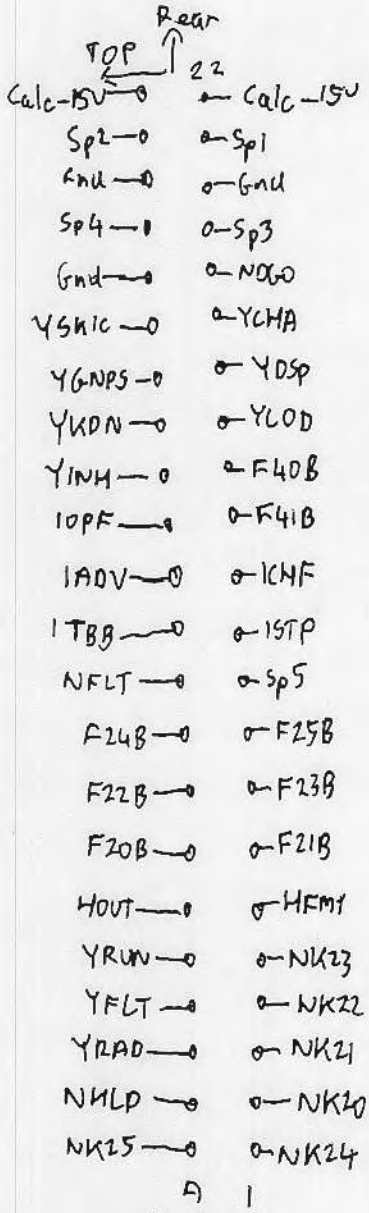
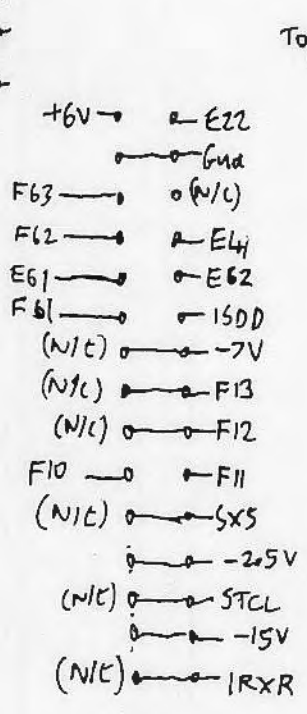
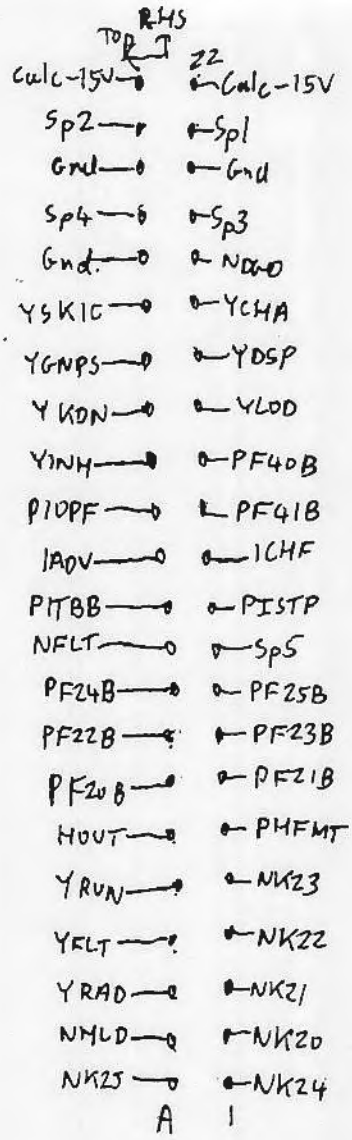
HP9125A Logic Backplane



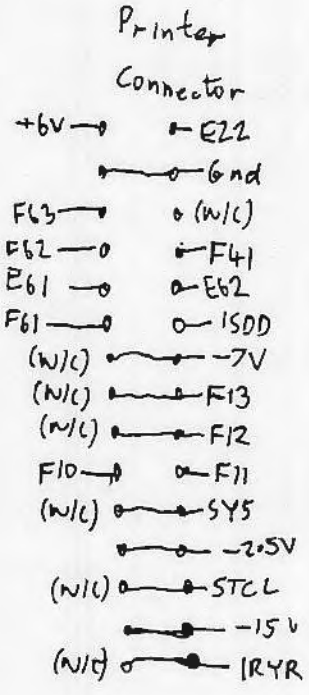
Calculator Connector



XDAC



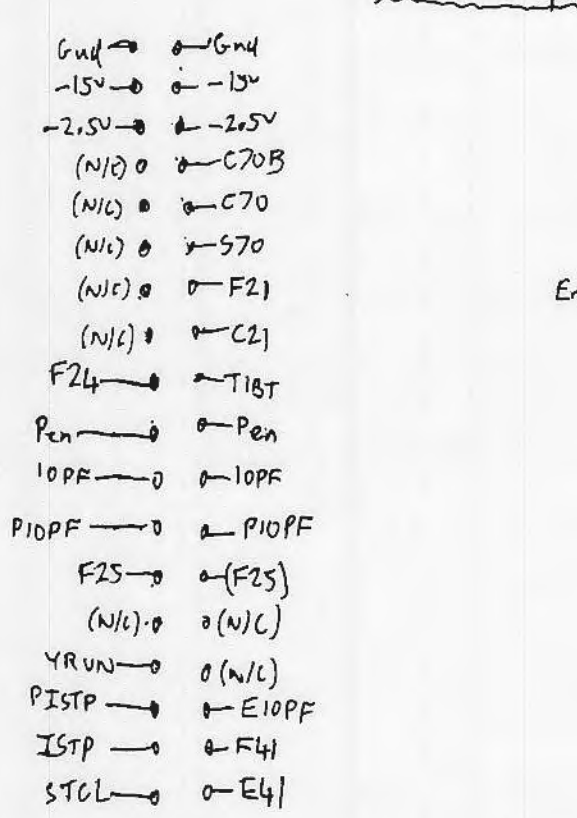
Printer Connector



YDAC

HP9125A

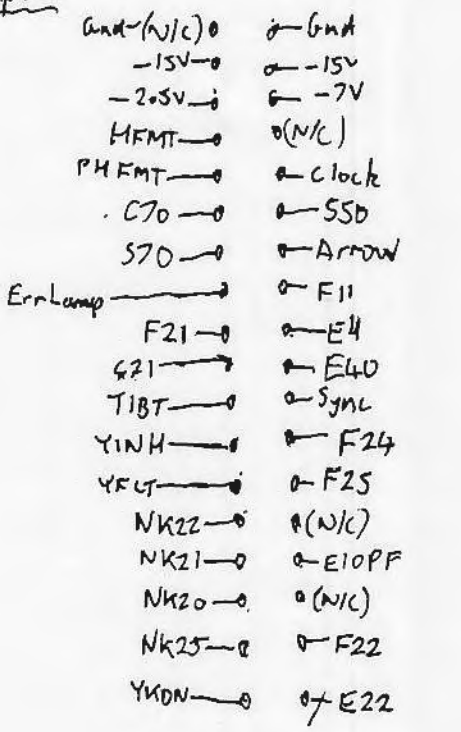
Logic Backplane



BD2

09125-00080 (Br)

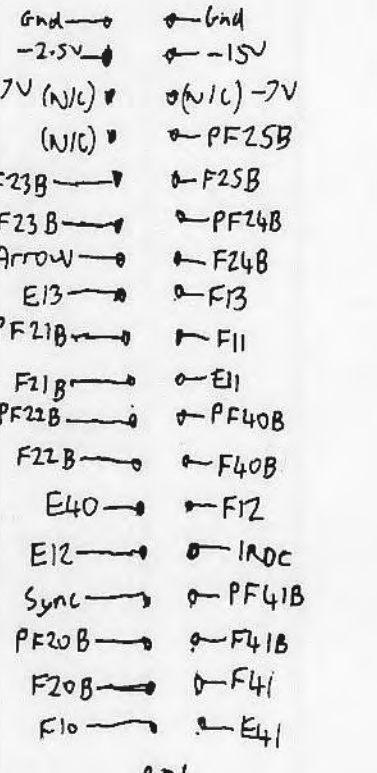
(Pen Control)



BD3

09125-00090 (R)

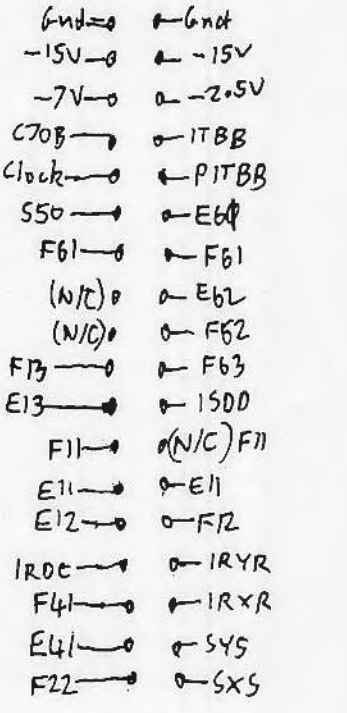
(Control Logic)



BD4

09125-00100(Or)

(Buffer)

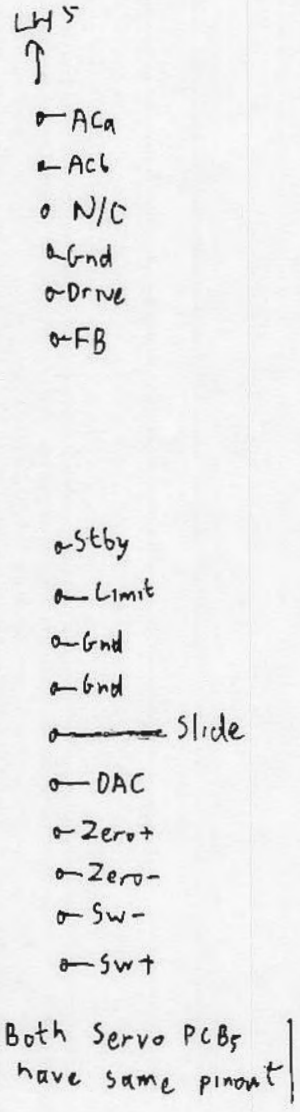


BD5

09125-00110 (Y)

(Digit Counter)

HP9125A Servo Backplane



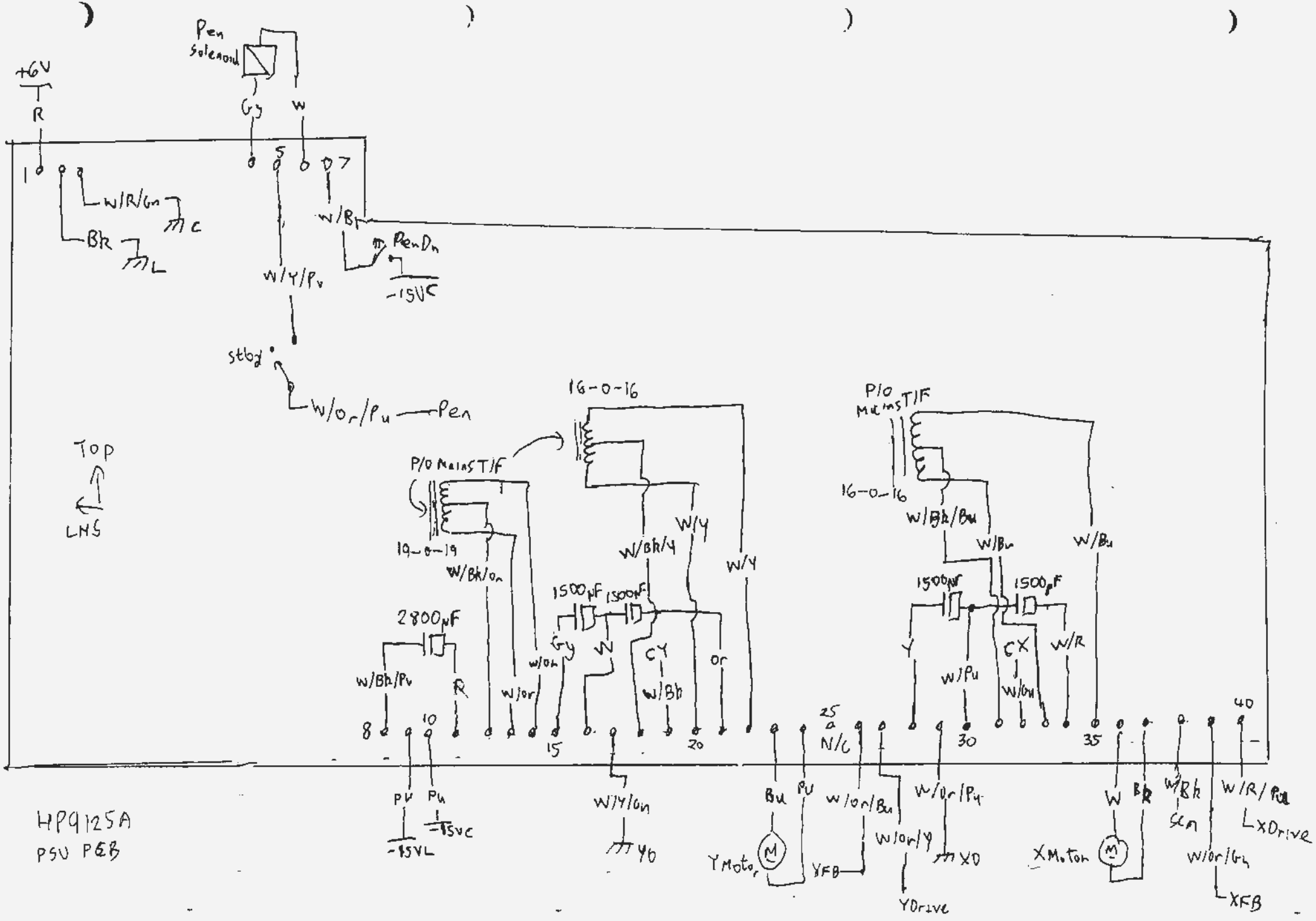
Both Servo PCBs have same pinout

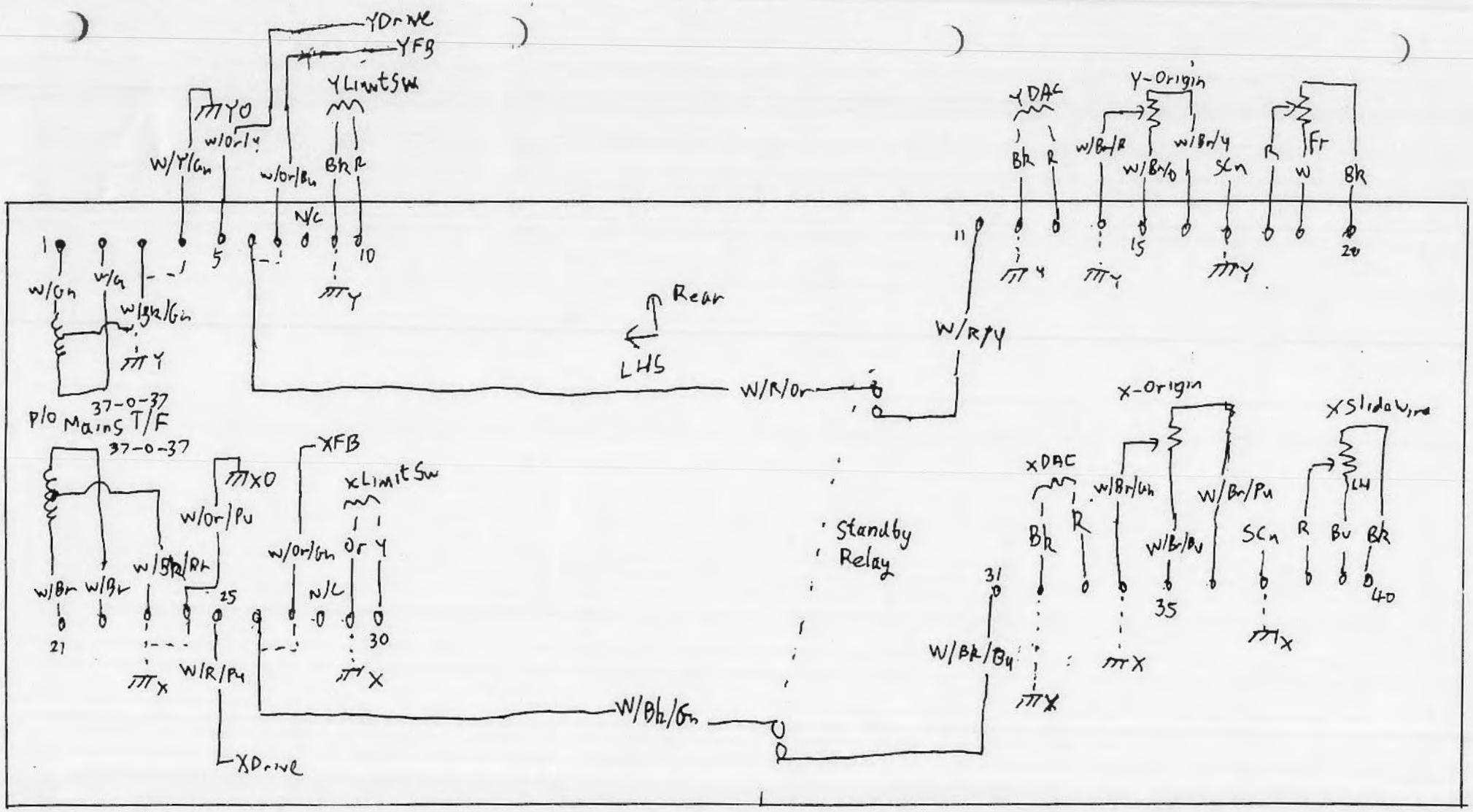
Diagram Notes

(1) PCB pins drawn thus: N (xx)

N = pin number (see chassis wiring diagram)
xx = PCB marking (generally wire colour code)

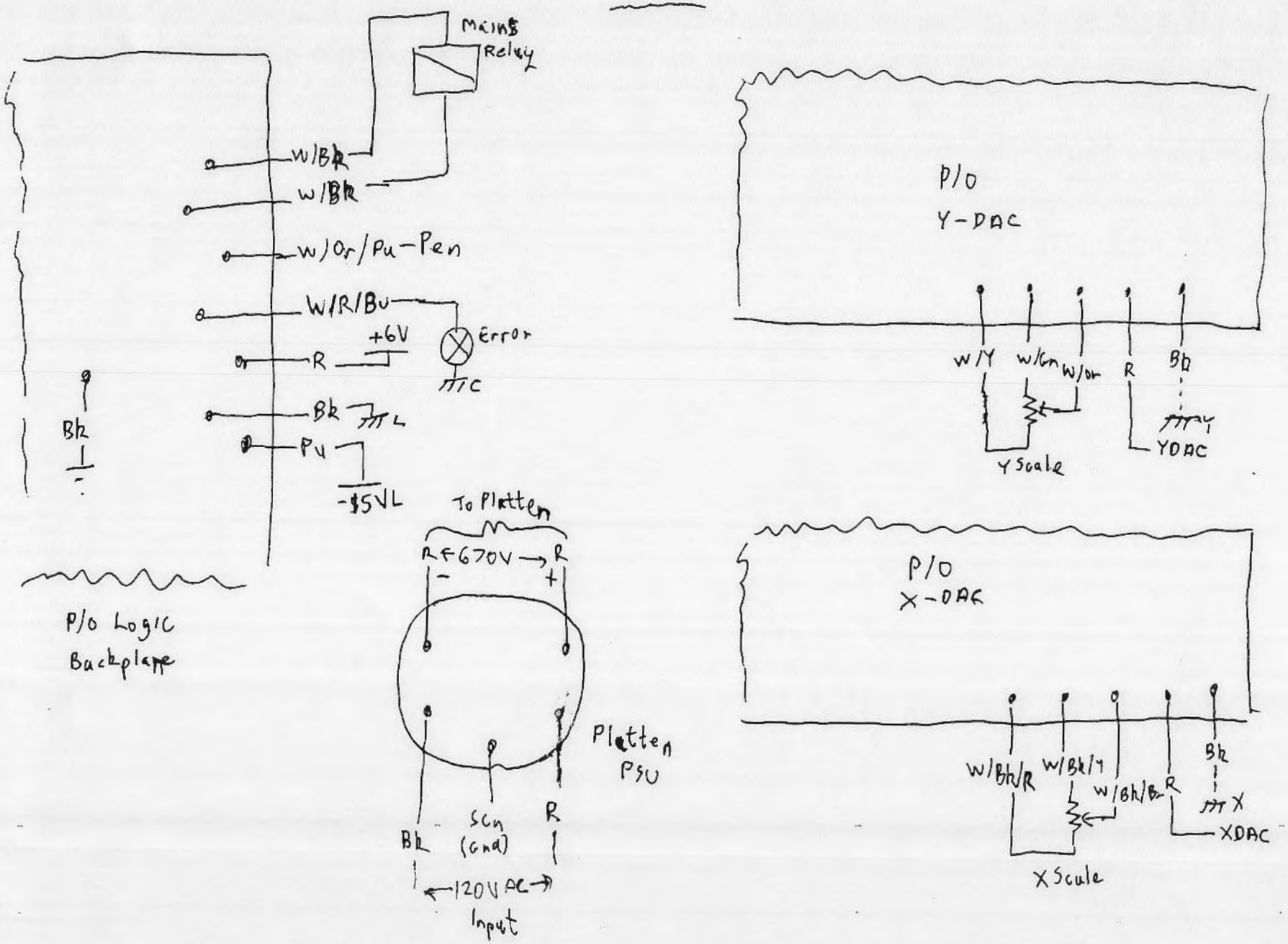
(2) Unmarked PNP transistors : 1853-0203
Unmarked NPN transistors : 1854-0354

