CPU board Power

- −5V
- +12V
- +5V
- Gnd

Front

CPU/Keyboard-Display

Towards CPU

- $\overline{Dout}$stb
- ACA2En
- $\overline{STM2}$
- Gnd
- Gnd
- Vcc
- Vcc
- Din∅
- Din3
- Din1
- Din2
- Din4
- Din5
- Din7
- Din6
- SelA
- Flag CA1
- SelD
- $\overline{Dout}$ 8 PA4
- SelB

- $\overline{Dout}$9 PA5
- SelC
- $\overline{Dout}$10 PA6
- $\overline{Rst}$
- $\overline{Dout}$11 PA7
- $\overline{Dout}$0 PB0
- $\overline{Dout}$1 PB1
- $\overline{Dout}$2 PB2
- $\overline{Dout}$3 PB3
- $\overline{Dout}$4 PB4
- $\overline{Dout}$5 PB5
- $\overline{Dout}$6 PB6
- CPUClk ∅2
- $\overline{Dout}$7 PB7
- Tape Drv EOT ?? CB1
- Addr Ck / Halt (Factory Tst??)
- $\overline{KYB}$
- CPUClk∅1
- $\overline{WaitEn}$???
- RAMEn??

9815

Keyboard → Interface connector

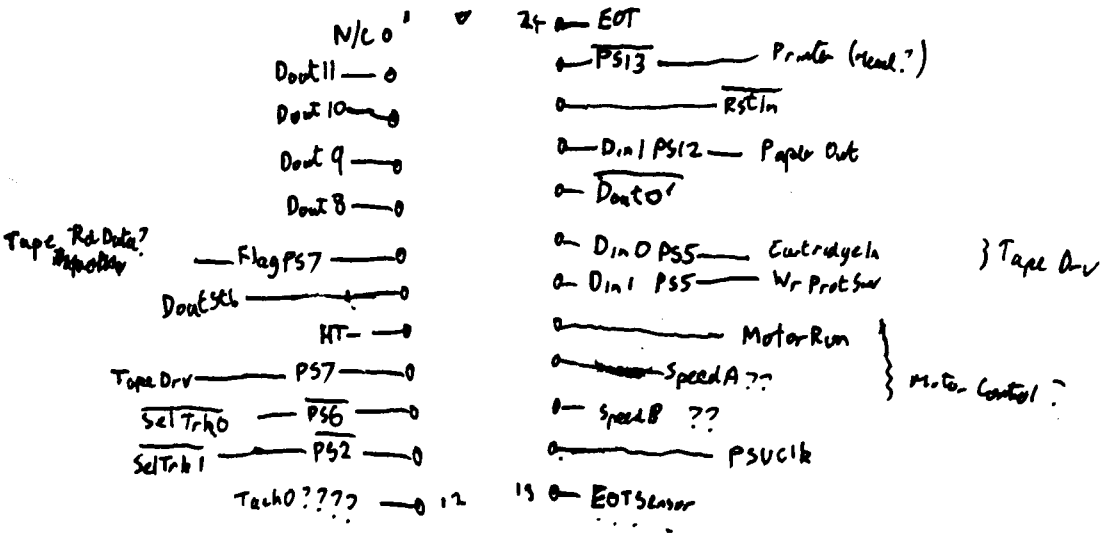
LHS

- R1
- R0
- R2
- R3
- R4
- R5
- R6
- R7
- C1
- C0
- C2
- C3
- C4

- C5
- C6
- C7
- +5V
-
-
-
- Prt Sw Comm
- ~~PGM~~ PRGM
- Prog Sw Comm
- Auto Start
- All
- Norm

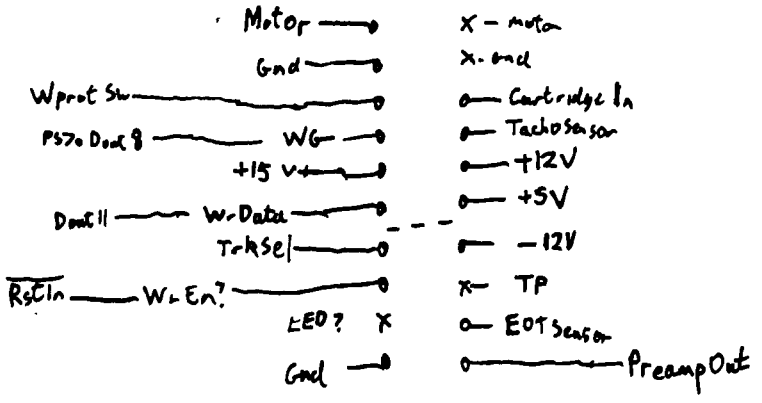
HP9815

Keyboard/Display Interface — PSU



Tape Drive

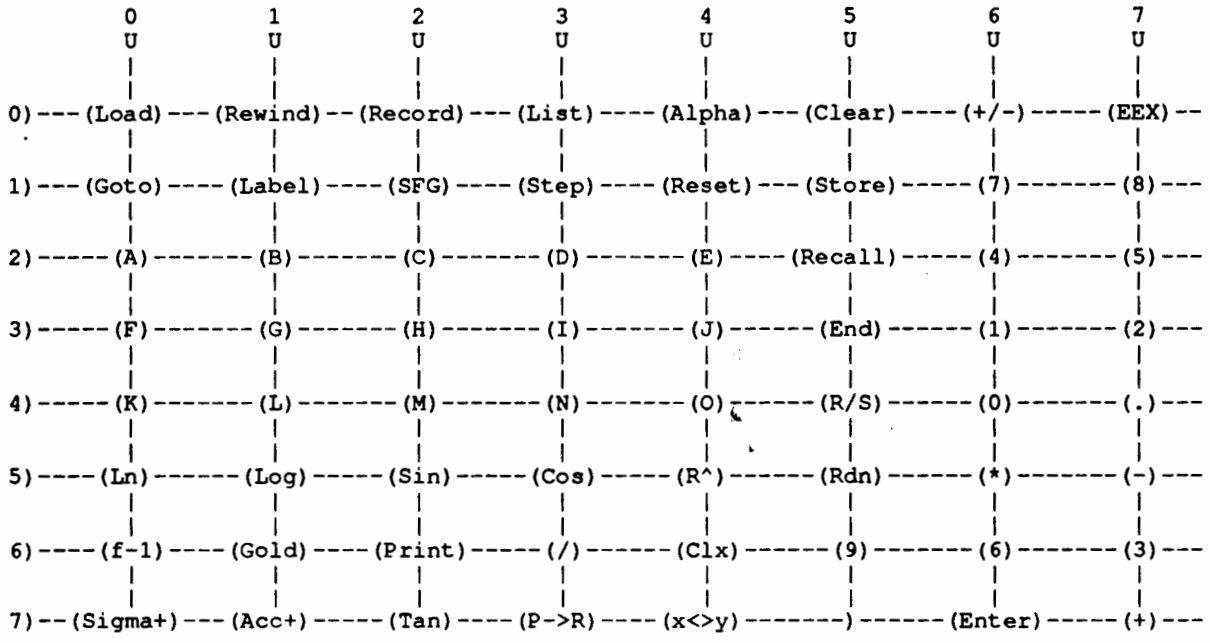
→ Comp side



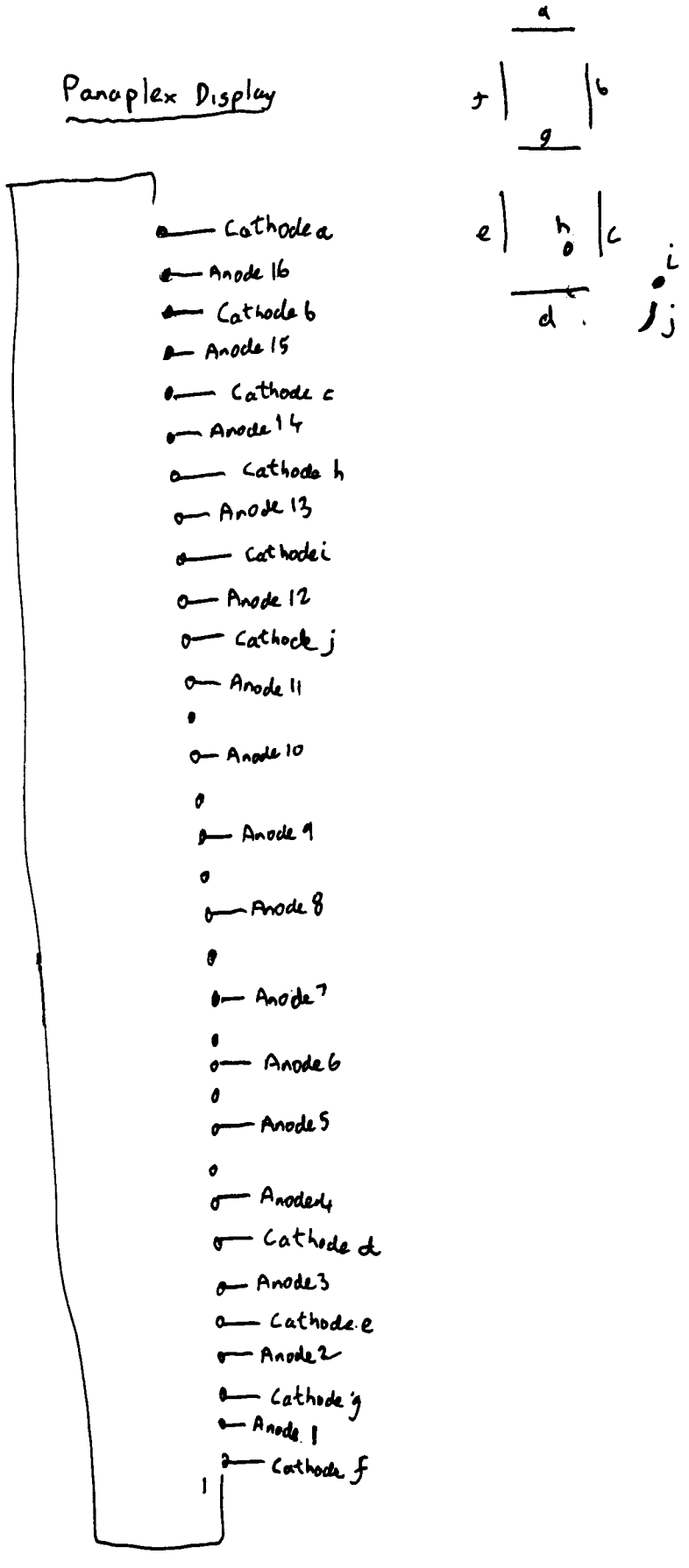
HP9815 I/O Slot Pinout

-5v	A1	B1	+12v
A14	A2	B2	/STM2
DM7	A3	B3	DM6
DM4	A4	B4	DM5
DM3	A5	B5	DM2
DM0	A6	B6	DM1
A6	A7	B7	A10
A9	A8	B8	A8
A3	A9	B9	A12
A0	A10	B10	A4
A11	A11	B11	A5
A1	A12	B12	A7
A13	A13	B13	A2
AD2	A14	B14	AD7
AD5	A15	B15	AD6
AD4	A16	B16	AD8
AD3	A17	B17	AD11
ALTCH	A18	B18	AD10
+5v	A19	B19	AD9
+5v	A20	B20	AD0
Gnd	A21	B21	AD1
Gnd	A22	B22	/ATS2
Gnd	A23	B23	/ATS1
ACA2	A24	B24	/CHSA
ACAL	A25	B25	/AFLG

← Bottom


0 1 2 3 4 5 6 7
0) (Load) (Rewind) (Record) (List) (Alpha) (Clear) (+/-) (EEX)
1) (Goto) (Label) (SFG) (Step) (Reset) (Store) (7) (8)
2) (A) (B) (C) (D) (E) (Recall) (4) (5)
3) (F) (G) (H) (I) (J) (End) (1) (2)
4) (K) (L) (M) (N) (O) (R/S) (0) (.)
5) (Ln) (Log) (Sin) (Cos) (R^) (Rdn) (*) (-)
6) (f-1) (Gold) (Print) (/) (Clx) (9) (6) (3)
7) (Sigma+) (Acc+) (Tan) (P->R) (x<>y) (Enter) (+)

Panaplex Display



HP9815

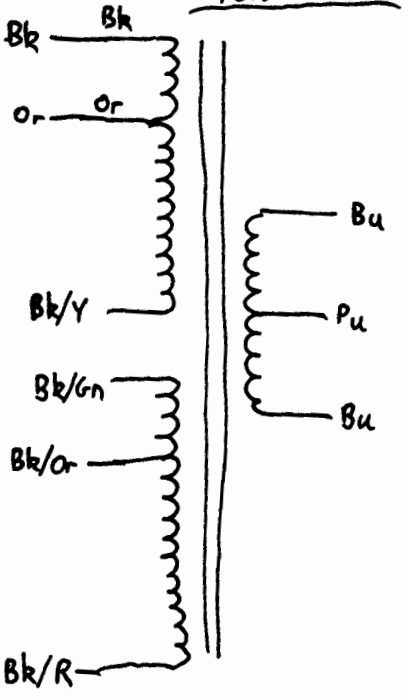
Transformer Assy

- Bk — Chopper collector, Flywheel cathode
- W — chopper base
- Bu — Transformer
- PU — Transformer Ct.
- Bu — Transformer

X

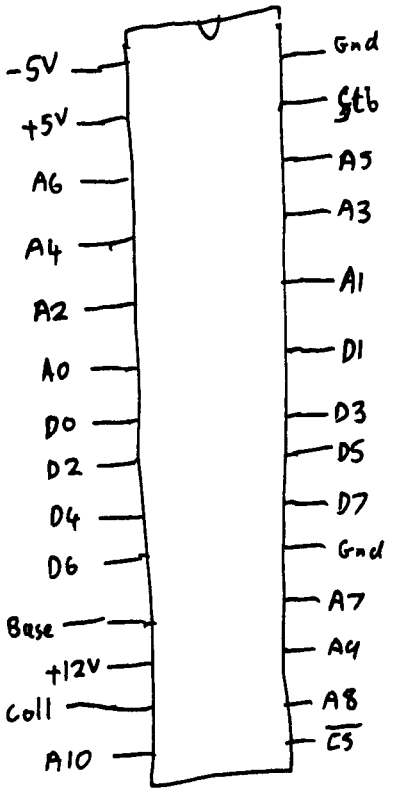
- Y — Flywheel Anode
- Or — chopper emitter, Pass collector
- R — Pass base
- Br — Pass emitter

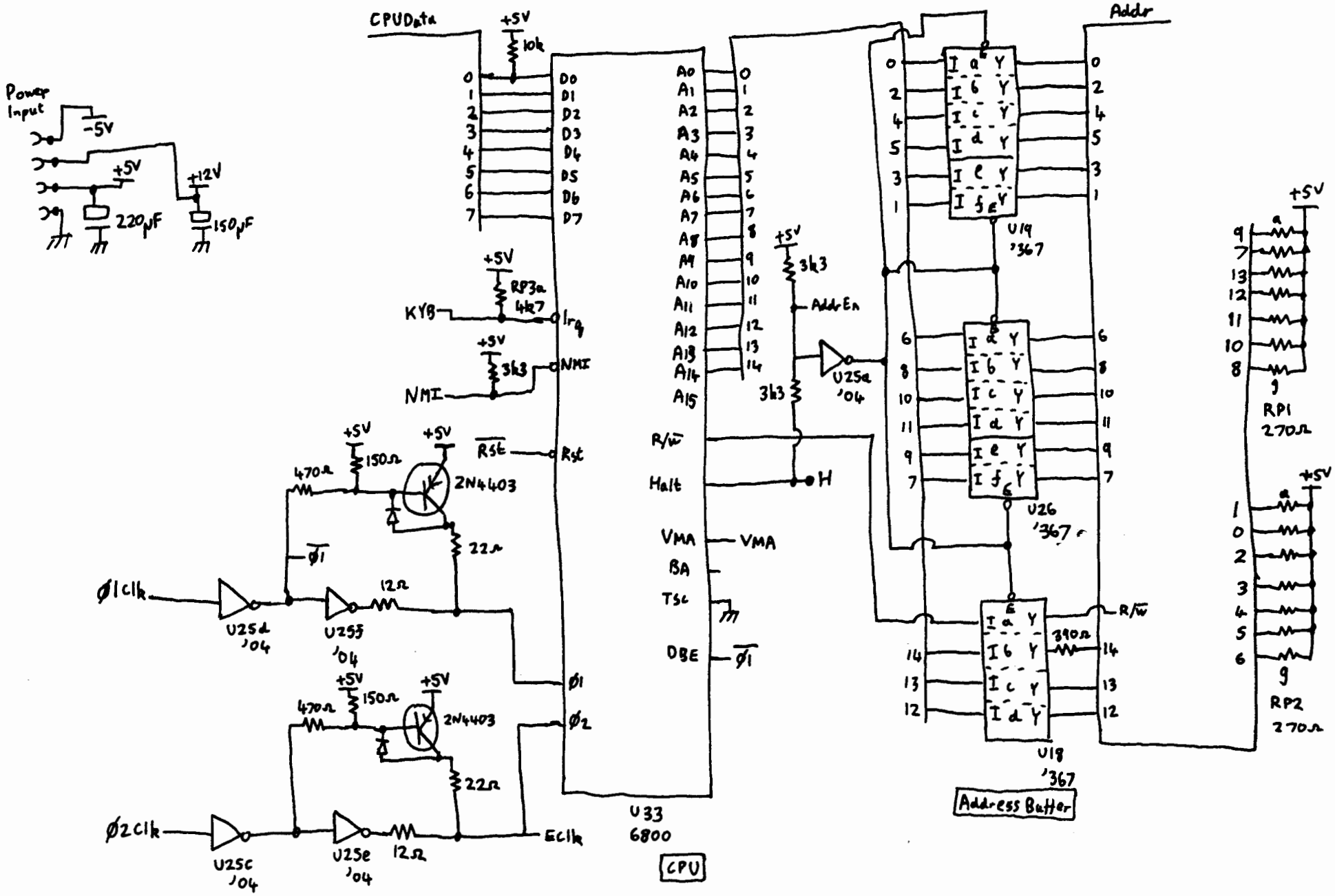
09815-67950



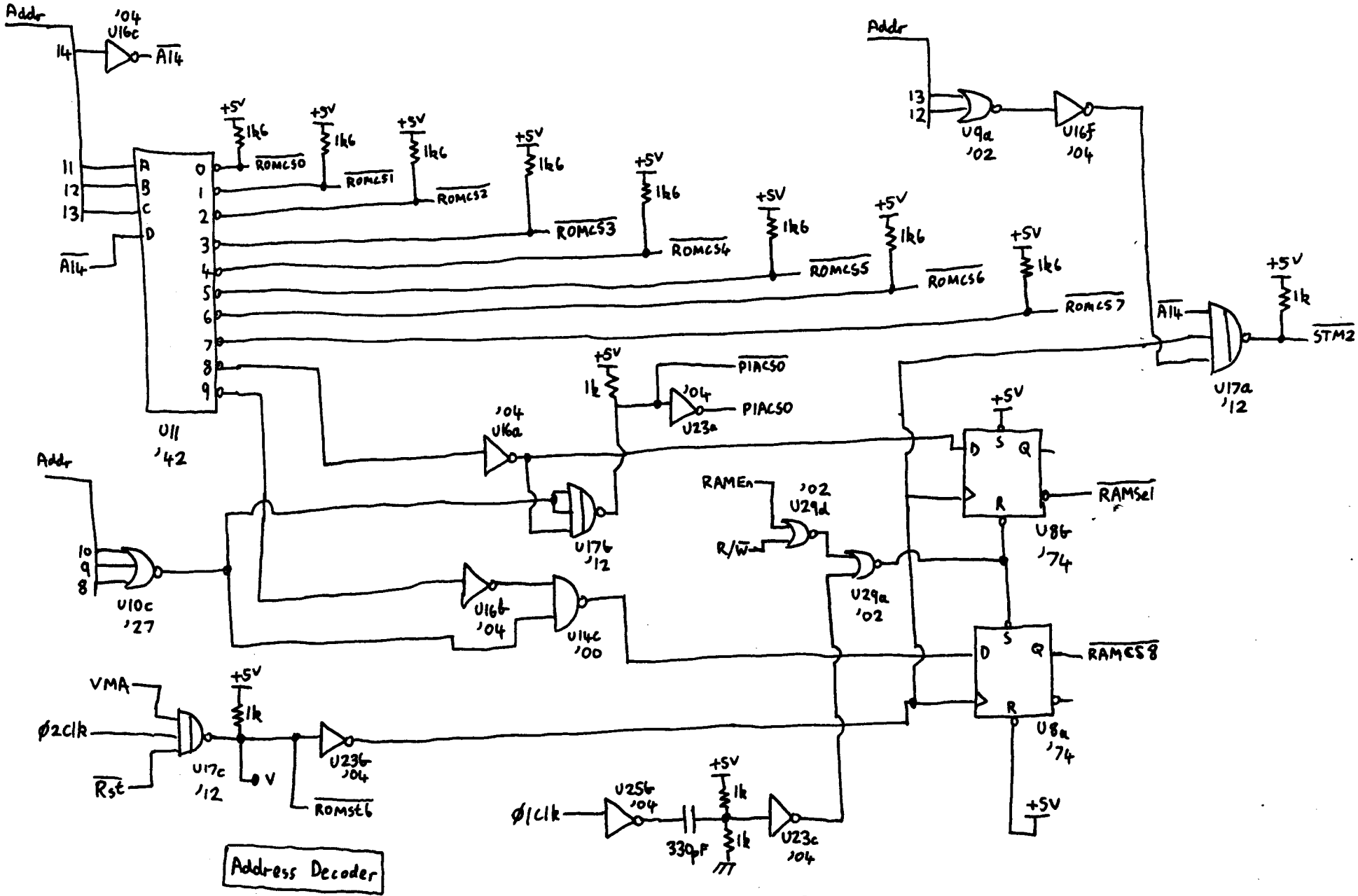
2K ROM Pinout

(09815-66510 CPU Board)

