DATAMATICS

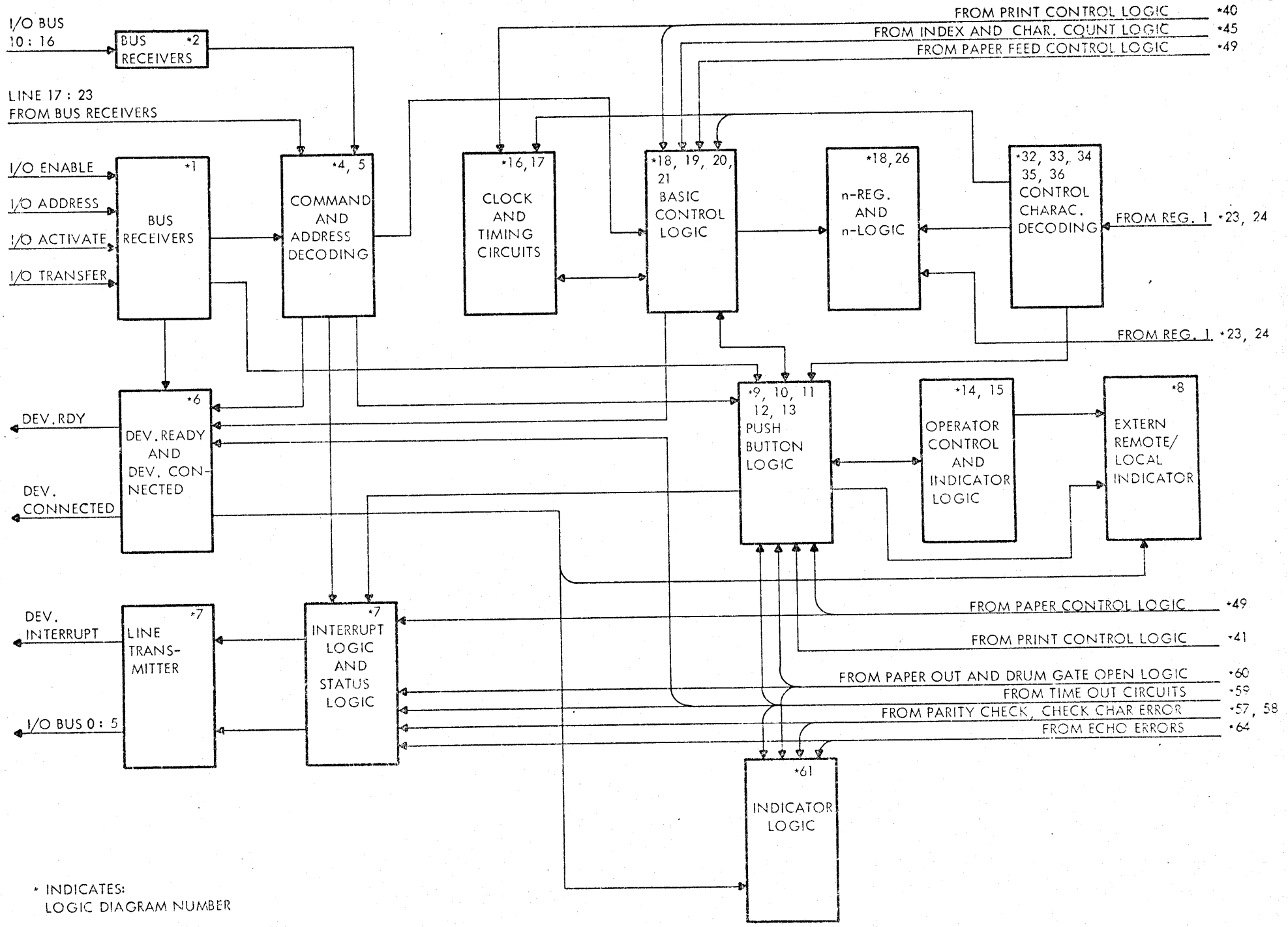
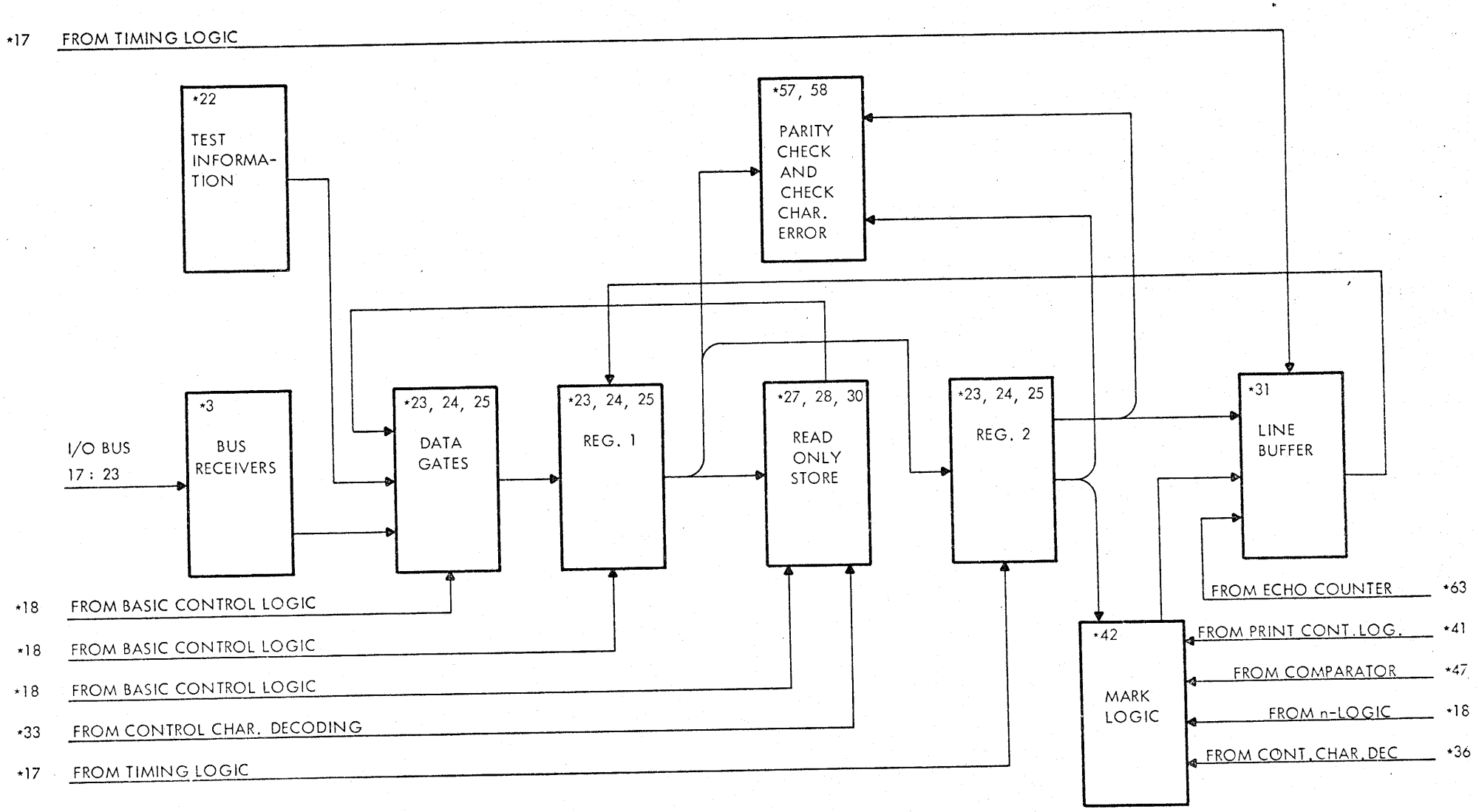
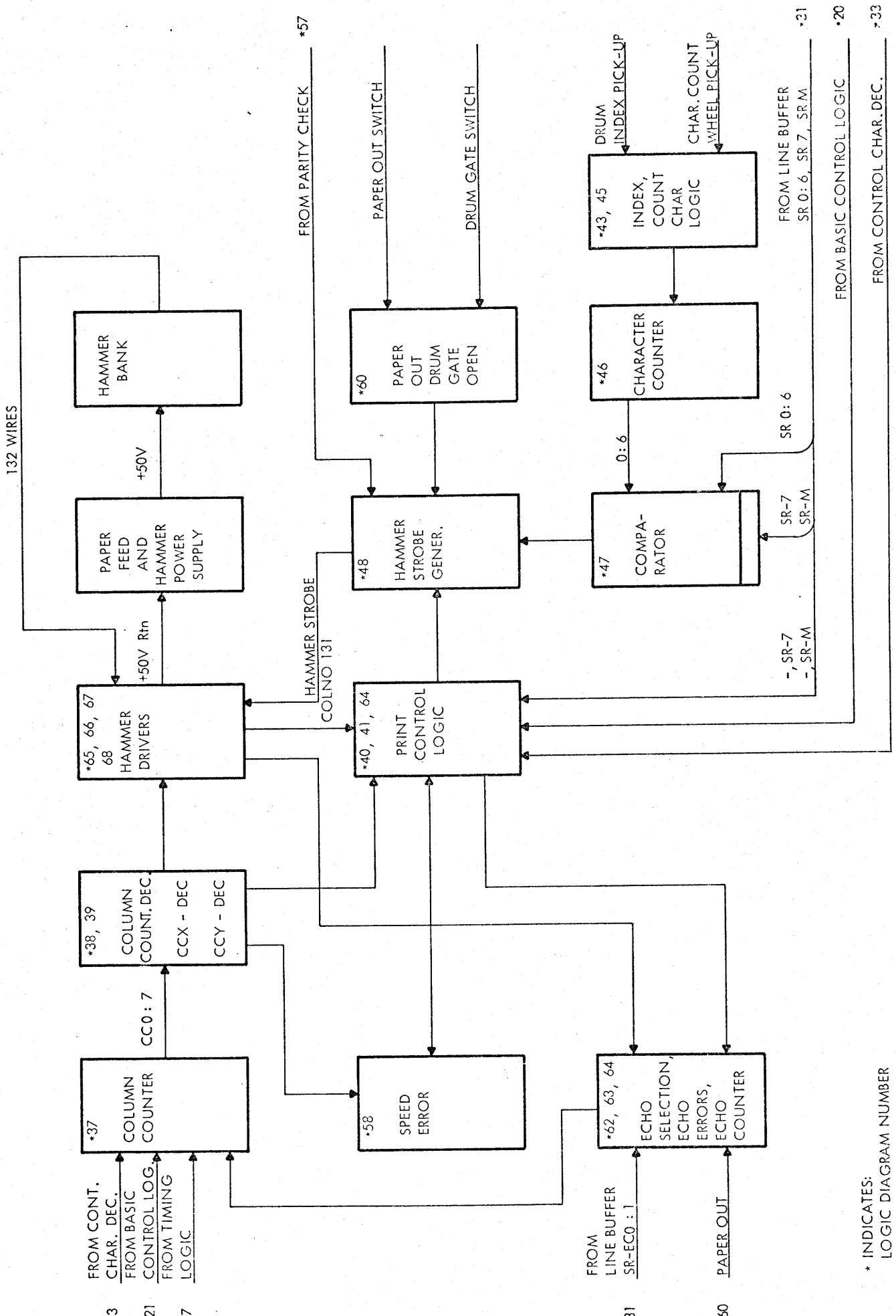


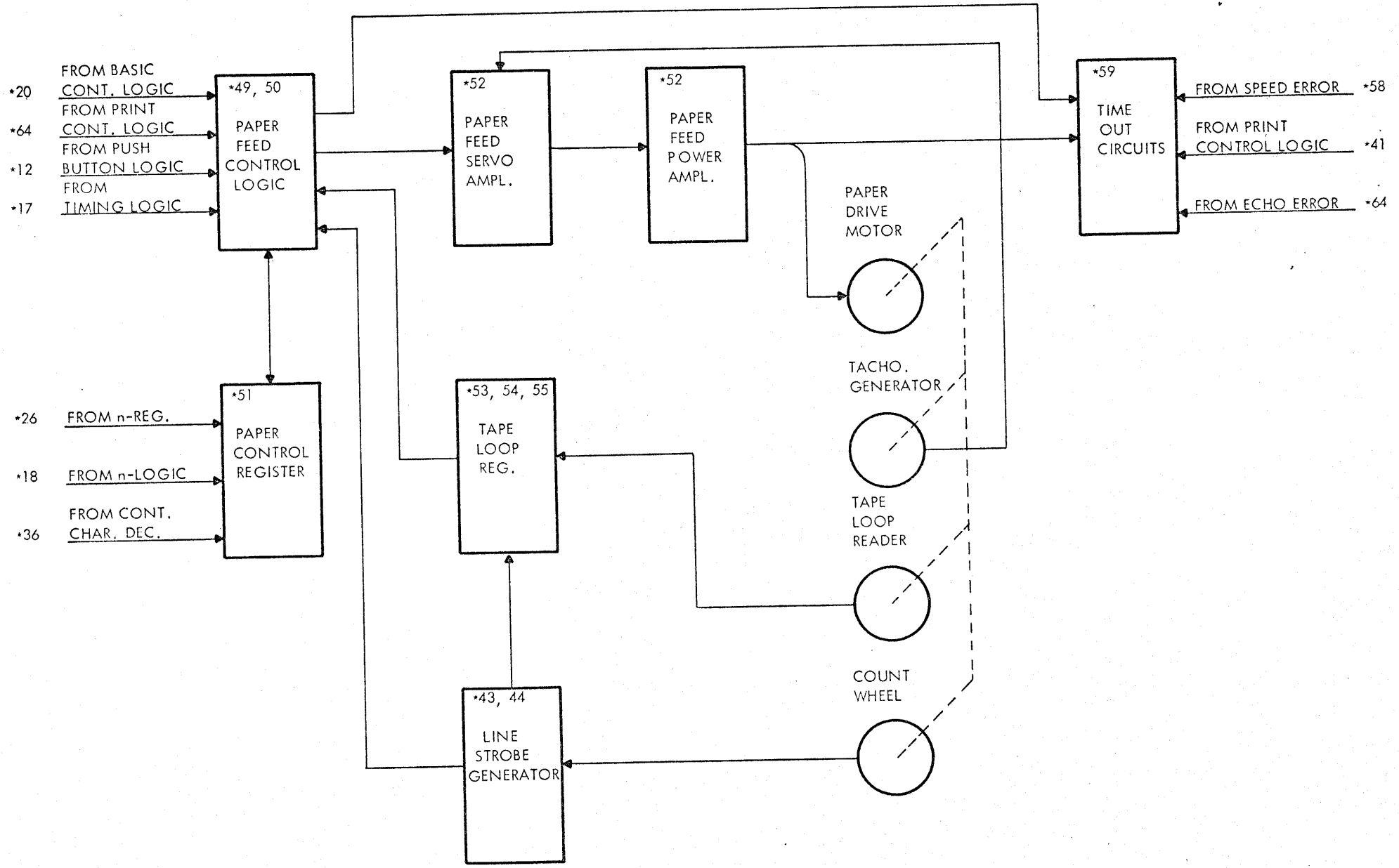
Figure Fig 9 CONTROL LOGIC



* INDICATES:
LOGIC DIAGRAM NUMBER

Figure DATA IN

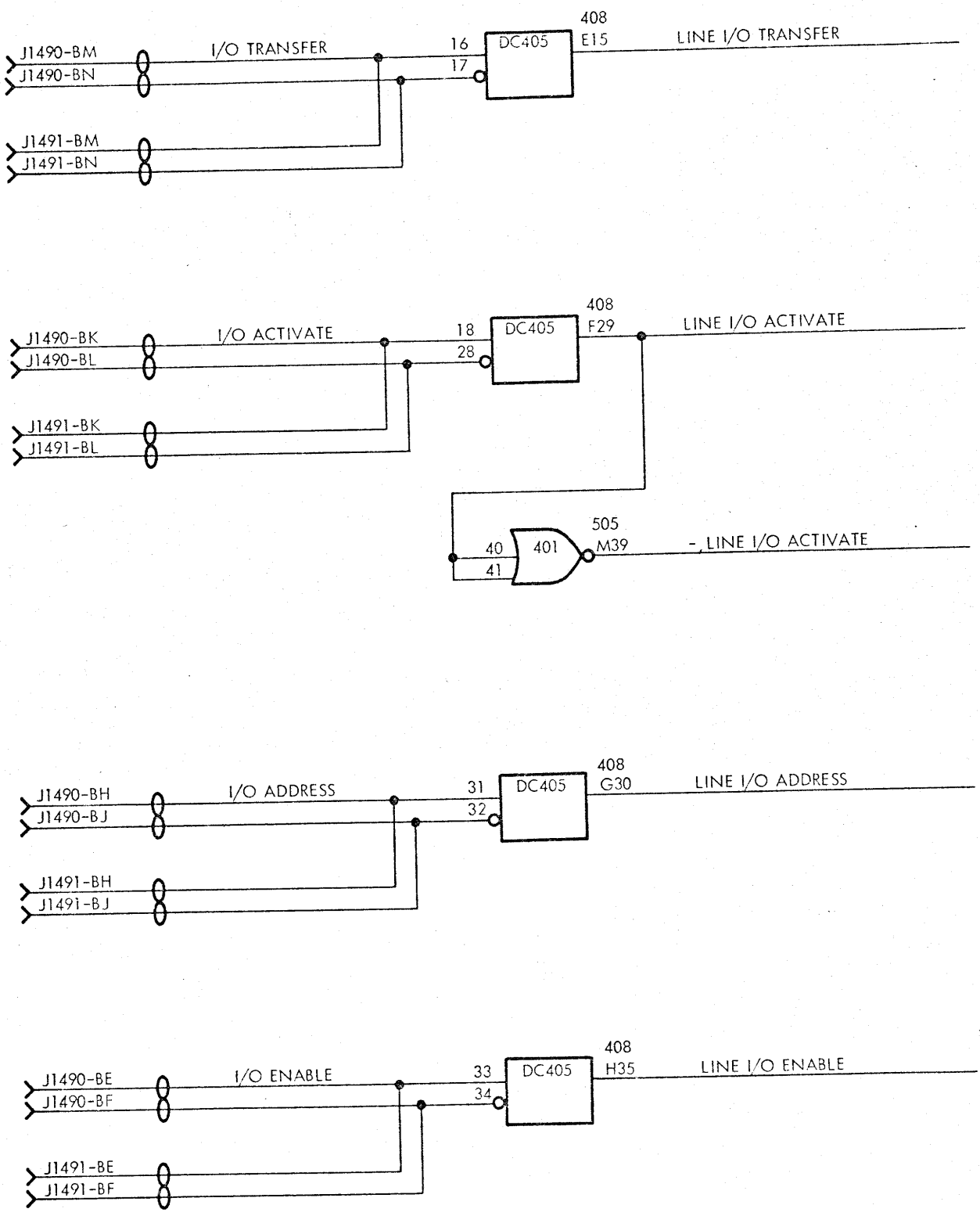

FROM PARITY CHECK *57
PAPER OUT SWITCH
DRUM GATE SWITCH
DRUM INDEX PICK-UP
CHAR. COUNT WHEEL PICK-UP
FROM LINE BUFFER SR 0:6, SR 7, SR M *31
FROM BASIC CONTROL LOGIC *20
FROM CONTROL CHAR. DEC. *33
132 WIRES
HAMMER BANK
PAPER FEED AND HAMMER POWER SUPPLY
+50V
+50V Rtn
*60 PAPER OUT DRUM GATE OPEN
*43, 45 INDEX, COUNT CHAR LOGIC
*46 CHARACTER COUNTER
0:6
SR 0:6
*48 HAMMER STROBE GENER.
*47 COMPA-RATOR
SR-7
SR-M
HAMMER STROBE
COLNO 131
*65, 66, 67 68 HAMMER DRIVERS
*40, 41, 64 PRINT CONTROL LOGIC
-, SR-7
-, SR-M
*38, 39 COLUMN COUNT. DEC.
CCX - DEC
CCY - DEC
CC0 : 7
*37 COLUMN COUNTER
*58 SPEED ERROR
*62, 63, 64 ECHO SELECTION, ECHO ERRORS, ECHO COUNTER
FROM CONT. CHAR. DEC. *33
FROM BASIC CONTROL LOG. *20, 21
FROM TIMING LOGIC *17
FROM LINE BUFFER SR-EC0 : 1 *31
PAPER OUT *60
* INDICATES: LOGIC DIAGRAM NUMBER

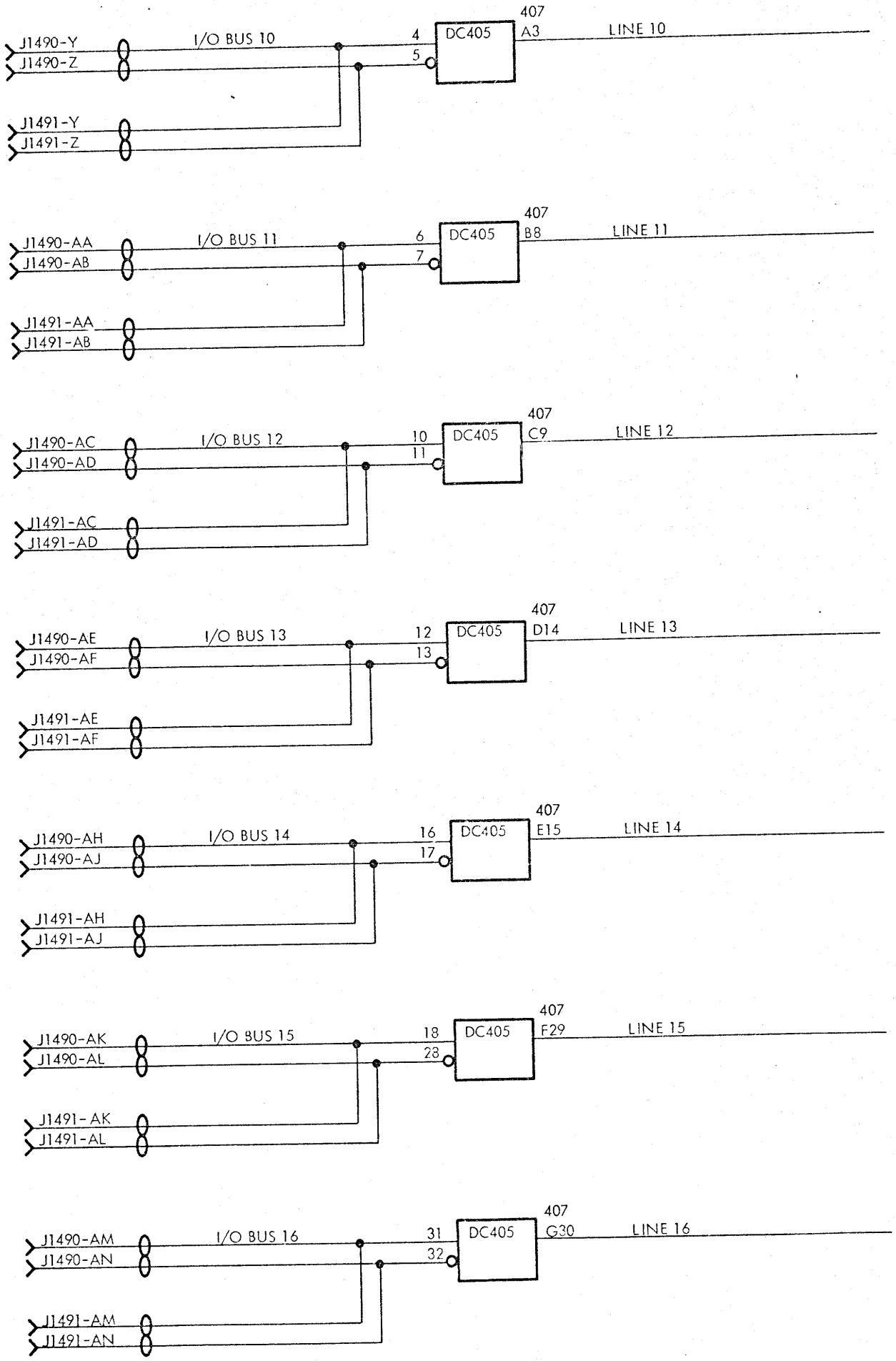


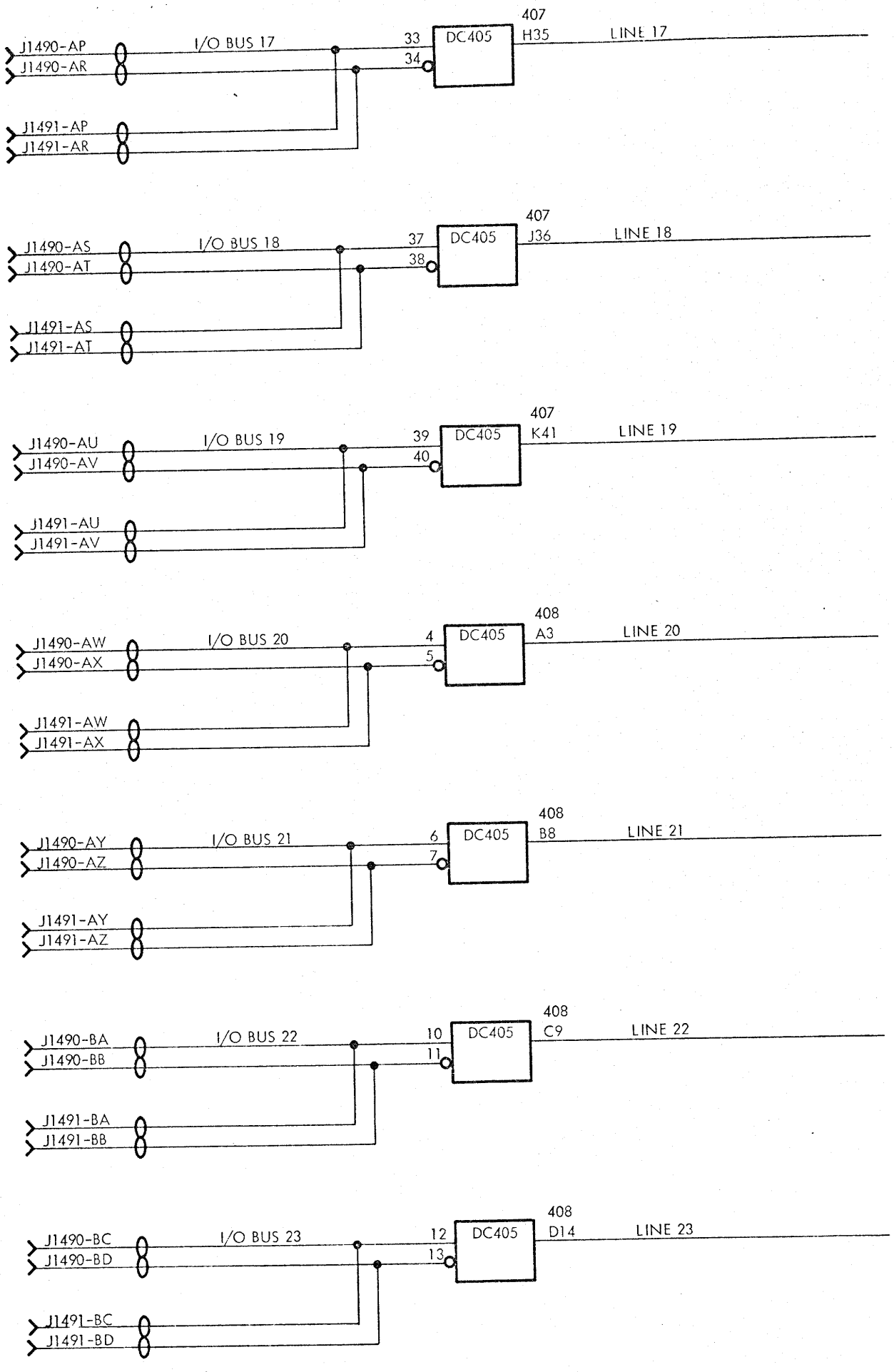
* INDICATES:
LOGIC DIAGRAM NUMBER

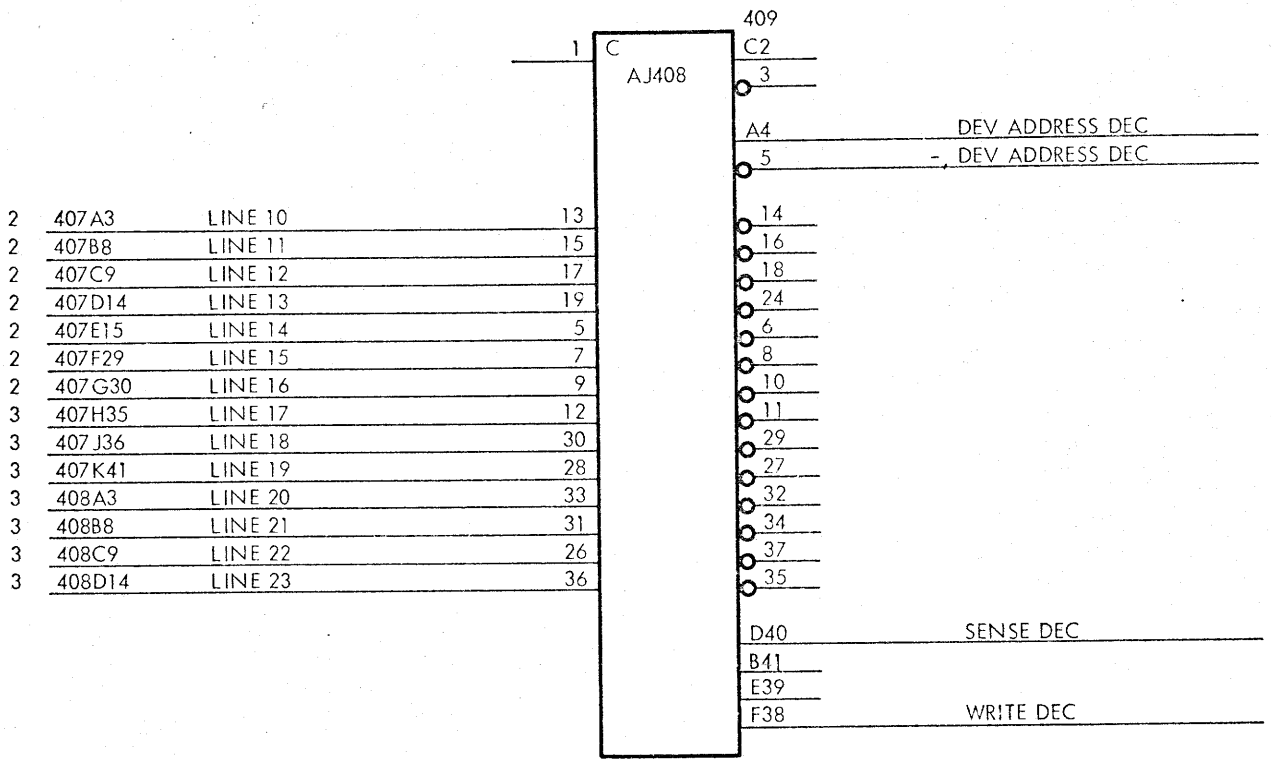
PAPER FEED

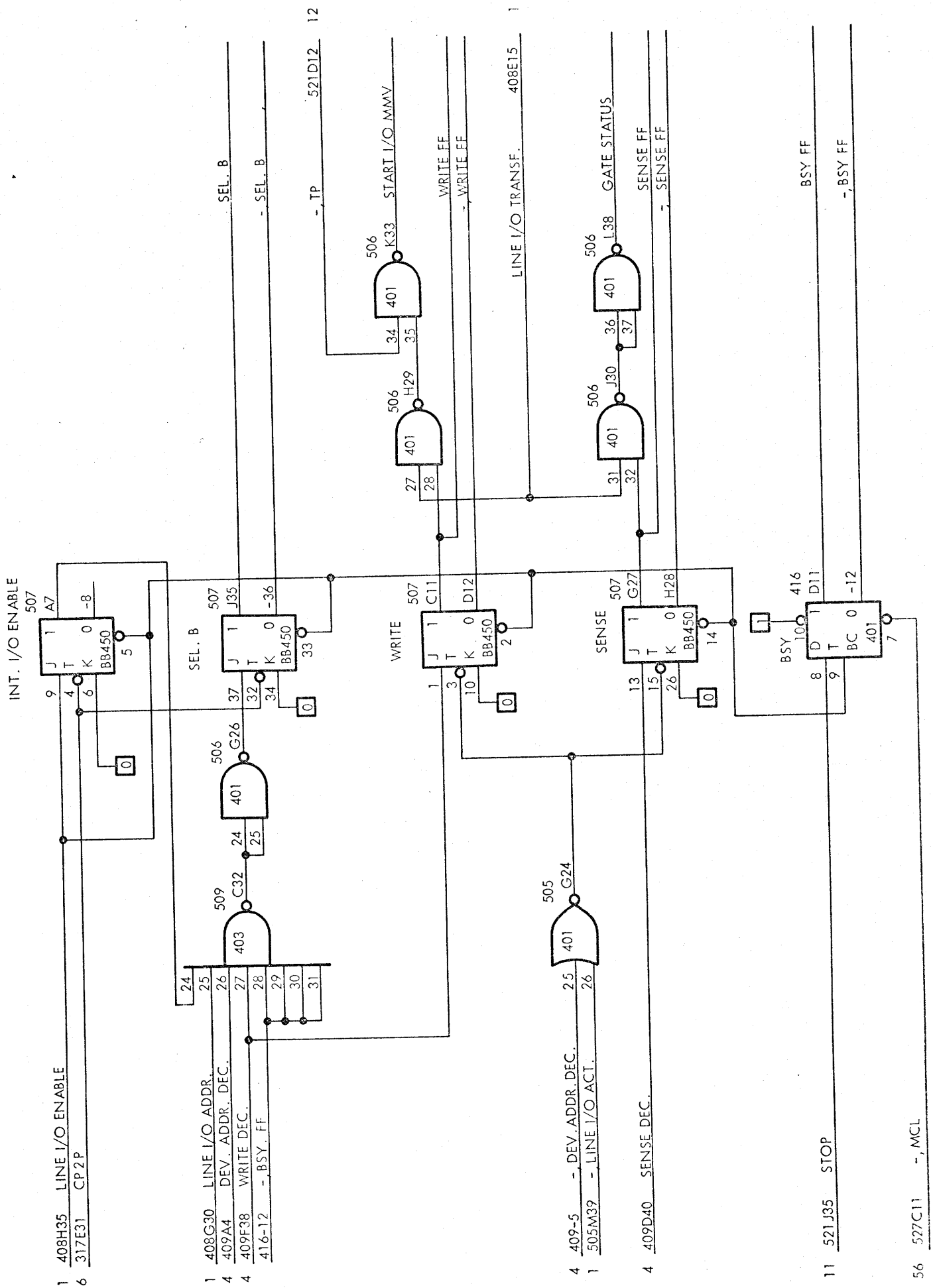
Figure Fig 12


J1490-BM
J1490-BN
J1491-BM
J1491-BN
I/O TRANSFER
16
17
DC405
408
E15
LINE I/O TRANSFER
J1490-BK
J1490-BL
J1491-BK
J1491-BL
I/O ACTIVATE
18
28
DC405
408
F29
LINE I/O ACTIVATE
40
41
401
505
M39
- LINE I/O ACTIVATE
J1490-BH
J1490-BJ
J1491-BH
J1491-BJ
I/O ADDRESS
31
32
DC405
408
G30
LINE I/O ADDRESS
J1490-BE
J1490-BF
J1491-BE
J1491-BF
I/O ENABLE
33
34
DC405
408
H35
LINE I/O ENABLE


J1490-Y
J1490-Z
J1491-Y
J1491-Z
I/O BUS 10
4
5
DC405
407
A3
LINE 10
J1490-AA
J1490-AB
J1491-AA
J1491-AB
I/O BUS 11
6
7
DC405
407
B8
LINE 11
J1490-AC
J1490-AD
J1491-AC
J1491-AD
I/O BUS 12
10
11
DC405
407
C9
LINE 12
J1490-AE
J1490-AF
J1491-AE
J1491-AF
I/O BUS 13
12
13
DC405
407
D14
LINE 13
J1490-AH
J1490-AJ
J1491-AH
J1491-AJ
I/O BUS 14
16
17
DC405
407
E15
LINE 14
J1490-AK
J1490-AL
J1491-AK
J1491-AL
I/O BUS 15
18
28
DC405
407
F29
LINE 15
J1490-AM
J1490-AN
J1491-AM
J1491-AN
I/O BUS 16
31
32
DC405
407
G30
LINE 16


J1490-AP
J1490-AR
I/O BUS 17
33
34
DC405
407
H35
LINE 17
J1491-AP
J1491-AR
J1490-AS
J1490-AT
I/O BUS 18
37
38
DC405
407
J36
LINE 18
J1491-AS
J1491-AT
J1490-AU
J1490-AV
I/O BUS 19
39
40
DC405
407
K41
LINE 19
J1491-AU
J1491-AV
J1490-AW
J1490-AX
I/O BUS 20
4
5
DC405
408
A3
LINE 20
J1491-AW
J1491-AX
J1490-AY
J1490-AZ
I/O BUS 21
6
7
DC405
408
B8
LINE 21
J1491-AY
J1491-AZ
J1490-BA
J1490-BB
I/O BUS 22
10
11
DC405
408
C9
LINE 22
J1491-BA
J1491-BB
J1490-BC
J1490-BD
I/O BUS 23
12
13
DC405
408
D14
LINE 23
J1491-BC
J1491-BD


409
1
C
AJ408
C2
3
A4
DEV ADDRESS DEC
5
DEV ADDRESS DEC
2 407A3 LINE 10 13
2 407B8 LINE 11 15
2 407C9 LINE 12 17
2 407D14 LINE 13 19
2 407E15 LINE 14 5
2 407F29 LINE 15 7
2 407G30 LINE 16 9
3 407H35 LINE 17 12
3 407J36 LINE 18 30
3 407K41 LINE 19 28
3 408A3 LINE 20 33
3 408B8 LINE 21 31
3 408C9 LINE 22 26
3 408D14 LINE 23 36
14
16
18
24
6
8
10
11
29
27
32
34
37
35
D40
SENSE DEC
B41
E39
F38
WRITE DEC

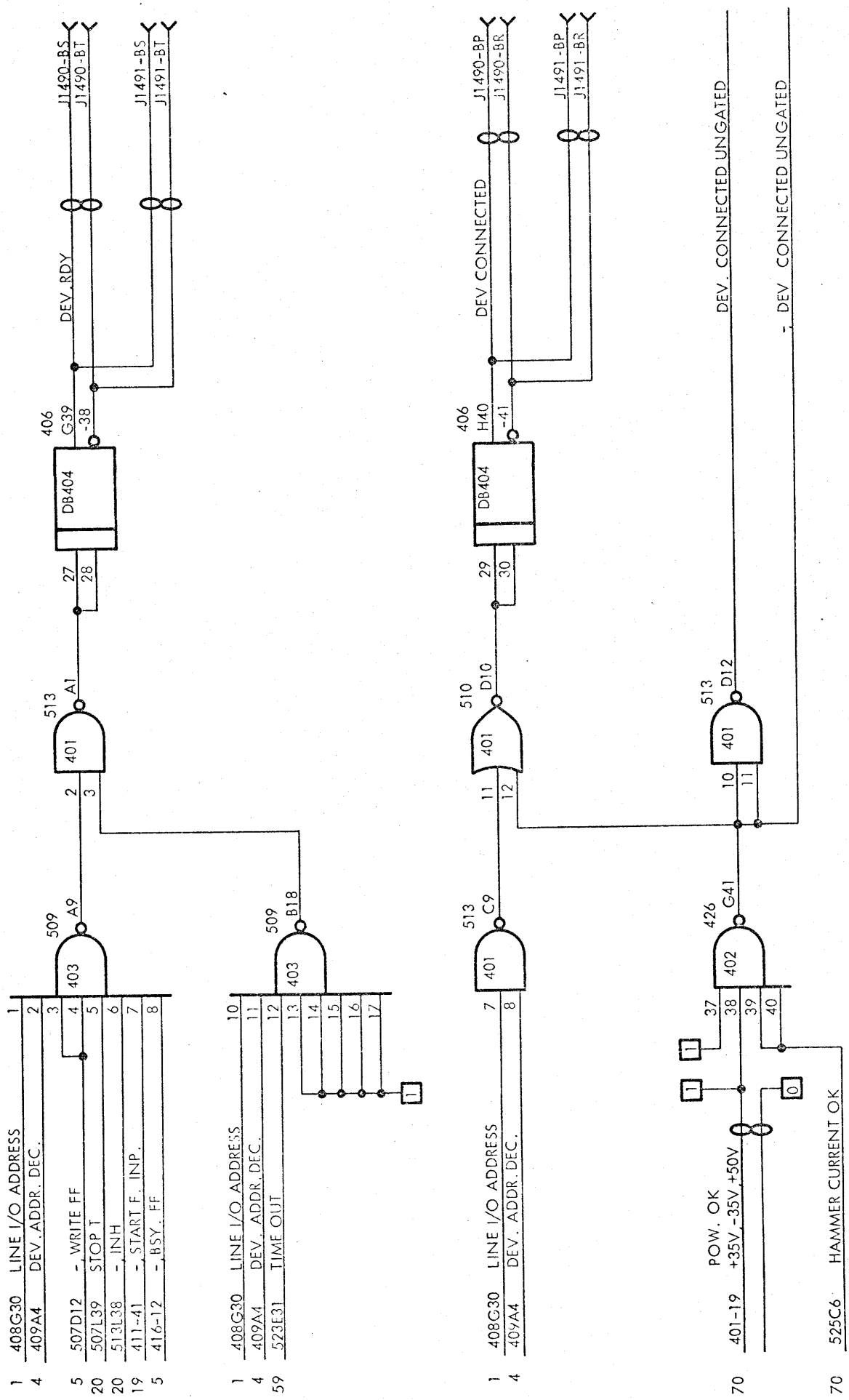


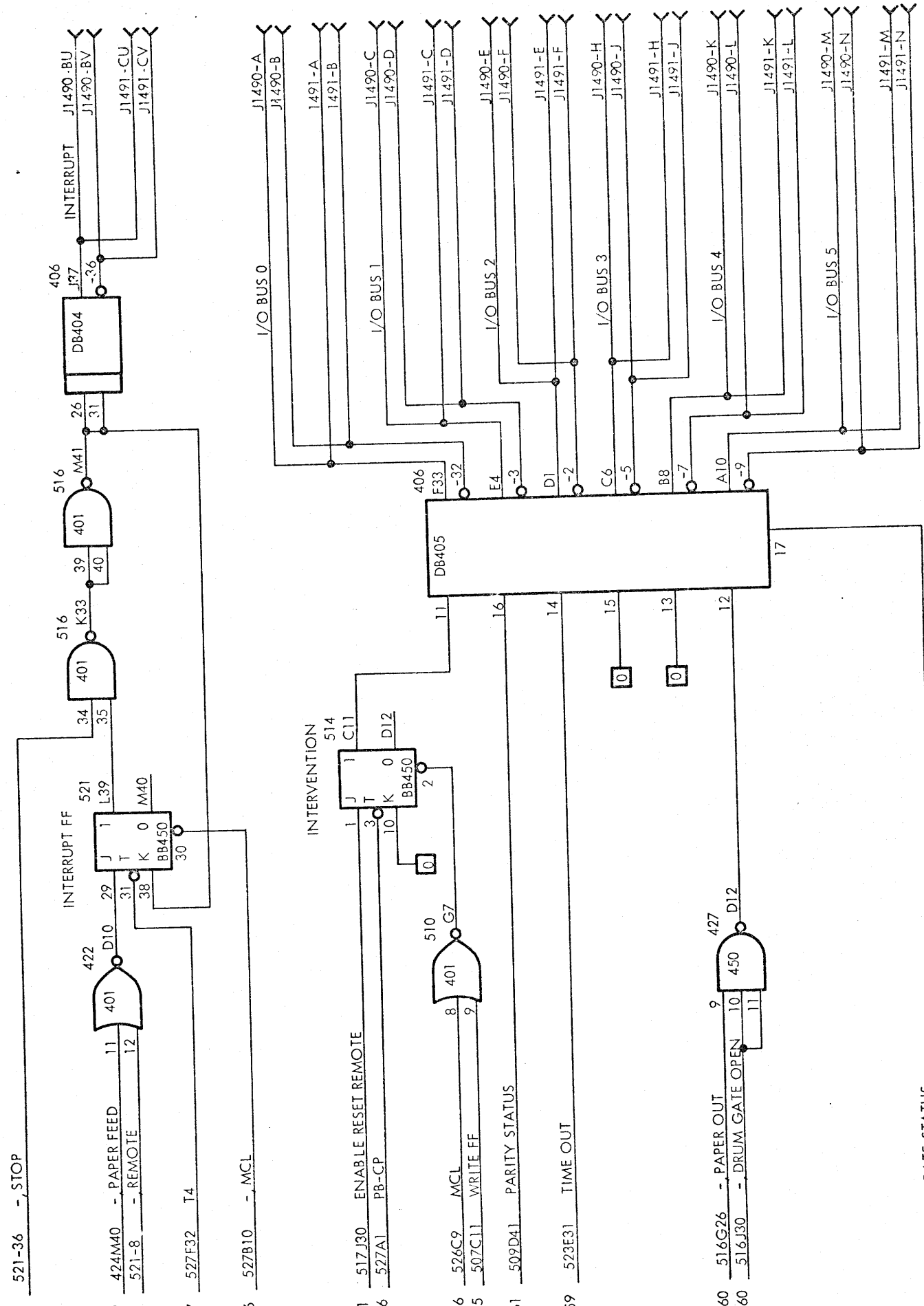
LPE 200

A10337

COMMAND AND ADDRESS DECODING

Logic Diagram


J1490-BS
J1490-BT
J1491-BS
J1491-BT
DEV. RDY
406
G39
-38
DB404
27
28
513
A1
401
2
3
509
A9
403
1
2
3
4
5
6
7
8
1 408G30 LINE I/O ADDRESS
4 409A4 DEV. ADDR. DEC.
5 507D12 - WRITE FF
20 507L39 STOP T
20 513L38 - INH
19 411-41 - START F. INP.
5 416-12 - BSY. FF
509
B18
403
10
11
12
13
14
15
16
17
1
1 408G30 LINE I/O ADDRESS
4 409A4 DEV. ADDR. DEC.
59 523E31 TIME OUT
J1490-BP
J1490-BR
J1491-BP
J1491-BR
DEV CONNECTED
406
H40
-41
DB404
29
30
510
D10
401
11
12
513
C9
401
7
8
1 408G30 LINE I/O ADDRESS
4 409A4 DEV. ADDR. DEC.
DEV. CONNECTED UNGATED
513
D12
401
10
11
- DEV CONNECTED UNGATED
426
G41
402
37
38
39
40
1
1
0
POW. OK
401-19 +35V, -35V, +50V
70
525C6 HAMMER CURRENT OK
70