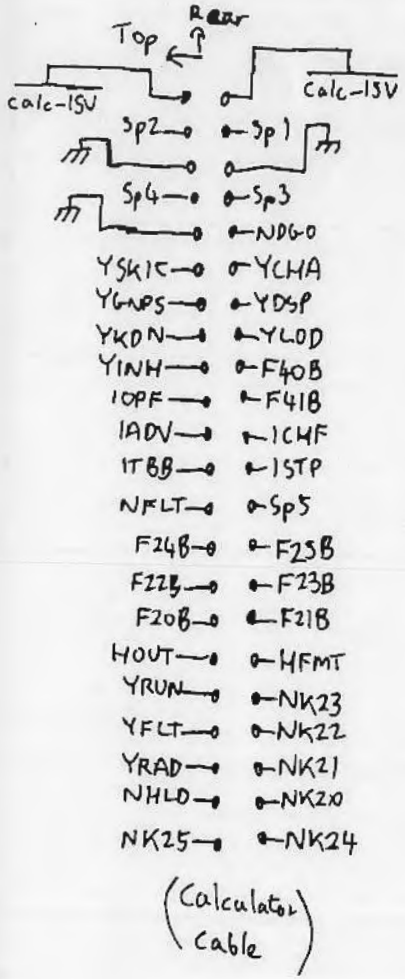

Pen Solenoid
+6V
R
Gy
W
1
5
7
W/R/Gn
C
Bk
L
W/Bl
Pen Dn
-15VC
W/Y/Pu
Stby
W/Or/Pu
Pen
TOP
LHS
P/O Mains T/F
16-0-16
19-0-19
W/Bk/Gn
W/Bk/Y
W/Y
W/Y
2800nF
1500nF
1500nF
W/Bk/Pu
R
W/Or
W/Or
Gy
W
CY
W/Bk
Or
8
10
15
20
25
N/C
30
35
40
-15VL
-15VC
W/Y/Gn
Y0
Bu
Pu
YMotor
YFB
W/Or/Bu
W/Or/Y
YDrive
W/Or/Pu
XO
P/O Mains T/F
16-0-16
W/Bk/Bu
W/Bu
W/Bu
1500pF
1500pF
Y
W/Pu
CX
W/Gn
W/R
W
Bk
XMotor
W/Bk
Scn
W/Or/Gn
XFB
W/R/Pu
LXDrive
HP9125A
PSU PCB



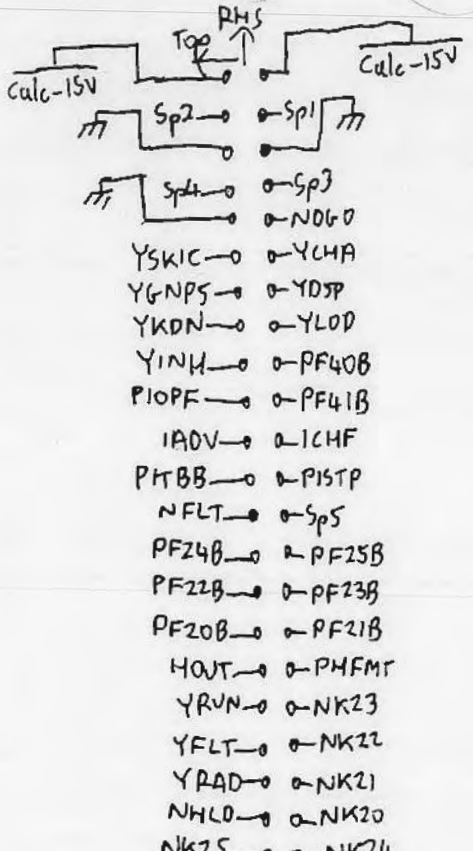
HP 9125A Servo Backplane

HP9125A

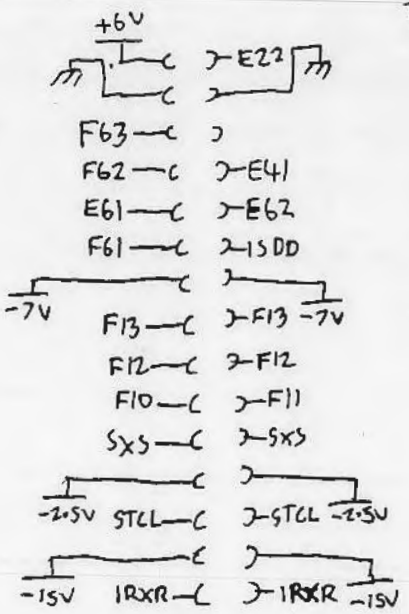

Mains Relay
W/Bk
W/Bk
W/Or/Pu-Pen
W/R/Bu
+6V
Error
R
Bk
Pu
-5VL
Bk
P/O Logic Backplane
To Platten
RF670V
R
-
+
Platten PSU
Bk
Scn (Gnd)
R
120VAC
Input
P/O Y-DAC
W/Y
W/Gn
W/Or
R
Bk
Y Scale
YDAC
P/O X-DAC
W/Bk/R
W/Bk/Y
W/Bk/Bu
R
Bk
X Scale
XDAC



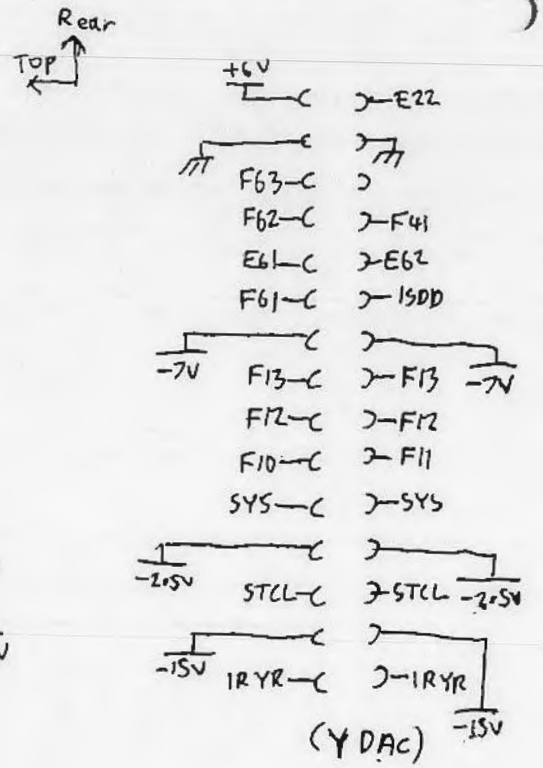
(Calculator Cable)



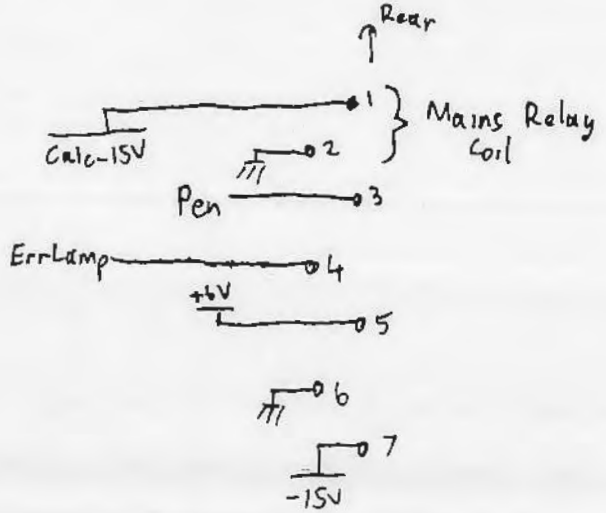
(Printer)

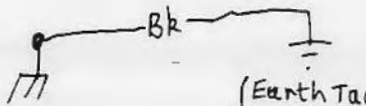


(XDAC)



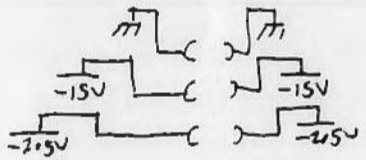
(YDAC)





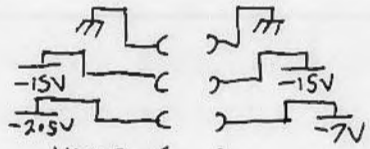
(Earth Tag on Mains Transformer)

HP9125A Logic Backplane Sheet (1) - 09125-00070



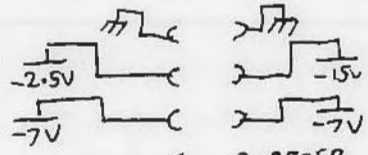
C — C70B
C — C70
C — S70
C — F21
C — C21
F24 — T1BT
Pen — Pen
10PF — 10PF
P10PF — P10PF
F25 —)
C —)
YRUN —)
P1STP — E10PF
1STP — F41
STCL — E41

(Pen Control)



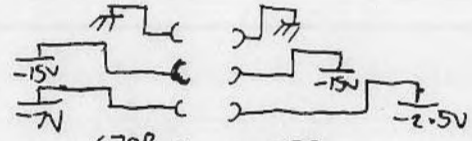
HFMT —)
PHFMT — Clock
C70 — S50
S70 — Arrow
ErrLamp — F11
F21 — E11
C21 — E40
T1BT — Sync
YINH — F24
YFLT — F25
NK22 —)
NK21 — E10PF
NK20 —)
NK25 — F22
YKDN — E22

(Control Logic)



C — PF25B
PF23B — F25B
F23B — PF24B
Arrow — F24B
E13 — F13
PF21B — F11
F21B — E11
PF22B — PF40B
F22B — F40B
E40 — F12
E12 — IRDC
Sync — PF41B
PF20B — F41B
F20B — F41
F10 — E41

(Buffer)

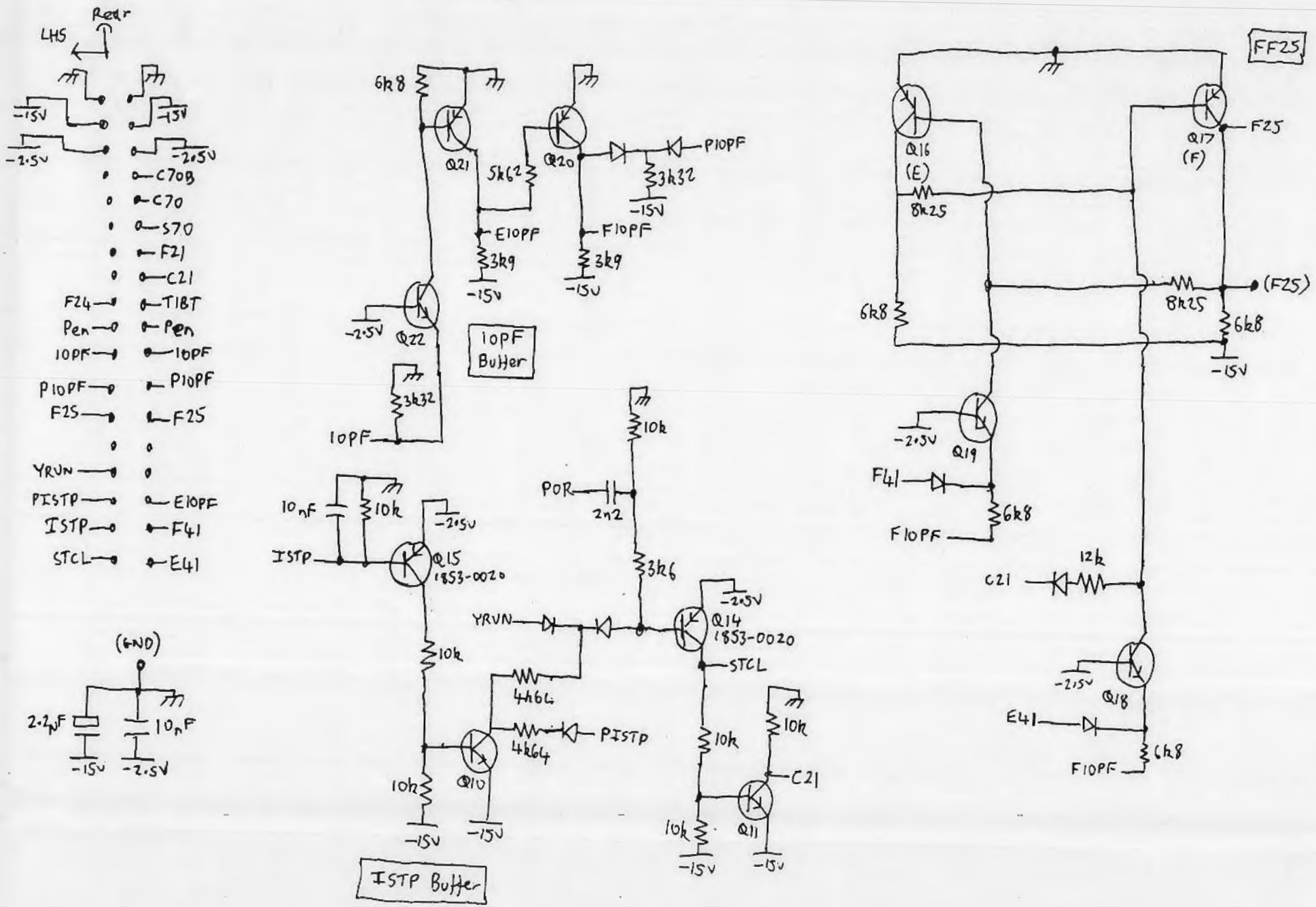


C70B — MBB
Clock — P1TBB
S50 — E61
F61 — F61
C — E62
C — F62
F13 — F63
E13 — 1SDD
F11 — F11
E11 — E11
E12 — F12
IRDC — IRYR
F41 — IRXR
E41 — SYS
F22 — SXS

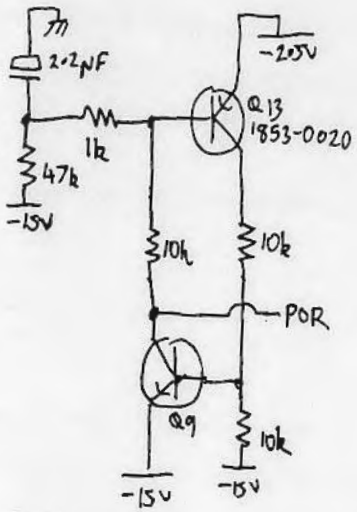
(Digit Counter)

Rear
LHS

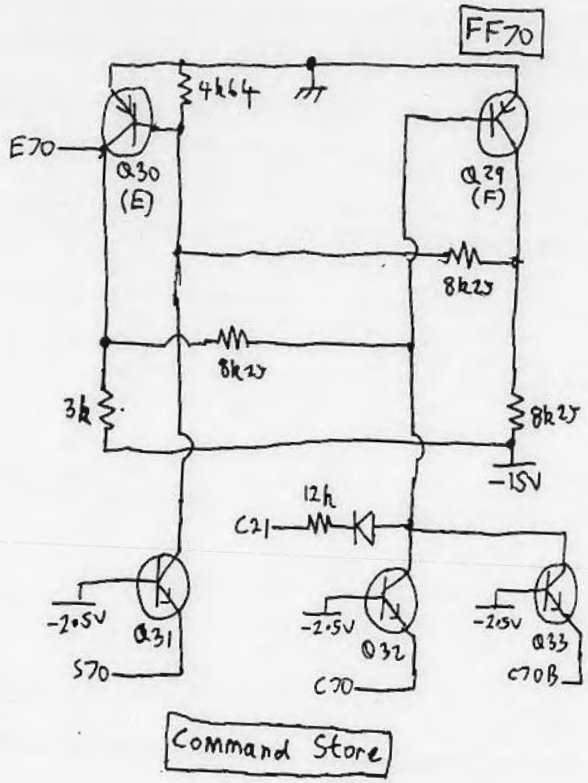
HP9125A Logic Backplane Sheet (2) 09125-00070



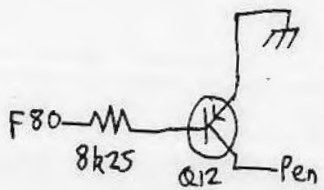
HP9125A Pen Control PCB (Br) Sheet (1) 09125-00080