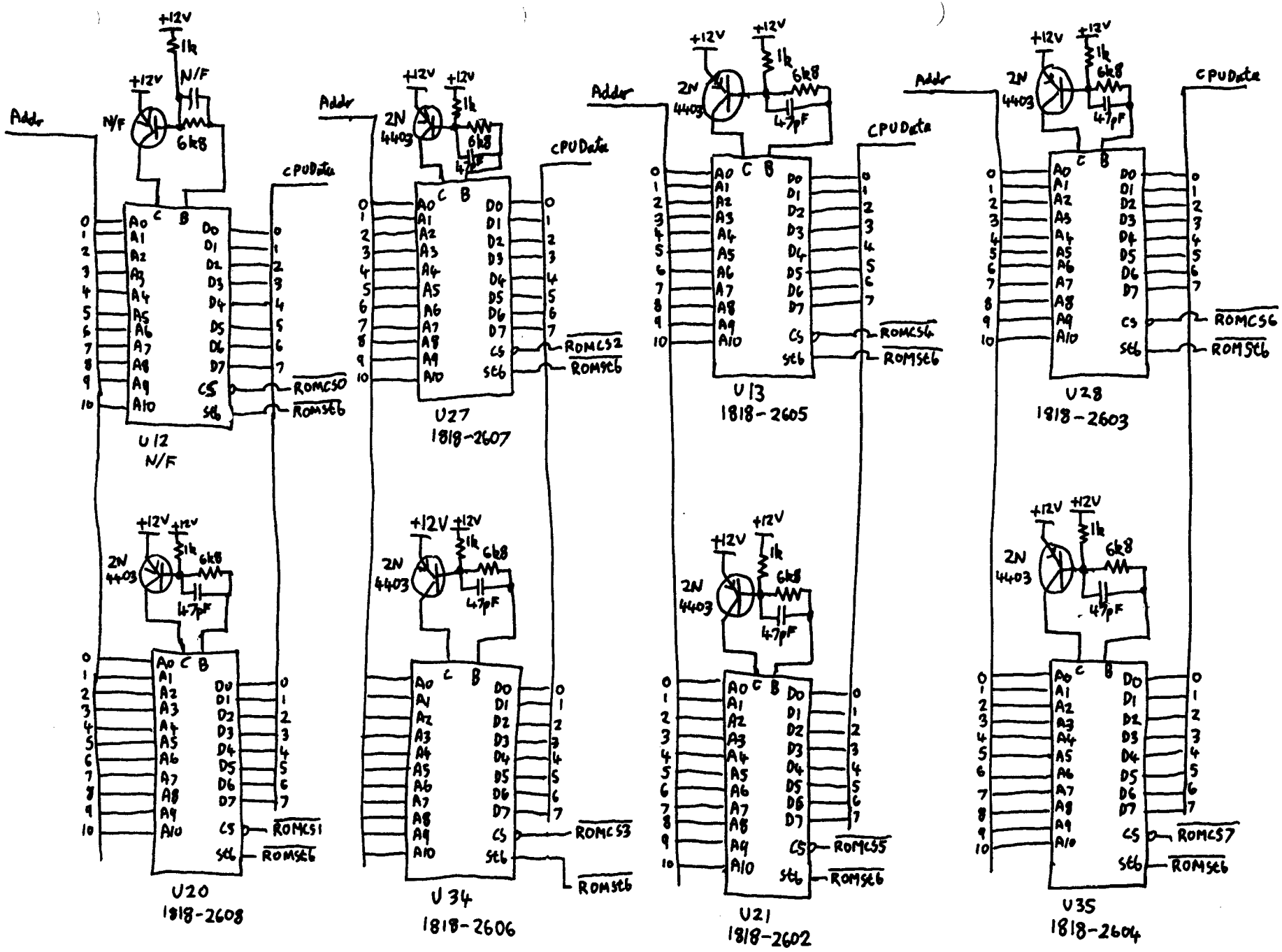




HP9815 CPU Board Sheet (1) 09815-66510



HP9815 CPU Board Sheet ② 09815-66510



ROM

HP9815 CPU Board sheet ③

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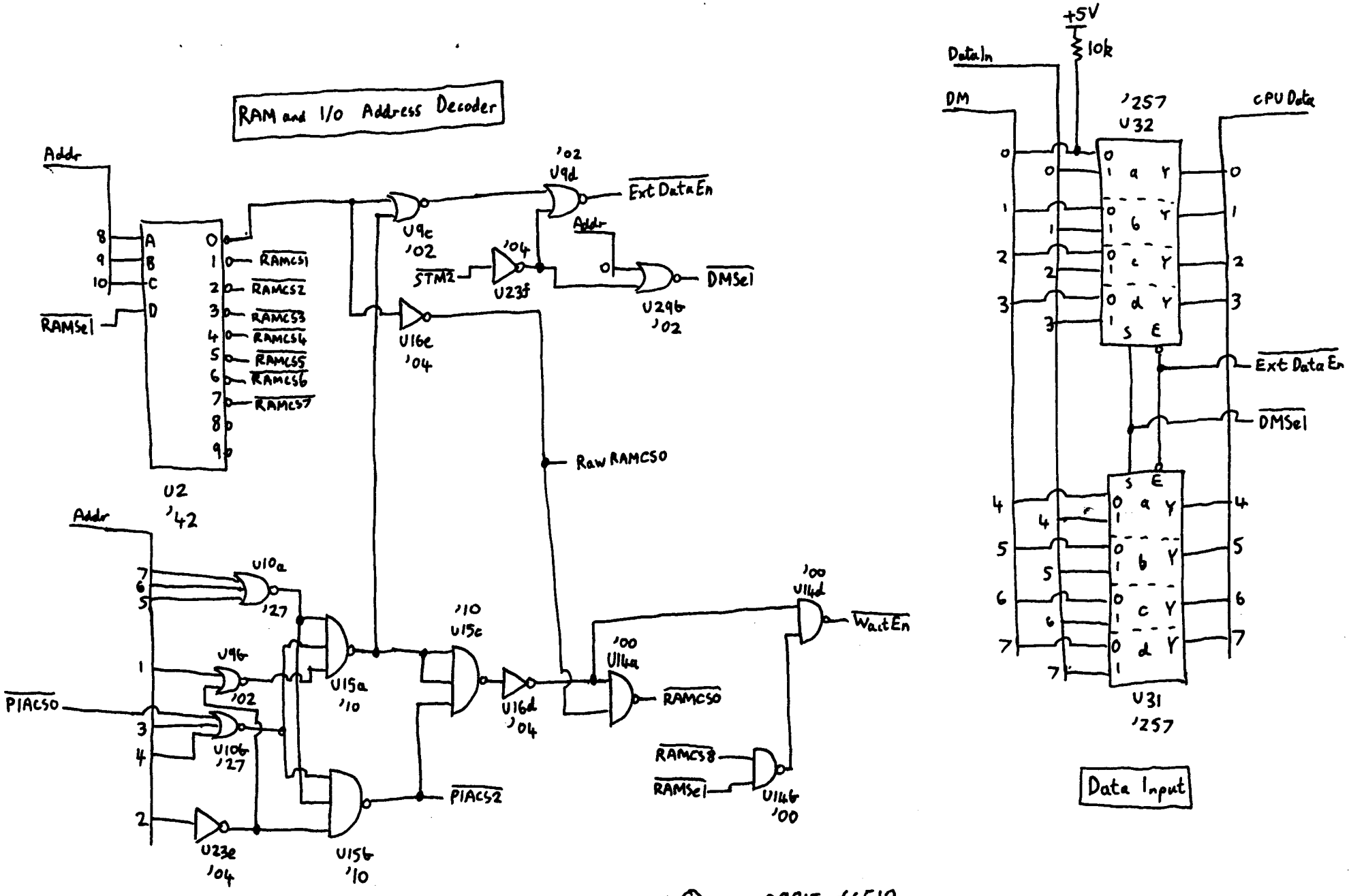
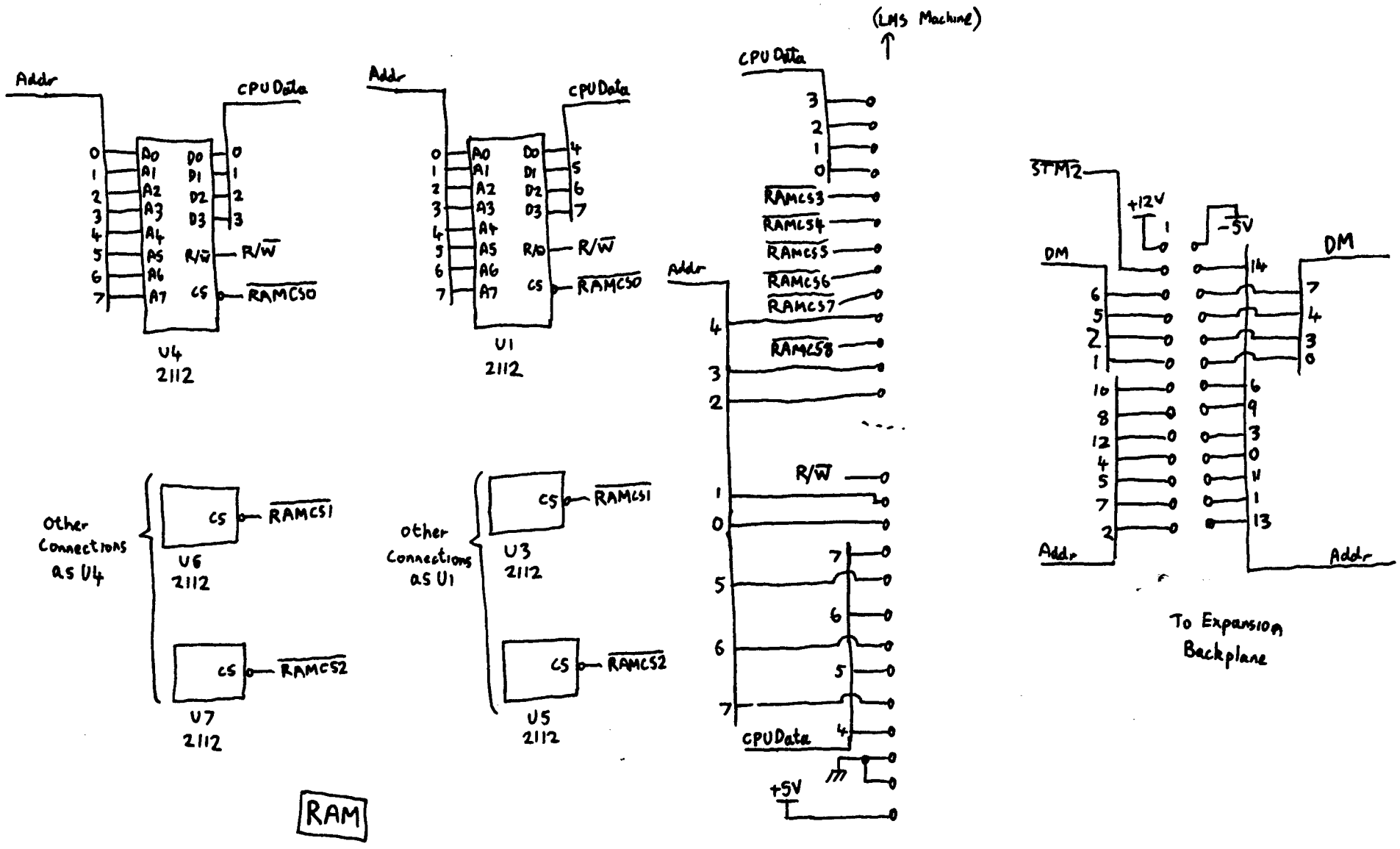
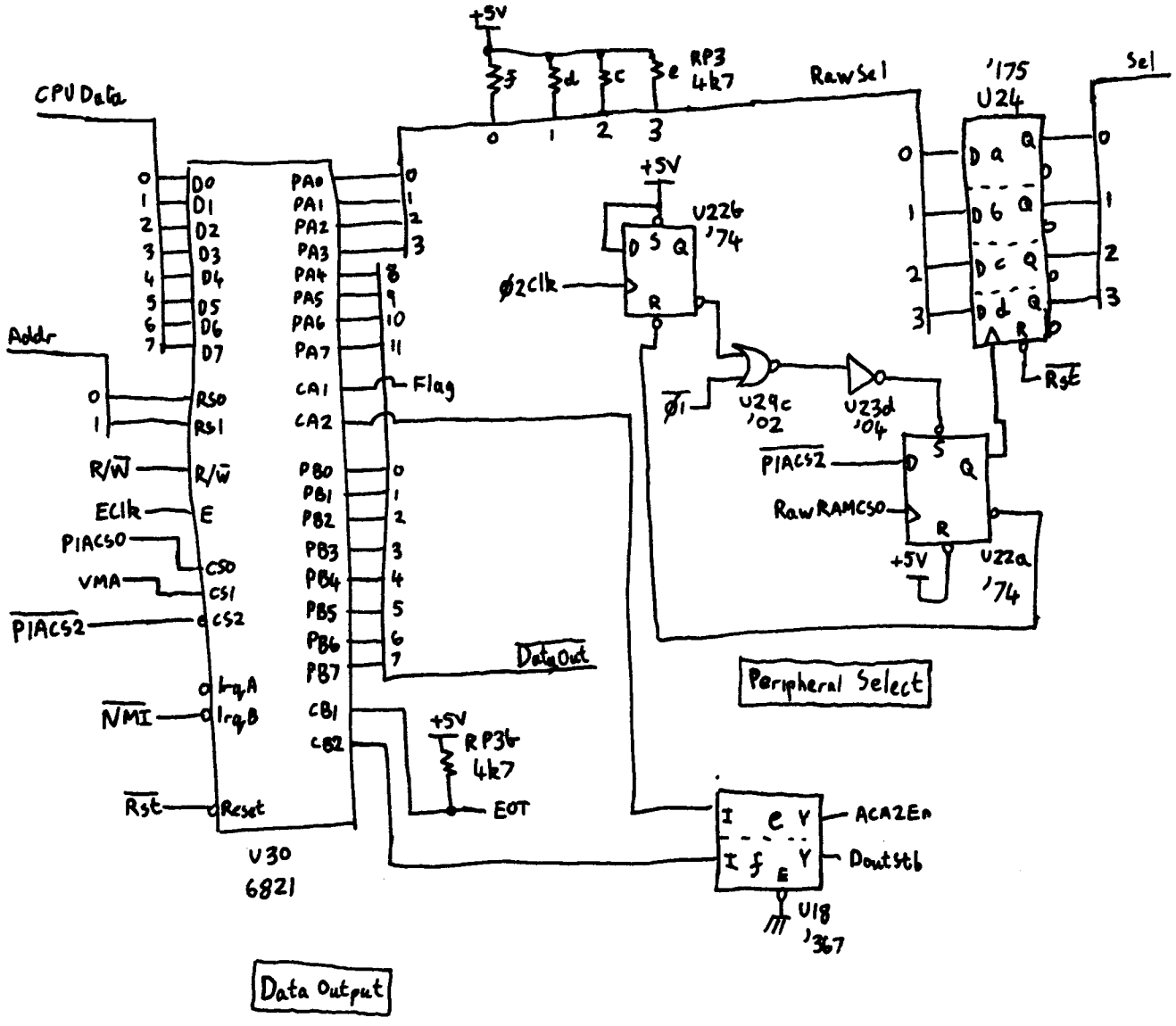
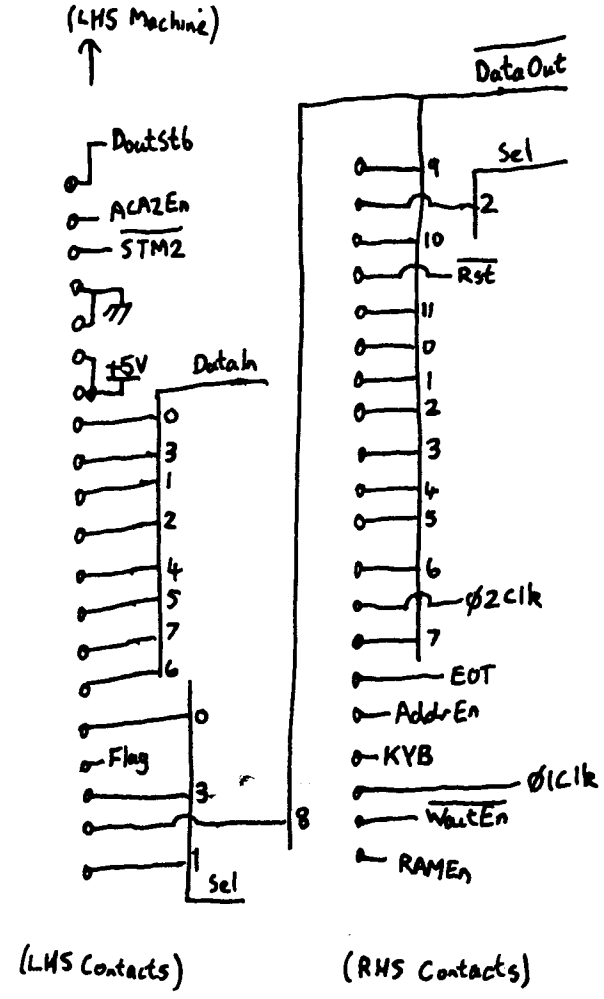

RAM and I/O Address Decoder
Addr
8
9
10
A
B
C
D
RAMSel
0
1
2
3
4
5
6
7
8
9
RAMCS1
RAMCS2
RAMCS3
RAMCS4
RAMCS5
RAMCS6
RAMCS7
U2
'42
'02
U9d
Ext Data En
U9c
'02
'04
STM2
U23f
Addr
0
DMSel
U29b
'02
U16e
'04
Raw RAMCS0
Addr
7
6
5
U10a
'27
U9b
'02
1
PIACS0
3
4
U10b
'27
2
U23e
'04
U15a
'10
U15b
'10
'10
U15c
U16d
'04
'00
U14a
RAMCS0
'00
U14d
WaitEn
RAMCS8
RAMSel
U14b
'00
PIACS2
+5V
10k
DataIn
DM
'257
U32
CPU Data
0
1
2
3
a
b
c
d
Y
S
E
Ext Data En
DMSel
4
5
6
7
U31
'257
Data Input
HP9815 CPU Board Sheet (4) 09815-66510


(LMS Machine)
Addr
CPU Data
U4
2112
U1
2112
RAMCS0
R/W
RAMCS1
RAMCS2
RAMCS3
RAMCS4
RAMCS5
RAMCS6
RAMCS7
RAMCS8
Other Connections as U4
U6
2112
U7
2112
Other Connections as U1
U3
2112
U5
2112
+5V
+12V
-5V
DM
STM2
To Expansion Backplane
To RAM Expansion Board
RAM
Memory Expansion Connectors