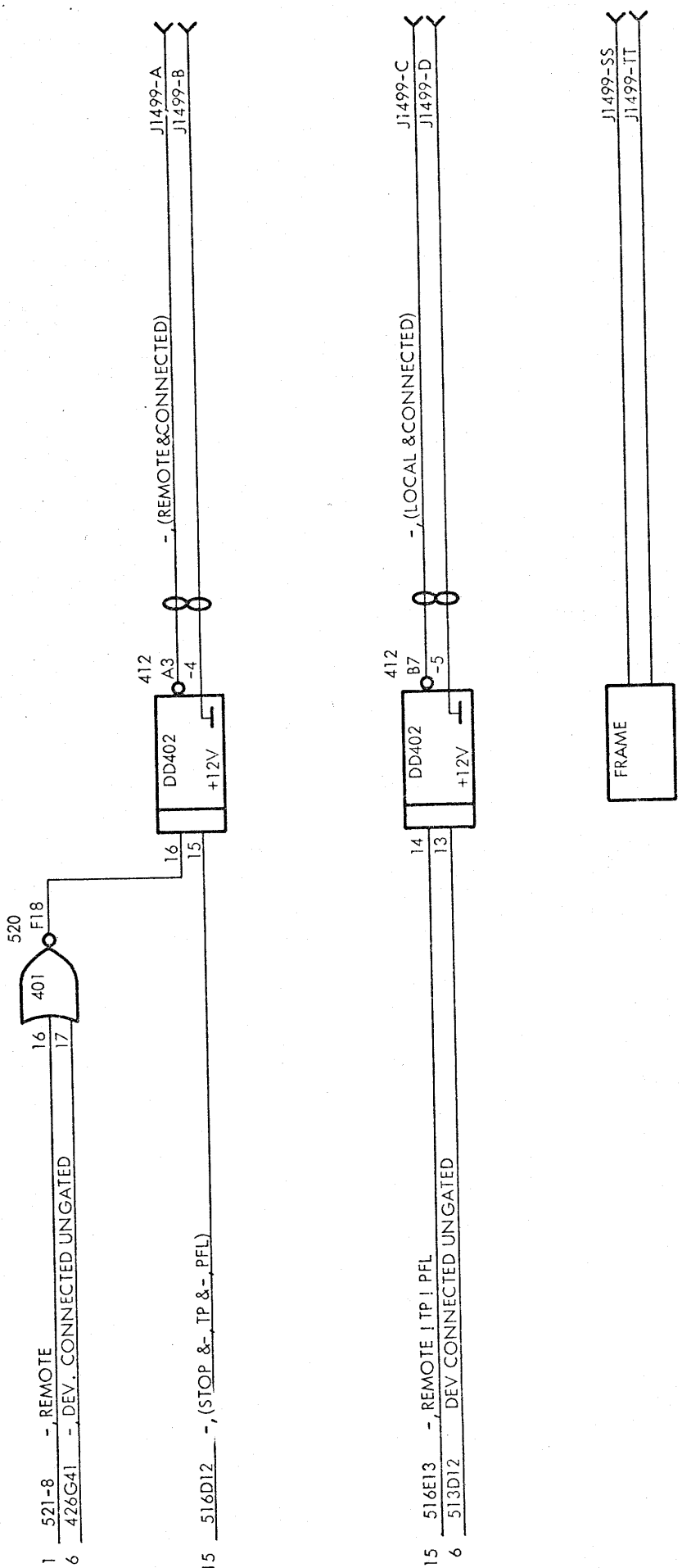
LPE 200

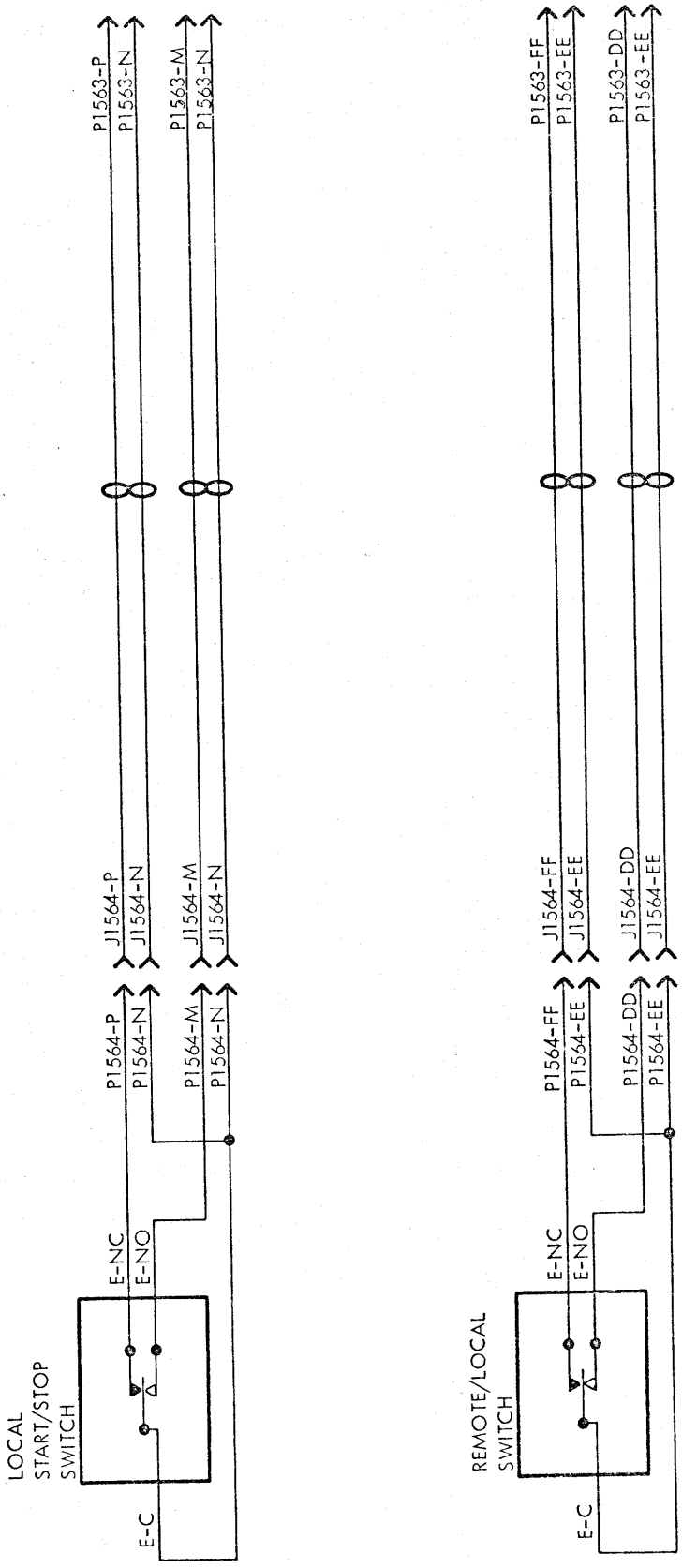
INTERRUPT LOGIC AND STATUS LOGIC

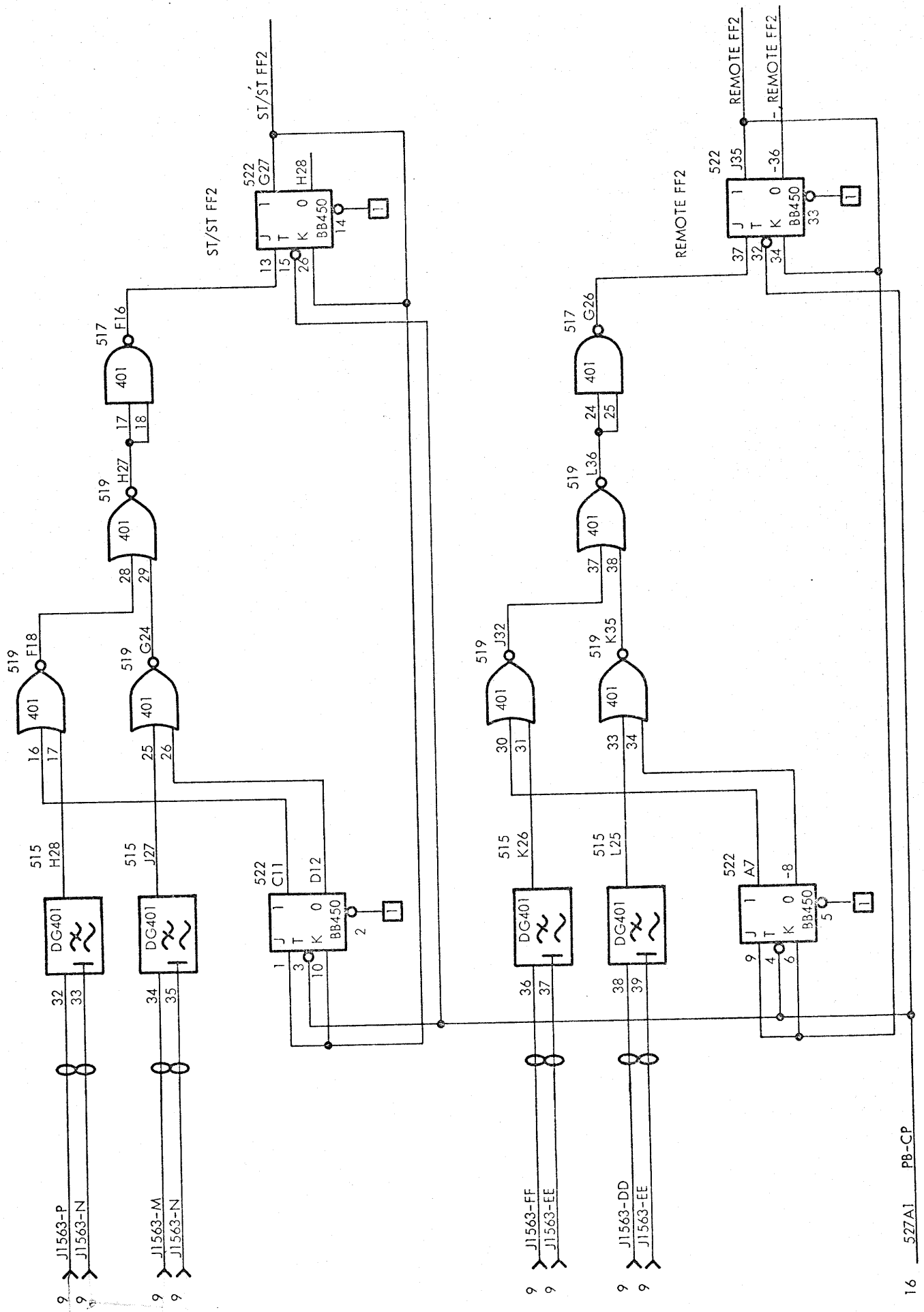
7

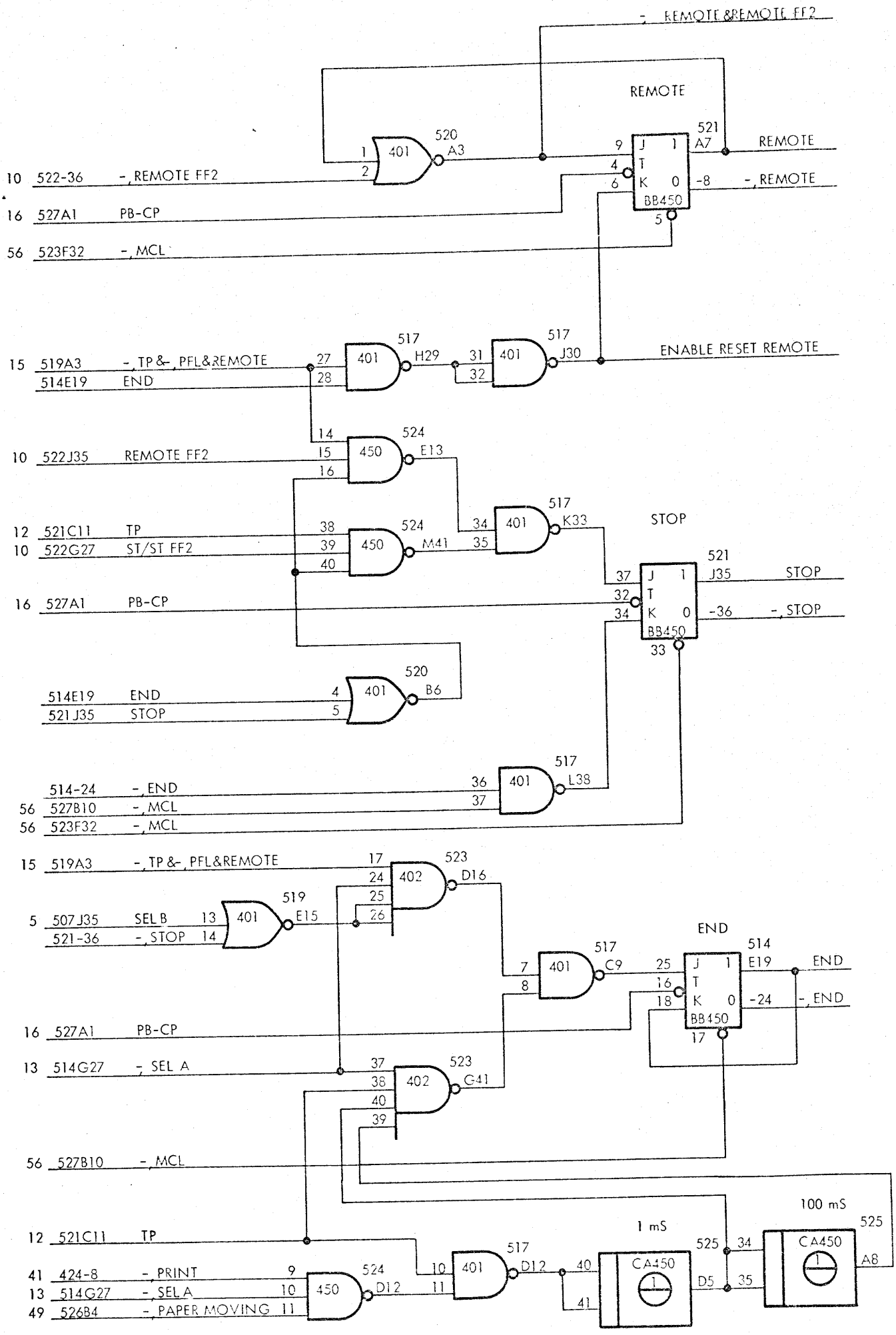
A10339

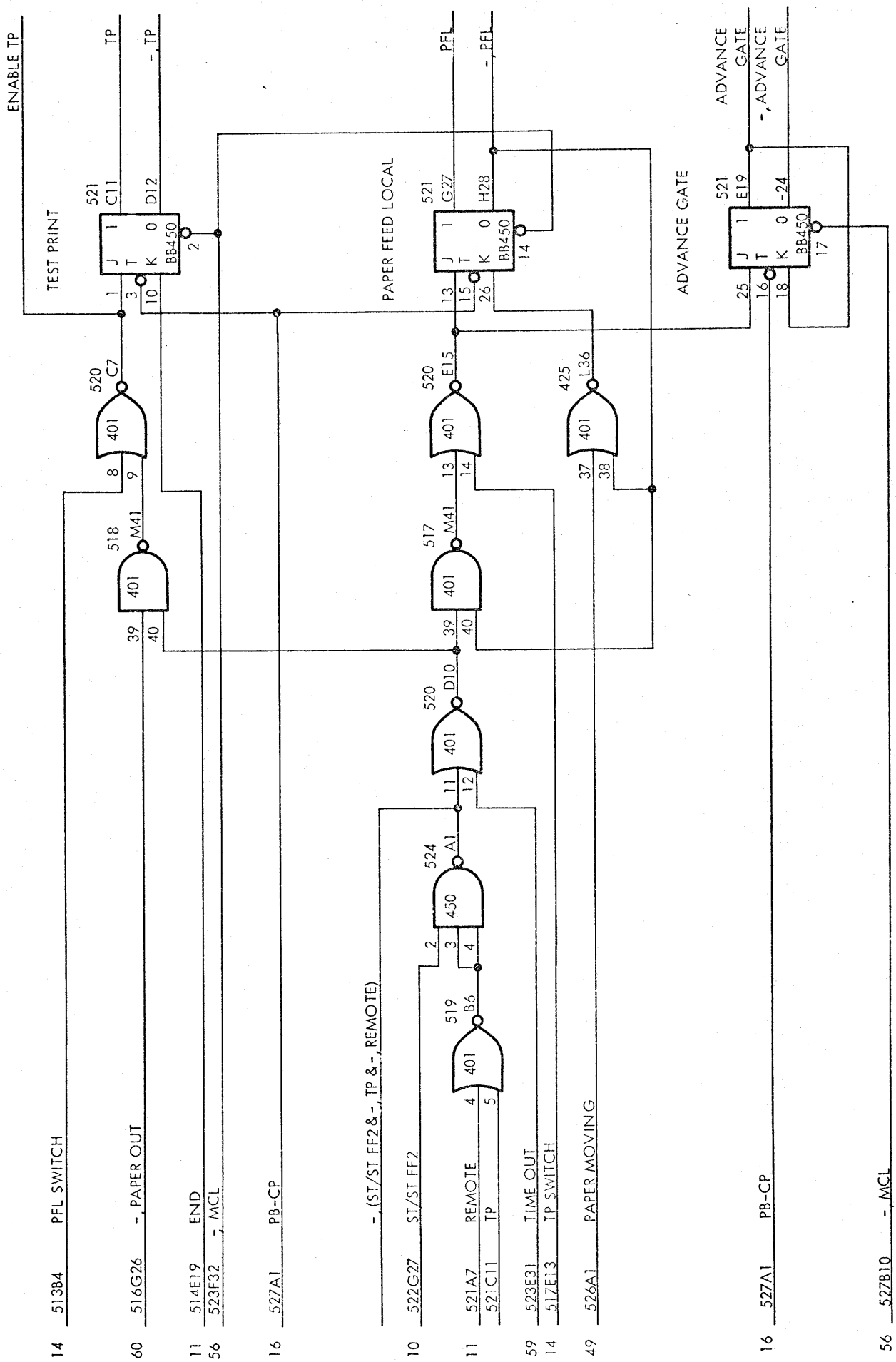
Logic Diagram

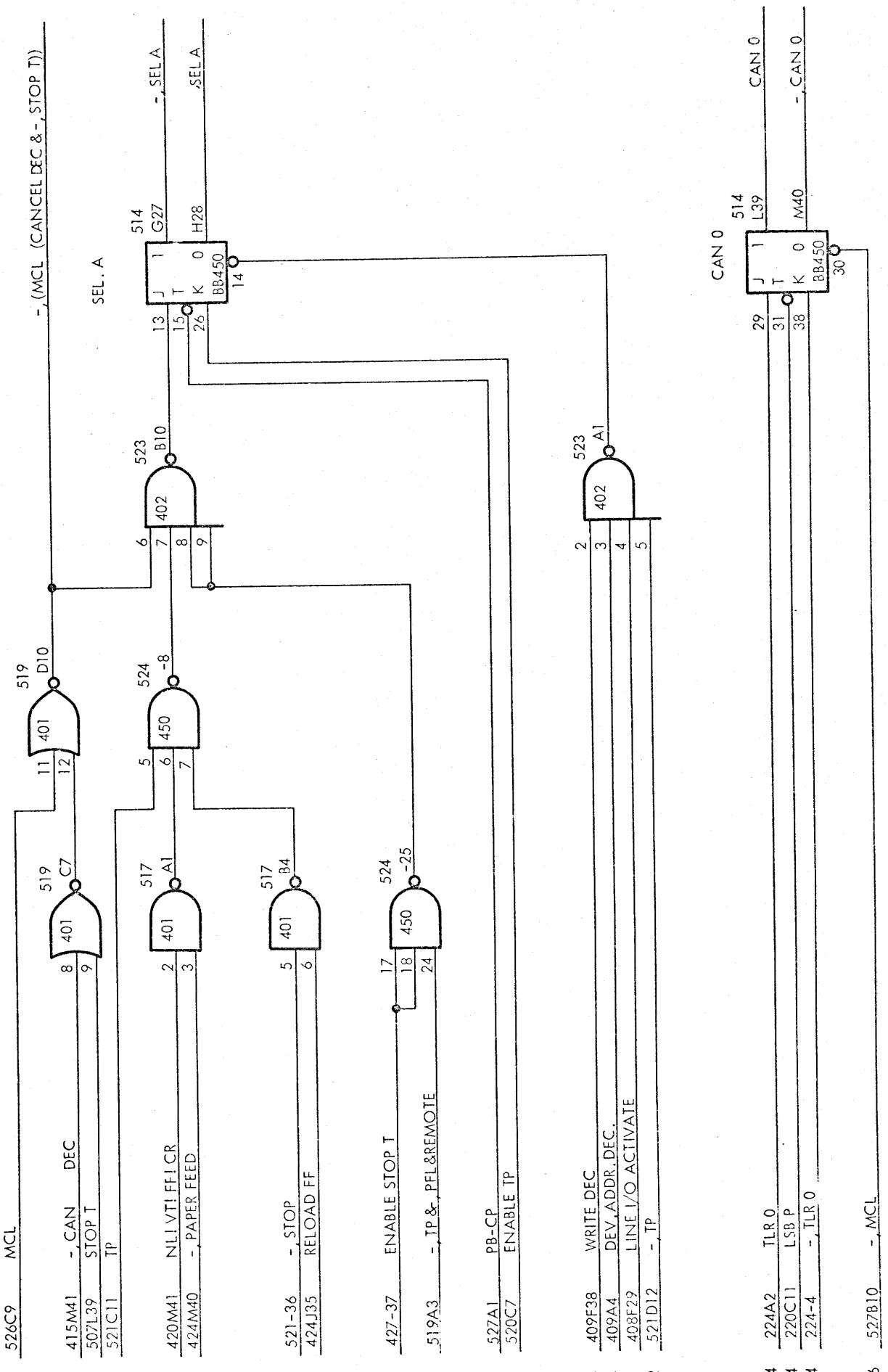

J1499-A
J1499-B
J1499-C
J1499-D
J1499-SS
J1499-TT
-,(REMOTE&CONNECTED)
-,(LOCAL &CONNECTED)
412
A3
-4
B7
-5
DD402
+12V
FRAME
520
F18
401
16
17
15
14
13
11
6
521-8
-,REMOTE
426G41
-,DEV. CONNECTED UNGATED
516D12
-,(STOP &-,TP &-,PFL)
516E13
-,REMOTE ! TP ! PFL
513D12
DEV CONNECTED UNGATED

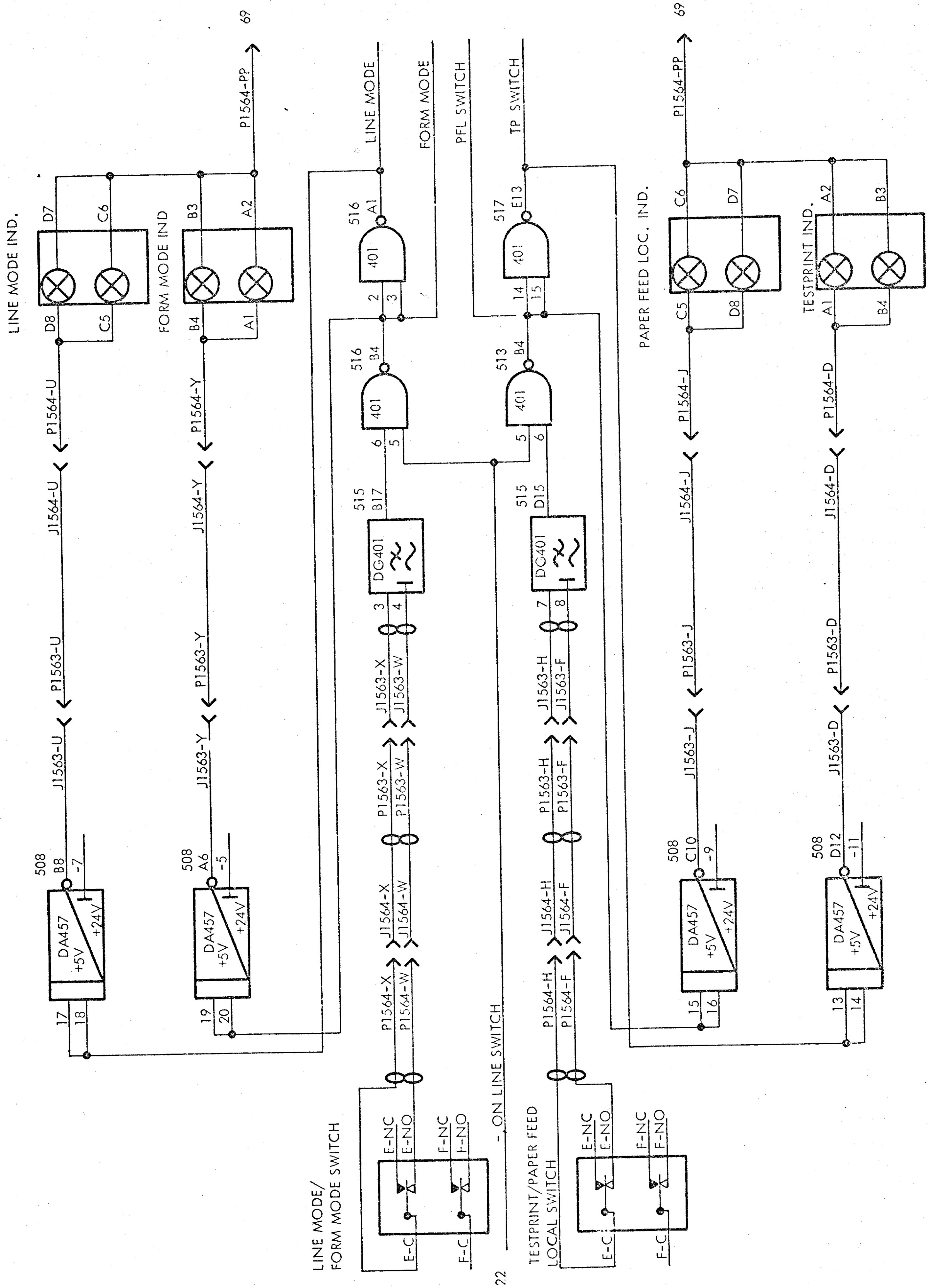

LOCAL
START/STOP
SWITCH
E-NC
E-NO
E-C
P1564-P
P1564-N
P1564-M
P1564-N
J1564-P
J1564-N
J1564-M
J1564-N
P1563-P
P1563-N
P1563-M
P1563-N
REMOTE/LOCAL
SWITCH
E-NC
E-NO
E-C
P1564-FF
P1564-EE
P1564-DD
P1564-EE
J1564-FF
J1564-EE
J1564-DD
J1564-EE
P1563-FF
P1563-EE
P1563-DD
P1563-EE

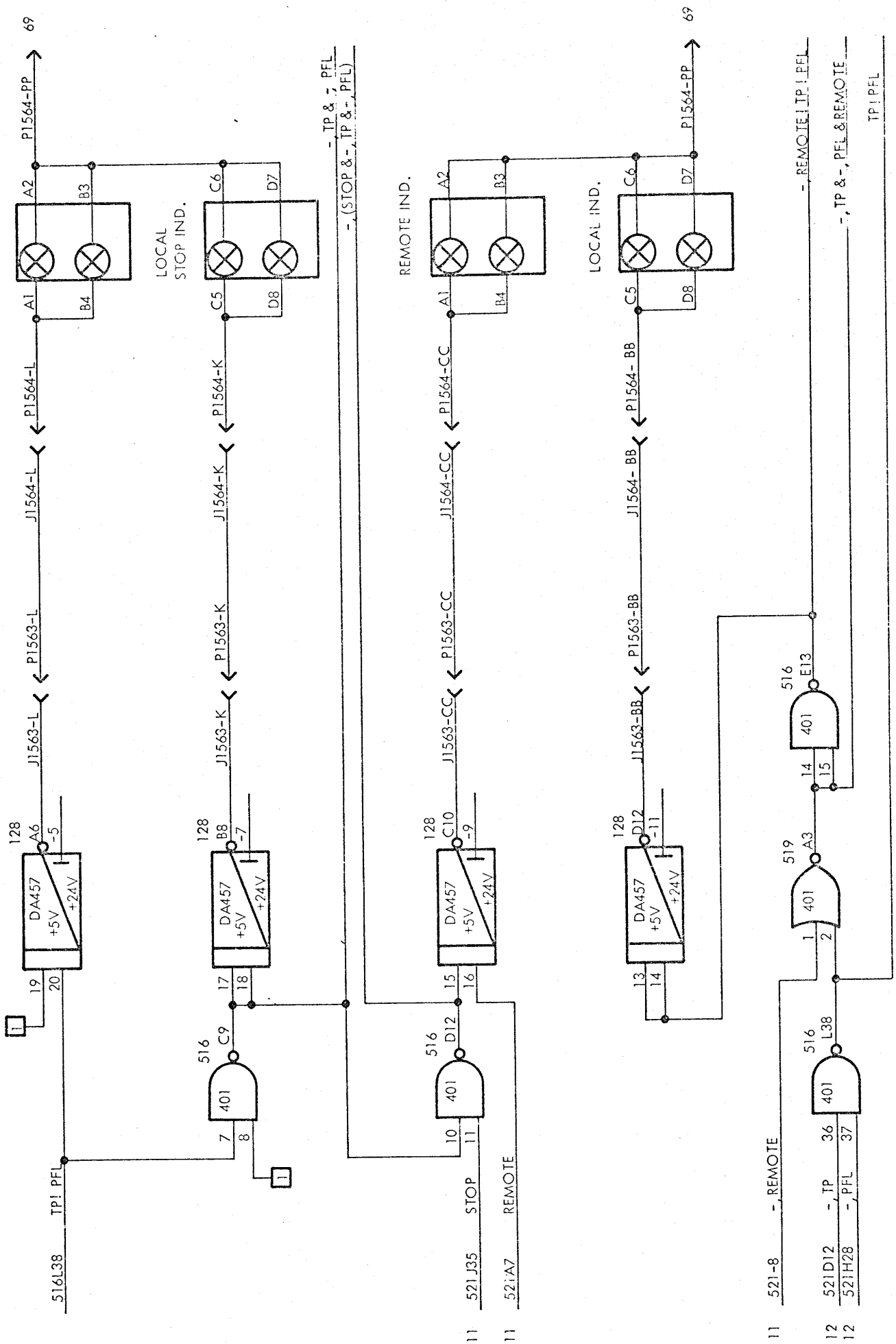

ST/ST FF2
522 G27 H28
BB450
517 F16
401
519 H27
401
519 F18
401
519 G24
401
515 H28
DG401
515 J27
DG401
522 C11 D12
BB450
J1563-P
J1563-N
J1563-M
J1563-N
REMOTE FF2
522 J35 -36
BB450
517 G26
401
519 L36
401
519 J32
401
519 K35
401
515 K26
DG401
515 L25
DG401
522 A7 -8
BB450
J1563-FF
J1563-EE
J1563-DD
J1563-EE
527A1 PB-CP

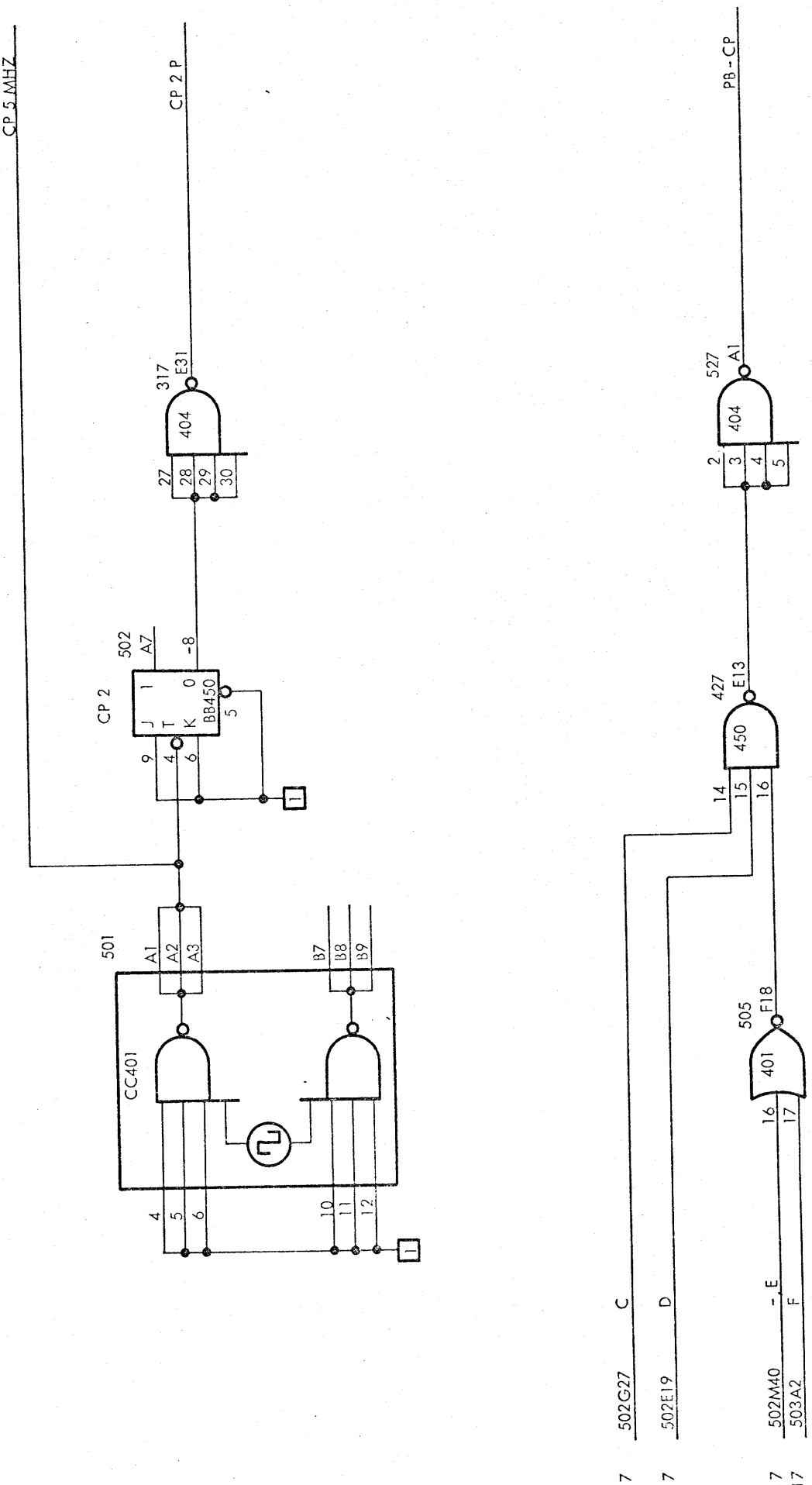

- REMOTE &REMOTE FF2
REMOTE
520
A3
401
521
A7
REMOTE
10 522-36 -, REMOTE FF2
16 527A1 PB-CP
56 523F32 -, MCL
-8 -, REMOTE
BB450
517
H29
517
J30
ENABLE RESET REMOTE
15 519A3 -, TP &- , PFL&REMOTE
514E19 END
524
E13
10 522J35 REMOTE FF2
517
K33
STOP
12 521C11 TP
10 522G27 ST/ST FF2
524
M41
521
J35
STOP
16 527A1 PB-CP
-36 -, STOP
520
B6
514E19 END
521J35 STOP
517
L38
514-24 -, END
56 527B10 -, MCL
56 523F32 -, MCL
15 519A3 -, TP &- , PFL&REMOTE
523
D16
402
519
E15
5 507J35 SEL B
521-36 -, STOP
END
514
E19
END
517
C9
-24 -, END
16 527A1 PB-CP
13 514G27 -, SEL A
523
G41
402
56 527B10 -, MCL
100 mS
1 mS
525
A8
12 521C11 TP
41 424-8 -, PRINT
13 514G27 -, SEL A
49 526B4 -, PAPER MOVING
524
D12
450
517
D12
CA450
CA450
D5

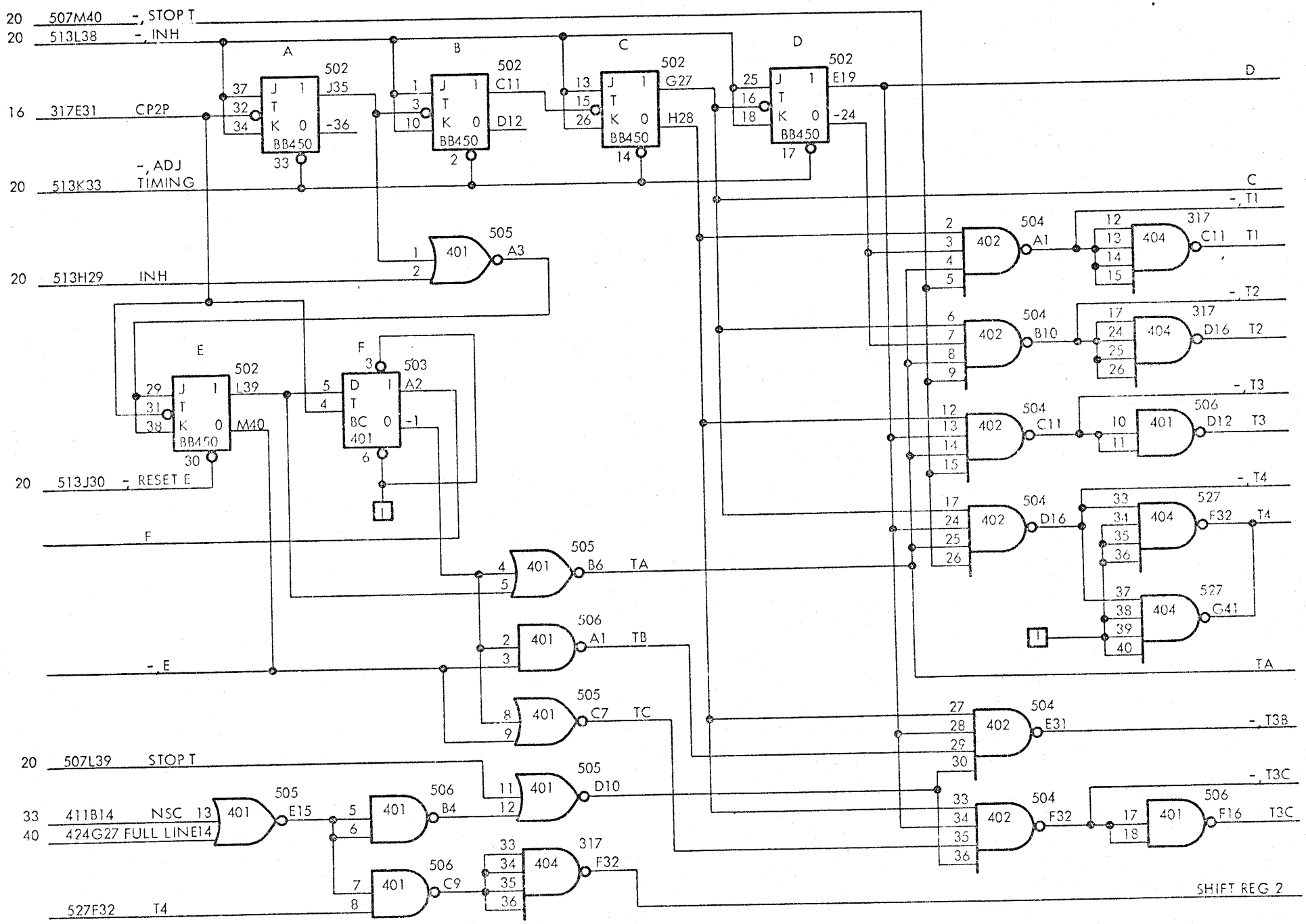

ENABLE TP
TEST PRINT
PAPER FEED LOCAL
ADVANCE GATE
TP
-, TP
PFL
-, PFL
ADVANCE GATE
-, ADVANCE GATE
521 C11 D12
521 G27 H28
521 E19 -24
BB450
520 C7
520 E15
425 L36
518 M41
517 M41
520 D10
524 A1
519 B6
401
450
14 513B4 PFL SWITCH
60 516G26 -, PAPER OUT
11 514E19 END
56 523F32 -, MCL
16 527A1 PB-CP
10 522G27 ST/ST FF2
11 521A7 REMOTE
521C11 TP
59 523E31 TIME OUT
14 517E13 TP SWITCH
49 526A1 PAPER MOVING
-, (ST/ST FF2 &-, TP &-, REMOTE)
16 527A1 PB-CP
56 527B10 -, MCL

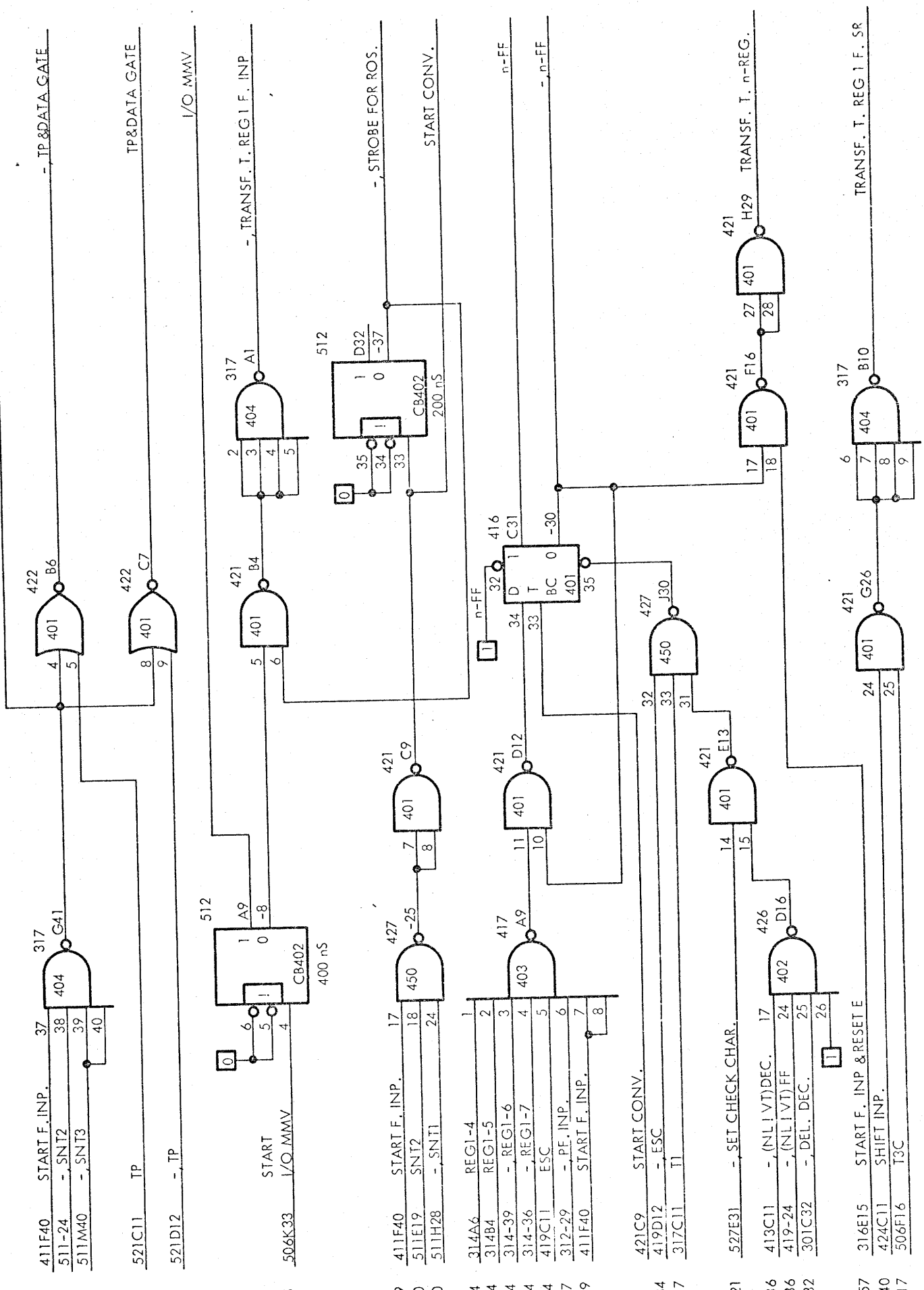

-,(MCL (CANCEL DEC &-,STOP T))
SEL. A
-,SEL A
SEL A
CAN 0
-,CAN 0
519 D10 401
519 C7 401
517 A1 401
517 B4 401
524 -8 450
524 -25 450
523 B10 402
523 A1 402
514 G27
514 H28
514 L39
514 M40
BB450
56 526C9 MCL
33 415M41 -,CAN DEC
20 507L39 STOP T
12 521C11 TP
36 420M41 NLI VTI FFI CR
49 424M40 -,PAPER FEED
11 521-36 -,STOP
41 424J35 RELOAD FF
20 427-37 ENABLE STOP T
15 519A3 -,TP & ,PFL&REMOTE
16 527A1 PB-CP
12 520C7 ENABLE TP
4 409F38 WRITE DEC
4 409A4 DEV.ADDR.DEC.
1 408F29 LINE I/O ACTIVATE
12 521D12 -,TP
54 224A2 TLR 0
44 220C11 LSB P
54 224-4 -,TLR 0
56 527B10 -,MCL

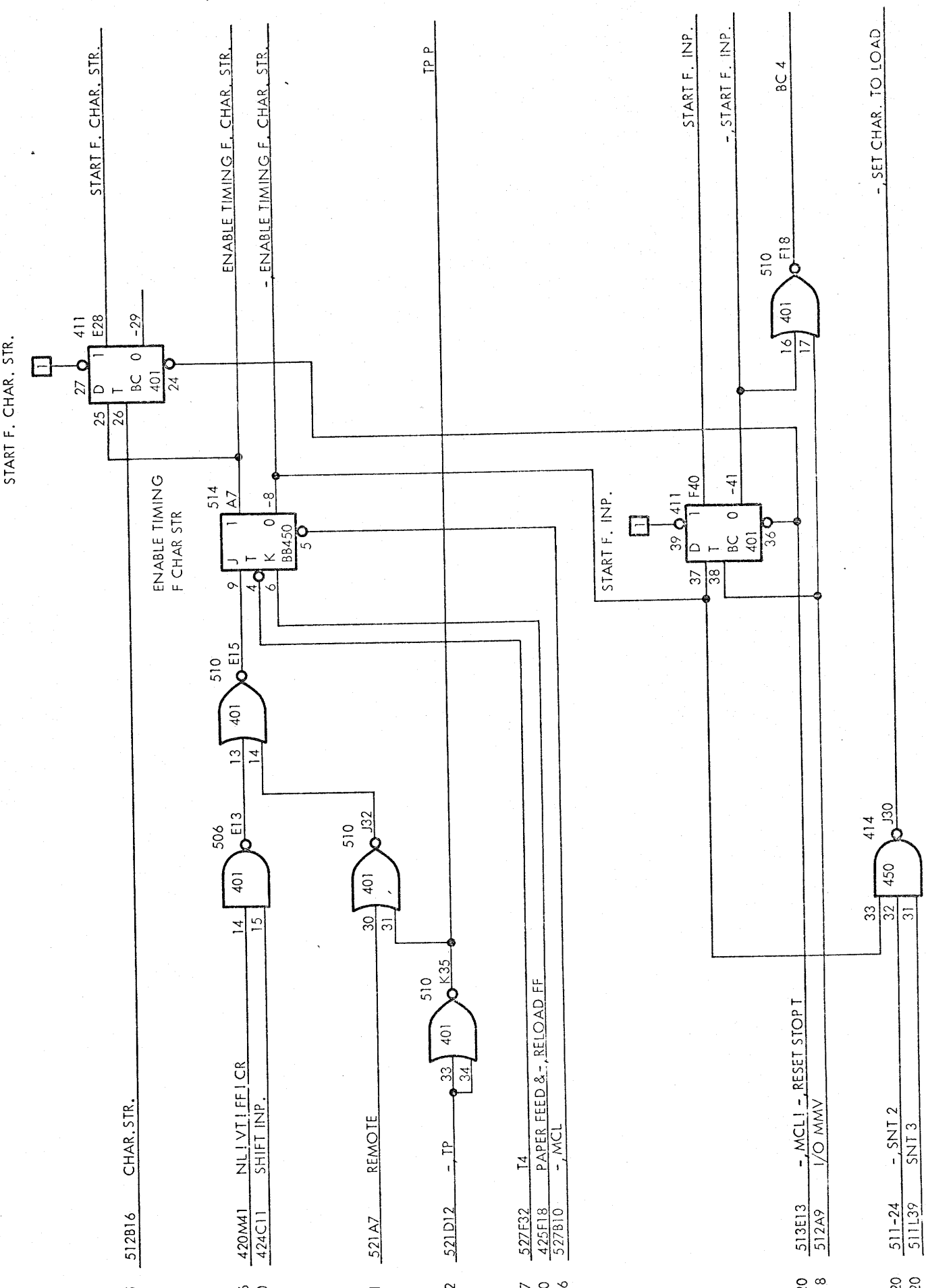

LINE MODE IND.
FORM MODE IND
PAPER FEED LOC. IND.
TESTPRINT IND.
LINE MODE
FORM MODE
PFL SWITCH
TP SWITCH
P1564-PP
69
P1564-U
J1564-U
P1563-U
J1563-U
P1564-Y
J1564-Y
P1563-Y
J1563-Y
P1564-J
J1564-J
P1563-J
J1563-J
P1564-D
J1564-D
P1563-D
J1563-D
DA457
+5V
+24V
DG401
401
J1563-X
J1563-W
P1563-X
P1563-W
J1564-X
J1564-W
P1564-X
P1564-W
J1563-H
J1563-F
P1563-H
P1563-F
J1564-H
J1564-F
P1564-H
P1564-F
- ON LINE SWITCH
22
LINE MODE/
FORM MODE SWITCH
TESTPRINT/PAPER FEED
LOCAL SWITCH
E-NC
E-NO
F-NC
F-NO
E-C
F-C

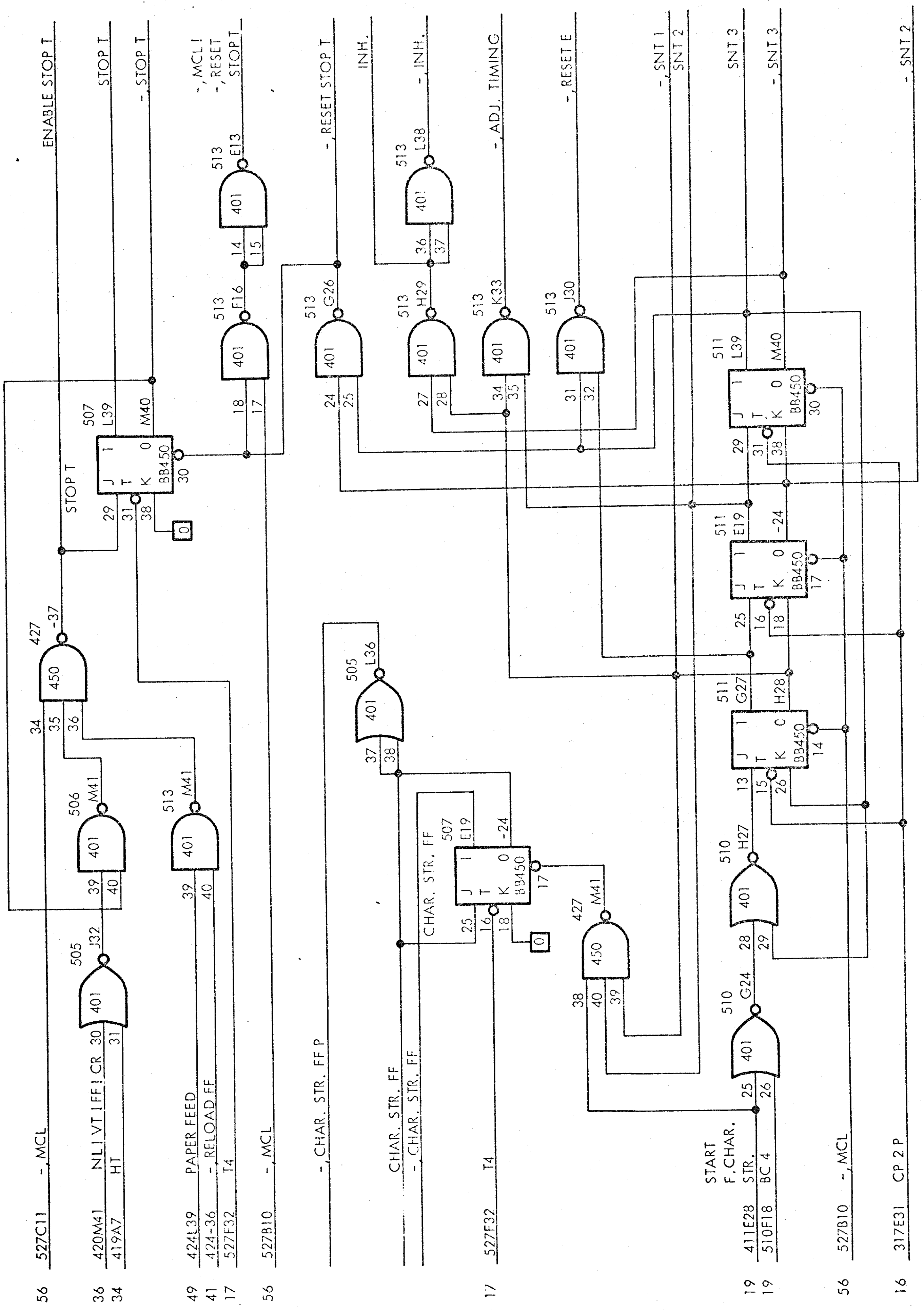

LOCAL START IND.
LOCAL STOP IND.
REMOTE IND.
LOCAL IND.
P1564-PP
69
A2
B3
A1
B4
C6
D7
C5
D8
P1564-L
P1564-K
P1564-CC
P1564-BB
J1564-L
J1564-K
J1564-CC
J1564-BB
P1563-L
P1563-K
P1563-CC
P1563-BB
J1563-L
J1563-K
J1563-CC
J1563-BB
128
A6
B8
C10
D12
DA457
+5V
+24V
516
401
C9
D12
L38
E13
519
A3
516L38 TP! PFL
521J35 STOP
521A7 REMOTE
521-8 -, REMOTE
521D12 -, TP
521H28 -, PFL
-, (STOP &- TP &- PFL)
-, TP & -, PFL
-, REMOTE! TP ! PFL
-, TP & -, PFL & REMOTE
TP ! PFL

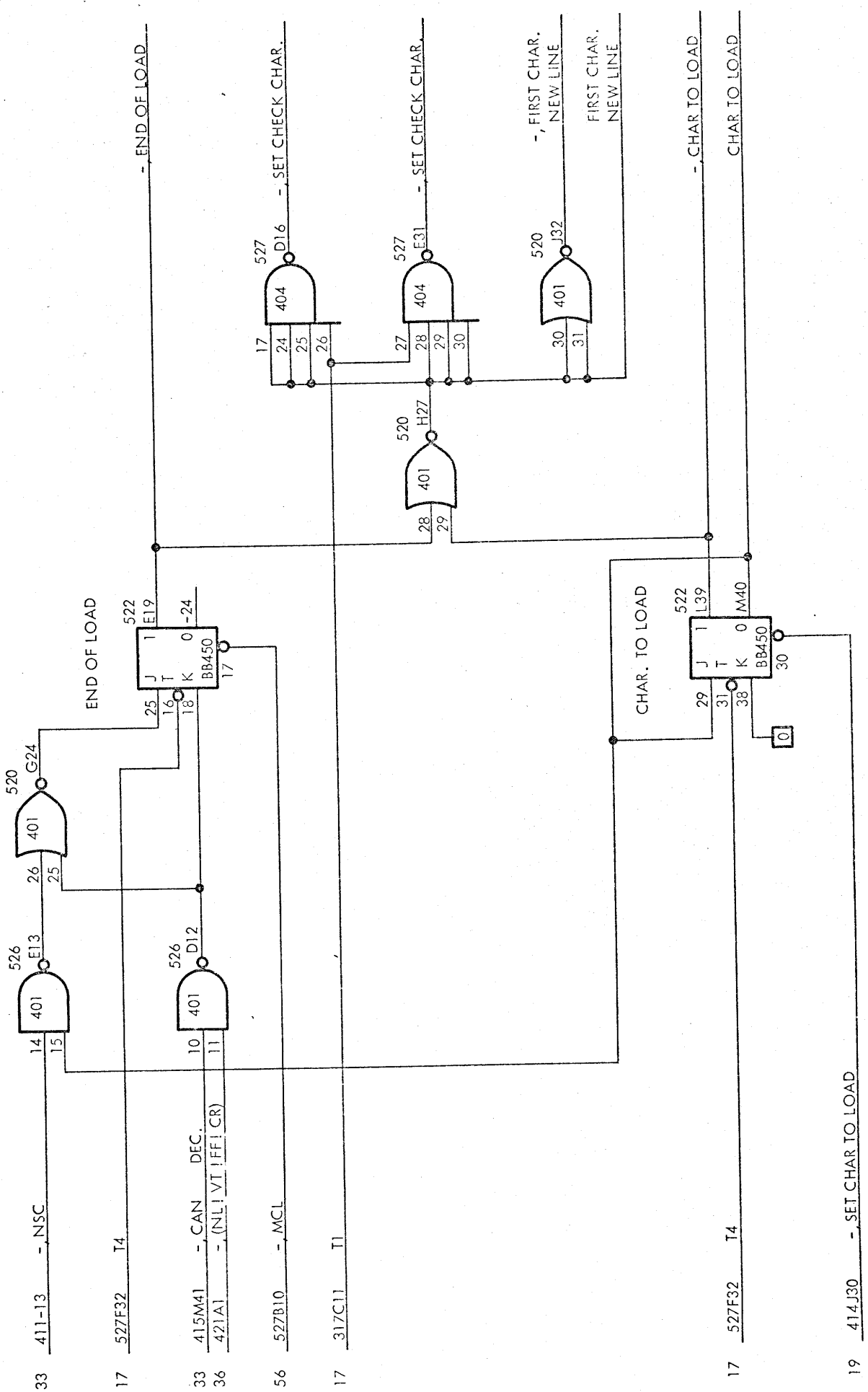

CP 5 MHZ
CP 2 P
PB - CP
317
E31
404
27
28
29
30
502
A7
-8
CP 2
J
T
K
BB450
1
0
5
9
4
6
501
A1
A2
A3
B7
B8
B9
CC401
4
5
6
10
11
12
527
A1
404
2
3
4
5
427
E13
450
14
15
16
505
F18
401
16
17
C
D
- E
F
502G27
502E19
502M40
503A2
17
17
17
17

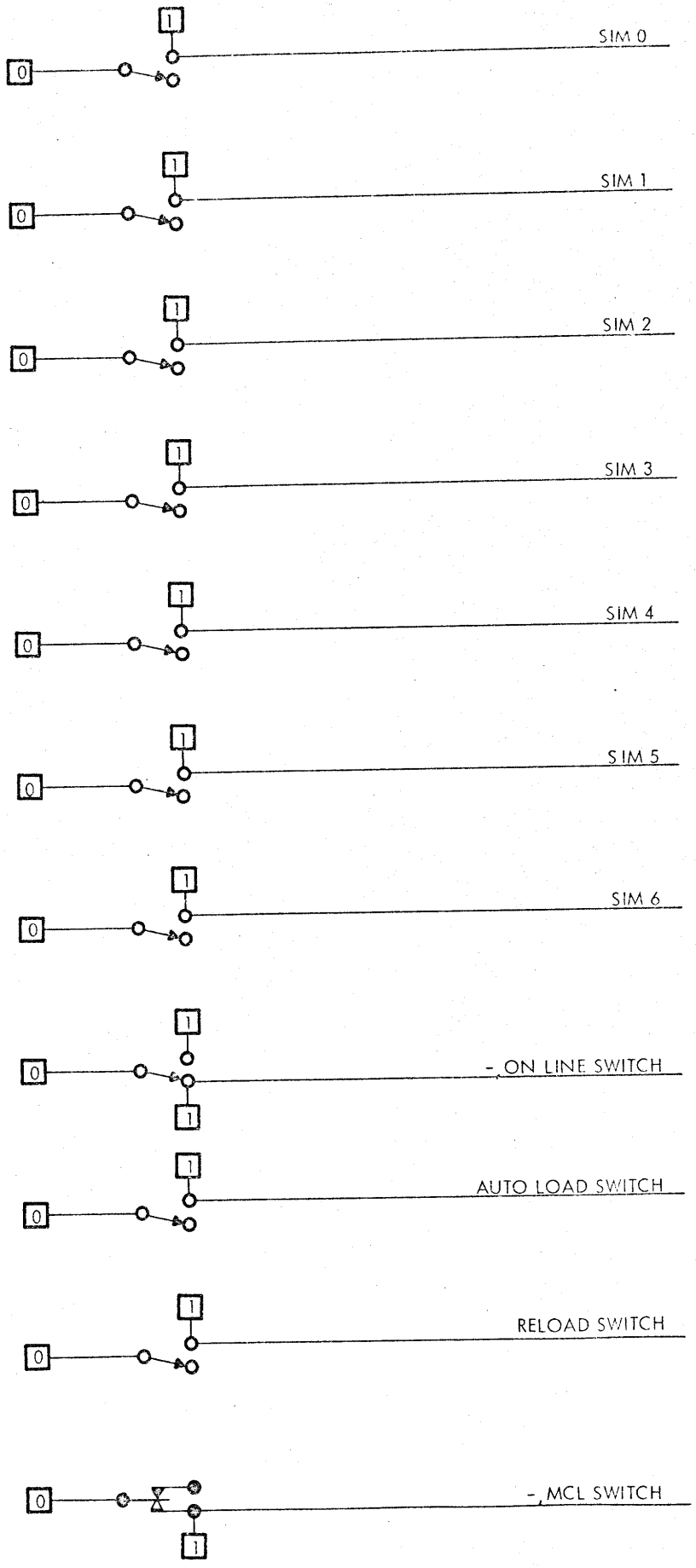

20 507M40 -, STOP T
20 513L38 -, INH
16 317E31 CP2P
20 513K33 -, ADJ TIMING
20 513H29 INH
20 513J30 -, RESET E
F
-, E
20 507L39 STOP T
33 411B14 NSC 13
40 424G27 FULL LINE14
527F32 T4
A
B
C
D
E
F
502 J35
502 C11
502 G27
502 E19
502 L39
503 A2
505 A3
505 B6 TA
506 A1 TB
505 C7 TC
505 D10
505 E15
506 B4
506 C9
317 F32
D
C -, T1
-, T2
-, T3
-, T4
TA
-, T3B
-, T3C
SHIFT REG 2
504 A1
504 B10
504 C11
504 D16
504 E31
504 F32
317 C11 T1
317 D16 T2
506 D12 T3
527 F32 T4
527 G41
506 F16 T3C

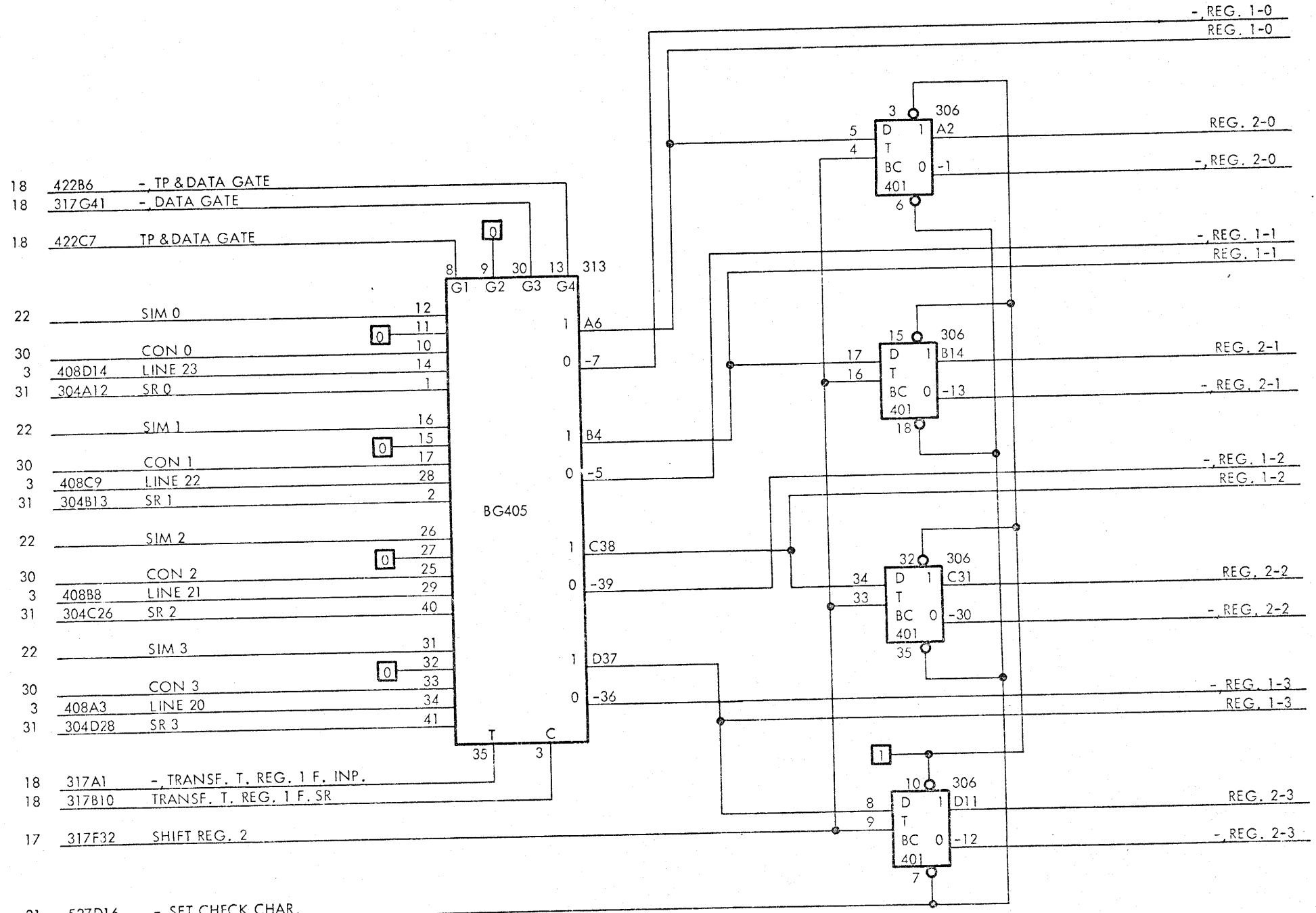

- DATA GATE
- TP &DATA GATE
TP&DATA GATE
I/O MMV
- TRANSF. T. REG 1 F. INP
- STROBE FOR ROS.
START CONV.
n-FF
n-FF
TRANSF. T. n-REG.
TRANSF. T. REG 1 F. SR
START F. INP.
- SNT2
- SNT3
TP
- TP
START
I/O MMV
CB402
400 nS
SNT2
- SNT1
REG1-4
REG1-5
- REG1-6
- REG1-7
ESC
- PF. INP.
START F. INP.
START CONV.
- ESC
T1
- SET CHECK CHAR.
- (NL ! VT) DEC.
- (NL ! VT) FF
- DEL. DEC.
START F. INP & RESET E
SHIFT INP.
T3C
CB402
200 nS