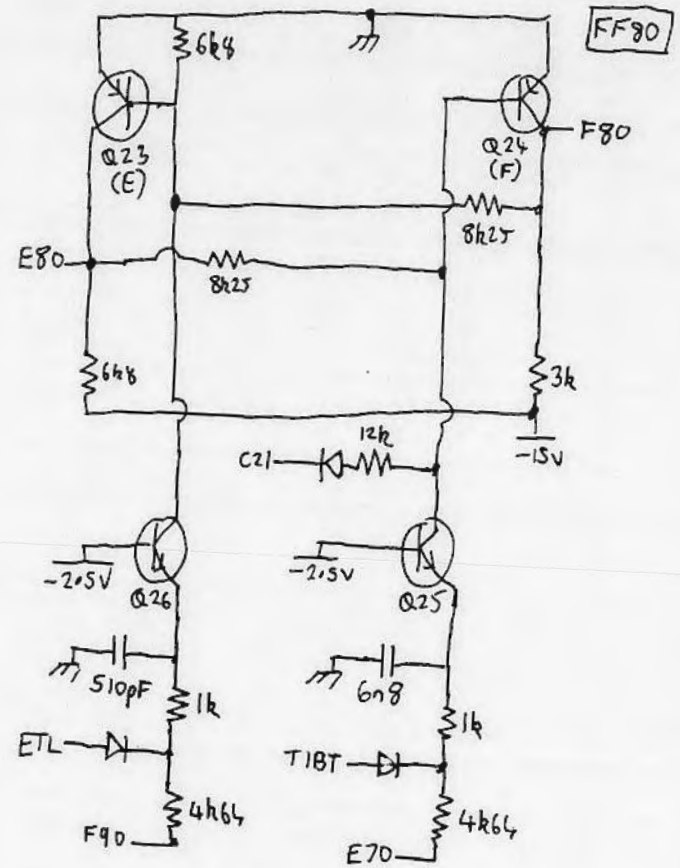
Power-On Reset



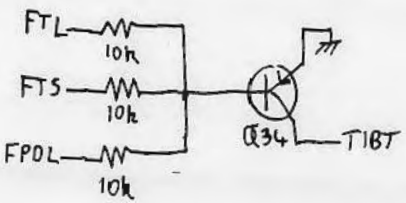
Command Store

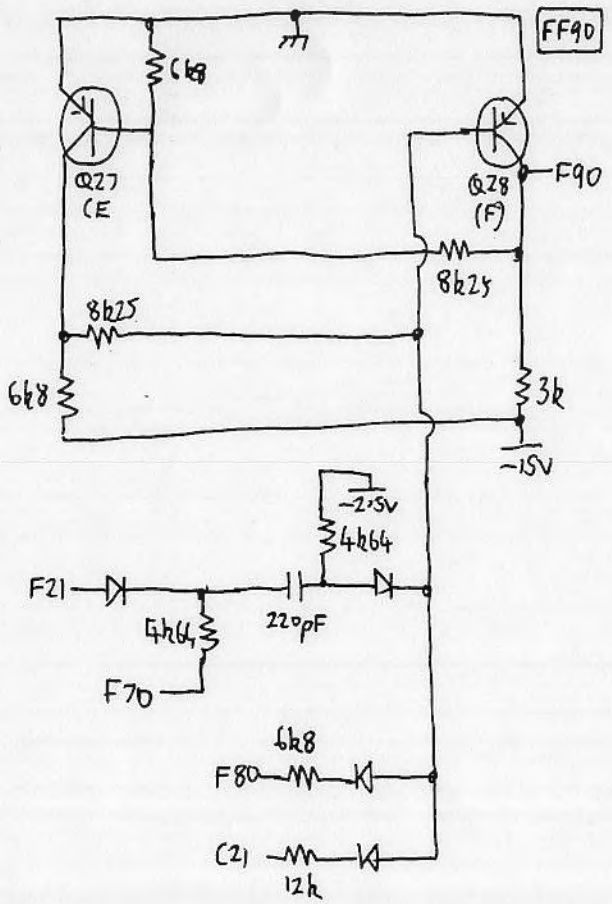


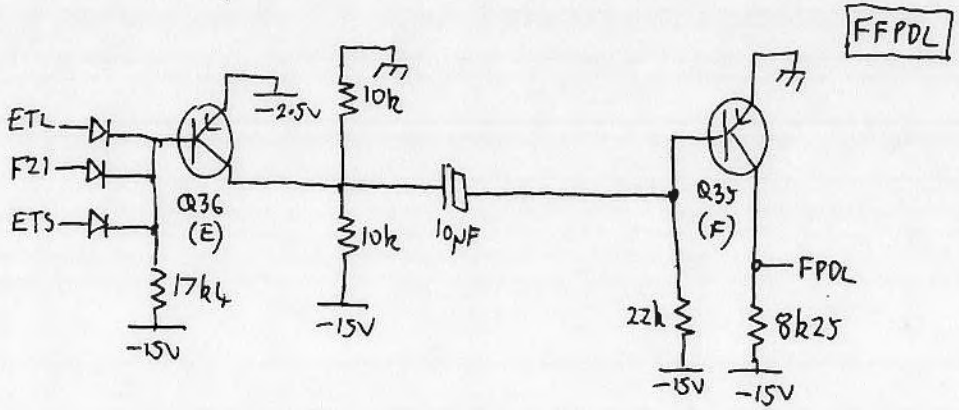
Pen Driver

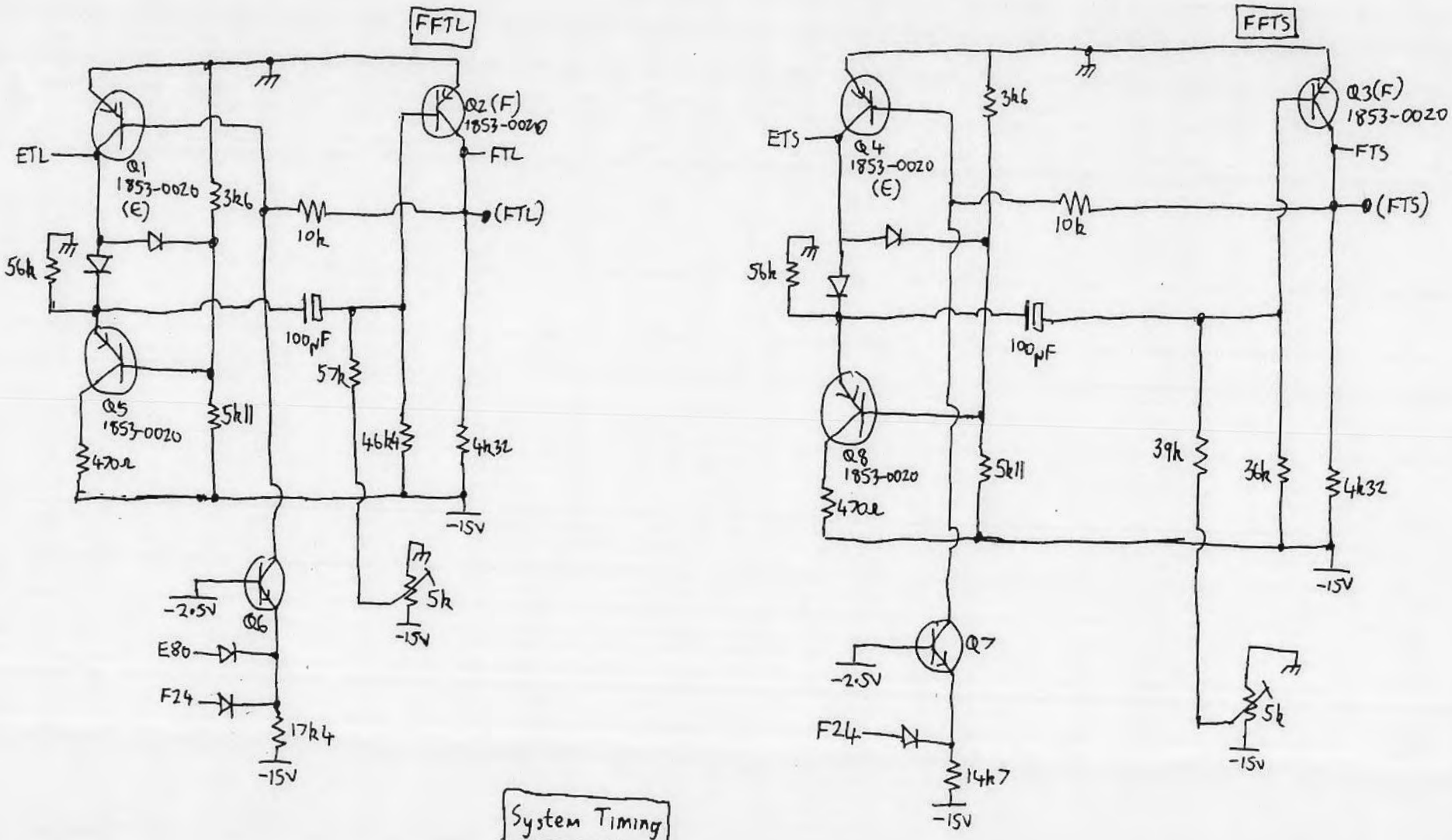


Pen Control

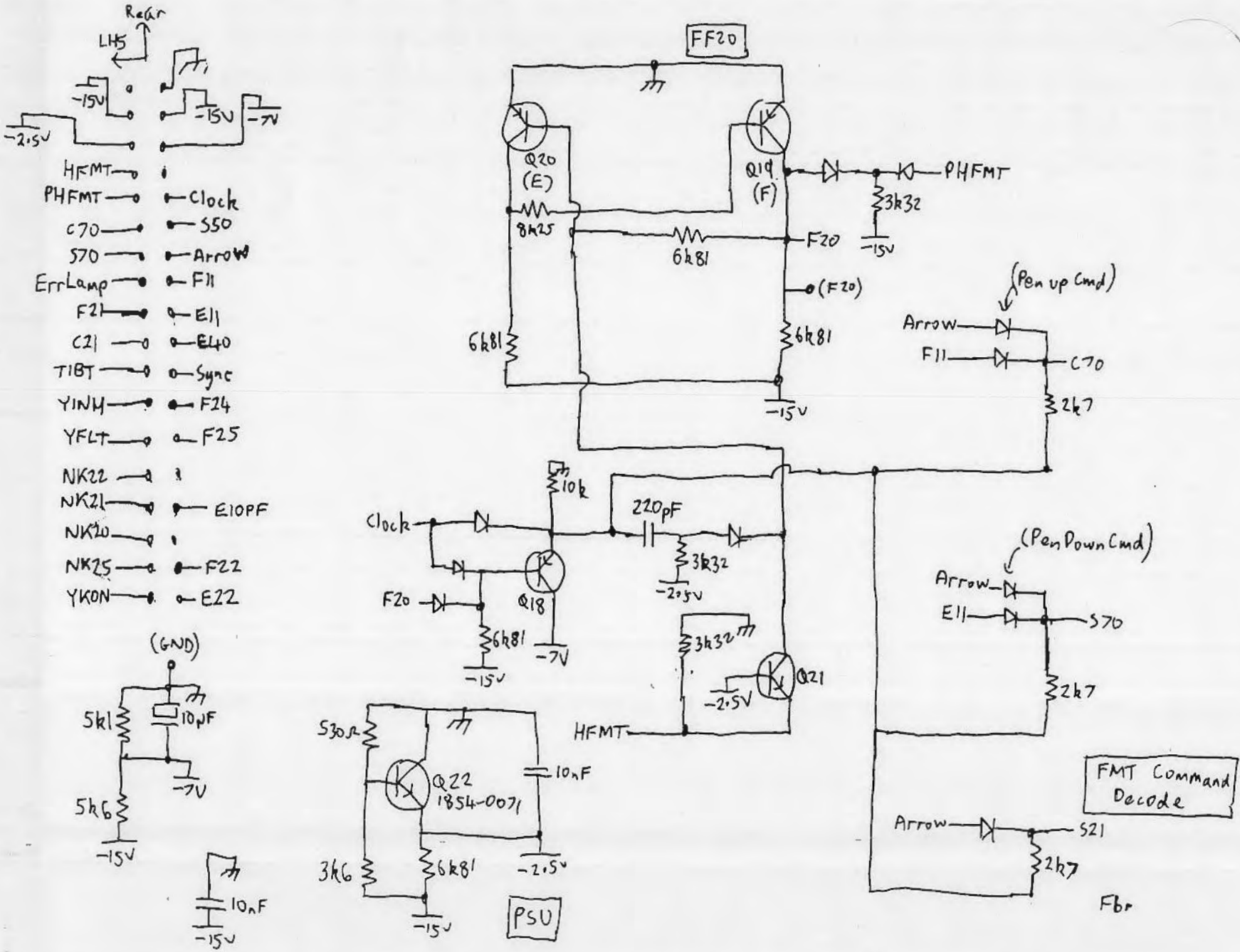



FF90
6k8
Q27
(E
Q28
(F)
F90
8k25
8k25
6k8
3k
-15V
-2.5V
4k64
F21
4k64
220pF
F70
6k8
F80
C2)
12k

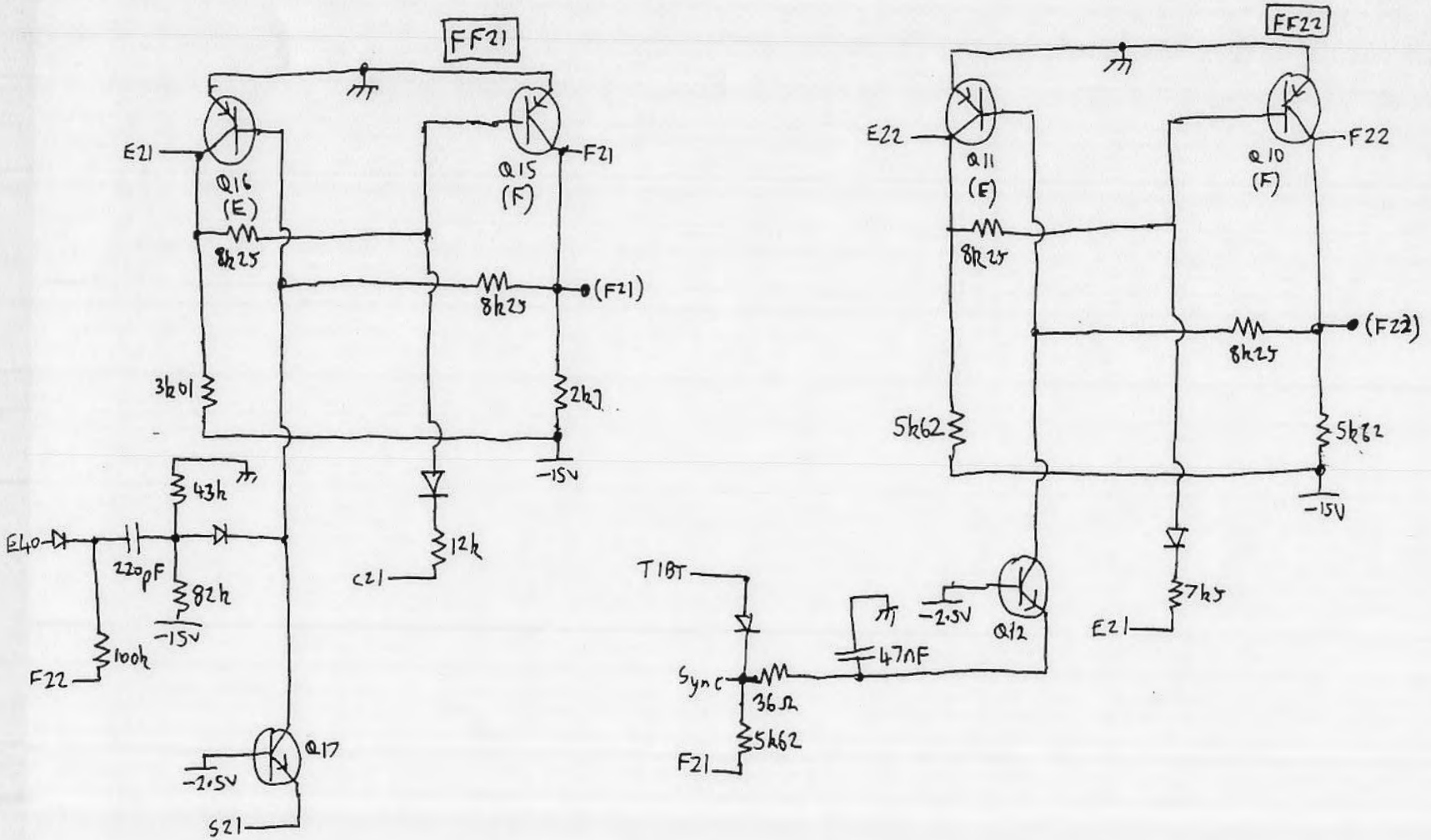

FFPDL
ETL
F21
ETS
-2.5V
10k
Q36
(E)
10k
10nF
17k4
-15V
-15V
Q35
(F)
FPDL
22k
8k25
-15V
-15V



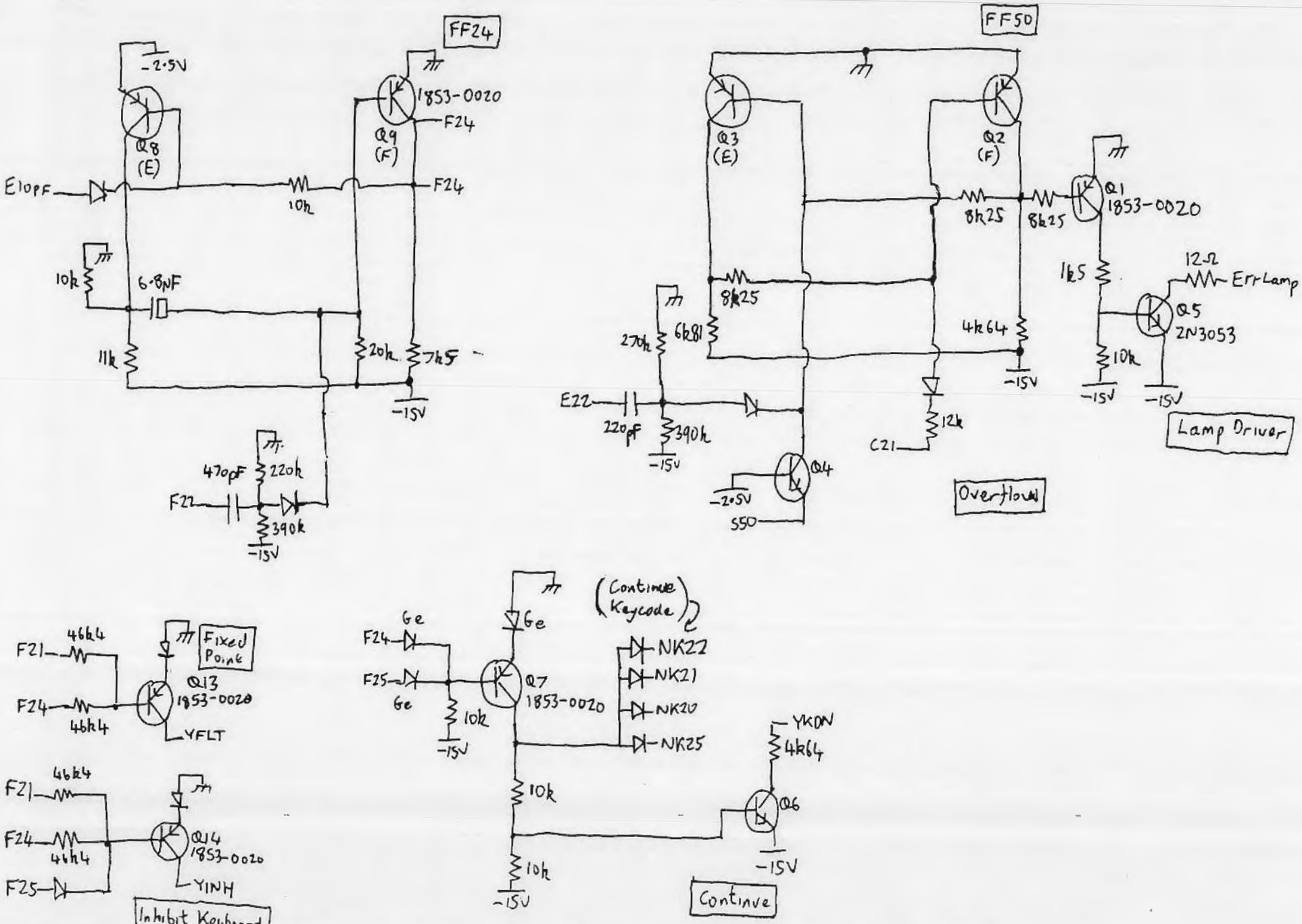
System Timing



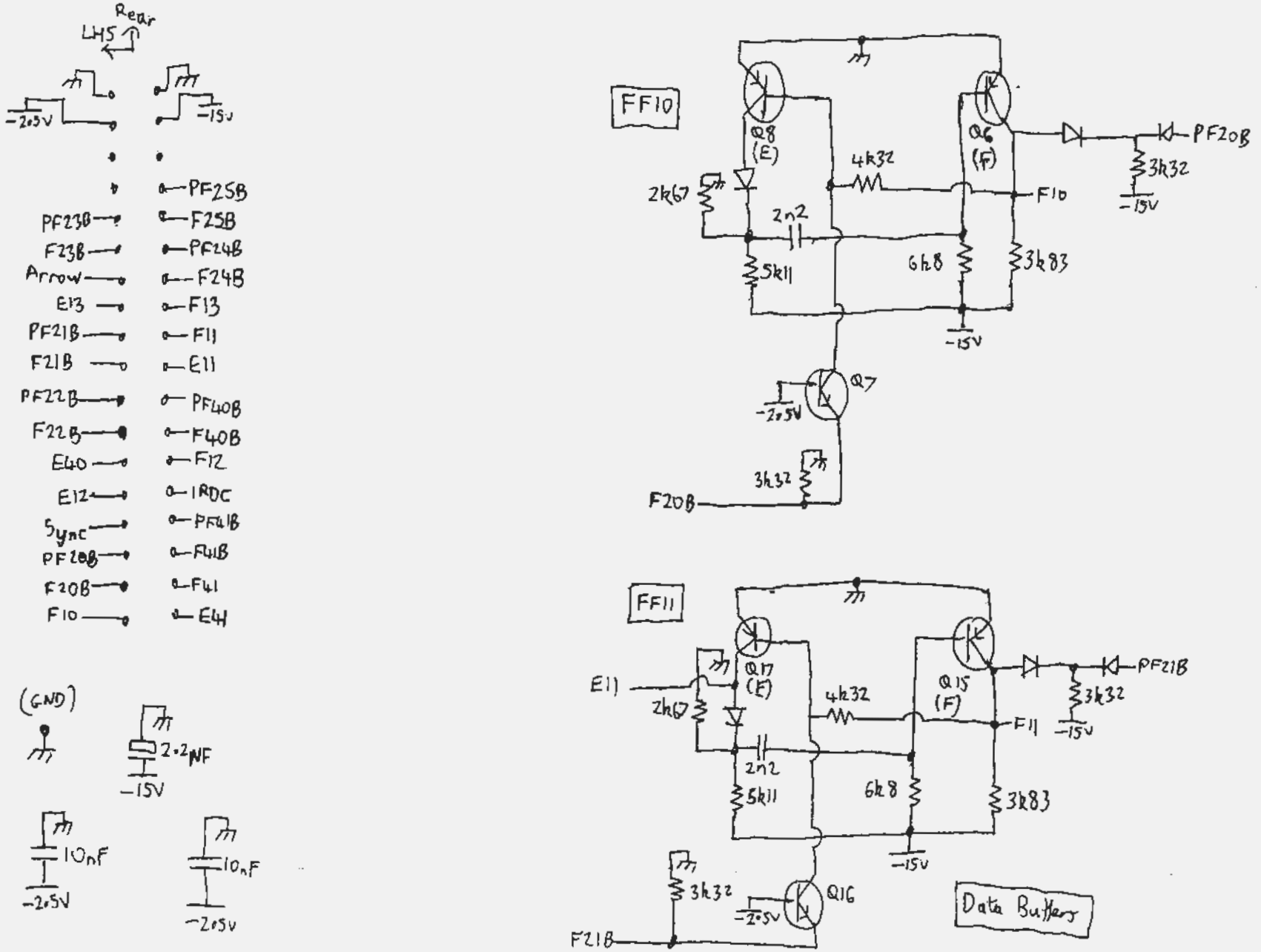
HP9125A Control Logic PCB (R) Sheet (1) 09125-00090