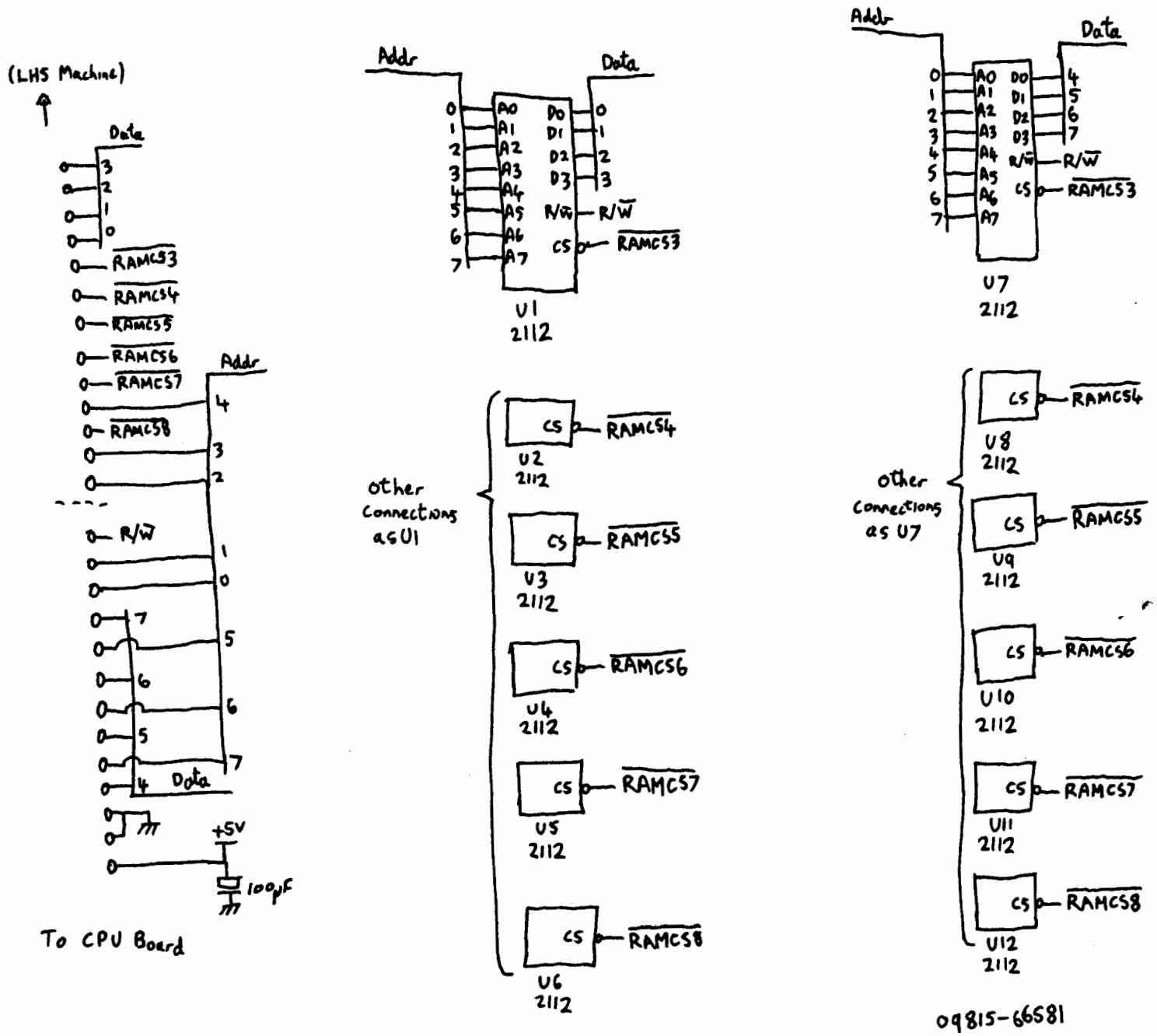
Data Output



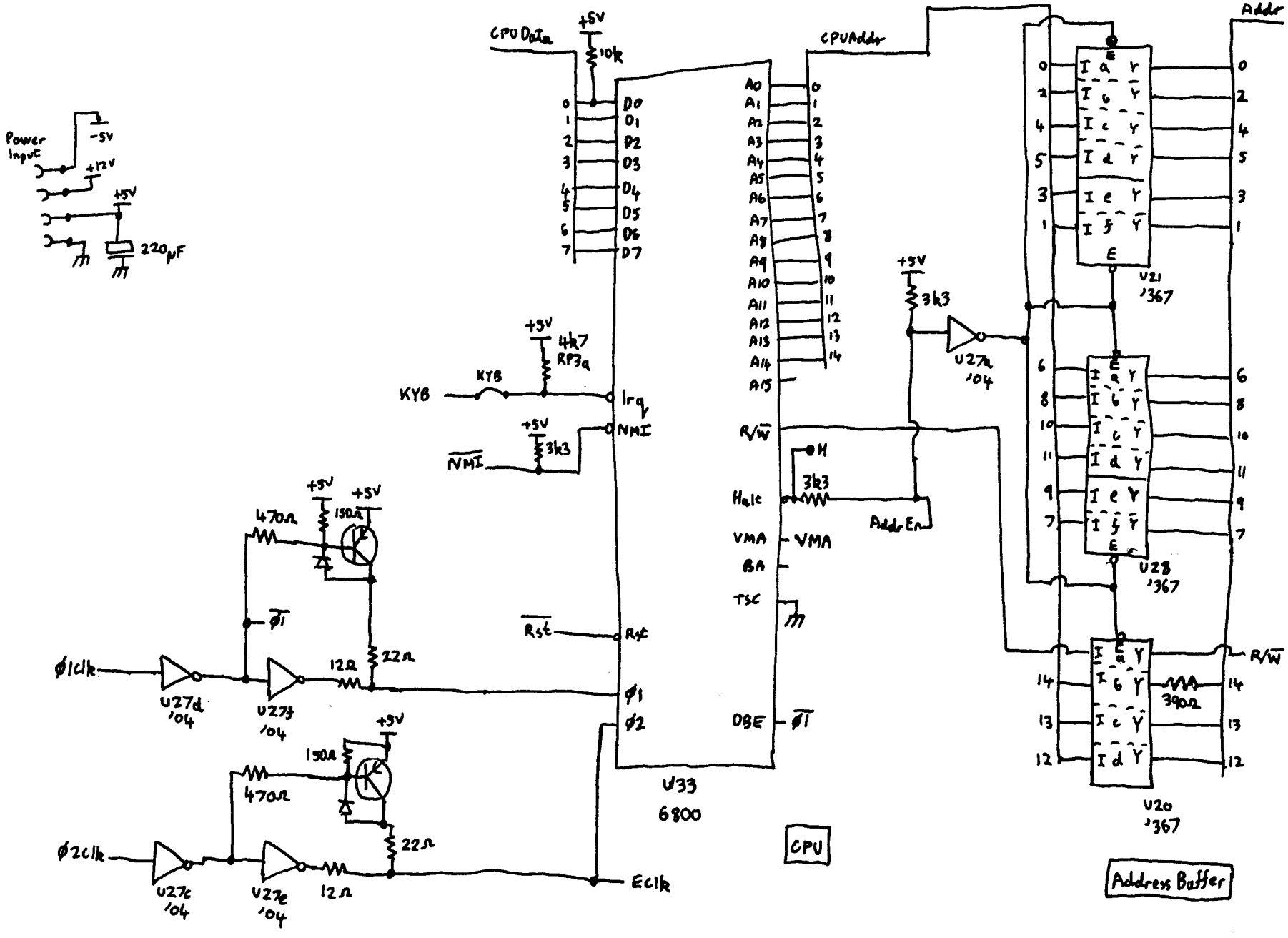
(LHS Contacts)

(RHS Contacts)