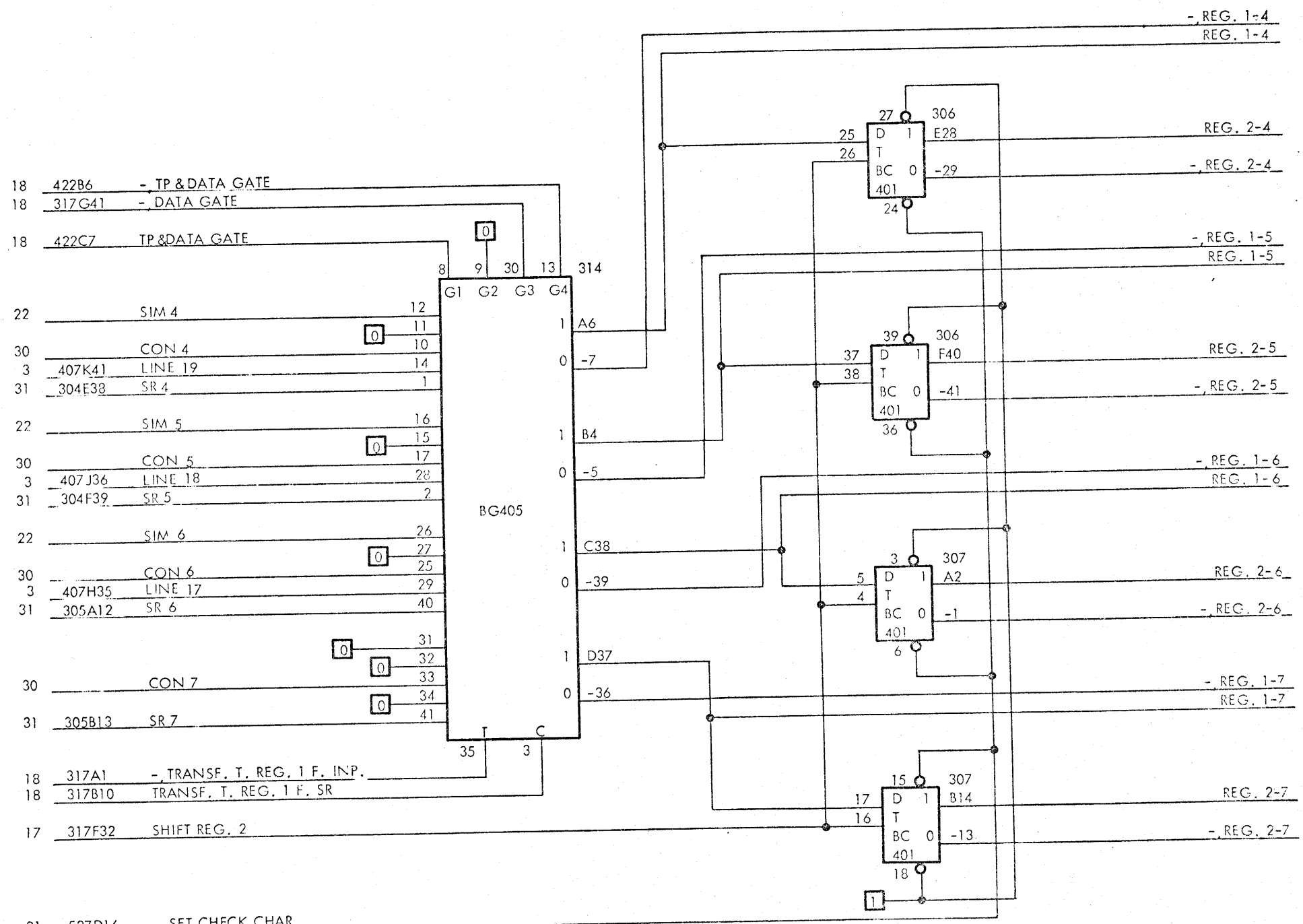

START F. CHAR. STR.
411 E28
START F. CHAR. STR.
ENABLE TIMING F. CHAR. STR.
- ENABLE TIMING F. CHAR. STR.
TP P
START F. INP.
- START F. INP.
BC 4
- SET CHAR. TO LOAD
ENABLE TIMING F CHAR STR
514 A7
BB450
510 E15
506 E13
510 J32
510 K35
411 F40
510 F18
414 J30
450
401
45 512B16 CHAR. STR.
36 420M41 NL ! VT ! FF ! CR
40 424C11 SHIFT INP.
11 521A7 REMOTE
12 521D12 - TP
17 527F32 T4
40 425F18 PAPER FEED &- RELOAD FF
56 527B10 - MCL
20 513E13 - MCL ! - RESET STOP T
18 512A9 I/O MMV
20 511-24 - SNT 2
20 511L39 SNT 3

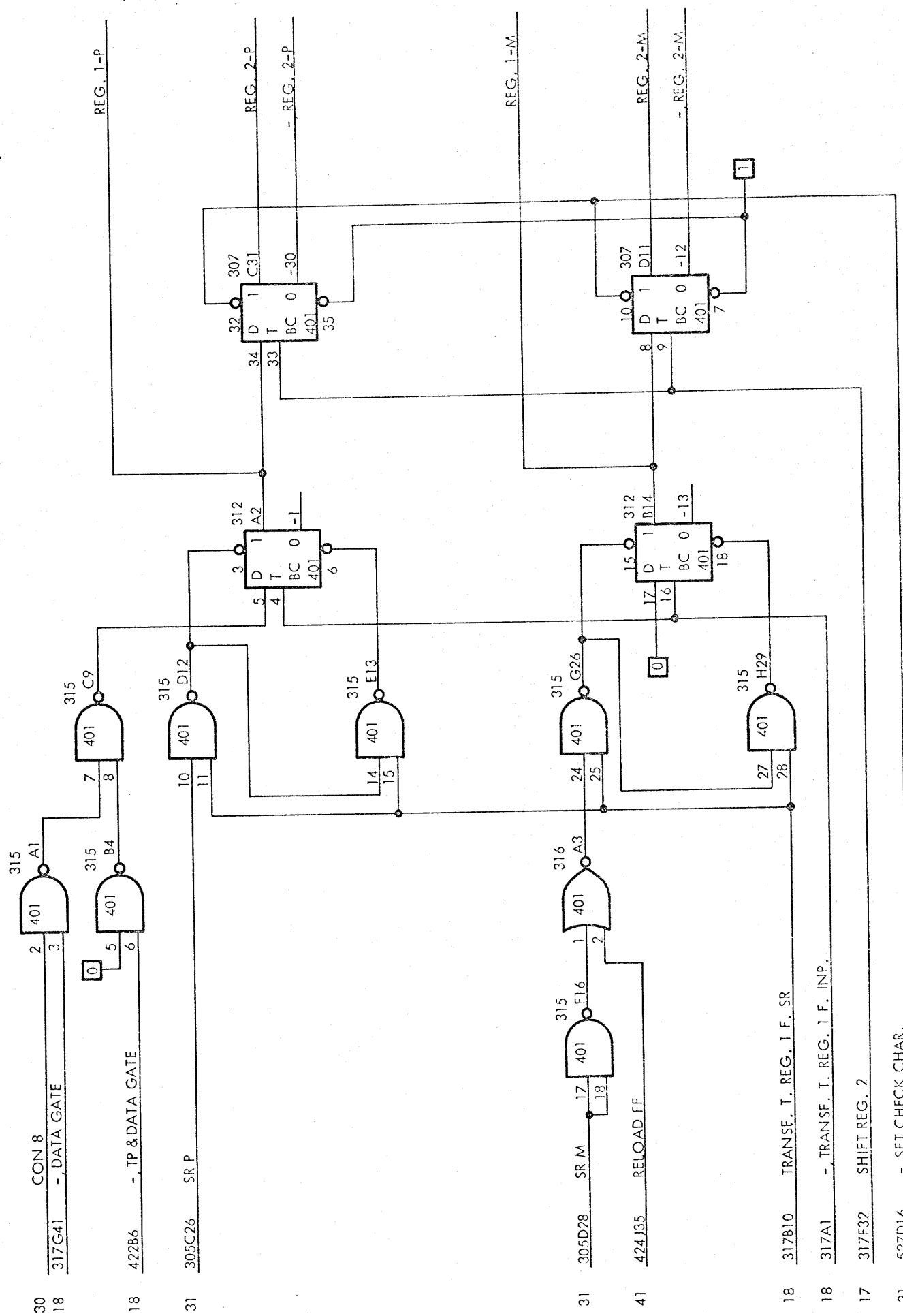

ENABLE STOP T
STOP T
- STOP T
- MCL !
- RESET
- STOP T
- RESET STOP T
INH.
- INH.
- ADJ. TIMING
- RESET E
- SNT 1
SNT 2
SNT 3
- SNT 3
- SNT 2
CHAR. STR. FF
527C11
- MCL
420M41
NL ! VT ! FF ! CR
419A7
HT
424L39
PAPER FEED
424-36
- RELOAD FF
527F32
T4
527B10
- MCL
- CHAR. STR. FF P
CHAR. STR. FF
- CHAR. STR. FF
527F32
T4
START
F.CHAR.
411E28
STR.
510F18
BC 4
527B10
- MCL
317E31
CP 2 P

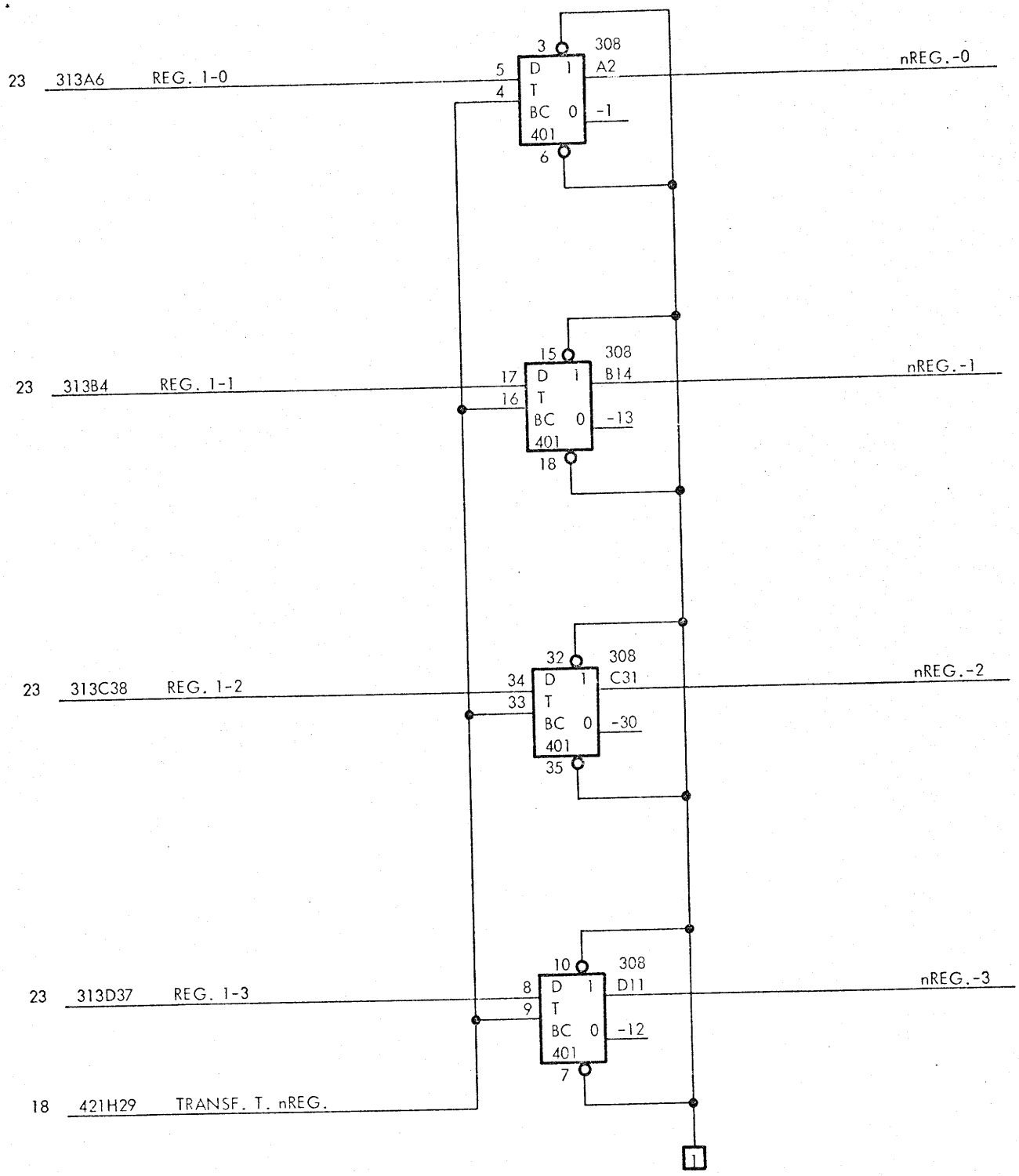

- END OF LOAD
- SET CHECK CHAR.
- SET CHECK CHAR.
- FIRST CHAR. NEW LINE
FIRST CHAR. NEW LINE
- CHAR TO LOAD
CHAR TO LOAD
END OF LOAD
CHAR. TO LOAD
- NSC
T4
- CAN DEC.
- (NL ! VT ! FF ! CR)
- MCL
T1
T4
- SET CHAR TO LOAD
411-13
527F32
415M41
421A1
527B10
317C11
527F32
414J30
BB450
401
404

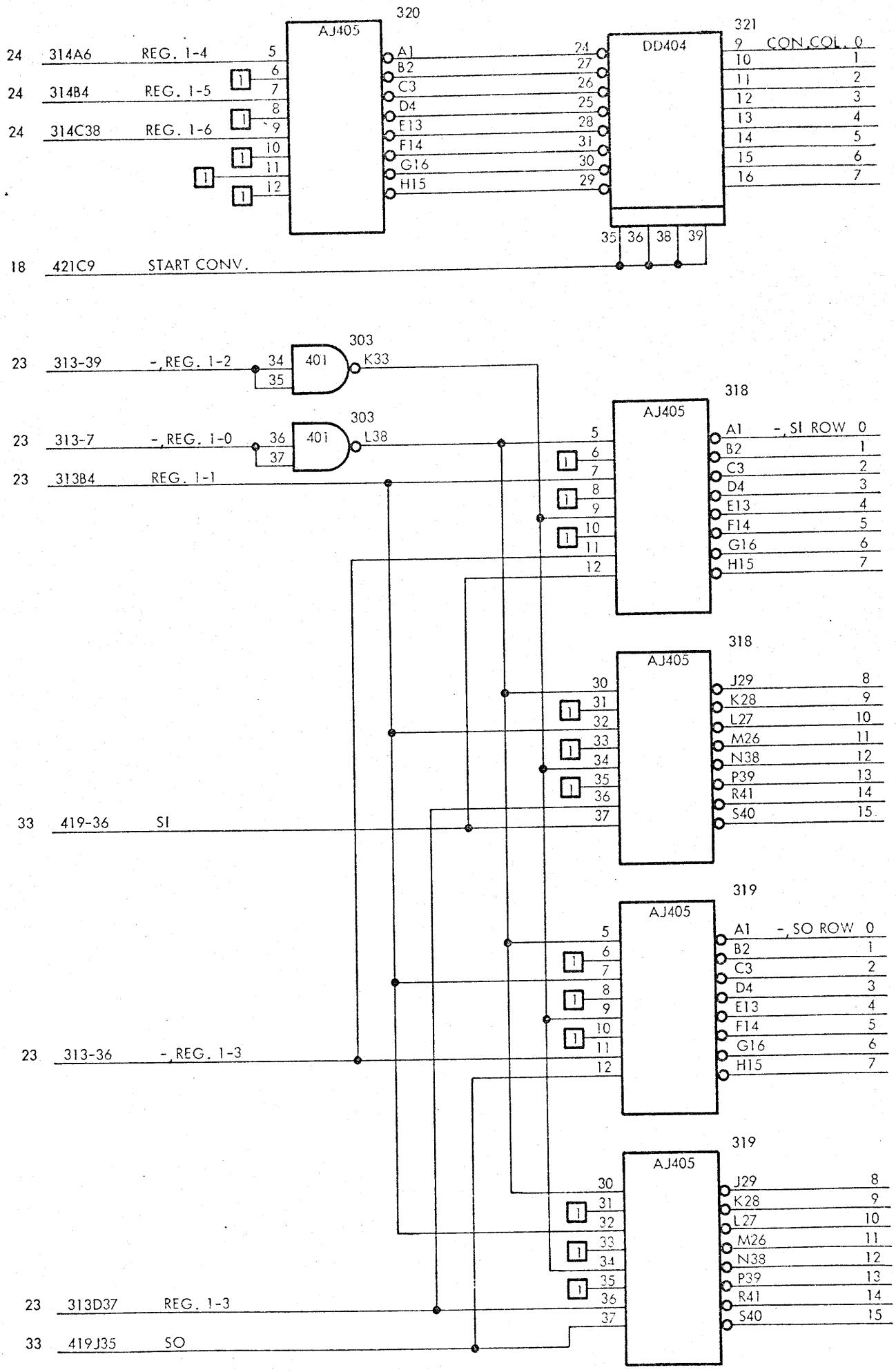

SIM 0
SIM 1
SIM 2
SIM 3
SIM 4
SIM 5
SIM 6
- ON LINE SWITCH
AUTO LOAD SWITCH
RELOAD SWITCH
- MCL SWITCH

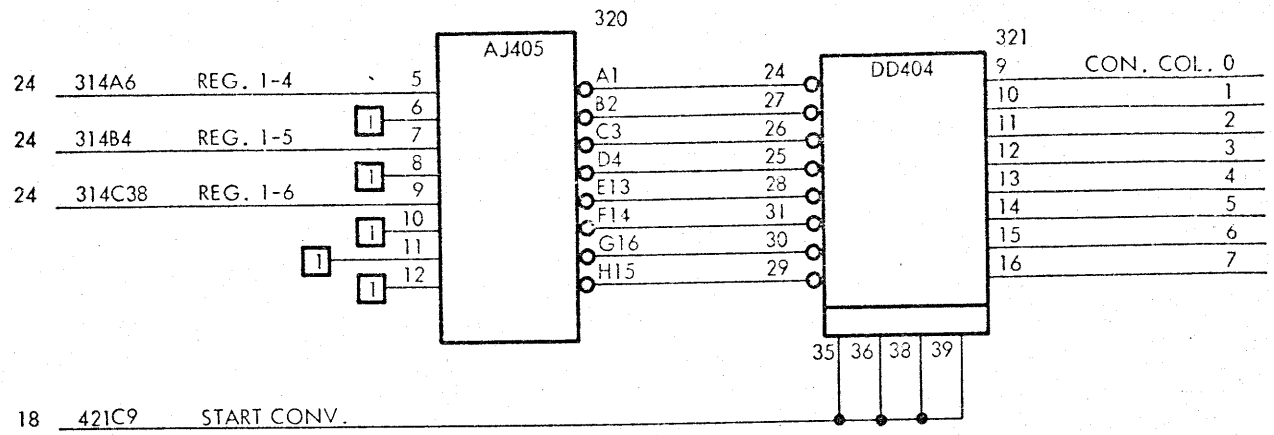

18 422B6 -, TP & DATA GATE
18 317G41 -, DATA GATE
18 422C7 TP & DATA GATE
22 SIM 0
30 CON 0
3 408D14 LINE 23
31 304A12 SR 0
22 SIM 1
30 CON 1
3 408C9 LINE 22
31 304B13 SR 1
22 SIM 2
30 CON 2
3 408B8 LINE 21
31 304C26 SR 2
22 SIM 3
30 CON 3
3 408A3 LINE 20
31 304D28 SR 3
18 317A1 -, TRANSF. T. REG. 1 F. INP.
18 317B10 TRANSF. T. REG. 1 F. SR
17 317F32 SHIFT REG. 2
21 527D16 -, SET CHECK CHAR.
BG405
G1 G2 G3 G4
A6
-7
B4
-5
C38
-39
D37
-36
T C
306
A2
B14
C31
D11
-1
-13
-30
-12
-, REG. 1-0
REG. 1-0
REG. 2-0
-, REG. 2-0
-, REG. 1-1
REG. 1-1
REG. 2-1
-, REG. 2-1
-, REG. 1-2
REG. 1-2
REG. 2-2
-, REG. 2-2
-, REG. 1-3
REG. 1-3
REG. 2-3
-, REG. 2-3

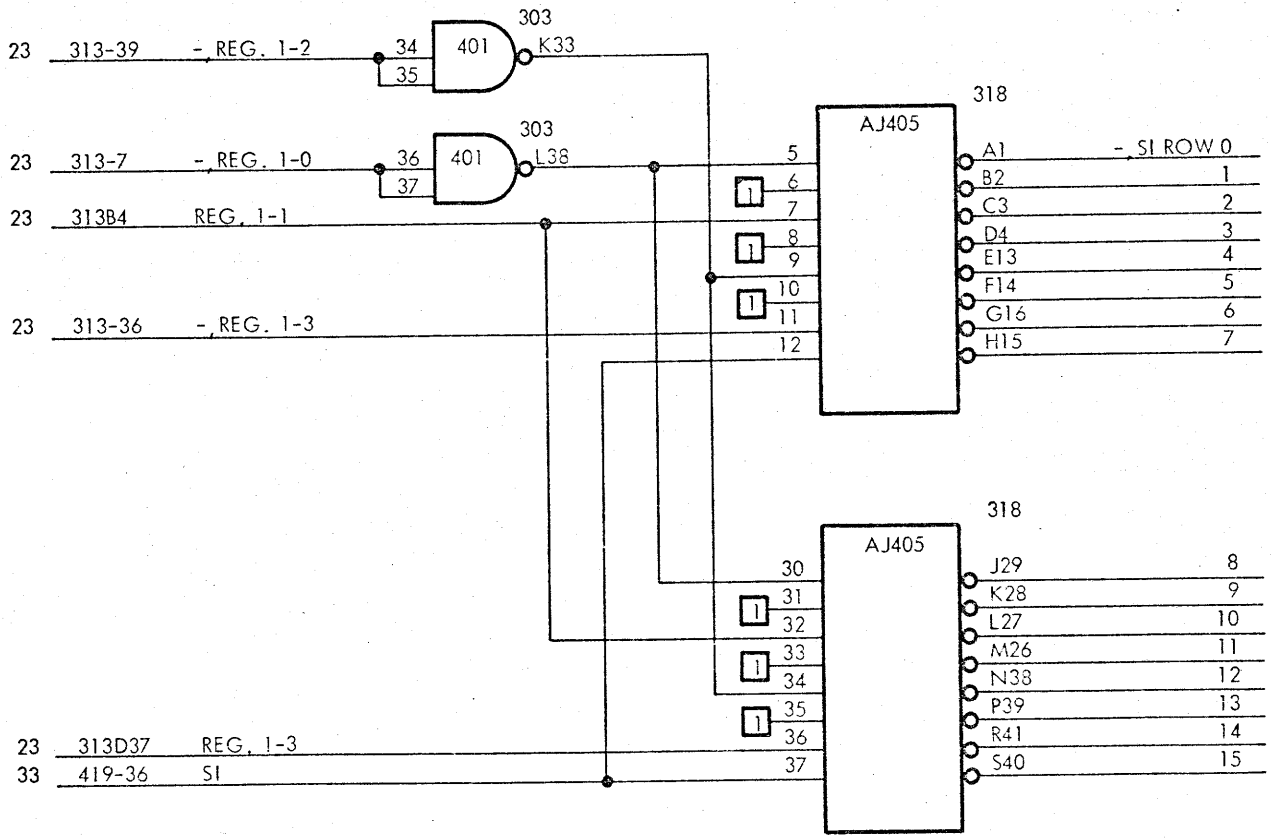

18 422B6 - TP & DATA GATE
18 317G41 - DATA GATE
18 422C7 TP & DATA GATE
22 SIM 4
30 CON 4
3 407K41 LINE 19
31 304E38 SR 4
22 SIM 5
30 CON 5
3 407J36 LINE 18
31 304F39 SR 5
22 SIM 6
30 CON 6
3 407H35 LINE 17
31 305A12 SR 6
30 CON 7
31 305B13 SR 7
18 317A1 -, TRANSF. T. REG. 1 F. INP.
18 317B10 TRANSF. T. REG. 1 F. SR
17 317F32 SHIFT REG. 2
21 527D16 -, SET CHECK CHAR.
BG405
G1 G2 G3 G4
T C
314
A6
-7
B4
-5
C38
-39
D37
-36
306 E28
306 F40
307 A2
307 B14
BC 0
401
-29
-41
-1
-13
-, REG. 1-4
REG. 1-4
REG. 2-4
-, REG. 2-4
-, REG. 1-5
REG. 1-5
REG. 2-5
-, REG. 2-5
-, REG. 1-6
REG. 1-6
REG. 2-6
-, REG. 2-6
-, REG. 1-7
REG. 1-7
REG. 2-7
-, REG. 2-7

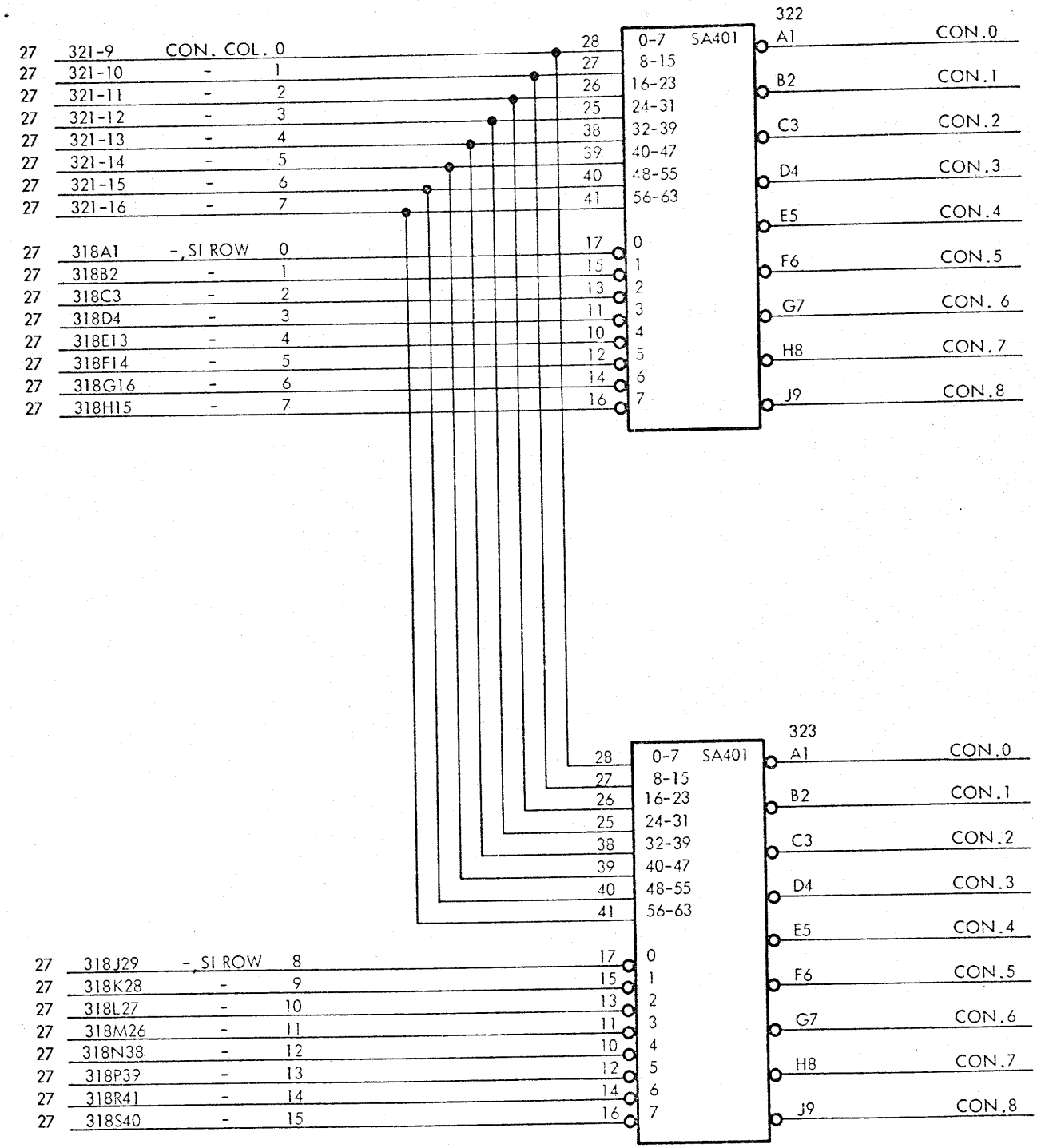

REG. 1-P
REG. 2-P
- REG. 2-P
REG. 1-M
REG. 2-M
- REG. 2-M
307 C31
307 D11
312 A2
312 B14
315 C9
315 D12
315 E13
315 G26
315 H29
315 A1
315 B4
316 A3
315 F16
CON 8
317G41 - DATA GATE
422B6 - TP & DATA GATE
305C26 SR P
305D28 SR M
424J35 RELOAD FF
317B10 TRANSF. T. REG. 1 F. SR
317A1 - TRANSF. T. REG. 1 F. INP.
317F32 SHIFT REG. 2
527D16 - SET CHECK CHAR.

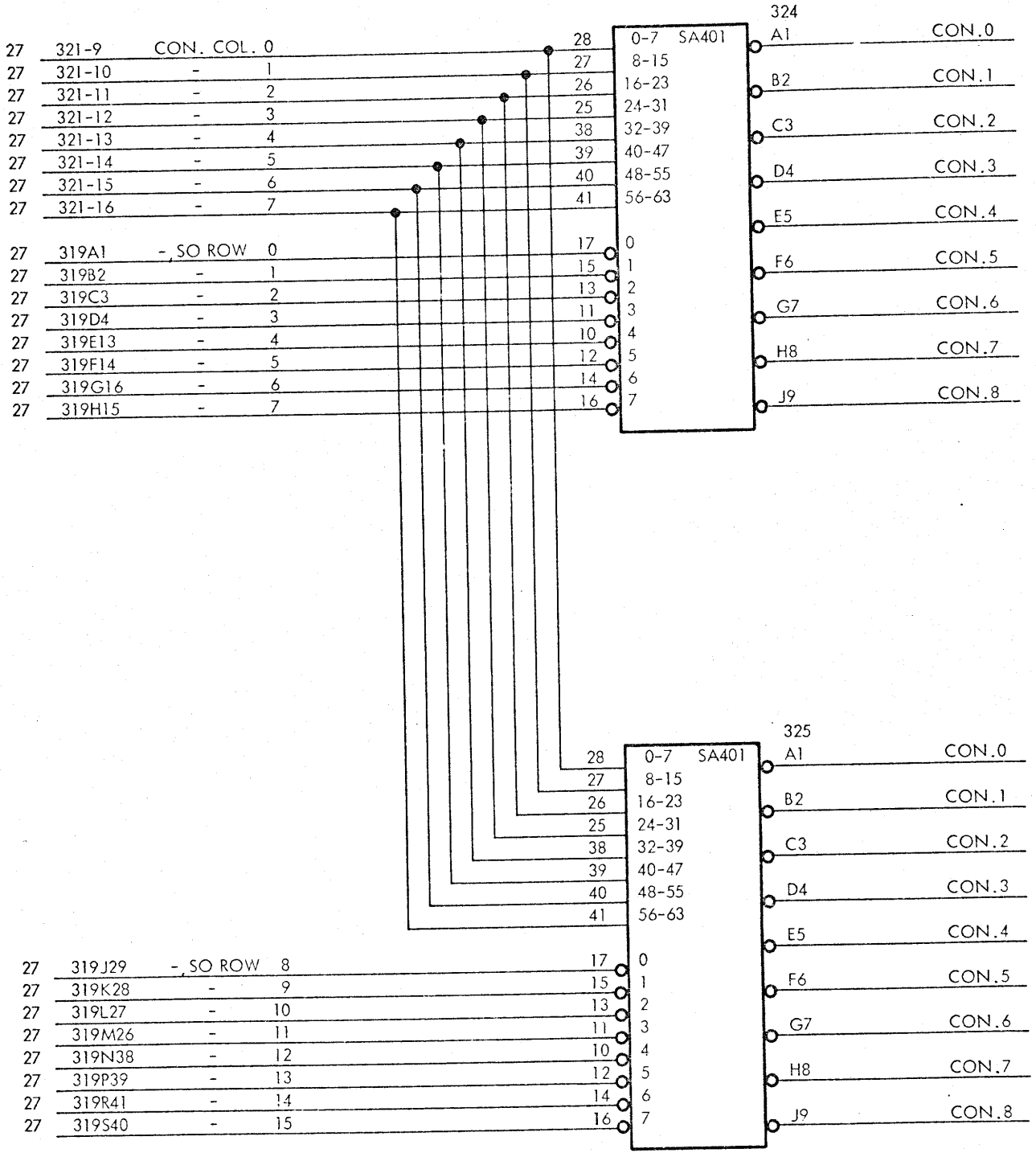

23 313A6 REG. 1-0
3
308
A2
5
4
D 1
T
BC 0
401
-1
6
nREG.-0
23 313B4 REG. 1-1
15
308
B14
17
16
D 1
T
BC 0
401
-13
18
nREG.-1
23 313C38 REG. 1-2
32
308
C31
34
33
D 1
T
BC 0
401
-30
35
nREG.-2
23 313D37 REG. 1-3
10
308
D11
8
9
D 1
T
BC 0
401
-12
7
nREG.-3
18 421H29 TRANSF. T. nREG.
1

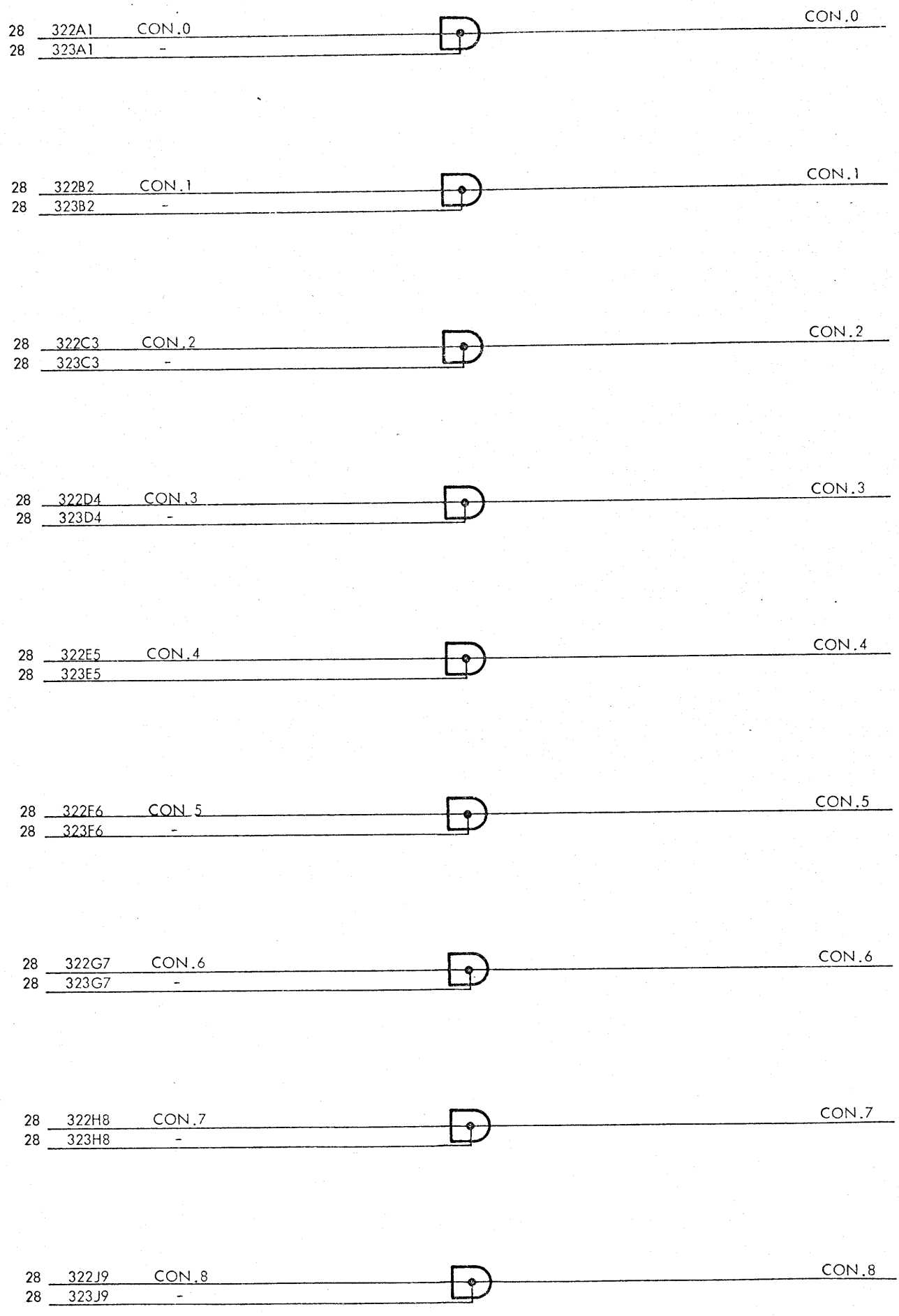

320
AJ405
321
DD404
CON.COL. 0
24 314A6 REG. 1-4
24 314B4 REG. 1-5
24 314C38 REG. 1-6
18 421C9 START CONV.
303
401
K33
L38
23 313-39 -, REG. 1-2
23 313-7 -, REG. 1-0
23 313B4 REG. 1-1
318
SI ROW 0
319
SO ROW 0
33 419-36 SI
23 313-36 -, REG. 1-3
23 313D37 REG. 1-3
33 419J35 SO

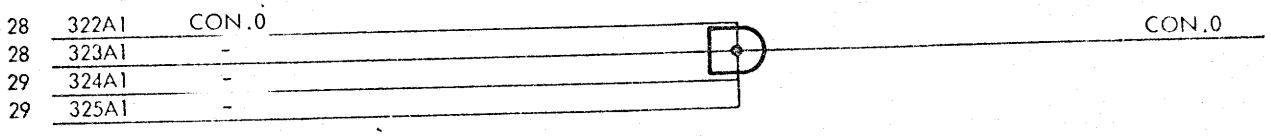

320
AJ405
321
DD404
24 314A6 REG. 1-4
24 314B4 REG. 1-5
24 314C38 REG. 1-6
18 421C9 START CONV.
A1
B2
C3
D4
E13
F14
G16
H15
CON. COL. 0
CON. COL. 1
CON. COL. 2
CON. COL. 3
CON. COL. 4
CON. COL. 5
CON. COL. 6
CON. COL. 7

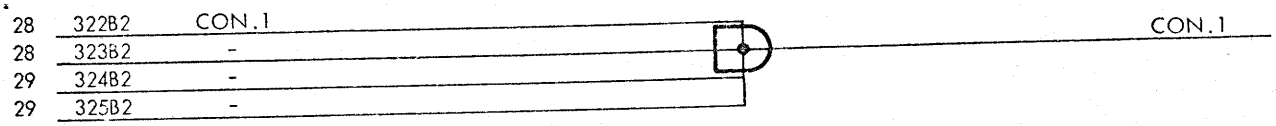

303
401
K33
L38
318
AJ405
23 313-39 - REG. 1-2
23 313-7 - REG. 1-0
23 313B4 REG. 1-1
23 313-36 - REG. 1-3
23 313D37 REG. 1-3
33 419-36 SI
- SI ROW 0
- SI ROW 1
- SI ROW 2
- SI ROW 3
- SI ROW 4
- SI ROW 5
- SI ROW 6
- SI ROW 7
J29
K28
L27
M26
N38
P39
R41
S40

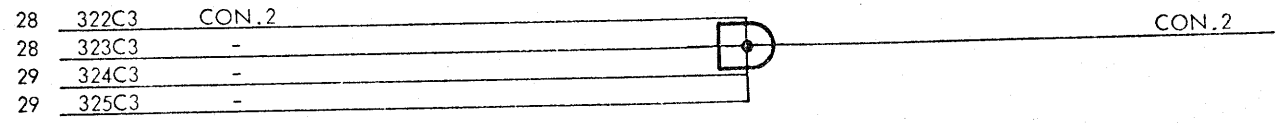

322
323
SA401
0-7
8-15
16-23
24-31
32-39
40-47
48-55
56-63
A1
B2
C3
D4
E5
F6
G7
H8
J9
CON.0
CON.1
CON.2
CON.3
CON.4
CON.5
CON.6
CON.7
CON.8
CON. COL. 0
SI ROW 0
SI ROW 8
321-9
321-10
321-11
321-12
321-13
321-14
321-15
321-16
318A1
318B2
318C3
318D4
318E13
318F14
318G16
318H15
318J29
318K28
318L27
318M26
318N38
318P39
318R41
318S40

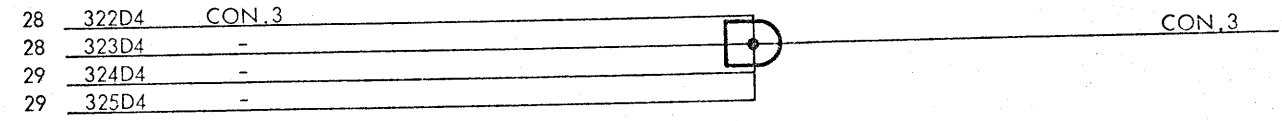

324
325
SA401
0-7
8-15
16-23
24-31
32-39
40-47
48-55
56-63
A1
B2
C3
D4
E5
F6
G7
H8
J9
CON.0
CON.1
CON.2
CON.3
CON.4
CON.5
CON.6
CON.7
CON.8
CON. COL. 0
SO ROW 0
SO ROW 8
321-9
321-10
321-11
321-12
321-13
321-14
321-15
321-16
319A1
319B2
319C3
319D4
319E13
319F14
319G16
319H15
319J29
319K28
319L27
319M26
319N38
319P39
319R41
319S40

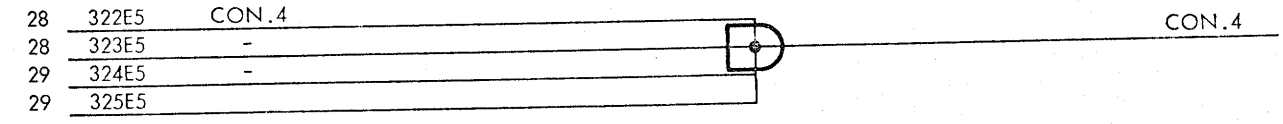

28 322A1 CON.0
28 323A1 -
CON.0
28 322B2 CON.1
28 323B2 -
CON.1
28 322C3 CON.2
28 323C3 -
CON.2
28 322D4 CON.3
28 323D4 -
CON.3
28 322E5 CON.4
28 323E5
CON.4
28 322F6 CON.5
28 323F6 -
CON.5
28 322G7 CON.6
28 323G7 -
CON.6
28 322H8 CON.7
28 323H8 -
CON.7
28 322J9 CON.8
28 323J9 -
CON.8