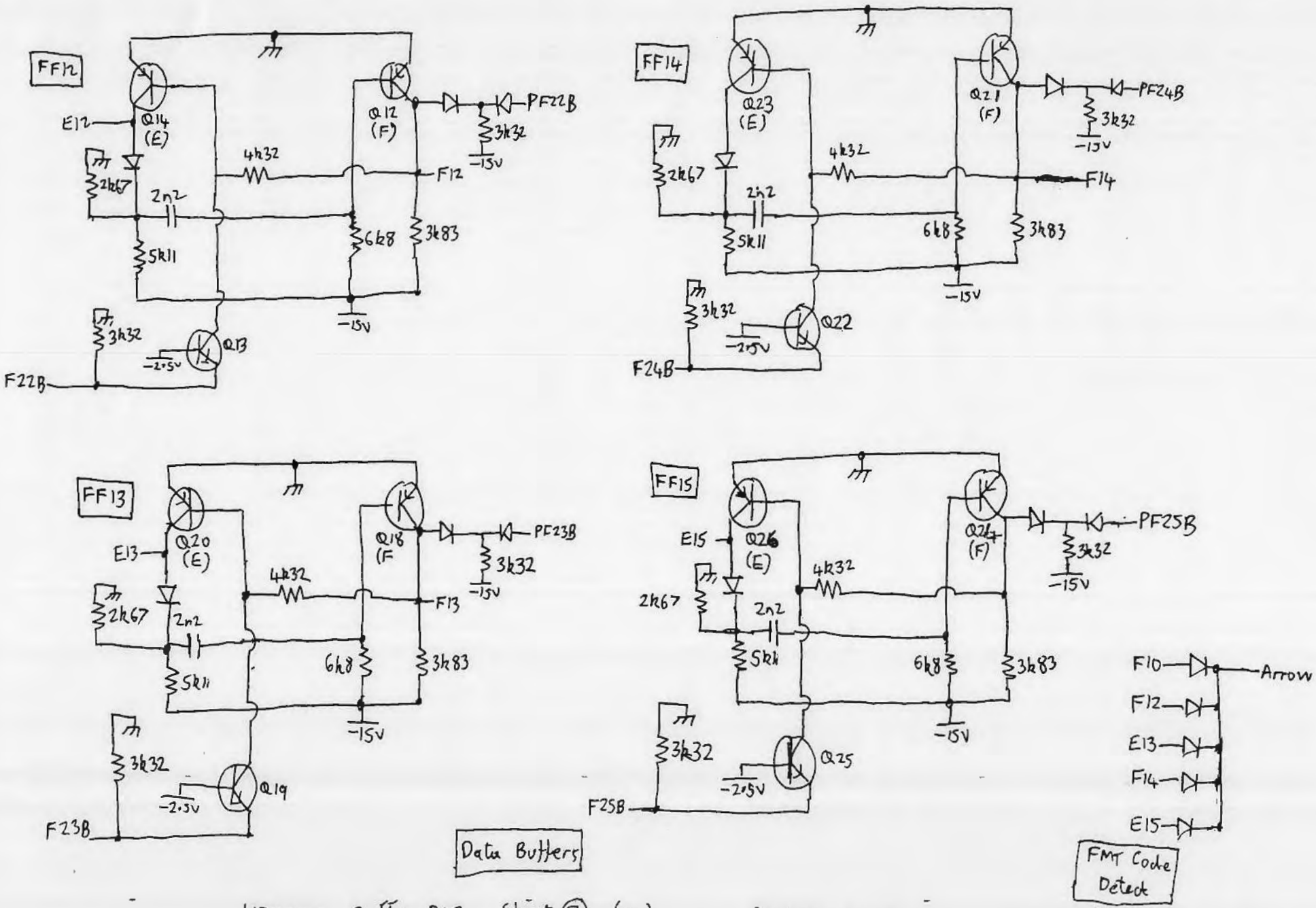


HP 9125A Control Logic PCB (R) Sheet (2) 09125-00090

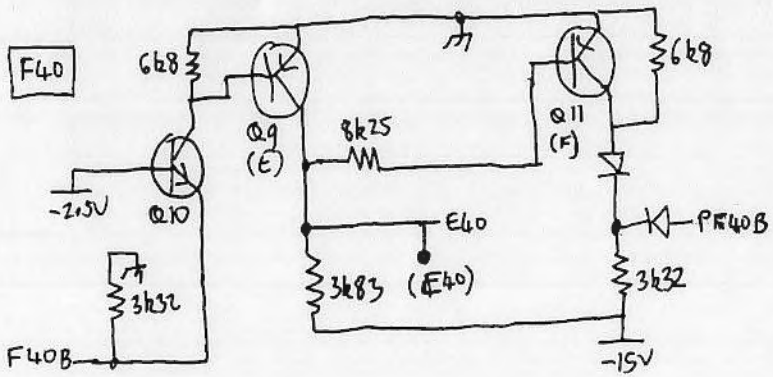


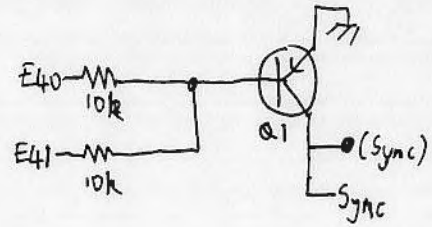
HP9125A Control Logic PCB (R) Sheet (3) 09125-00090

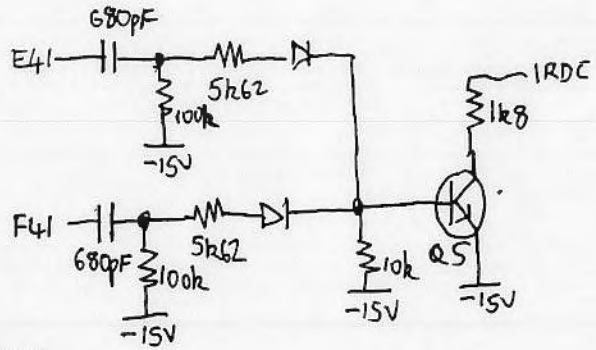

Rear
LHS
-2.5V
-15V
PF25B
PF23B
F25B
F23B
PF24B
Arrow
F24B
E13
F13
PF21B
F11
F21B
E11
PF22B
PF40B
F22B
F40B
E40
F12
E12
IRDC
Sync
PF41B
PF20B
F41B
F20B
F41
F10
E41
(GND)
2·2NF
-15V
10nF
-2.5V
10nF
-2.5V
FF10
Q8
(E)
Q6
(F)
2k67
4k32
PF20B
3k32
-15V
F10
2n2
5k11
6k8
3k83
-15V
Q7
-2.5V
3k32
F20B
FF11
E11
Q17
(E)
Q15
(F)
2k67
4k32
PF21B
3k32
-15V
F11
2n2
5k11
6k8
3k83
-15V
3k32
Q16
-2.5V
F21B
Data Buffers

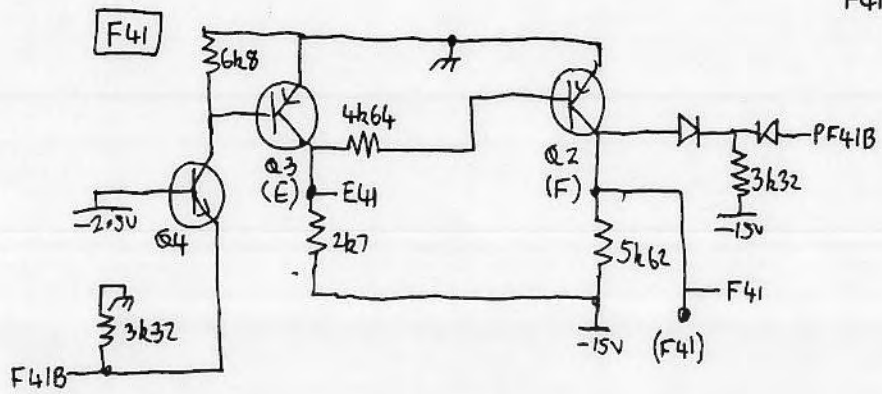


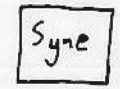
HP9125A Buffer PCB Sheet ② (0,) 09125-00100

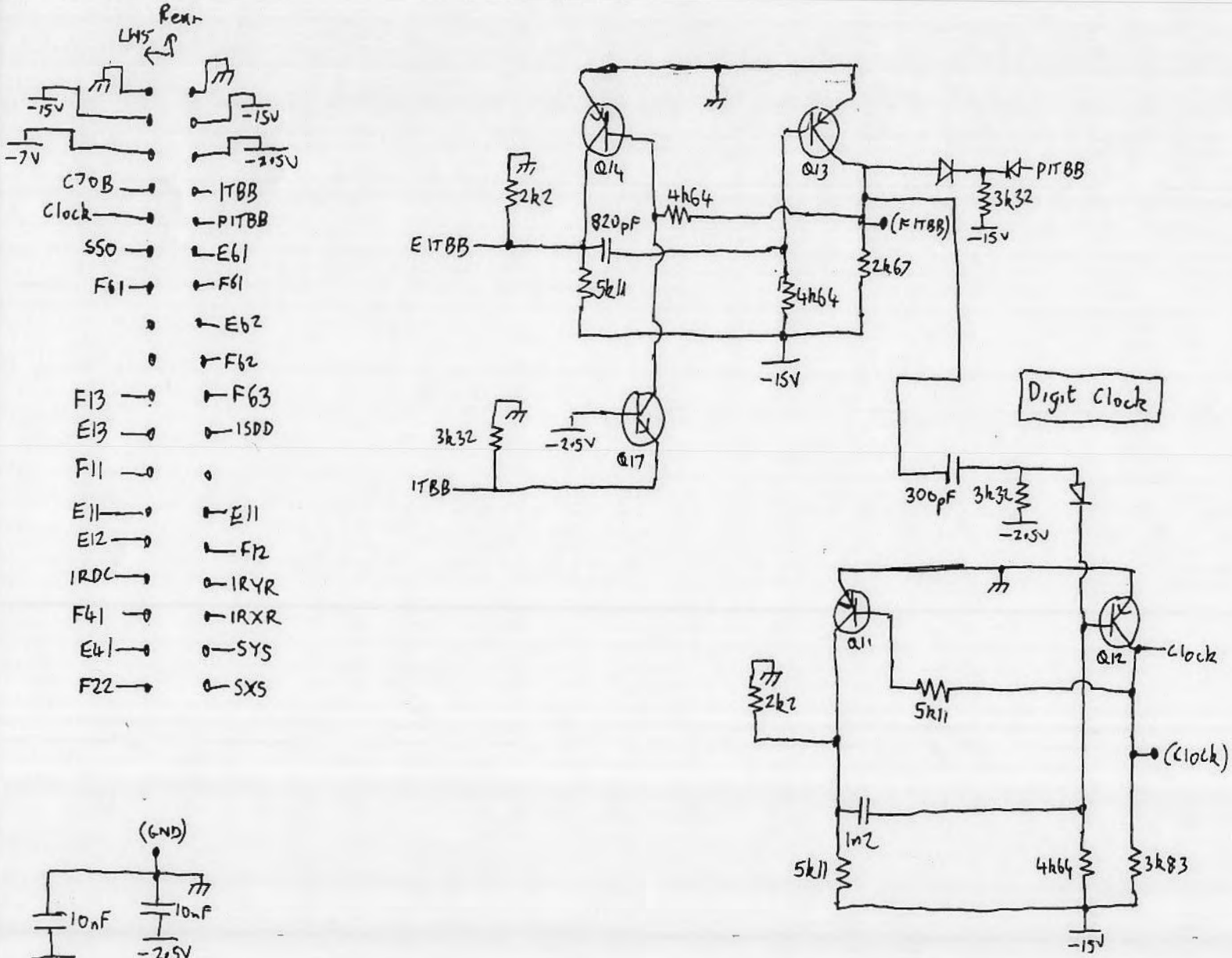

F40
6k8
Q9
(E)
8k25
Q11
(F)
6k8
-2.5V
Q10
E40
PF40B
3k32
3k83
(E40)
3k32
F40B
-15V


E40
10k
E41
10k
Q1
(Sync)
Sync

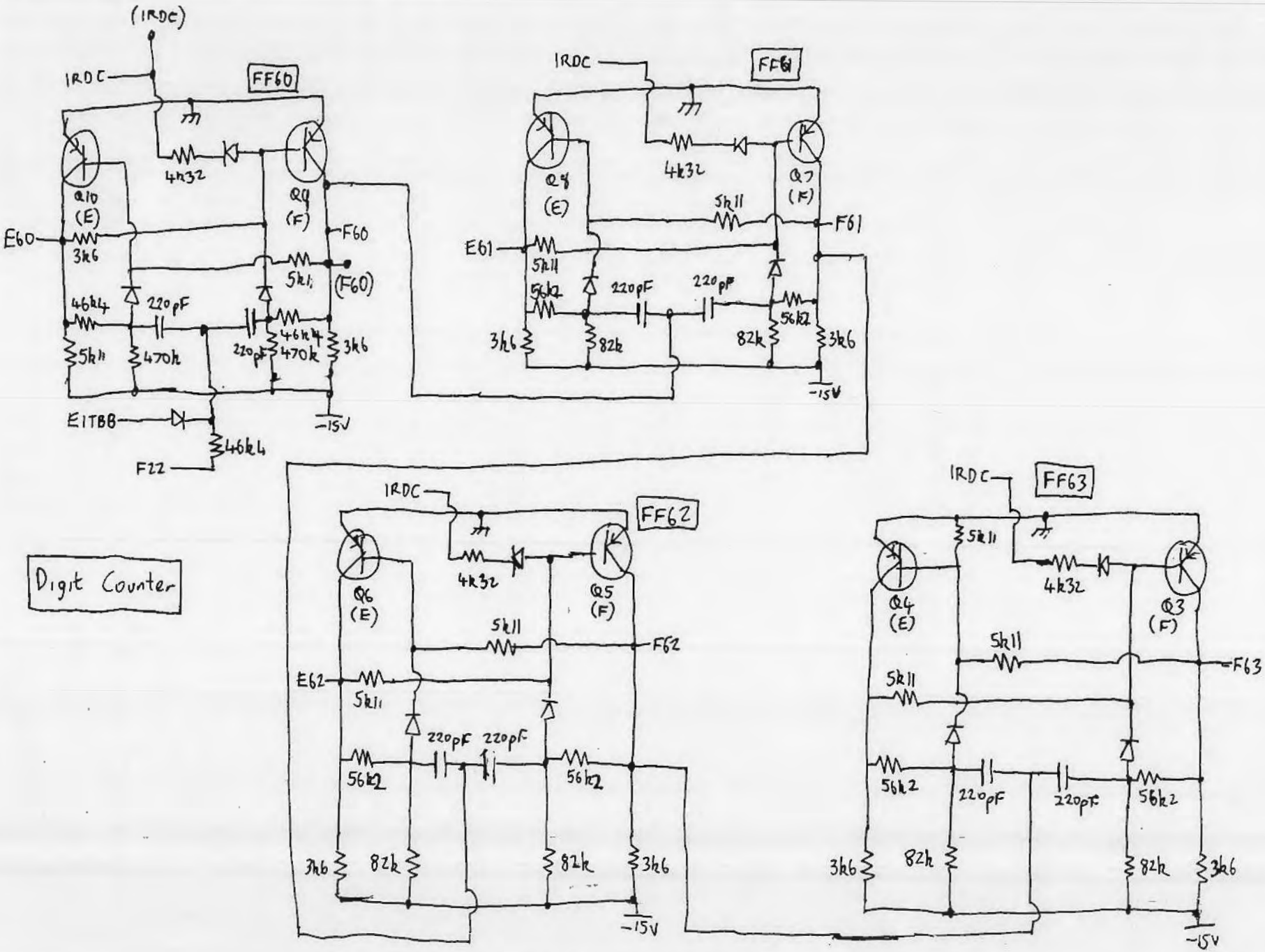

680pF
E41
5k62
P100k
-15V
IRDC
1k8
F41
680pF
100k
5k62
10k
Q5
-15V
-15V
-15V


F41
6k8
4k64
Q3
(E)
E41
Q2
(F)
PF41B
3k32
-2.5V
Q4
2k7
5k62
F41
3k32
-15V
(F41)
F41B
-15V