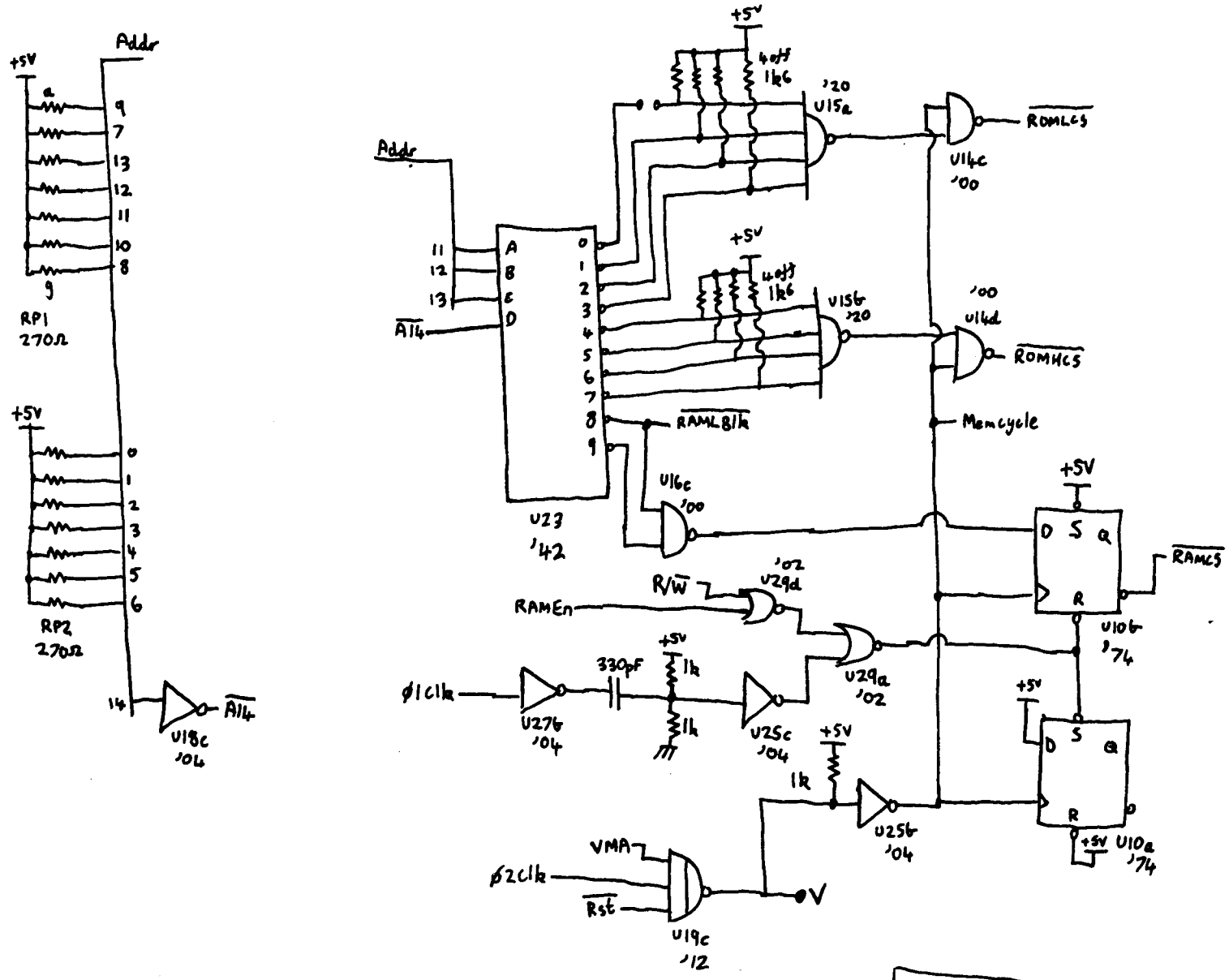
To keyboard / Display Interface



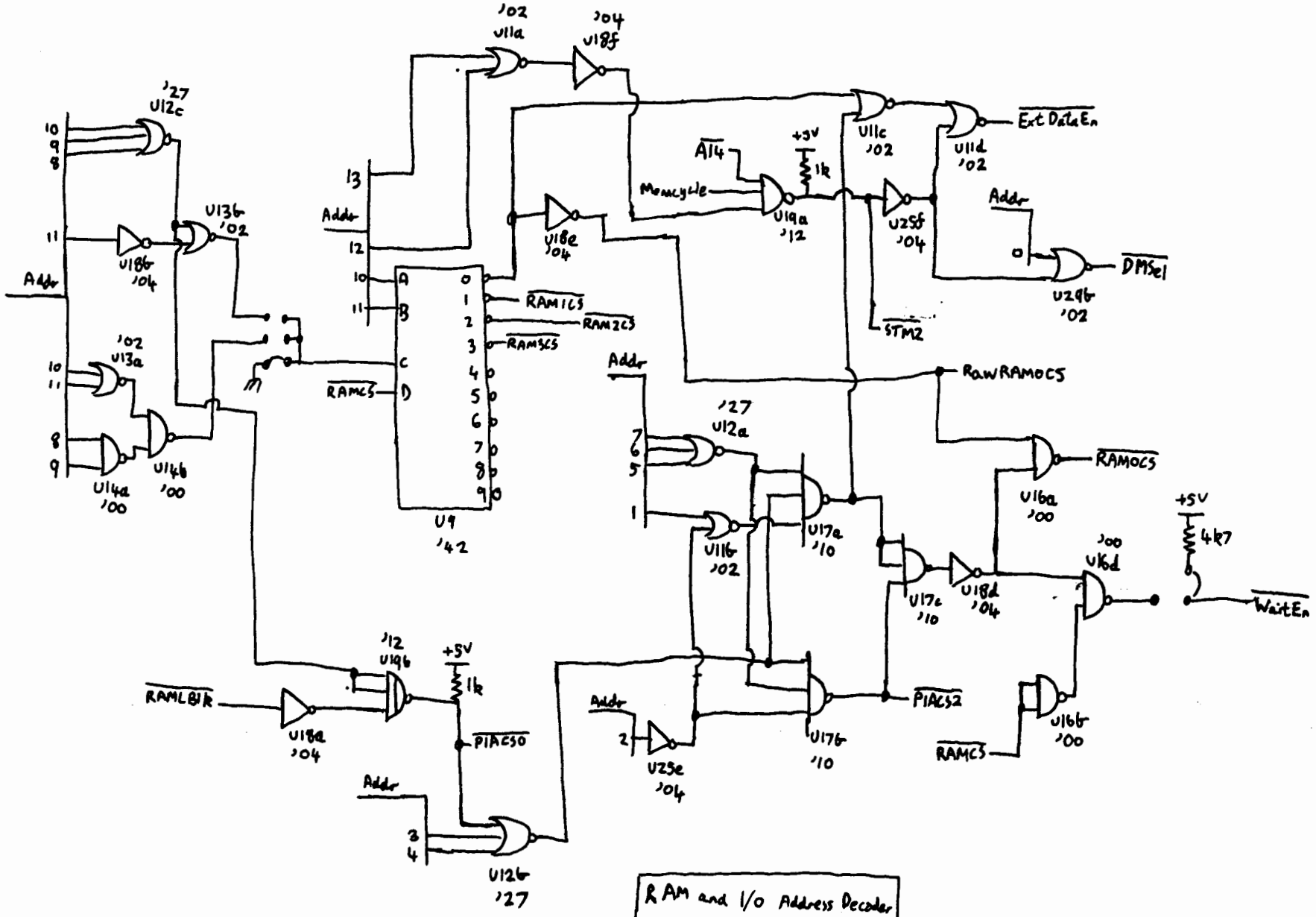
HP9815 RAM Expansion Board



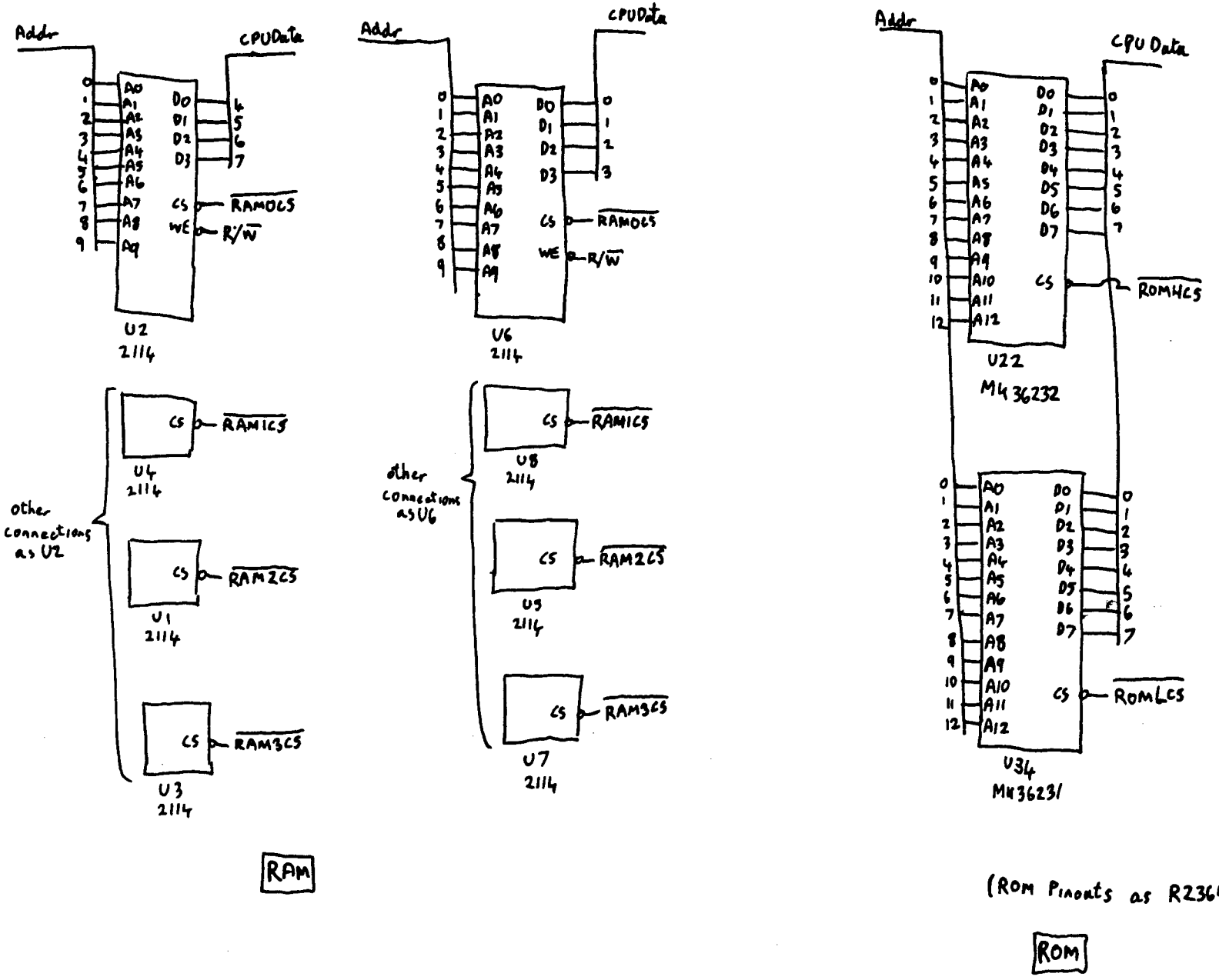
HP9815 CPU Board Sheet ① 09815-66512

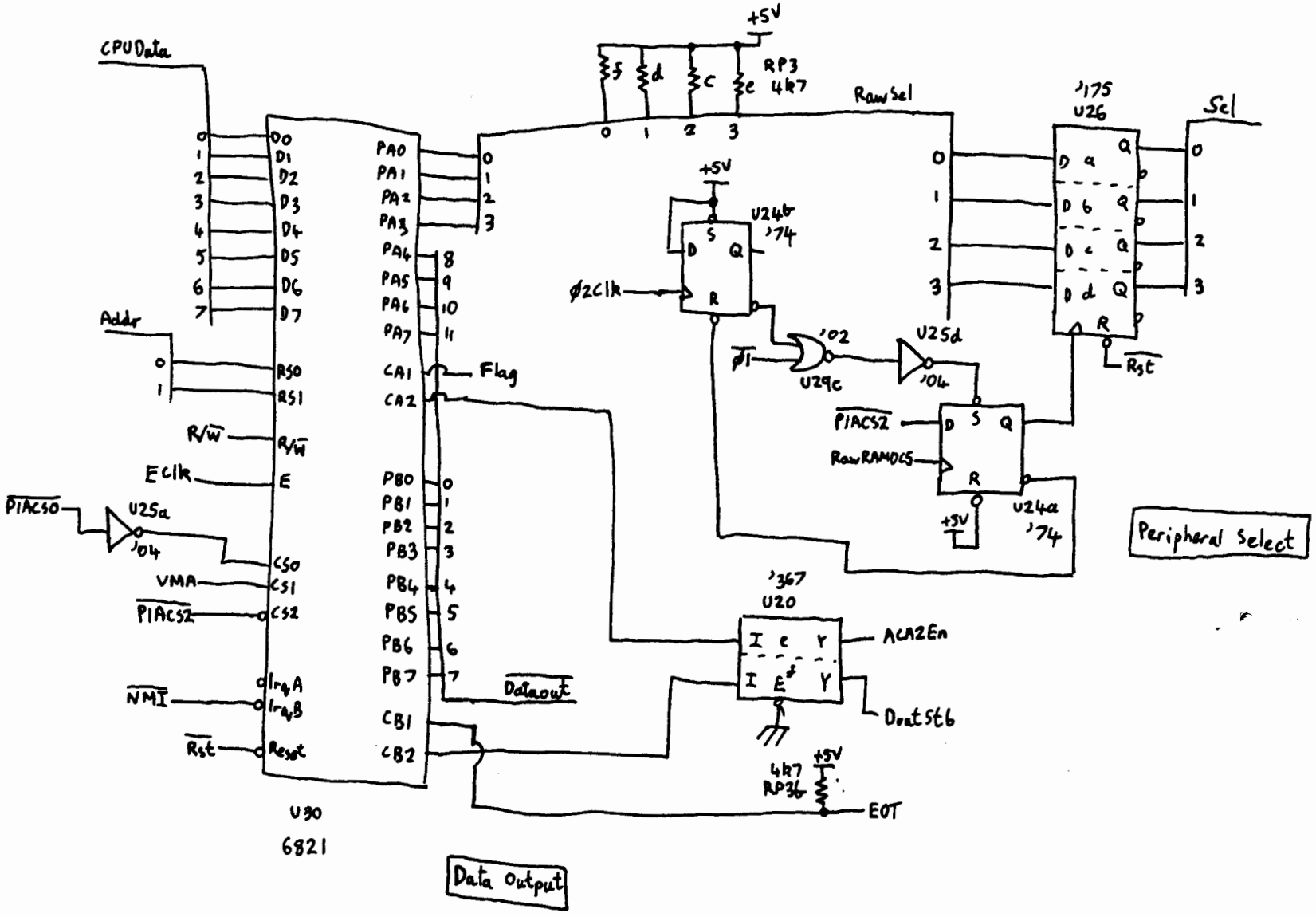


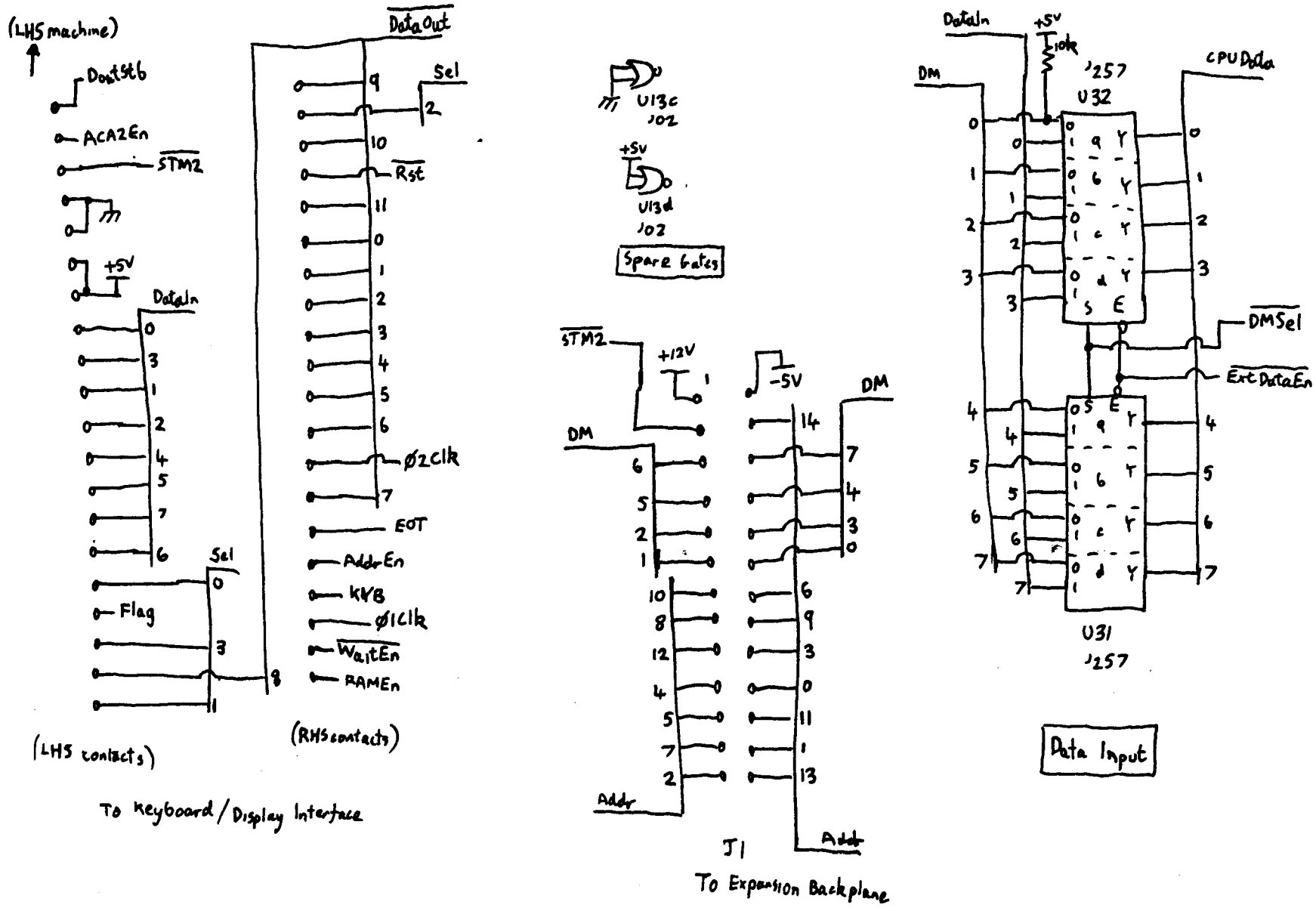
HP 9815 CPU Board Sheet ② 09815-66512



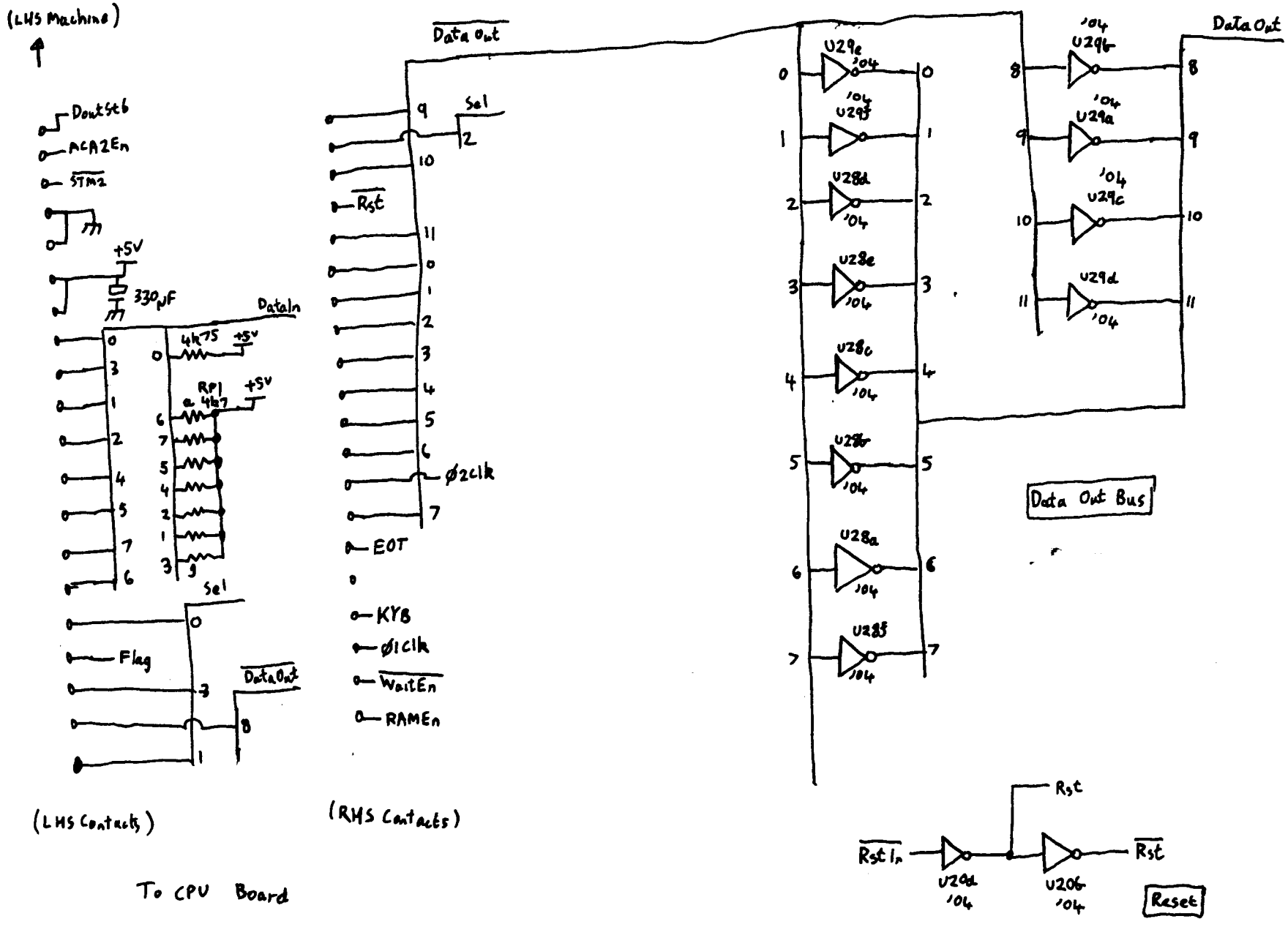
HP9815 CPU Board sheet ③ 09815-66512


Addr
CPUData
U2
2114
U6
2114
RAM0CS
R/W
RAM1CS
RAM2CS
RAM3CS
U4
2114
U1
2114
U3
2114
U8
2114
U5
2114
U7
2114
other connections as U2
other connections as U6
U22
MK36232
U34
MK36231
ROMHCS
ROMLCS
RAM
(ROM Pinouts as R2364A)
ROM

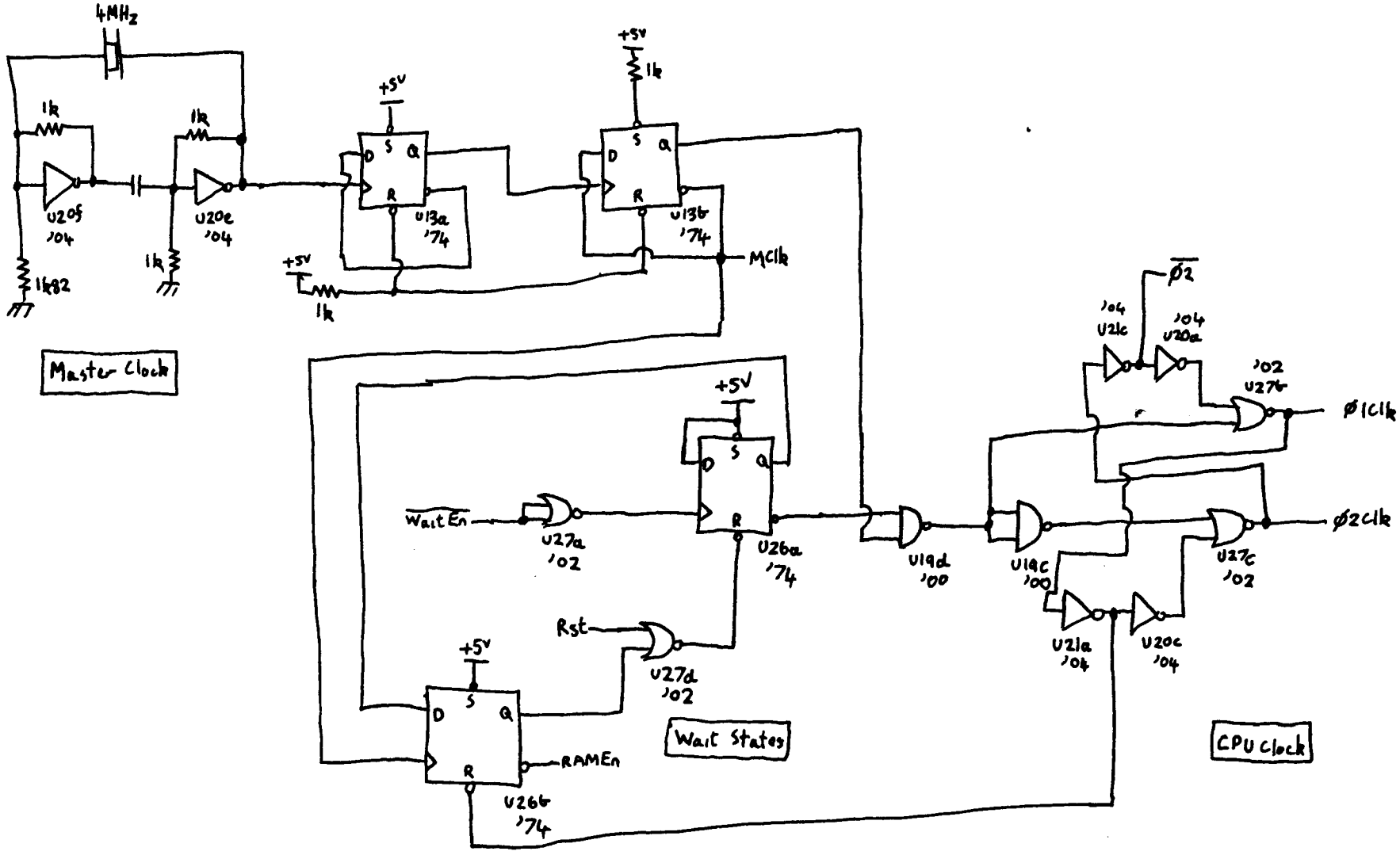

CPUData
+5V
RP3
4k7
RawSel
'175
U26
Sel
Addr
U24b
'74
ϕ2Clk
U25d
'04
'02
U29c
ϕ1
Rst
PIACS2
RawRAMDCS
U24a
'74
Peripheral Select
PIACS0
U25a
'04
R/W
EClk
VMA
NMI
Flag
'367
U20
ACA2En
DoutStb
4k7
RP36
EOT
U30
6821
Data Output



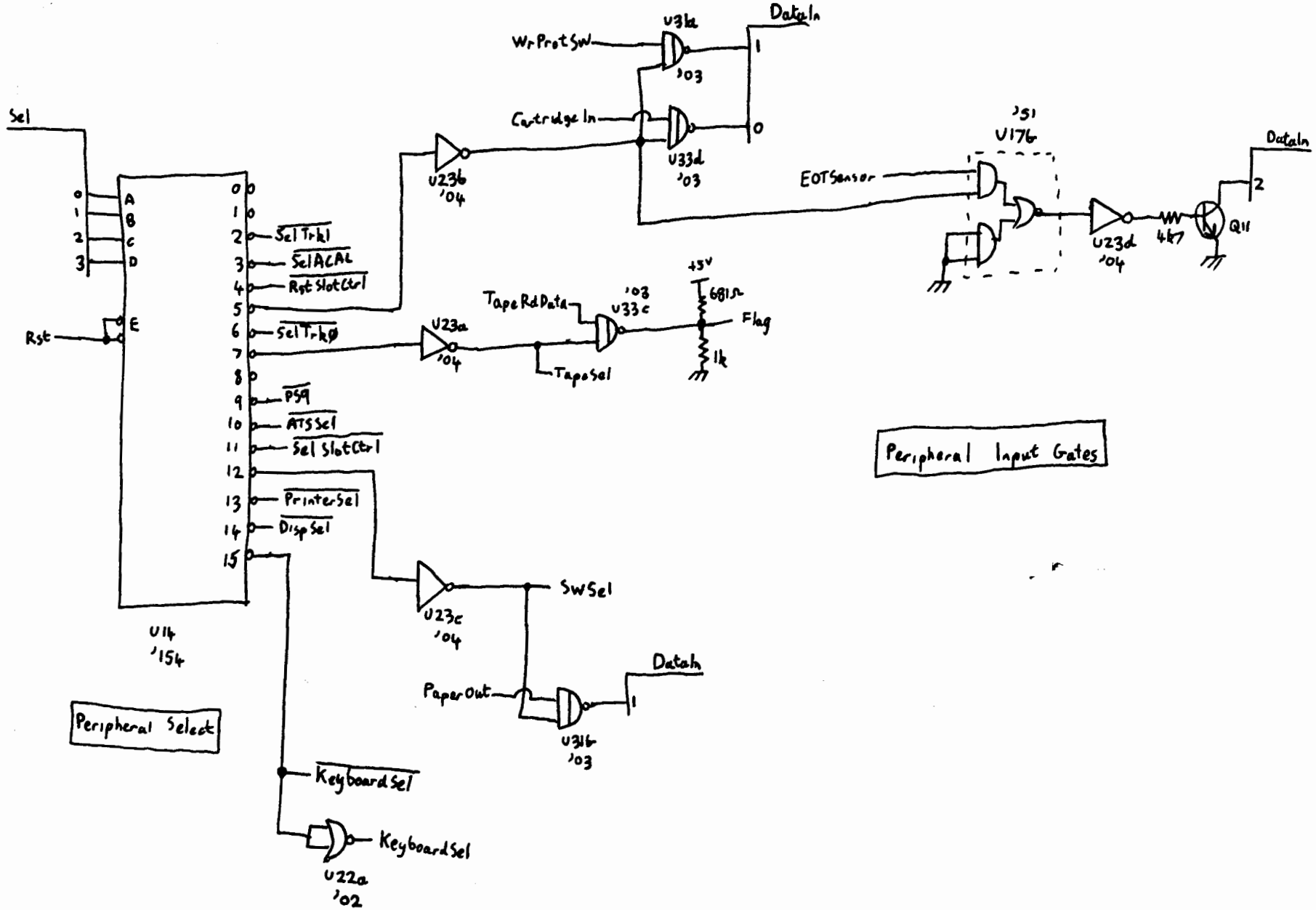
HP9815 CPU Board Sheet ⑥ 09815-66512



HP9815 Keyboard / Display Interface Sheet ①

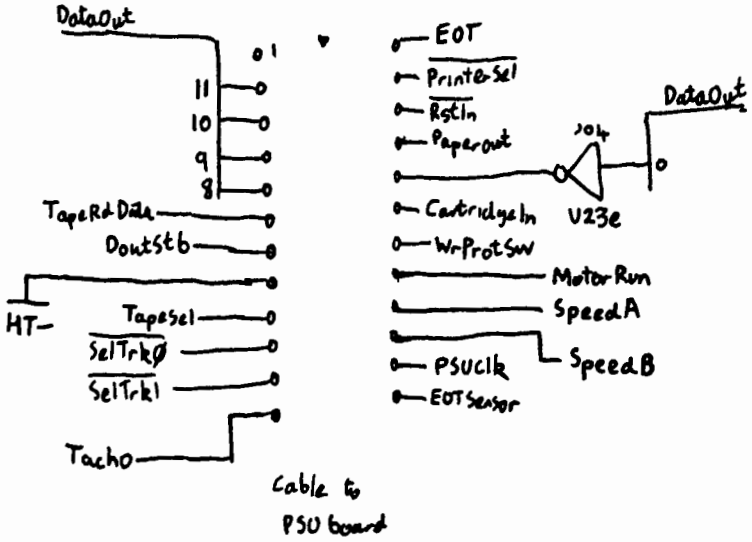


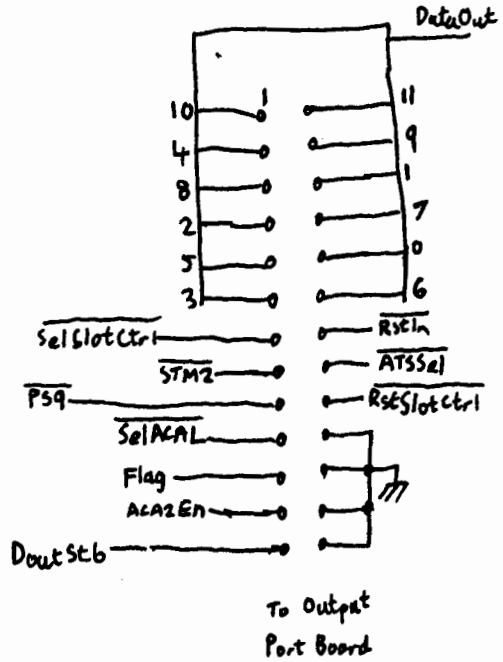
HP 9815 Keyboard / Display Interface Sheet (2) 09815-66500



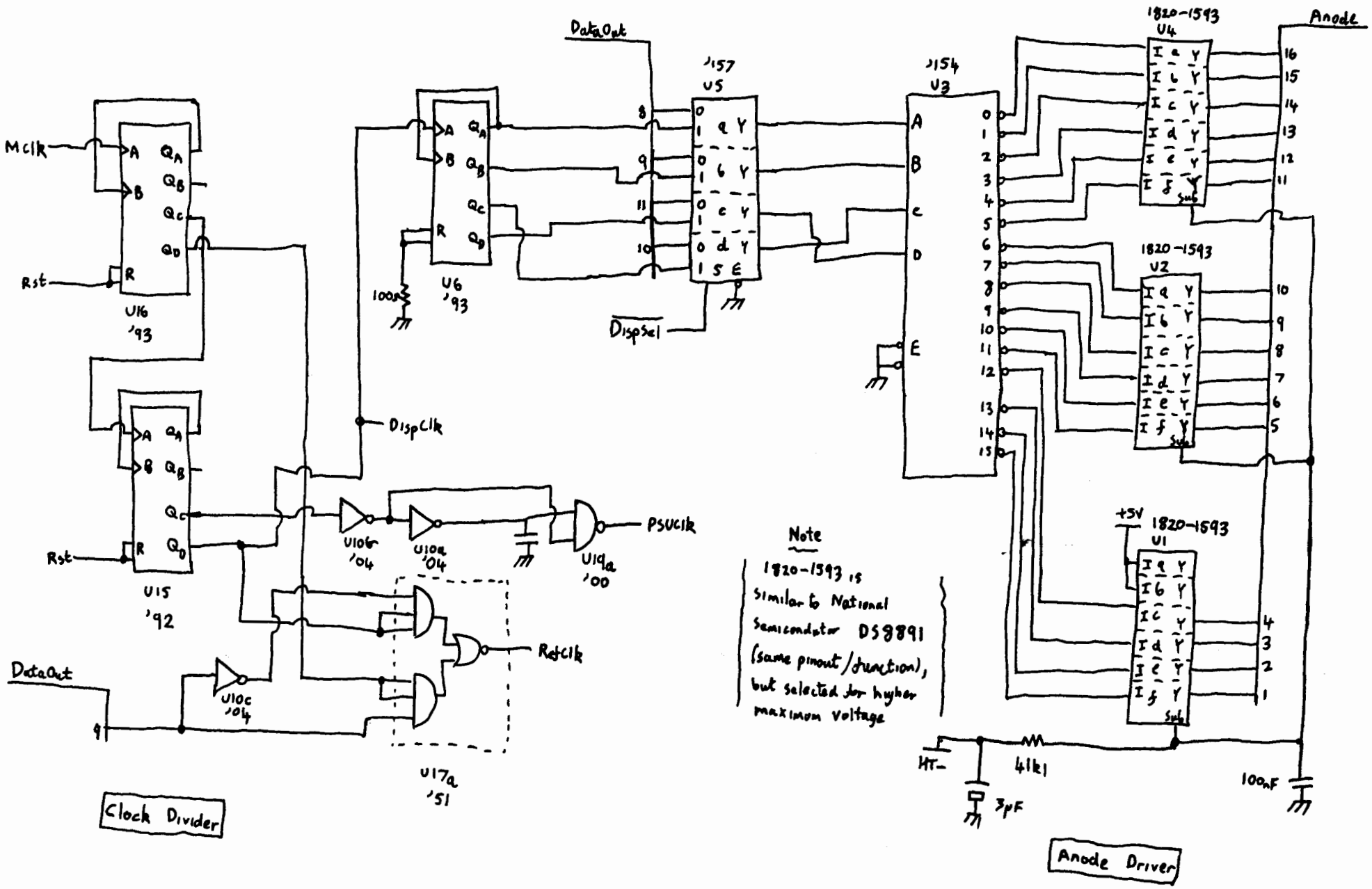
HP 9815 Keyboard / Display Interface Sheet (3)