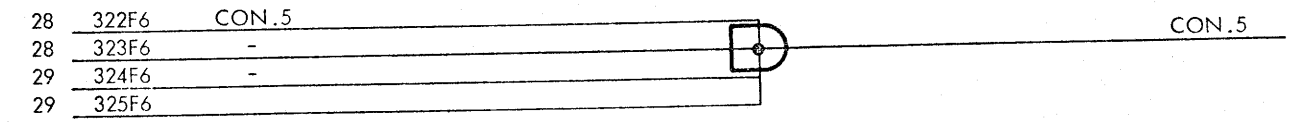

28 322A1 CON.0
28 323A1 -
29 324A1 -
29 325A1 -
CON.0

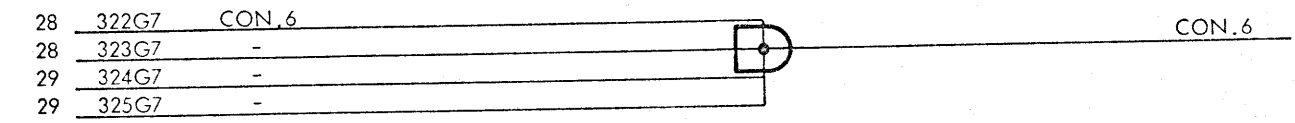

28 322B2 CON.1
28 323B2 -
29 324B2 -
29 325B2 -
CON.1

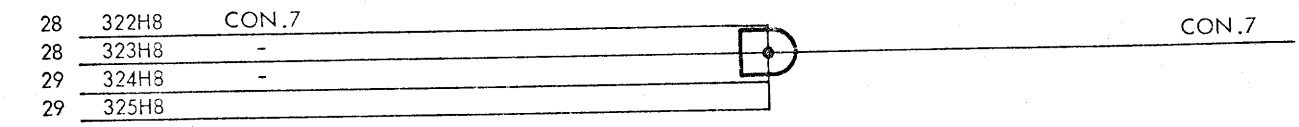

28 322C3 CON.2
28 323C3 -
29 324C3 -
29 325C3 -
CON.2

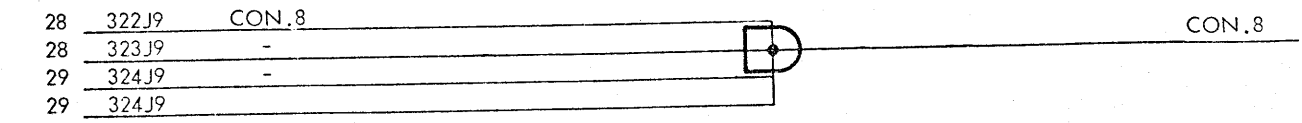

28 322D4 CON.3
28 323D4 -
29 324D4 -
29 325D4 -
CON.3

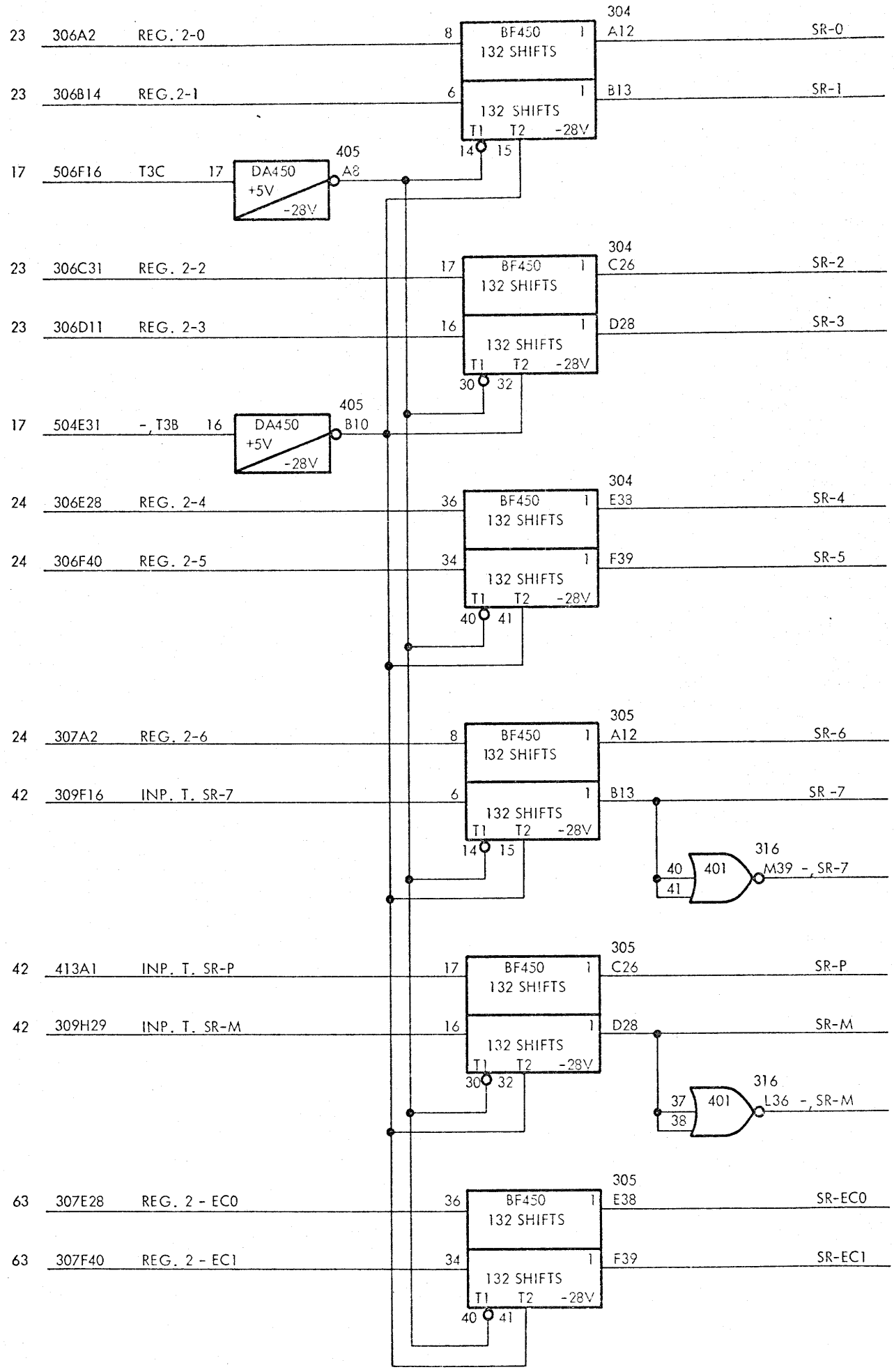

28 322E5 CON.4
28 323E5 -
29 324E5 -
29 325E5
CON.4

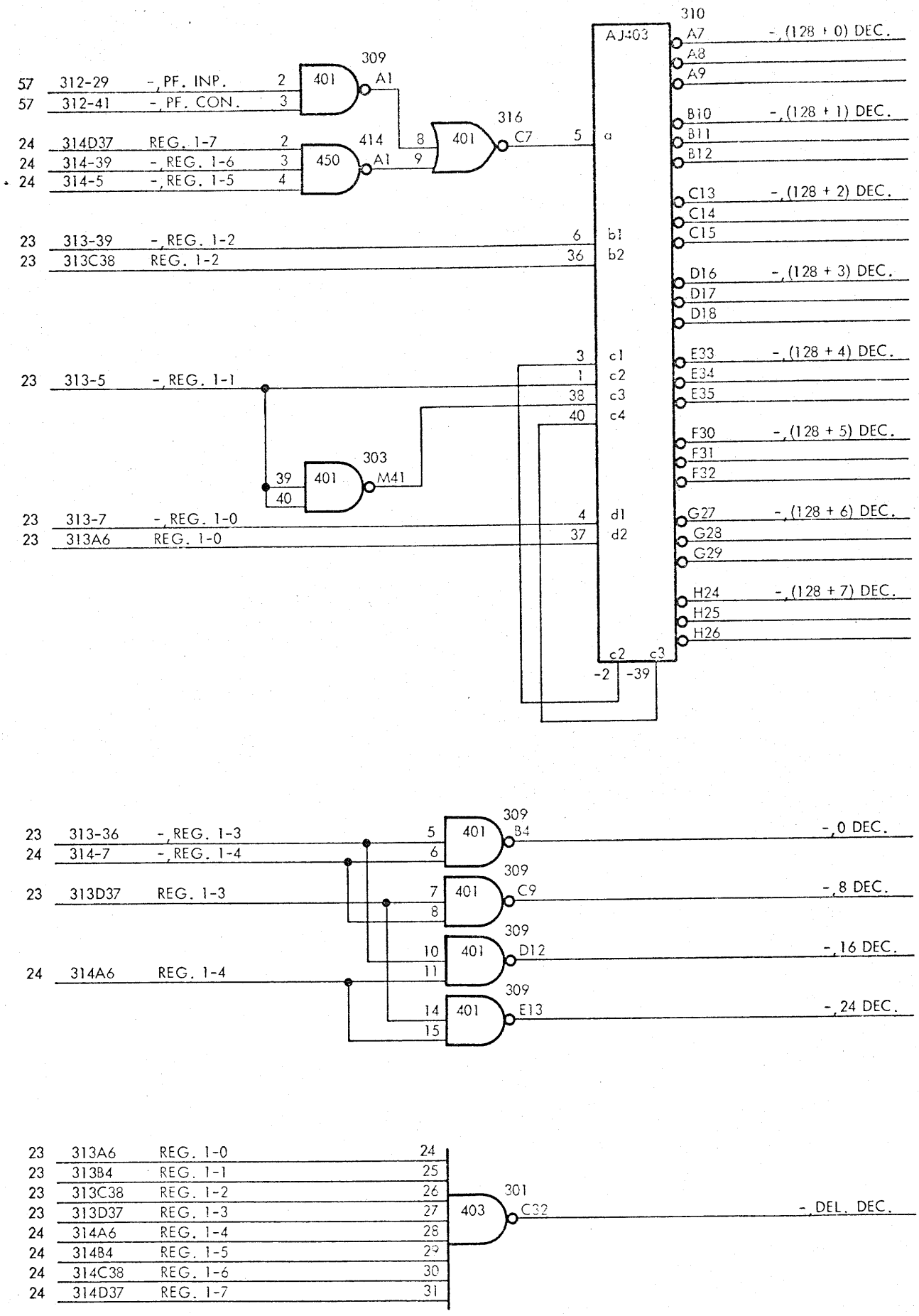

28 322F6 CON.5
28 323F6 -
29 324F6 -
29 325F6
CON.5

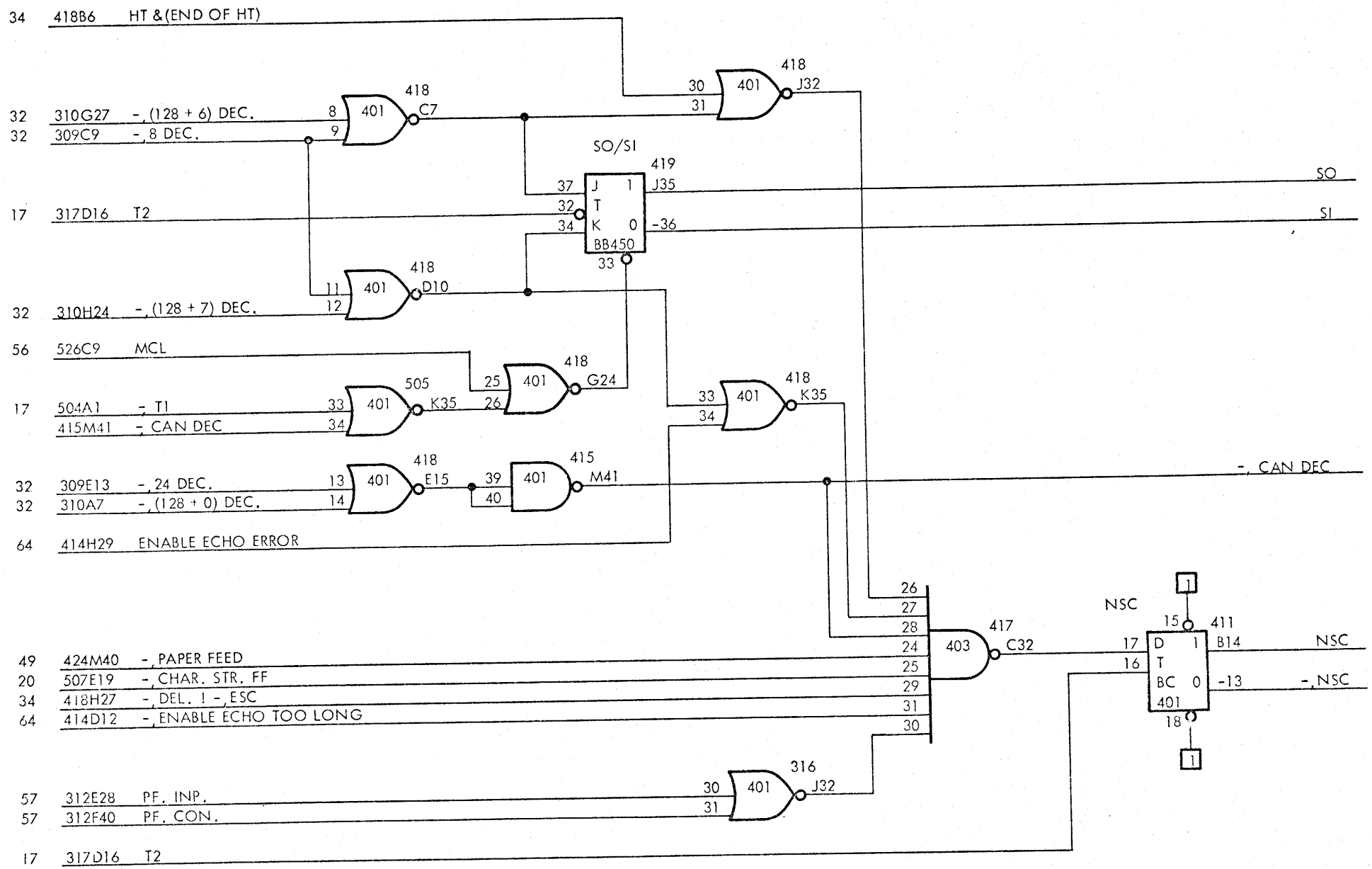

28 322G7 CON.6
28 323G7 -
29 324G7 -
29 325G7 -
CON.6

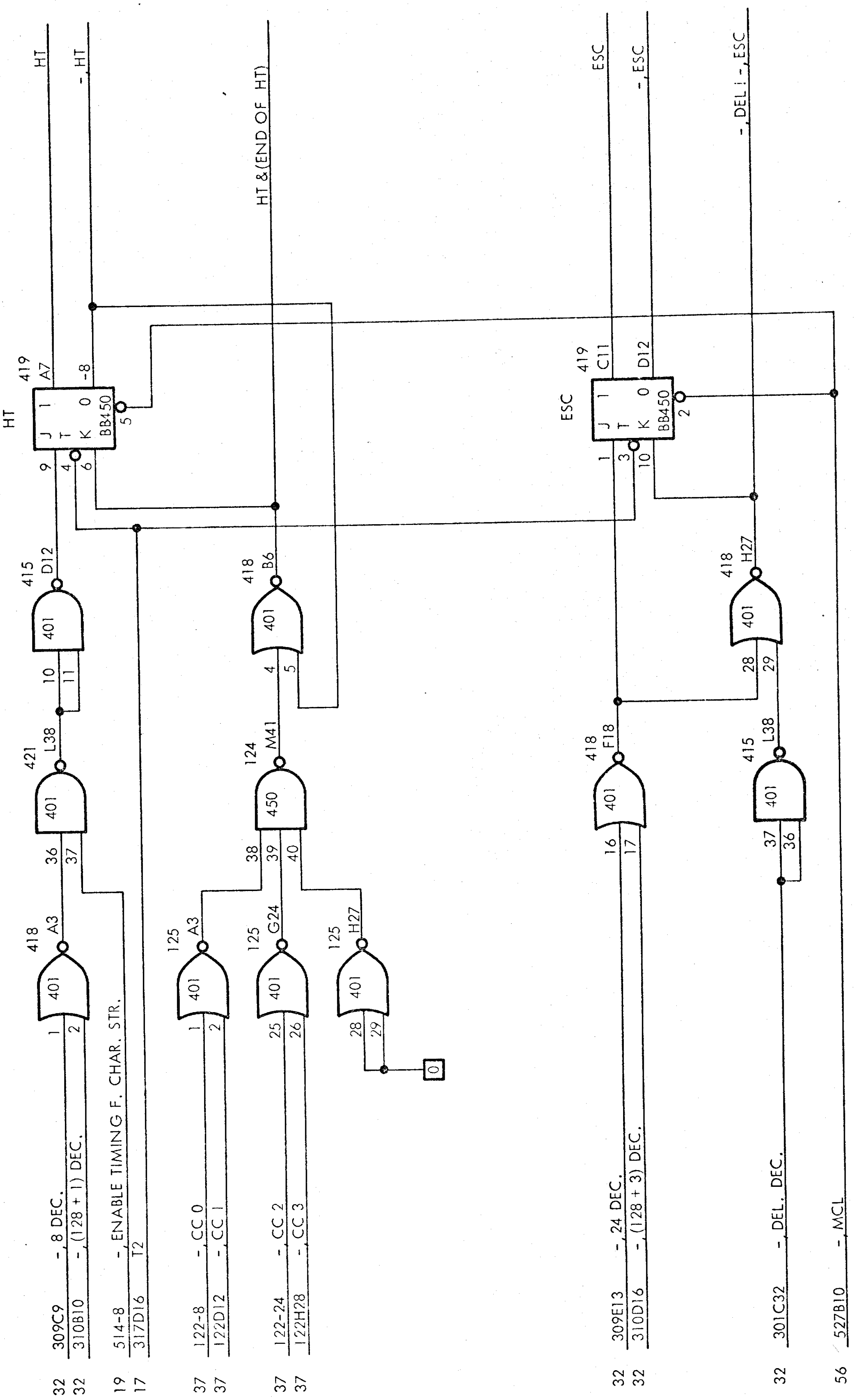

28 322H8 CON.7
28 323H8 -
29 324H8 -
29 325H8
CON.7

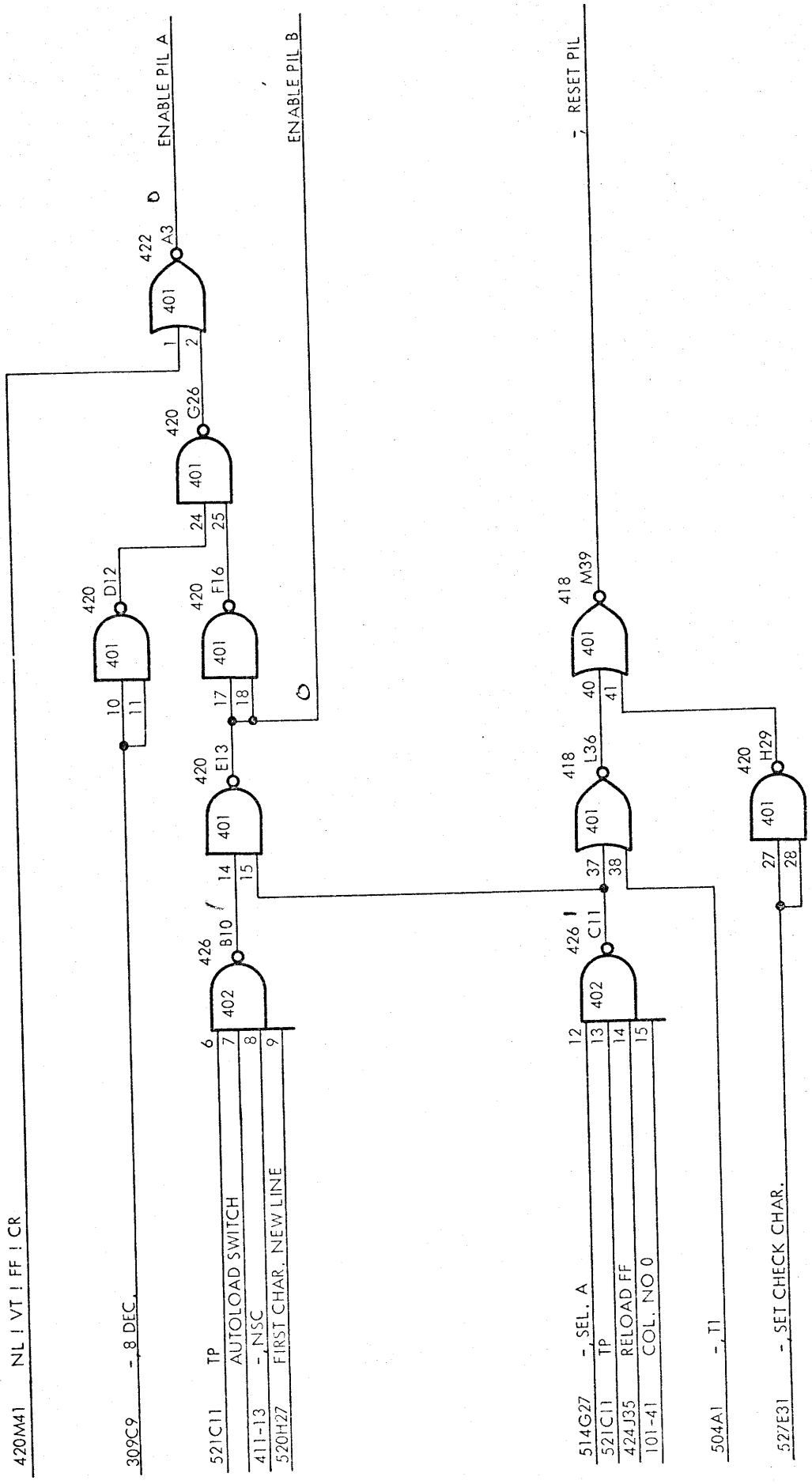

28 322J9 CON.8
28 323J9 -
29 324J9 -
29 324J9
CON.8

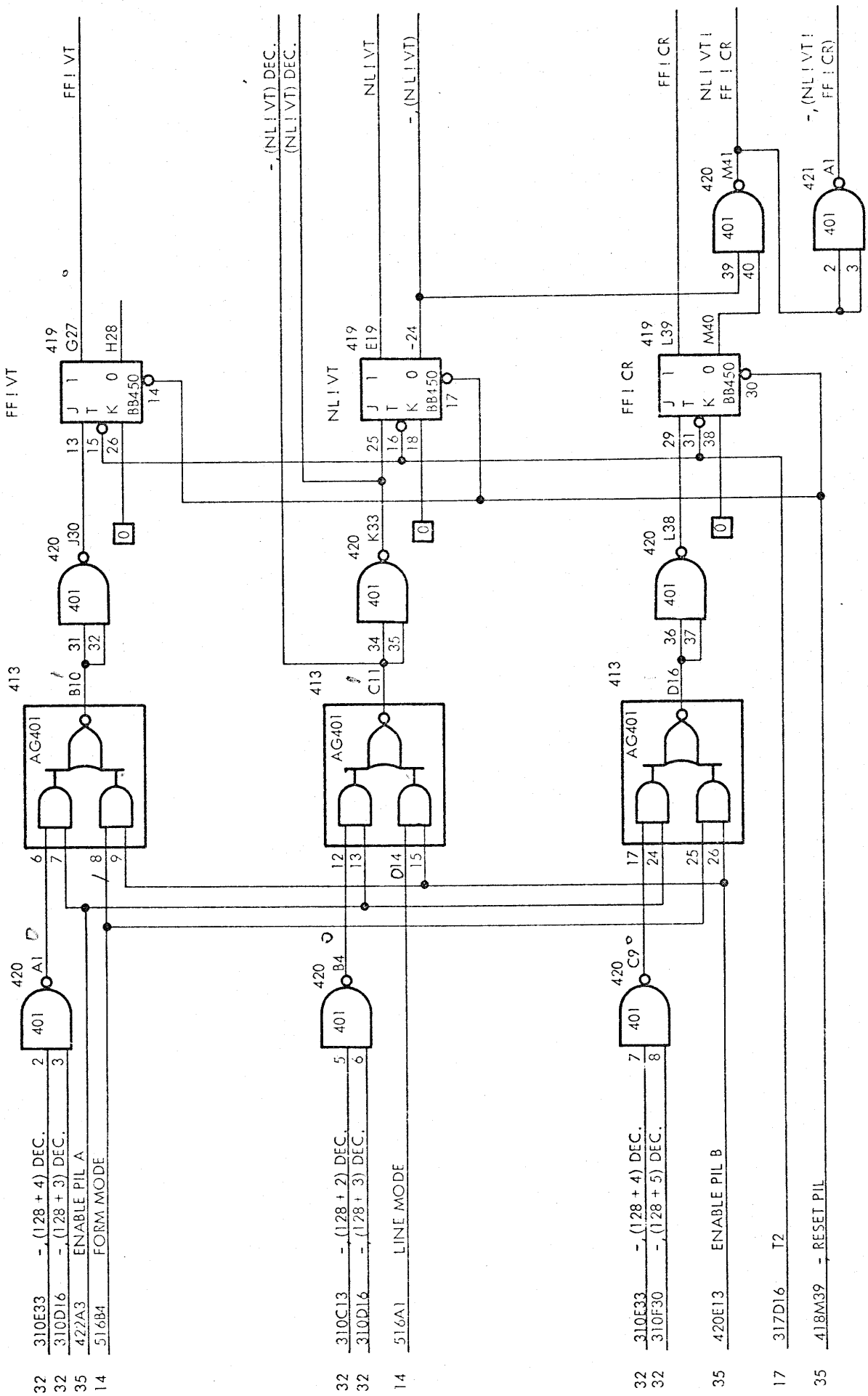

23 306A2 REG. 2-0
8
BF450
132 SHIFTS
1
304
A12
SR-0
23 306B14 REG. 2-1
6
132 SHIFTS
T1 T2 -28V
B13
SR-1
14 15
17 506F16 T3C 17
DA450
+5V
-28V
405
A8
23 306C31 REG. 2-2
17
C26
SR-2
23 306D11 REG. 2-3
16
D28
SR-3
30 32
17 504E31 -, T3B 16
B10
24 306E28 REG. 2-4
36
E33
SR-4
24 306F40 REG. 2-5
34
F39
SR-5
40 41
24 307A2 REG. 2-6
305
SR-6
42 309F16 INP. T. SR-7
SR -7
316
40
401
41
M39 -, SR-7
42 413A1 INP. T. SR-P
SR-P
42 309H29 INP. T. SR-M
SR-M
37
38
L36 -, SR-M
63 307E28 REG. 2 - EC0
SR-EC0
63 307F40 REG. 2 - EC1
SR-EC1

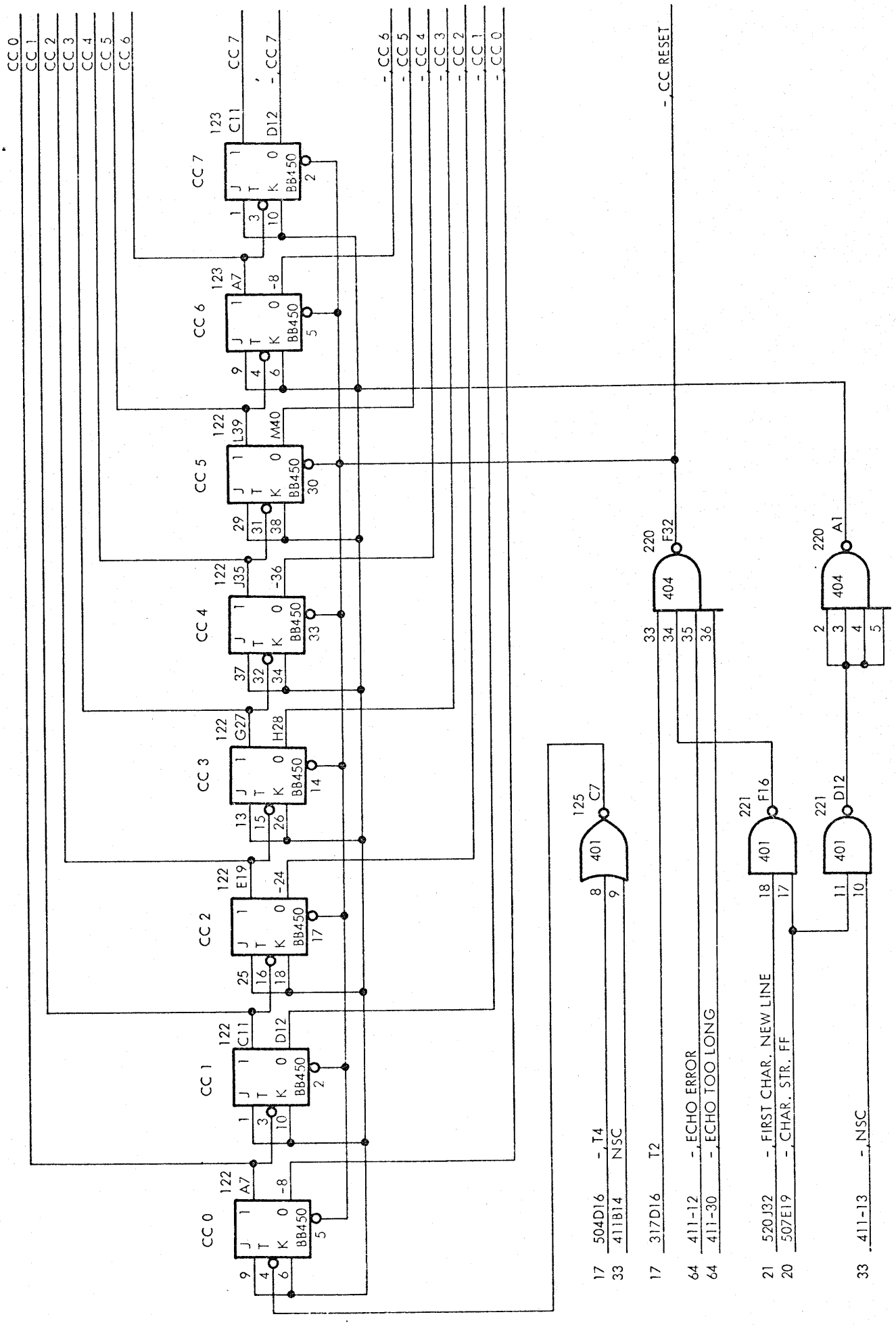

57 312-29 -,PF. INP. 2
57 312-41 -,PF. CON. 3
309
401
A1
24 314D37 REG. 1-7 2
24 314-39 -,REG. 1-6 3
24 314-5 -,REG. 1-5 4
450
414
A1
8
9
401
316
C7
5
23 313-39 -,REG. 1-2 6
23 313C38 REG. 1-2 36
23 313-5 -,REG. 1-1
39
40
401
303
M41
23 313-7 -,REG. 1-0
23 313A6 REG. 1-0
AJ403
a
b1
b2
c1
c2
c3
c4
d1
d2
3
1
38
40
4
37
c2
c3
-2
-39
310
A7 -,(128 + 0) DEC.
A8
A9
B10 -,(128 + 1) DEC.
B11
B12
C13 -,(128 + 2) DEC.
C14
C15
D16 -,(128 + 3) DEC.
D17
D18
E33 -,(128 + 4) DEC.
E34
E35
F30 -,(128 + 5) DEC.
F31
F32
G27 -,(128 + 6) DEC.
G28
G29
H24 -,(128 + 7) DEC.
H25
H26
23 313-36 -,REG. 1-3
24 314-7 -,REG. 1-4
23 313D37 REG. 1-3
24 314A6 REG. 1-4
5
6
7
8
10
11
14
15
401
309
B4
C9
D12
E13
-,0 DEC.
-,8 DEC.
-,16 DEC.
-,24 DEC.
23 313A6 REG. 1-0 24
23 313B4 REG. 1-1 25
23 313C38 REG. 1-2 26
23 313D37 REG. 1-3 27
24 314A6 REG. 1-4 28
24 314B4 REG. 1-5 29
24 314C38 REG. 1-6 30
24 314D37 REG. 1-7 31
403
301
C32
-,DEL. DEC.

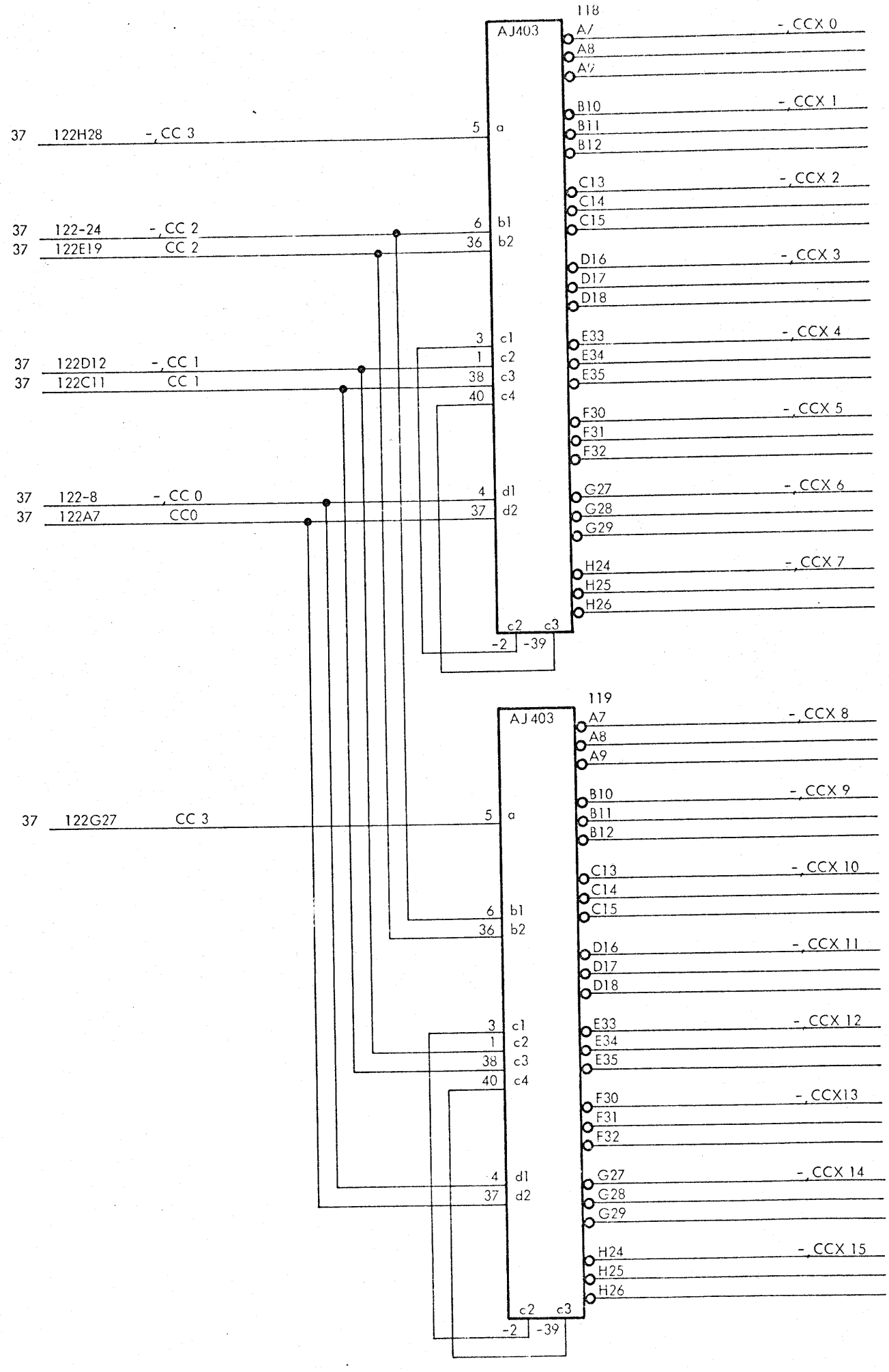

34 418B6 HT &(END OF HT)
32 310G27 -,(128 + 6) DEC.
32 309C9 -,8 DEC.
418 401 C7
30 31 418 401 J32
SO/SI
419 J35
37 J 1
32 T
34 K 0
BB450
33
-36
SO
SI
17 317D16 T2
418 401 D10
11 12
32 310H24 -,(128 + 7) DEC.
56 526C9 MCL
505 401 K35
33 34
25 26 418 401 G24
17 504A1 -,T1
415M41 -,CAN DEC
418 401 E15
13 14
39 40 415 401 M41
32 309E13 -,24 DEC.
32 310A7 -,(128 + 0) DEC.
33 34 418 401 K35
-,CAN DEC
64 414H29 ENABLE ECHO ERROR
26
27
28
24
25
29
31
30
417 403 C32
49 424M40 -,PAPER FEED
20 507E19 -,CHAR. STR. FF
34 418H27 -,DEL. ! -,ESC
64 414D12 -,ENABLE ECHO TOO LONG
316 401 J32
30 31
57 312E28 PF. INP.
57 312F40 PF. CON.
17 317D16 T2
NSC
15 411 B14
17 D 1
16 T
BC 0
401
18
-13
NSC
-,NSC

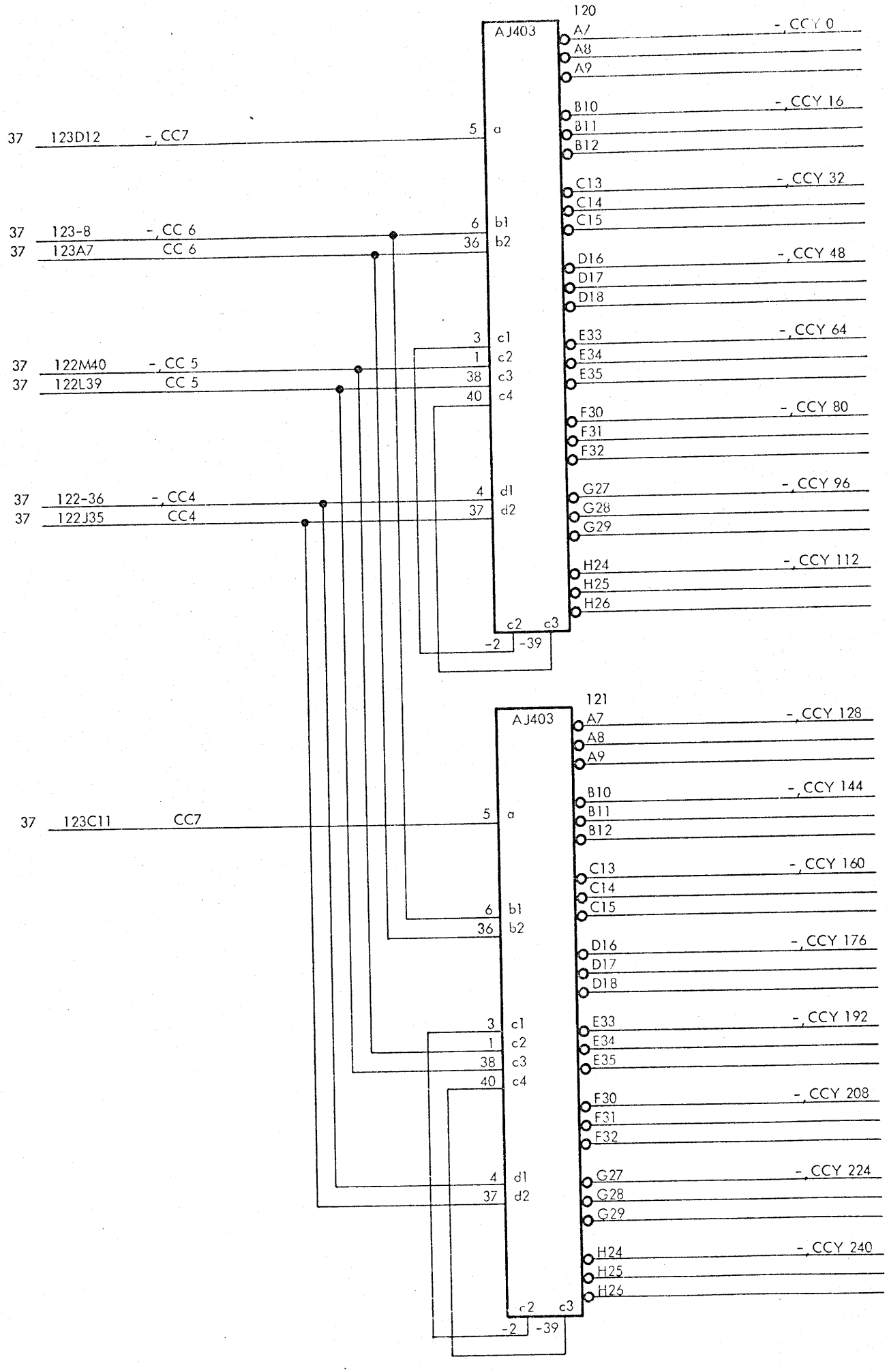

HT
- HT
HT & (END OF HT)
ESC
- ESC
- DEL i - ESC
HT
ESC
BB450
401
450
32 309C9 - 8 DEC.
32 310B10 - (128 + 1) DEC.
19 514-8 - ENABLE TIMING F. CHAR. STR.
17 317D16 T2
37 122-8 - CC 0
37 122D12 - CC 1
37 122-24 - CC 2
37 122H28 - CC 3
32 309E13 - 24 DEC.
32 310D16 - (128 + 3) DEC.
32 301C32 - DEL. DEC.
56 527B10 - MCL

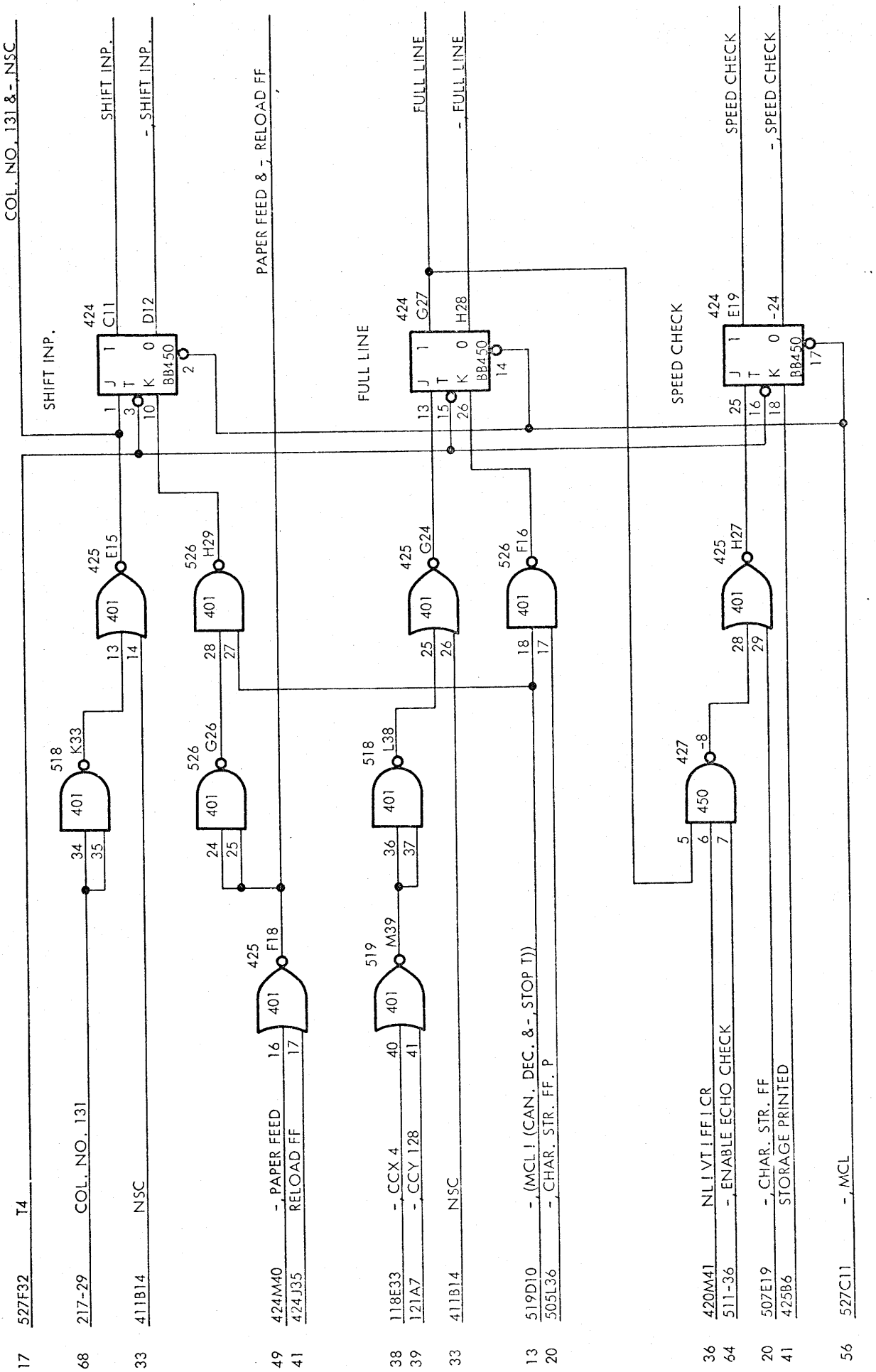

36 420M41 NL ! VT ! FF ! CR
32 309C9 - ,8 DEC.
12 521C11 TP
22 AUTOLOAD SWITCH
33 411-13 - NSC
21 520H27 FIRST CHAR. NEW LINE
13 514G27 - ,SEL. A
12 521C11 TP
41 424J35 RELOAD FF
65 101-41 COL. NO 0
17 504A1 - ,T1
21 527E31 - ,SET CHECK CHAR.
ENABLE PIL A
ENABLE PIL B
- ,RESET PIL
422 A3
420 G26
420 D12
420 F16
420 E13
426 B10
426 C11
418 M39
418 L36
420 H29
401
402

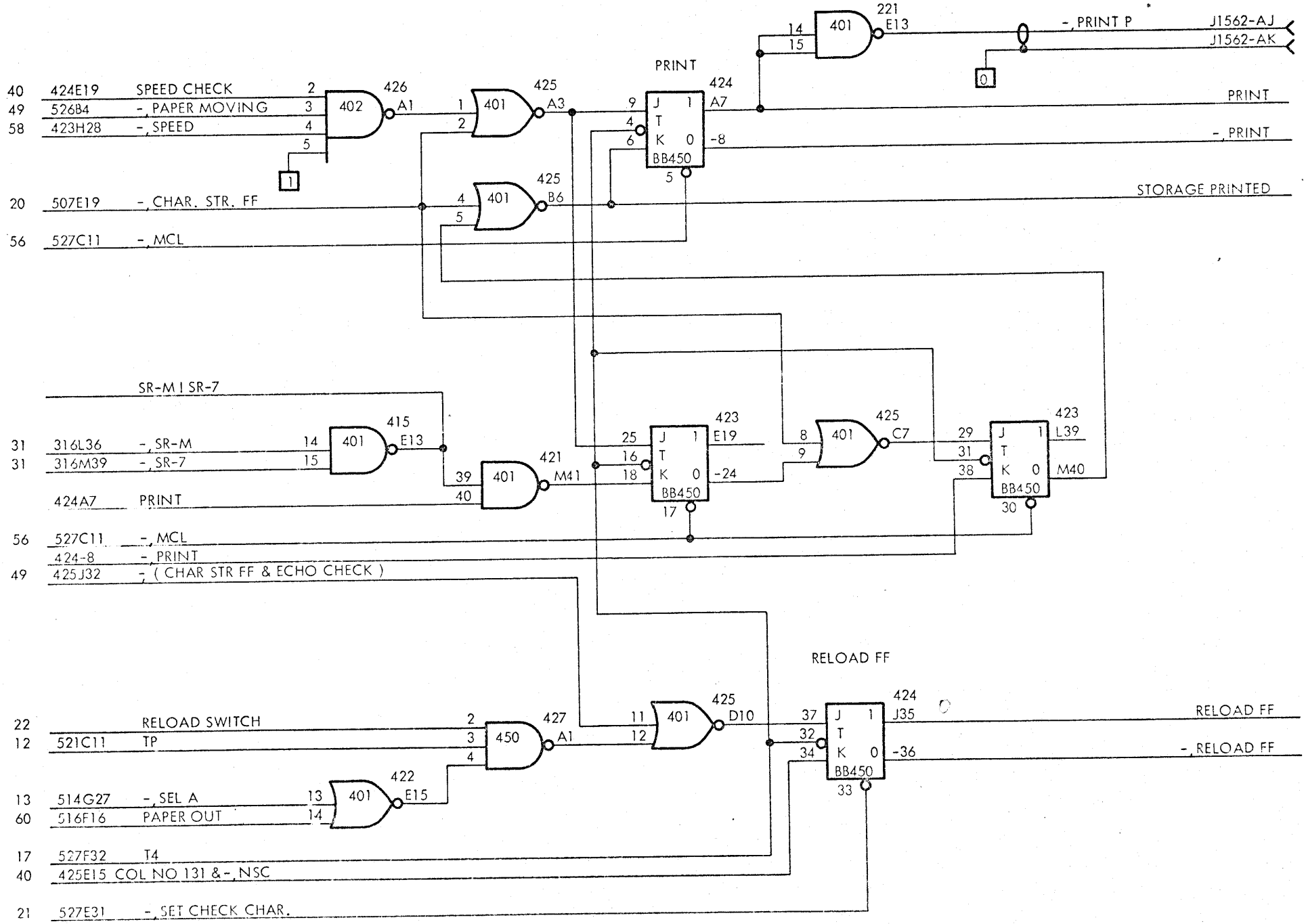

FF ! VT
NL ! VT
FF ! CR
NL ! VT ! FF ! CR
- (NL ! VT) DEC.
- (NL ! VT)
- (NL ! VT ! FF ! CR)
BB450
AG401
401
310E33 - (128 + 4) DEC.
310D16 - (128 + 3) DEC.
422A3 ENABLE PIL A
516B4 FORM MODE
310C13 - (128 + 2) DEC.
310D16 - (128 + 3) DEC.
516A1 LINE MODE
310E33 - (128 + 4) DEC.
310F30 - (128 + 5) DEC.
420E13 ENABLE PIL B
317D16 T2
418M39 - RESET PIL

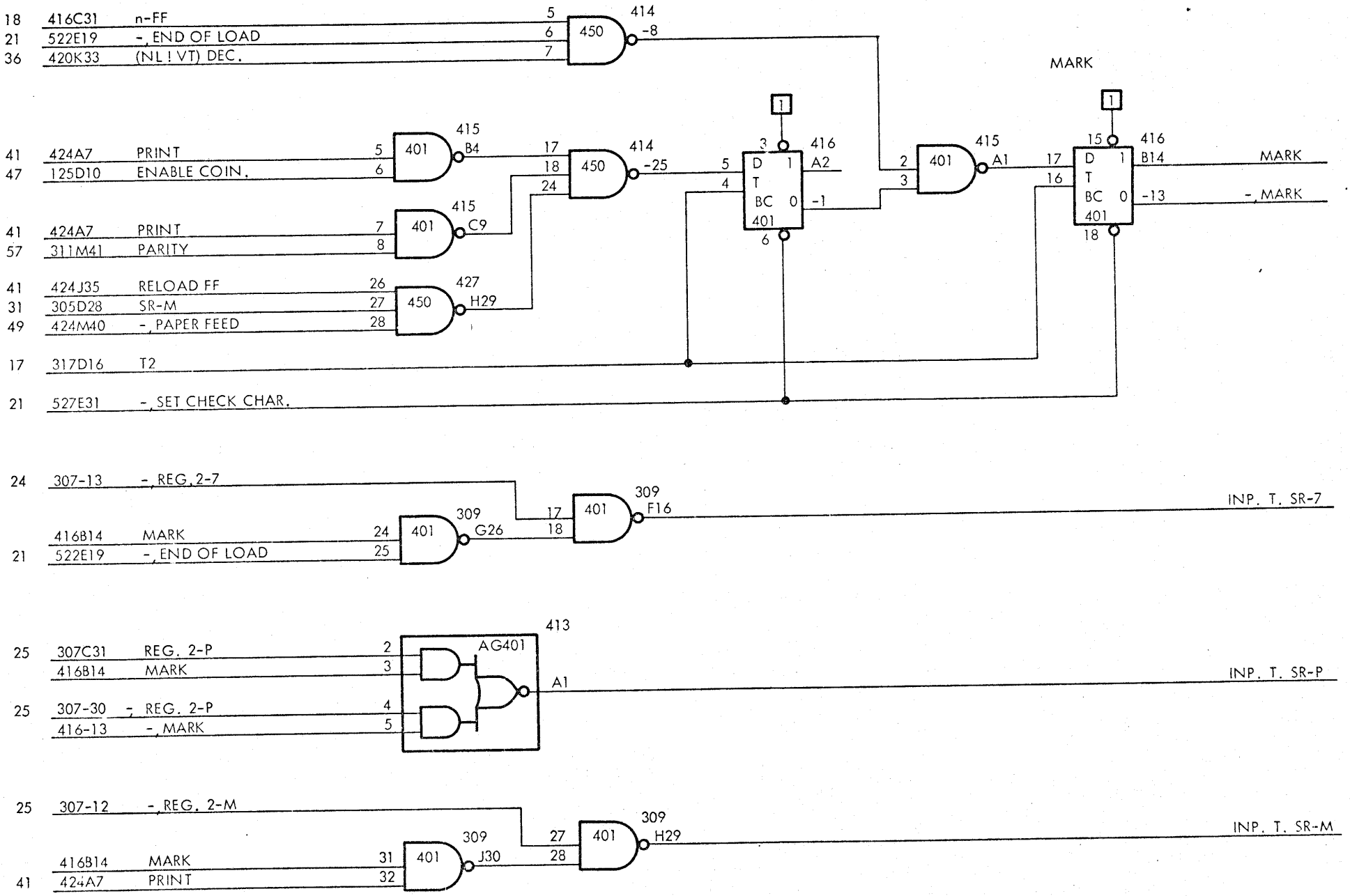

CC 0
CC 1
CC 2
CC 3
CC 4
CC 5
CC 6
CC 7
- CC 6
- CC 5
- CC 4
- CC 3
- CC 2
- CC 1
- CC 0
- CC RESET
CC 0
CC 1
CC 2
CC 3
CC 4
CC 5
CC 6
CC 7
BB450
J T K
504D16 - T4
411B14 NSC
317D16 T2
411-12 - ECHO ERROR
411-30 - ECHO TOO LONG
520J32 - FIRST CHAR. NEW LINE
507E19 - CHAR. STR. FF
411-13 - NSC

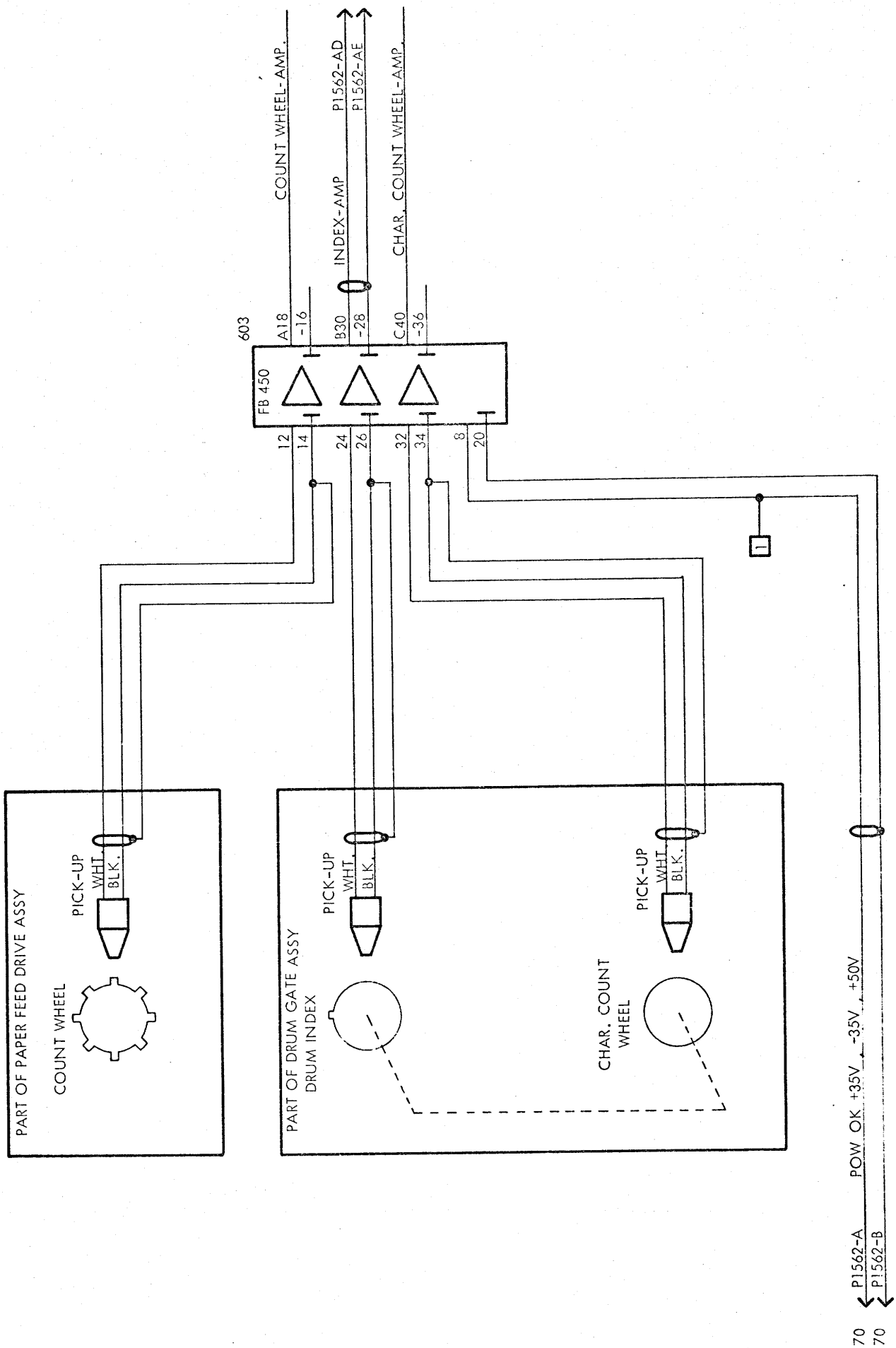

118
AJ403
A7
A8
A9
B10
B11
B12
C13
C14
C15
D16
D17
D18
E33
E34
E35
F30
F31
F32
G27
G28
G29
H24
H25
H26
-, CCX 0
-, CCX 1
-, CCX 2
-, CCX 3
-, CCX 4
-, CCX 5
-, CCX 6
-, CCX 7
37 122H28 -, CC 3
37 122-24 -, CC 2
37 122E19 CC 2
37 122D12 -, CC 1
37 122C11 CC 1
37 122-8 -, CC 0
37 122A7 CC0
5 a
6 b1
36 b2
3 c1
1 c2
38 c3
40 c4
4 d1
37 d2
c2 c3
-2 -39
119
AJ403
A7
A8
A9
B10
B11
B12
C13
C14
C15
D16
D17
D18
E33
E34
E35
F30
F31
F32
G27
G28
G29
H24
H25
H26
-, CCX 8
-, CCX 9
-, CCX 10
-, CCX 11
-, CCX 12
-, CCX13
-, CCX 14
-, CCX 15
37 122G27 CC 3
5 a
6 b1
36 b2
3 c1
1 c2
38 c3
40 c4
4 d1
37 d2
c2 c3
-2 -39

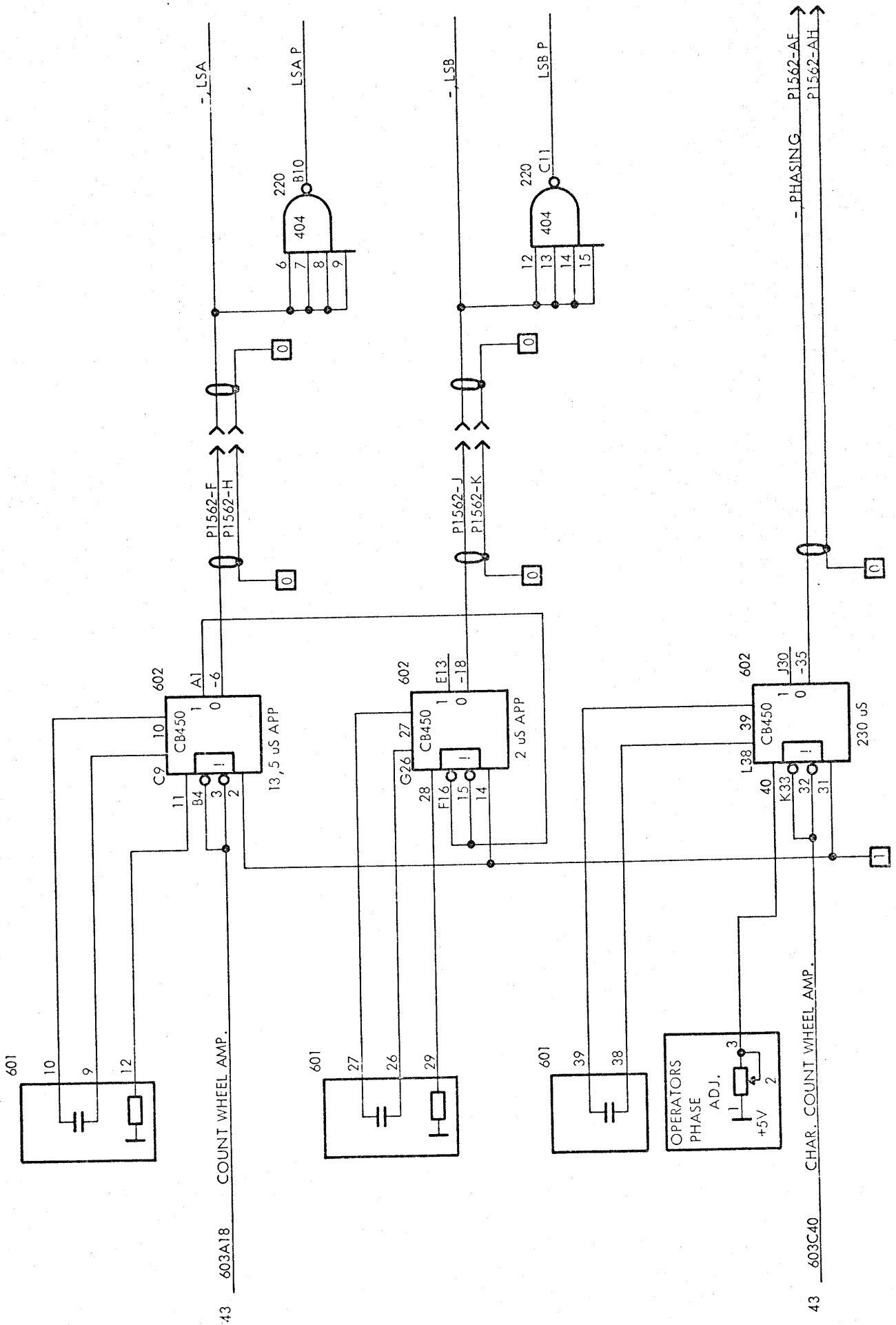

120
AJ403
A7
A8
A9
B10
B11
B12
C13
C14
C15
D16
D17
D18
E33
E34
E35
F30
F31
F32
G27
G28
G29
H24
H25
H26
-, CCY 0
-, CCY 16
-, CCY 32
-, CCY 48
-, CCY 64
-, CCY 80
-, CCY 96
-, CCY 112
37 123D12 -, CC7
37 123-8 -, CC 6
37 123A7 CC 6
37 122M40 -, CC 5
37 122L39 CC 5
37 122-36 -, CC4
37 122J35 CC4
5 a
6 b1
36 b2
3 c1
1 c2
38 c3
40 c4
4 d1
37 d2
c2 c3
-2 -39
121
AJ403
A7
A8
A9
B10
B11
B12
C13
C14
C15
D16
D17
D18
E33
E34
E35
F30
F31
F32
G27
G28
G29
H24
H25
H26
-, CCY 128
-, CCY 144
-, CCY 160
-, CCY 176
-, CCY 192
-, CCY 208
-, CCY 224
-, CCY 240
37 123C11 CC7
5 a
6 b1
36 b2
3 c1
1 c2
38 c3
40 c4
4 d1
37 d2
c2 c3
-2 -39

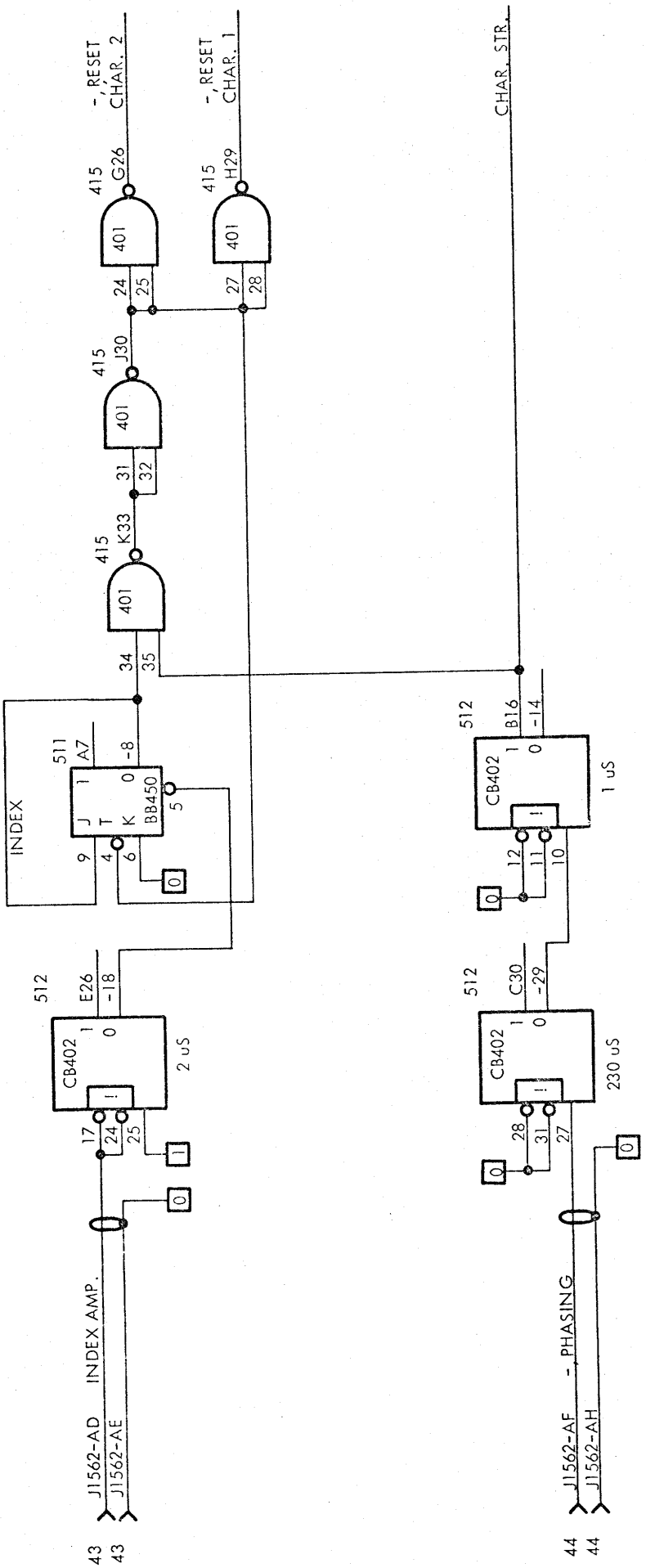

COL. NO. 131 &- NSC
SHIFT INP.
- SHIFT INP.
PAPER FEED & - RELOAD FF
FULL LINE
- FULL LINE
SPEED CHECK
- SPEED CHECK
424 C11
424 G27
424 E19
424 -24
425 E15
425 G24
425 H27
425 F18
526 H29
526 G26
526 F16
518 K33
518 L38
519 M39
427 -8
401
450
BB450
17 527F32 T4
68 217-29 COL. NO. 131
33 411B14 NSC
49 424M40 - PAPER FEED
41 424J35 RELOAD FF
38 118E33 - CCX 4
39 121A7 - CCY 128
33 411B14 NSC
13 519D10 - (MCL ! (CAN. DEC. &- STOP T))
20 505L36 - CHAR. STR. FF. P
36 420M41 NL ! VT ! FF ! CR
64 511-36 - ENABLE ECHO CHECK
20 507E19 - CHAR. STR. FF
41 425B6 STORAGE PRINTED
56 527C11 - MCL

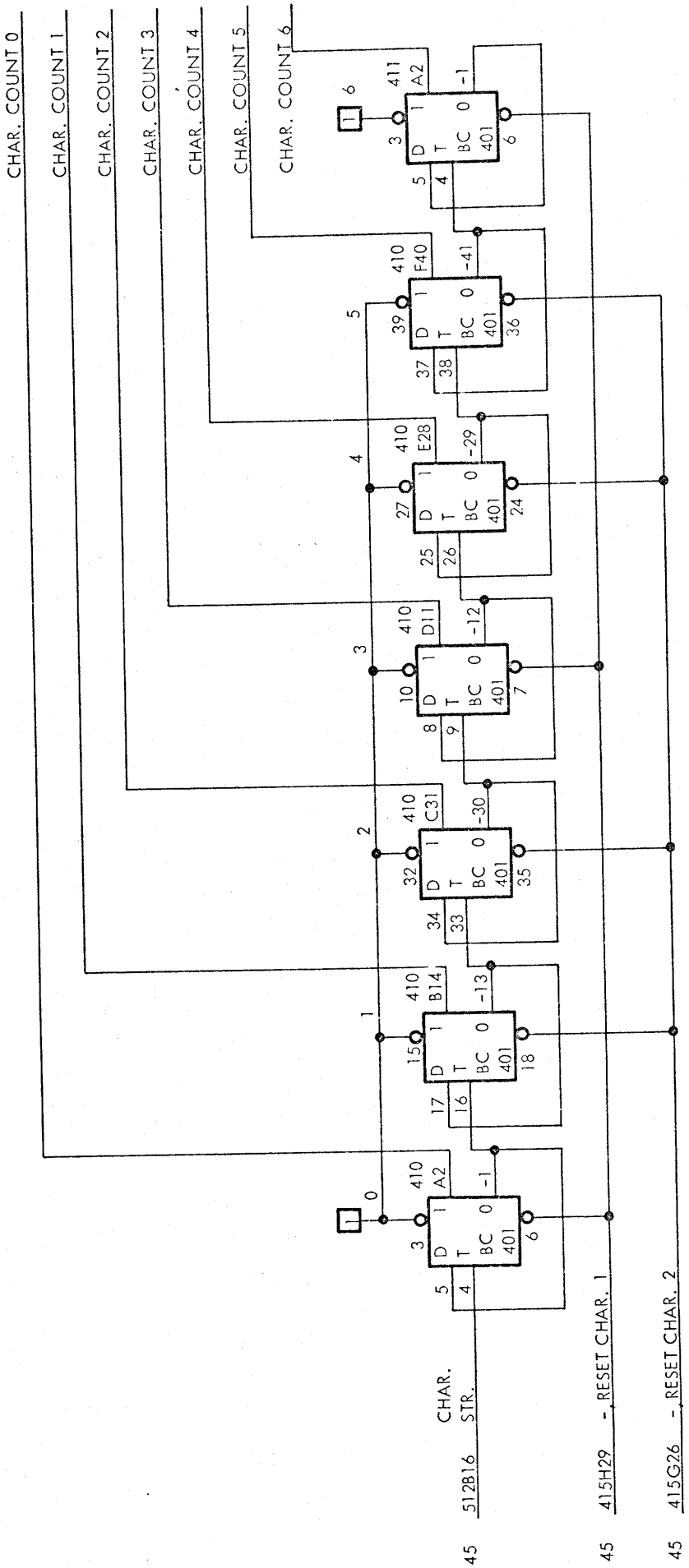

40 424E19 SPEED CHECK
49 526B4 -, PAPER MOVING
58 423H28 -, SPEED
402 426 A1
401 425 A3
401 425 B6
PRINT
424 A7
BB450
-8
5
20 507E19 -, CHAR. STR. FF
56 527C11 -, MCL
401 221 E13
-, PRINT P
J1562-AJ
J1562-AK
PRINT
-, PRINT
STORAGE PRINTED
SR-M I SR-7
31 316L36 -, SR-M
31 316M39 -, SR-7
401 415 E13
401 421 M41
423 E19
-24
401 425 C7
423 L39
M40
424A7 PRINT
56 527C11 -, MCL
424-8 -, PRINT
49 425J32 -, (CHAR STR FF & ECHO CHECK)
RELOAD FF
22 RELOAD SWITCH
12 521C11 TP
450 427 A1
401 425 D10
424 J35
-36
RELOAD FF
-, RELOAD FF
13 514G27 -, SEL A
60 516F16 PAPER OUT
401 422 E15
17 527F32 T4
40 425E15 COL NO 131 &-, NSC
21 527E31 -, SET CHECK CHAR.