Sync

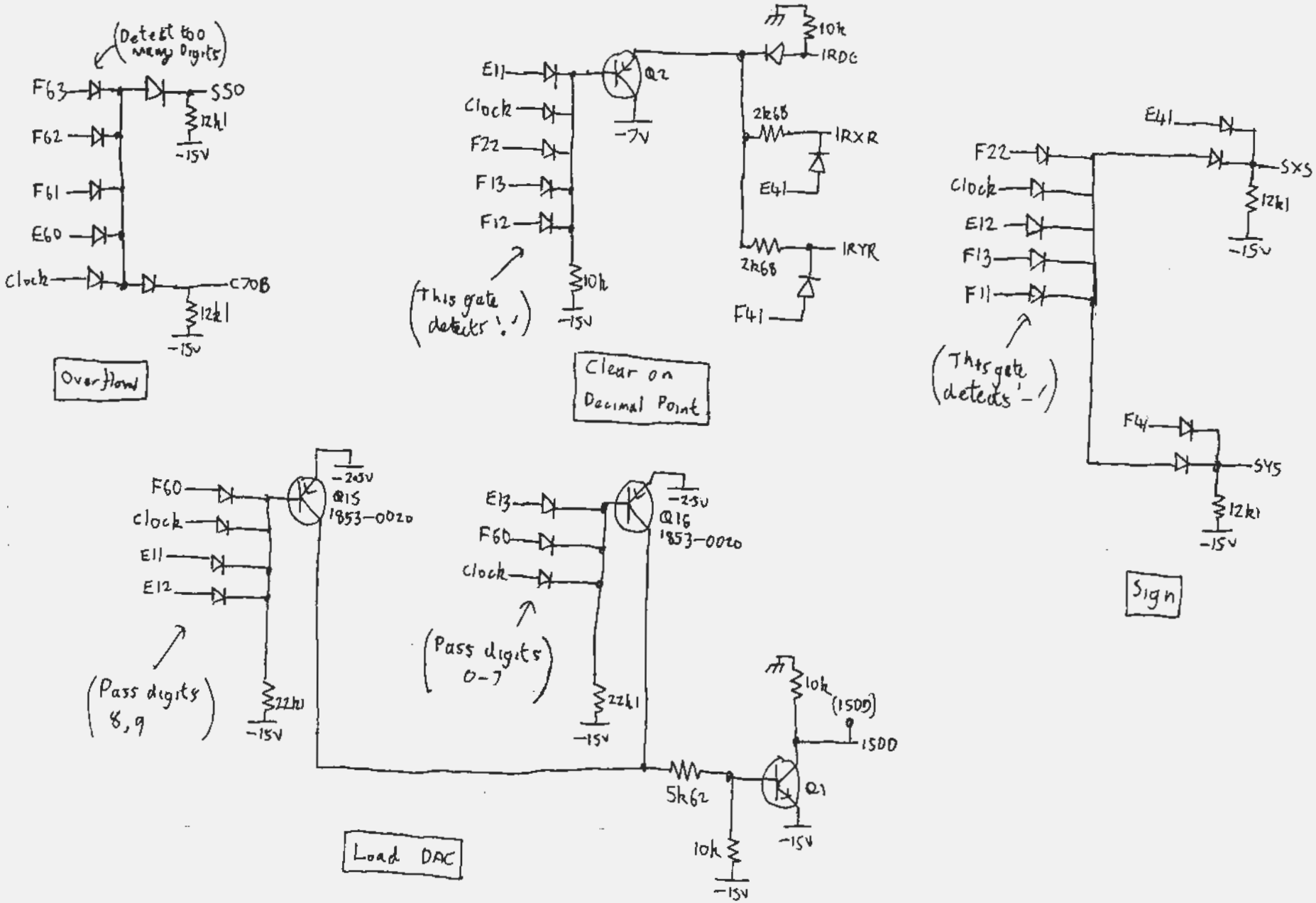


HP 9125A Digit Counter PCB (Y) Sheet (1) 09125-00110

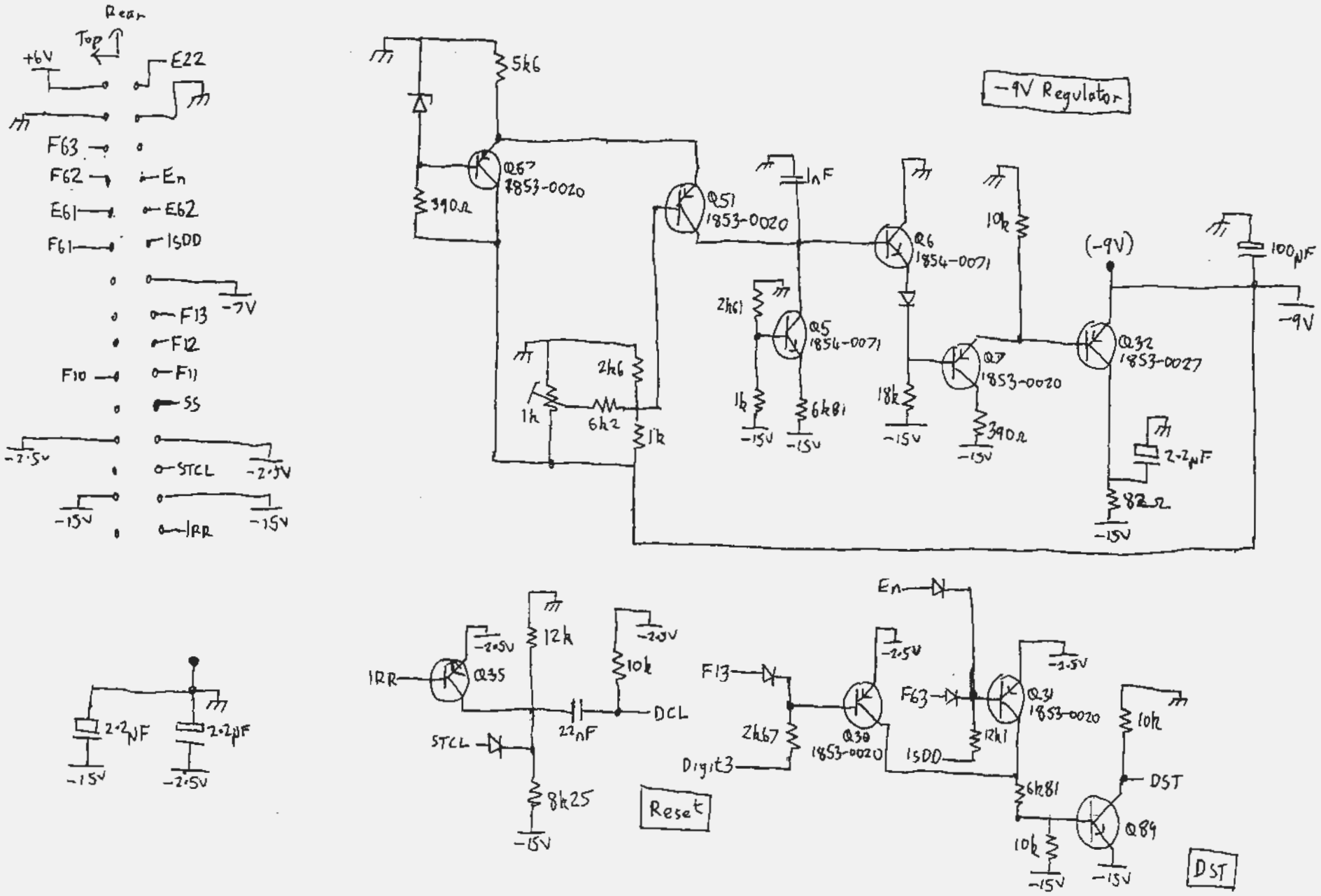


Digit Counter

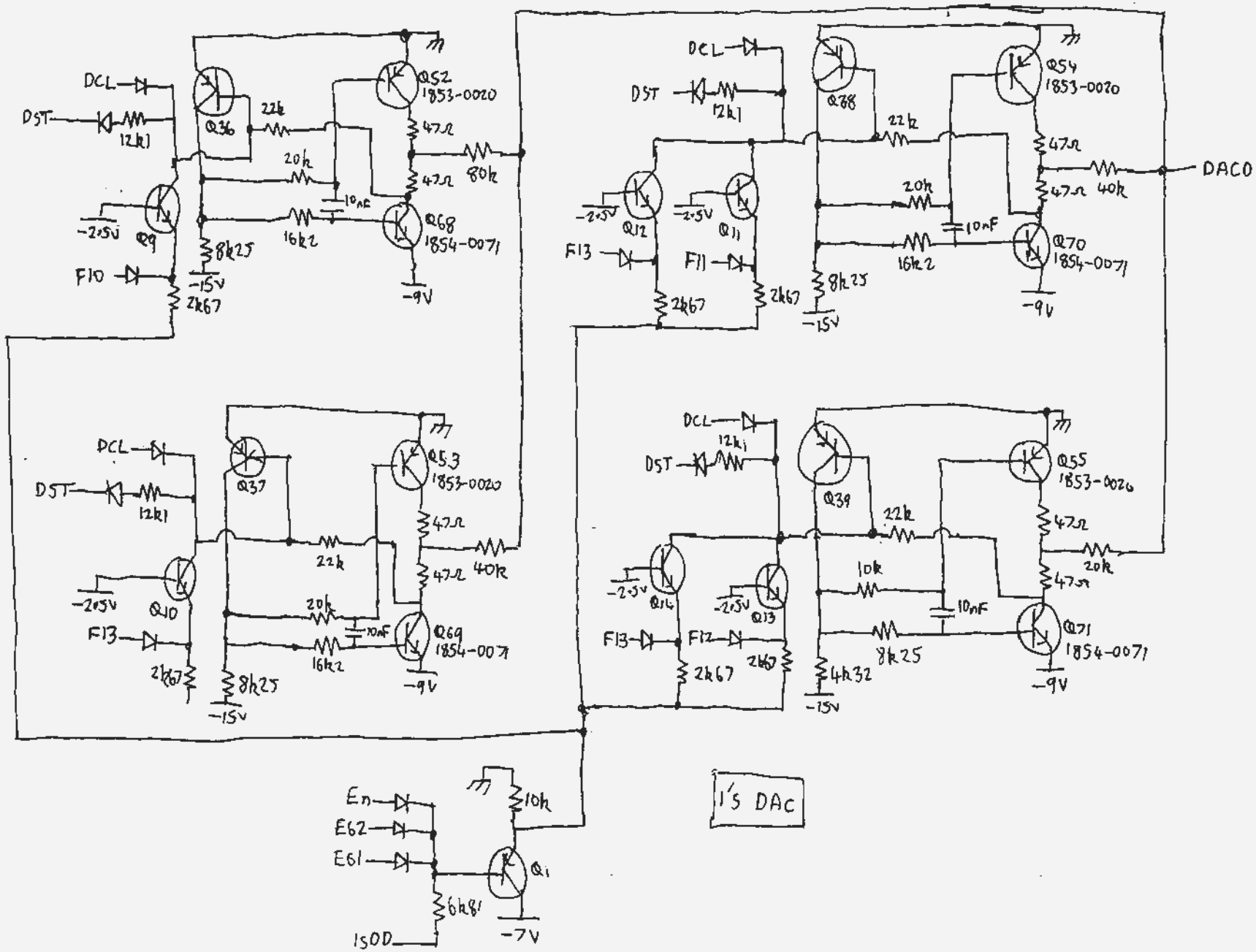
HP9125A Digit Counter PCB (Y) Sheet ② 09125-00110



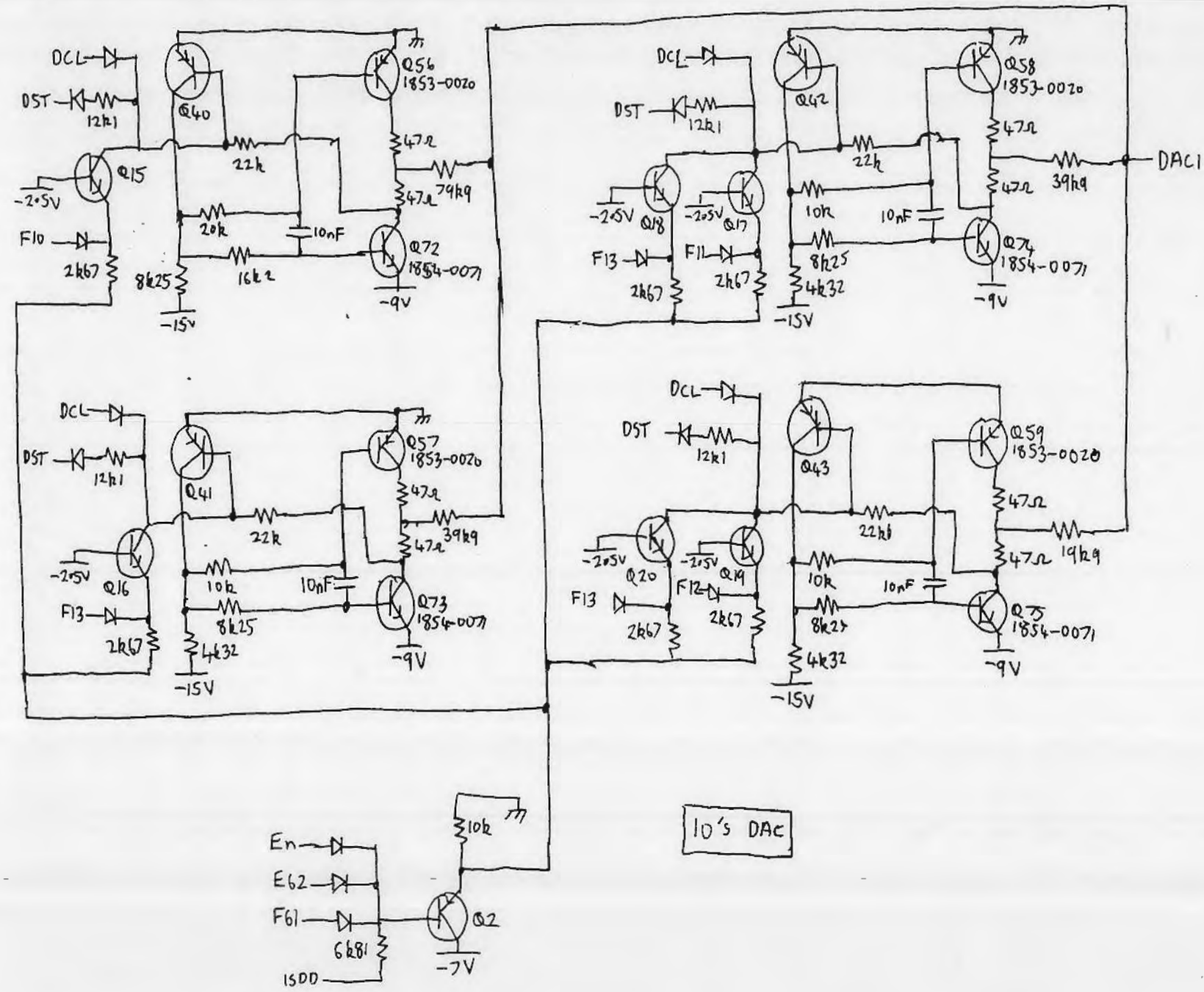
HP9125A Digit Counter PCB (Y) Sheet (3) 09125-00110



