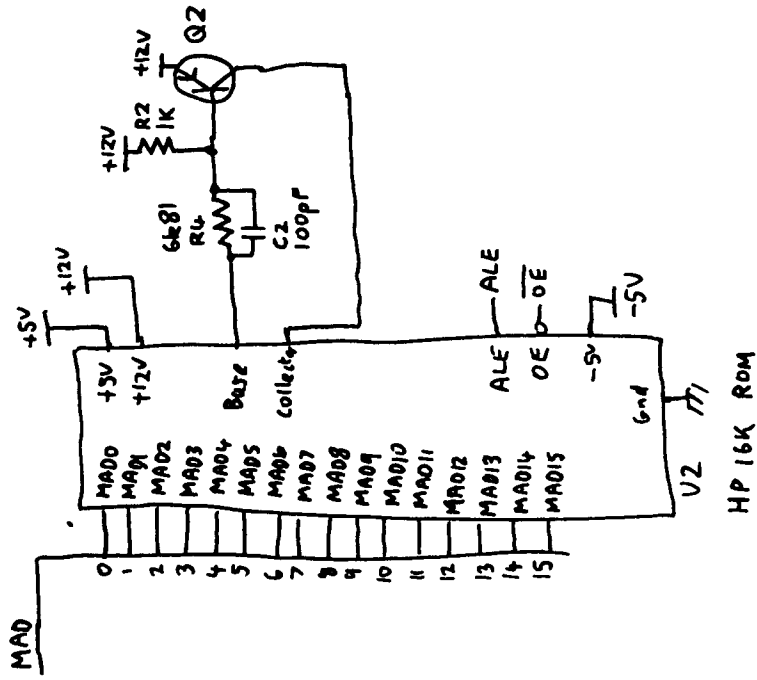
(09825-66513)
(09831-66513)





PCB Fitted Component Side
Down

HP 9825 ROM Cartridge (Type 1)



Matrix ROM
 U1 1818-2632
 U2 N/F

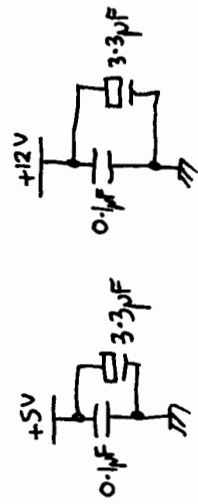
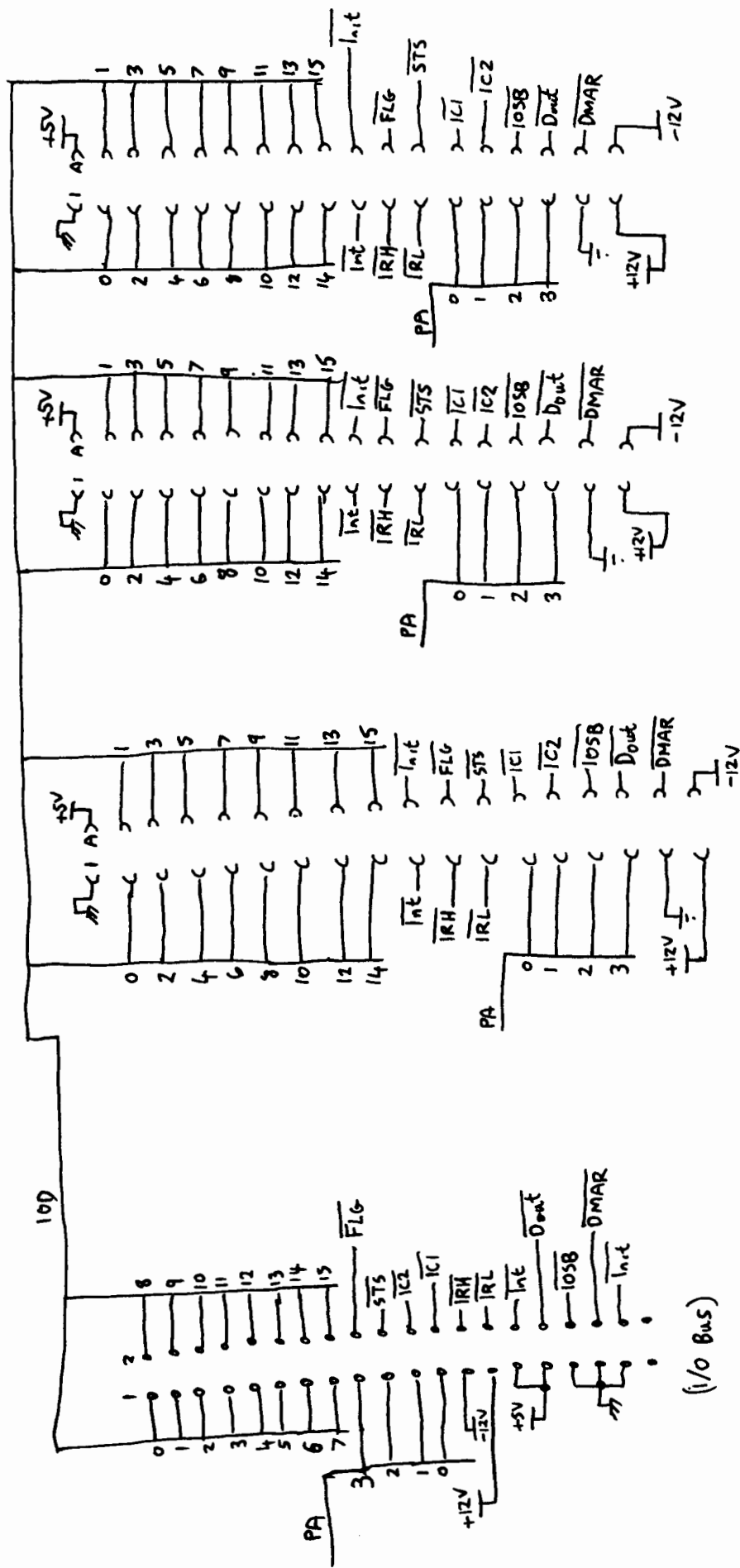
PCB Fitted Component Side

UP

(Type 2)