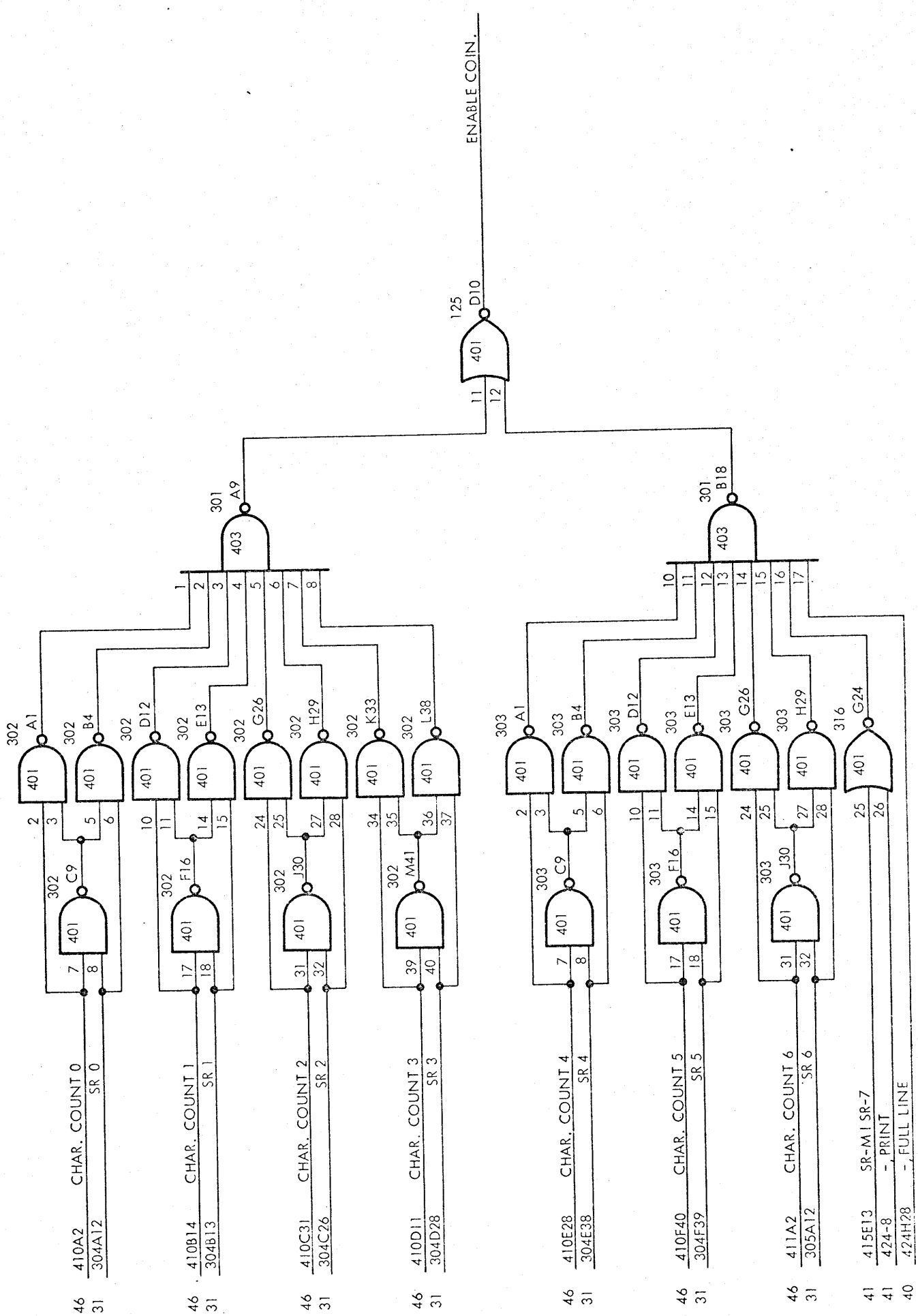

18 416C31 n-FF
21 522E19 -, END OF LOAD
36 420K33 (NL ! VT) DEC.
450
414
-8
MARK
41 424A7 PRINT
47 125D10 ENABLE COIN.
401
415
B4
450
414
-25
41 424A7 PRINT
57 311M41 PARITY
401
415
C9
41 424J35 RELOAD FF
31 305D28 SR-M
49 424M40 -, PAPER FEED
450
427
H29
D
T
BC
401
416
A2
-1
401
415
A1
D
T
BC
401
416
B14
MARK
-13
-, MARK
17 317D16 T2
21 527E31 -, SET CHECK CHAR.
24 307-13 -, REG. 2-7
416B14 MARK
21 522E19 -, END OF LOAD
401
309
G26
401
309
F16
INP. T. SR-7
25 307C31 REG. 2-P
416B14 MARK
25 307-30 -, REG. 2-P
416-13 -, MARK
AG401
413
A1
INP. T. SR-P
25 307-12 -, REG. 2-M
416B14 MARK
41 424A7 PRINT
401
309
J30
401
309
H29
INP. T. SR-M

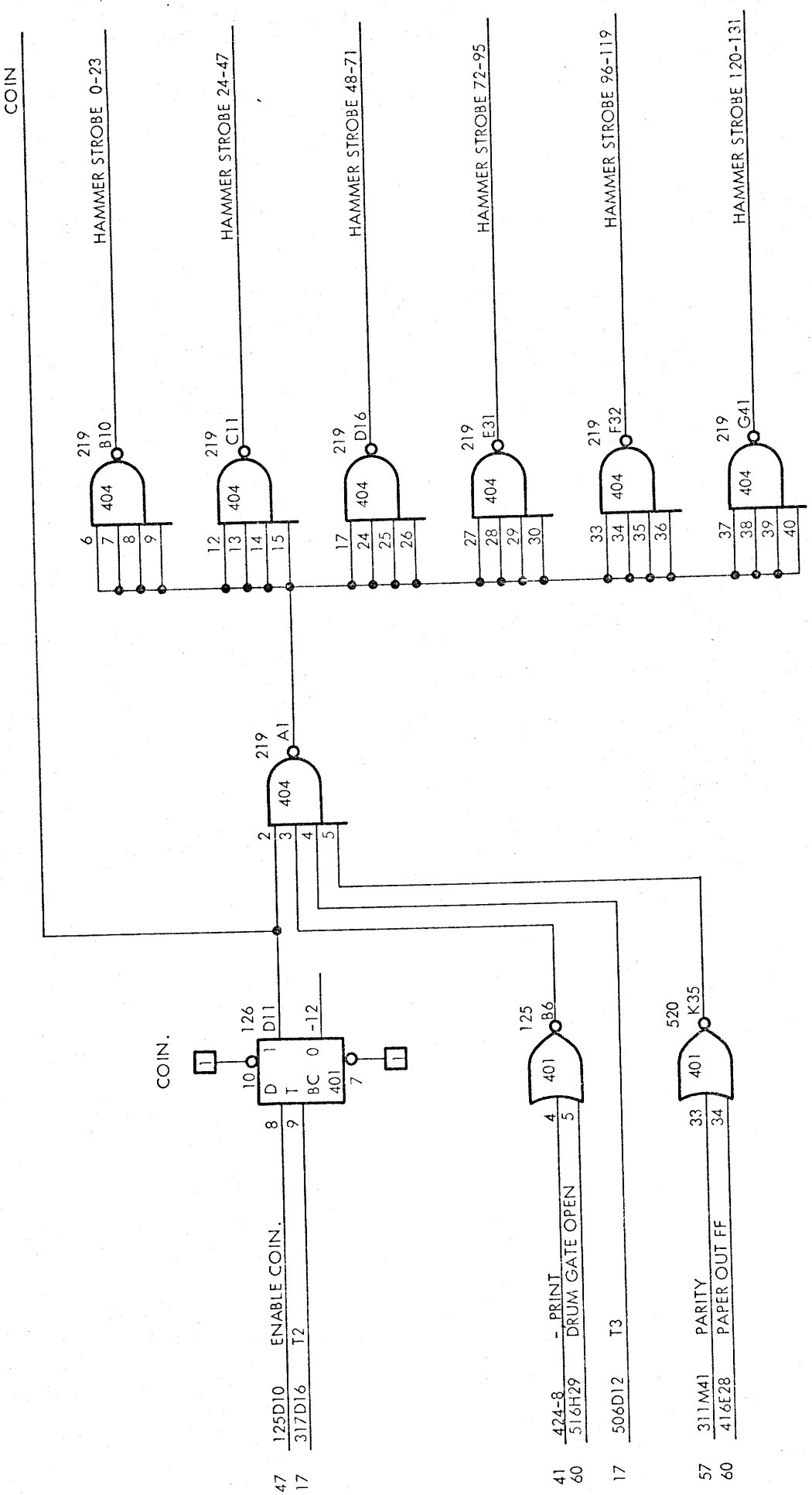

COUNT WHEEL-AMP.
INDEX-AMP
CHAR. COUNT WHEEL-AMP.
P1562-AD
P1562-AE
603
A18
-16
B30
-28
C40
-36
FB 450
12
14
24
26
32
34
8
20
1
PART OF PAPER FEED DRIVE ASSY
PICK-UP
WHT.
BLK.
COUNT WHEEL
PART OF DRUM GATE ASSY
DRUM INDEX
PICK-UP
WHT.
BLK.
CHAR. COUNT
WHEEL
PICK-UP
WHT.
BLK.
P1562-A
P1562-B
POW OK +35V -35V +50V
70
70


- LSA
LSA P
220
B10
404
6
7
8
9
- LSB
LSB P
220
C11
404
12
13
14
15
- PHASING
P1562-AF
P1562-AH
P1562-F
P1562-H
P1562-J
P1562-K
602
A1
-6
CB450
10
C9
11
B4
3
2
13,5 uS APP
602
E13
-18
CB450
27
G26
28
F16
15
14
2 uS APP
602
J30
-35
CB450
39
L38
40
K33
32
31
230 uS
601
10
9
12
601
27
26
29
601
39
38
OPERATORS PHASE ADJ.
+5V
COUNT WHEEL AMP.
603A18
43
CHAR. COUNT WHEEL AMP.
603C40
43


-, RESET CHAR. 2
-, RESET CHAR. 1
CHAR. STR.
415 G26
415 H29
415 J30
415 K33
401
24
25
27
28
31
32
34
35
INDEX
511 A7
BB450
J
T
K
-8
9
4
6
5
512 E26
-18
CB402
2 uS
17
24
25
INDEX AMP.
J1562-AD
J1562-AE
43
43
512 B16
-14
1 uS
12
11
10
512 C30
-29
230 uS
28
31
27
-, PHASING
J1562-AF
J1562-AH
44
44


CHAR. COUNT 0
CHAR. COUNT 1
CHAR. COUNT 2
CHAR. COUNT 3
CHAR. COUNT 4
CHAR. COUNT 5
CHAR. COUNT 6
CHAR. STR.
512B16
415H29 -, RESET CHAR. 1
415G26 -, RESET CHAR. 2
45
45
45
410 A2
410 B14
410 C31
410 D11
410 E28
410 F40
411 A2
401


ENABLE COIN
125 D10 401
301 A9 403
301 B18 403
302 A1 401
302 B4 401
302 D12 401
302 E13 401
302 G26 401
302 H29 401
302 K33 401
302 L38 401
302 C9 401
302 F16 401
302 J30 401
302 M41 401
303 A1 401
303 B4 401
303 D12 401
303 E13 401
303 G26 401
303 H29 401
316 G24 401
303 C9 401
303 F16 401
303 J30 401
410A2 CHAR. COUNT 0 SR 0
304A12
410B14 CHAR. COUNT 1 SR 1
304B13
410C31 CHAR. COUNT 2 SR 2
304C26
410D11 CHAR. COUNT 3 SR 3
304D28
410E28 CHAR. COUNT 4 SR 4
304E38
410F40 CHAR. COUNT 5 SR 5
304F39
411A2 CHAR. COUNT 6 SR 6
305A12
415E13 SR-M1 SR-7
424-8 - PRINT
424H28 - FULL LINE

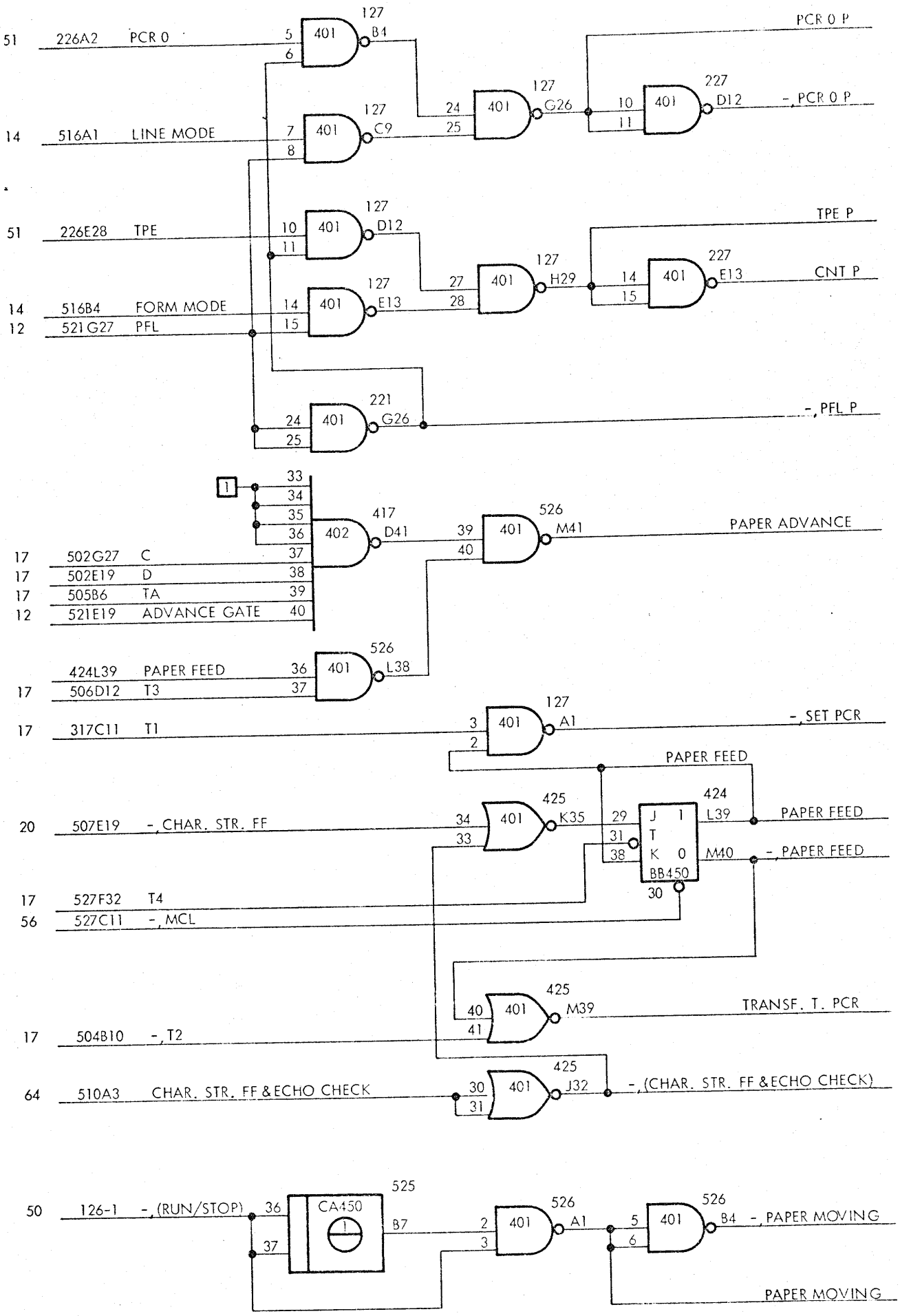


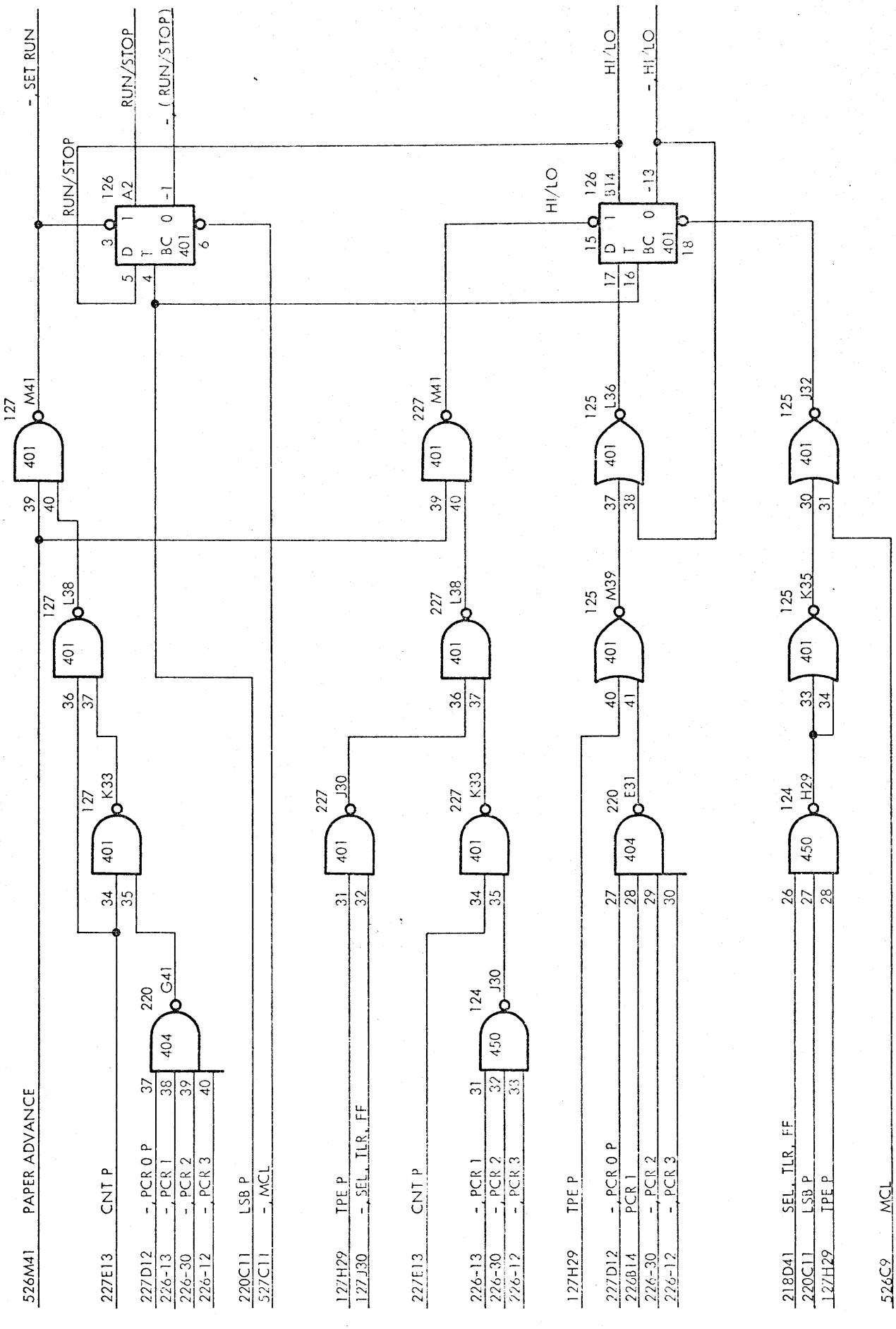
LPE 200

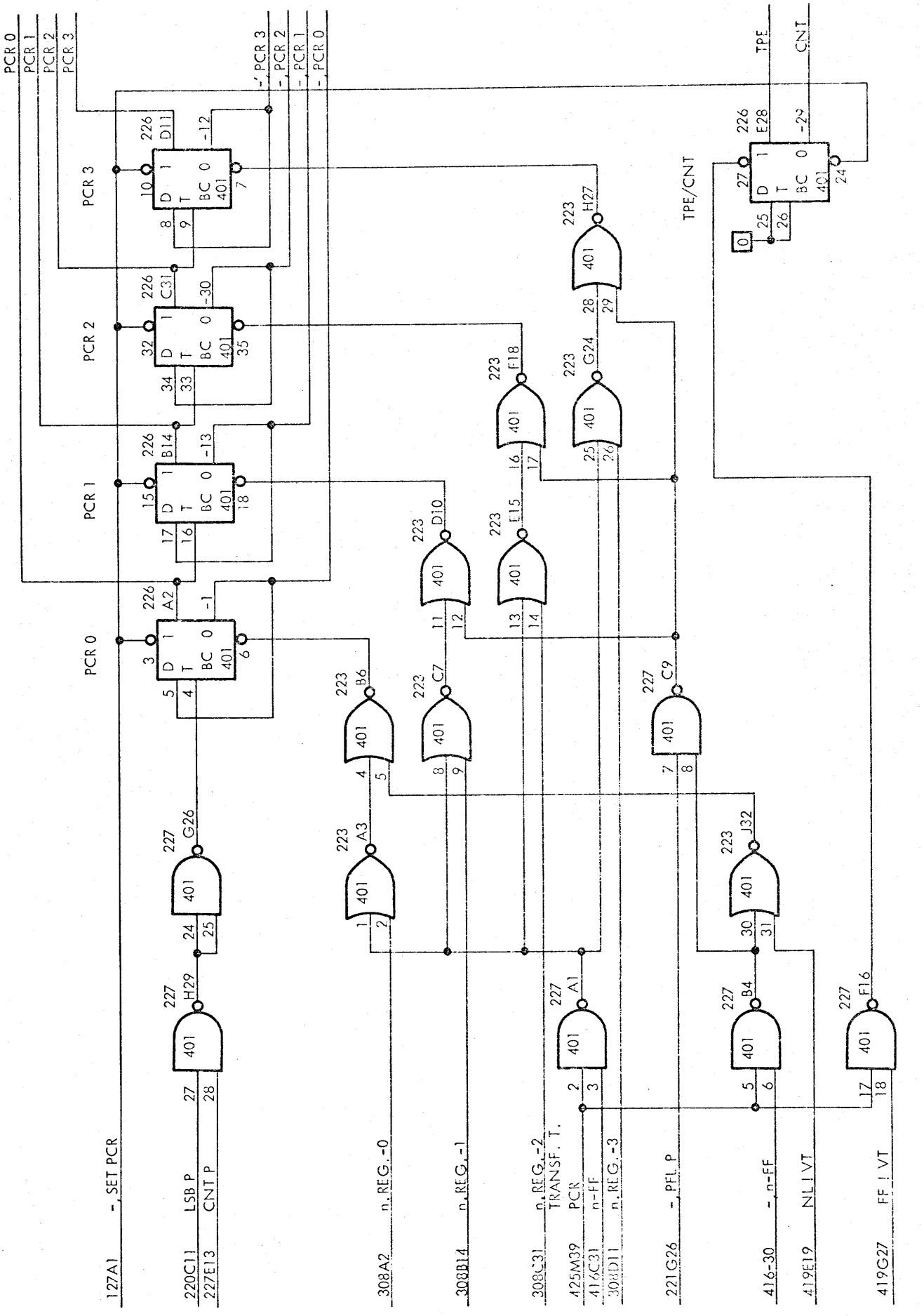
A10382

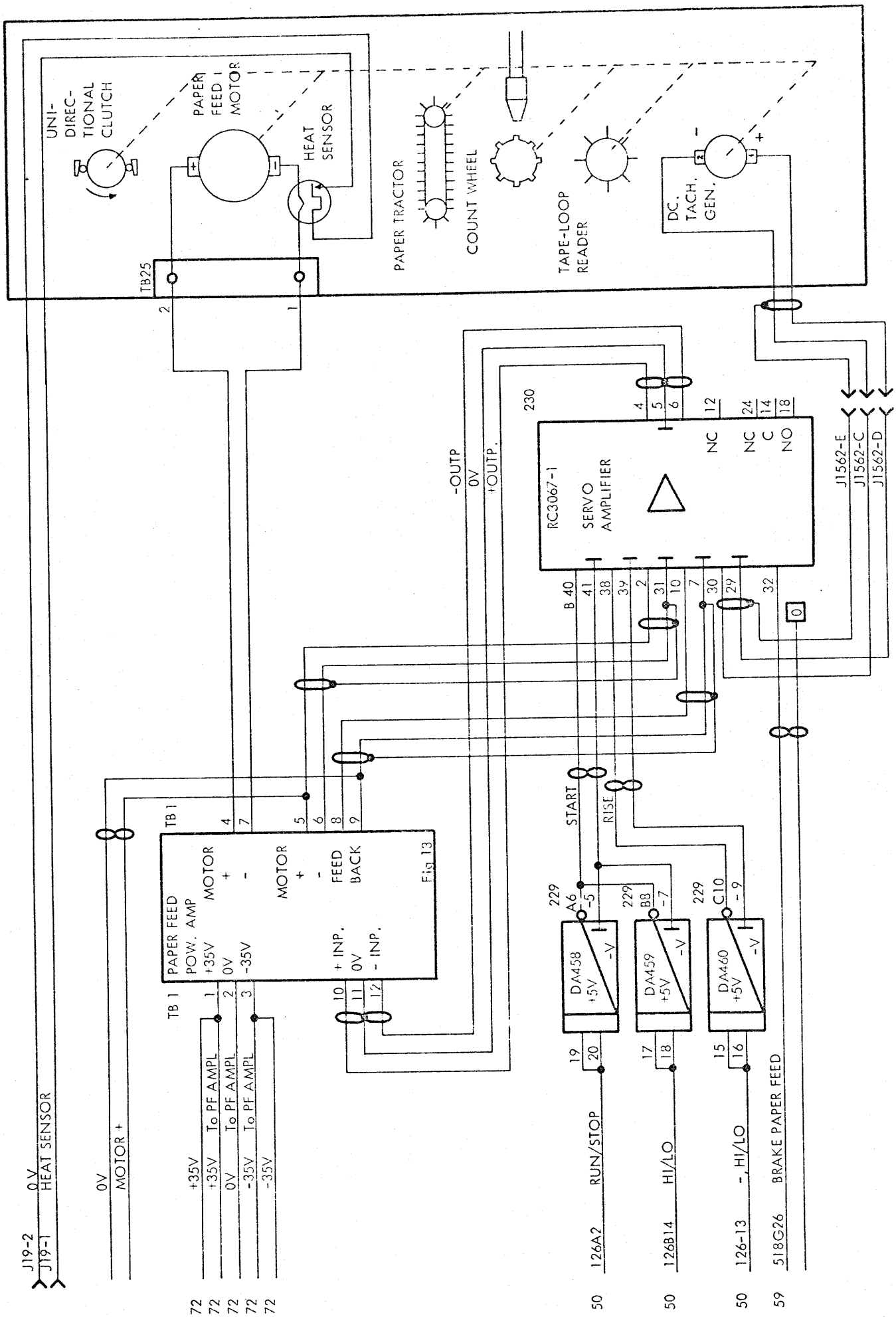
HAMMER STROBE GENERATOR

Logic Diagram


51 226A2 PCR 0
14 516A1 LINE MODE
51 226E28 TPE
14 516B4 FORM MODE
12 521G27 PFL
17 502G27 C
17 502E19 D
17 505B6 TA
12 521E19 ADVANCE GATE
424L39 PAPER FEED
17 506D12 T3
17 317C11 T1
20 507E19 -, CHAR. STR. FF
17 527F32 T4
56 527C11 -, MCL
17 504B10 -, T2
64 510A3 CHAR. STR. FF & ECHO CHECK
50 126-1 -, (RUN/STOP)
127 401 B4
127 401 C9
127 401 D12
127 401 E13
127 401 G26
127 401 H29
127 401 A1
221 401 G26
417 402 D41
526 401 M41
526 401 L38
425 401 K35
425 401 M39
425 401 J32
525 CA450 B7
526 401 A1
526 401 B4
227 401 D12
227 401 E13
PCR 0 P
-, PCR 0 P
TPE P
CNT P
-, PFL P
PAPER ADVANCE
-, SET PCR
PAPER FEED
424 L39
PAPER FEED
M40
-, PAPER FEED
TRANSF. T. PCR
-, (CHAR. STR. FF & ECHO CHECK)
-, PAPER MOVING
PAPER MOVING

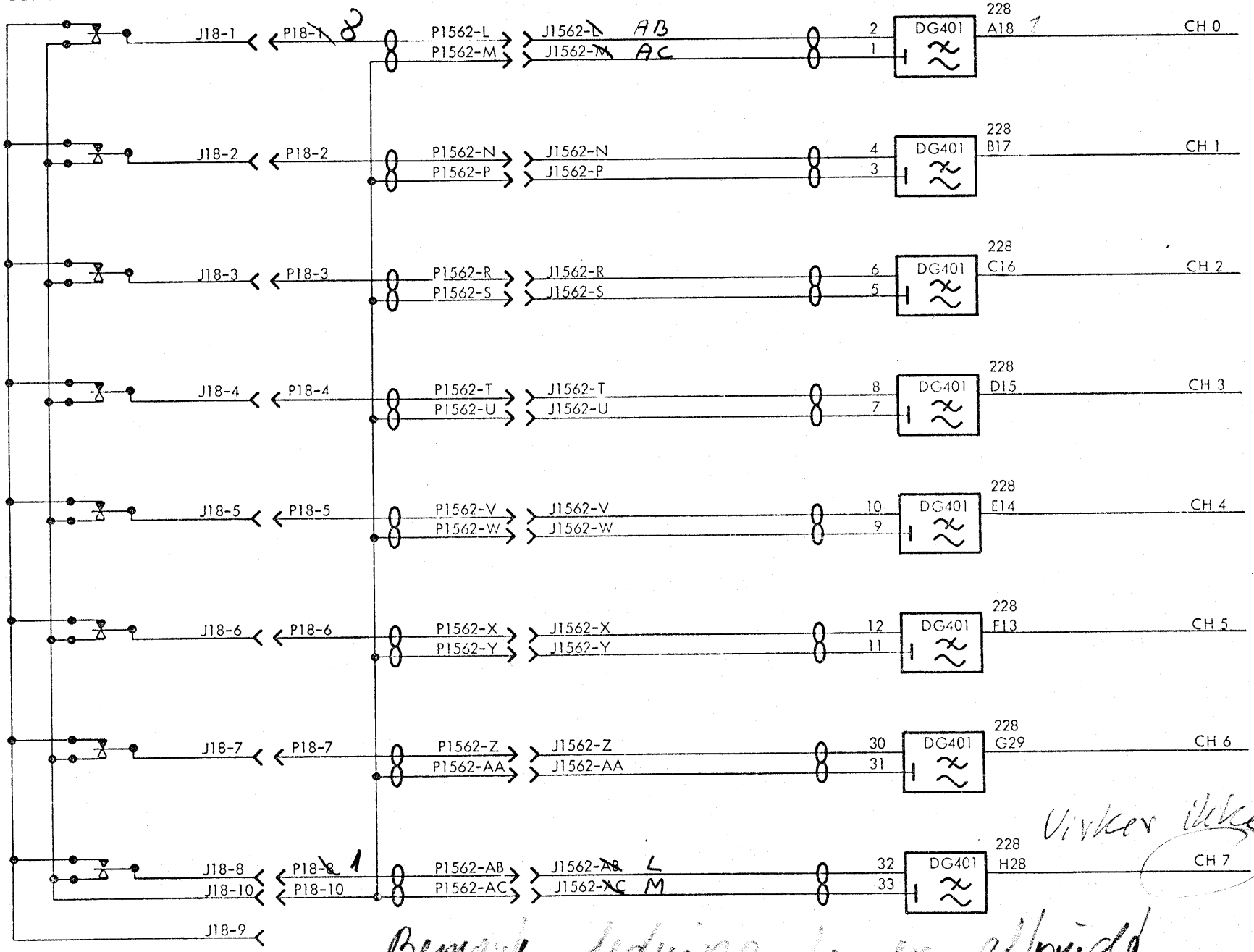

- SET RUN
RUN/STOP
- (RUN/STOP)
HI/LO
- HI/LO
PAPER ADVANCE
CNT P
- PCR 0 P
- PCR 1
- PCR 2
- PCR 3
LSB P
- MCL
TPE P
- SEL. TLR. FF
PCR 0 P
PCR 1
PCR 2
PCR 3
SEL. TLR. FF
526M41
227E13
227D12
226-13
226-30
226-12
220C11
527C11
127H29
127J30
227E13
226-13
226-30
226-12
127H29
227D12
226B14
226-30
226-12
218D41
220C11
127H29
526C9

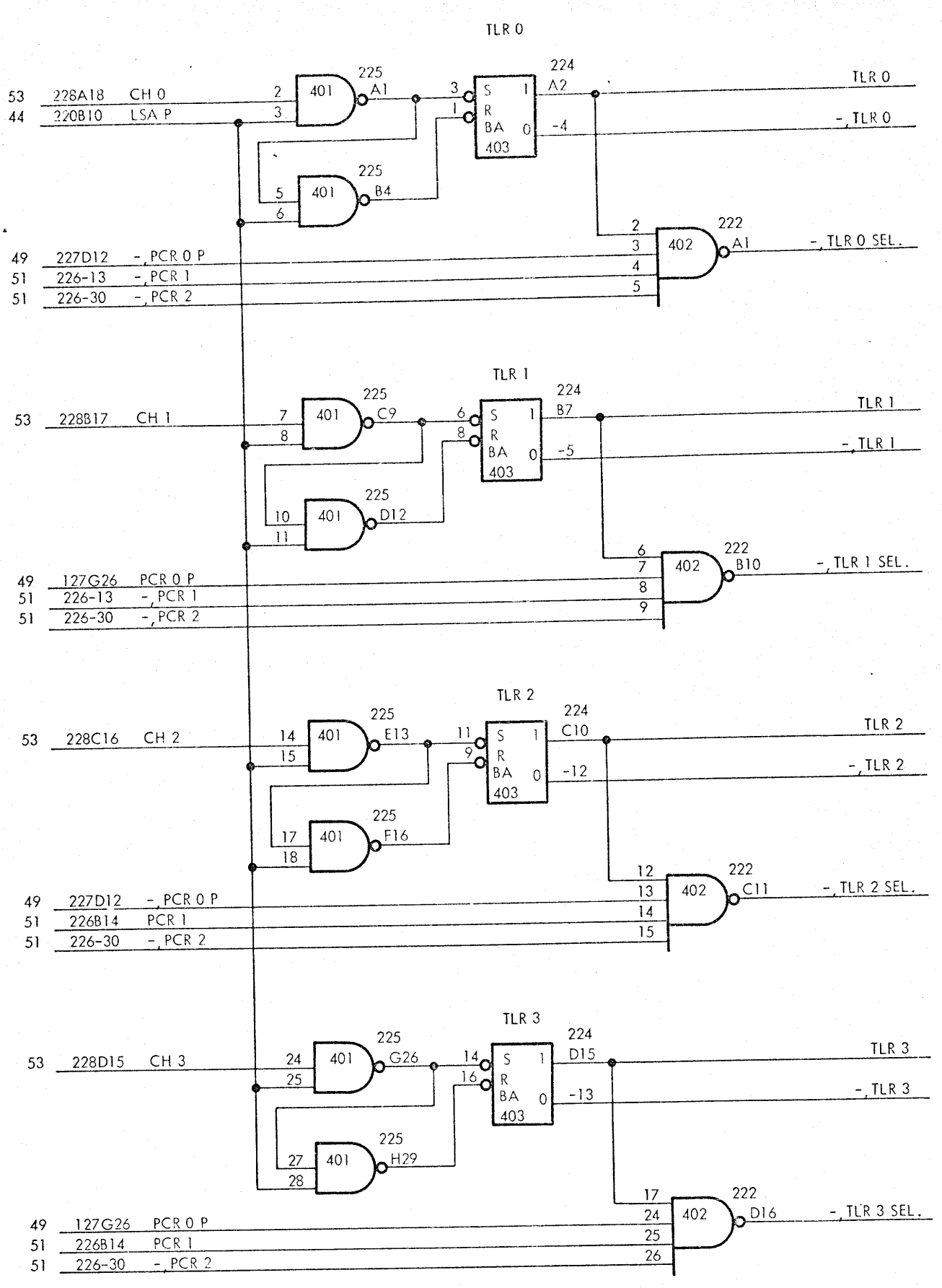

PCR 0
PCR 1
PCR 2
PCR 3
- PCR 3
- PCR 2
- PCR 1
- PCR 0
TPE
CNT
TPE/CNT
- SET PCR
LSB P
CNT P
n.REG.-0
n.REG.-1
n.REG.-2
TRANSF. T.
PCR
n-FF
n.REG.-3
- PFL P
- n-FF
NL I VT
FF I VT

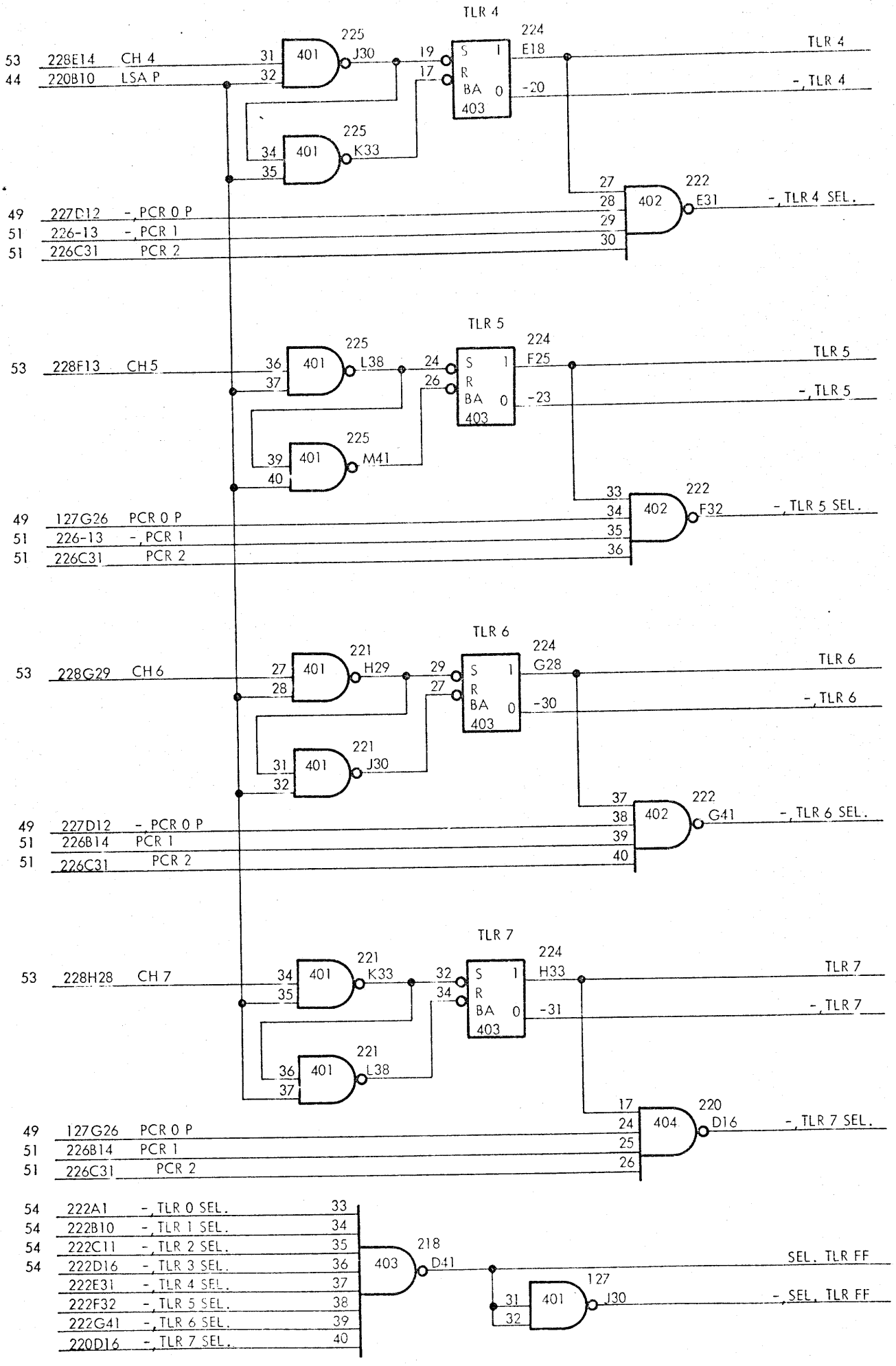


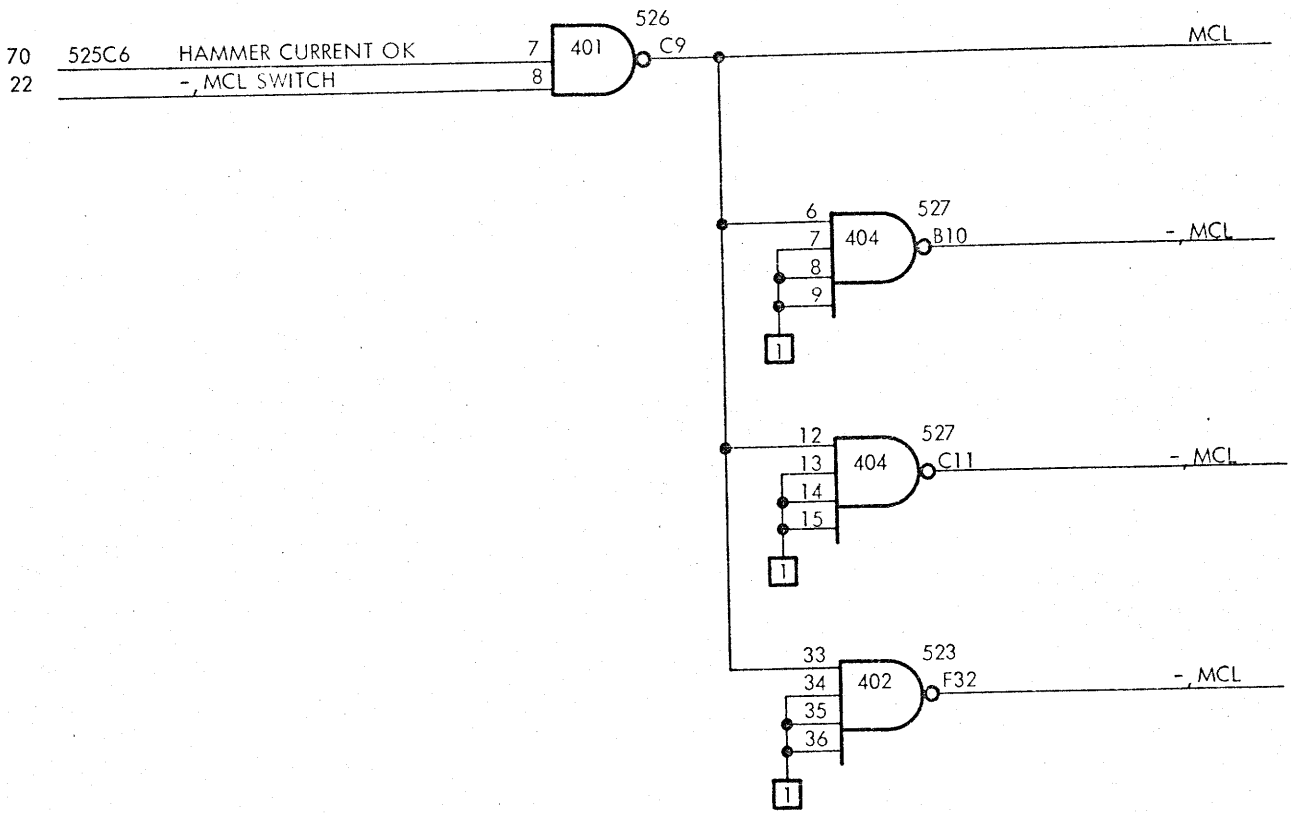
PAPER FEED SERVO AMP.
AND
PAPER FEED POWER AMP.
Logic Diagram

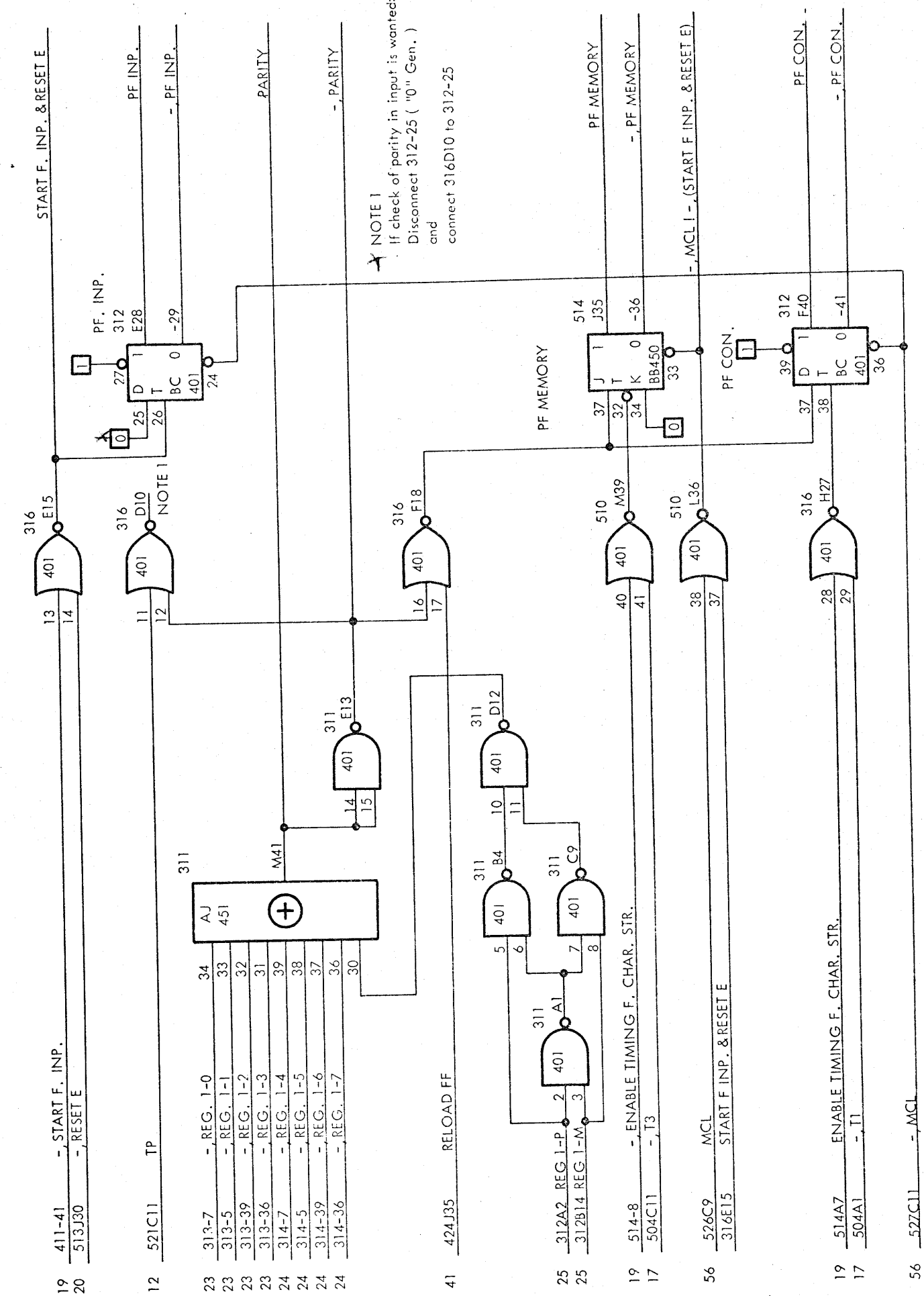
TAPE LOOP READER
CONTACTS

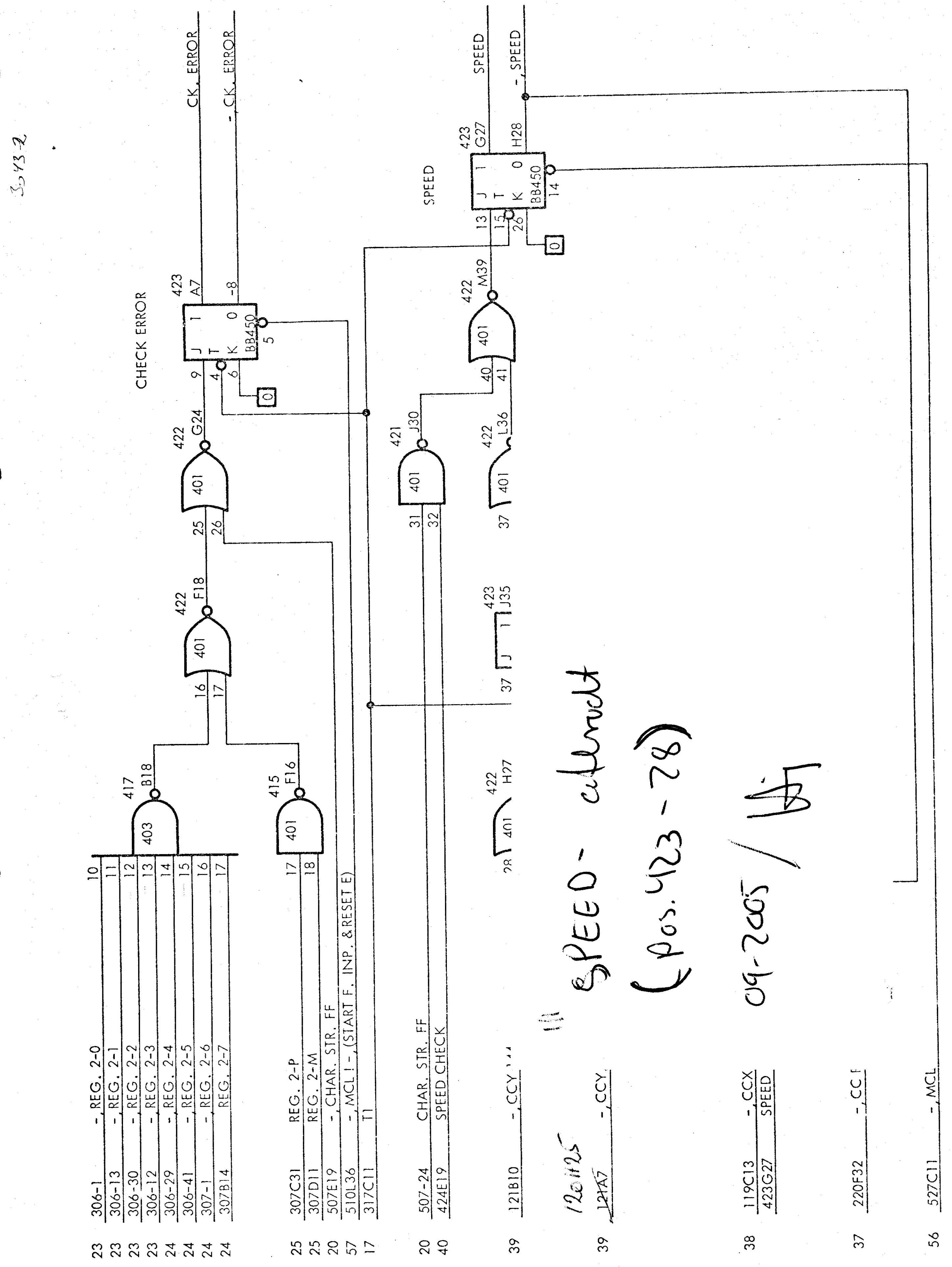



TLR 0
53 228A18 CH 0
44 220B10 LSA P
225 A1
401
2
3
3
1
S 1
R
BA 0
403
224 A2
-4
225 B4
401
5
6
TLR 0
-, TLR 0
2
3
4
5
402
222 A1
-, TLR 0 SEL.
49 227D12 -, PCR 0 P
51 226-13 -, PCR 1
51 226-30 -, PCR 2
TLR 1
53 228B17 CH 1
225 C9
401
7
8
6
8
S 1
R
BA 0
403
224 B7
-5
225 D12
401
10
11
TLR 1
-, TLR 1
6
7
8
9
402
222 B10
-, TLR 1 SEL.
49 127G26 PCR 0 P
51 226-13 -, PCR 1
51 226-30 -, PCR 2
TLR 2
53 228C16 CH 2
225 E13
401
14
15
11
9
S 1
R
BA 0
403
224 C10
-12
225 F16
401
17
18
TLR 2
-, TLR 2
12
13
14
15
402
222 C11
-, TLR 2 SEL.
49 227D12 -, PCR 0 P
51 226B14 PCR 1
51 226-30 -, PCR 2
TLR 3
53 228D15 CH 3
225 G26
401
24
25
14
16
S 1
R
BA 0
403
224 D15
-13
225 H29
401
27
28
TLR 3
-, TLR 3
17
24
25
26
402
222 D16
-, TLR 3 SEL.
49 127G26 PCR 0 P
51 226B14 PCR 1
51 226-30 -, PCR 2


TLR 4
53 228E14 CH 4
44 220B10 LSA P
225 J30
401
31
32
19
17
S 1
R
BA 0
403
224 E18
-20
TLR 4
-, TLR 4
225 K33
34
35
27
28
29
30
402
222 E31
-, TLR 4 SEL.
49 227D12 -, PCR 0 P
51 226-13 -, PCR 1
51 226C31 PCR 2
TLR 5
53 228F13 CH 5
225 L38
36
37
24
26
224 F25
-23
TLR 5
-, TLR 5
225 M41
39
40
33
34
35
36
222 F32
-, TLR 5 SEL.
49 127G26 PCR 0 P
51 226-13 -, PCR 1
51 226C31 PCR 2
TLR 6
53 228G29 CH 6
221 H29
27
28
29
224 G28
-30
TLR 6
-, TLR 6
221 J30
31
32
37
38
39
40
222 G41
-, TLR 6 SEL.
49 227D12 -, PCR 0 P
51 226B14 PCR 1
51 226C31 PCR 2
TLR 7
53 228H28 CH 7
221 K33
34
35
32
34
224 H33
-31
TLR 7
-, TLR 7
221 L38
36
37
17
24
25
26
220 D16
-, TLR 7 SEL.
49 127G26 PCR 0 P
51 226B14 PCR 1
51 226C31 PCR 2
54 222A1 -, TLR 0 SEL. 33
54 222B10 -, TLR 1 SEL. 34
54 222C11 -, TLR 2 SEL. 35
54 222D16 -, TLR 3 SEL. 36
222E31 -, TLR 4 SEL. 37
222F32 -, TLR 5 SEL. 38
222G41 -, TLR 6 SEL. 39
220D16 -, TLR 7 SEL. 40
403
218 D41
SEL. TLR FF
127 J30
31
32
-, SEL. TLR FF

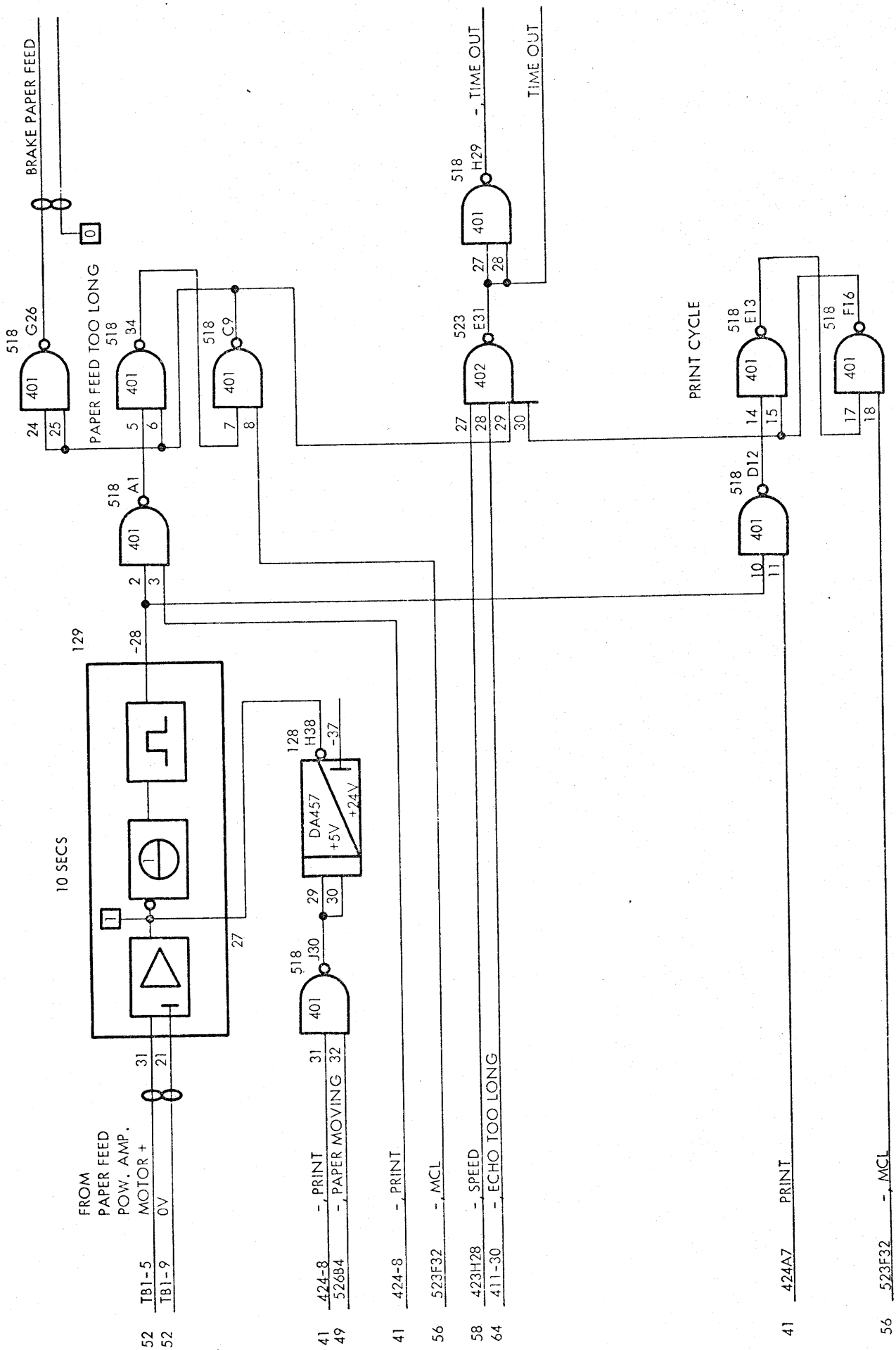

70
22
525C6
HAMMER CURRENT OK
-, MCL SWITCH
7
8
401
526
C9
MCL
6
7
8
9
404
527
B10
-, MCL
1
12
13
14
15
404
527
C11
-, MCL
1
33
34
35
36
402
523
F32
-, MCL
1