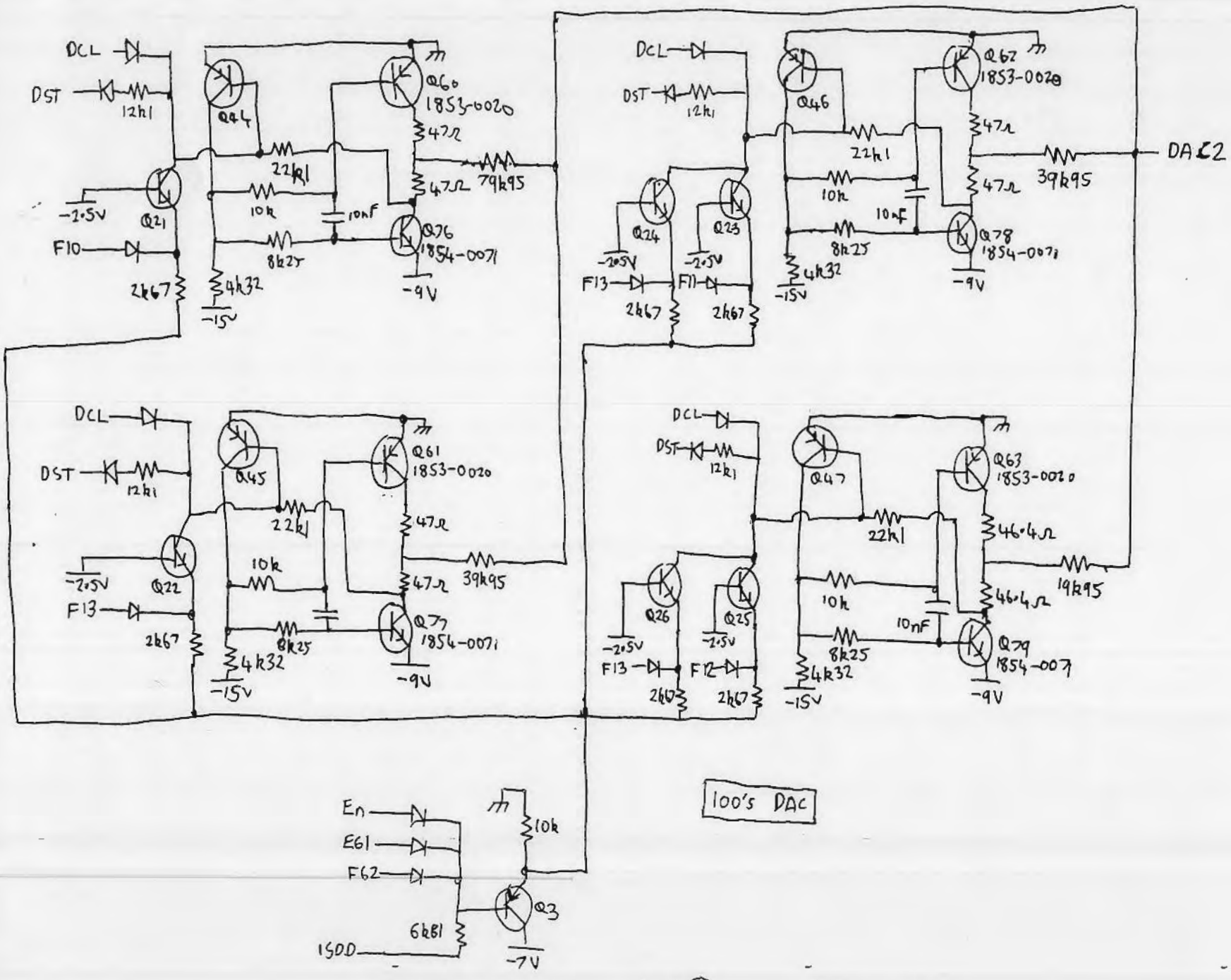
HP9125A DAC PCB Sheet (1) 09125-00120



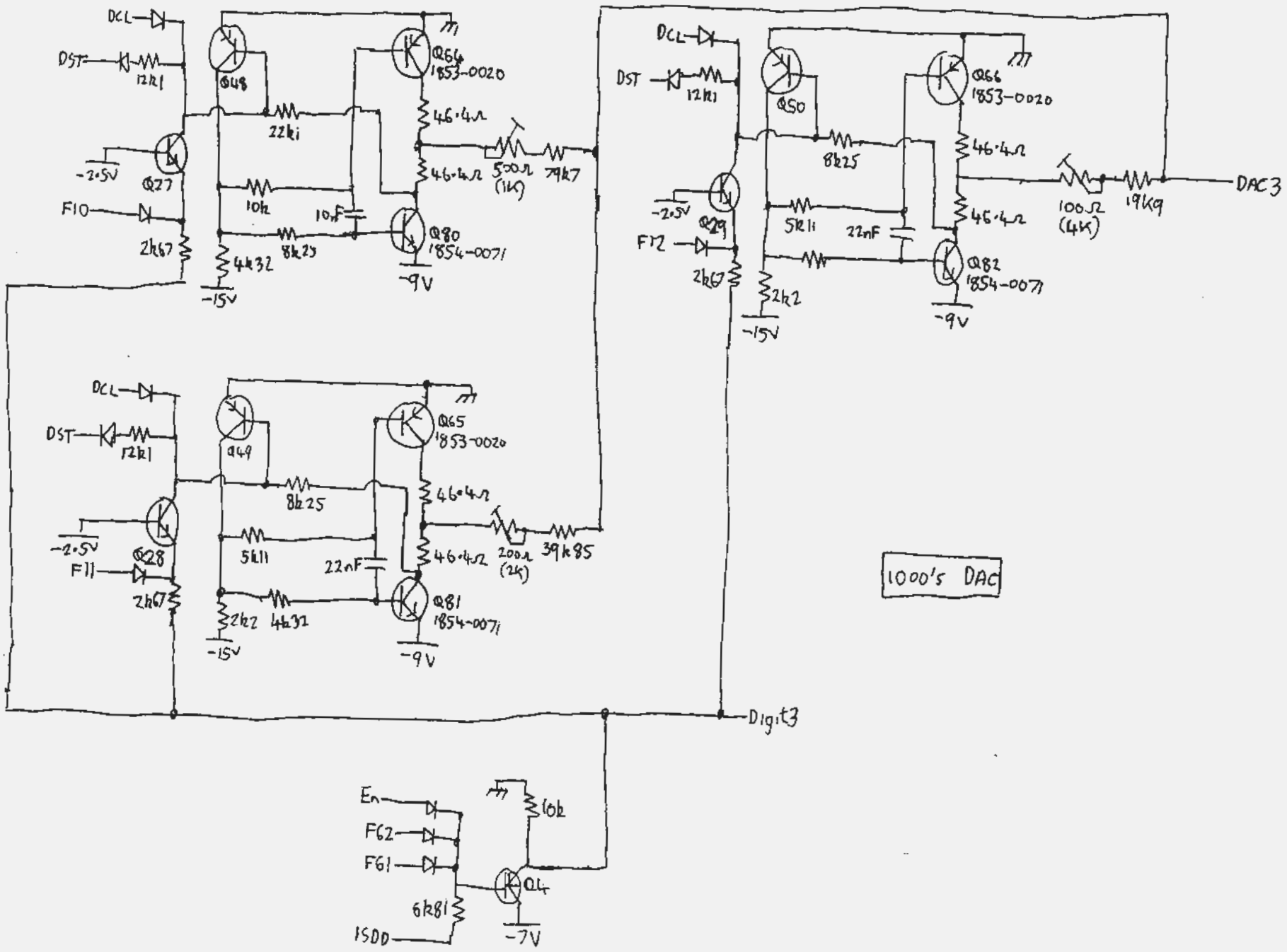
HP9125A DAc PcB Sheet(2) 09125-00120



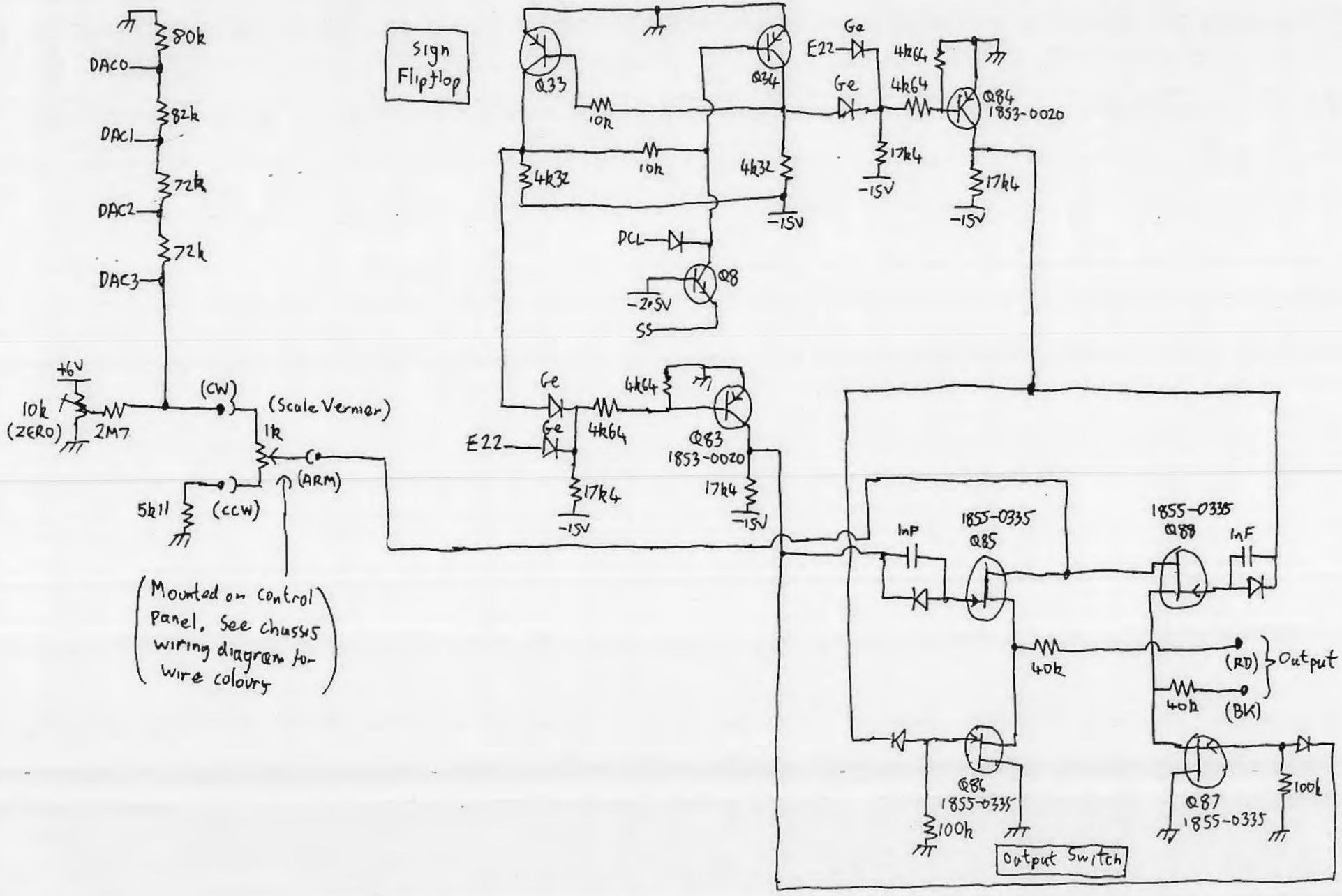
HP9125A DAC PCB Sheet (3) 09125-00120



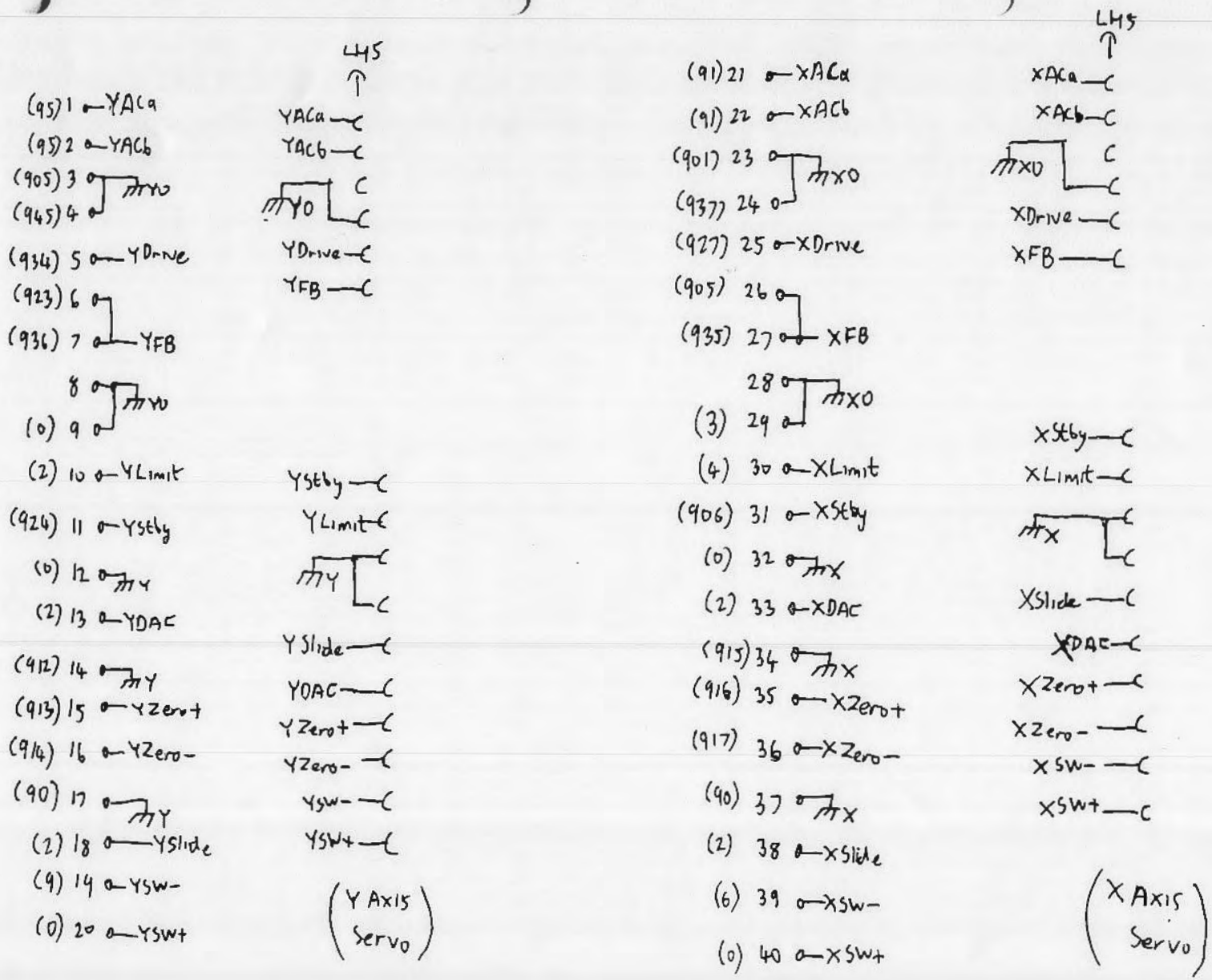
HP9125A DAC PCB Sheet (4) 09125-00120



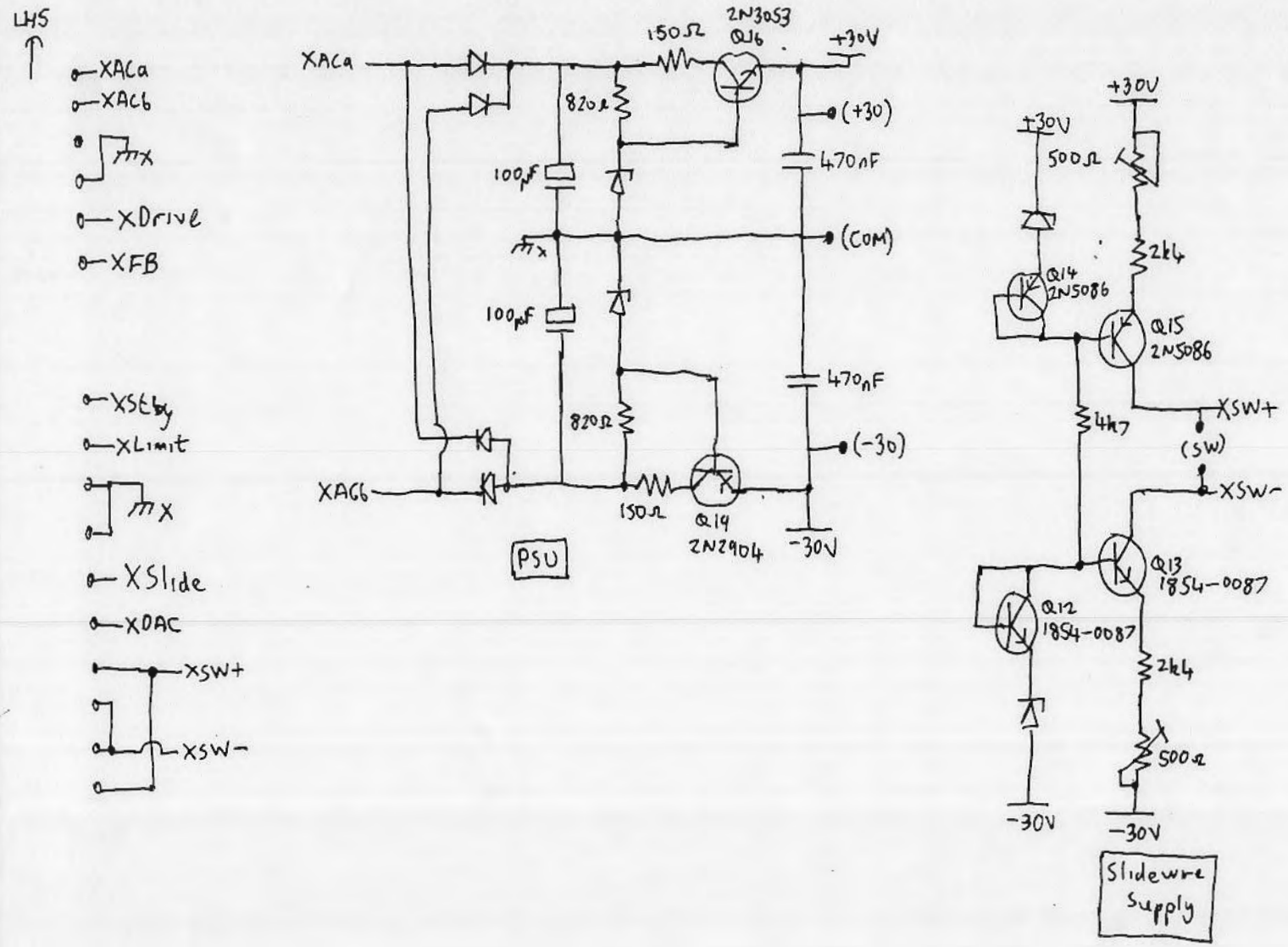
HP9125 DAC PCB Sheet (5) 09125-00120



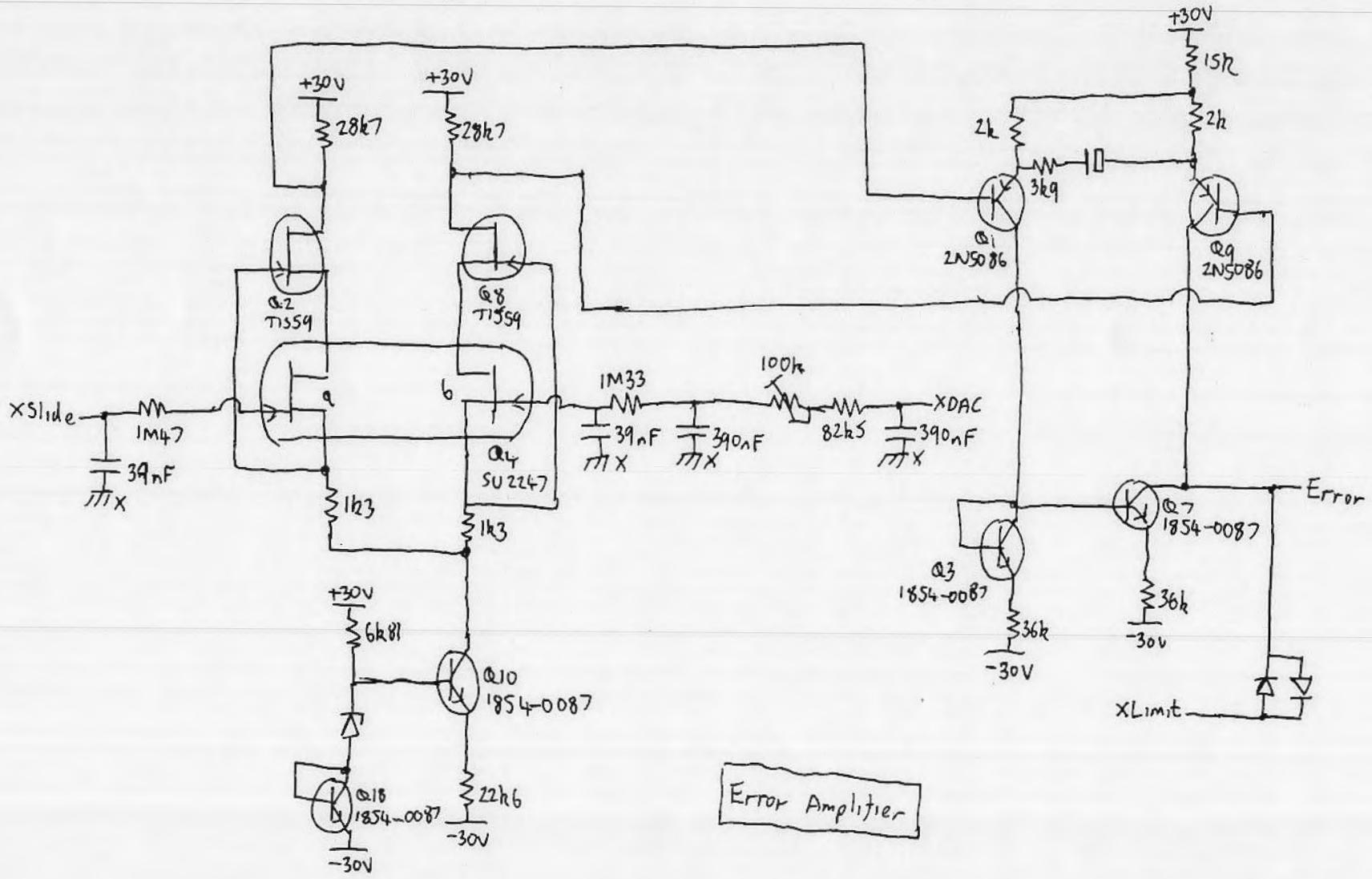
HP9125 DAC PCB Sheet (6) 09125-00120



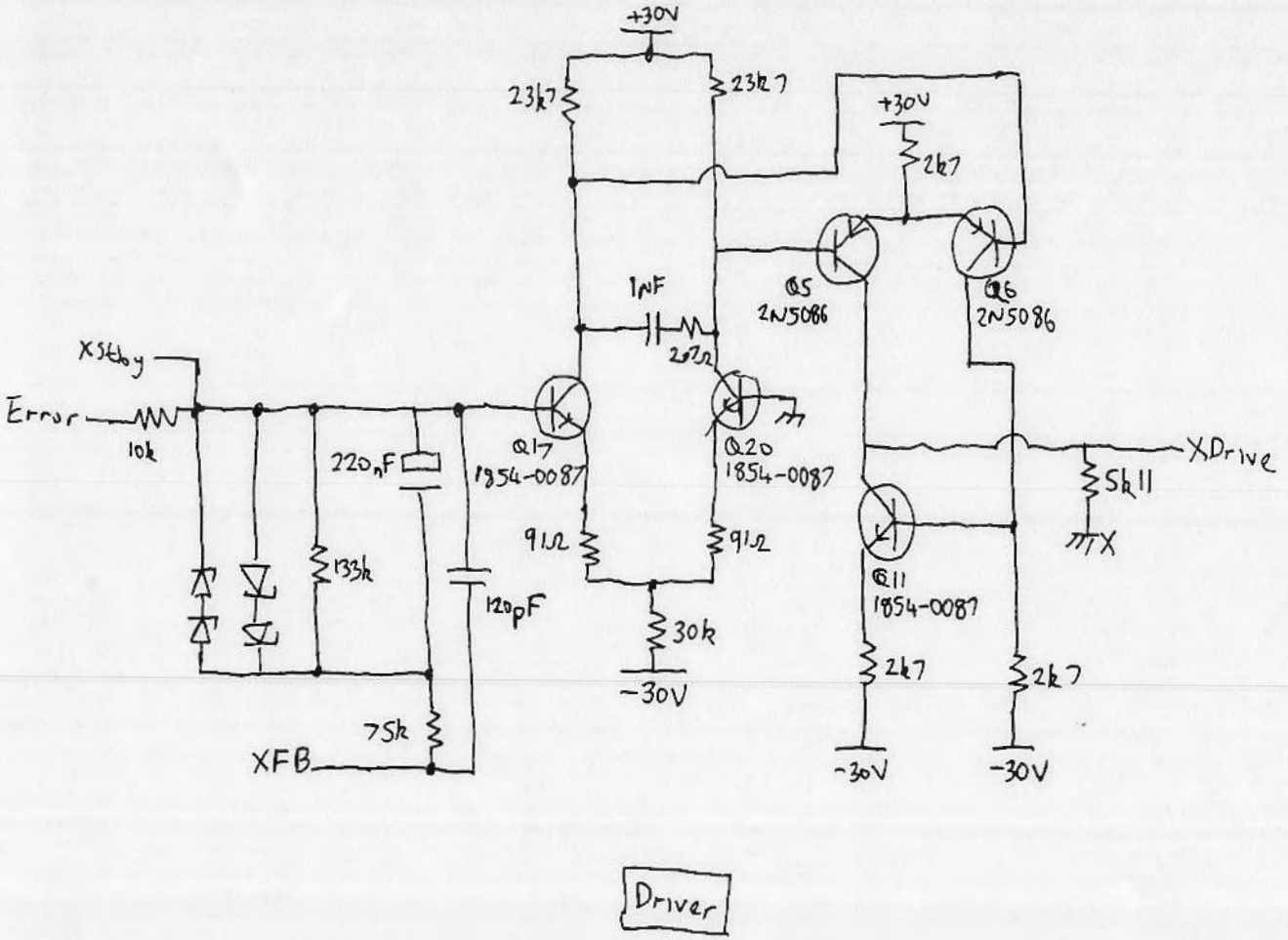
HP9125A Servo Backplane 09125-00030



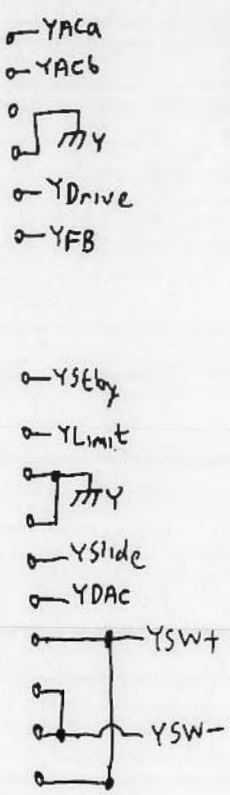
HP9125A X Axis Servo PCB (B+) Sheet (1) 09125-00040

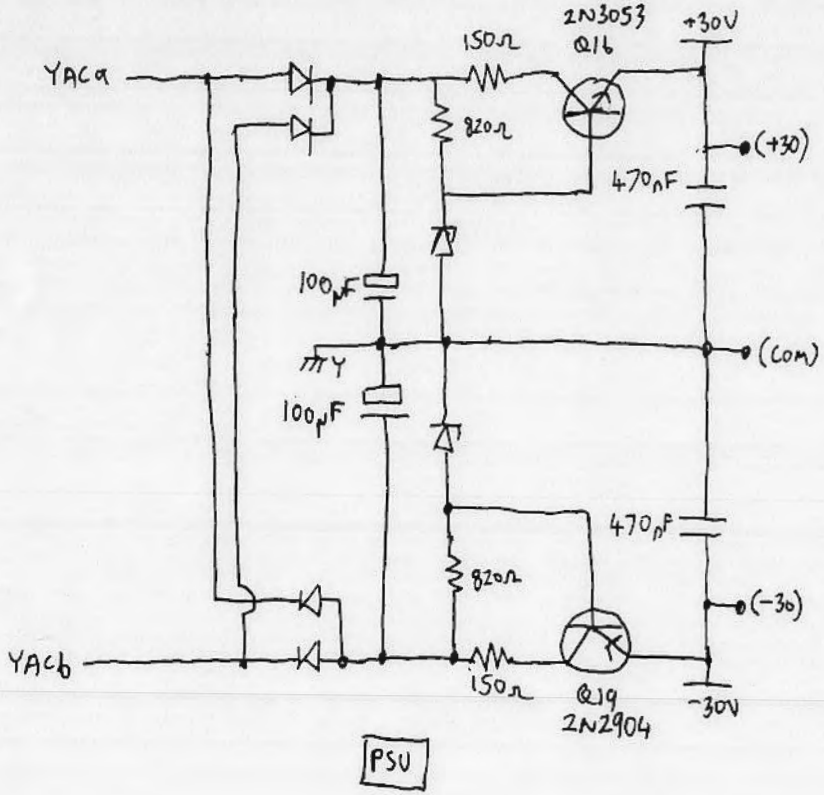


Error Amplifier

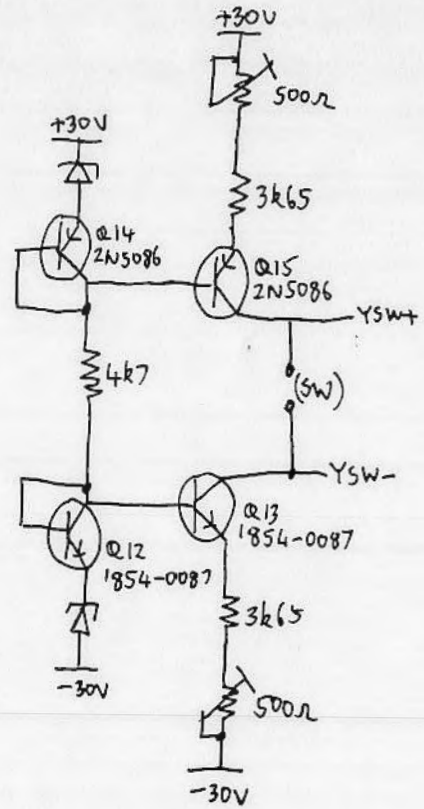

+30V
23k7
23k7
+30V
2k7
1nF
Q5
2N5086
Q6
2N5086
XStby
Error
10k
220nF
Q17
1854-0087
Q20
1854-0087
XDrive
5k11
X
91Ω
91Ω
133k
120pF
30k
Q11
1854-0087
-30V
2k7
2k7
75k
XFB
-30V
-30V