09815-66500

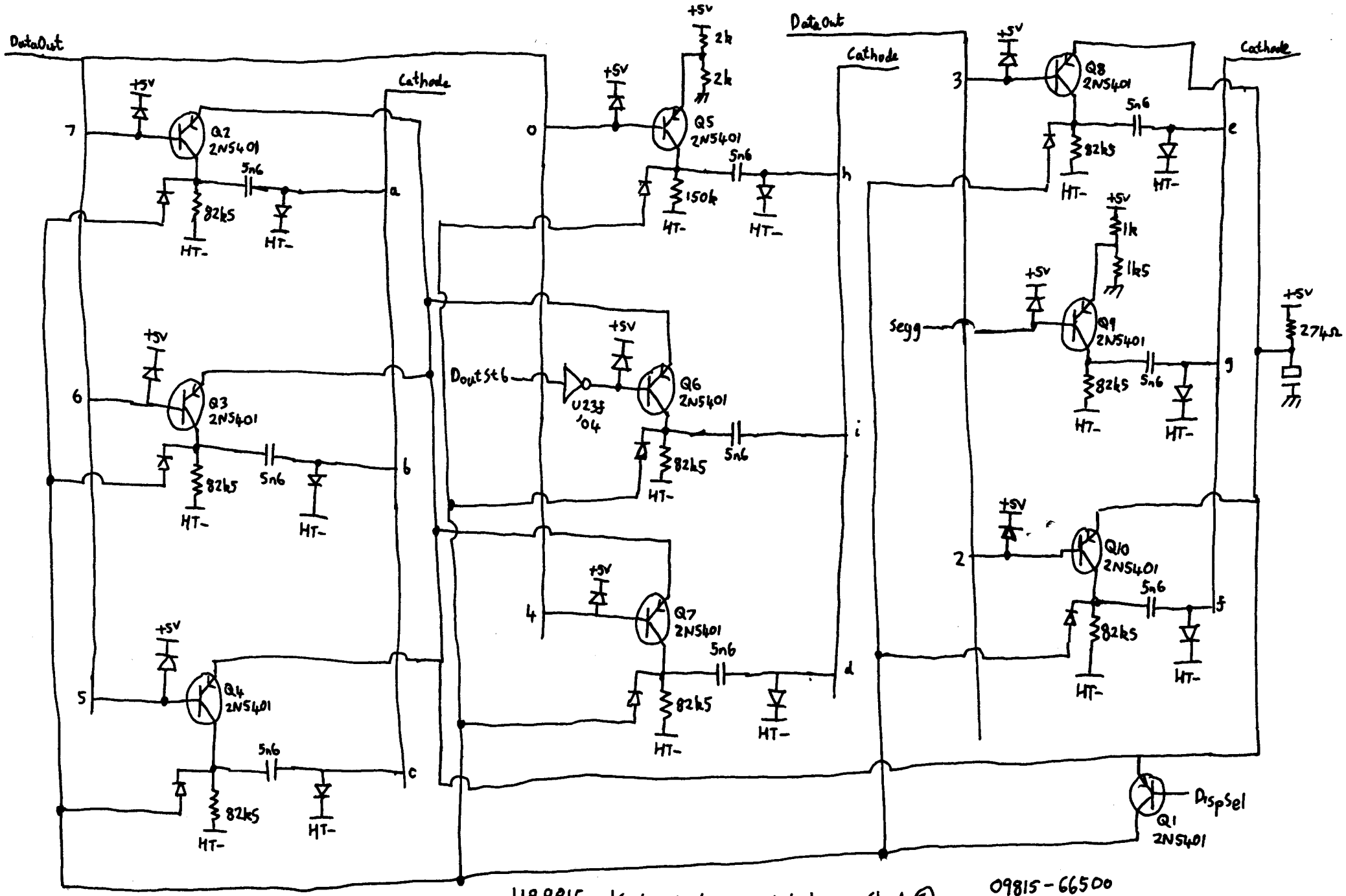




External Connectors

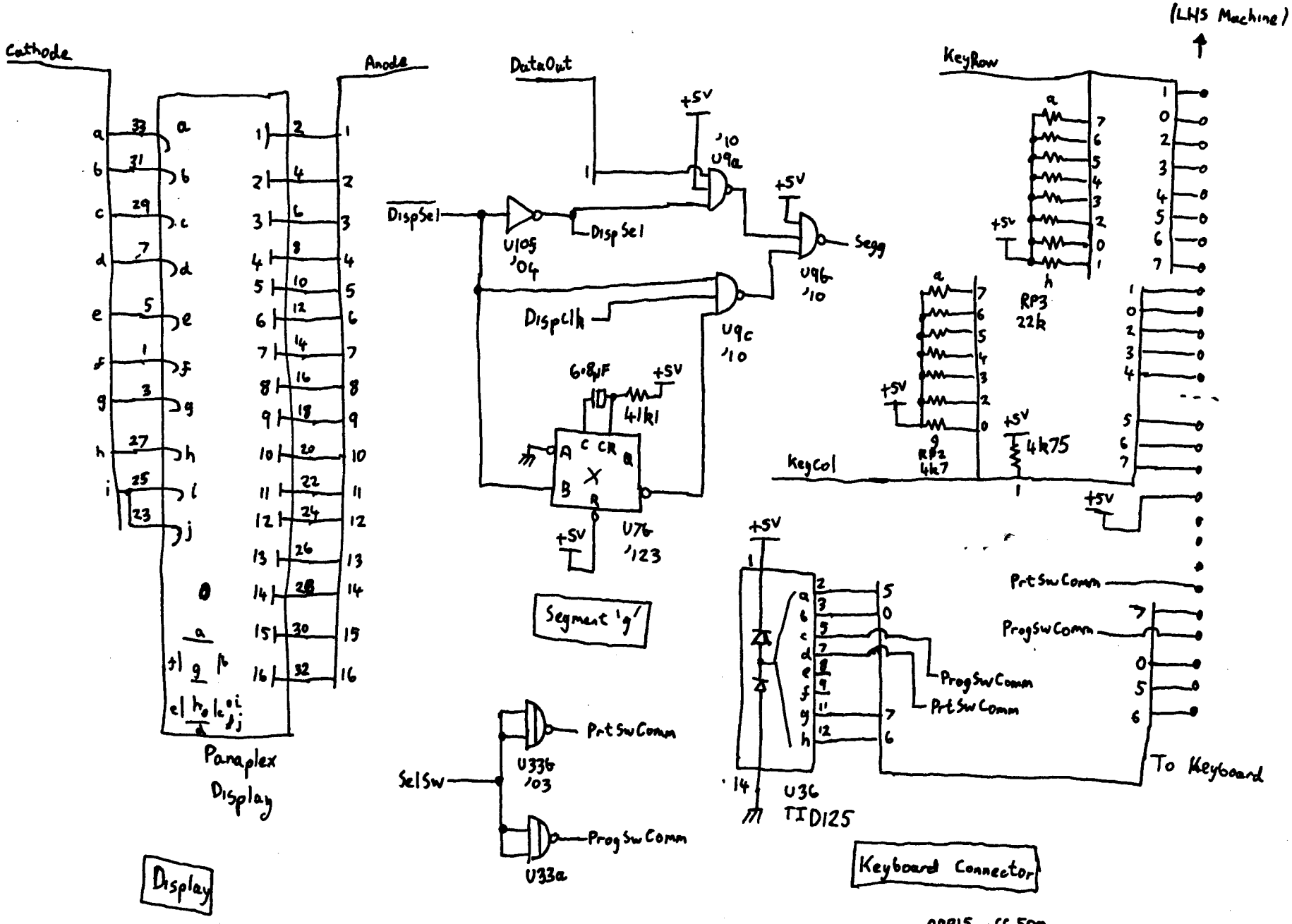


HP9815 Keyboard/Display Interface Sheet (5) 09815-66500

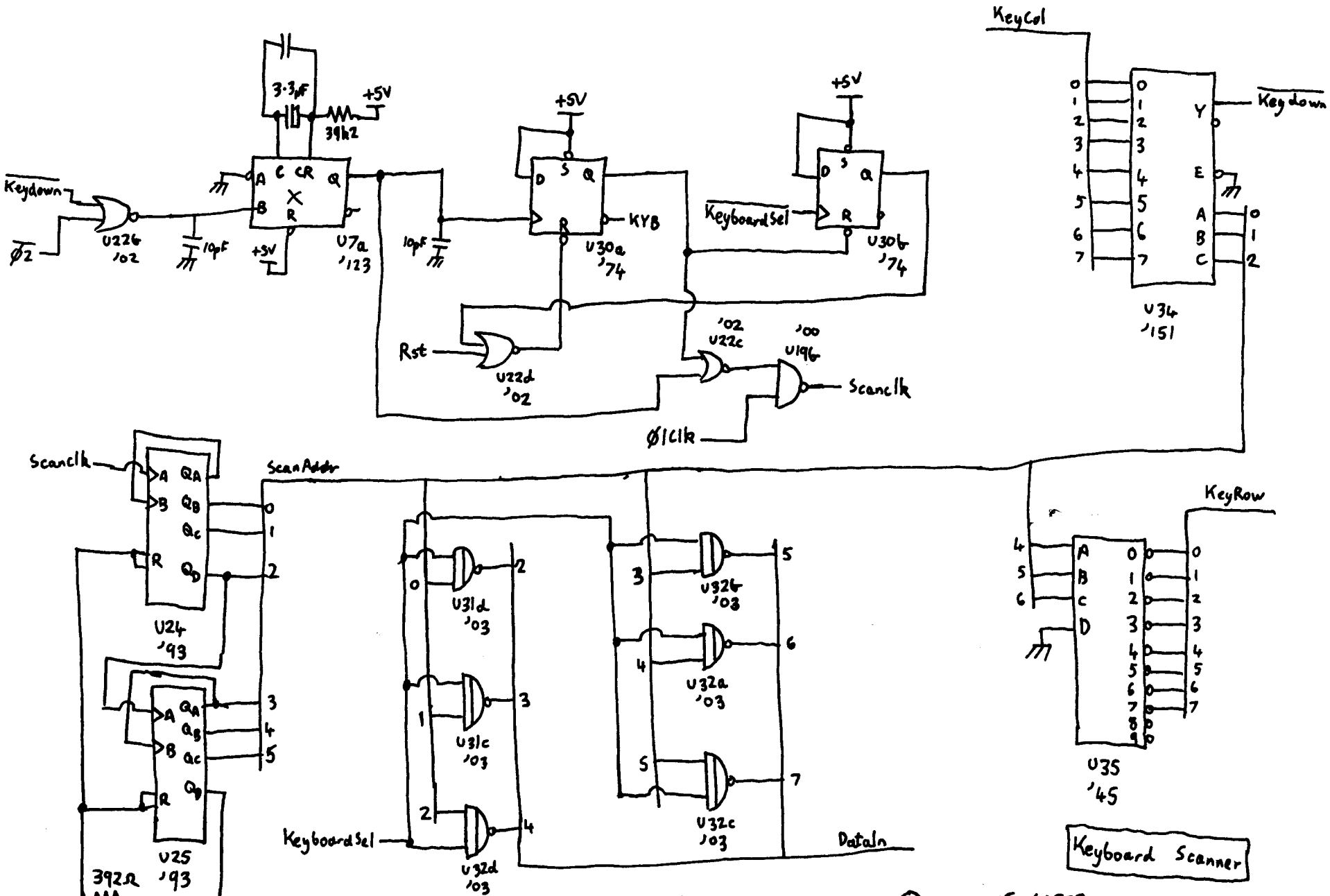


HP 9815 Keyboard / Display Interface Sheet (6)

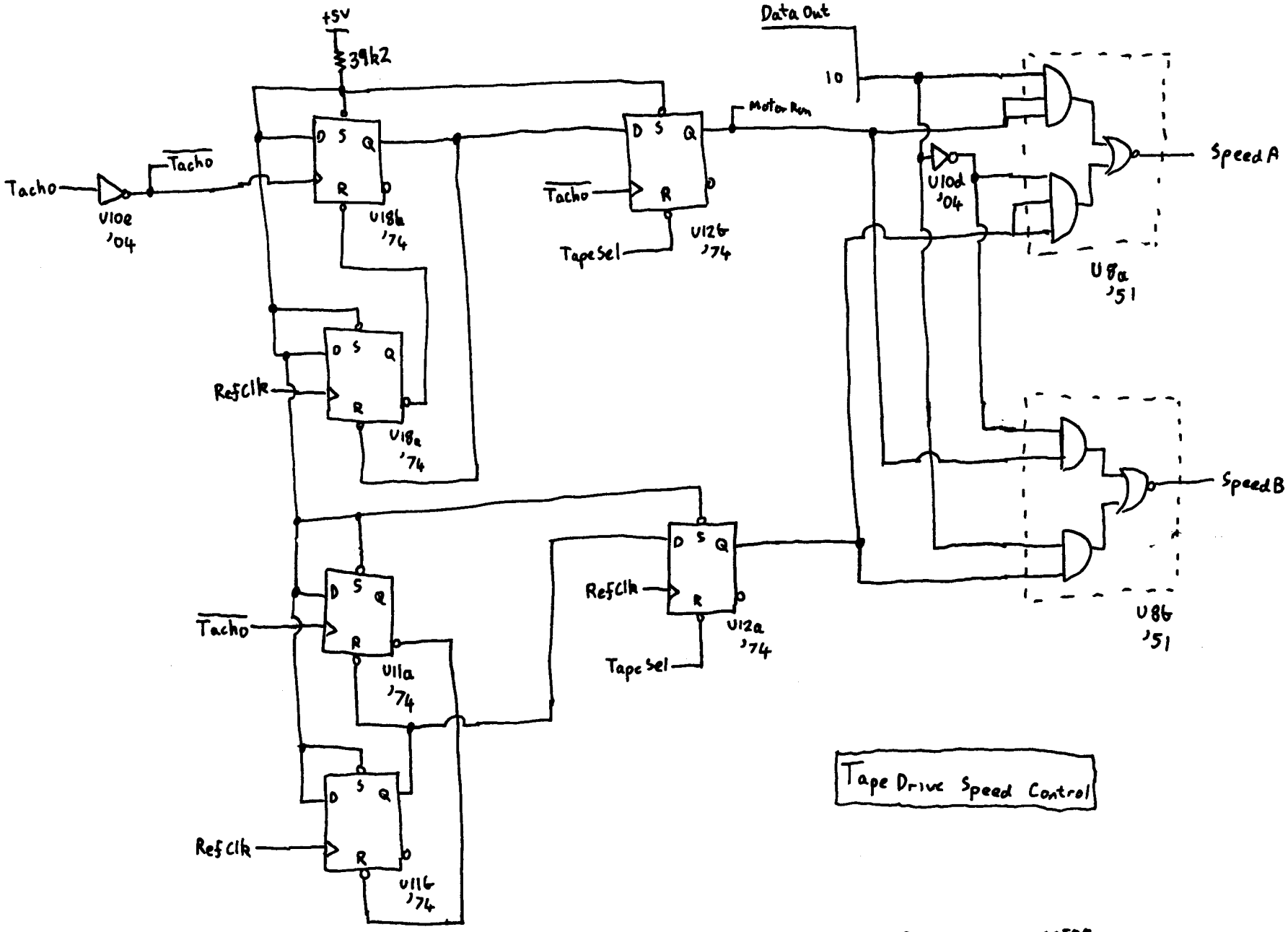
09815-66500

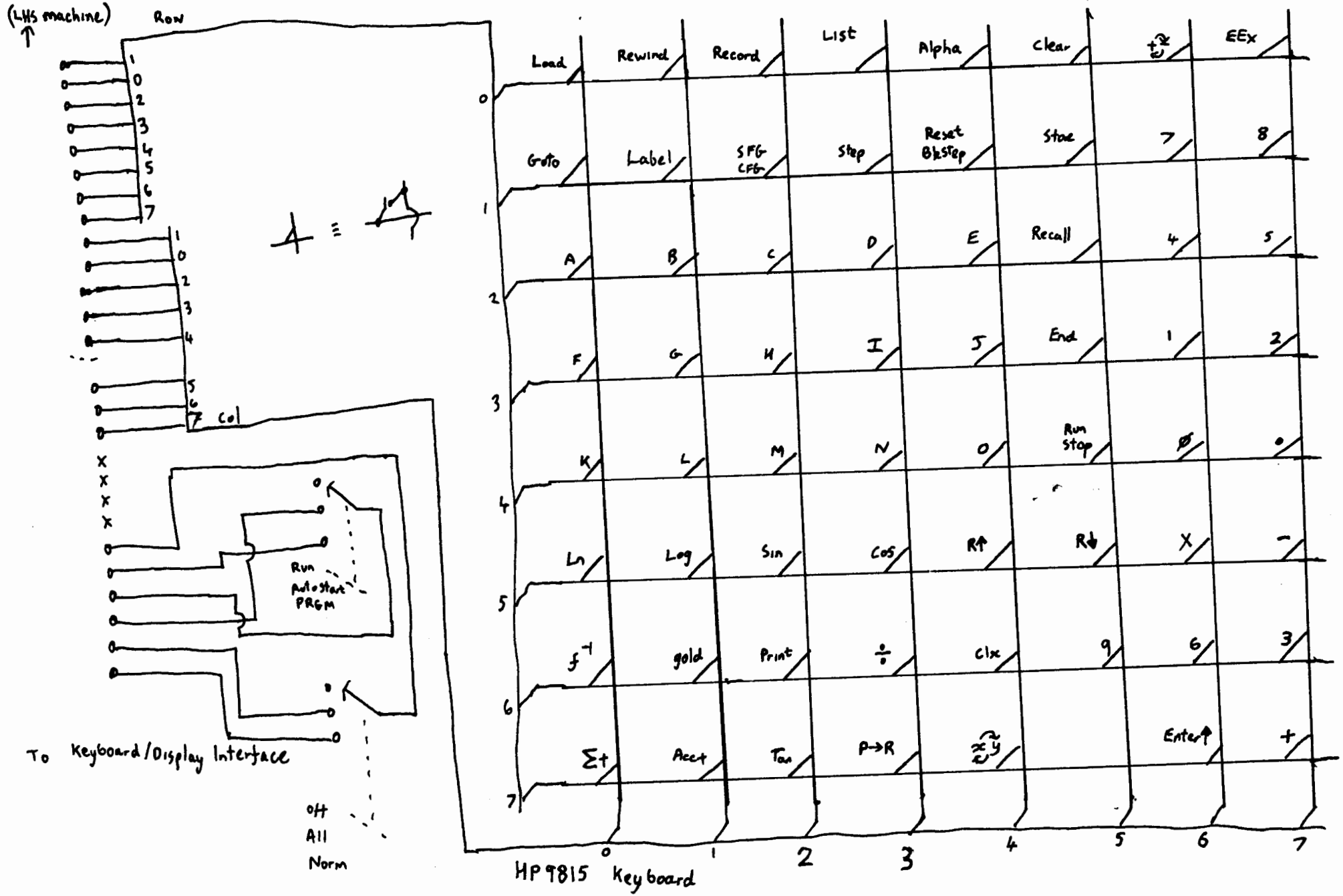


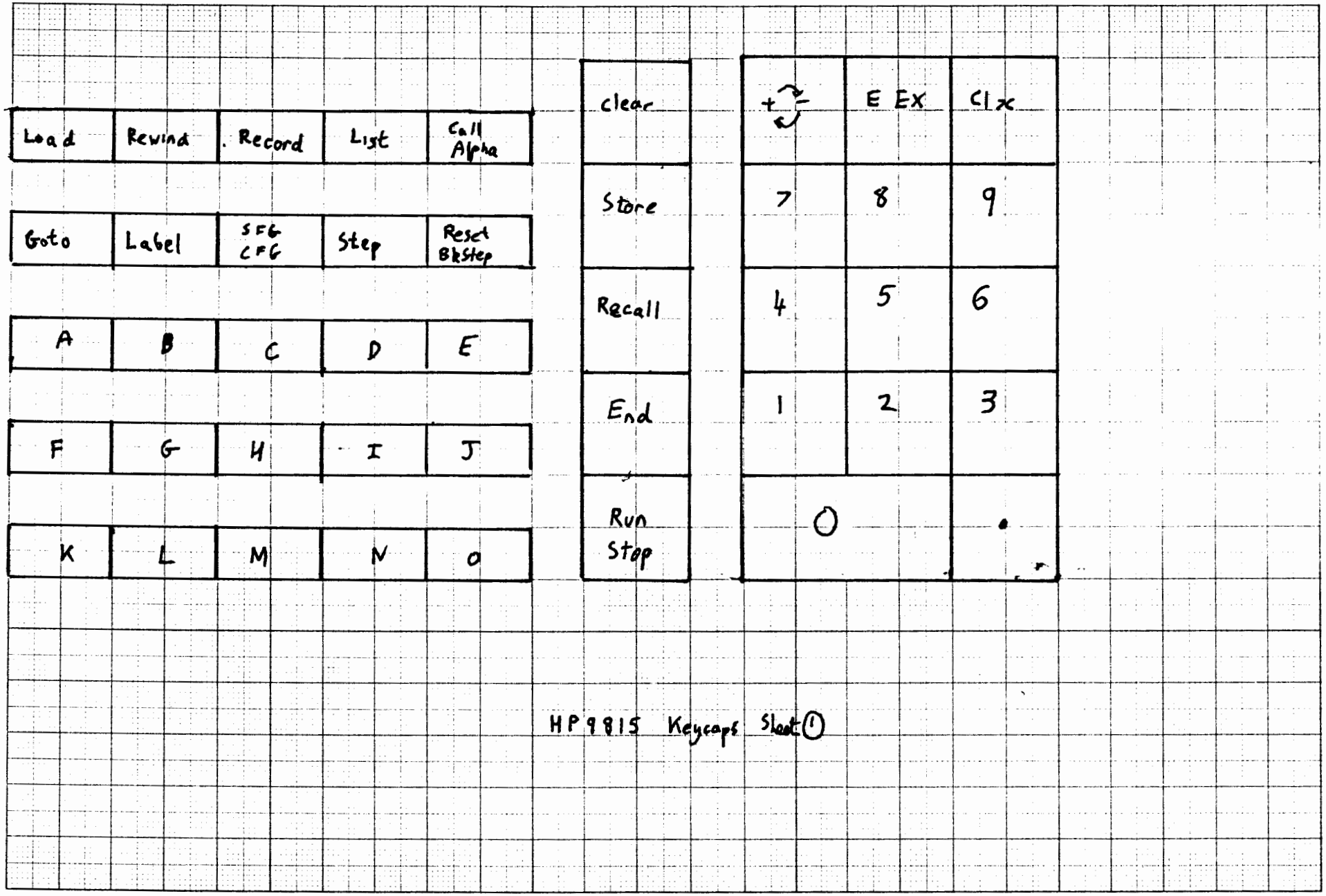
HP9815 Keyboard / Display Interface Sheet (7)



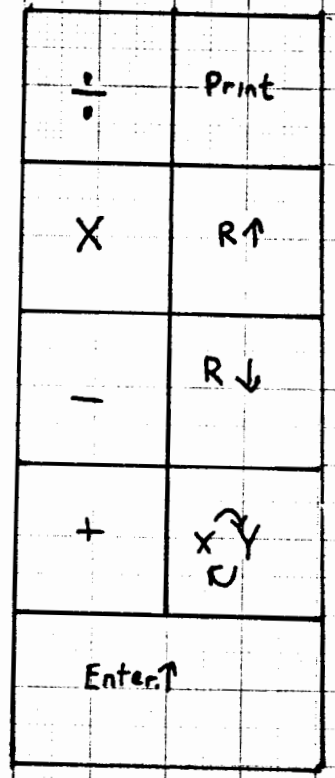
HP9815 Keyboard/Display Interface Sheet (8) 09815-66500


+5V
39k2
Data Out
10
Motor Run
Tacho
Tacho
U10e
'04
U18b
'74
U12b
'74
Tape Sel
U10d
'04
Speed A
U8a
'51
Ref Clk
U18a
'74
Speed B
U8b
'51
Tacho
U11a
'74
Ref Clk
U12a
'74
Tape Sel
Ref Clk
U11b
'74
Tape Drive Speed Control


(LHS machine)
Row
Col
Run
Autostart
PRGM
To Keyboard/Display Interface
off
All
Norm
Load
Rewind
Record
List
Alpha
Clear
EEx
Goto
Label
SFG
CFG
Step
Reset
Bkstep
Stae
Recall
End
Run
Stop
Ln
Log
Sin
Cos
R↑
R↓
gold
Print
clx
Acct
Tan
P→R
Enter↑
HP 9815 Keyboard