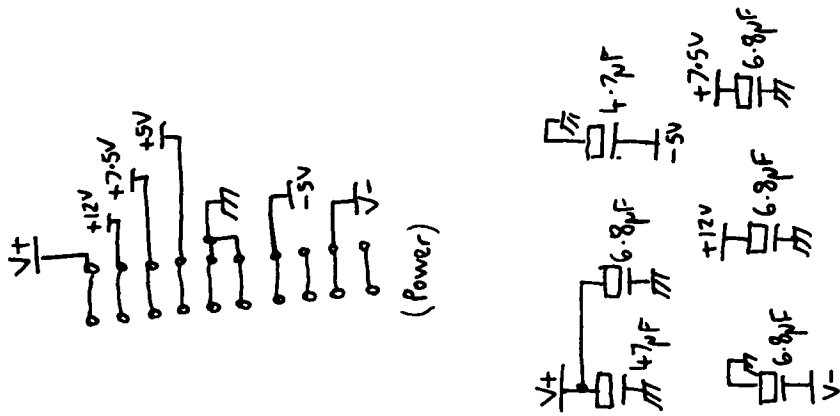
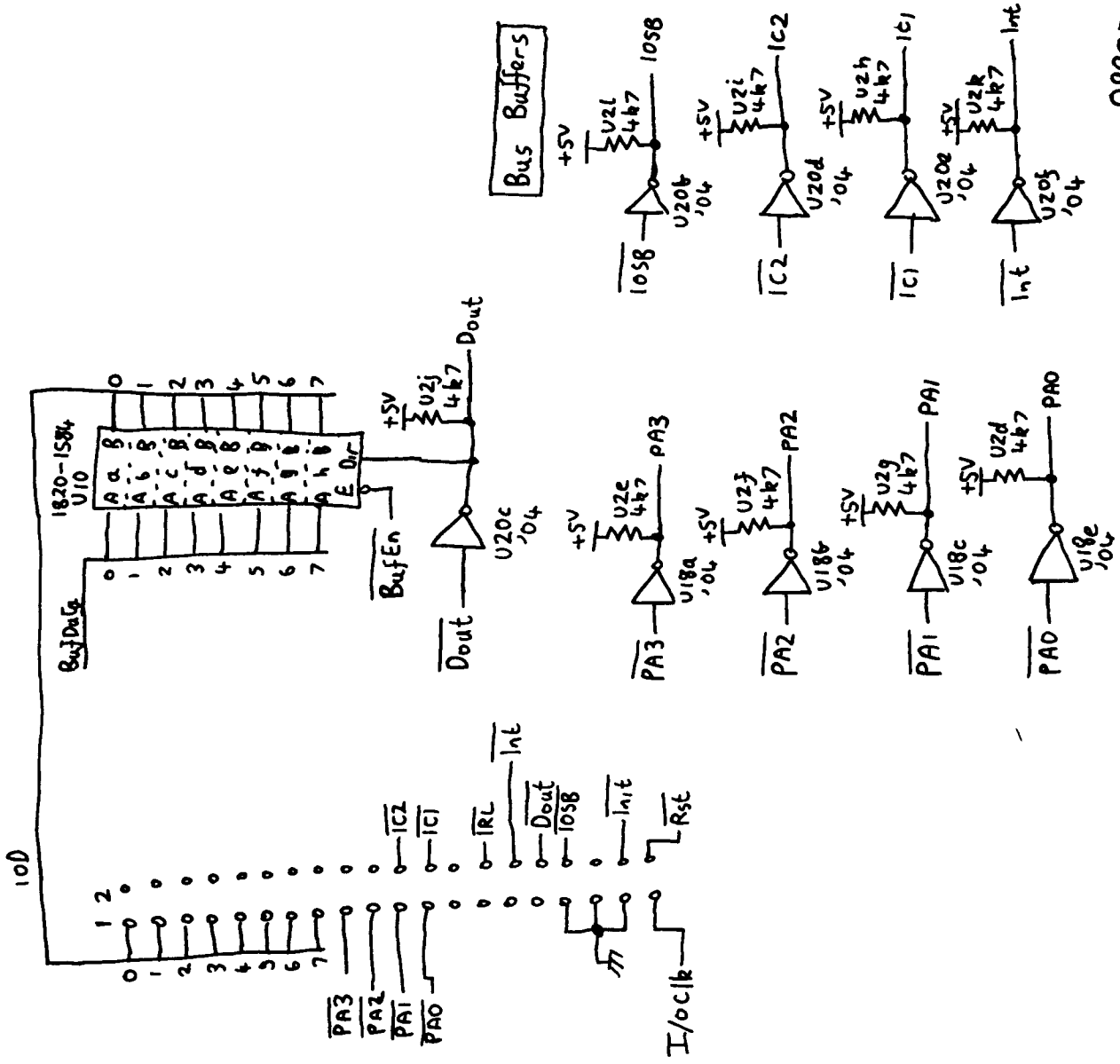
HP 1825 ROM Cartridge

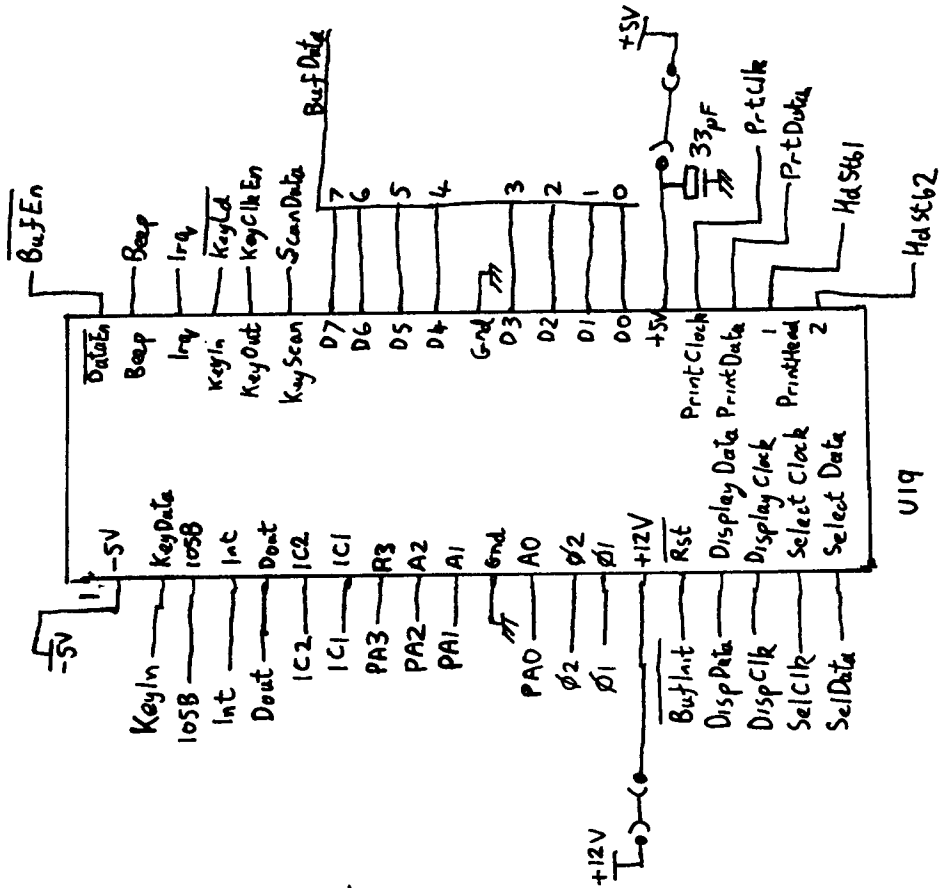
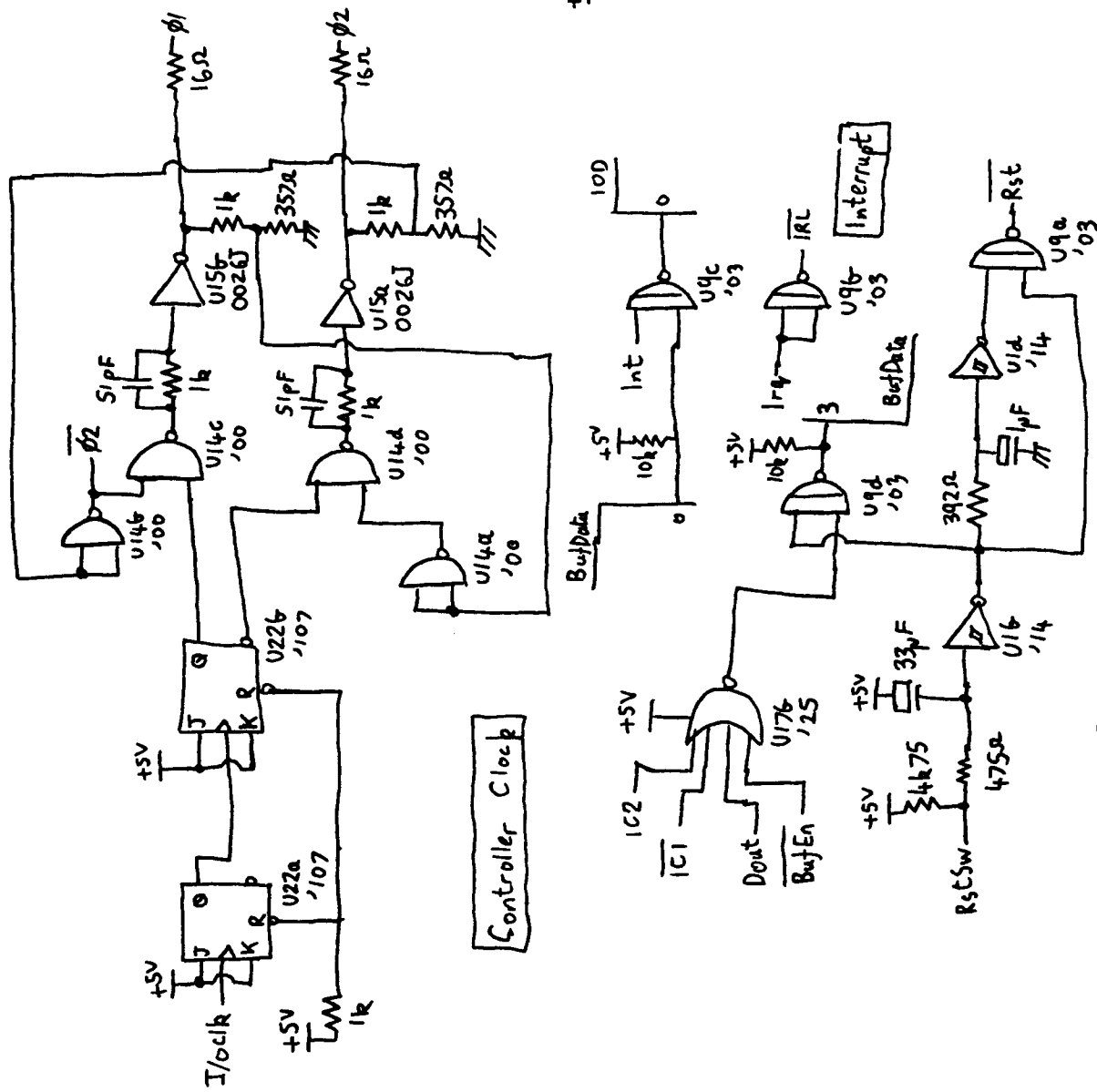
HP 16K ROM