Driver



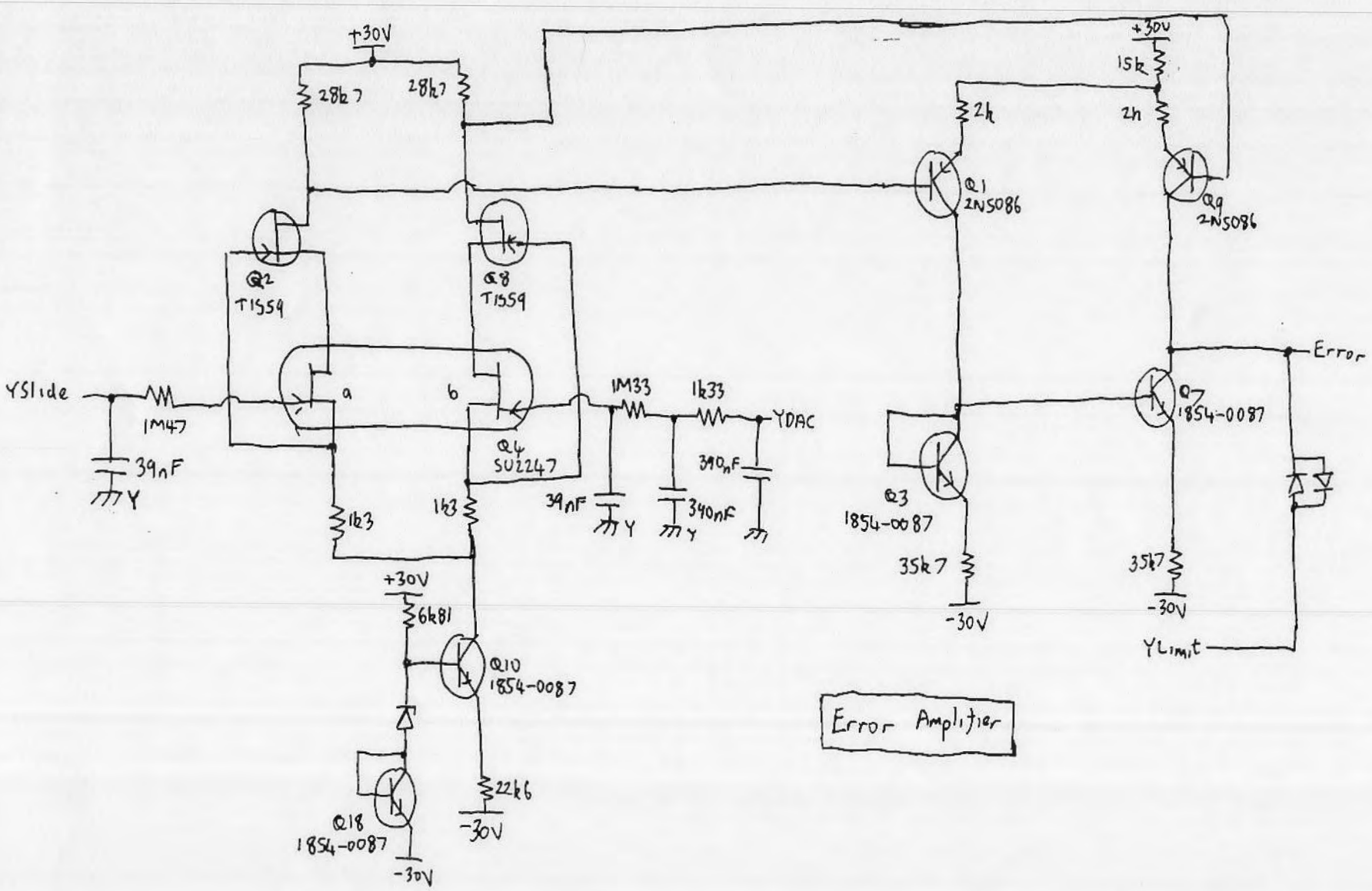


PSU

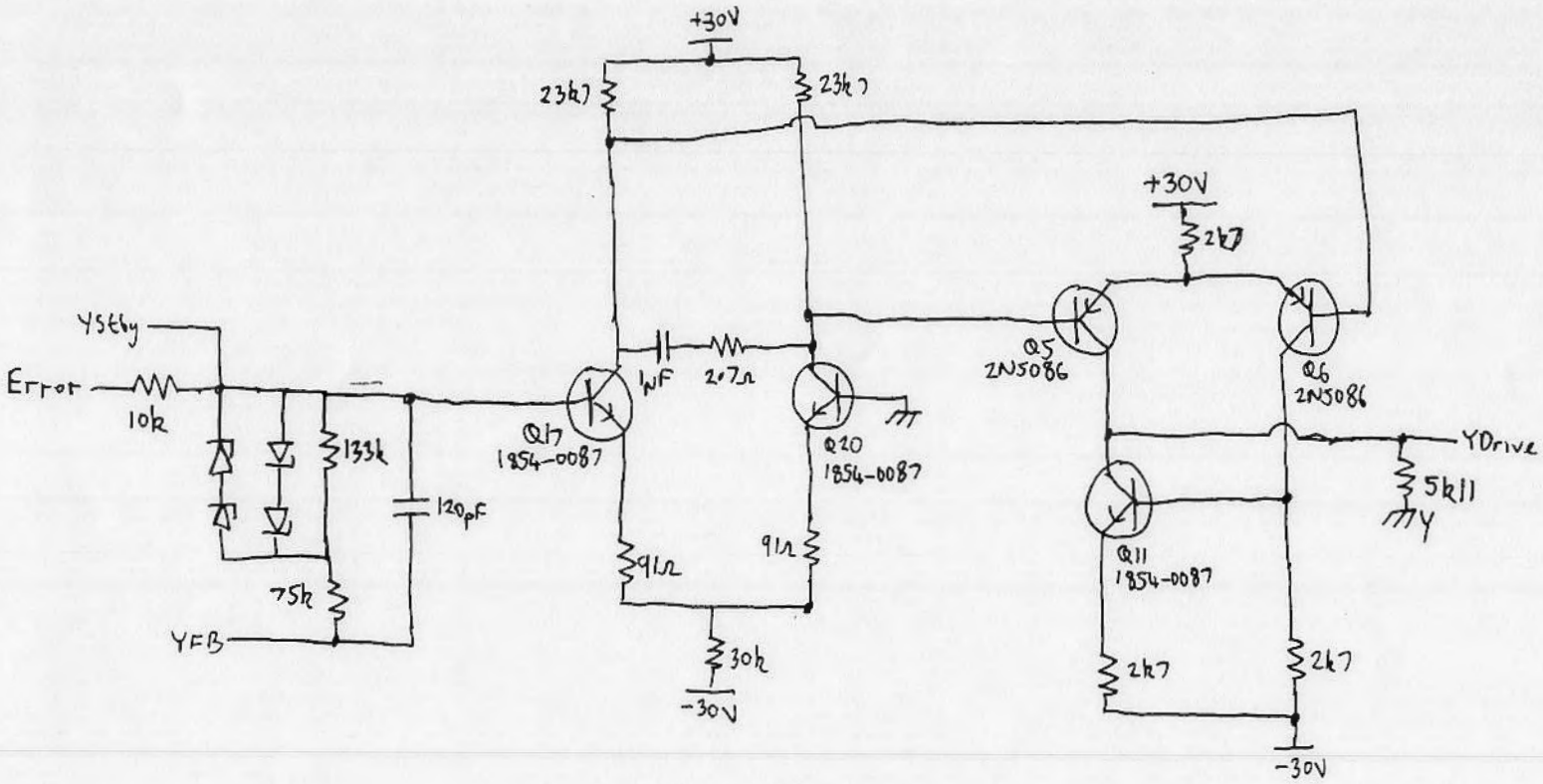


Slidewire Supply

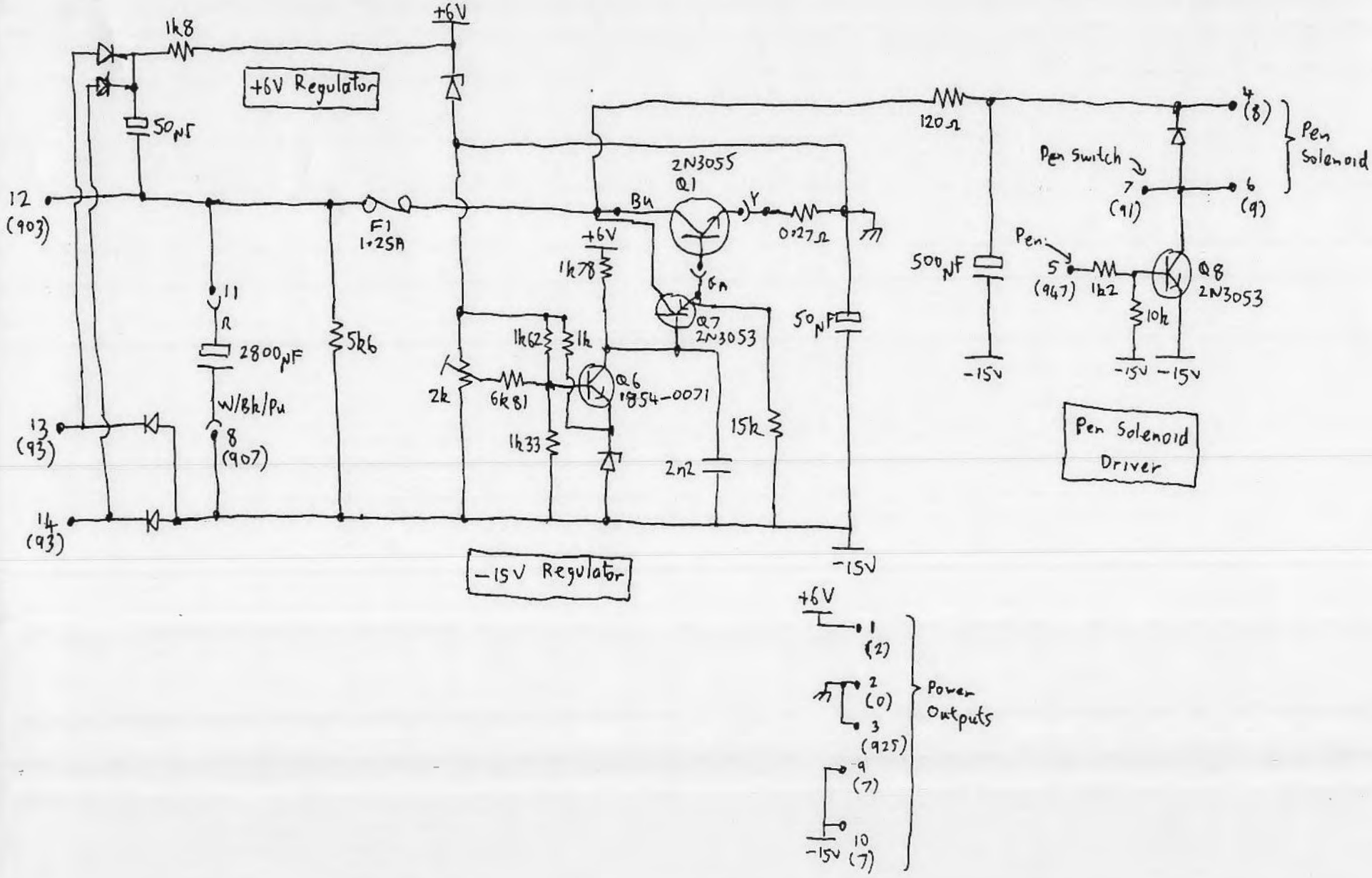
HP9125A Y Axis Servo PCB (R) Sheet (1) 09125-00140



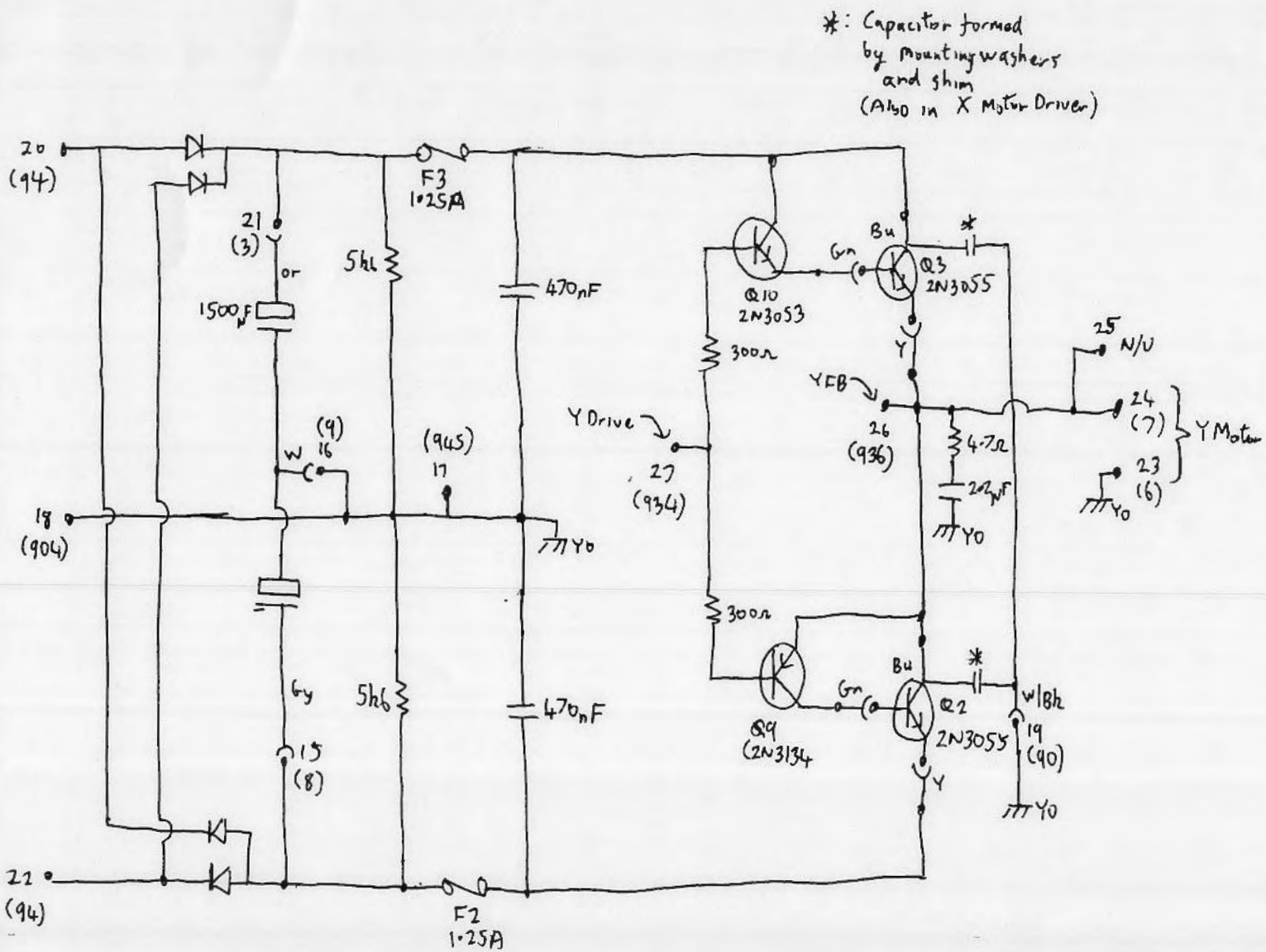
HP9125A Y Axis Servo PCB (R) Sheet (2) 09125-00140


+30V
23k7
23k7
+30V
2k7
Ysety
Error
10k
133k
120pF
75k
YFB
Q17
1854-0087
1NF
207Ω
Q20
1854-0087
91Ω
91Ω
30k
-30V
Q5
2N5086
Q6
2N5086
YDrive
5k11
Y
Q11
1854-0087
2k7
2k7
-30V