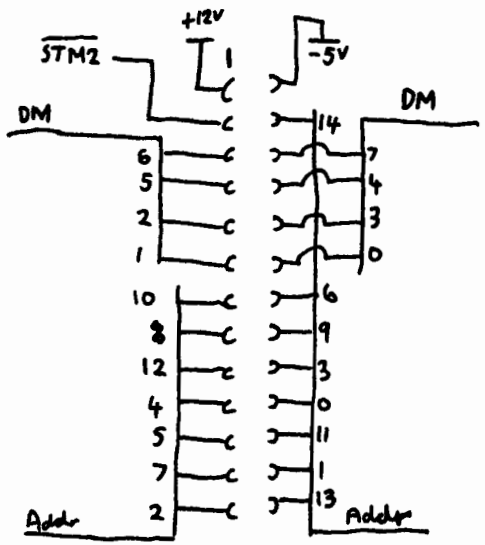


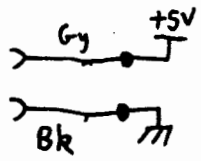
HP 9815 Keycaps Sheet ①

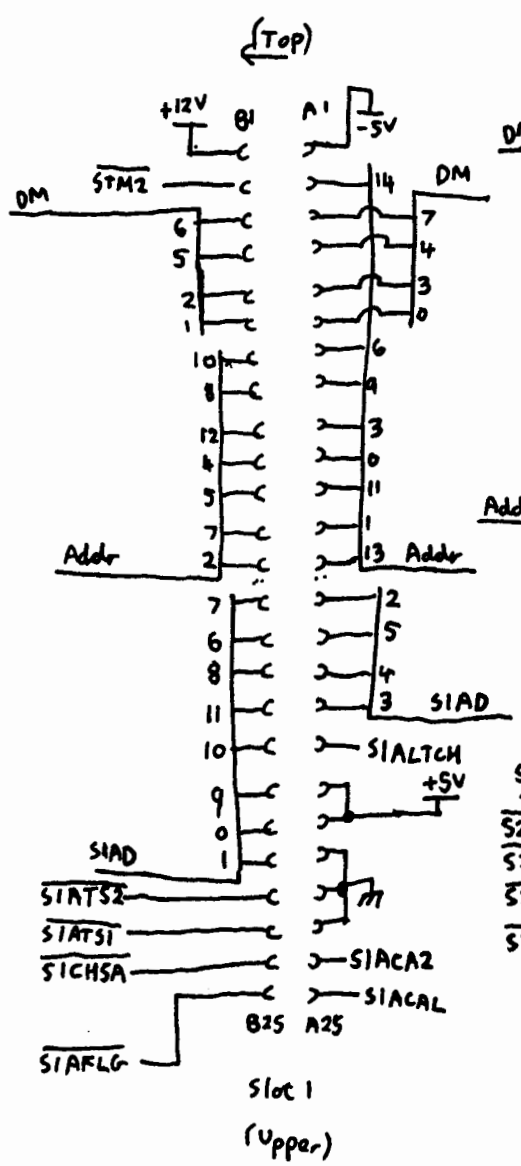


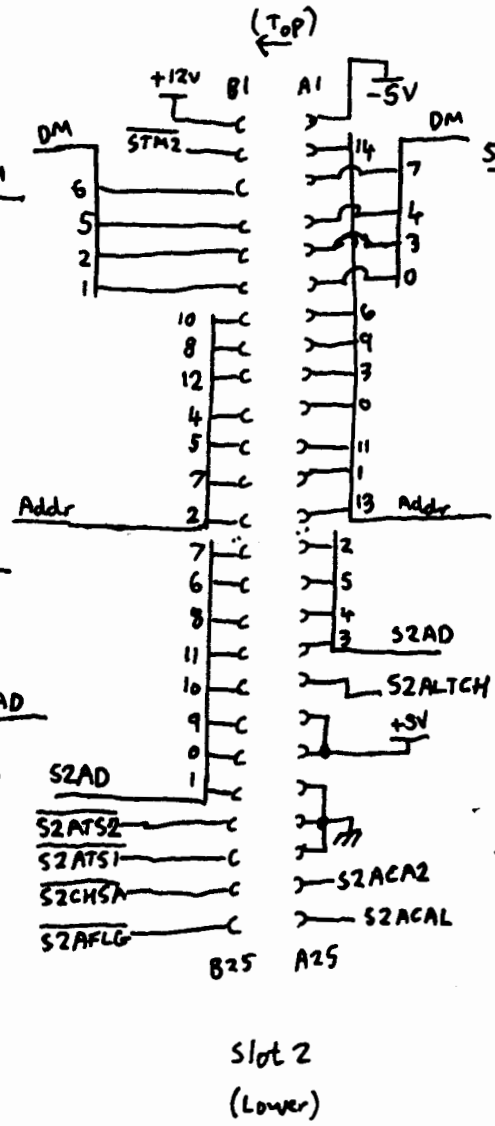
Gold	f^{-1}
Sin	Ln
Cos	Log
Tan	Σ+
P→R	Acc +

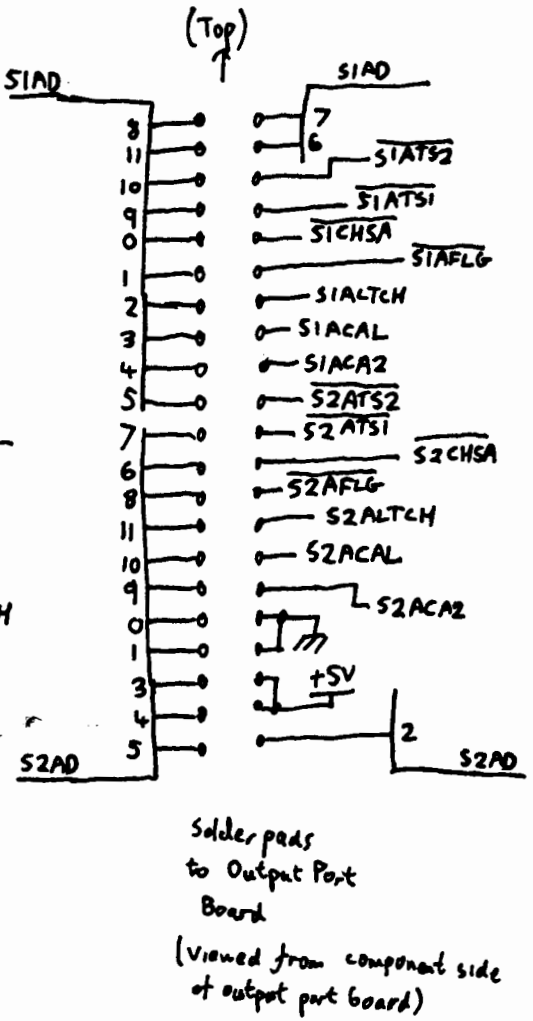
HP 9815 keycaps Sheet (2)











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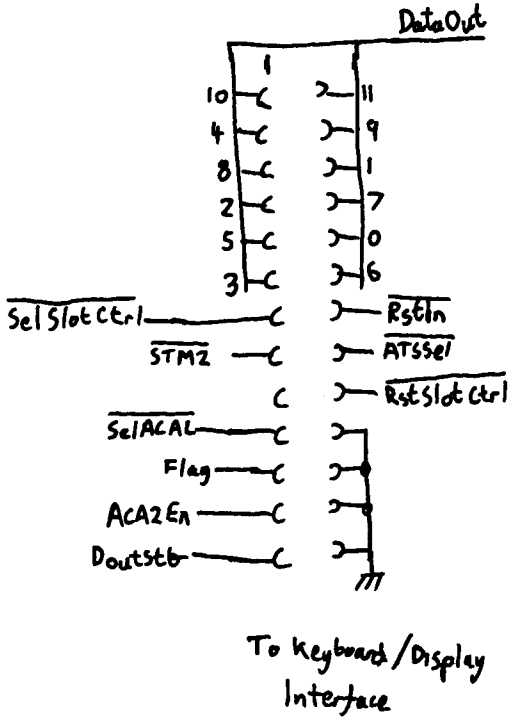
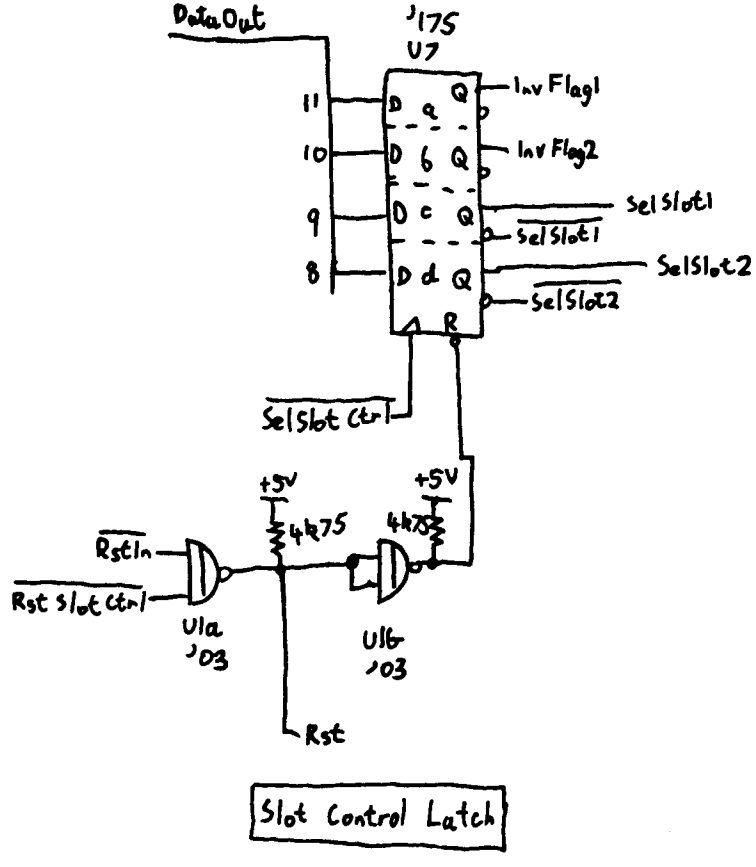
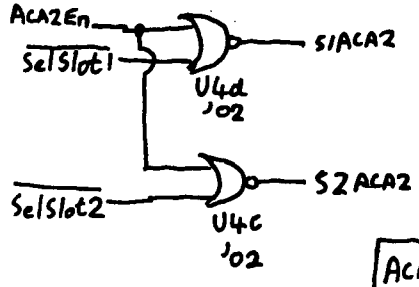
HP 9815 Expansion Backplane

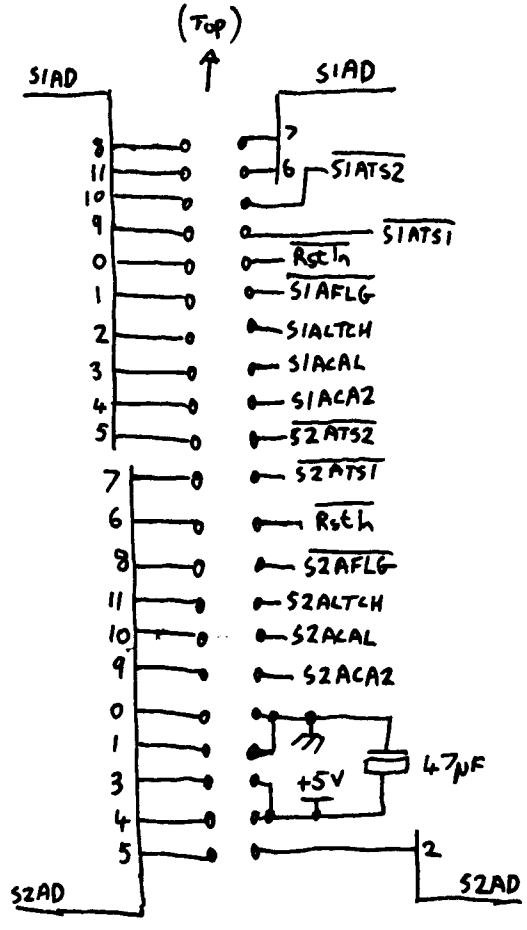




Slot Control Latch



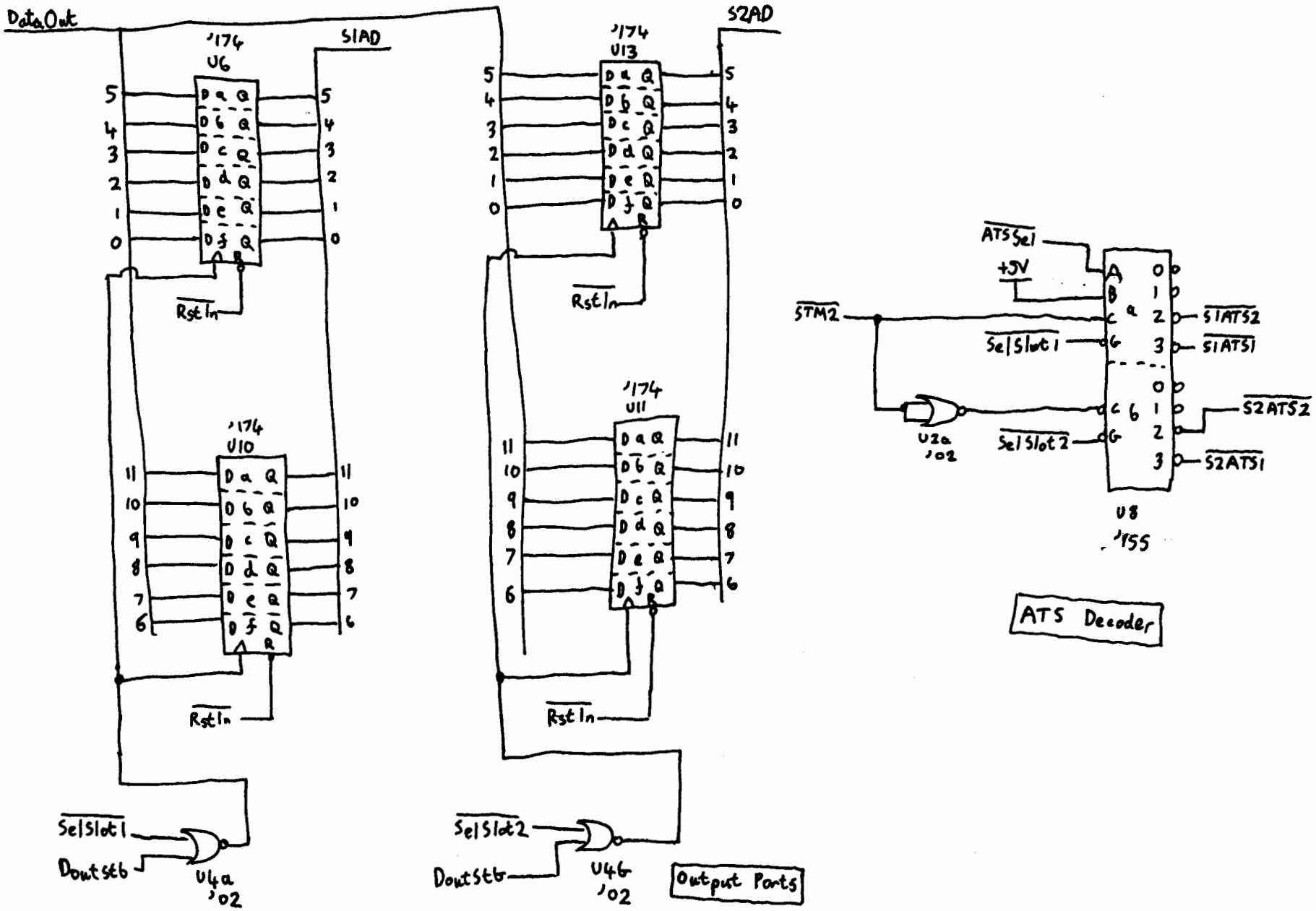
ACA2



Solder pads to Expansion Backplane (viewed from component side)