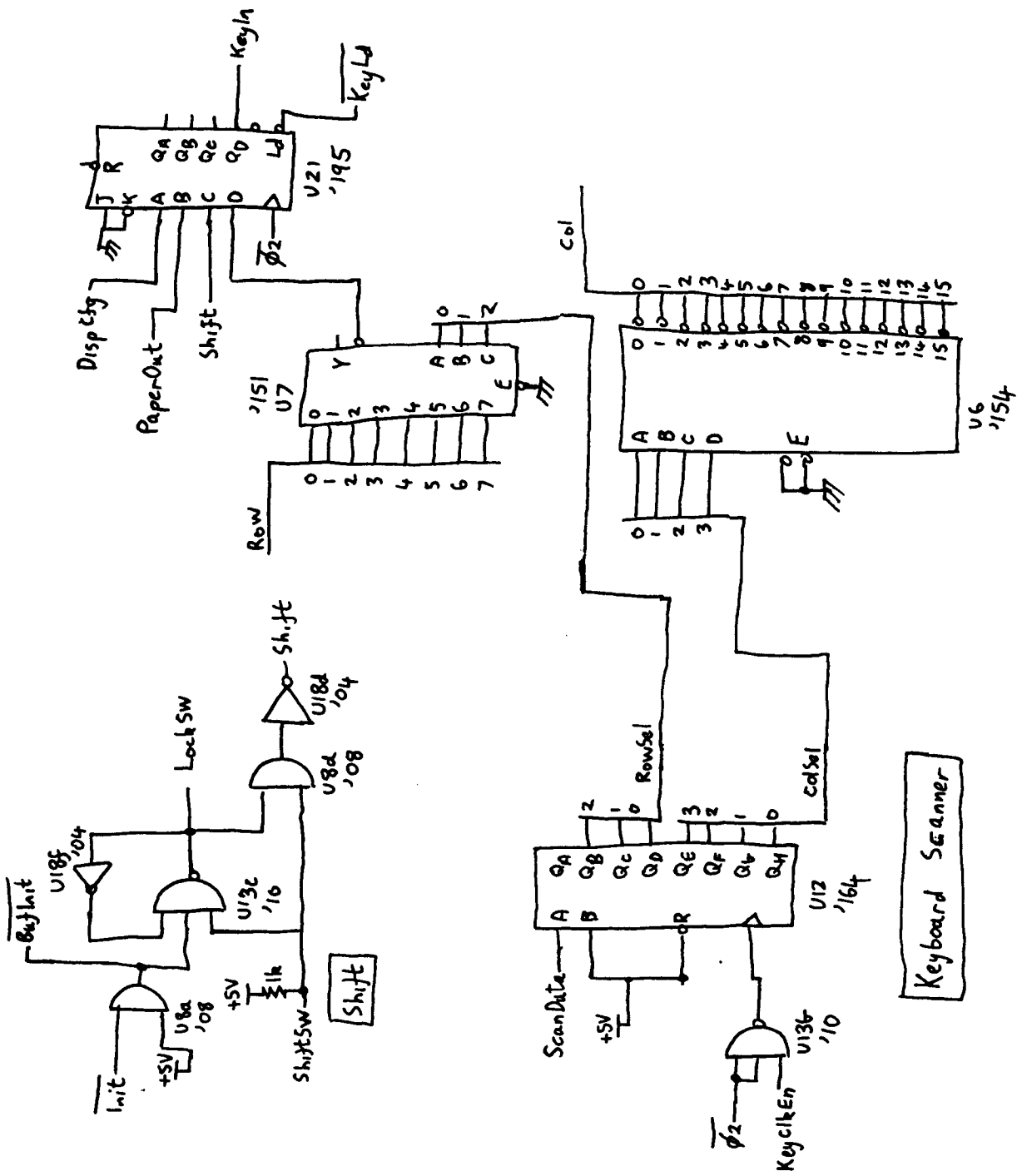
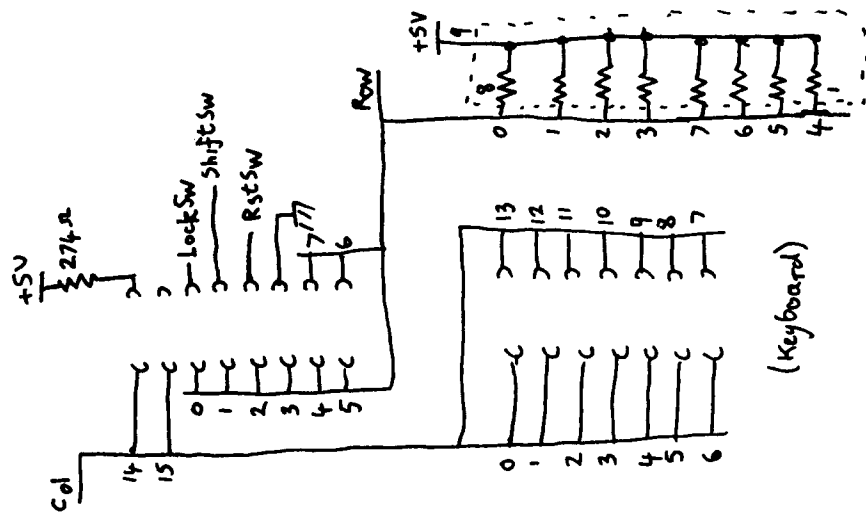
09825-66571