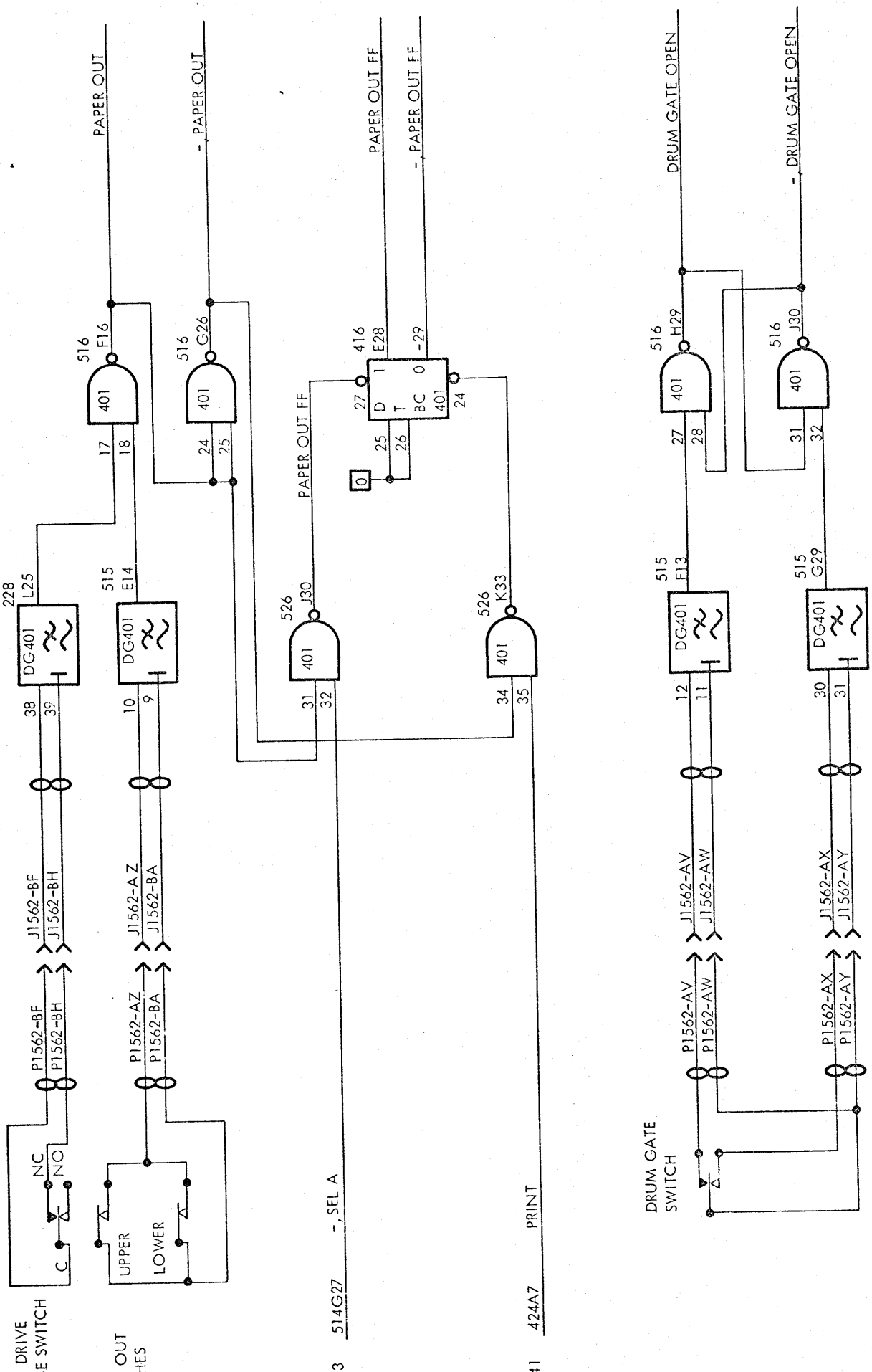

START F. INP. & RESET E
PF. INP.
PF INP.
- PF INP.
PARITY
- PARITY
NOTE 1
If check of parity in input is wanted:
Disconnect 312-25 ("0" Gen.)
and
connect 316D10 to 312-25
PF MEMORY
- PF MEMORY
- MCL I - (START F INP. & RESET E)
PF CON.
- PF CON.
- START F. INP.
- RESET E
TP
- REG. 1-0
- REG. 1-1
- REG. 1-2
- REG. 1-3
- REG. 1-4
- REG. 1-5
- REG. 1-6
- REG. 1-7
RELOAD FF
REG 1-P
REG 1-M
- ENABLE TIMING F. CHAR. STR.
- T3
MCL
START F INP. & RESET E
ENABLE TIMING F. CHAR. STR.
- T1
- MCL


CK. ERROR
- CK. ERROR
SPEED
- SPEED
CHECK ERROR
SPEED
BB450
SPEED - abbruch (Pos. 423 - 28)
09-2005
23 306-1 - REG. 2-0
23 306-13 - REG. 2-1
23 306-30 - REG. 2-2
23 306-12 - REG. 2-3
24 306-29 - REG. 2-4
24 306-41 - REG. 2-5
24 307-1 - REG. 2-6
24 307B14 - REG. 2-7
25 307C31 REG. 2-P
25 307D11 REG. 2-M
20 507E19 - CHAR. STR. FF
57 510L36 - MCL ! - (START F. INP. & RESET E)
17 317C11 T1
20 507-24 CHAR. STR. FF
40 424E19 SPEED CHECK
39 121B10 - CCY
39 121A7 - CCY
38 119C13 - CCX
423G27 SPEED
37 220F32 - CC
56 527C11 - MCL

LPE 200 CHECK CHAR. ERROR AND SPEED ERROR 58

A10392 Logic Diagram


BRAKE PAPER FEED
518 G26
401
24 25
PAPER FEED TOO LONG
518 B4
401
5 6
518 C9
401
7 8
518 A1
401
2 3
129
-28
10 SECS
1
27
FROM PAPER FEED POW. AMP.
TB1-5 MOTOR +
TB1-9 0V
52
52
31
21
128 H38
-37
DA457
+5V
+24V
29
30
518 J30
401
424-8 - PRINT
526B4 - PAPER MOVING
41
49
31
32
424-8 - PRINT
41
523F32 - MCL
56
423H28 - SPEED
411-30 - ECHO TOO LONG
58
64
518 H29
401
- TIME OUT
TIME OUT
523 E31
402
27 28 29 30
PRINT CYCLE
518 E13
401
14 15
518 D12
401
10 11
424A7 PRINT
41
518 F16
401
17 18
523F32 - MCL
56

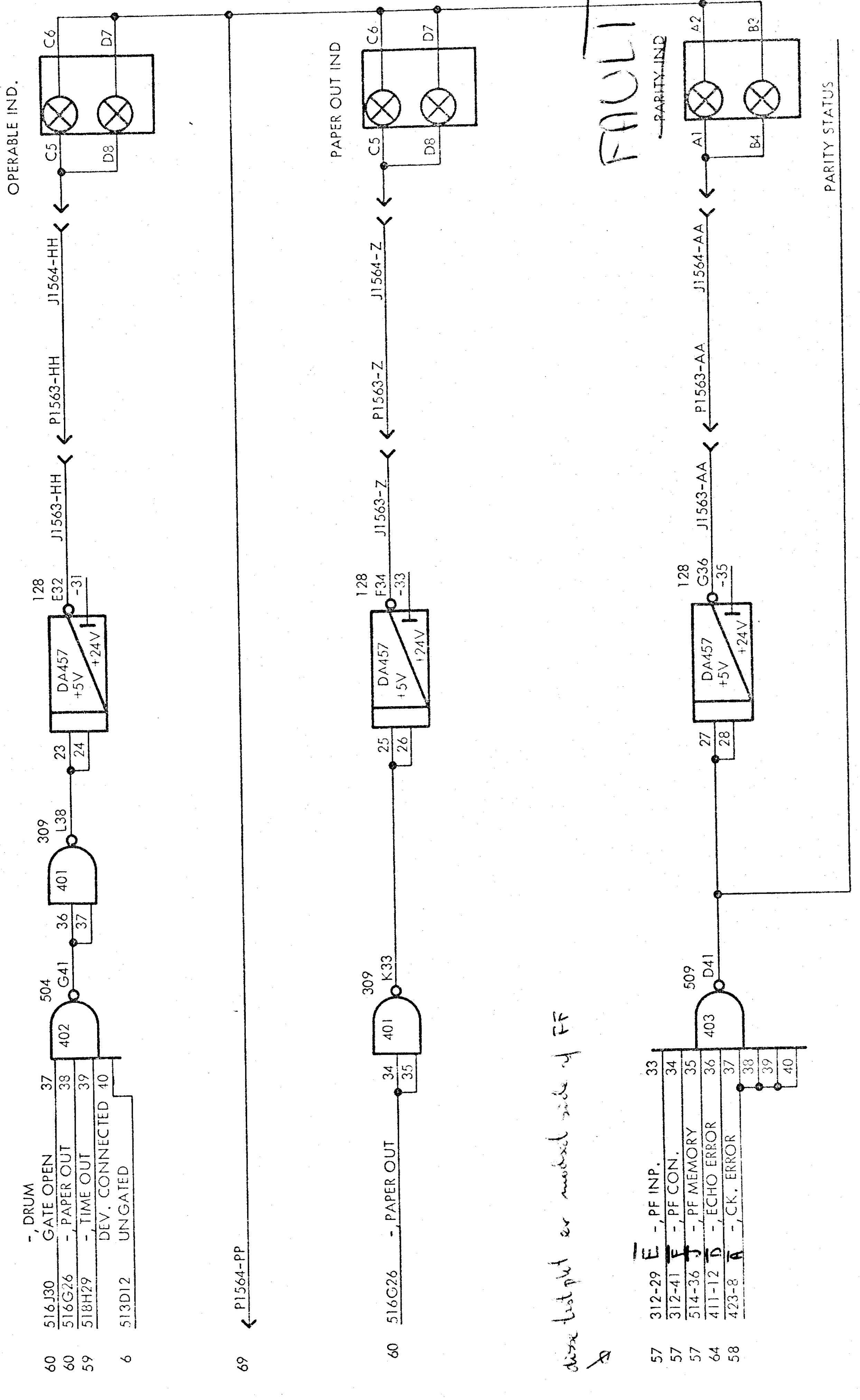


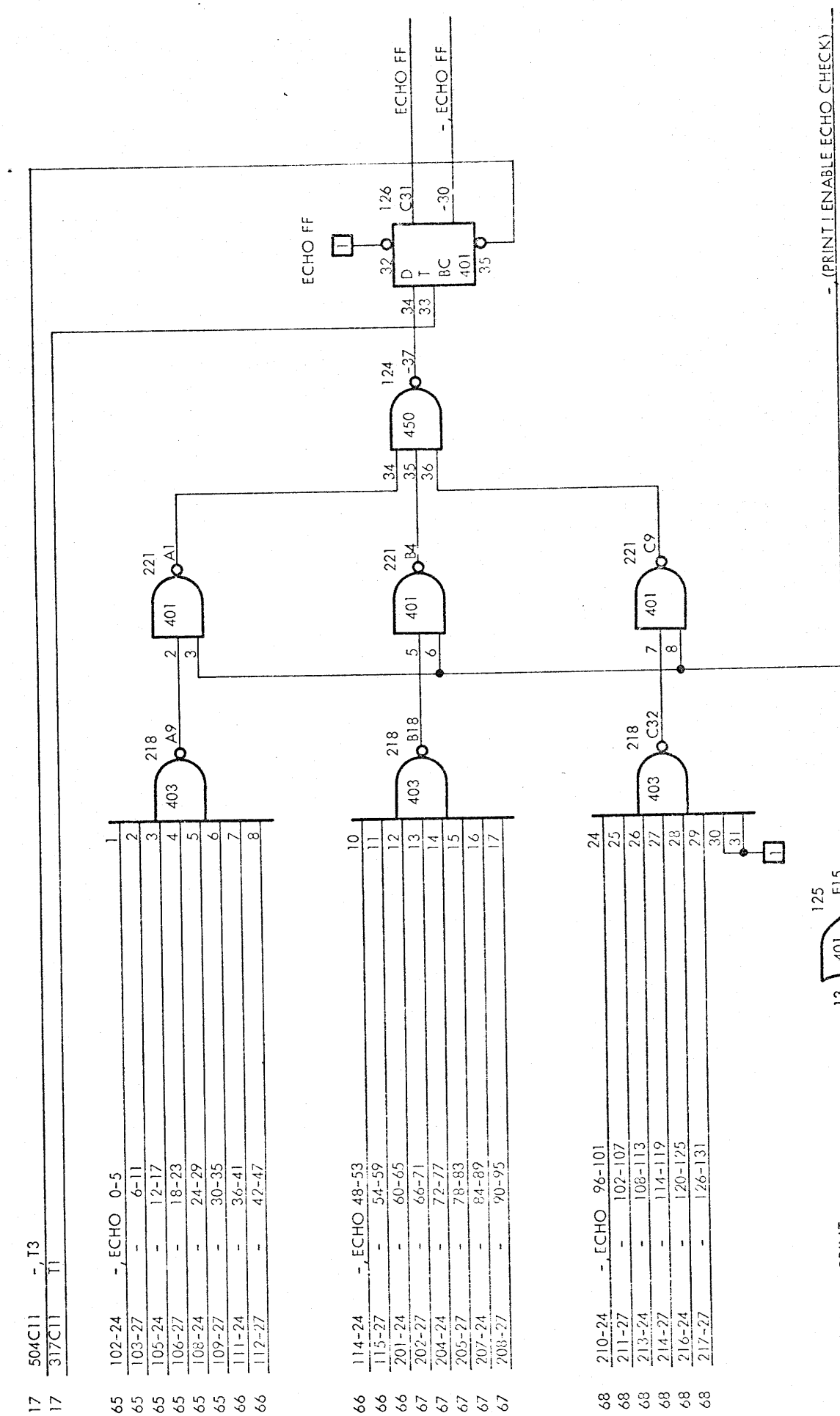
LPE 200

A10654

PAPER OUT DRUM GATE OPEN

Logic Diagram


OPERABLE IND.
PAPER OUT IND
FAULT
PARITY IND
PARITY STATUS
C6
D7
C5
D8
A2
B3
A1
B4
J1564-HH
P1563-HH
J1563-HH
J1564-Z
P1563-Z
J1563-Z
J1564-AA
P1563-AA
J1563-AA
DA457
+5V
+24V
128
E32
-31
F34
-33
G36
-35
309
L38
401
504
G41
402
K33
509
D41
403
-, DRUM GATE OPEN
-, PAPER OUT
-, TIME OUT
DEV. CONNECTED UNGATED
-, PF INP.
-, PF CON.
-, PF MEMORY
-, ECHO ERROR
-, CK. ERROR
516J30
516G26
518H29
513D12
P1564-PP
312-29
312-41
514-36
411-12
423-8

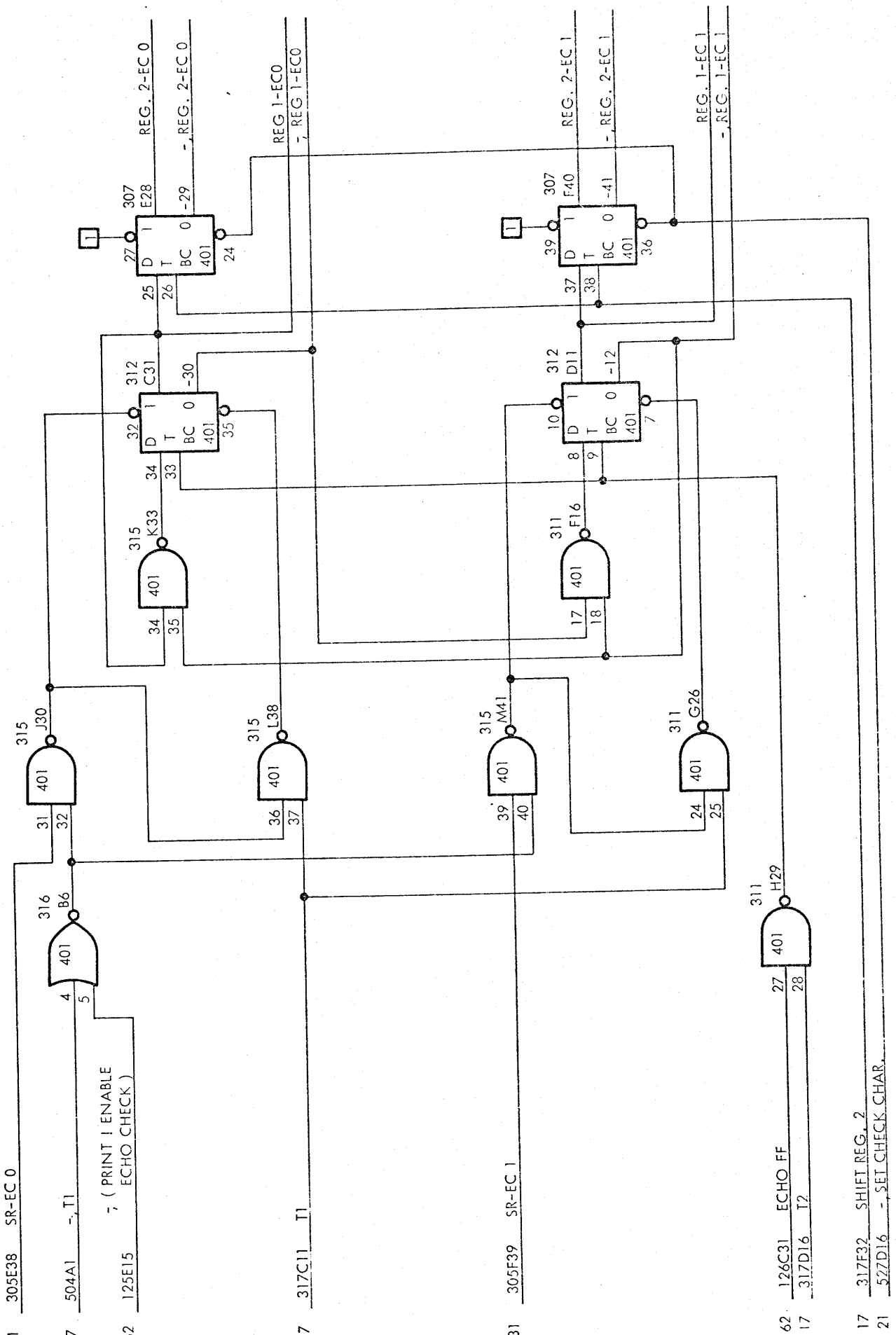


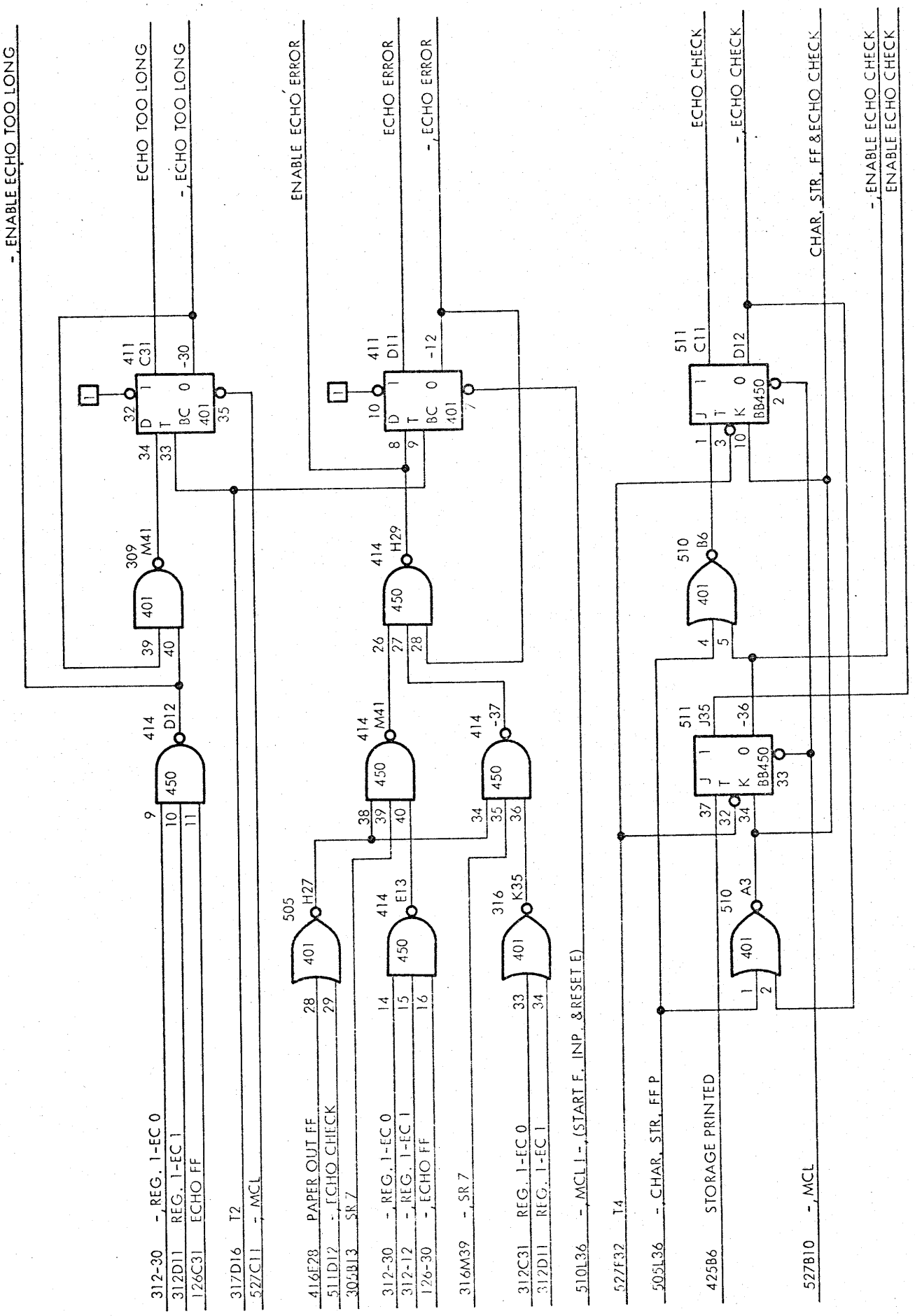
LPE 200

A10396

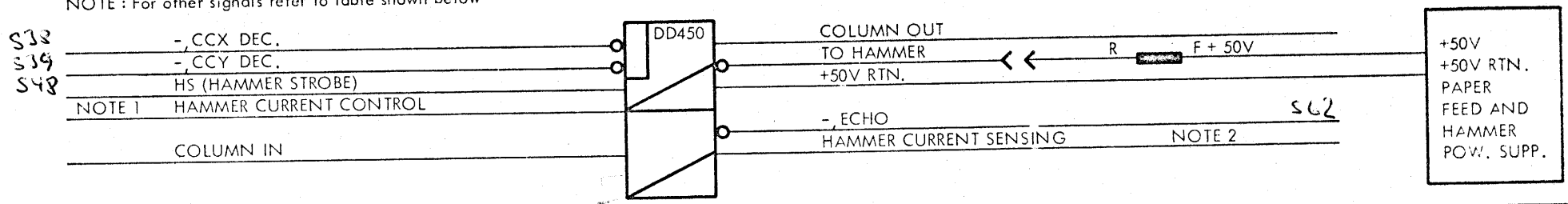
ECHO SELECTION

Logic Diagram


307 E28
REG. 2-EC 0
-REG. 2-EC 0
REG 1-EC0
-REG 1-EC0
307 F40
REG. 2-EC 1
-REG. 2-EC 1
REG. 1-EC 1
-REG. 1-EC 1
312 C31
312 D11
315 K33
311 F16
315 J30
315 L38
315 M41
311 G26
316 B6
311 H29
-(PRINT I ENABLE ECHO CHECK)
305E38 SR-EC 0
504A1 -T1
125E15
317C11 T1
305F39 SR-EC 1
126C31 ECHO FF
317D16 T2
317F32 SHIFT REG. 2
527D16 -SET CHECK CHAR.

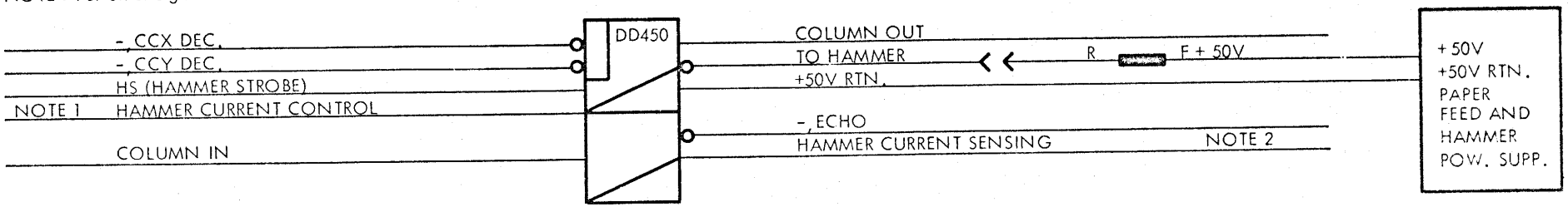

- ENABLE ECHO TOO LONG
ECHO TOO LONG
- ECHO TOO LONG
ENABLE ECHO ERROR
ECHO ERROR
- ECHO ERROR
ECHO CHECK
- ECHO CHECK
CHAR. STR. FF & ECHO CHECK
- ENABLE ECHO CHECK
ENABLE ECHO CHECK
411 C31
411 D11
511 C11
511 D12
511 J35
309 M41
414 D12
414 H29
414 M41
414 -37
510 B6
510 A3
505 H27
414 E13
316 K35
- REG. 1-EC 0
REG. 1-EC 1
ECHO FF
T2
- MCL
PAPER OUT FF
- ECHO CHECK
SR 7
- REG. 1-EC 0
- REG. 1-EC 1
- ECHO FF
- SR 7
REG. 1-EC 0
REG. 1-EC 1
- MCL 1 - (START F. INP. & RESET E)
T4
- CHAR. STR. FF P
STORAGE PRINTED
- MCL

NOTE 1 : The HAMMER CURRENT CONTROL signal is wired to pin 9 on all HAMMER DRIVER PCBs
NOTE 2 : The HAMMER CURRENT SENSE wires pin 18 on all HAMMER DRIVER PCBs are wired to HAMMER CURRENT ERROR circuit on 129-32
NOTE : For other signals refer to table shown below



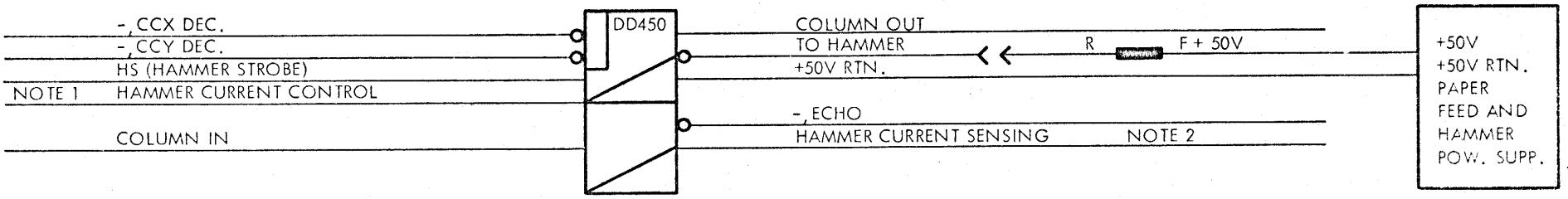
DRIVER		-, CCX DEC			-, CCY DEC			COLUMN		HS IN PIN 40	TO HAMMER			+ 50 V RTN		- ECHO	
NO	POS	X	FROM LD 38 POS	IN PIN	Y	FROM LD 39 POS	IN PIN	OUT PIN	IN PIN	FROM LD 48 POS	NO	OUT PIN	TO JACK 1560	TO JACK 1561	OUT PIN	TO CAP BANK	OUT PIN	TO LD 62 POS
0	101	0	118 A 7	39	0	120 A 7	38	41	23	219 B 10	0	A 7	A		10, 11	TB4-2	24	218-1
1		1	118 B 10	35			36	37	25		1	B 5		A	12, 13		24	
2		2	118 C 13	33			34	32	26		2	C 3	B		14, 15		27	
3		3	118 D 16	31			30	29	28		3	D 1		B	16, 17		27	
4	102	4	118 E 33	39			38	41	23		4	A 7	C		10, 11		24	
5		5	118 F 30	35			36	37	25		5	B 5		C	12, 13		24	
6		6	118 G 27	33			34	32	26		6	C 3	D		14, 15		27	218-2
7		7	118 H 24	31			30	29	28		7	D 1		D	16, 17		27	
8	103	8	119 A 7	39		120 A 8	38	41	23		8	A 7	E		10, 11		24	
9		9	119 B 10	35			36	37	25		9	B 5		E	12, 13		24	
10		10	119 C 13	33			34	32	26		10	C 3	F		14, 15		27	
11		11	119 D 16	31			30	29	28		11	D 1		F	16, 17		27	
12	104	12	119 E 33	39			38	41	23		12	A 7	H		10, 11		24	218-3
13		13	119 F 30	35			36	37	25		13	B 5		H	12, 13		24	
14		14	119 G 27	33			34	32	26		14	C 3	J		14, 15		27	
15		15	119 H 24	31			30	29	28		15	D 1		J	16, 17		27	
16	105	0	118 A 7	39	16	120 B 10	38	41	23		16	A 7	K		10, 11		24	
17		1	118 B 10	35			36	37	25		17	B 5		K	12, 13		24	
18		2	118 C 13	33			34	32	26		18	C 3	L		14, 15		27	218-4
19		3	118 D 16	31			30	29	28		19	D 1		L	16, 17		27	
20	106	4	118 E 33	39			38	41	23		20	A 7	M		10, 11		24	
21		5	118 F 30	35			36	37	25		21	B 5		M	12, 13		24	
22		6	118 G 27	33			34	32	26		22	C 3	N		14, 15		27	
23		7	118 H 24	31			30	29	28		23	D 1		N	16, 17		27	
24	107	8	119 A 7	39		120 B 11	38	41	23	219 C 11	24	A 7	P		10, 11	TB4-3	24	218-5
25		9	119 B 10	35			36	37	25		25	B 5		P	12, 13		24	
26		10	119 C 13	33			34	32	26		26	C 3	R		14, 15		27	
27		11	119 D 16	31			30	29	28		27	D 1		R	16, 17		27	
28	108	12	119 E 33	39			38	41	23		28	A 7	S		10, 11		24	
29		13	119 F 30	35			36	37	25		29	B 5		S	12, 13		24	
30		14	119 G 27	33			34	32	26		30	C 3	T		14, 15		27	218-6
31		15	119 H 24	31	31		30	29	28		31	D 1		T	16, 17		27	

NOTE 1 : The HAMMER CURRENT CONTROL signal is wired to pin 9 on all HAMMER DRIVER PCBs
NOTE 2 : The HAMMER CURRENT SENSE wires pin 18 on all HAMMER DRIVER PCBs are wired to HAMMER CURRENT ERROR circuit on 129-32
NOTE : For other signals refer to table shown below



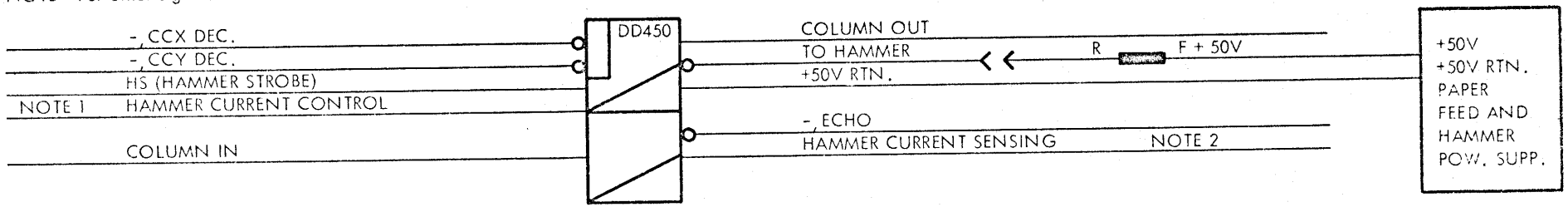
DRIVER		- CCX DEC			- CCY DEC			COLUMN		HS IN PIN 40	TO HAMMER				+50 V RTN		- ECHO	
NO	POS	X	FROM LD 38 POS	IN PIN	Y	FROM LD 39 POS	IN PIN	OUT PIN	IN PIN	FROM LD 48 POS	NO	OUT PIN	TO JACK 1560	TO JACK 1561	OUT PIN	TO CAP BANK	OUT PIN	TO LD 62 POS
32	109	0	118 A 7	39	32	120 C 13	38	41	23	219C11	32	A 7	U		10, 11	TB4-3	24	218-6
33		1	118 B 10	35			36	37	25		33	B 5		U	12, 13		24	
34		2	118 C 13	33			34	32	26		34	C 3	V		14, 15		27	
35		3	118 D 16	31			30	29	28		35	D 1		V	16, 17		27	
36	110	4	118 E 33	39			38	41	23		36	A 7	W		10, 11		24	218-7
37		5	118 F 30	35			36	37	25		37	B 5		W	12, 13		24	
38		6	118 G 27	33			34	32	26		38	C 3	X		14, 15		27	
39		7	118 H 24	31			30	29	28		39	D 1		X	16, 17		27	
40	111	8	119 A 7	39		120 C 14	38	41	23		40	A 7	Y		10, 11		24	
41		9	119 B 10	35			36	37	25		41	B 5		Y	12, 13		24	
42		10	119 C 13	33			34	32	26		42	C 3	Z		14, 15		27	218-8
43		11	119 D 16	31			30	29	28		43	D 1		Z	16, 17		27	
44	112	12	119 E 33	39			38	41	23		44	A 7	AA		10, 11		24	
45		13	119 F 30	35			36	37	25		45	B 5		AA	12, 13		24	
46		14	119 G 27	33			34	32	26		46	C 3	AB		14, 15		27	
47		15	119 H 24	31			30	29	28		47	D 1		AB	16, 17		27	
48	113	0	118 A 7	39	48	120 D 16	38	41	23	219 D 16	48	A 7	AC		10, 11	TB4-4	24	218-10
49		1	118 B 10	35			36	37	25		49	B 5		AC	12, 13		24	
50		2	118 C 13	33			34	32	26		50	C 3	AD		14, 15		27	
51		3	118 D 16	31			30	29	28		51	D 1		AD	16, 17		27	
52	114	4	118 E 33	39			38	41	23		52	A 7	AE		10, 11		24	
53		5	118 F 30	35			36	37	25		53	B 5		AE	12, 13		24	
54		6	118 G 27	33			34	32	26		54	C 3	AF		14, 15		27	218-11
55		7	118 H 24	31			30	29	28		55	D 1		AF	16, 17		27	
56	115	8	119 A 7	39		120 D 17	38	41	23		56	A 7	AH		10, 11		24	
57		9	119 B 10	35			36	37	25		57	B 5		AH	12, 13		24	
58		10	119 C 13	33			34	32	26		58	C 3	AJ		14, 15		27	
59		11	119 D 16	31			30	29	28		59	D 1		AJ	16, 17		27	
60	116	12	119 E 33	39			38	41	23		60	A 7	AK		10, 11		24	218-12
61		13	119 F 30	35			36	37	25		61	B 5		AK	12, 13		24	
62		14	119 G 27	33			34	32	26		62	C 3	AL		14, 15		27	
63		15	119 H 24	31	63		30	29	28		63	D 1		AL	16, 17		27	

NOTE 1 : The HAMMER CURRENT CONTROL signal is wired to pin 9 on all HAMMER DRIVER PCBs
NOTE 2 : The HAMMER CURRENT SENSE wires pin 18 on all HAMMER DRIVER PCBs are wired to HAMMER CURRENT ERROR circuit on 129-32
NOTE : For other signals refer to table shown below

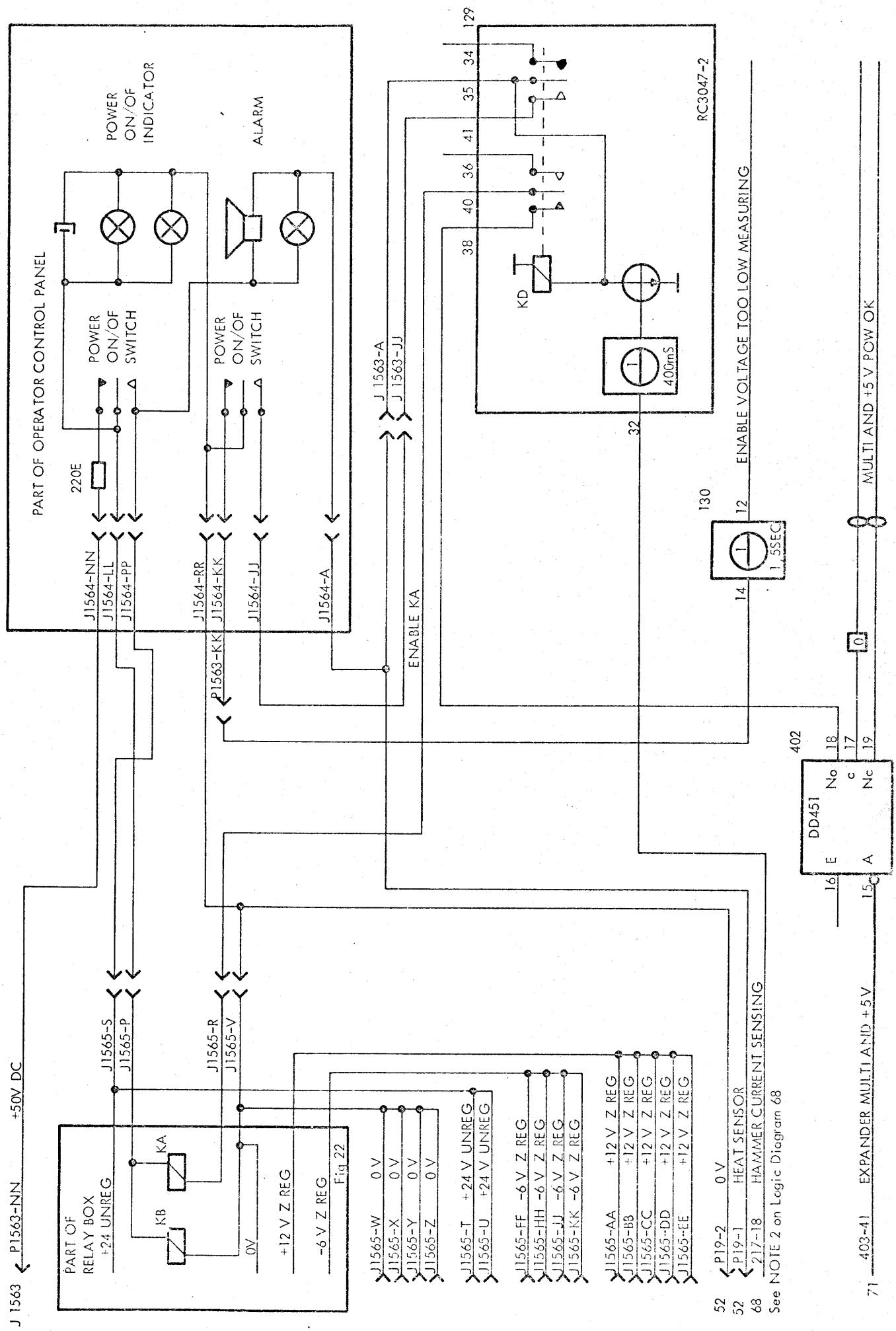


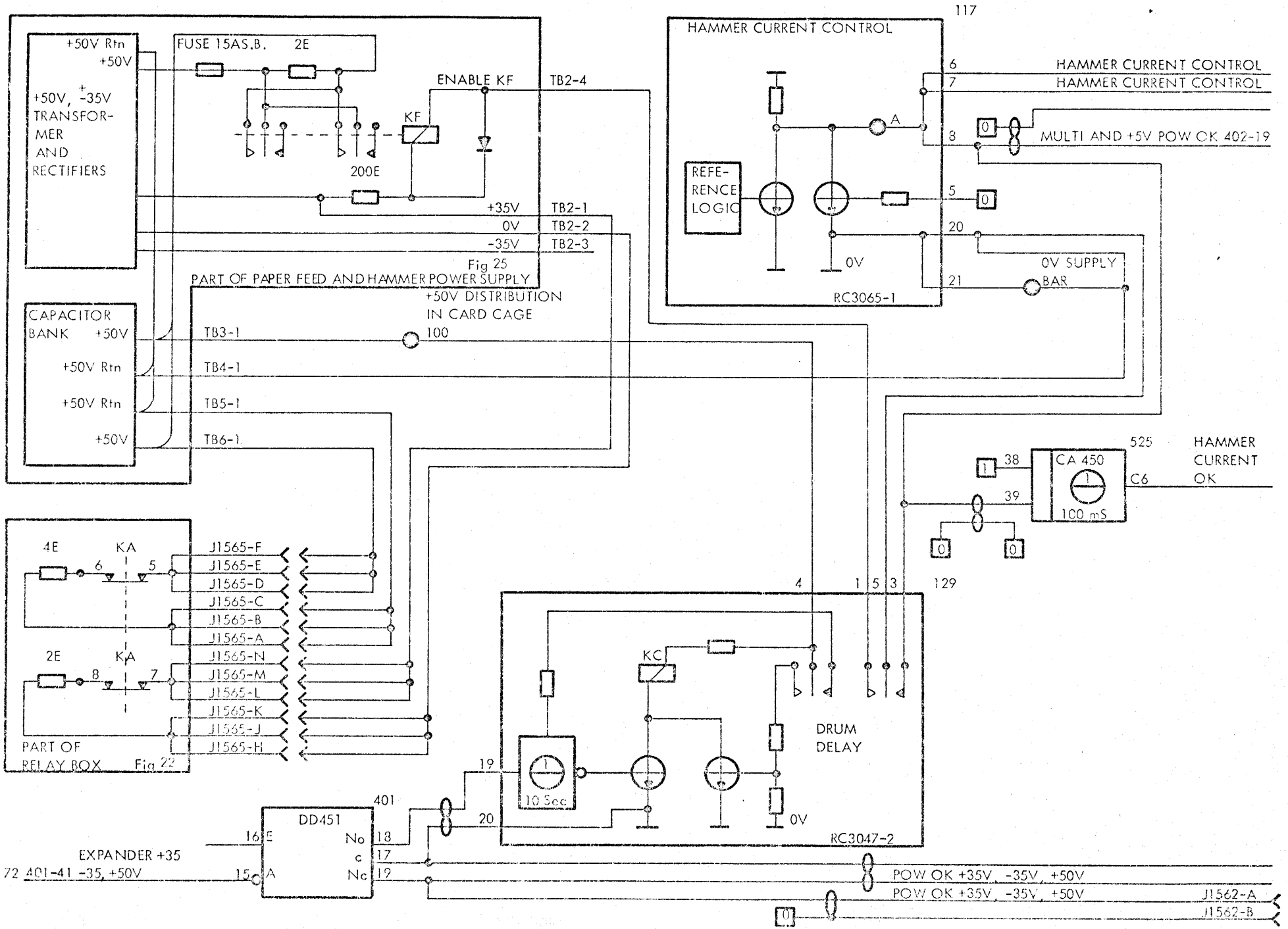
DRIVER		-, CCX DEC			-, CCY DEC			COLUMN		HS IN PIN 40	TO HAMMER				+50V RTN		-, ECHO	
NO	POS	X	FROM LD 38	IN	Y	FROM LD 39	IN	OUT	IN	FROM LD 48	NO	OUT	TO JACK		OUT	TO CAP	OUT	TO LD 62
			POS	PIN		POS	PIN	PIN	PIN	POS		PIN	1560	1561	PIN	BANK	PIN	POS
64	201	0	118 A 7	39	64	120 E 33	38	41	23	219D16	64	A 7	BB		10, 11	TB5-2	24	218-12
65		1	118 B 10	35			36	37	25		65	B 5		BB	12, 13		24	
66		2	118 C 13	33			34	32	26		66	C 3	BC		14, 15		27	218-13
67		3	118 D 16	31			30	29	28		67	D 1		BC	16, 17		27	
68	202	4	118 E 33	39			38	41	23		68	A 7	BD		10, 11		24	
69		5	118 F 30	35			36	37	25		69	B 5		BD	12, 13		24	
70		6	118 G 27	33			34	32	26		70	C 3	BE		14, 15		27	
71		7	118 H 24	31			30	29	28		71	D 1		BE	16, 17		27	
72	203	8	119 A 7	39		120 E 34	38	41	23	219 E 31	72	A 7	BF		10, 11		24	218-14
73		9	119 B 10	35			36	37	25		73	B 5		BF	12, 13		24	
74		10	119 C 13	33			34	32	26		74	C 3	BH		14, 15		27	
75		11	119 D 16	31			30	29	28		75	D 1		BH	16, 17		27	
76	204	12	119 E 33	39			38	41	23		76	A 7	BJ		10, 11		24	
77		13	119 F 30	35			36	37	25		77	B 5		BJ	12, 13		24	
78		14	119 G 27	33			34	32	26		78	C 3	BK		14, 15		27	218-15
79		15	119 H 24	31			30	29	28		79	D 1		BK	16, 17		27	
80	205	0	118 A 7	39	80	120 F 30	38	41	23		80	A 7	BL		10, 11		24	
81		1	118 B 10	35			36	37	25		81	B 5		BL	12, 13		24	
82		2	118 C 13	33			34	32	26		82	C 3	BM		14, 15		27	
83		3	118 D 16	31			30	29	28		83	D 1		BM	16, 17		27	
84	206	4	118 E 33	39			38	41	23		84	A 7	BN		10, 11		24	218-16
85		5	118 F 30	35			36	37	25		85	B 5		BN	12, 13		24	
86		6	118 G 27	33			34	32	26		86	C 3	BP		14, 15		27	
87		7	118 H 24	31			30	29	28		87	D 1		BP	16, 17		27	
88	207	8	119 A 7	39		120 F 31	38	41	23		88	A 7	BR		10, 11	TB5-3	24	
89		9	119 B 10	35			36	37	25		89	B 5		BR	12, 13		24	
90		10	119 C 13	33			34	32	26		90	C 3	BS		14, 15		27	218-17
91		11	119 D 16	31			30	29	28		91	D 1		BS	16, 17		27	
92	208	12	119 E 33	39			38	41	23		92	A 7	BT		10, 11		24	
93		13	119 F 30	35			36	37	25		93	B 5		BT	12, 13		24	
94		14	119 G 27	33			34	32	26		94	C 3	BU		14, 15		27	
95		15	119 H 24	31			30	29	28		95	D 1		BU	16, 17		27	

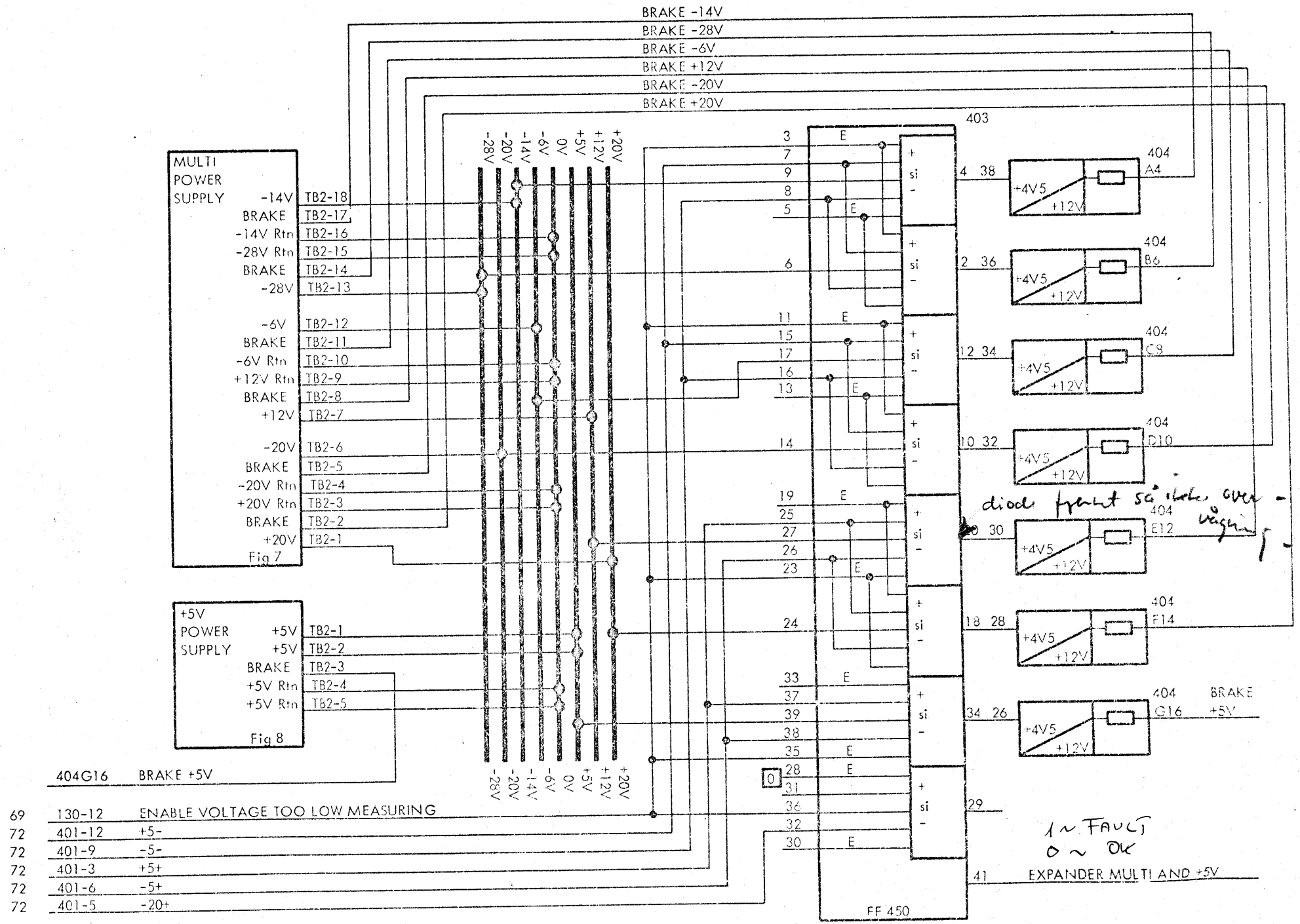
NOTE 1 : The HAMMER CURRENT CONTROL signal is wired to pin 9 on all HAMMER DRIVER PCBs
NOTE 2 : The HAMMER CURRENT SENSE wires pin 18 on all HAMMER DRIVER PCBs are wired to HAMMER CURRENT ERROR circuit on 129-32
NOTE : For other signals refer to table shown below

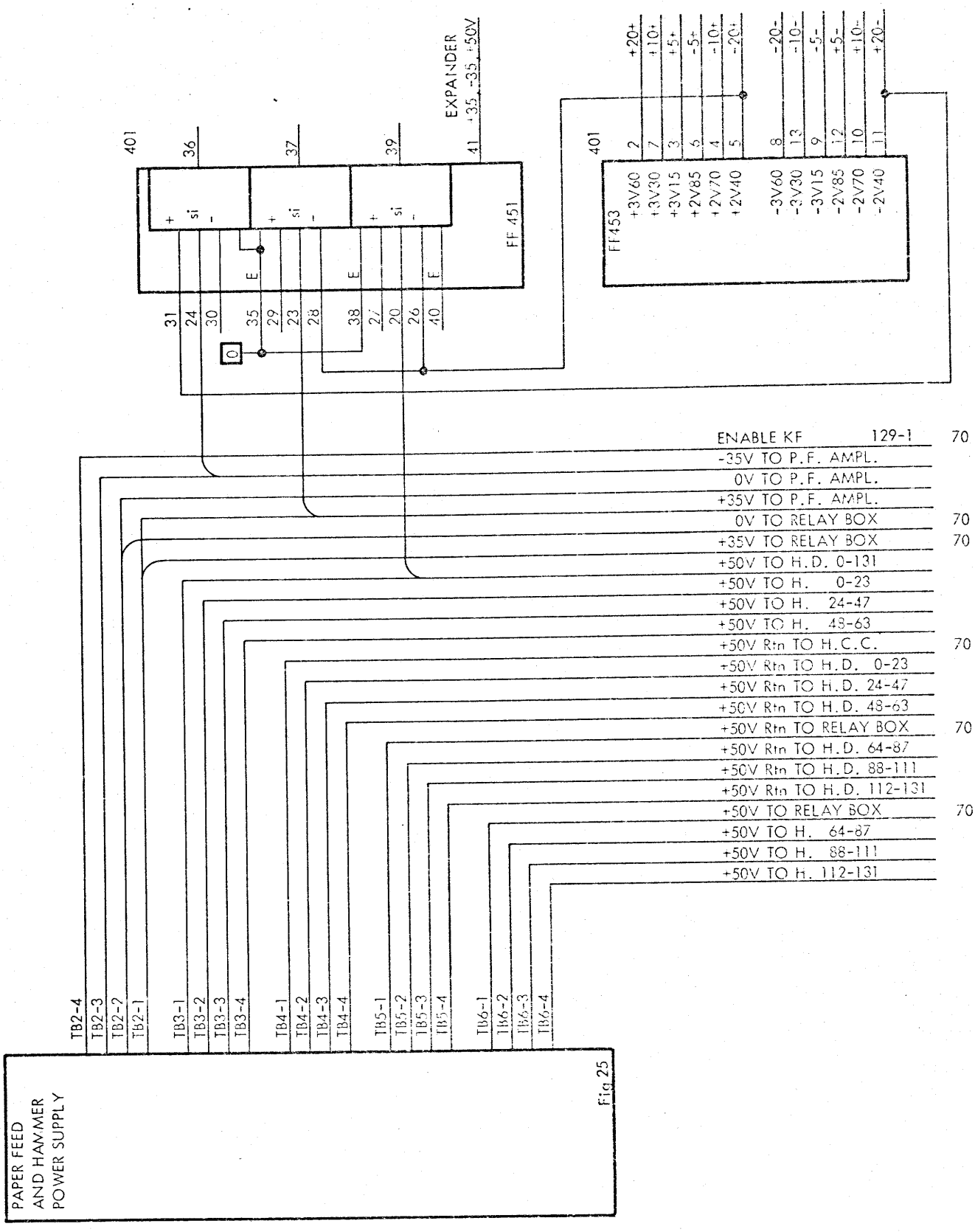


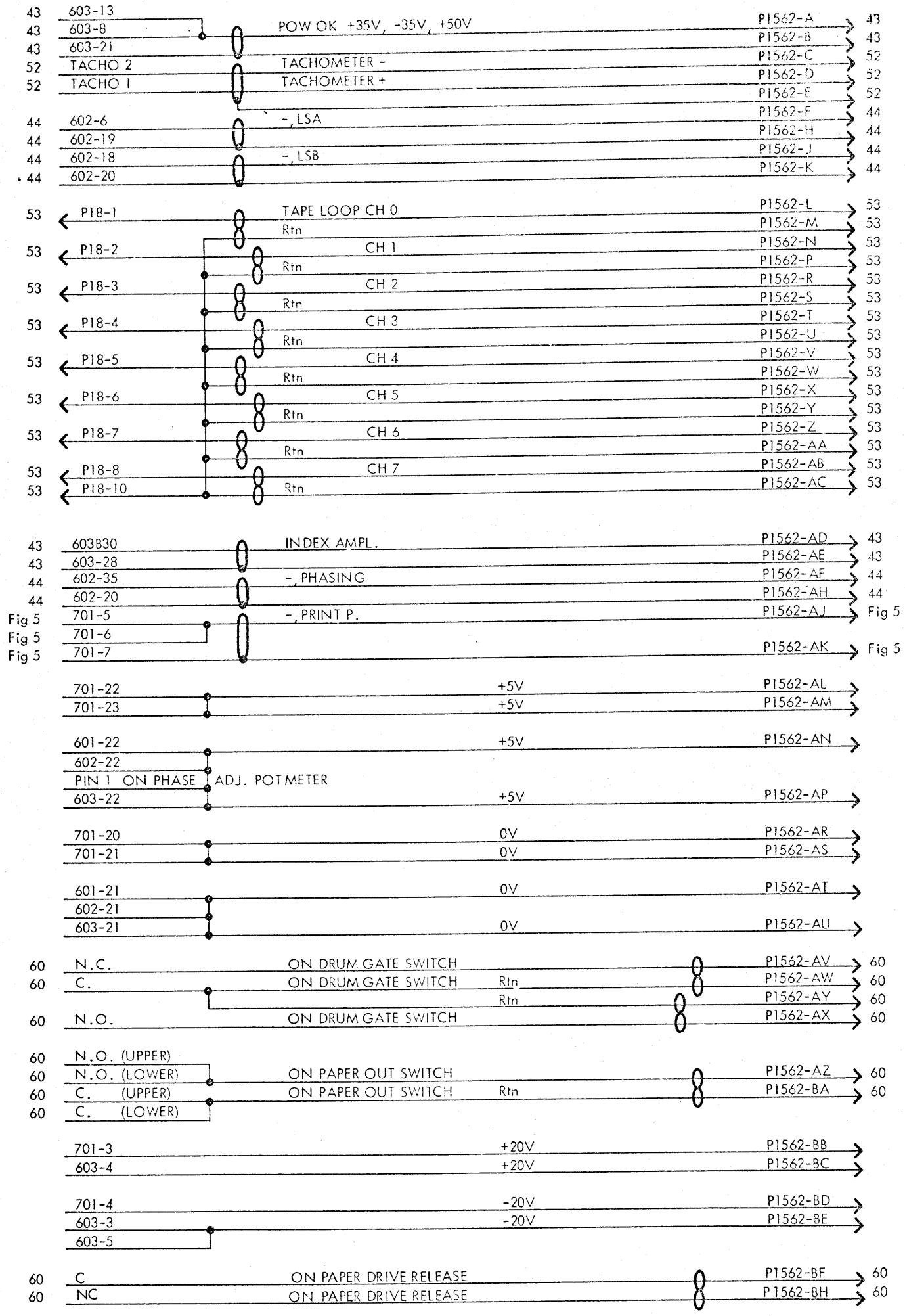
DRIVER		- CCX DEC			- CCY DEC			COLUMN		HS IN PIN 40	TO HAMMER				+50V RTN		- ECHO	
NO	POS	X	FROM LD 38 POS	IN PIN	Y	FROM LD 39 POS	IN PIN	OUT PIN	IN PIN	FROM LD 48 POS	NO	OUT PIN	TO JACK 1560	TO JACK 1561	OUT PIN	TO CAP BANK	OUT PIN	TO LD 62 POS
96	209	0	118 A 7	39	96	120 G 27	38	41	23	219 F 32	96	A 7	BV		10, 11	TB5-3	24	218-24
97		1	118 B 10	35			36	37	25		97	B 5		BV	12, 13		24	
98		2	118 C 13	33			34	32	26		98	C 3	BW		14, 15		27	
99		3	118 D 16	31			30	29	28		99	D 1		BW	16, 17		27	
100	210	4	118 E 33	39			38	41	23		100	A 7	BX		10, 11		24	
101		5	118 F 30	35			36	37	25		101	B 5		BX	12, 13		24	
102		6	118 G 27	33			34	32	26		102	C 3	BY		14, 15		27	218-25
103		7	118 H 24	31			30	29	28		103	D 1		BY	16, 17		27	
104	211	8	119 A 7	39		120G28	38	41	23		104	A 7	BZ		10, 11		24	
105		9	119 B 10	35			36	37	25		105	B 5		BZ	12, 13		24	
106		10	119 C 13	33			34	32	26		106	C 3	CA		14, 15		27	
107		11	119 D 16	31			30	29	28		107	D 1		CA	16, 17		27	
108	212	12	119 E 33	39			38	41	23		108	A 7	CB		10, 11		24	218-26
109		13	119 F 30	35			36	37	25		109	B 5		CB	12, 13		24	
110		14	119 G 27	33			34	32	26		110	C 3	CC		14, 15		27	
111		15	119 H 24	31			30	29	28		111	D 1		CC	16, 17		27	
112	213	0	118 A 7	39	112	120 H 24	38	41	23		112	A 7	CD		10, 11	TB5-4	24	
113		1	118 B 10	35			36	37	25		113	B 5		CD	12, 13		24	
114		2	118 C 13	33			34	32	26		114	C 3	CE		14, 15		27	218-27
115		3	118 D 16	31			30	29	28		115	D 1		CE	16, 17		27	
116	214	4	118 E 33	39			38	41	23		116	A 7	CF		10, 11		24	
117		5	118 F 30	35			36	37	25		117	B 5		CF	12, 13		24	
118		6	118 G 27	33			34	32	26		118	C 3	CH		14, 15		27	
119		7	118 H 24	31			30	29	28		119	D 1		CH	16, 17		27	
120	215	8	119 A 7	39		120 H 25	38	41	23	219 G 41	120	A 7	CJ		10, 11		24	218-28
121		9	119 B 10	35			36	37	25		121	B 5		CJ	12, 13		24	
122		10	119 C 13	33			34	32	26		122	C 3	CK		14, 15		27	
123		11	119 D 16	31			30	29	28		123	D 1		CK	16, 17		27	
124	216	12	119 E 33	39			38	41	23		124	A 7	CL		10, 11		24	
125		13	119 F 30	35			36	37	25		125	B 5		CL	12, 13		24	
126		14	119 G 27	33			34	32	26		126	C 3	CM		14, 15		27	218-29
127		15	119 H 24	31			30	29	28		127	D 1		CM	16, 17		27	
128	217	0	118 A 7	39	128	121 A 7	38	41	23		128	A 7	CN		10, 11		24	
129		1	118 B 10	35			36	37	25		129	B 5		CN	12, 13		24	
130		2	118 C 13	33			34	32	26		130	C 3	CP		14, 15		27	
131		3	118 D 16	31			30	29	28		131	D 1		CP	16, 17		27	