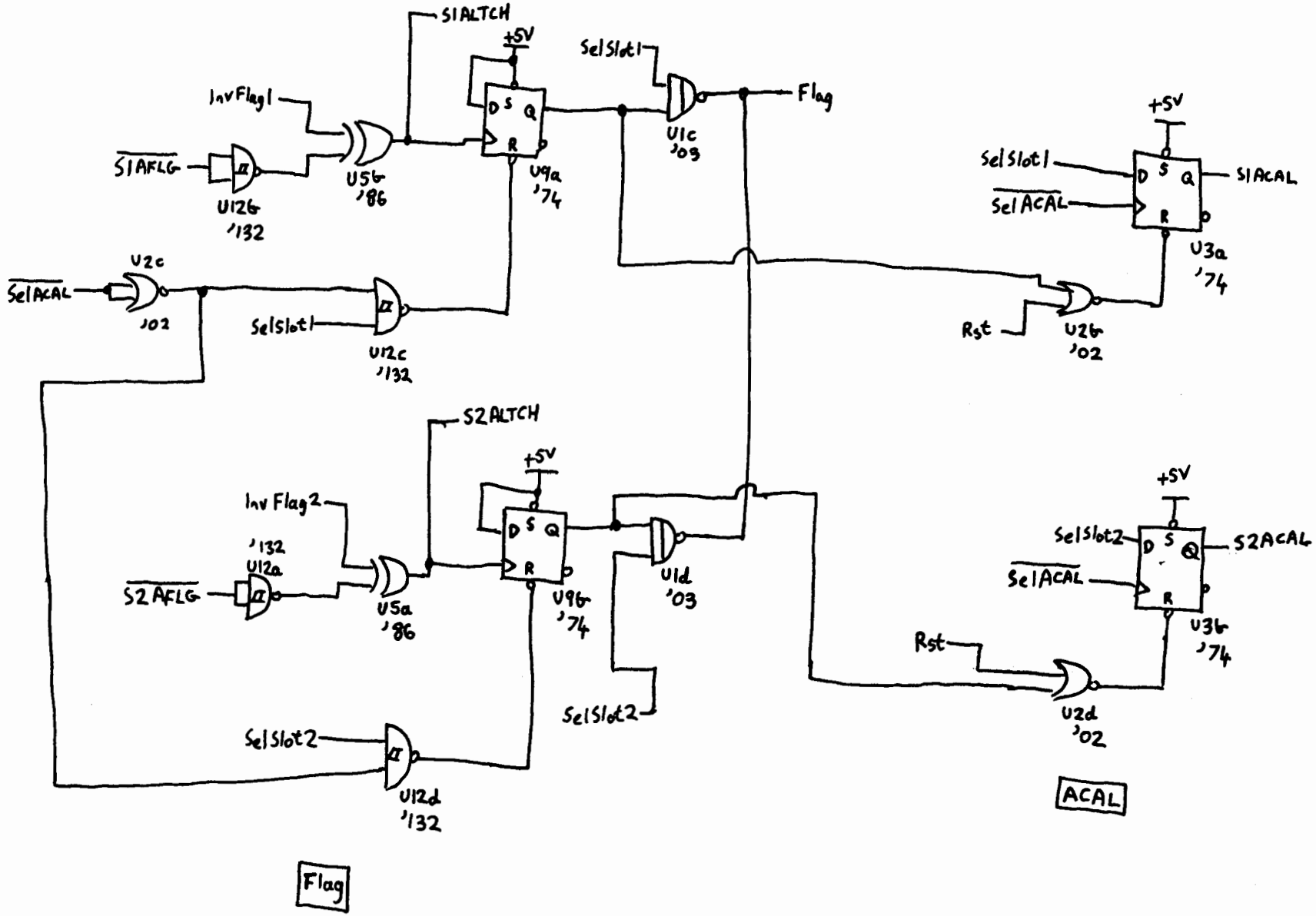
HP9815 Output Port Board Sheet ①

09815-66501

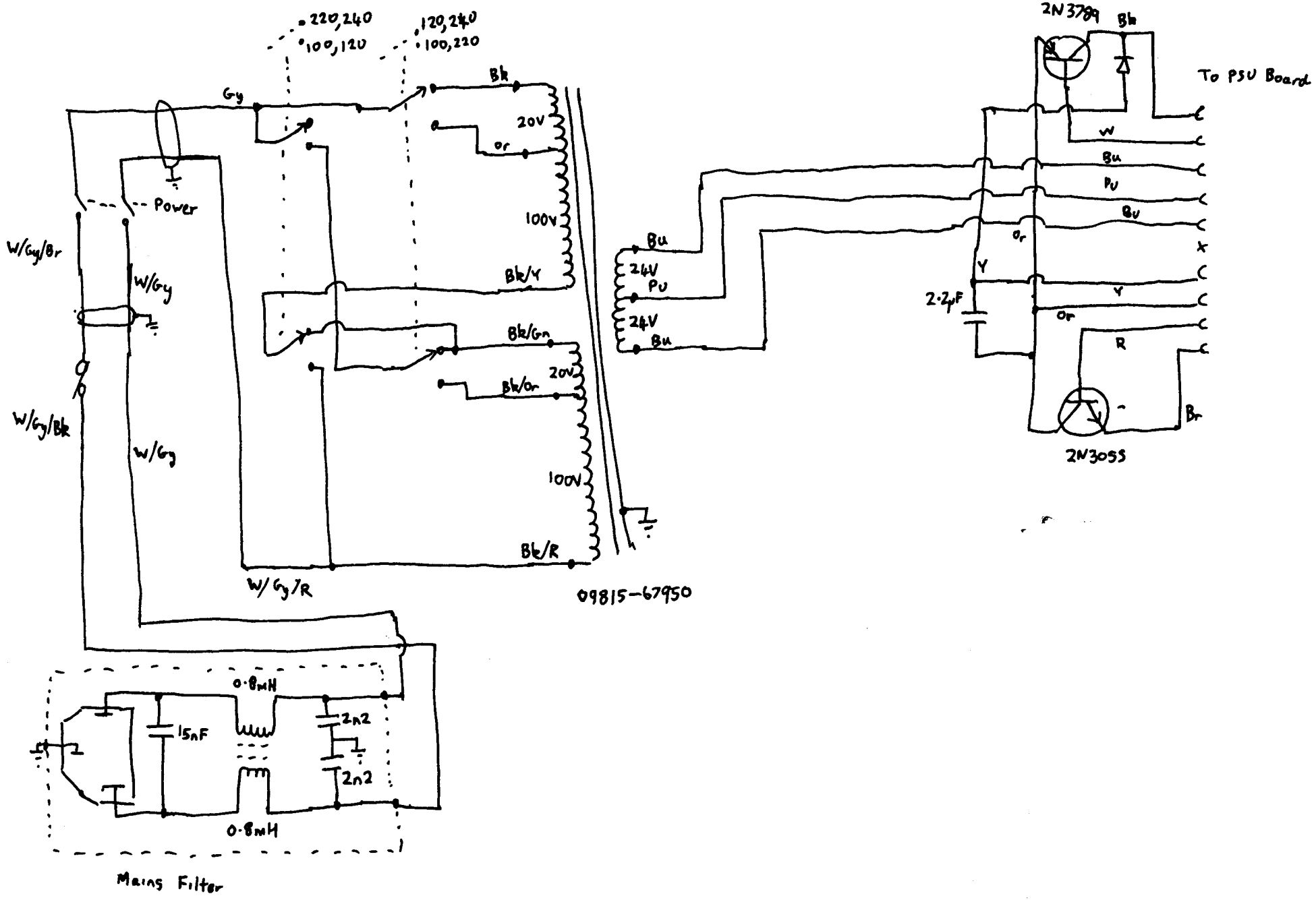


09815-66501

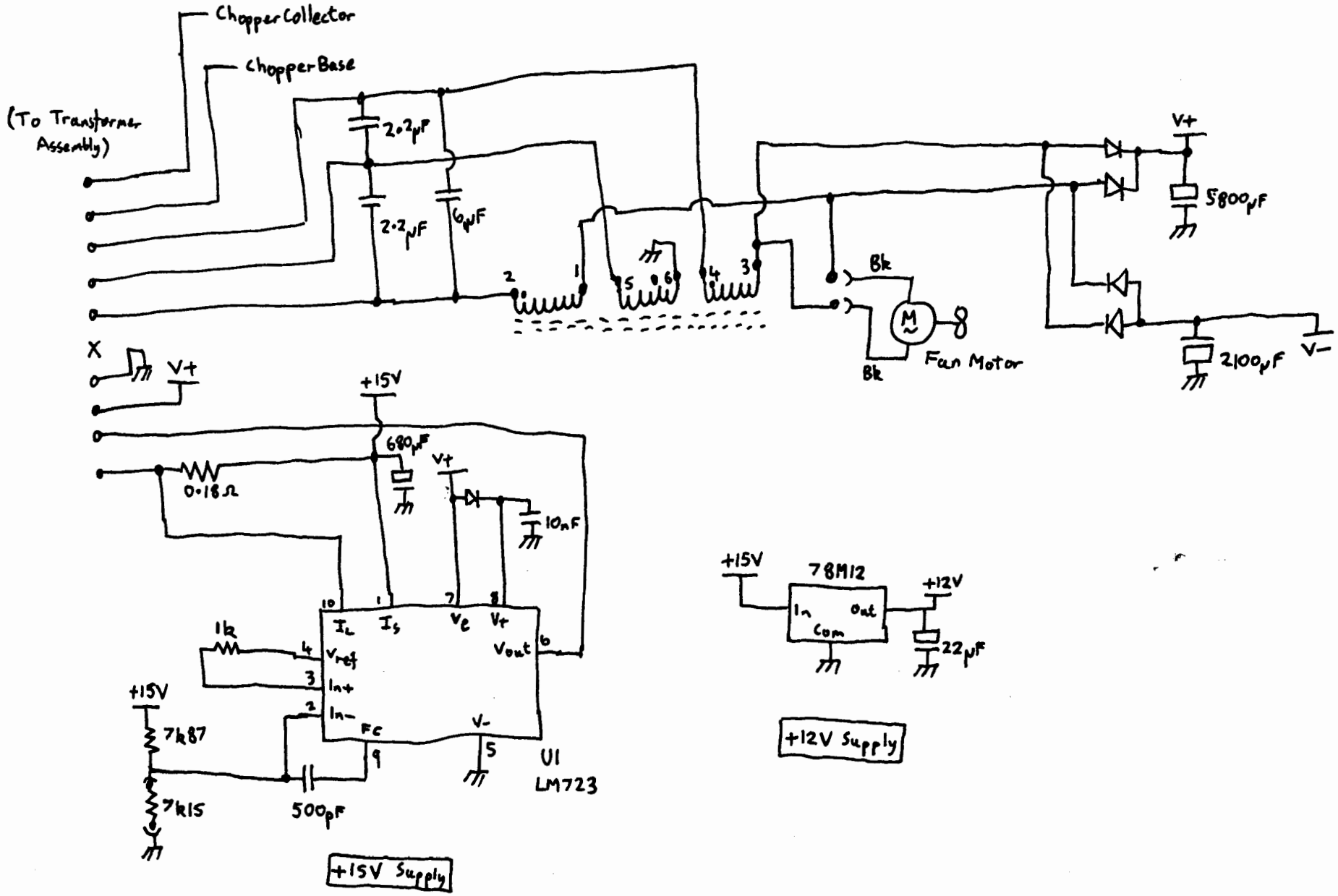
HP 9815 Output Port Board Sheet (2)



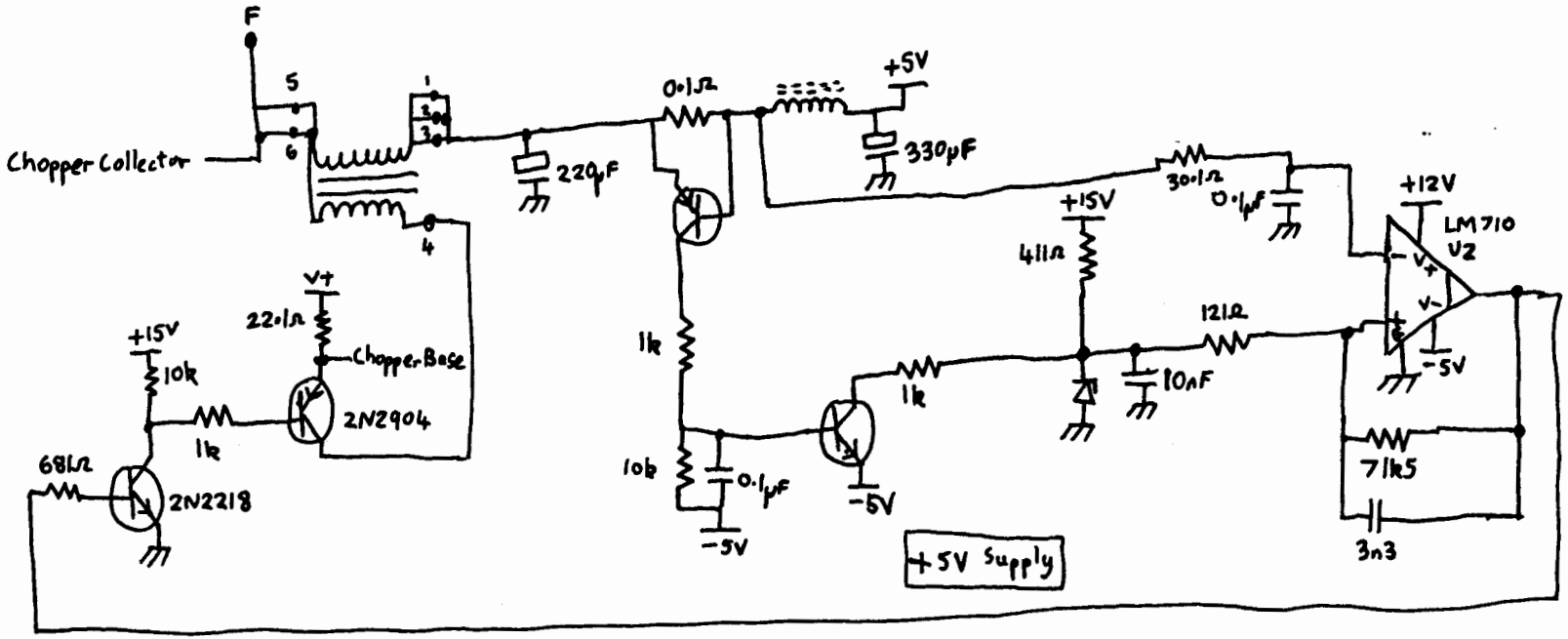
HP 9815 Output Port Board Sheet (3) 09815-66501