HP 9825 I/O Backplane

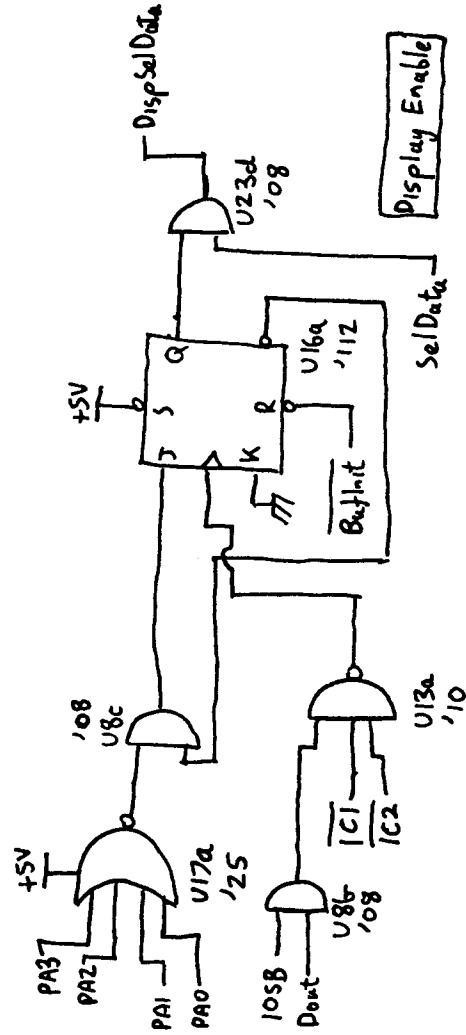
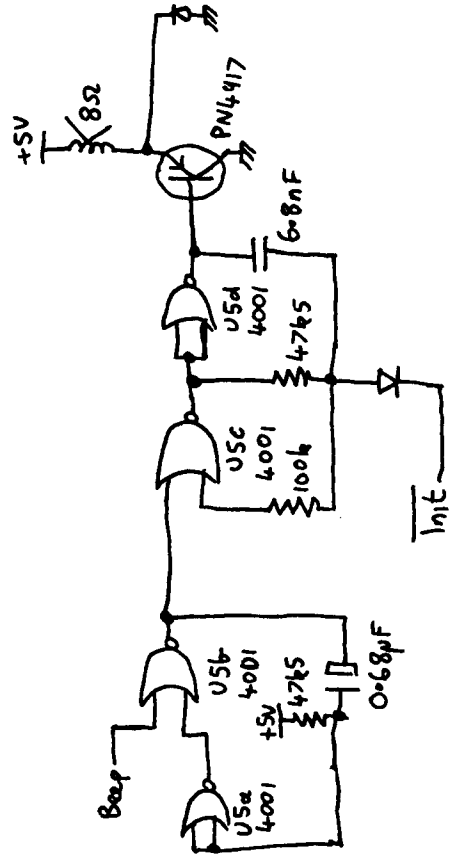
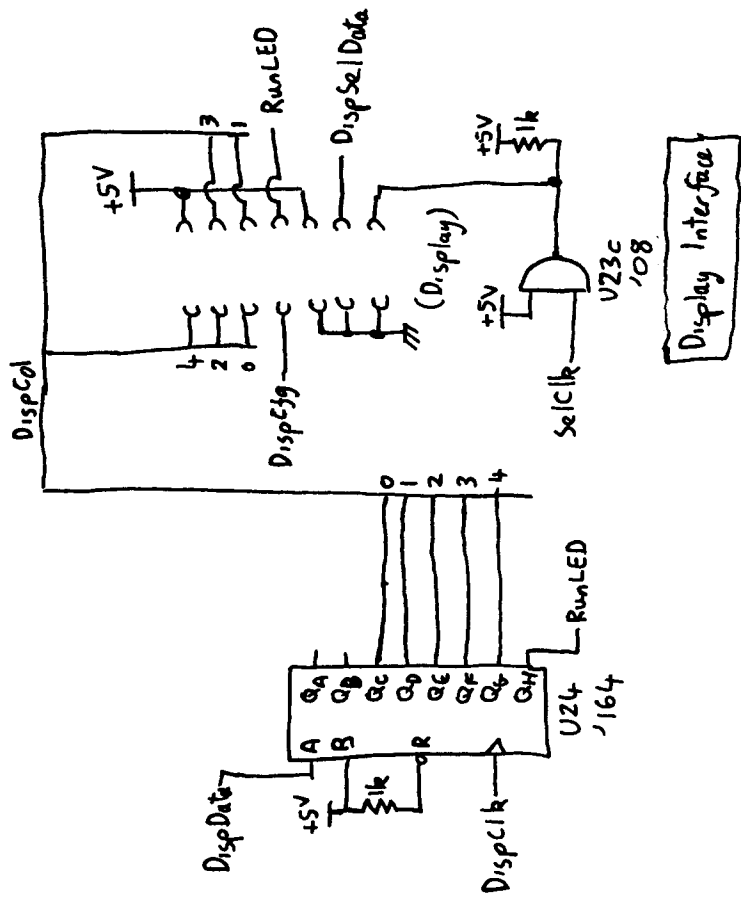