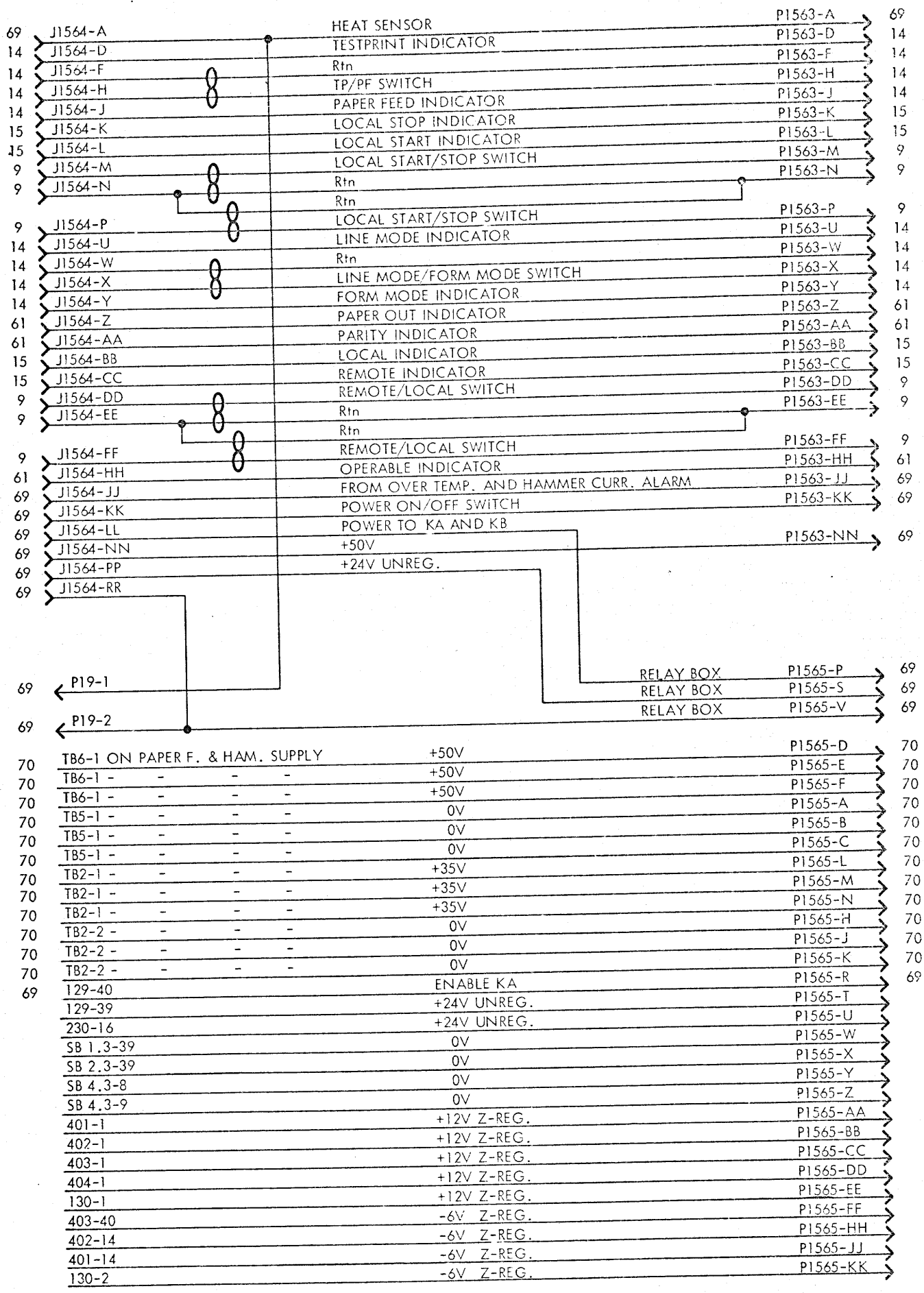

PART OF OPERATOR CONTROL PANEL
POWER ON/OF INDICATOR
ALARM
POWER ON/OF SWITCH
POWER ON/OF SWITCH
220E
J1564-NN
J1564-LL
J1564-PP
J1564-RR
J1564-KK
J1564-JJ
J1564-A
P1563-KK
ENABLE KA
J 1563-A
J 1563-JJ
RC3047-2
KD
400mS
ENABLE VOLTAGE TOO LOW MEASURING
1.5SEC
MULTI AND +5 V POW OK
DD451
EXPANDER MULTI AND +5 V
PART OF RELAY BOX
+24 UNREG
KA
KB
0V
+12 V Z REG
-6 V Z REG
Fig 22
J1565-S
J1565-P
J1565-R
J1565-V
J1565-W 0 V
J1565-X 0 V
J1565-Y 0 V
J1565-Z 0 V
J1565-T +24 V UNREG
J1565-U +24 V UNREG
J1565-FF -6 V Z REG
J1565-HH -6 V Z REG
J1565-JJ -6 V Z REG
J1565-KK -6 V Z REG
J1565-AA +12 V Z REG
J1565-BB +12 V Z REG
J1565-CC +12 V Z REG
J1565-DD +12 V Z REG
J1565-EE +12 V Z REG
P19-2 0 V
P19-1 HEAT SENSOR
217-18 HAMMER CURRENT SENSING
See NOTE 2 on Logic Diagram 68
403-41
+50V DC
P1563-NN
J 1563

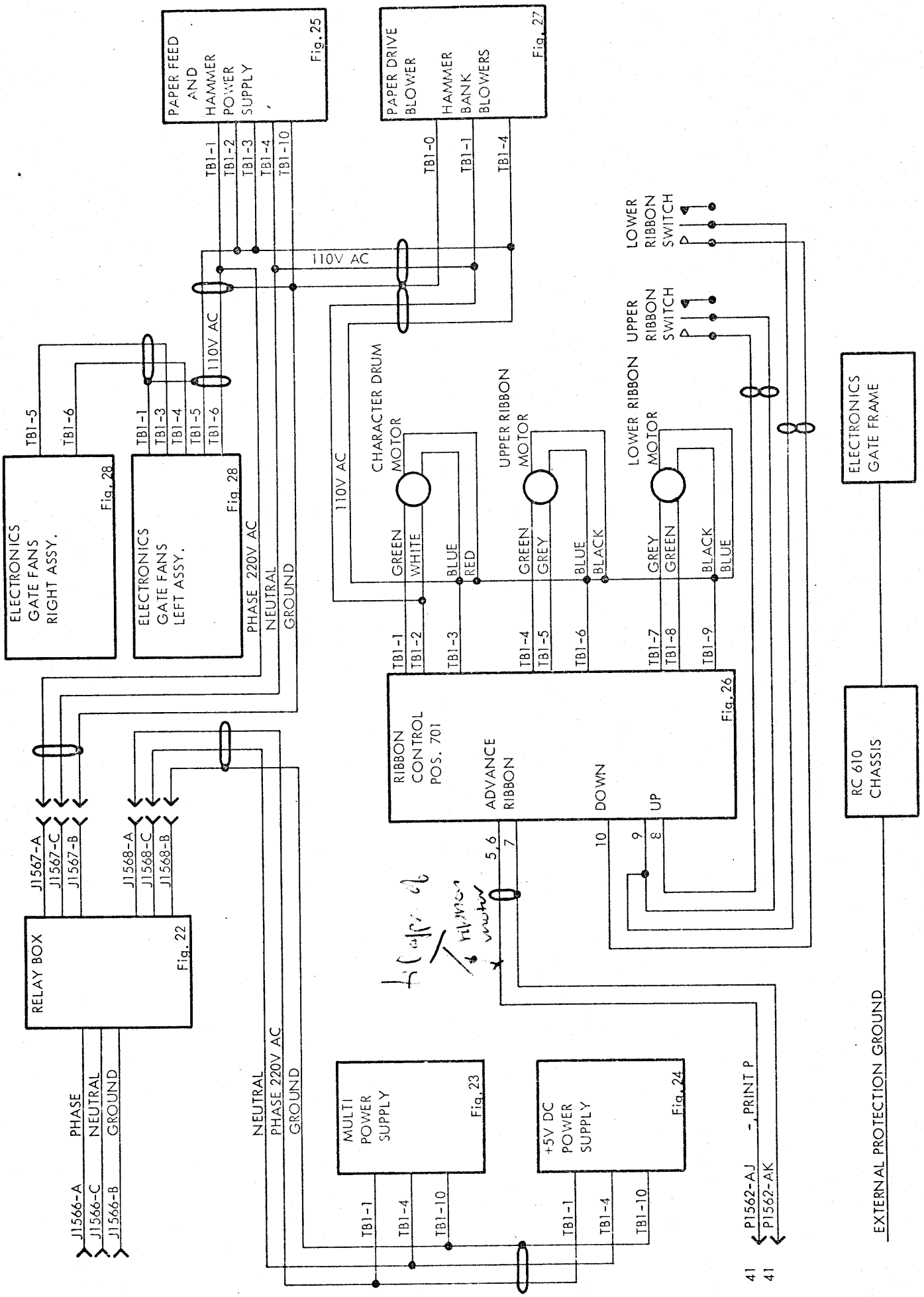

+50V Rtn
+50V
+50V, +35V TRANSFORMER AND RECTIFIERS
FUSE 15AS.B. 2E
ENABLE KF
TB2-4
KF
200E
+35V TB2-1
0V TB2-2
-35V TB2-3
Fig 25
PART OF PAPER FEED AND HAMMER POWER SUPPLY
+50V DISTRIBUTION IN CARD CAGE
CAPACITOR BANK +50V
+50V Rtn
+50V Rtn
+50V
TB3-1
TB4-1
TB5-1
TB6-1
100
HAMMER CURRENT CONTROL
117
REFE-RENCE LOGIC
A
0V
RC3065-1
6 HAMMER CURRENT CONTROL
7 HAMMER CURRENT CONTROL
8 MULTI AND +5V POW OK 402-19 69
5
20
21
0V SUPPLY BAR
525 HAMMER CURRENT OK C6
CA 450
100 mS
38
39
4E KA 6 5
2E KA 8 7
J1565-F
J1565-E
J1565-D
J1565-C
J1565-B
J1565-A
J1565-N
J1565-M
J1565-L
J1565-K
J1565-J
J1565-H
PART OF RELAY BOX Fig 22
4 1 5 3 129
KC
DRUM DELAY
10 Sec
0V
RC3047-2
19
20
401
DD451
16 E
15 A
No 18
c 17
Nc 19
EXPANDER +35
72 401-41 -35, +50V
POW OK +35V, -35V, +50V
POW OK +35V, -35V, +50V
J1562-A
J1562-B


BRAKE -14V
BRAKE -28V
BRAKE -6V
BRAKE +12V
BRAKE -20V
BRAKE +20V
MULTI POWER SUPPLY
-14V TB2-18
BRAKE TB2-17
-14V Rtn TB2-16
-28V Rtn TB2-15
BRAKE TB2-14
-28V TB2-13
-6V TB2-12
BRAKE TB2-11
-6V Rtn TB2-10
+12V Rtn TB2-9
BRAKE TB2-8
+12V TB2-7
-20V TB2-6
BRAKE TB2-5
-20V Rtn TB2-4
+20V Rtn TB2-3
BRAKE TB2-2
+20V TB2-1
Fig 7
+5V POWER SUPPLY
+5V TB2-1
+5V TB2-2
BRAKE TB2-3
+5V Rtn TB2-4
+5V Rtn TB2-5
Fig 8
-28V -20V -14V -6V 0V +5V +12V +20V
403
404 A4
404 B6
404 C8
404 D10
404 E12
404 F14
404 G16 BRAKE +5V
+4V5
+12V
si
FF 450
404G16 BRAKE +5V
69 130-12 ENABLE VOLTAGE TOO LOW MEASURING
72 401-12 +5-
72 401-9 -5-
72 401-3 +5+
72 401-6 -5+
72 401-5 -20+
41 EXPANDER MULTI AND +5V
diod fram så ...
1 ~ FAULT
0 ~ OK


EXPANDER
41 +35 -35 +50V
401
36
37
39
FF 451
E
31
24
30
35
29
23
28
38
27
20
26
40
401
FF453
+3V60
+3V30
+3V15
+2V85
+2V70
+2V40
-3V60
-3V30
-3V15
-2V85
-2V70
-2V40
+20+
+10+
+5+
-5+
-10+
-20+
-20-
-10-
-5-
+5-
+10-
+20-
ENABLE KF 129-1 70
-35V TO P.F. AMPL.
0V TO P.F. AMPL.
+35V TO P.F. AMPL.
0V TO RELAY BOX 70
+35V TO RELAY BOX 70
+50V TO H.D. 0-131
+50V TO H. 0-23
+50V TO H. 24-47
+50V TO H. 48-63
+50V Rtn TO H.C.C. 70
+50V Rtn TO H.D. 0-23
+50V Rtn TO H.D. 24-47
+50V Rtn TO H.D. 48-63
+50V Rtn TO RELAY BOX 70
+50V Rtn TO H.D. 64-87
+50V Rtn TO H.D. 88-111
+50V Rtn TO H.D. 112-131
+50V TO RELAY BOX 70
+50V TO H. 64-87
+50V TO H. 88-111
+50V TO H. 112-131
TB2-4
TB2-3
TB2-2
TB2-1
TB3-1
TB3-2
TB3-3
TB3-4
TB4-1
TB4-2
TB4-3
TB4-4
TB5-1
TB5-2
TB5-3
TB5-4
TB6-1
TB6-2
TB6-3
TB6-4
PAPER FEED
AND HAMMER
POWER SUPPLY
Fig 25


43 603-13
43 603-8
43 603-21
POW OK +35V, -35V, +50V
P1562-A 43
P1562-B 43
P1562-C 52
P1562-D 52
P1562-E 52
P1562-F 44
P1562-H 44
P1562-J 44
P1562-K 44
52 TACHO 2
52 TACHO 1
TACHOMETER -
TACHOMETER +
44 602-6
44 602-19
44 602-18
44 602-20
-, LSA
-, LSB
53 P18-1
53 P18-2
53 P18-3
53 P18-4
53 P18-5
53 P18-6
53 P18-7
53 P18-8
53 P18-10
TAPE LOOP CH 0
CH 1
CH 2
CH 3
CH 4
CH 5
CH 6
CH 7
Rtn
P1562-L 53
P1562-M 53
P1562-N 53
P1562-P 53
P1562-R 53
P1562-S 53
P1562-T 53
P1562-U 53
P1562-V 53
P1562-W 53
P1562-X 53
P1562-Y 53
P1562-Z 53
P1562-AA 53
P1562-AB 53
P1562-AC 53
43 603B30
43 603-28
44 602-35
44 602-20
Fig 5 701-5
Fig 5 701-6
Fig 5 701-7
INDEX AMPL.
-, PHASING
-, PRINT P.
P1562-AD 43
P1562-AE 43
P1562-AF 44
P1562-AH 44
P1562-AJ Fig 5
P1562-AK Fig 5
701-22
701-23
+5V
P1562-AL
P1562-AM
601-22
602-22
PIN 1 ON PHASE ADJ. POTMETER
603-22
+5V
P1562-AN
P1562-AP
701-20
701-21
0V
P1562-AR
P1562-AS
601-21
602-21
603-21
0V
P1562-AT
P1562-AU
60 N.C.
60 C.
60 N.O.
ON DRUM GATE SWITCH
Rtn
P1562-AV 60
P1562-AW 60
P1562-AY 60
P1562-AX 60
60 N.O. (UPPER)
60 N.O. (LOWER)
60 C. (UPPER)
60 C. (LOWER)
ON PAPER OUT SWITCH
P1562-AZ 60
P1562-BA 60
701-3
603-4
+20V
P1562-BB
P1562-BC
701-4
603-3
603-5
-20V
P1562-BD
P1562-BE
60 C
60 NC
ON PAPER DRIVE RELEASE
P1562-BF 60
P1562-BH 60


69 J1564-A
14 J1564-D
14 J1564-F
14 J1564-H
14 J1564-J
15 J1564-K
15 J1564-L
9 J1564-M
9 J1564-N
9 J1564-P
14 J1564-U
14 J1564-W
14 J1564-X
14 J1564-Y
61 J1564-Z
61 J1564-AA
15 J1564-BB
15 J1564-CC
9 J1564-DD
9 J1564-EE
9 J1564-FF
61 J1564-HH
69 J1564-JJ
69 J1564-KK
69 J1564-LL
69 J1564-NN
69 J1564-PP
69 J1564-RR
HEAT SENSOR
TESTPRINT INDICATOR
Rtn
TP/PF SWITCH
PAPER FEED INDICATOR
LOCAL STOP INDICATOR
LOCAL START INDICATOR
LOCAL START/STOP SWITCH
Rtn
Rtn
LOCAL START/STOP SWITCH
LINE MODE INDICATOR
Rtn
LINE MODE/FORM MODE SWITCH
FORM MODE INDICATOR
PAPER OUT INDICATOR
PARITY INDICATOR
LOCAL INDICATOR
REMOTE INDICATOR
REMOTE/LOCAL SWITCH
Rtn
Rtn
REMOTE/LOCAL SWITCH
OPERABLE INDICATOR
FROM OVER TEMP. AND HAMMER CURR. ALARM
POWER ON/OFF SWITCH
POWER TO KA AND KB
+50V
+24V UNREG.
P1563-A 69
P1563-D 14
P1563-F 14
P1563-H 14
P1563-J 14
P1563-K 15
P1563-L 15
P1563-M 9
P1563-N 9
P1563-P 9
P1563-U 14
P1563-W 14
P1563-X 14
P1563-Y 14
P1563-Z 61
P1563-AA 61
P1563-BB 15
P1563-CC 15
P1563-DD 9
P1563-EE 9
P1563-FF 9
P1563-HH 61
P1563-JJ 69
P1563-KK 69
P1563-NN 69
69 P19-1
69 P19-2
RELAY BOX P1565-P 69
RELAY BOX P1565-S 69
RELAY BOX P1565-V 69
70 TB6-1 ON PAPER F. & HAM. SUPPLY +50V P1565-D 70
70 TB6-1 - - - - +50V P1565-E 70
70 TB6-1 - - - - +50V P1565-F 70
70 TB5-1 - - - - 0V P1565-A 70
70 TB5-1 - - - - 0V P1565-B 70
70 TB5-1 - - - - 0V P1565-C 70
70 TB2-1 - - - - +35V P1565-L 70
70 TB2-1 - - - - +35V P1565-M 70
70 TB2-1 - - - - +35V P1565-N 70
70 TB2-2 - - - - 0V P1565-H 70
70 TB2-2 - - - - 0V P1565-J 70
70 TB2-2 - - - - 0V P1565-K 70
69 129-40 ENABLE KA P1565-R 69
129-39 +24V UNREG. P1565-T
230-16 +24V UNREG. P1565-U
SB 1.3-39 0V P1565-W
SB 2.3-39 0V P1565-X
SB 4.3-8 0V P1565-Y
SB 4.3-9 0V P1565-Z
401-1 +12V Z-REG. P1565-AA
402-1 +12V Z-REG. P1565-BB
403-1 +12V Z-REG. P1565-CC
404-1 +12V Z-REG. P1565-DD
130-1 +12V Z-REG. P1565-EE
403-40 -6V Z-REG. P1565-FF
402-14 -6V Z-REG. P1565-HH
401-14 -6V Z-REG. P1565-JJ
130-2 -6V Z-REG. P1565-KK



LPE 200

A10461

BLOCK DIAGRAM
AC POWER
Figure

Fig. 13

PHYSICAL DESCRIPTION 16

The RC 610 LINE/PRINTER consists of two major assemblies: 16.1

1. THE PRINTER CHASSIS
2. THE ELECTRONICS GATE

The Printer Chassis Contains (see Fig.14): 16.2

1. RELAY BOX ASSEY.
2. CAPACITOR BANK ASSEY.
3. HAMMER BANK ASSEY.
4. OPERATOR CONTROL PANEL ASSEY.
5. TAPE LOOP READER ASSEY.
6. PAPER FEED DRIVE MOTOR ASSEY.
7. DRIVE MOTOR BLOWER ASSEY.
8. HAMMER BANK BLOWER ASSEY.
9. PAPER FEED AND HAMMER POW. SUPP.
10. DRUM GATE ASSEY.
11. RIBBON CONTROL ASSEY.
12. PICK-UP AMPS, PHASE CONTROL ASSEY.

The capacitor bank blower assemblies and paper feed, hammer power supp. are accessible from the rear of the printer chassis.

The Electronics Gate Contains (see Fig. 15): 16.3

1. MULTI-POWER SUPPLY
2. ELECTRONICS GATE FANS
3. PAPER FEED POWER AMP.
4. CARD CAGE 200
5. CARD CAGE 100
6. MAINTENANCE PANEL
7. CARD CAGE 300
8. CARD CAGE 400
9. CARD CAGE 500
10. ELECTRONICS GATE FANS
11. 5 VOLTS POWER SUPPLY
12. AIR FILTERS

The above mentioned assemblies can also be parted in an ELECTRONIC PART named LPE 200 and a MECHANIC PART named LP 200.

LPE 200 consists of: 16.5

1. CARD CAGE 100-500
2. 5 VOLTS POWER SUPPLY
3. MULTI POWER SUPPLY
4. PAPER FEED POW. AMP.
5. ELECTRONICS GATE FANS
6. MAINTENANCE PANEL
7. RELAY BOX ASSEMBLY
8. PAPER FEED AND HAMMER POW. SUPP.
9. CAPACITOR BANK
10. DRIVE MOTOR AND HAMMER BANK BLOWERS
11. OPERATOR CONTROL PANEL
12. RIBBON CONTROL LOGIC
13. PICK-UP AMPS. AND PHASE CONTROL

LP 200 consists of: 16.6

1. HAMMER BANK ASSEY.
2. TAPE LOOP READER ASSEY.
3. PAPER FEED RIVE MOTOR ASSEY.
4. DRUM GATE ASSEY.
5. PRINTER CHASSIS
6. ELECTRONICS GATE CHASSIS WITH AIR FILTERS

LPE 200 PARTS 16.7

CARD CAGE 100-500 16.8

Five card cages, designated 100-500, accommodate the LPE 200 completement of printed circuit boards. Each cage contains up to 30 cards. Wire connections are found at the rear of the cages. The CARD CAGES are mounted in the electronics gate. Trimpots adjustments, contained on several circuit boards, are accessible from the front of the gate (the side facing the printer chassis).

5 VOLTS POWER SUPPLY 16.9

The 5 VOLTS POWER SUPPLY is mounted at the bottom outside of the electronics gate. The supply provides a 5 VOLTS dc-output.

MULTI POWER SUPPLY 16.10

The MULTI POWER SUPPLY is mounted at the bottom inside of the electronics gate. The supply provides six dc-outputs: +20 Volts, -20 Volts, +12 Volts, -6 Volts, -14 Volts, and -28 Volts. Trimpots for fine adjustments of the voltages are accessible from the front of the electronics gate.

PAPER FEED POWER AMP. 16.11

The PAPER FEED POWER AMP. is mounted at the mid inside of the electronics gate. The amplifier is controlled by the paper feed servo control circuit and drives the paper feed motor.

MAINTENANCE PANEL (see Fig. 16) 16.12

The MAINTENANCE PANEL is mounted at the top inside of the elctronics gate. The panel consists of switches which permit manual initiation of various printer operations.

ELECTRONICS GATE FANS 16.13

The electronics gate is cooled by six blowers mounted above the MULTI and 5 VOLTS power supplies. The fans draw cooling air up through disposable air filters.

RELAY BOX 16.14

The RELAY BOX is mounted on the base of the printer chassis just inside and to the left of the front doors. This box contains relays for switching ac-power on/off, ac circuit breaker, neon indicator, noise filter, ac-input cable and power supply for indicators and voltage monitoring.

PAPER FEED AND HAMMER POWER SUPPLY 16.15

The PAPER FEED AND HAMMER POWER SUPPLY is mounted in the printer chassis. The supply is facing the electronics gate in the center and is accessible from the rear of the printer chassis. The power supply provides +50 Volts dc to charge the capacitor bank, and $\pm$ 35V dc for the paper feed drive system.

CAPACITOR BANK 16.16

The CAPACITOR BANK is mounted in the printer chassis. The bank is facing the electronics gate on the left side. The bank consists of capacitors bussed together to provide hammer drive current.

DRIVE MOTOR BLOWER AND HAMMER BANK BLOWER 16.17

The blower assemblies are mounted in the printer chassis. The blowers are facing the electronics gate on the right side. One blower provides cooling air to the paper feed drive motor, the other provides cooling air to the hammer bank assembly.

OPERATOR CONTROL PANEL 16.18

The OPERATOR CONTROL PANEL is located at the top left of the printer chassis. Its operating controls and indicators are accessible with the printer top cover either up or down.

RIBBON CONTROL LOGIC 16.19

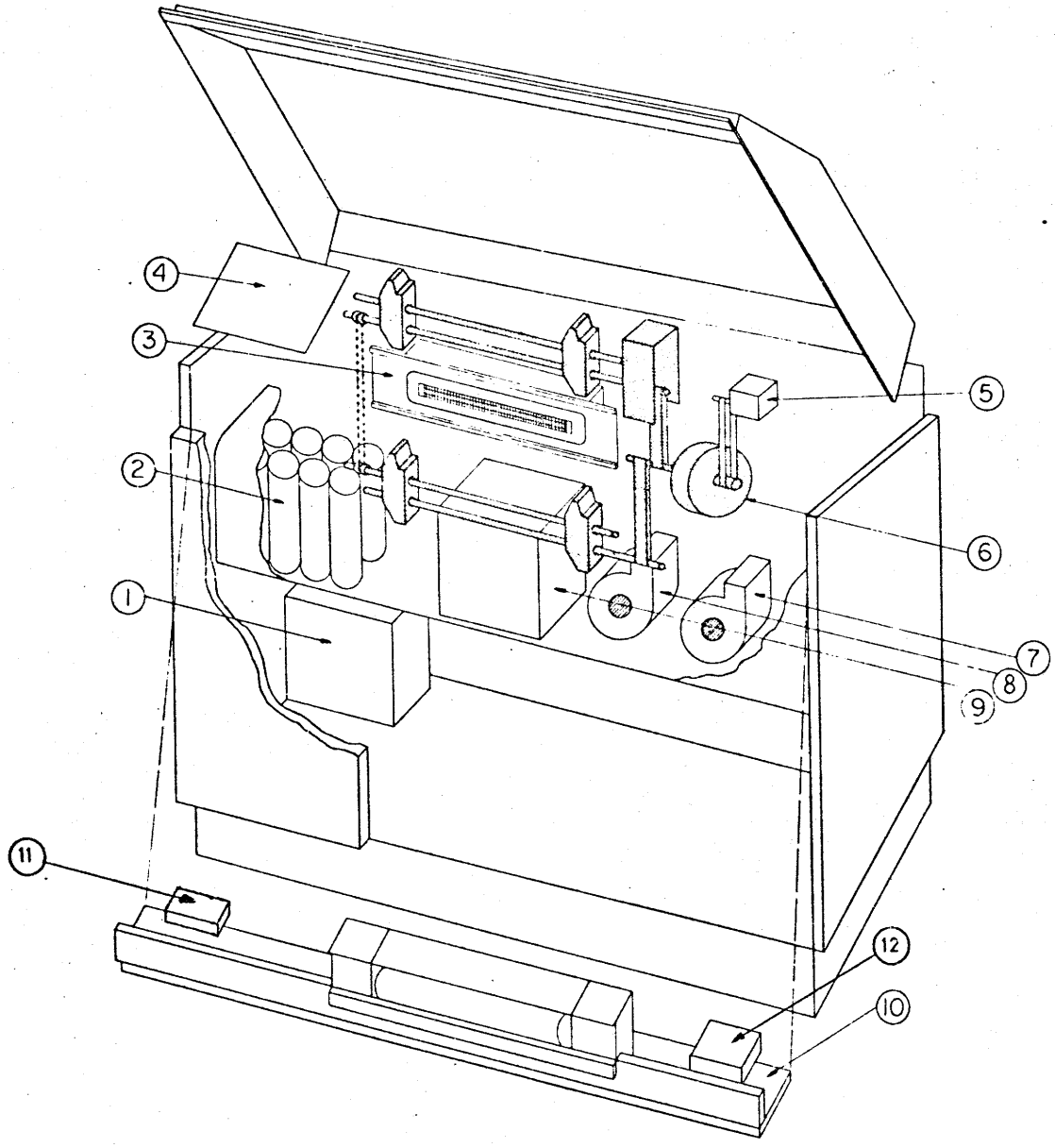
The RIBBON CONTROL LOGIC is located at the inside left of the drum gate assembly. The assembly includes circuits required to control the ribbon drive mechanism.

PICK-UP AMPS AND PHASE CONTROL 16.20

The PICK-UP AMPS AND PHASE CONTROL assembly is located at the inside right of the drum gate assembly. The assembly contains amp. for the pick-up signals from INDEX CHAR and COUNT WHEEL PICK-UPs. The operators phase control trimpot is also located on the assembly.

LP 200 PARTS 16.21

Physical description of these parts can be found in the INSTRUCTION MANUAL for dp/p-4300 MODEL LINE/PRINTER.



1. Relay Box Assembly
2. Capacitor Bank Assembly
3. Hammer Bank Assembly
4. Operator Control Panel Assembly
5. Tape Loop Reader Assembly
6. Paper Feed Drive Motor Assembly
7. Drive Motor Blower Assembly
8. Hammer Bank Blower Assembly
9. Paper Feed And Hammer Power Supply
10. Drum Gate Assembly
11. Ribbon Control Logic
12. Pick - Up Amp s Phase Control

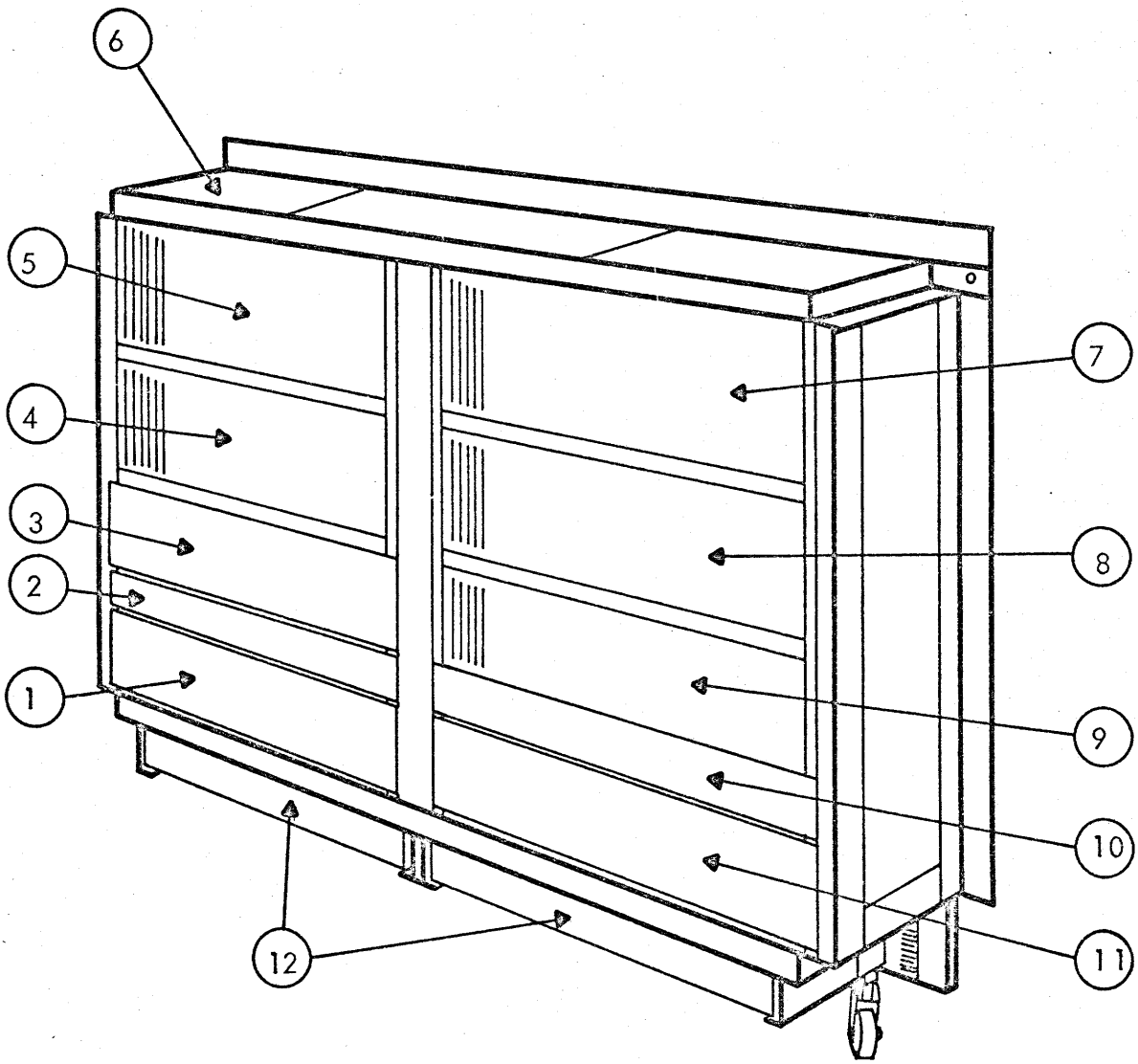
PRINTER CHASSIS PRIMARY ASSEMBLIES

LPE 200

A20743

Figure

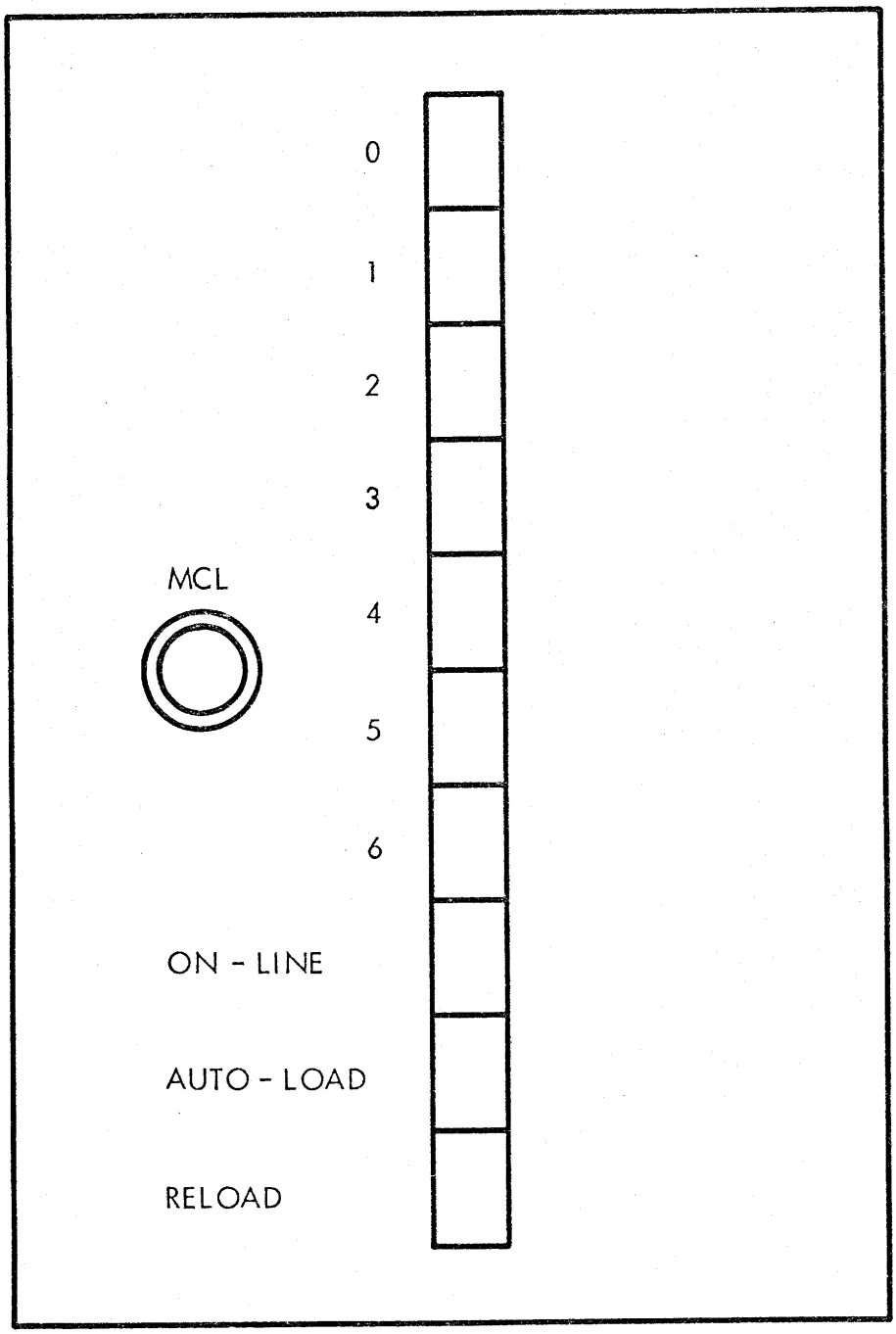
Fig 14



1. MULTI - POW. SUPP.
2. ELECTRONICS GATE FANS
3. PAPER FEED POW. AMP.
4. CARD CAGE 200
5. CARD CAGE 100
6. MAINTENANCE PANEL
7. CARD CAGE 300
8. CARD CAGE 400
9. CARD CAGE 500
10. ELECTRONICS GATE FANS
11. 5 VOLTS POW. SUPPLY
12. AIR FILTERS

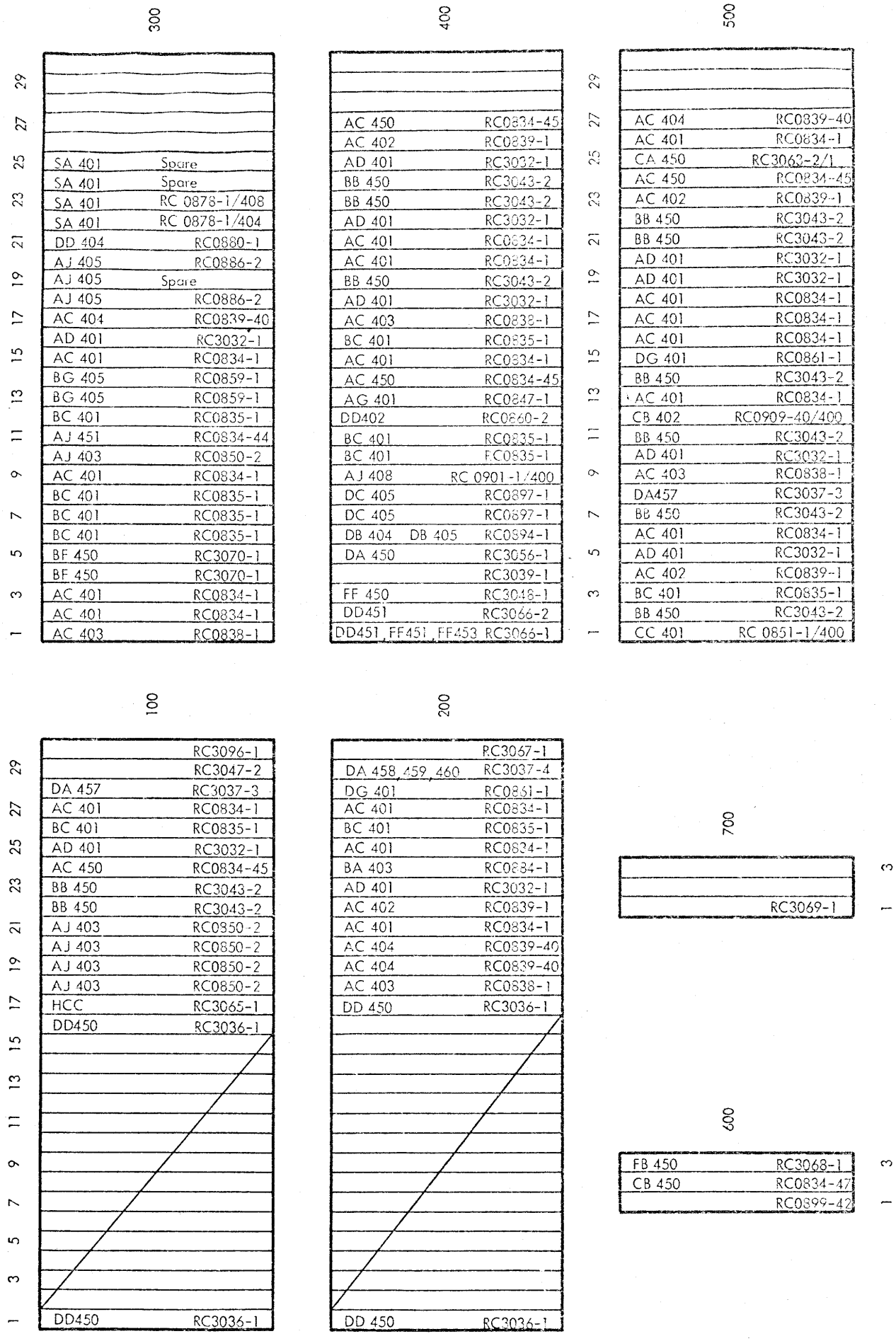
LPE 200 ELECTRONICS GATE MAJOR ASSEMBLIES fig. 15

A 20754 Figure

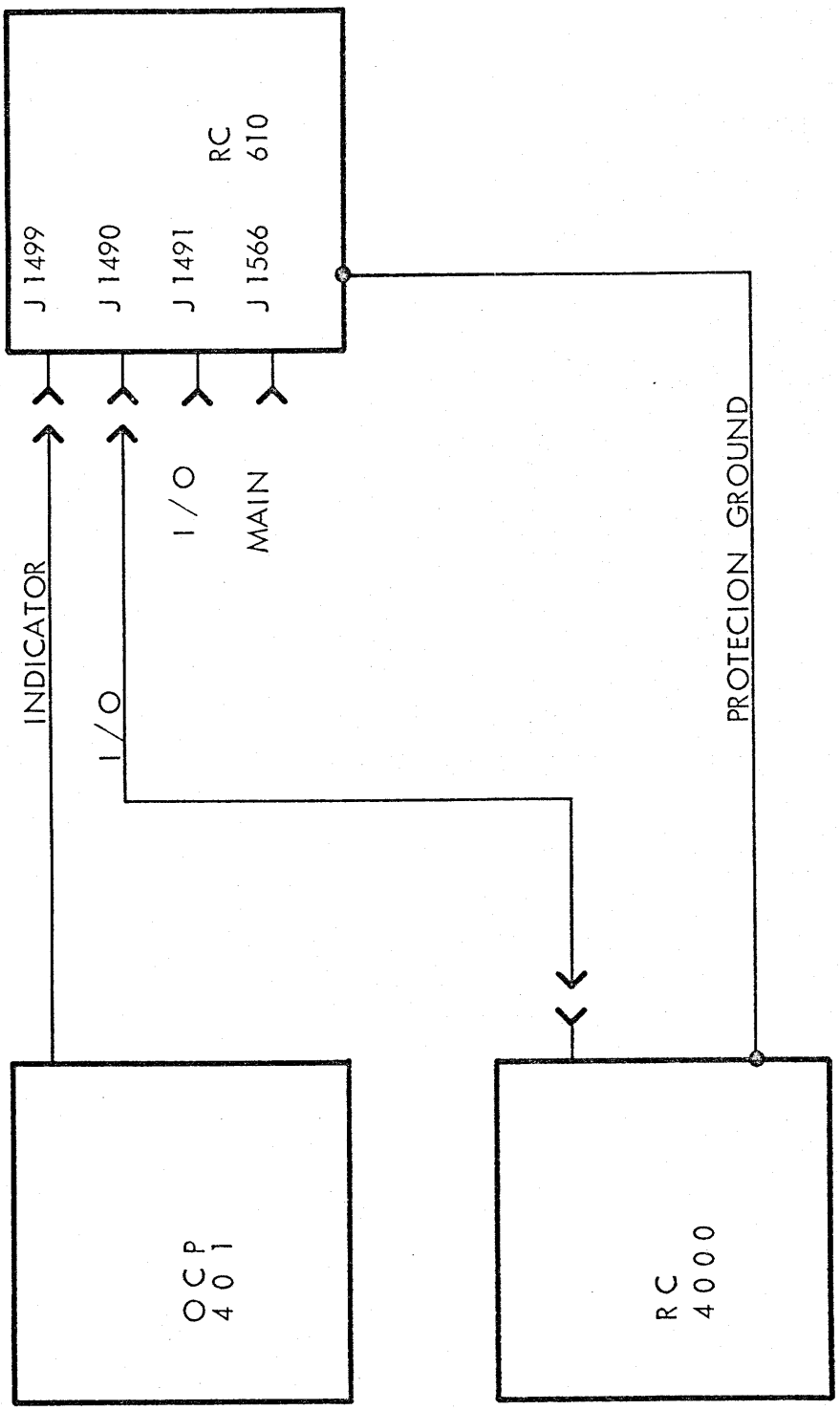


LPE 200 MAINTENANCE PANEL fig. 16

A 20755 figure

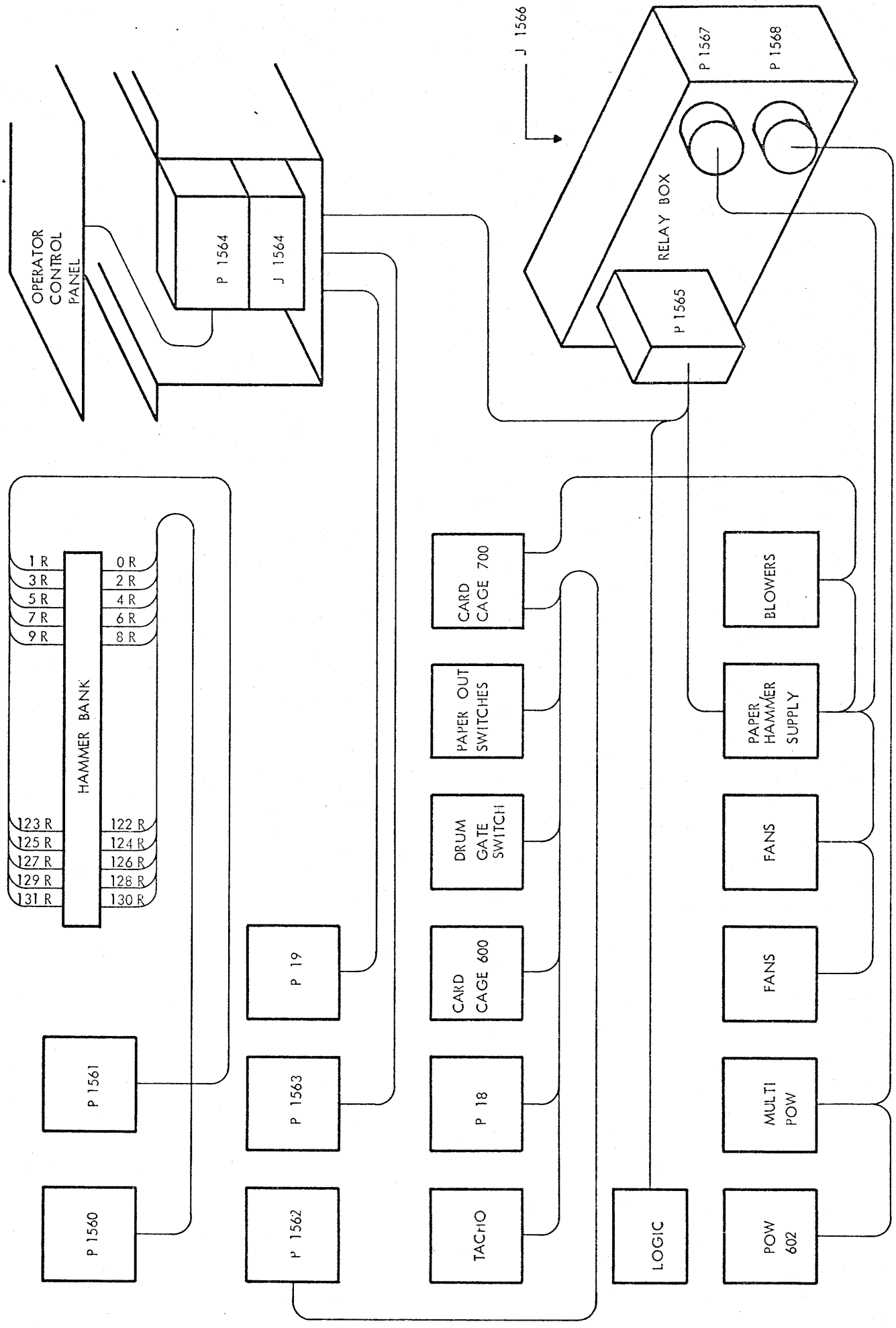


PCB SURVEY
Character drum : 96 RC standard , Input code table : 96 RC standard
Figure



LPE 200 EXTERNAL CABLES fig. 18

A 20756 figure



LPE 200

A 10527

INTERNAL CABLING

figure

fig. 19

Replaced by Dwg. No.	
due to ECN	
Replaces Dwg. No.	
Design Check	200370 IBP
Dwg. Office Check	261169 JA
Drawn by	261169 LLM
Designed by	201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA99

J1490

ELCO Varilock Receptacle, type 8016-090, code -

PIN	SIGNAL NAME		
A	406F33	IO BUS	0
B	406-32	-	-
C	406E4	-	1
D	406-3	-	-
E	406D1	-	2
F	406-2	-	-
H	406C6	-	3
J	406-5	-	-
K	406B8	-	4
L	406-7	-	-
M	406A10	-	5
N	406-9	-	-
P	J1491-P	-	6
R	J1491-R	-	-
S	J1491-S	-	7
T	J1491-T	-	-
U	J1491-U	-	8
V	J1491-V	-	-
W	J1491-W	-	9
X	J1491-X	-	-
Y	407-4	-	10
Z	407-5	-	-
AA	407-6	-	11
AB	407-7	-	-
AC	407-10	-	12
AD	407-11	-	-
AE	407-12	-	13
AF	407-13	-	-
AH	407-16	-	14
AJ	407-17	-	-
AK	407-18	-	15
AL	407-28	-	-
AM	407-31	-	16
AN	407-32	-	-
AP	407-33	-	17
AR	407-34	-	-
AS	407-37	-	18
AT	407-38	-	-
AU	407-39	-	19
AV	407-40	-	-
AW	408-4	-	20
AX	408-5	-	-
AY	408-6	-	21
AZ	408-7	-	-
BA	408-10	-	22
BB	408-11	-	-

Unit: LPE 200		J 1490
Dwg. No.: A20658	Jacklist	p. 1 of 2

PIN	SIGNAL NAME	
BC	408-12	IO BUS 23
BD	408-13	- -
BE	408-33	IO ENABLE
BF	408-34	-
BH	408-31	IO ADDRESS
BJ	408-32	-
BK	408-18	IO ACTIVATE
BL	408-28	-
BM	408-16	IO TRANSFER
BN	408-17	-
BP	406H40	IO CONNECTED
BR	406-41	-
BS	406G39	IO READY
BT	406-38	-
BU	406J37	DEV INTERRUPT
BV	406-36	-
BW	J1491-BU	
BX	J1491-BV	
BY	J1491-BW	
BZ	J1491-BX	
CA	J1491-BY	
CB	J1491-BZ	
CC	J1491-CA	
CD	J1491-CB	
CE	J1491-CC	
CF	J1491-CD	
CH	J1491-CE	
CJ	J1491-CF	
CK	J1491-CH	
CL	J1491-CJ	
CM	J1491-CK	
CN	J1491-CL	
CP	J1491-CM	
CR	J1491-CN	
CS	J1491-CP	
CT	J1491-CR	
CU	J1491-CS	
CV	J1491-CT	
CW	407-19	0V
CX	407-20	0V
CY	408-19	0V
CZ	408-20	0V
DA	CHASSIS	SHIELD
DB	CHASSIS	SHIELD

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check 200370 IBP

Dwg. Office Check 261169 JA

Drawn by 261169 LLM

Designed by 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA100

Unit LPE 200

Dwg. No. A20659

Jacklist

J1490

Replaced by Dwg. No.	due to ECN	Replaces Dwg. No.	Design Check	Dwg. Office Check	Drawn by	Designed by
			200370 IBP	261169 JA	261169 LLM	201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA99

J 1491

ELCO Varilock Receptacle, type 8016-090, code -

PIN	SIGNAL NAME		
A	406F33	IO BUS	0
B	406-32	-	-
C	406E4	-	1
D	406-3	-	-
E	406D1	-	2
F	406-2	-	-
H	406C6	-	3
J	406-5	-	-
K	406B8	-	4
L	406-7	-	-
M	406A10	-	5
N	406-9	-	-
P	J1490-P	-	6
R	J1490-R	-	-
S	J1490-S	-	7
T	J1490-T	-	-
U	J1490-U	-	8
V	J1490-V	-	-
W	J1490-W	-	9
X	J1490-X	-	-
Y	407-4	-	10
Z	407-5	-	-
AA	407-6	-	11
AB	407-7	-	-
AC	407-10	-	12
AD	407-11	-	-
AE	407-12	-	13
AF	407-13	-	-
AH	407-16	-	14
AJ	407-17	-	-
AK	407-18	-	15
AL	407-28	-	-
AM	407-31	-	16
AN	407-32	-	-
AP	407-33	-	17
AR	407-34	-	-
AS	407-37	-	18
AT	407-38	-	-
AU	407-39	-	19
AV	407-40	-	-
AW	408-4	-	20
AX	408-5	-	-
AY	408-6	-	21
AZ	408-7	-	-
BA	408-10	-	22
BB	408-11	-	-