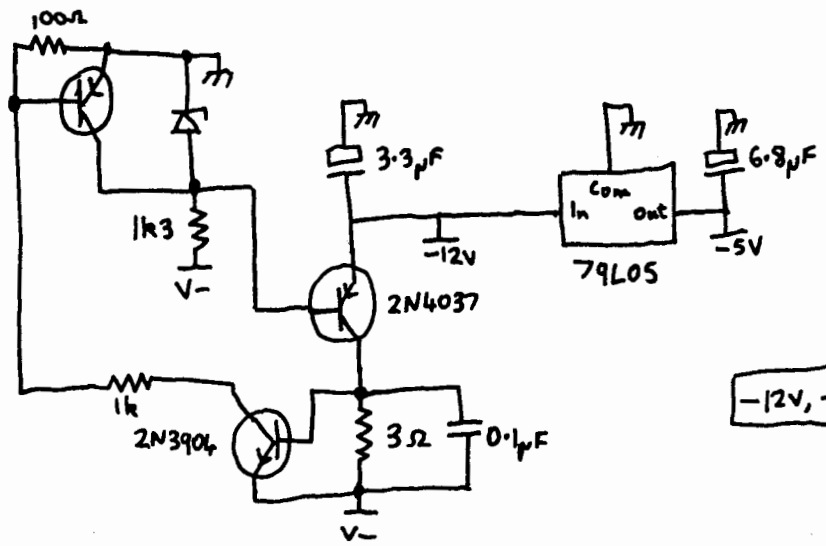


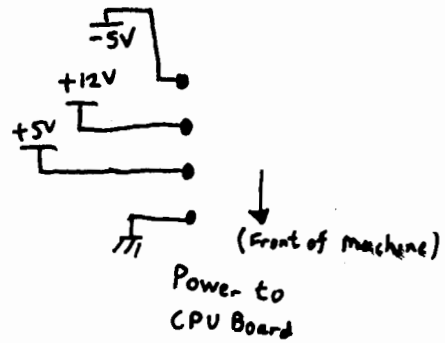
HP9815 Transformer Assembly



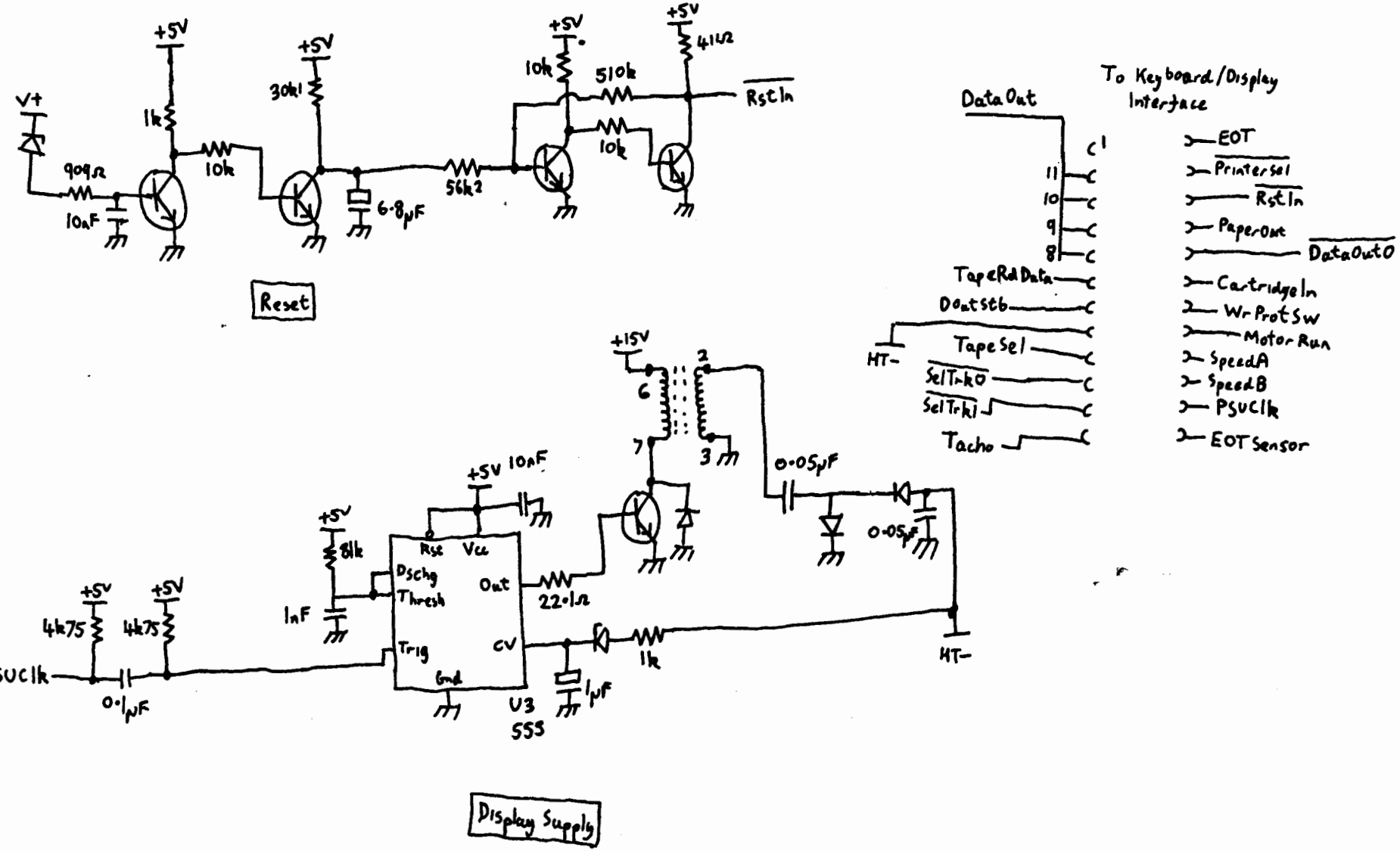
HP9815 PSU Board Sheet (1) 09815-66550



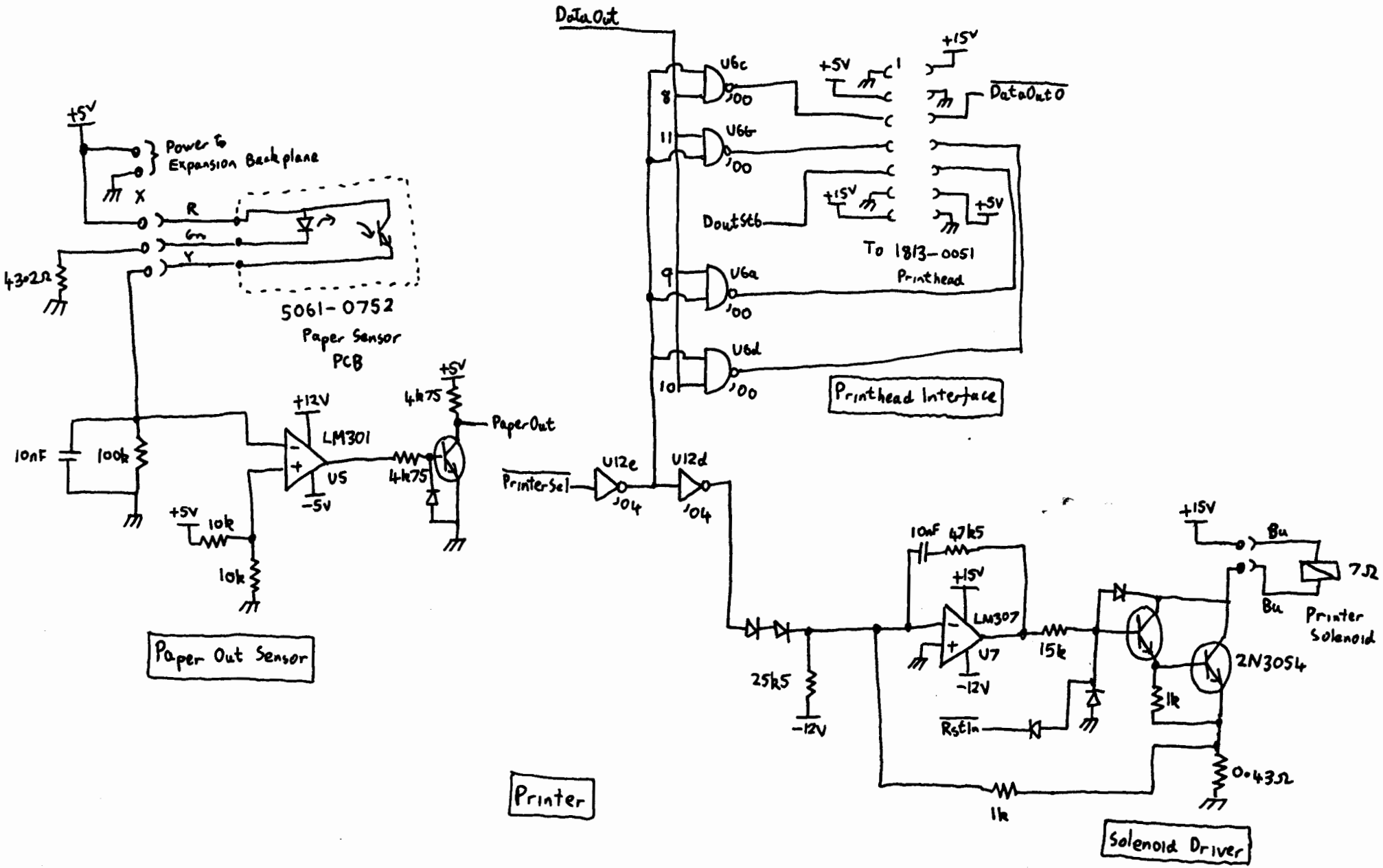




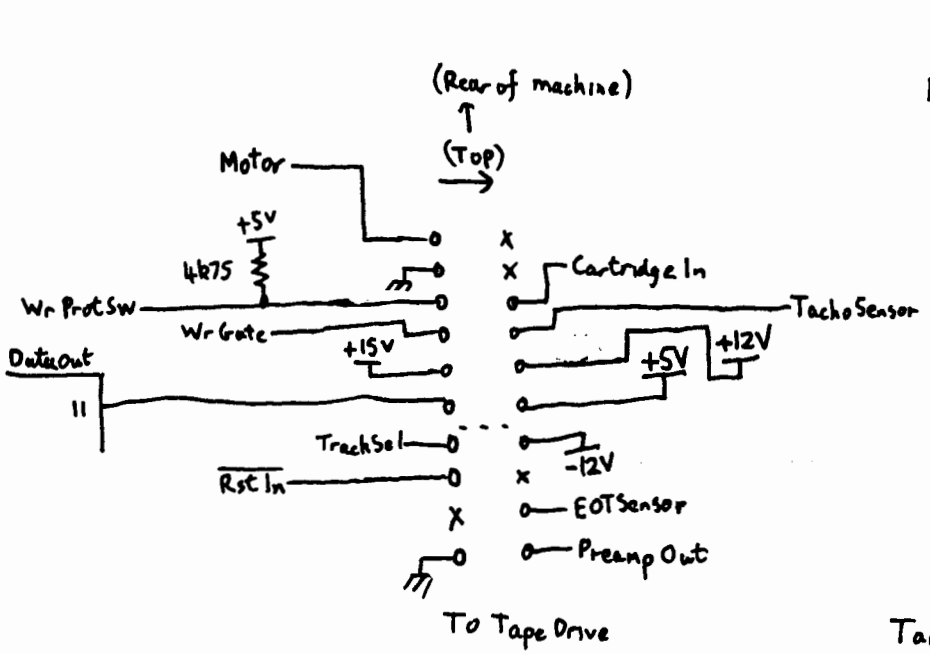
HP9815 PSU Board Sheet (2) 09815-66550

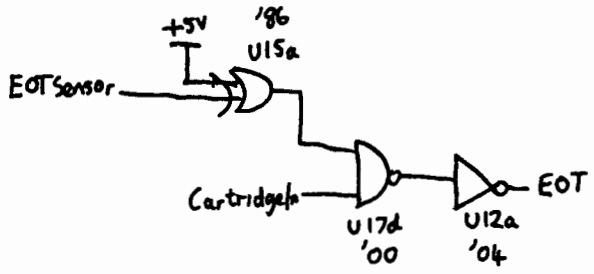


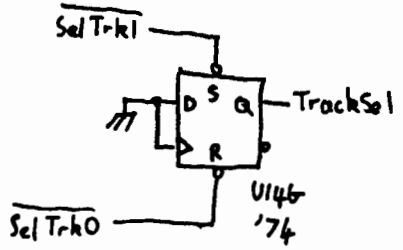
Display Supply

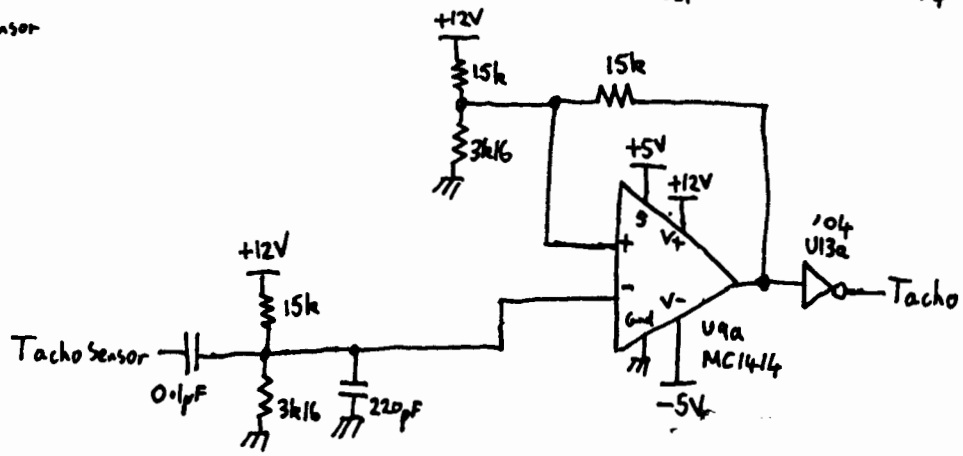


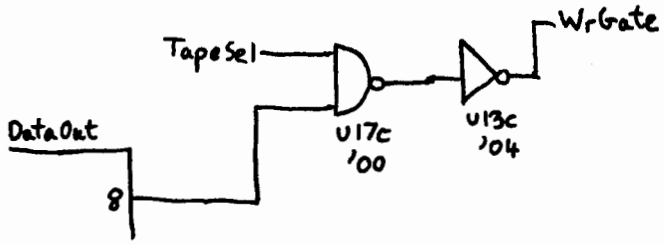
HP9815 PSU Board Sheet (4) 09815-66550



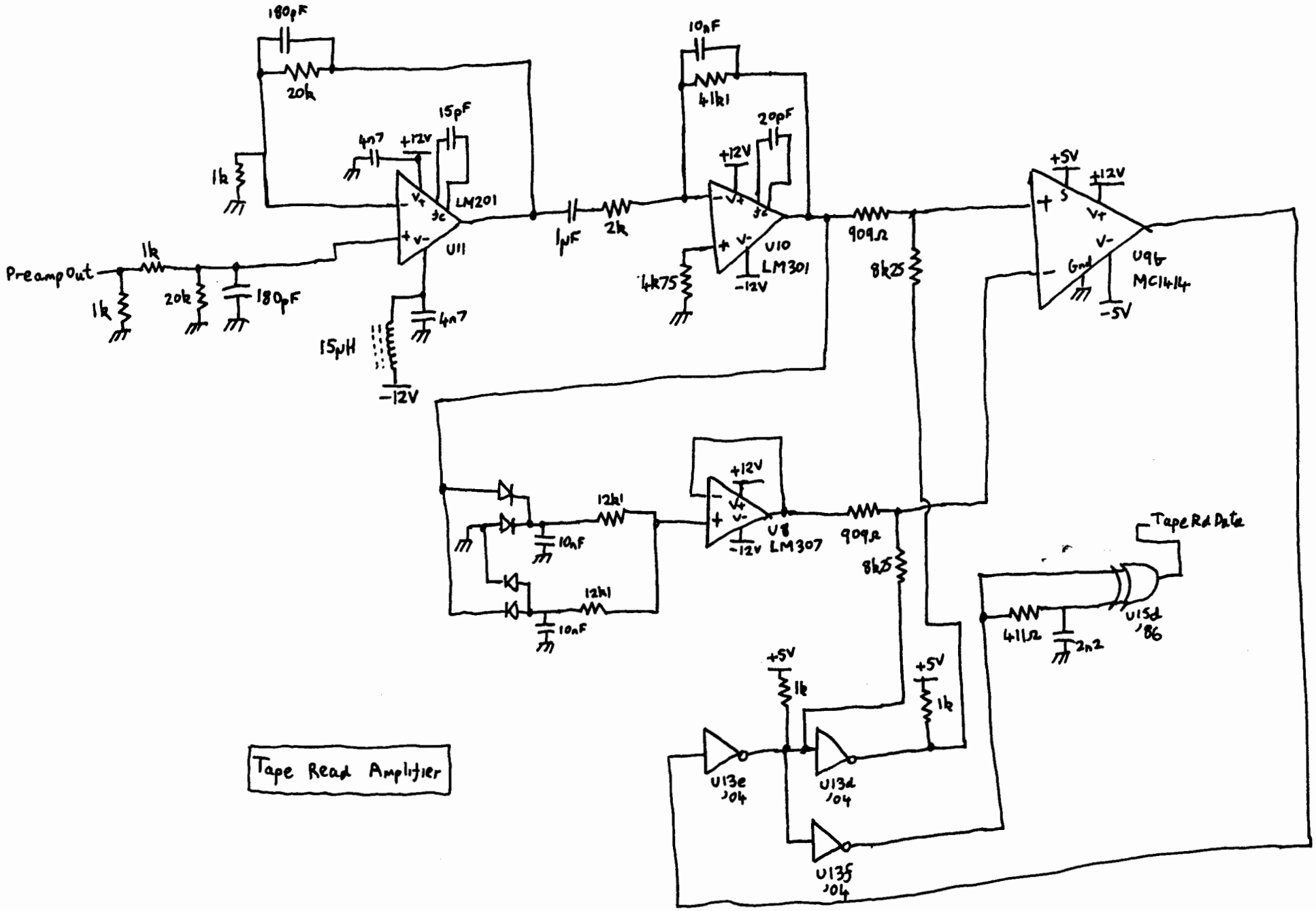




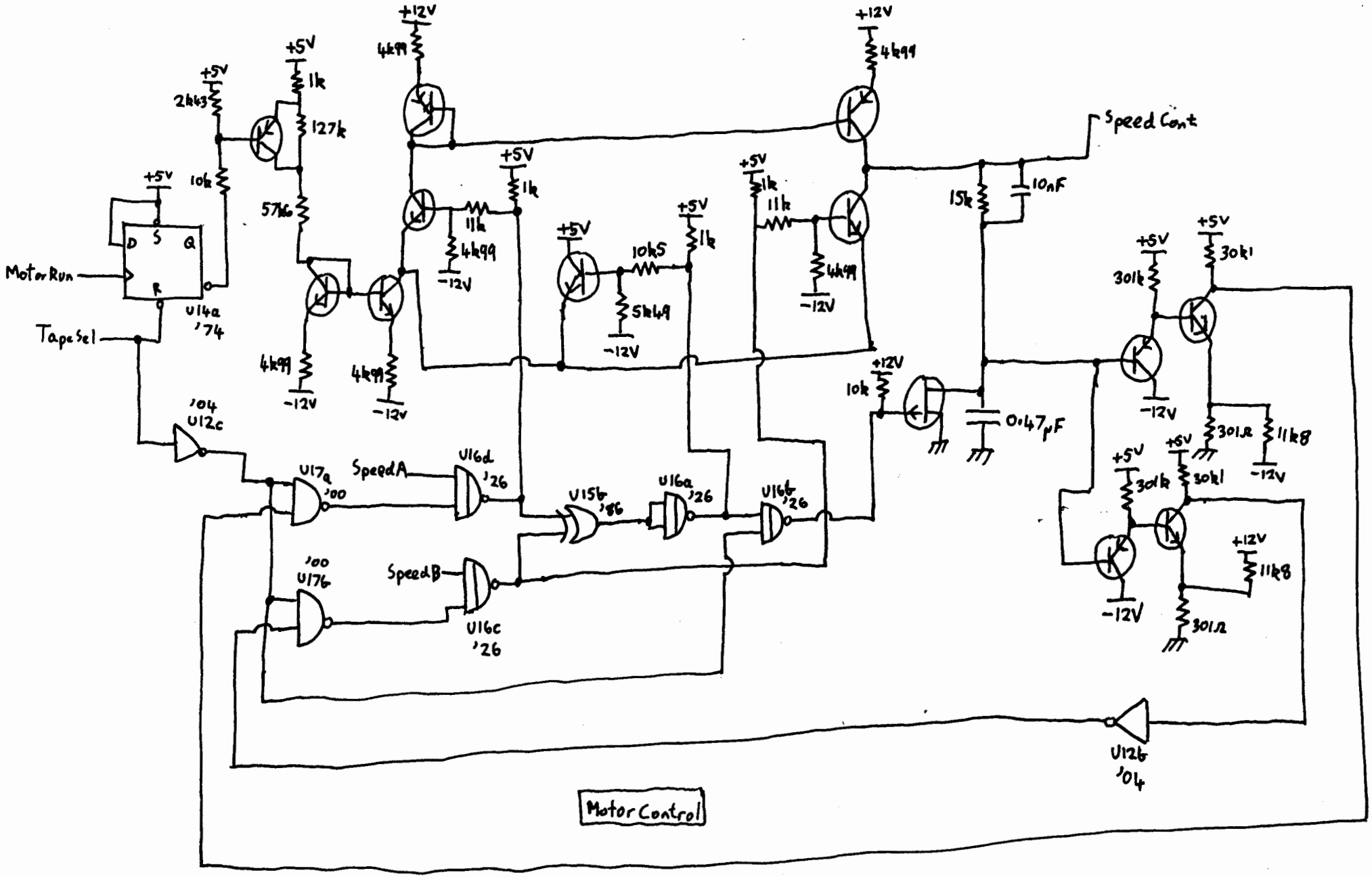




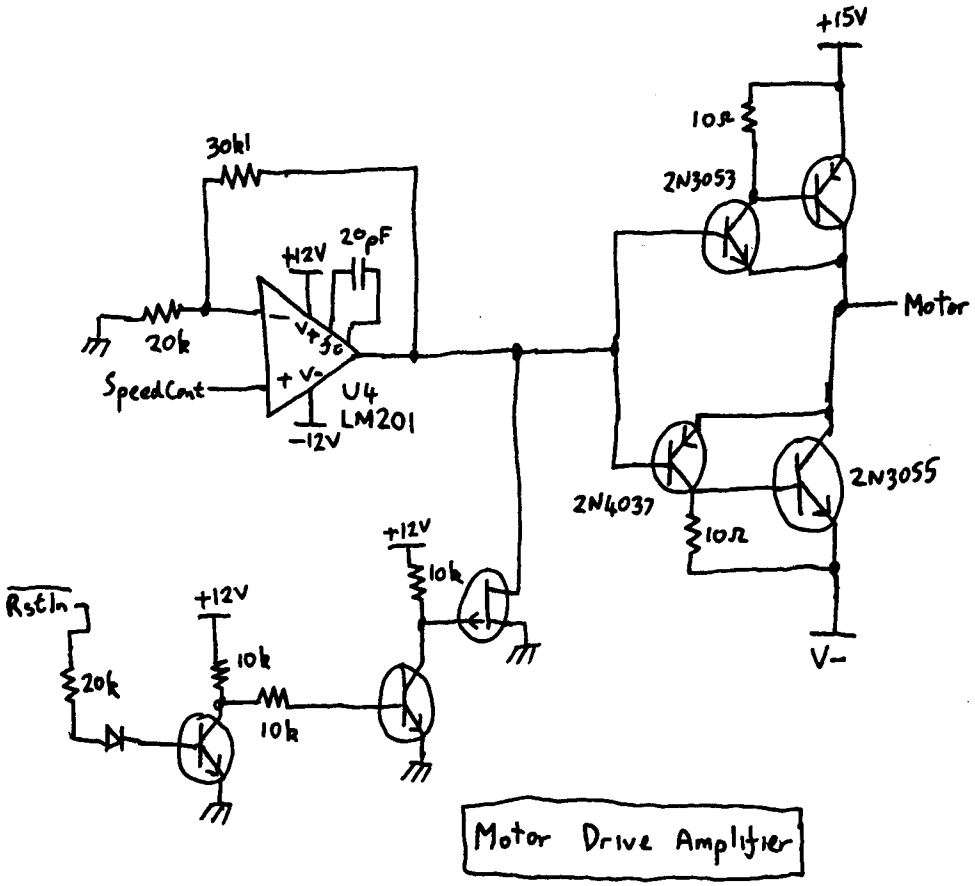
Tape Drive Control



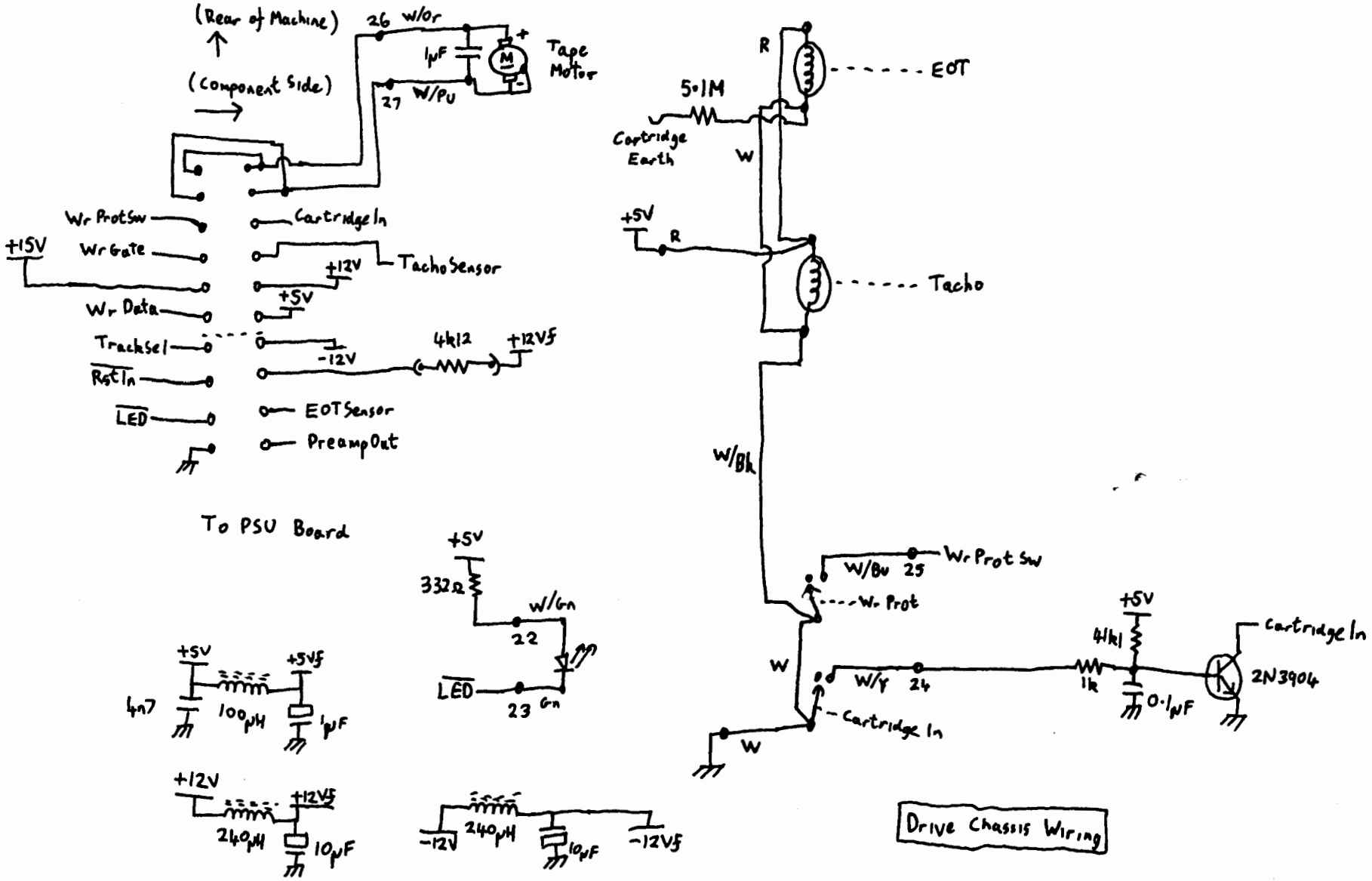
HP 9815 PSU Board sheet (6) 09815-66550



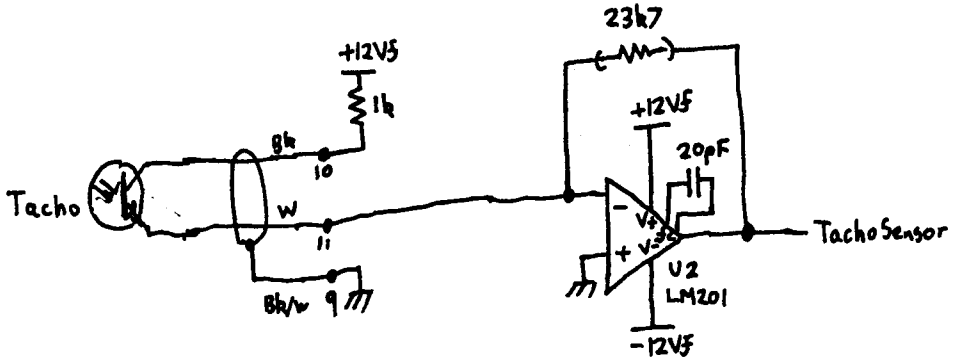
HP9815 PSU Board Sheet (7) 09815-66550

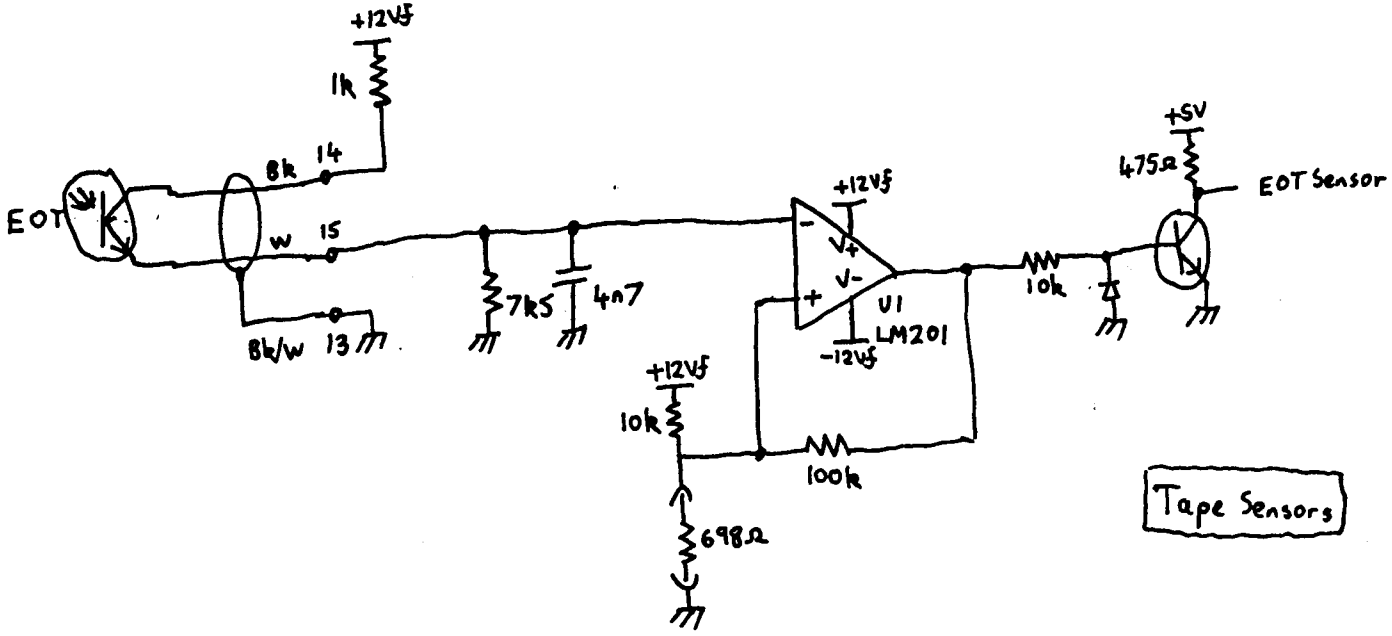


Motor Drive Amplifier



HP9815 Tape Drive Sheet ① 09815-66504

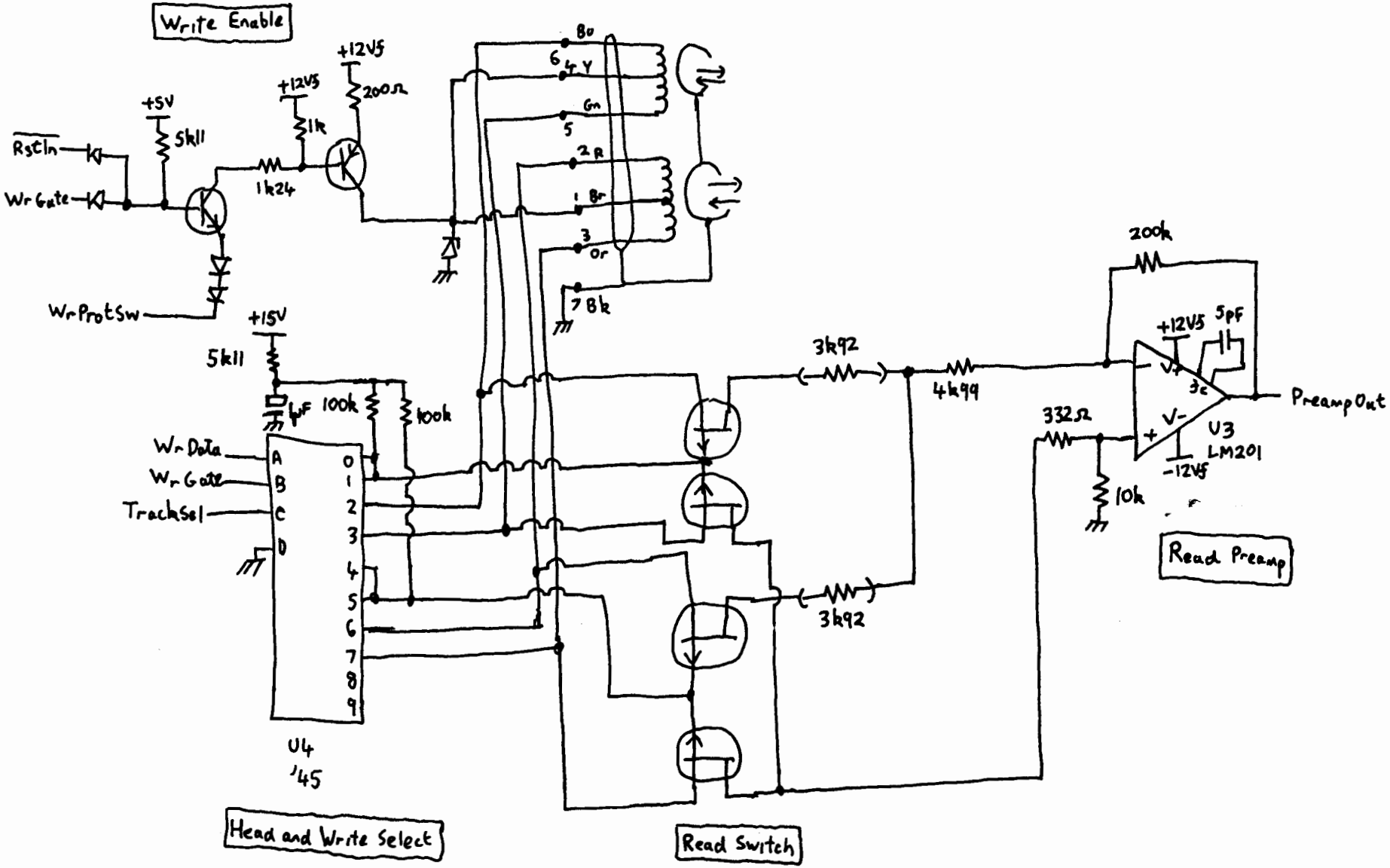




Tape Sensors

HP9815 Tape Drive Sheet ②

09815-66504



HP 9815 Tape Drive Sheet (3) 09815-66504