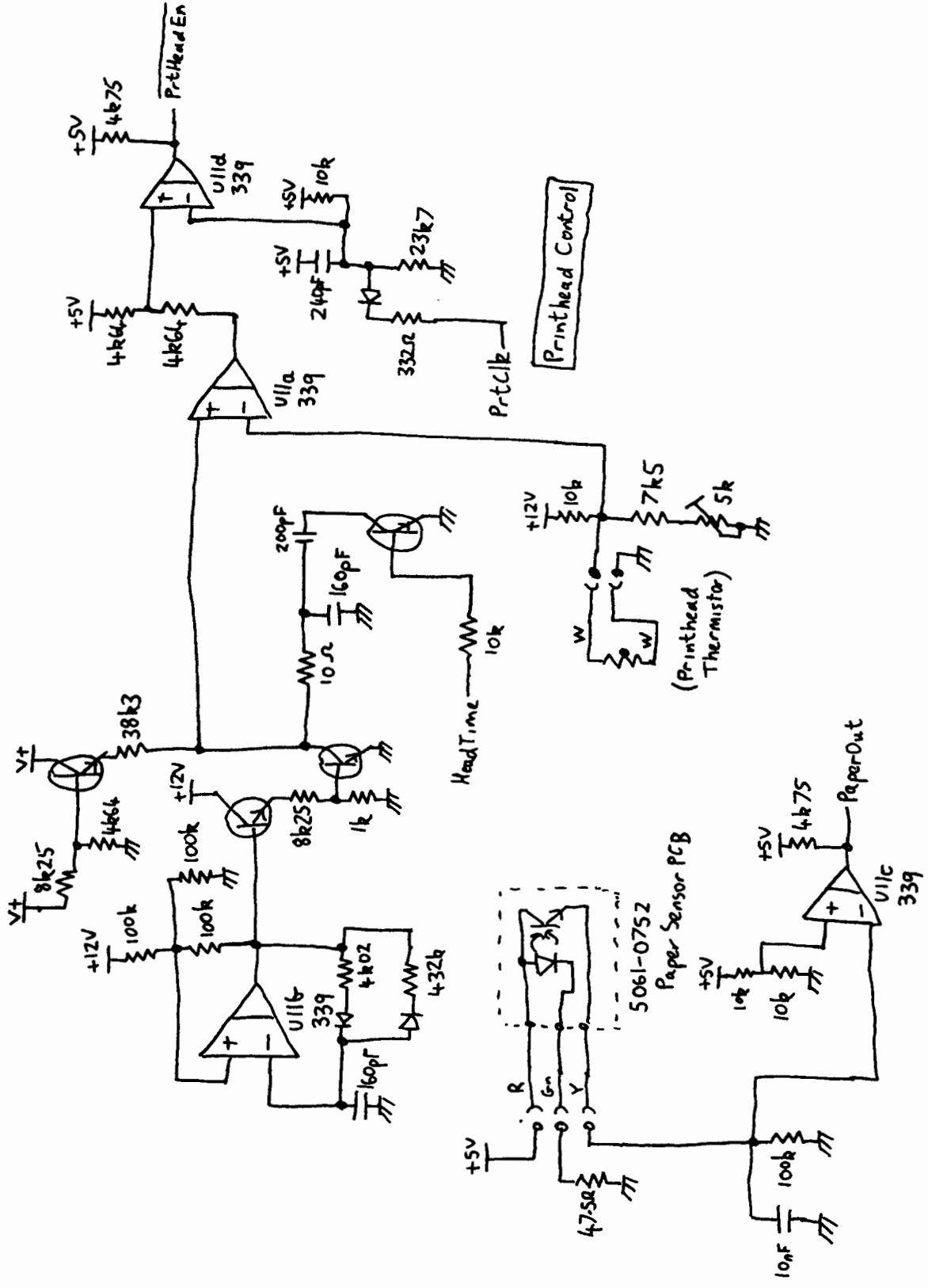


I/O Controller



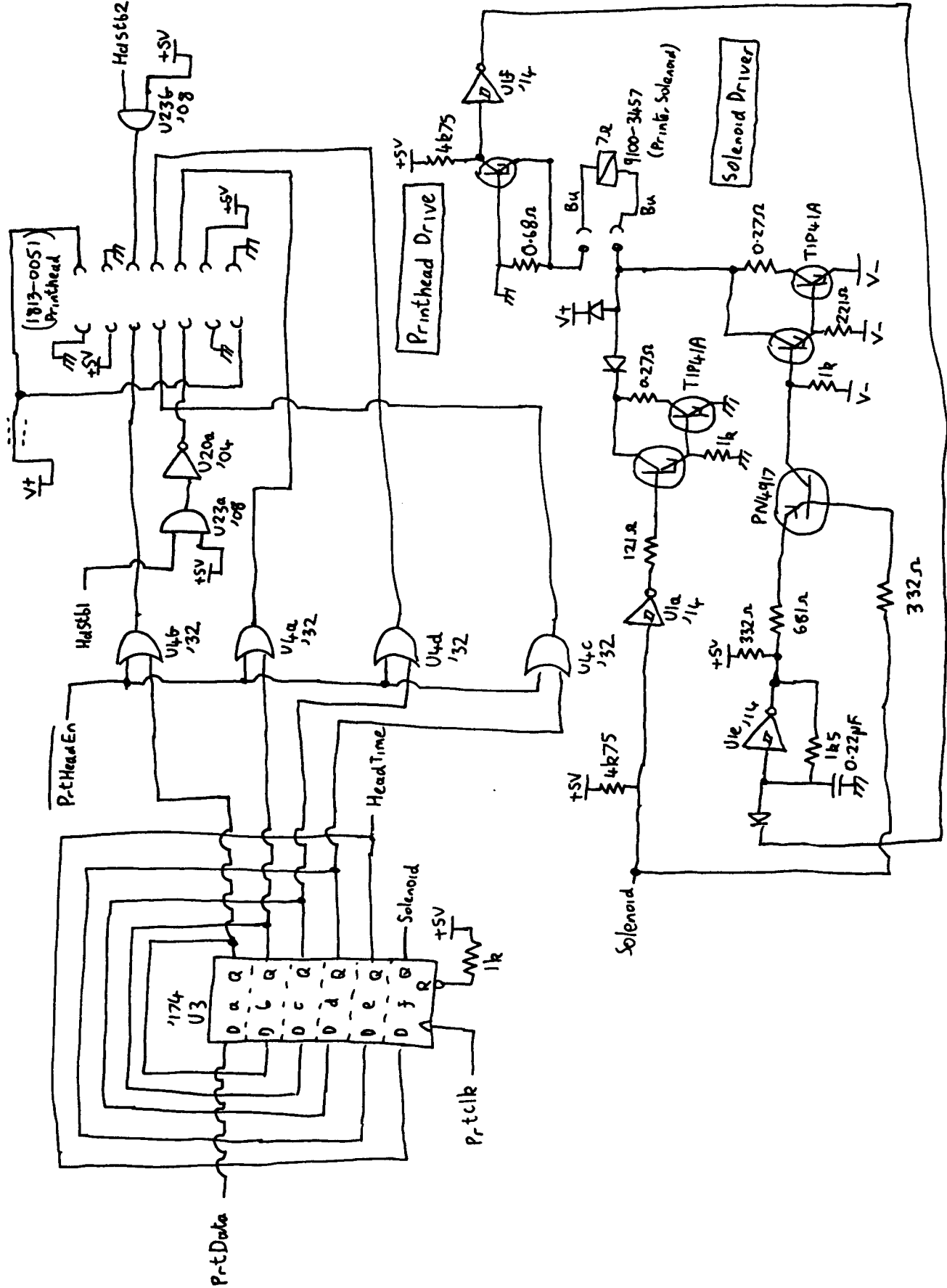
Keyboard Scanner

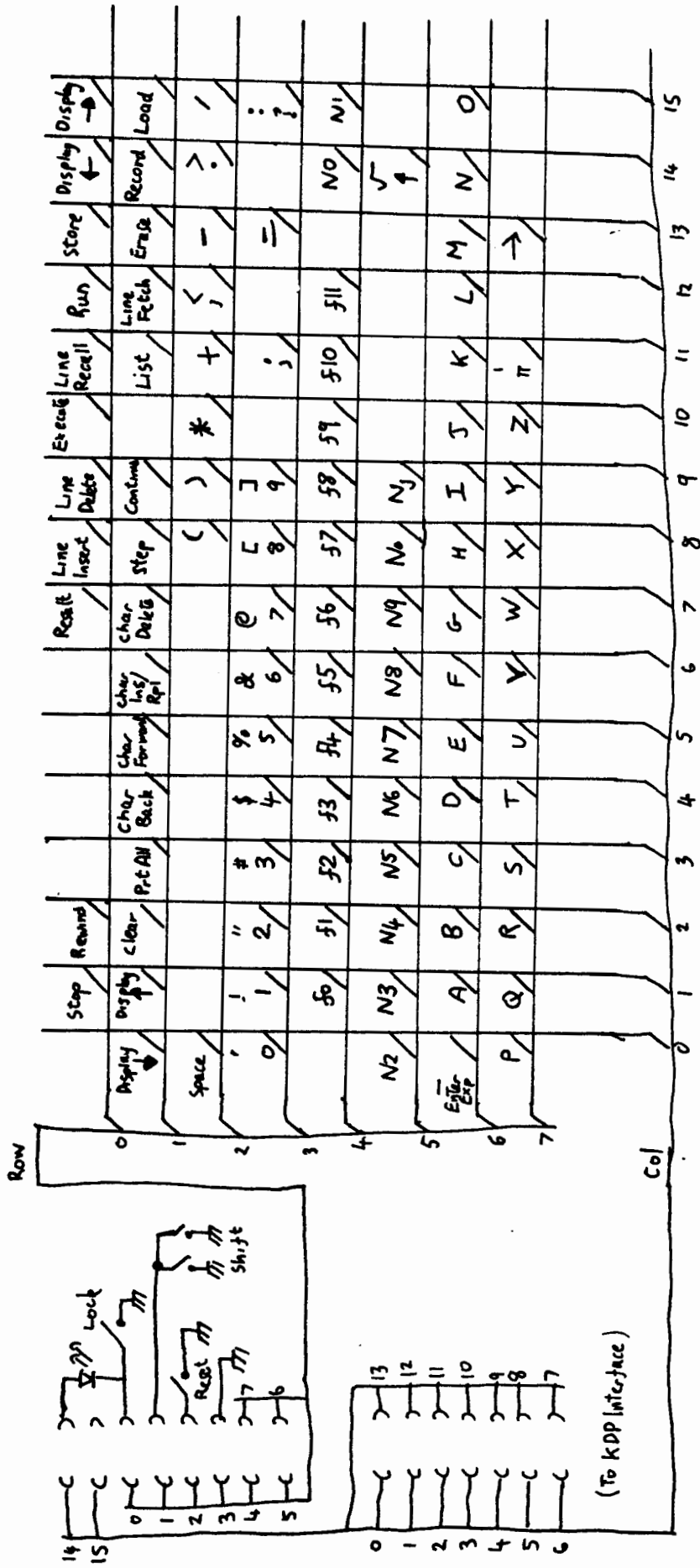




Paper Out Sensor

Printhead Control





HP 9831 Changes

Row	Col	Function
0	7	N↑
0	8	Line Delete
0	9	Line Stop
1	6	Char Insert
1	8	Init
1	11	Trace
1	14	Store
3	11	:
3	15	?
7	11	/
7	13	Result

09825-66537
5021-1416

HP 9825 Keyboard

Reset Prt All Recall Step

↓ ↑

Delete Insert Recall Fetch

f0 f1 f2 f3 f4 f5

Erase Load Recall List

← →

Back Forward Delete Ins/Rep

f6 f7 f8 f9 f10 f11

i	"	#	\$	%	&	e	£	7	'		Row
2	3	4	5	6	7	8	9	0	P	Store	
Q	W	E	R	T	Y	U	I	O	P	Store	
Shift Lock	A	S	D	F	G	H	J	K	L	;	√
Shift	Z	X	C	V	B	N	M	<	>	:	?
Space Bar										Stop	Continue