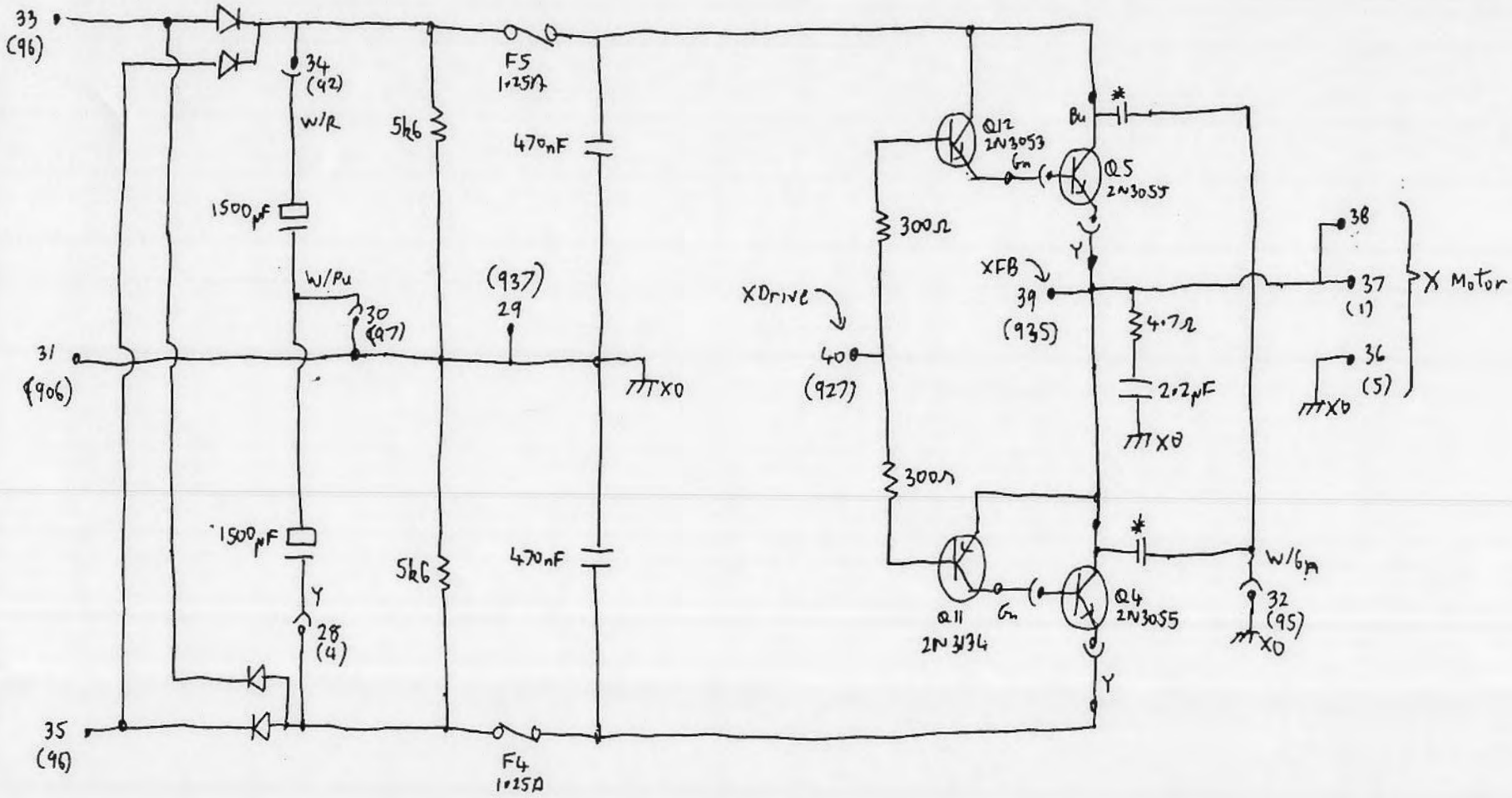
Driver



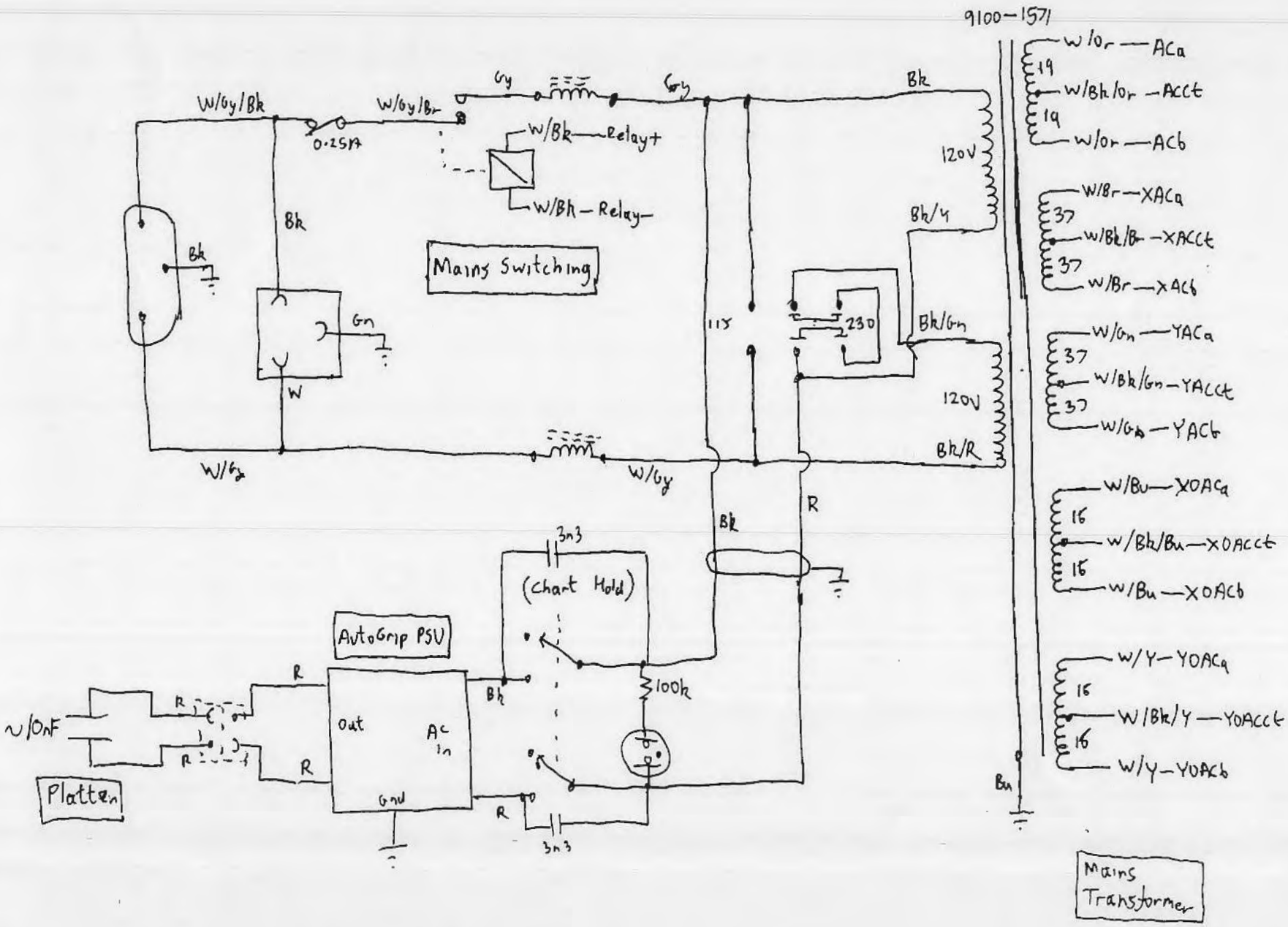
HP9125A PSU PCB Sheet (1) 09125-00050



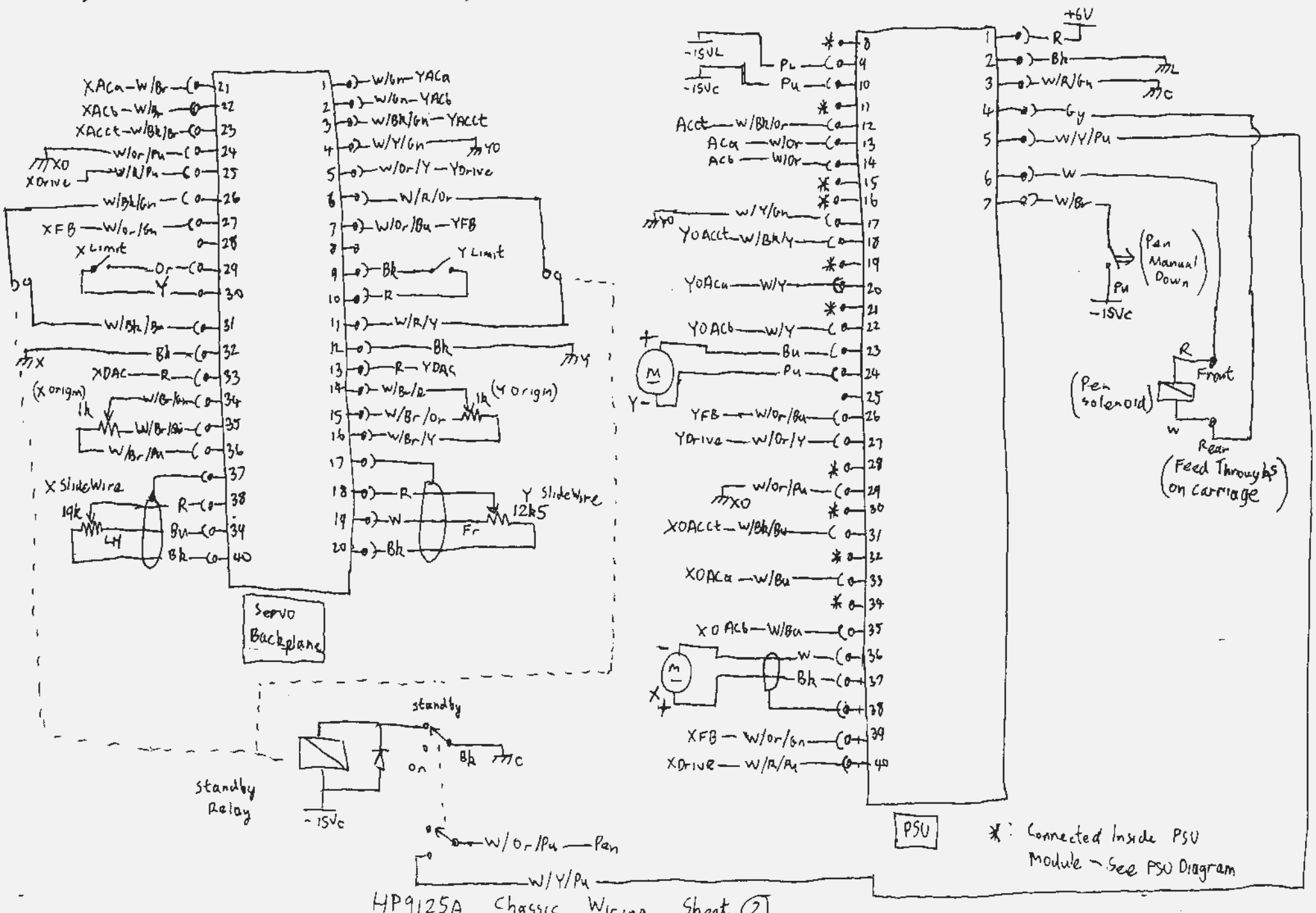
Y Motor Driver



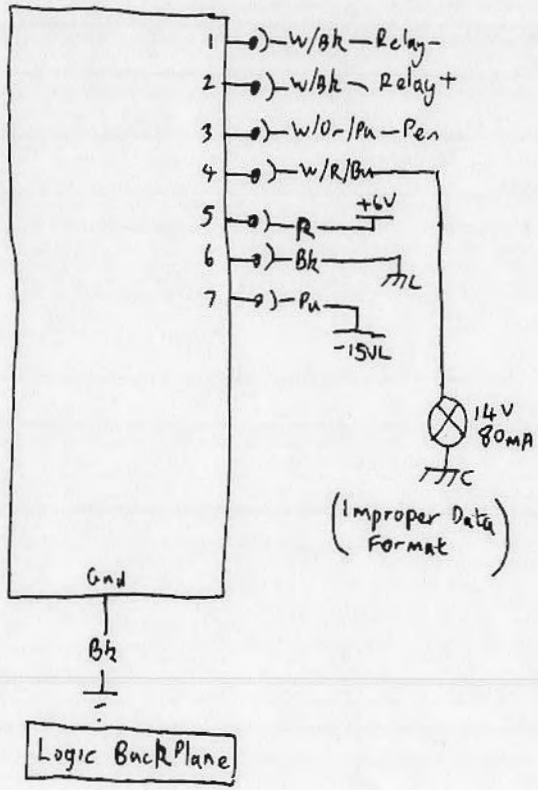
X Motor Driver

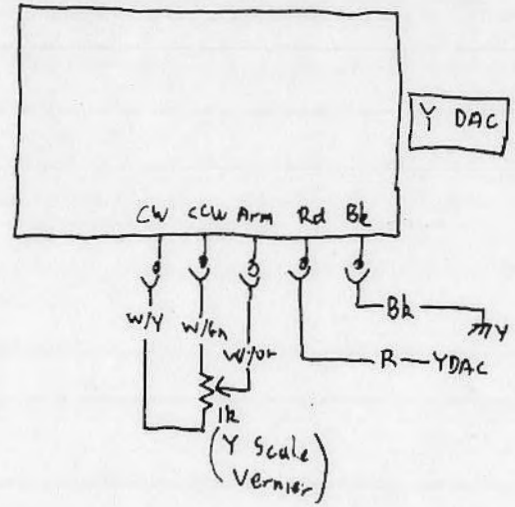


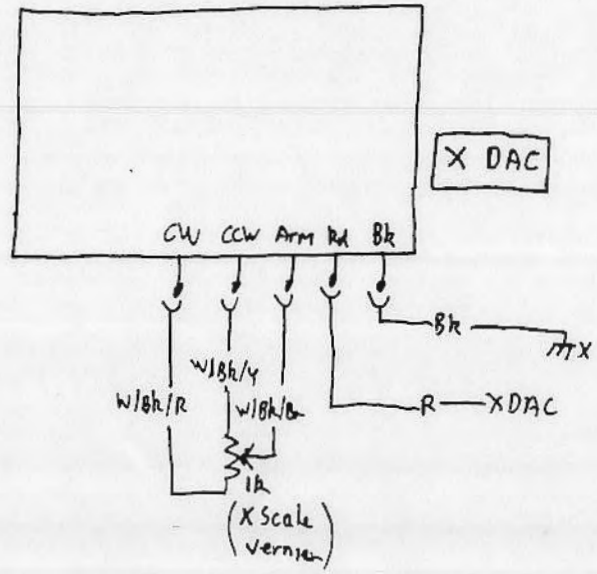
HP9125A Chassis Wiring Sheet (1)

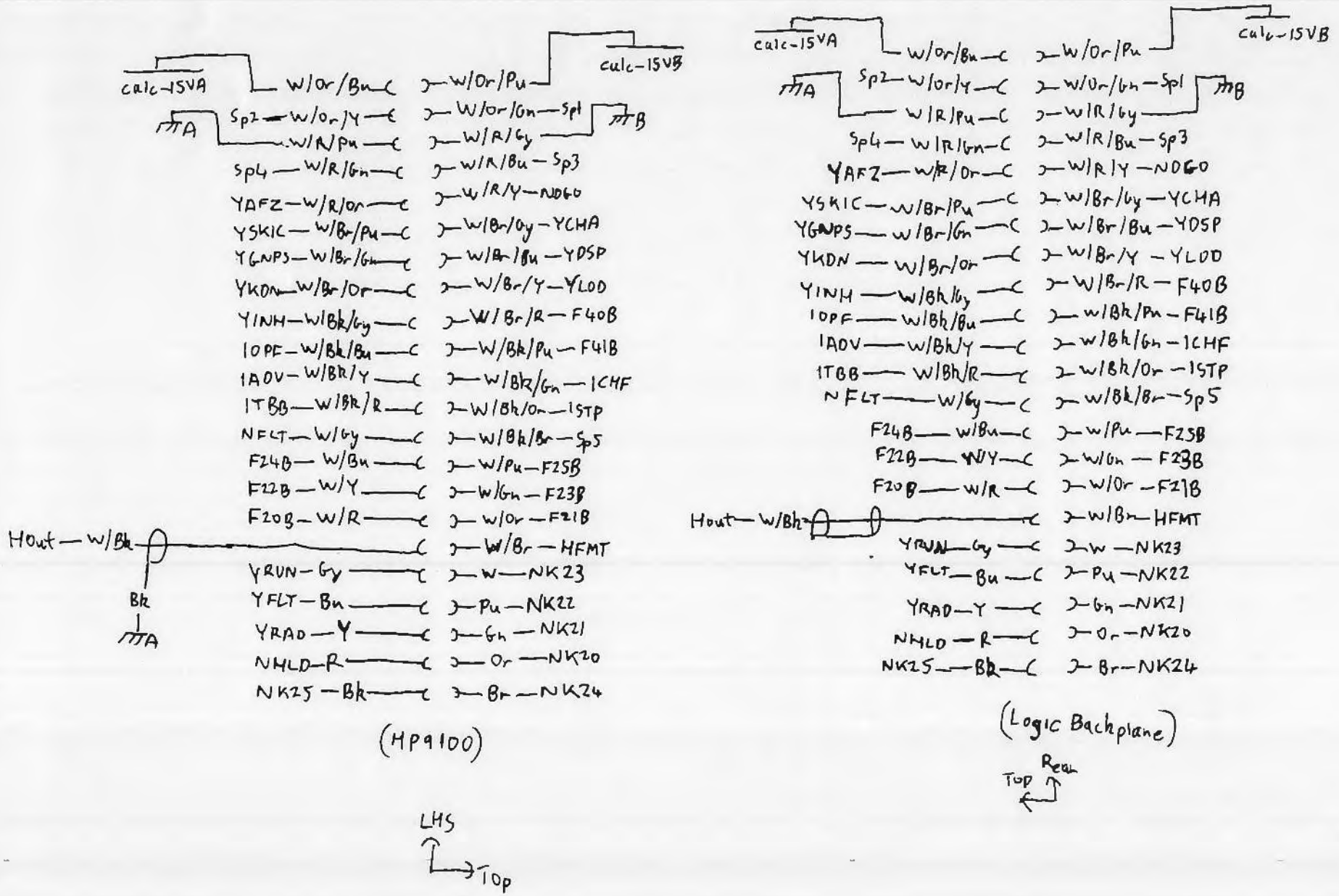


HP9125A Chassis Wiring Sheet (2)

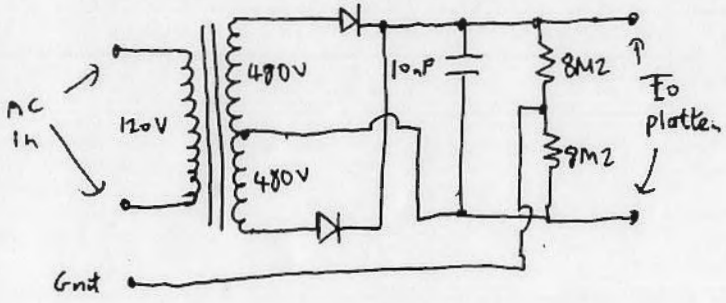

1 W/Bk Relay-
2 W/Bk Relay+
3 W/Or/Pu Pen
4 W/R/Bu
5 R +6V
6 Bk
7 Pu -15VL
14V 80MA
C
(Improper Data Format)
Gnd
Bk
Logic Buck Plane


Y DAC
CW CCW Arm Rd Bk
W/Y
W/Gn
W/Or
Bk
Y
R YDAC
1k
(Y Scale Vernier)

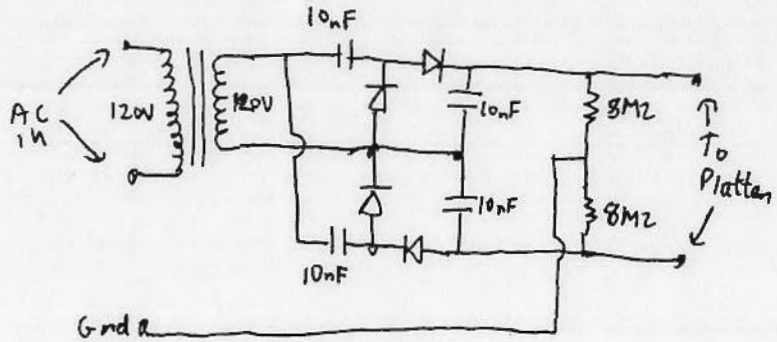

X DAC
CW CCW Arm Rd Bk
W/Bk/R
W/Bk/Y
W/Bk/Bu
Bk
X
R XDAC
1k
(X Scale Vernier)



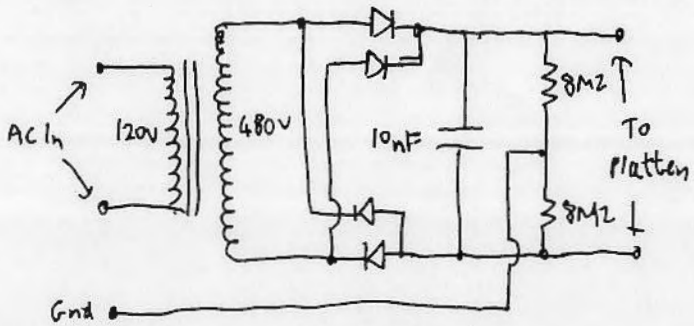
- HP9125A Calculator Cable



1) Biphase rectifier



3) Voltage multiplier



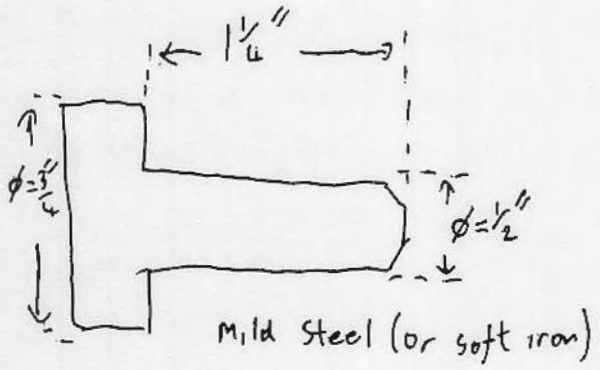
2) Bridge rectifier

- HP9125A Platten PSU - Possible Diagrams -

HP9125A

To Dismantle X Motor

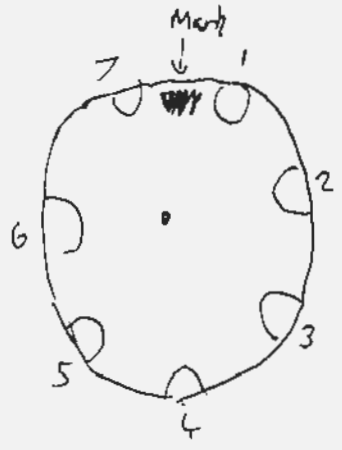
1) Remove motor from instrument. It is not necessary to desolder leads
2) Remove mounting plate (part 25 in fig 4-1 in 9125B service manual) (2 screws)
3) Unhook brush springs from terminals. Rotate to free lower end, and remove
4) Pull brushes clear of commutator
5) Mark magnet and brush holder to ensure correct reassembly
6) Remove 2 through-bolts
7) Remove brush holder and rear flange
8) Remove field magnet, fit keeper (see below)
9) Remove pulley using puller tool.
10) Remove front end housing, recover bearing shims
11) Remove front bearing (by hand)



Field magnet keeper

HP9125A

X Motor Armature



40 turns

Wire $\phi = 0.006'' = 0.15mm$
38swg

Coil	Slots		Segments	
1	3	6	3	6
2	4	7	4	7
3	5	1	5	1
4	6	2	6	2
5	7	3	7	3
6	1	4	1	4
7	2	5	2	5

Span 3 slots