Clear	Enter	()	/
→	7	8	9	*
=	4	5	6	-
Execute	1	2	3	+
	∅	.	,	Result

HP 9825 Keypcaps

Recall PrtAll Recall Init

↓ ↑

Step Delete Recall F2k

f0 f1 f2 f3 f4 f5

Erase Load Store Trace

← →

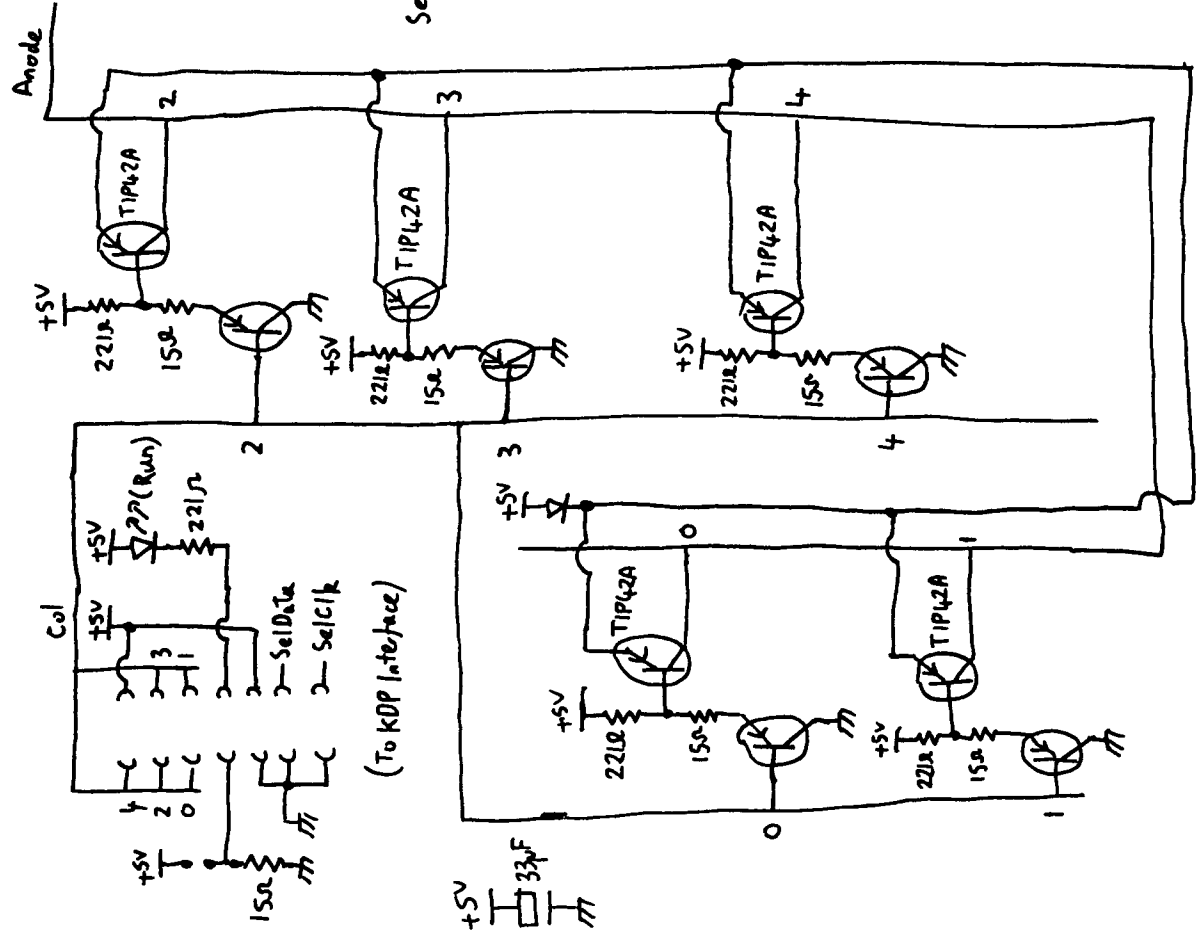
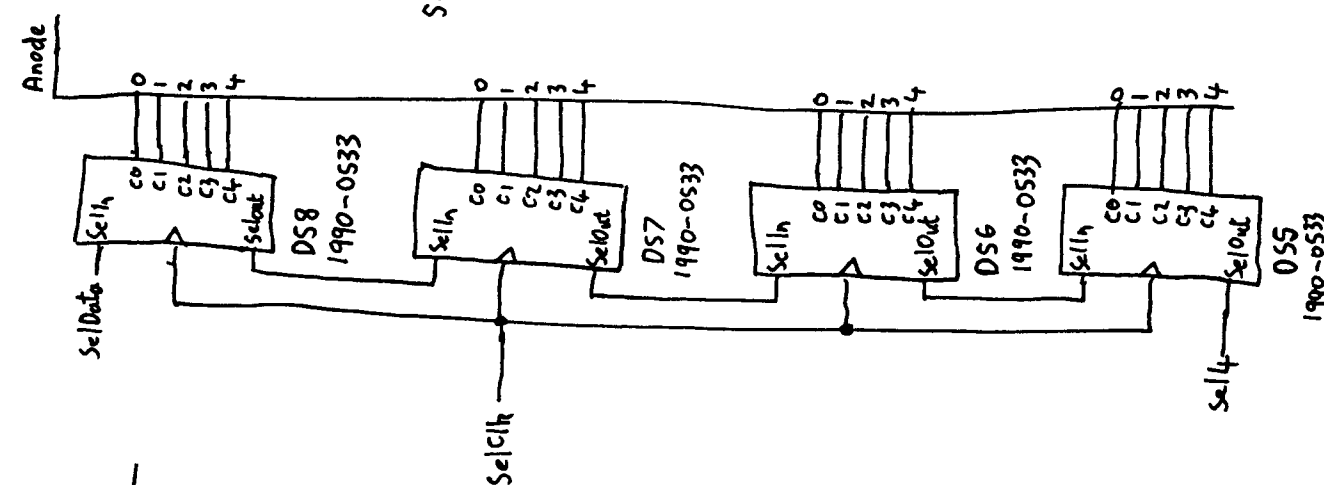
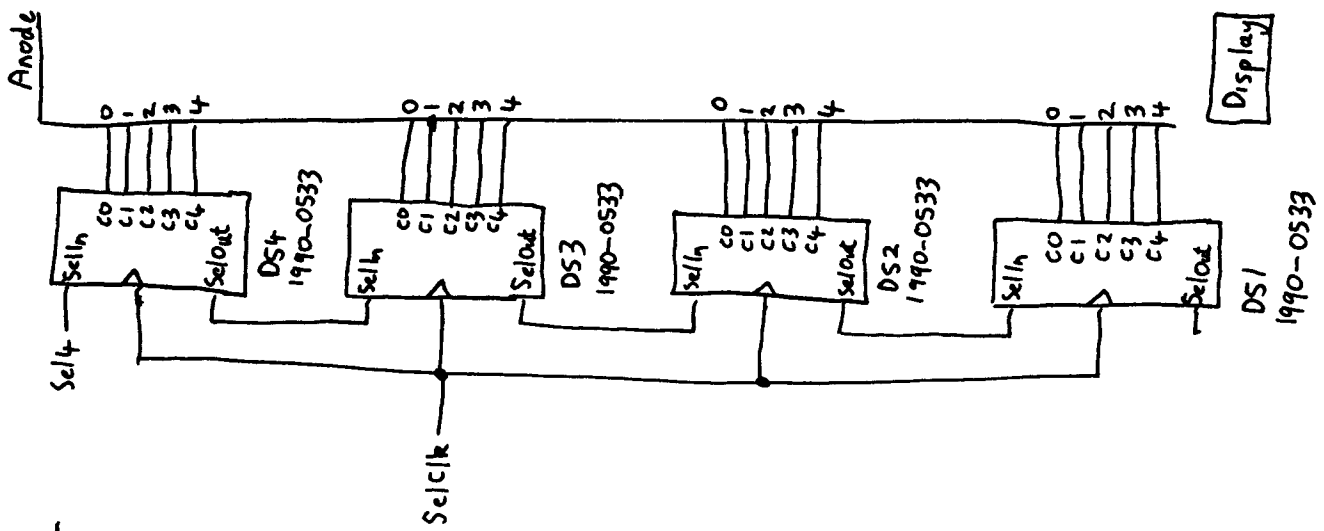
Back Find Delete Insert

f6 f7 f8 f9 f10 f11

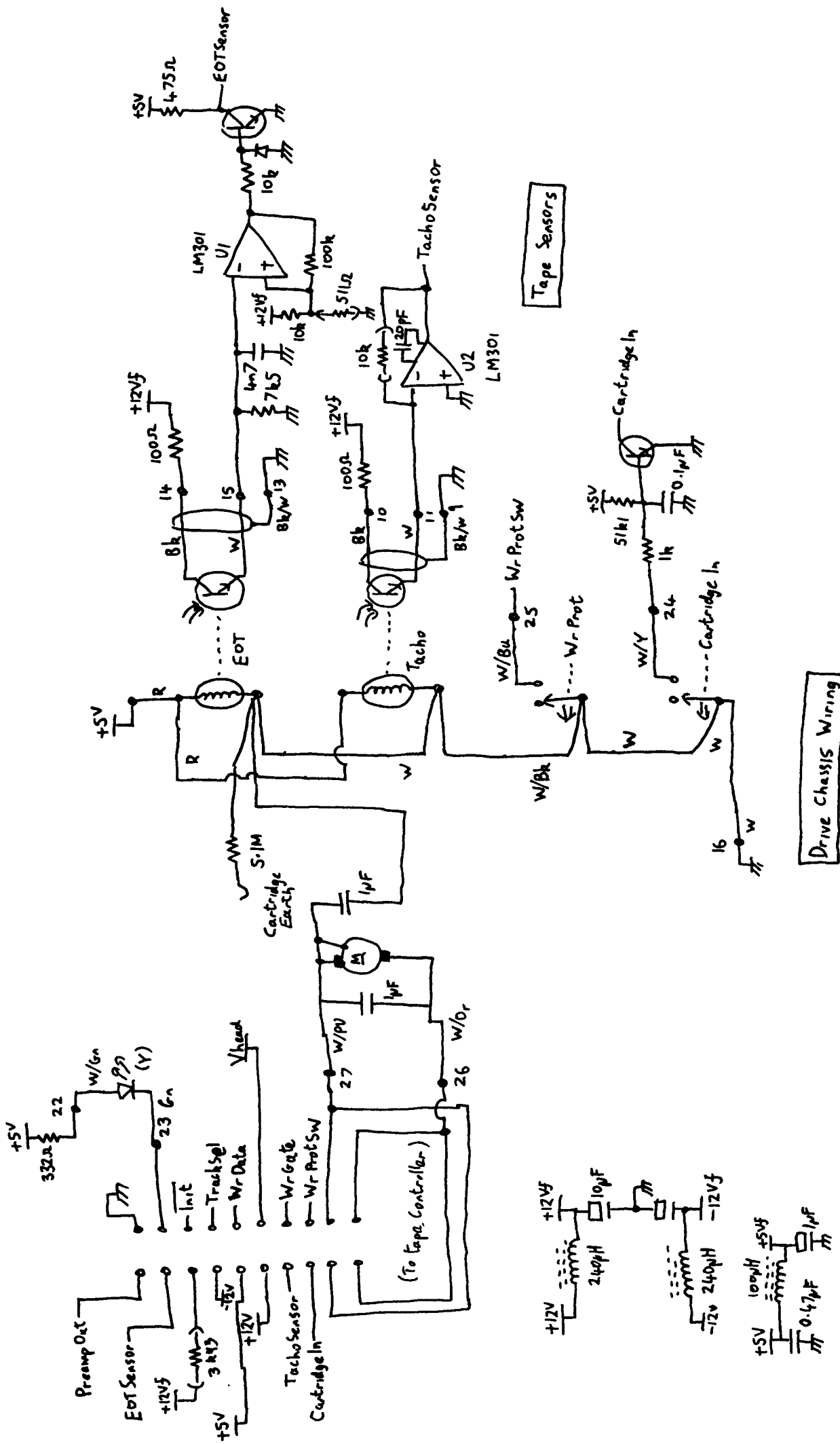
;	"	#	3	4	%	&	5	6	7	8	9	'	0	-	Run
Q	W	E	R	T	Y	U	I	O	P	Store					
Shift Lock	A	S	D	F	G	H	J	K	L	:	;	√	↑		
Shift	Z	X	C	V	B	N	M	<	>	:	;	?	;	Shift	
Space Bar														stop	Continue

Clear	Enter Exp	()	/
Result	>	8	9	*
=	4	5	6	-
Ex 2 1 2	1	2	3	+
	0	.	J	↑

HP9831 Keycaps

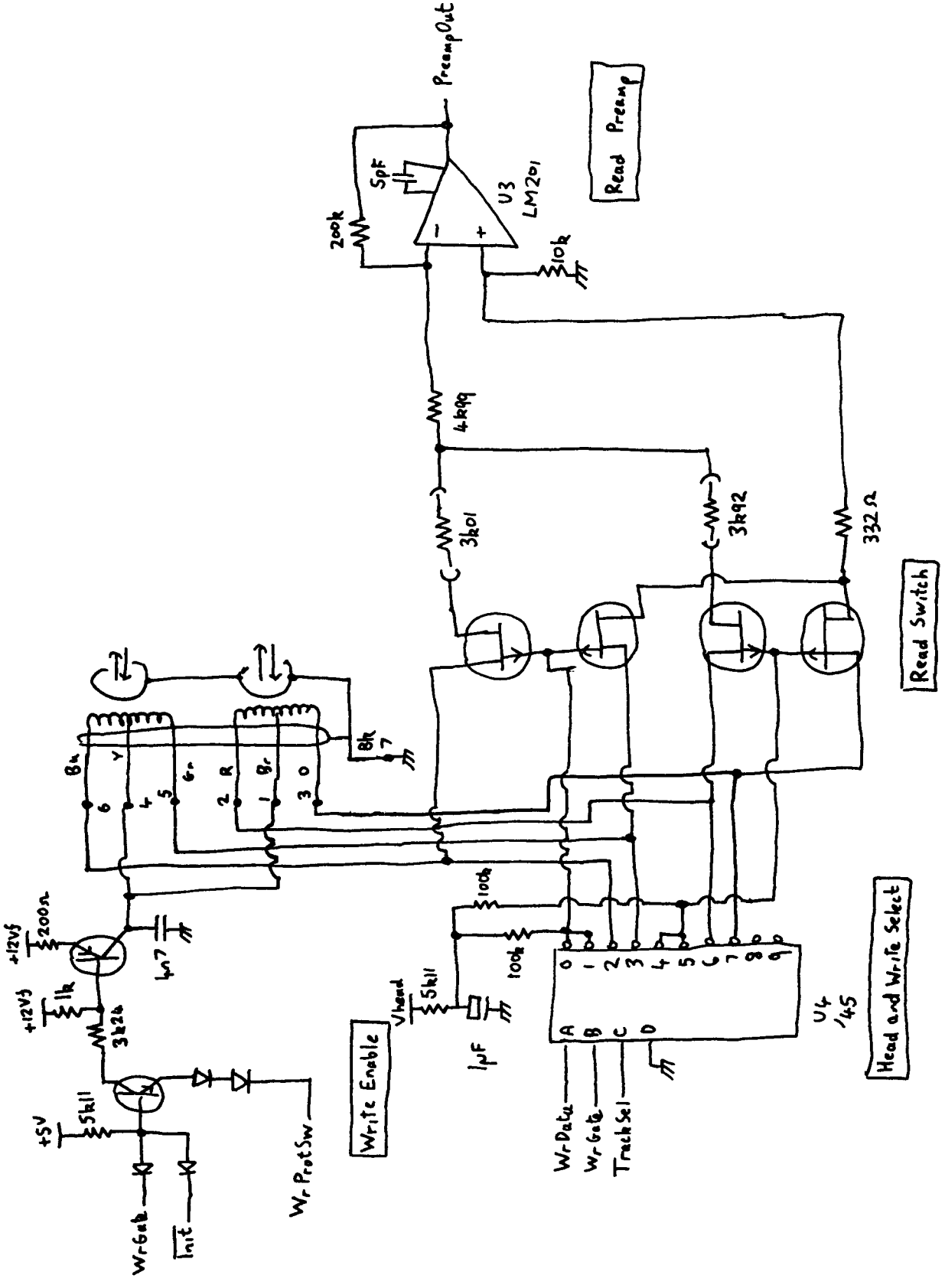


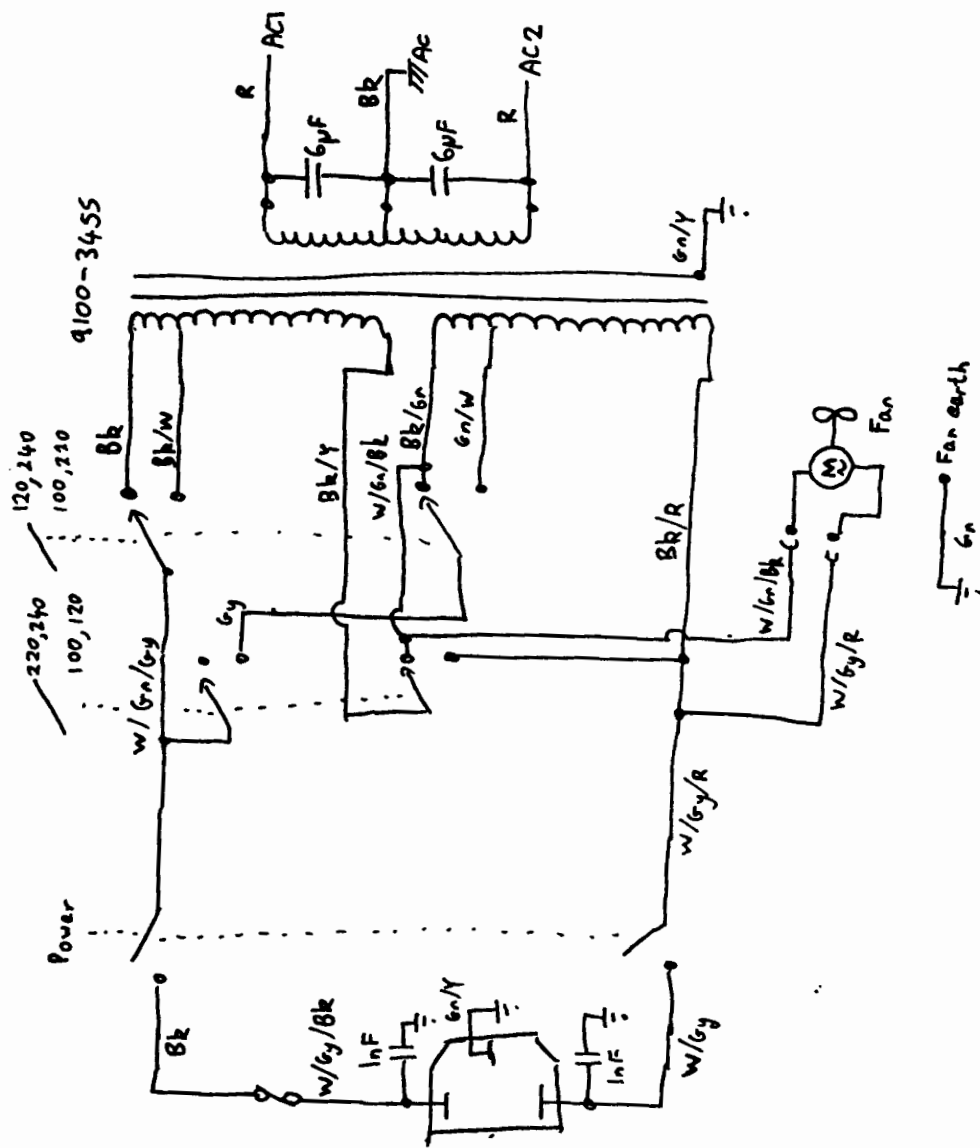
HP 9825 Display PCB
09825-66541
1990-0533



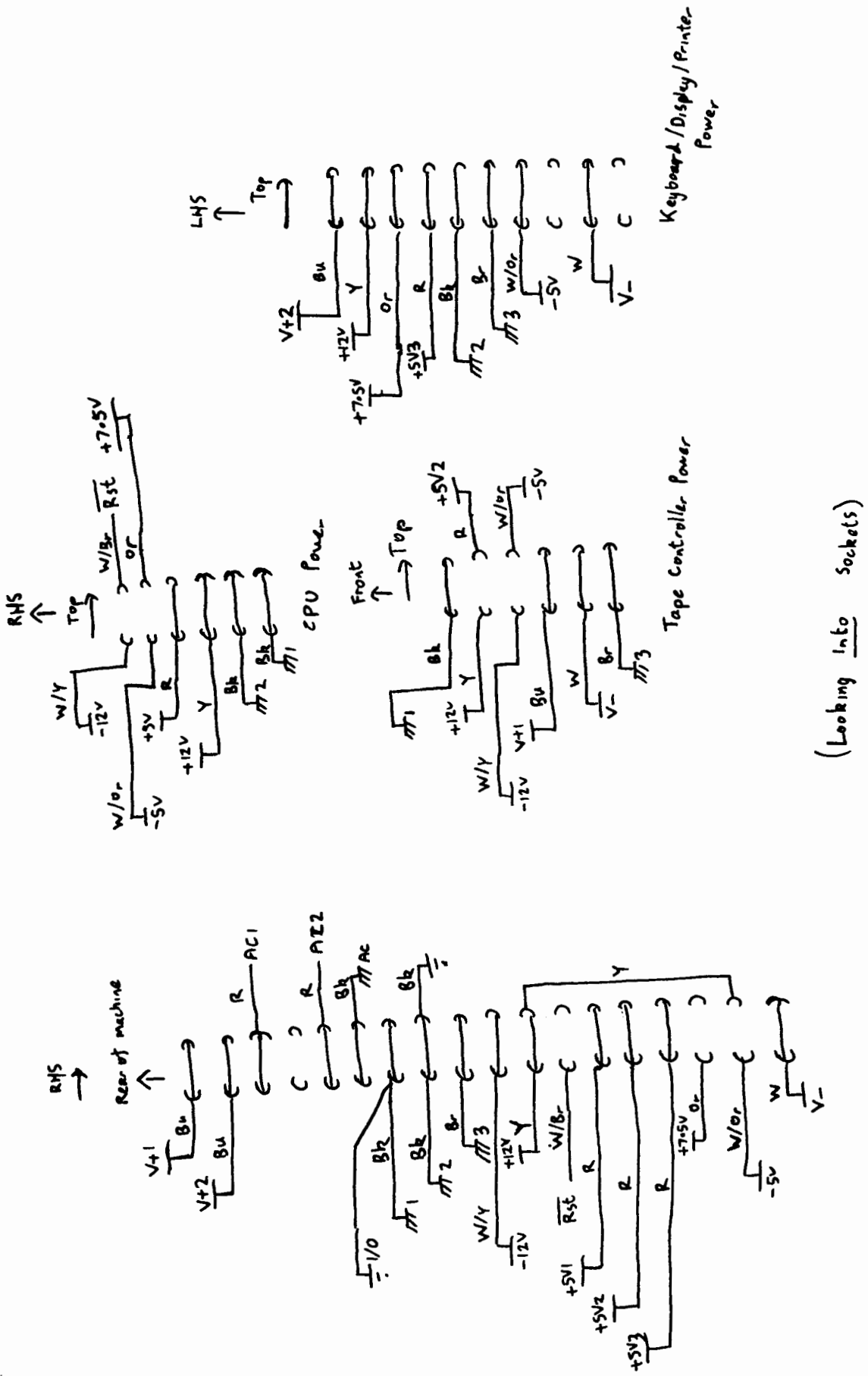
Drive Chassis Wiring

Tape Sensors





HP9825 Power wiring sheet ①



(Rear of machine)