Unit		J 1491
LPE 200		
Dwg. No.		
A20660	Jacklist	p. 1 of 2

PIN	SIGNAL NAME	
BC	408-12	IO BUS 23
BD	408-13	- -
BE	408-33	IO ENABLE
BF	408-34	-
BH	408-31	IO ADDRESS
BJ	408-32	-
BK	408-18	IO ACTIVATE
BL	408-28	-
BM	408-16	IO TRANSFER
BN	408-17	-
BP	406H40	IO CONNECTED
BR	406-41	-
BS	406G39	IO READY
BT	406-38	-
BU	J1490-BW	
BV	J1490-BX	
BW	J1490-BY	
BX	J1490-BZ	
BY	J1490-CA	
BZ	J1490-CB	
CA	J1490-CC	
CB	J1490-CD	
CC	J1490-CE	
CD	J1490-CF	
CE	J1490-CH	
CF	J1490-CJ	
CH	J1490-CK	
CJ	J1490-CL	
CK	J1490-CM	
CL	J1490-CN	
CM	J1490-CP	
CN	J1490-CR	
CP	J1490-CS	
CR	J1490-CT	
CS	J1490-CU	
CT	J1490-CV	
CU	406J37	DEV INTERRUPT
CV	406-36	-
CW	407-19	0V
CX	407-20	0V
CY	408-19	0V
CZ	408-20	0V
DA	CHASSIS	SHIELD
DB	CHASSIS	SHIELD

Replaced by Dwg. No.:

due to ECN:

Replaces Dwg. No.:

Design Check: 200370 IBP

Dwg. Office Check: 261169 JA

Drawn by: 261169 LLM

Designed by: 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA100

Unit: LPE 200

Dwg. No.: A20661

Jacklist

J 1491

Replaced by Dwg. No.	due to ECN	Replaces Dwg. No.	Design Check	Dwg. Office Check	Drawn by	Designed by
			200370 IBP	261169 JA	261169 LLM	201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA95

J1499 ELCO Varilock Receptacle, type 8016-038, code -		
PIN	SIGNAL NAME	
A	412A3	-, (REMOTE & CONNECTED)
B	412-4	Rtn
C	412B7	-, (LOCAL & CONNECTED)
D	412-5	Rtn
E		
F		
H		
J		
K		
L		
M		
N		
P		
R		
S		
T		
U		
V		
W		
X		
Y		
Z		
AA		
BB		
CC		
DD		
EE		
FF		
HH		
JJ		
KK		
LL		
MM		
NN		
PP		
RR		
SS	CHASSIS	SHIELD
TT	CHASSIS	SHIELD

Unit		
LPE 200		J1499
Dwg. No.		
A20662	Jacklist	

J 1560

ELCO Varilock Receptacle, type 8016-090 code -

PIN	SIGNAL NAME		
A	101A7	HAMMER	0
B	101C3	-	2
C	102A7	-	4
D	102C3	-	6
E	103A7	-	8
F	103C3	-	10
H	104A7	-	12
J	104C3	-	14
K	105A7	-	16
L	105C3	-	18
M	106A7	-	20
N	106C3	-	22
P	107A7	-	24
R	107C3	-	26
S	108A7	-	28
T	108C3	-	30
U	109A7	-	32
V	109C3	-	34
W	110A7	-	36
X	110C3	-	38
Y	111A7	-	40
Z	111C3	-	42
AA	112A7	-	44
AB	112C3	-	46
AC	113A7	-	48
AD	113C3	-	50
AE	114A7	-	52
AF	114C3	-	54
AH	115A7	-	56
AJ	115C3	-	58
AK	116A7	-	60
AL	116C3	-	62
AM			
AN			
AP			
AR			
AS			
AT			
AU			
AV			
AW			
AX			
AY			
AZ			
BA			
BB	201A7	HAMMER	64

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check: 200370 IBP

Dwg. Office Check: 261169 JA

Drawn by: 261169 LLM

Designed by: 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA99

Unit: LPE 200

Dwg. No.: A20665

Jacklist

J 1560

PIN	SIGNAL NAME		
BC	201C3	HAMMER	66
BD	202A7	-	68
BE	202C3	-	70
BF	203A7	-	72
BH	203C3	-	74
BJ	204A7	-	76
BK	204C3	-	78
BL	205A7	-	80
BM	205C3	-	82
BN	206A7	-	84
BP	206C3	-	86
BR	207A7	-	88
BS	207C3	-	90
BT	208A7	-	92
BU	208C3	-	94
BV	209A7	-	96
BW	209C3	-	98
BX	210A7	-	100
BY	210C3	-	102
BZ	211A7	-	104
CA	211C3	-	106
CB	212A7	-	108
CC	212C3	-	110
CD	213A7	-	112
CE	213C3	-	114
CF	214A7	-	116
CH	214C3	-	118
CJ	215A7	-	120
CK	215C3	-	122
CL	216A7	-	124
CM	216C3	-	126
CN	217A7	-	128
CP	217C3	-	130
CR			
CS			
CT			
CU			
CV			
CW			
CX			
CY			
CZ			
DA			
DB			

Replaced by Dwg. No.:

due to ECN:

Replaces Dwg. No.:

Design Check: 200370 IBP

Dwg. Office Check: 261168 JA

Drawn by: 261168 LLM

Designed by: 201168 IBP-VH

A/S REGNECENTRALEN

RCSL: 52-AA100

Unit: LPE 200

Dwg. No.: A20666

Jacklist

J 1560

Replaced by Dwg. No.	due to ECN	Replaces Dwg. No.	Design Check	Dwg. Office Check	Drawn by	Designed by
			200370 IBP	261169 JA	261169 LLM	201169 IBP-VH

J1561

ELCO Varilock Receptacle, type 8016-090, code -

PIN	SIGNAL NAME		
A	101B5	HAMMER	1
B	101D1	-	3
C	102B5	-	5
D	102D1	-	7
E	103B5	-	9
F	103D1	-	11
H	104B5	-	13
J	104D1	-	15
K	105B5	-	17
L	105D1	-	19
M	106B5	-	21
N	106D1	-	23
P	107B5	-	25
R	107D1	-	27
S	108B5	-	29
T	108D1	-	31
U	109B5	-	33
V	109D1	-	35
W	110B5	-	37
X	110D1	-	39
Y	111B5	-	41
Z	111D1	-	43
AA	112B5	-	45
AB	112D1	-	47
AC	113B5	-	49
AD	113D1	-	51
AE	114B5	-	53
AF	114D1	-	55
AH	115B5	-	57
AJ	115D1	-	59
AK	116B5	-	61
AL	116D1	-	63
AM			
AN			
AP			
AR			
AS			
AT			
AU			
AV			
AW			
AX			
AY			
AZ			
BA			
BB	201B5	HAMMER	65

A/S REGNECENTRALEN

RCSL:52-AA99

Unit		
LPE 200		J1561
Dwg. No.		
A20669	Jacklist	p. 1 of 2

PIN	SIGNAL NAME		
BC	201D1	HAMMER	67
BD	202B5	-	69
BE	202D1	-	71
BF	203B5	-	73
BH	203D1	-	75
BJ	204B5	-	77
BK	204D1	-	79
BL	205B5	-	81
BM	205D1	-	83
BN	206B5	-	85
BP	206D1	-	87
BR	207B5	-	89
BS	207D1	-	91
BT	208B5	-	93
BU	208D1	-	95
BV	209B5	-	97
BW	209D1	-	99
BX	210B5	-	101
BY	210D1	-	103
BZ	211B5	-	105
CA	211D1	-	107
CB	212B5	-	109
CC	212D1	-	111
CD	213B5	-	113
CE	213D1	-	115
CF	214B5	-	117
CH	214D1	-	119
CJ	215B5	-	121
CK	215D1	-	123
CL	216B5	-	125
CM	216D1	-	127
CN	217B5	-	129
CP	217D1	-	131
CR			
CS			
CT			
CU			
CV			
CW			
CX			
CY			
CZ			
DA			
DB			

Replaced by Dwg. No.:

due to ECN:

Replaces Dwg. No.:

Design Check: 200370 IBP

Dwg. Office Check: 261169 JA

Drawn by: 261169 LLM

Designed by: 201169 IBP-VHI

A/S REGNECENTRALEN

RCSL:52-AA100

Unit: LPE 200

Dwg. No.: A20670

Jacklist

J1561

Designed by	Drawn by	Dwg. Office Check	Design Check	Replaces Dwg. No.	due to ECN	Replaced by Dwg. No.
201169 IBP-VH	261169 LLM	261169 JA	200370 IBP			

A/S REGNECENTRALEN RCSL:52-AA99

J 1562

ELCO Varilock Receptacle, type 8016-090, code -

PIN		SIGNAL NAME
A	401-19	POW OK +35V, -35V, +50V
B	SB4.4-1	SHIELD
C	230-30	TACHOMETER -
D	230-29	TACHOMETER +
E	230-29	SHIELD
F	220-6	-, LSA
H	220-19	SHIELD
J	220-12	-, LSB
K	220-20	SHIELD
L	228-2	TAPE LOOP CH-0
M	228-1	Rtn
N	228-4	TAPE LOOP CH-1
P	228-3	Rtn
R	228-6	TAPE LOOP CH-2
S	228-5	Rtn
T	228-8	TAPE LOOP CH-3
U	228-7	Rtn
V	228-10	TAPE LOOP CH-4
W	228-9	Rtn
X	228-12	TAPE LOOP CH-5
Y	228-11	Rtn
Z	228-30	TAPE LOOP CH-6
AA	228-31	Rtn
AB	228-32	TAPE LOOP CH-7
AC	228-33	Rtn
AD	512-24, 17	INDEX AMPL.
AE	512-19	SHIELD
AF	512-27	-, PHASING
AH	512-19	SHIELD
AJ	221E13	-, PRINT P.
AK	221-20	SHIELD
AL	SB2.1-1	+5 Volt
AM	SB2.1-2	+5 Volt
AN	SB2.1-3	+5 Volt
AP	SB2.1-4	+5 Volt
AR	SB2.3-1	0 Volt
AS	SB2.3-2	0 Volt
AT	SB2.3-3	0 Volt
AU	SB2.3-4	0 Volt
AV	515-12	DRUM GATE SWITCH
AW	515-11	Rtn
AX	515-30	DRUM GATE SWITCH
AY	515-31	Rtn
AZ	515-10	PAPER OUT SWITCH
BA	515-9	Rtn
BB	TB2-1 MULTI POW	+20V DC

Unit		
LPE 200		J 1562
Dwg. No.		
A20671	Jacklist	p. 1 of 2

PIN	SIGNAL NAME	
BC	TB2-1 MULTI POW	+20V DC
BD	TB2-6 MULTI POW	-20V DC
BE	TB2-6 MULTI POW	-20V DC
BF	228-38	PAPER DRIVE RELEASE
BH	228-39	Rtn
BJ		
BK		
BL		
BM		
BN		
BP		
BR		
BS		
BT		
BU		
BV		
BW		
BX		
BY		
BZ		
CA		
CB		
CC		
CD		
CE		
CF		
CH		
CJ		
CK		
CL		
CM		
CN		
CP		
CR		
CS		
CT		
CU		
CV		
CW		
CX		
CY		
CZ		
DA		
DB		

Replaced by Dwg. No.	due to ECN	Replaces Dwg. No.	Design Check	Dwg. Office Check	Drawn by	Designed by
		A20672	200370 IBP	261169 JA	261169 LLM	201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA100

Unit		
LPE 200		J1562
Dwg. No. A20905	Jacklist	p. 2 of 2

J1563

ELCO Varilock Receptacle, type 8016-038, code -

PIN		SIGNAL NAME
A	129-35	OVER TEMP. AND HAMMER CURR. ALARM
B		
C		
D	508D12	TEST PRINT INDICATOR
E		
F	515-8	Rtn
H	515-7	TP/PF SWITCH
J	508C10	PAPER FEED INDICATOR
K	128B8	LOCAL STOP INDICATOR
L	128A6	LOCAL START INDICATOR
M	515-34	LOCAL START/STOP SWITCH
N	515-35,33	Rtn
P	515-32	LOCAL START/STOP SWITCH
R		
S		
T		
U	508B8	LINE MODE INDICATOR
V		
W	515-4	Rtn
X	515-3	LINE MODE/FROM MODE SWITCH
Y	508A6	FORM MODE INDICATOR
Z	128F34	PAPER OUT INDICATOR
AA	128G36	PARITY INDICATOR
BB	128D12	LOCAL INDICATOR
CC	128C10	REMOTE INDICATOR
DD	515-38	REMOTE/LOCAL SWITCH
EE	515-39,37	Rtn
FF	515-36	REMOTE/LOCAL SWITCH
HH	128E32	OPERABLE INDICATOR
JJ	129-41	FROM OVER TEMP AND HAMMER CURR. ALARM
KK	130-14	POWER ON/OFF SWITCH
LL		
MM		
NN	104-19	+50V DC
PP		
RR		
SS		
TT		

Replaced by Dwg. No.	due to ECN	Replaces Dwg. No.	Design Check	Dwg. Office Check	Drawn by	Designed by
			200370 IBP	261169 JA	261169 LLM	201169 IBP-VH

RCSL: 52-AA95

A/S REGNECENTRALEN

Unit		
LPE 200		J1563
Dwg. No. A20673	Jacklist	

J 1566 3 POL AMPHENOL	
PIN	SIGNAL NAME
A	PHASE
B	GROUND
C	NEUTRAL

P 1490 , ELCO Varilock Receptacle, type 8016-090, code -
P

P1490 PIN	I*	T*	SIGNAL NAME		I*	P PIN
A		B	IO BUS	0		A
B			-	-		B
C		D	-	1		C
D			-	-		D
E		F	-	2		E
F			-	-		F
H		J	-	3		H
J			-	-		J
K		L	-	4		K
L			-	-		L
M		N	-	5		M
N			-	-		N
P		R	-	6		P
R			-	-		R
S		T	-	7		S
T			-	-		T
U		V	-	8		U
V			-	-		V
W		X	-	9		W
X			-	-		X
Y		Z	-	10		Y
Z			-	-		Z
AA		AB	-	11		AA
AB			-	-		AB
AC		AD	-	12		AC
AD			-	-		AD
AE		AF	-	13		AE
AF			-	-		AF
AH		AJ	-	14		AH
AJ			-	-		AJ
AK		AL	-	15		AK
AL			-	-		AL
AM		AN	-	16		AM
AN			-	-		AN
AP		AR	-	17		AP
AR			-	-		AR
AS		AT	-	18		AS
AT			-	-		AT
AU		AV	-	19		AU
AV			-	-		AV
AW		AX	-	20		AW
AX			-	-		AX
AY		AZ	-	21		AY
AZ			-	-		AZ
BA		BB	-	22		BA
BB			-	-		BB

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check 200370 IBP

Dwg. Office Check 261169 JA

Drawn by 261169 LLM

Designed by 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA103

Unit: LPE 200

Dwg. No.: A20656

Pluglist

P1490 -P

P 1490 PIN	I*	T*	SIGNAL NAME	I*	P PIN
BC		BD	IO BUS 23		BC
BD			- -		BD
BE		BF	IO ENABLE		BE
BF			-		BF
BH		BJ	IO ADDRESS		BH
BJ			-		BJ
BK		BL	IO ACTIVATE		BK
BL			-		BL
BM		BN	IO TRANSFER		BM
BN			-		BN
BP		BR	IO CONNECTED		BP
BR			-		BR
BS		BT	IO READY		BS
BT			-		BT
BU		BV	DEV INTERRUPT		BU
BV			-		BV
BW		BX			BW
BX					BX
BY		BZ			BY
BZ					BZ
CA		CB			CA
CB					CB
CC		CD			CC
CD					CD
CE		CF			CE
CF					CF
CH		CJ			CH
CJ					CJ
CK		CL			CK
CL					CL
CM		CN			CM
CN					CN
CP		CR			CP
CR					CR
CS		CT			CS
CT					CT
CU		CV			CU
CV					CV
CW		CX	0V		CW
CX			0V		CX
CY		CZ	0V		CY
CZ			0V		CZ
DA		DB	SHIELD		DA
DB			-		DB

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check 200370 IBP

Dwg. Office Check 261169 JA

Drawn by 261169 LLM

Designed by 201169 IBP-VH

I* : Interconnection. T* : Twisted pairs.

Length of cable:

A/S REGNECENTRALEN

RCSL:52-AA104

Unit: LPE 200

Dwg. No.: A20657

Plualist

P 1490 - P

P1560 , ELCO Varilock Receptacle, type 8016-090, code -
P

P 1560 PIN	I*	T*	SIGNAL NAME	I*	P PIN
A			HAMMER 0		0R
B			- 2		2R
C			- 4		4R
D			- 6		6R
E			- 8		8R
F			- 10		10R
H			- 12		12R
J			- 14		14R
K			- 16		16R
L			- 18		18R
M			- 20		20R
N			- 22		22R
P			- 24		24R
R			- 26		26R
S			- 28		28R
T			- 30		30R
U			- 32		32R
V			- 34		34R
W			- 36		36R
X			- 38		38R
Y			- 40		40R
Z			- 42		42R
AA			- 44		44R
AB			- 46		46R
AC			- 48		48R
AD			- 50		50R
AE			- 52		52R
AF			- 54		54R
AH			- 56		56R
AJ			- 58		58R
AK			- 60		60R
AL			- 62		62R
AM					
AN					
AP					
AR					
AS					
AT					
AU					
AV					
AW					
AX					
AY					
AZ					
BA					
BB			HAMMER 64		64R

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check 200370 IBP

Dwg. Office Check 261169 JA

Drawn by 261169 LLM

Designed by 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA103

Unit LPE 200

Dwg. No. A20663

Pluglist

P1560 -P

P1560 PIN	I*	T*	SIGNAL NAME	I*	P PIN
BC			HAMMER 66		66R
BD			- 68		68R
BE			- 70		70R
BF			- 72		72R
BH			- 74		74R
BJ			- 76		76R
BK			- 78		78R
BL			- 80		80R
BM			- 82		82R
BN			- 84		84R
BP			- 86		86R
BR			- 88		88R
BS			- 90		90R
BT			- 92		92R
BU			- 94		94R
BV			- 96		96R
BW			- 98		98R
BX			- 100		100R
BY			- 102		102R
BZ			- 104		104R
CA			- 106		106R
CB			- 108		108R
CC			- 110		110R
CD			- 112		112R
CE			- 114		114R
CF			- 116		116R
CH			- 118		118R
CJ			- 120		120R
CK			- 122		122R
CL			- 124		124R
CM			- 126		126R
CN			- 128		128R
CP			- 130		130R
CR					
CS					
CT					
CU					
CV					
CW					
CX					
CY					
CZ					
DA					
DB					

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check 200370 IBP

Dwg. Office Check 261169 JA

Drawn by 261169 LLM

Designed by 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA104

I* : Interconnection. T* : Twisted pairs.

Length of cable:

Unit LPE 200

Dwg. No. A20664

Pluglist

P1560 -P

P1561 , ELCO Varilock Receptacle, type 8016-090, code -
P

P1561 PIN	I*	T*	SIGNAL NAME	I*	P PIN
A			HAMMER 1		1R
B			- 3		3R
C			- 5		5R
D			- 7		7R
E			- 9		9R
F			- 11		11R
H			- 13		13R
J			- 15		15R
K			- 17		17R
L			- 19		19R
M			- 21		21R
N			- 23		23R
P			- 25		25R
R			- 27		27R
S			- 29		29R
T			- 31		31R
U			- 33		33R
V			- 35		35R
W			- 37		37R
X			- 39		39R
Y			- 41		41R
Z			- 43		43R
AA			- 45		45R
AB			- 47		47R
AC			- 49		49R
AD			- 51		51R
AE			- 53		53R
AF			- 55		55R
AH			- 57		57R
AJ			- 59		59R
AK			- 61		61R
AL			- 63		63R
AM					
AN					
AP					
AR					
AS					
AT					
AU					
AV					
AW					
AX					
AY					
AZ					
BA					
BB			HAMMER 65		65R

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check 200370 IBP

Dwg. Office Check 261169 JA

Drawn by 261169 LLM

Designed by 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA103

Unit: LPE 200

Dwg. No.: A20667

Pluglist

P1561 -P

Replaced by Dwg. No.	due to ECN	Replaces Dwg. No.	Design Check	Dwg. Office Check	Drawn by	Designed by
			200370 IBP	261169 JA	261169 LLM	201169 IBP-VH

P PIN	I*	T*	SIGNAL NAME		I*	P PIN
BC			HAMMER	67		67R
BD			-	69		69R
BE			-	71		71R
BF			-	73		73R
BH			-	75		75R
BJ			-	77		77R
BK			-	79		79R
BL			-	81		81R
BM			-	83		83R
BN			-	85		85R
BP			-	87		87R
BR			-	89		89R
BS			-	91		91R
BT			-	93		93R
BU			-	95		95R
BV			-	97		97R
BW			-	99		99R
BX			-	101		101R
BY			-	103		103R
BZ			-	105		105R
CA			-	107		107R
CB			-	109		109R
CC			-	111		111R
CD			-	113		113R
CE			-	115		115R
CF			-	117		117R
CH			-	119		119R
CJ			-	121		121R
CK			-	123		123R
CL			-	125		125R
CM			-	127		127R
CN			-	129		129R
CP			-	131		131R
CR						
CS						
CT						
CU						
CV						
CW						
CX						
CY						
CZ						
DA						
DB						

I* : Interconnection. T* : Twisted pairs.

Length of cable:

RCSL:52-AA104

A/S REGNECENTRALEN

Unit		
LPE 200		P1561 -P
Dwg. No.		
A20668	Pluglist	p. 2 of 2

P 1564 , ELCO Varilock Receptacle, type 8016-038, code -
P

P1564 PIN	I*	T*	SIGNAL NAME	I*	P PIN
A			OVERTEMP. AND HAMMER CURRENT ALARM		A1, B4,
B					
C					
D			TESTPRINT INDICATOR		A1, B4
E					
F			Rtn		E-NO
H			TP/PF SWITCH		E-C
J			PAPER FEED INDICATOR		C5, D8
K			LOCAL STOP INDICATOR		C5, D8
L			LOCAL START INDICATOR		A1, B4
M			LOCAL START/STOP SWITCH		E-NO
N			Rtn		E-C
P			LOCAL START/STOP SWITCH		E-NC
R					
S					
T					
U			LINE MODE INDICATOR		C5, D8
V					
W			Rtn		E-NO
X			LINE MODE/FORM MODE SWITCH		E-C
Y			FORM MODE INDICATOR		A1, B4
Z			PAPER OUT INDICATOR		C5, D8
AA			PARITY INDICATOR		A1, B4
BB			LOCAL INDICATOR		C5, D8
CC			REMOTE INDICATOR		A1, B4
DD			REMOTE/LOCAL SWITCH		E-NO
EE			Rtn		E-C
FF			REMOTE/LOCAL SWITCH		E-NC
HH			OPERABLE INDICATOR		C5, D8
JJ			FROM OVERTEMP. AND HAMMER CURRENT ALARM		F-NO
KK			POWER ON/OFF SWITCH		F-NC
LL			POWER TO KA AND KB		E-C
MM					
NN			+50V		220E
PP			+24 V UNREG POWER ON/OFF SWITCH		E-NO
RR			0V		
SS					
TT					

I* : Interconnections. T* : Twisted pairs.

Length of cable:

Replaced by Dwg. No.

due to ECN

Replaces Dwg. No.

Design Check 200370 IBP

Dwg. Office Check 261169 JA

Drawn by 261169 LLM

Designed by 201169 IBP-VH

A/S REGNECENTRALEN

RCSL:52-AA97

Unit		
LPE 200		P 1564 -P
Dwg. No.		
A20674	Plugliste	

P 1567			3 POL AMPHENOL		
P 1567 PIN	I*	T*	SIGNAL NAME	I*	P.NOTE PIN
A			PHASE		TB 1-1
B			GROUND		TB 1-10
C			NEUTRAL		TB 1-4

I* : Interconnections

T* : Twisted pairs

NOTE : TB 1 on PAPER FEED AND
HAMMER POWER SUPPLY

P 1568			3 POL AMPHENOL		
P 1568 PIN	I*	T*	SIGNAL NAME	I*	P. NOTE PIN
A			PHASE		TB 1-1
B			GROUND		TB 1-10
C			NEUTRAL		TB 1-4

I* : Interconnections

T* : Twisted pairs

NOTE : TB 1 on MULTI POWER SUPPLY

SIGNAL	REFERENCE	DESCRIPTION
-, ADJ TIMING	20, 17	RESET PULSE FOR THE TIMING FFs A, B, C, D.
ADVANCE GATE	12, 49	INDICATES THAT PAPER ADVANCE IS WANTED DURING LOCAL OPERATION.
-, ADVANCE GATE	12	SEE ABOVE.
AUTO LOAD SWITCH	22, 35	CONTROL LINE FROM AUTO LOAD SWITCH (LOCATED ON MAINTENANCE PANEL).

SIGNAL	REFERENCE	DESCRIPTION
BC 4	19, 20	BC 4 INITIATES THE SYNCHRONIZING TIMES SNT 1, 2, 3 DURING START FROM INPUT.
BRAKE PAPER FEED	59, 52	THIS IS AN ERROR SIGNAL WHICH STOPS THE PAPER.
BSY FF	5	INDICATES THAT STOP IS SET PRIOR TO THE RC4000 REQUEST.
-, BSY FF	5, 6	SEE BSY FF.

SIGNAL	REFERENCE	DESCRIPTION
C	17, 16, 49	ONE OF SIX TIMING FFs IN THE CLOCK AND TIMING CIRCUITS.
-,CAN (CEL) DEC	33, 13, 21	INDICATES THAT THE CANCEL CONTROL CHARACTER IS LOADED.
CAN 0	13	CAN 0 IS A SENSE FF FOR THE TAPE LOOP CHANNEL 0.
-,CAN 0	13	SEE CAN 0.
-,CC RESET	37, 58	RESET PULSE FOR COLUMN COUNTER.
-,CCX 0	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-0 DECODING.
-,CCX 1	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-1 DECODING.
-,CCX 2	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-2 DECODING.

SIGNAL	REFERENCE	DESCRIPTION
-,CCX 3	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-3 DECODING.
-,CCX 4	38, 40	COLUMN COUNTER BIT 0, 1, 2, 3 X-4 DECODING.
-,CCX 5	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-5 DECODING.
-,CCX 6	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-6 DECODING.
-,CCX 7	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-7 DECODING.
-,CCX 8	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-8 DECODING.
-,CCX 9	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-9 DECODING.
-,CCX 10	38, 58	COLUMN COUNTER BIT 0, 1, 2, 3 X-10 DECODING.

SIGNAL	REFERENCE	DESCRIPTION
-,CCX 11	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-11 DECODING.
-,CCX 12	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-12 DECODING.
-,CCX 13	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-13 DECODING.
-,CCX 14	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-14 DECODING.
-,CCX 15	38	COLUMN COUNTER BIT 0, 1, 2, 3 X-15 DECODING.
-,CCY 0	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-0 DECODING.
-,CCY 16	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-16 DECODING.
-,CCY 32	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-32 DECODING.

SIGNAL	REFERENCE	DESCRIPTION
-,CCY 48	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-48 DECODING.
-,CCY 64	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-64 DECODING.
-,CCY 80	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-80 DECODING.
-,CCY 96	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-96 DECODING.
-,CCY 112	39	COLUMN COUNTER BIT 4, 5, 6, 7 Y-112 DECODING.
-,CCY 128	39, 40, 58	COLUMN COUNTER BIT 4, 5, 6, 7 Y-128 DECODING.
-,CCY 144	39, 58	COLUMN COUNTER BIT 4, 5, 6, 7 Y-144 DECODING.
CC 0	37, 38	COLUMN COUNTER BIT 0.

SIGNAL	REFERENCE	DESCRIPTION
-,CC 0	37, 38, 34	SEE CC 0.
CC 1	37, 38	COLUMN COUNTER BIT 1.
-,CC 1	37, 38, 34	SEE CC 1.
CC 2	37, 38	COLUMN COUNTER BIT 2.
-,CC 2	37, 38, 34	SEE CC 2.
CC 3	37, 38	COLUMN COUNTER BIT 3.
-,CC 3	37, 38, 34	SEE CC 3.
CC 4	37, 39	COLUMN COUNTER BIT 4.
-,CC 4	37, 39	SEE CC 4.
CC 5	37, 39	COLUMN COUNTER BIT 5.
-,CC 5	37, 39	SEE CC 5.

SIGNAL	REFERENCE	DESCRIPTION
CC 6	37, 39	COLUMN COUNTER BIT 6.
-,CC 6	37, 39	SEE CC 6.
CC 7	37, 39	COLUMN COUNTER BIT 7.
-,CC 7	37, 39	SEE CC 7.
CHAR COUNT WHEEL AMP	43, 44	CHARACTER STROBE FROM PICK-UP AMPL.
CHAR COUNT 0	46, 47	CHARACTER COUNTER BIT 0.
CHAR COUNT 1	46, 47	CHARACTER COUNTER BIT 1.
CHAR COUNT 2	46, 47	CHARACTER COUNTER BIT 2.
CHAR COUNT 3	46, 47	CHARACTER COUNTER BIT 3.
CHAR COUNT 4	46, 47	CHARACTER COUNTER BIT 4.

SIGNAL	REFERENCE	DESCRIPTION
CHAR COUNT 5	46, 47	CHARACTER COUNTER BIT 5.
CHAR COUNT 6	46, 47	CHARACTER COUNTER BIT 6.
CHAR STR	45, 46, 19	1 u SEC CHARACTER STROBE WHICH IS CONTROLLED FROM THE TOTAL PHASE ADJUSTMENT.
CHAR STR FF	20, 58	IS THE SYNCHRONIZED CHARACTER STROBE.
-,CHAR STR FF	20, 33, 37, 40 41, 58, 49	SEE ABOVE.
CHAR STR FF & ECHO CHECK	64, 49	ENABLE SIGNAL FOR RESET OF THE ECHO CHECK PERIOD.
-,(CHAR STR FF & ECHO CHECK)	49, 41	SEE ABOVE
-,CHAR STR FF P	20, 40, 64	SEE CHAR STR FF.

SIGNAL	REFERENCE	DESCRIPTION
CHAR TO LOAD	21	INDICATES THAT A CHARACTER IS TO BE LOADED.
-, CHAR TO LOAD	21	SEE CHAR TO LOAD
CH 0	53, 54	OUTPUT FROM THE TAPE LOOP READER CHANNEL 0.
CH 1	53, 54	OUTPUT FROM THE TAPE LOOP READER CHANNEL 1.
CH 2	53, 54	OUTPUT FROM THE TAPE LOOP READER CHANNEL 2.
CH 3	53, 54	OUTPUT FROM THE TAPE LOOP READER CHANNEL 3.
CH 4	53, 55	OUTPUT FROM THE TAPE LOOP READER CHANNEL 4.
CH 5	53, 55	OUTPUT FROM THE TAPE LOOP READER CHANNEL 5.

SIGNAL	REFERENCE	DESCRIPTION
CH 6	53, 55	OUTPUT FROM THE TAPE LOOP READER CHANNEL 6.
CH 7	53, 55	OUTPUT FROM THE TAPE LOOP READER CHANNEL 7.
CK ERROR	58	INDICATES THAT AN ERROR IN THE CHECK CHARACTER IS DETECTED.
-,CK ERROR	58, 61	SEE CK ERROR.
CNT P	49, 50, 51	ADVANCE PAPER ACCORDING TO COUNT MODE.
COIN	48	COINCIDENCE FF INDICATES THAT COINCIDENCE IS DETECTED.
COL NO 0	65, 35	COLUMN 0 DECODING.
COL NO 131	68, 40	COLUMN 131 DECODING.

SIGNAL	REFERENCE	DESCRIPTION
COL NO 131 & -,NSC	40, 41	ENABLE SIGNAL FOR THE SHIFT INPUT CONTROL FF
CON COL 0	27, 28	ONE OF EIGHT CONTROL LINES FOR THE CHARACTER CONVERTER (READ ONLY STORE).
CON COL 1	27, 28	SEE ABOVE.
CON COL 2	27, 28	SEE ABOVE.
CON COL 3	27, 28	SEE ABOVE.
CON COL 4	27, 28	SEE ABOVE.
CON COL 5	27, 28	SEE ABOVE.
CON COL 6	27, 28	SEE ABOVE.
CON COL 7	27, 28	SEE ABOVE.
CON 0	28, 30, 23	ONE OF NINE OUTPUTS FROM THE CHARACTER CONVERTER (READ ONLY STORE).

SIGNAL	REFERENCE	DESCRIPTION
CON 1	28, 30, 23	SEE ABOVE.
CON 2	28, 30, 23	SEE ABOVE.
CON 3	28, 30, 23	SEE ABOVE.
CON 4	28, 30, 24	SEE ABOVE.
CON 5	28, 30, 24	SEE ABOVE.
CON 6	28, 30, 24	SEE ABOVE.
CON 7	28, 30, 24	SEE ABOVE.
CON 8	28, 30, 25	SEE ABOVE.
COUNT WHEEL AMP	43, 44	LINE STROBE FROM PICK-UP AMPL.

SIGNAL	REFERENCE	DESCRIPTION
CP2 P	16, 5, 17, 20	2,5 MHZ CLOCK PULSE.
CP5 MHZ	16	CLOCK PULSE (5MHZ) PART OF CLOCK AND TIMING CIRCUITS.

SIGNAL	REFERENCE	DESCRIPTION
D	17, 16, 49	D IS ONE OF SIX TIMING FFs IN THE CLOCK AND TIMING CIRCUITS.
-, DATA GATE	18, 23, 24, 25	
-, DEL DEC	32, 18, 34	INDICATES THAT A DELETE CHARACTER IS LOADED INTO REG 1. DEL CHARACTERS HAVE NO EFFECT.
-, DEL !-, ESC	34, 33	CONTROL SIGNAL FOR RESET OF ESCAPE CONTROL CHAR FF.
DEV ADDRESS DEC	4, 5, 6, 13	
-, DEV ADDRESS	4, 5	SEE DEV ADDRESS DEC.
DEV CONNECTED	6	
DEV CONNECTED UNGATED	6, 8, 61	

SIGNAL	REFERENCE	DESCRIPTION
-, DEV CONNECTED UNGATED	6, 8	SEE DEV CONNECTED UNGATED.
DEV RDY	6	
DRUM GATE OPEN	60, 48	INDICATES THAT THE DRUM GATE IS NOT SECURELY LOCKED.
-, DRUM GATE OPEN	60, 61, 7	SEE DRUM GATE OPEN.

SIGNAL	REFERENCE	DESCRIPTION
-,E	17, 16	E IS ONE OF SIX TIMING FFs IN THE CLOCK AND TIMING CIRCUITS.
-,ECHO CHECK	64	DETERMINES THE PERIOD IN WHICH THE CONTENTS OF EC0 AND EC1 IN THE LINE BUFFER (MOS SHIFT REGISTER) IS CHECKED.
ECHO ERROR	64	INDICATES IF AN ECHO ERROR IS DETECTED.
-,ECHO ERROR	64, 61, 37	SEE ECHO ERROR.
ECHO FF	62, 63, 64	INDICATES IF AN ECHO SIGNAL IS DETECTED.
-,ECHO FF	62, 64	SEE ECHO FF.
-,ECHO TOO LONG	64, 37, 59	THE ECHO TOO LONG FF INDICATES IF AN ECHO HAS LASTED MORE THAN APP. 3 M SECONDS.
-,ECHO		ECHO SIGNALS FROM THE HAMMER AMPLIFIERS.

SIGNAL	REFERENCE	DESCRIPTION
ENABLE COIN	47, 48, 42	ENABLE SIGNAL FOR THE COINCIDENCE FF. THE SIGNAL INDICATES IF THERE IS COINCIDENCE BETWEEN CHAR. COUNTER AND THE ACTUAL POSITION OF THE LINE BUFFER.
ENABLE ECHO CHECK	64, 62	THE LAST PERIOD FOR DETECTION OF ECHOES.
-, ENABLE ECHO CHECK	64, 40	SEE ENABLE ECHO CHECK
ENABLE ECHO ERROR	64, 33	ENABLE SIGNAL FOR THE ECHO ERROR DETECTION FF.
-, ENABLE ECHO TOO LONG	64, 33	INDICATES THAT A THIRD ECHO SIGNAL IS PRESENT.
ENABLE PIL A	35, 36	ENABLE INPUT TO THE THREE PAPER INSTRUCTION FFs FROM CONTROL CHARACTER DECODING.
ENABLE PIL B	35, 36	ENABLE INPUT TO THE THREE PAPER INSTRUCTION FFs FROM FORM MODE/ LINE MODE.

SIGNAL	REFERENCE	DESCRIPTION
ENABLE RESET REMOTE	11, 7	INDICATES THAT SHIFT TO LOCAL IS WANTED.
ENABLE STOP T	20, 13	ENABLE SIGNAL FOR THE STOP T PERIOD FF.
ENABLE TIMING F. CHAR STR	19, 57	INDICATES THAT THE TIMING IS TO BE CONTROLLED FROM THE CHARACTER STROBE.
-,ENABLE TIMING F. CHAR STR	19, 57, 34	SEE ENABLE TIMING F. CHAR STR.
ENABLE TP	12, 13	INDICATES THAT TEST PRINT IS WANTED.
END	11, 12	INDICATES EITHER THAT SHIFT TO LOCAL OR TERMINATION OF TESTPRINT CAN BE PERFORMED.
-,END	11	SEE END.
-,END OF LOAD	21, 42	END OF LOAD FF INDICATES THAT A PRINT CONTROL CHARACTER OR CANCEL CHARACTER IS LOADED.

SIGNAL	REFERENCE	DESCRIPTION
ESC	34, 18	ESCAPE CONTROL CHARACTER FF.
-,ESC	34, 18	SEE ESC.

SIGNAL	REFERENCE	DESCRIPTION
F	17, 16	ONE OF SIX TIMING FFs IN THE CLOCK AND TIMING CIRCUITS.
FF ! CR	36	(FF ! CR) CONTROL CHARACTER FF.
FF ! VT	36, 51	(FF ! VT) CONTROL CHARACTER FF.
FIRST CHAR NEW LINE	21, 35,	INDICATES THE FIRST CHARACTER OF A LINE.
-, FIRST CHAR NEW LINE	21, 37	SEE FIRST CHAR NEW LINE.
FORM MODE	14, 49, 36	INDICATES THAT FORM MODE OPERATION IS WANTED.
FULL LINE	40, 17, 62	INDICATES THAT THE LINE BUFFER (MOS SHIFT REG) IS FULL.
-, FULL LINE	40, 47	SEE FULL LINE.

SIGNAL	REFERENCE	DESCRIPTION
GATE STATUS	5, 7	GATE SIGNAL FOR THE STATUS INFORMATION.

SIGNAL	REFERENCE	DESCRIPTION
HAMMER CURRENT OK	6, 56	
HAMMER STR 0-23	48, 65	STROBE FOR HAMMER AMPLIFIER 0-23.
HAMMER STR 24-47	48, 65, 66	STROBE FOR HAMMER AMPLIFIER 24-47
HAMMER STR 48-71	48, 66, 67	STROBE FOR HAMMER AMPLIFIER 48-71.
HAMMER STR 72-95	48, 67	STROBE FOR HAMMER AMPLIFIER 72-95.
HAMMER STR 96-119	48, 68	STROBE FOR HAMMER AMPLIFIER 96-119.
HAMMER STR 120-131	48, 68	STROBE FOR HAMMER AMPLIFIER 120-131.
HEAT SENSOR	52, 69	TEMPERATURE SENSOR (LOCATED IN THE PAPER FEED MOTOR ASSY).

SIGNAL	REFERENCE	DESCRIPTION
HI/LO	50, 52	VELOCITY GATE FOR THE PAPER FEED SERVO SYSTEM.
-,(HI/LO)	50, 52	SEE HI/LO.
HT	34, 20	HORIZONTAL TAB. CONTROL CHAR. FF.
-,HT	34	SEE ABOVE.
HT & (END OF HT)	34, 33	GATE SIGNAL FOR TERMINATION OF THE HT FUNCTION.

SIGNAL	REFERENCE	DESCRIPTION
INDEX AMP	43, 45	INDEX PULSE FROM PICK-UP AMPL.
INHIBIT	20, 17	INHIBIT PULSE FOR THE CLOCK AND TIMING CIRCUITS.
-, INHIBIT	20, 17, 6	SEE INHIBIT.
INP. TO SR-M	42, 31	INPUT TO MOS SHIFT REGISTER-BIT MARK.
INP. TO SR-P	42, 31	INPUT TO MOS SHIFT REGISTER-BIT PARITY.
INP. TO SR-7	42, 31	INPUT TO MOS SHIFT REGISTER-BIT 7.
INTERRUPT	7	INTERRUPT SIGNALS TO RC4000.
INT. I/O ENABLE	5	INTERNAL I/O ENABLE IS A SYNCHRONIZED I/O ENABLE.
I/O ACTIVATE	1	

SIGNAL	REFERENCE	DESCRIPTION
I/O ADDRESS	1	
I/O BUS 0	7	
I/O BUS 1	7	
I/O BUS 2	7	
I/O BUS 3	7	
I/O BUS 4	7	
I/O BUS 5	7	
I/O BUS 10	2	
I/O BUS 11	2	
I/O BUS 12	2	
I/O BUS 13	2	

SIGNAL	REFERENCE	DESCRIPTION
I/O BUS 14	2	
I/O BUS 15	2	
I/O BUS 16	2	
I/O BUS 17	3	
I/O BUS 18	3	
I/O BUS 19	3	
I/O BUS 20	3	
I/O BUS 21	3	
I/O BUS 22	3	
I/O BUS 23	3	
I/O ENABLE	1	

SIGNAL	REFERENCE	DESCRIPTION
I/O MMV	18, 19	I/O MONOSTABLE MULTI VIBRATOR.
I/O TRANSFER	1	

SIGNAL	REFERENCE	DESCRIPTION
KA RELAY		CONTROLS MAIN POWER TO: PAPER FEED AND HAMMER POWER SUPPLY, CHARACTER DRUM MOTOR, UPPER AND LOWER RIBBON MOTOR, PAPER DRIVE BLOWER, HAMMER BANK BLOWER, LEFT AND RIGHT ELECTRONICS GATE FANS. DISCHARGING OF: +50V DC AND +35V DC POWER SUPPLY.
KB RELAY		CONTROLS MAIN POWER TO: MULTI POWER SUPPLY, +5V DC POWER SUPPLY.
KC RELAY		DRUM DELAY RELAY CONTROLS: ENABLE KF RELAY ENABLE TO HAMMER CURRENT CONTROL.
KD RELAY		HAMMER CURRENT ERROR AND HEAT SENSOR RELAY CONTROLS: ENABLE KA RELAY.
KF RELAY		CONTROLS: CHARGING RESISTANCE TO +50V DC.

SIGNAL	REFERENCE	DESCRIPTION
LINE I/O ACTIVATE	1,13	INPUT LINE I/O ACTIVATE.
-,LINE I/O ACTIVATE	1	SEE LINE I/O ACTIVATE.
LINE I/O ADDRESS	1, 5, 6	INPUT LINE I/O ADDRESS.
LINE I/O ENABLE	1, 5	INPUT LINE I/O ENABLE
LINE I/O TRANSFER	1,5	INPUT LINE I/O TRANSFER
LINE MODE	14, 36, 49	INDICATES THAT LINE MODE OPERATION IS WANTED.
LINE 10	2, 4	INPUT LINE 10.
LINE 11	2, 4	INPUT LINE 11.
LINE 12	2, 4	INPUT LINE 12.

SIGNAL	REFERENCE	DESCRIPTION
LINE 13	2, 4	INPUT LINE 13.
LINE 14	2, 4	INPUT LINE 14.
LINE 15	2, 4	INPUT LINE 15.
LINE 16	2, 4	INPUT LINE 16.
LINE 17	3, 4, 24	INPUT LINE 17.
LINE 18	3, 4, 24	INPUT LINE 18.
LINE 19	3, 4, 24	INPUT LINE 19.
LINE 20	3, 4, 23	INPUT LINE 20.
LINE 21	3, 4, 23	INPUT LINE 21.
LINE 22	3, 4, 23	INPUT LINE 22.
LINE 23	3, 4, 23	INPUT LINE 23.

SIGNAL	REFERENCE	DESCRIPTION
-,(LOCAL & CONNECTED)	8	CONTROL SIGNAL FOR THE LOCAL LAMP INDICATOR (LOCATED IN RC4000).
-, LSA	44	SEE LSA P.
LSA P	44, 54, 55	LINE STROBE A.
-, LSB	44	SEE LSB P.
LSB P	44, 13, 50, 51	LINE STROBE B.

SIGNAL	REFERENCE	DESCRIPTION
MARK	42	DURING PRINT AND LOAD OF INPUT THE MARK INDICATES THAT A MARK BIT IS TO BE ADDED. DURING RELOAD THE MARK INDICATES THAT A MARK BIT IS TO BE CANCELED..
-,MARK	42	SEE MARK.
MCL	56, 7, 13, 50	MASTER CLEAR.
-,MCL	56, 57, 58, 59 64, 5, 7, 11 12, 13, 19, 20 21, 34, 40, 49 50	SEE MCL.
-,(MCL ! (CAN DEC & -,STOP T))	13, 40	RESET FUNCTION.
-,MCL ! -,RESET STOP T	20, 19	RESET FUNCTION.
-,MCL ! -,(START F. INP. & RESET E)	57, 58, 64	RESET FUNCTION.

SIGNAL	REFERENCE	DESCRIPTION
-, MCL SWITCH TEST PANEL	22, 56	CONTROL LINE FROM MCL SWITCH (LOCATED ON MAINTENANCE PANEL)
MOTOR +	52, 59	

SIGNAL	REFERENCE	DESCRIPTION
n-FF	18, 42, 51	INDICATES IF A CORRECT n CHARACTER IS LOADED.
-,n-FF	18, 51	SEE n-FF.
NL ! VT	36, 51	(NL ! VT) CONTROL CHARACTER FF.
-,(NL ! VT)	18, 36	SEE (NL ! VT).
(NL ! VT) DEC	36, 42	ENABLE SIGNAL FOR THE (NL ! VT) CONTROL CHARACTER FF.
-,(NL ! VT) DEC	36, 18	SEE (NL ! VT) DEC.
NL ! VT ! FF ! CR	36, 40, 13, 19 35	INDICATES IF ONE OF THE FOUR CONTROL CHARACTERS NL, VT, FF, CR IS LOADED INTO THE CONTROL CHARACTER FFs.
-,(NL ! VT ! FF ! CR)	36, 21	SEE (NL ! VT ! FF ! CR)
n-REG-0	26, 51	n-REGISTER BIT 0.

SIGNAL	REFERENCE	DESCRIPTION
n-REG-1	26, 51	n-REGISTER BIT 1.
n-REG-2	26, 51	n-REGISTER BIT 2.
n-REG-3	26, 51	n-REGISTER BIT 3.
NSC	33, 17, 37, 40	NO SHIFT AND NO COUNT.
-,NSC	33, 21, 35, 37	SEE NSC.

SIGNAL	REFERENCE	DESCRIPTION
-,ON LINE SWITCH TEST PANEL	22, 14	THIS SIGNAL IS USED TO INHIBIT LINE MODE AND TEST PRINT DURING ON-LINE RUNNING.

SIGNAL	REFERENCE	DESCRIPTION
PAPER ADVANCE	49, 50	INDICATES RUN/STOP AND HI/LO ACCORDING TO START PARAMETERS.
PAPER FEED	49, 20	GATE SIGNAL FOR LOADING PARAMETER INTO PAPER CONTROL REGISTER AND START OF PAPER.
-,PAPER FEED	49, 7, 13, 33 40, 42	SEE PAPER FEED.
PAPER FEED & -,RELOAD FF	40, 19	PAPER FEED WITHOUT RELOAD OPERATION.
PAPER MOVING	49, 12	INDICATES THAT THE PAPER IS MOVING.
-,PAPER MOVING	49, 59, 11, 41	SEE PAPER MOVING.
PAPER OUT	60, 41	INDICATES THAT PAPER IS NOT CORRECTLY INSTALLED.
-,PAPER OUT	60, 61, 7, 12	SEE PAPER OUT

SIGNAL	REFERENCE	DESCRIPTION
PAPER OUT FF	60, 64, 48	SYNCHRONIZED PAPER OUT SIGNAL.
PARITY	57, 42, 48	INDICATES THAT THE INFORMATION IN REG 1 IS NOT CORRECT WITH RESPECT TO PARITY.
-,PARITY	57	SEE PARITY.
PARITY STATUS	61, 7	INDICATES THAT ONE OR MORE ERRORS EXIST.
PB-CP	16, 13, 12, 11 10, 7	PUSHBUTTON CLOCK PULSE.
PCR 0	51, 49	ONE OF FOUR BITS IN PAPER CONTROL REGISTER.
-,PCR 0	51	SEE PCR 0.
PCR 0 P	49, 54, 55	PCR 0 P IS CONTROLLED EITHER FROM PCR 0 OR FROM LINE MODE.
-,PCR 0 P	49, 50, 54, 55	SEE PCR 0 P.

SIGNAL	REFERENCE	DESCRIPTION
PCR 1	51, 54, 55, 50	ONE OF FOUR BITS IN PAPER CONTROL REGISTER.
-, PCR 1	51, 50, 54, 55	SEE PCR 1.
PCR 2	51, 55	ONE OF FOUR BITS IN PAPER CONTROL REGISTERS.
-, PCR 2	51, 50, 54	SEE PCR 2.
PCR 3	51	ONE OF FOUR BITS IN PAPER CONTROL REGISTER.
-, PCR 3	51, 50	SEE PCR 3.
PF CON	57, 33	INDICATES THAT A PARITY ERROR IN INFORMATION FROM CHARACTER CONVERTER (READ ONLY STORE) IS DETECTED.
-, PF CON	57, 32, 61	SEE PF CON.
PF INP	57, 33	INDICATES THAT A PARITY ERROR IN INPUT INFORMATION IS DETECTED.

SIGNAL	REFERENCE	DESCRIPTION
-,PF INP	57, 18, 32, 61	SEE PF INP.
PF L	12, 49	PAPER FEED LOCAL OPERATION IN PROGRESS.
-,PF L	12, 15	SEE PF L.
-,PFL P	49, 51	SEE PF L.
P(APER) F(EED) L(OC) SWITCH	12, 14	
PF MEMORY	57	INDICATES THAT A PARITY ERROR IN INFORMATION FROM SR MEMORY IS DETECTED.
-,PF MEMORY	57, 61	SEE PF MEMORY.
-,PHASING	44, 45	ADJUSTABLE SIGNAL WHICH DETERMINES THE ONE HALF OF THE TOTAL PHASE VARIATION.

SIGNAL	REFERENCE	DESCRIPTION
POW OK +35V, -35V, +50V	6, 43	THE SIGNAL INDICATES THAT THE THREE VOLTAGES ARE WITHIN THE ALLOWABLE LIMITS.
PRINT	41, 42, 59, 60 62	INDICATES THAT PRINTING IS IN PROGRESS.
-,PRINT	41, 11, 47, 48 59	SEE PRINT.
-,PRINT-P	41	CONTROLS THE RIBBON MOTION.
-,(PRINT !ENABLE ECHO CHECK)	62, 63	DETERMINES THE ENTIRE PERIOD DURING WHICH ECHOES MAY BE DETECTED.

SIGNAL	REFERENCE	DESCRIPTION
REG 1 EC 0	63, 64	REGISTER 1 BIT EC 0.
-,REG 1 EC0	63, 64	SEE REG 1 EC0.
REG 1 EC1	63, 64	REGISTER 1 BIT EC1.
-,REG 1 EC1	63, 64	SEE REG 1 EC 1.
REG 1-M	25, 57	REGISTER 1 BIT MARK.
REG 1-P	25, 57	REGISTER 1 BIT PARITY.
REG 1-0	23, 26, 32	REGISTER 1 BIT 0.
-,REG 1-0	23, 27, 32, 57	SEE REG 1-0.
REG 1-1	23, 26, 27, 32	REGISTER 1 BIT 1.
-,REG 1-1	23, 32, 57	SEE REG 1-1.
REG 1-2	23, 26, 32	REGISTER 1 BIT 2.

SIGNAL	REFERENCE	DESCRIPTION
-,REG 1-2	23, 27, 32, 57	SEE REG 1-2.
REG 1-3	23, 26, 27, 32	REGISTER 1 BIT 3.
-,REG 1-3	23, 27, 32, 57	SEE REG 1-3.
REG 1-4	24, 18, 27, 32	REGISTER 1 BIT 4.
-,REG 1-4	24, 32, 57	SEE REG 1-4
REG 1-5	24, 18, 27, 32	REGISTER 1 BIT 5.
-,REG 1-5	24, 32, 57	SEE REG 1-5.
REG 1-6	24, 27, 32	REGISTER 1 BIT 6.
-,REG 1-6	24, 18, 32, 57	SEE REG 1-6.
REG 1-7	24, 32	REGISTER 1 BIT 7.
-,REG 1-7	24, 18, 57	SEE REG 1-7.

SIGNAL	REFERENCE	DESCRIPTION
REG 2 EC0	63, 31	REGISTER 2 BIT EC0.
-,REG 2 EC0	63	SEE REG 2 EC0
REG 2 EC1	31, 63	REGISTER 2 BIT EC1.
-,REG 2 EC1	63	SEE REG 2 EC1.
REG 2-M	25, 58	REGISTER 2 BIT MARK.
-,REG 2-M	25, 42	SEE REG 2-M.
REG 2-P	25, 42, 58	REGISTER 2 BIT PARITY.
-,REG 2-P	25, 42	SEE REG 2-P.
REG 2-0	23, 31	REGISTER 2 BIT 0.
-,REG 2-0	23, 58	SEE REG 2-0.
REG 2-1	23, 31	REGISTER 2 BIT 1.

SIGNAL	REFERENCE	DESCRIPTION
-,REG 2-1	23, 58	SEE REG 2-1
REG 2-2	23, 31	REGISTER 2, BIT 2.
-,REG 2-2	23, 58	SEE REG 2-2.
REG 2-3	23, 31	REGISTER 2 BIT 3.
-,REG 2-3	23, 58	SEE REG 2-3.
REG 2-4	24, 31	REGISTER 2 BIT 4.
-,REG 2-4	24, 58	SEE REG 2-4.
REG 2-5	24, 31	REGISTER 2 BIT 5.
-,REG 2-5	24, 58	SEE REG 2-5.
REG 2-6	24, 31	REGISTER 2 BIT 6.

SIGNAL	REFERENCE	DESCRIPTION
-,REG 2-6	24, 58	SEE REG 2-6.
REG 2-7	24, 58	REGISTER 2 BIT 7.
-,REG 2-7	24, 42	SEE REG 2-7.
RELOAD FF	41, 42, 57, 13 25, 35, 40	INDICATES THAT RELOAD OPERATION IS IN PROGRESS.
-,RELOAD FF	41, 20	SEE RELOAD FF.
RELOAD SWITCH (TEST PANEL)	22, 41	CONTROL LINE FROM RELOAD SWITCH (LOCATED ON MAINTENANCE PANEL).
REMOTE	11, 12, 15, 19	INDICATES THAT LPE 200 IS CONTROLLED FROM RC 4000.
-,REMOTE	11, 15, 8, 7	SEE REMOTE.
-,(REMOTE & CONNECTED)	8	CONTROL SIGNAL FOR REMOTE LAMP INDICATOR IN RC 4000.

SIGNAL	REFERENCE	DESCRIPTION
REMOTE FF 2	10, 11	INDICATES THAT THE LOCAL/REMOTE SWITCH HAS BEEN ACTIVATED.
-, REMOTE FF 2	10, 11	SEE REMOTE FF 2.
REMOTE & REMOTE FF 2	11	INDICATES THAT THE LOCAL/REMOTE SWITCH HAS BEEN ACTIVATED TO SHIFT TO REMOTE.
-, REMOTE ! TP ! PFL	15, 8	CONTROL SIGNAL FOR LOCAL LAMP INDICATOR ON OPERATORS PANEL, AND GATE SIGNAL FOR LOCAL LAMP INDICATOR IN RC 4000.
-, RESET CHAR 1	45, 46	RESET PULSE TO CHARACTER COUNTER 0, 3, 6.
-, RESET CHAR 2	45, 46	RESET PULSE TO CHARACTER COUNTER 1, 2, 4, 5.
-, RESET E	20, 17, 57	RESET PULSE TO E-FF IN CLOCK AND TIMING CIRCUITS.
-, RESET PIL	35, 36	RESET PAPER INSTRUCTION LOGIC.

SIGNAL	REFERENCE	DESCRIPTION
-, RESET STOP T	20	INITIATES START T-PERIOD.
RUN/STOP	50, 52	INDICATES THAT THE PAPER IS TO BE MOVED.
-, (RUN/STOP)	50, 49	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
SEL A	13	INDICATES THAT EITHER A WRITE COMMAND FROM RC4000 OR A TESTPRINT IS IN PROGRESS.
-, SEL A	13, 11, 35, 41 60	SEE SEL A.
SEL B	5, 11	INDICATES THAT RC4000 INTERFERES WITH LPE 200.
-, SEL B	5	SEE ABOVE.
SELECTED TLR FF	55, 50	LOGICAL SUM OF TAPE LOOP REG (0-7) SELECTED.
-, SELECTED TLR FF	55, 50	SEE ABOVE.
SENSE DEC	4,5	INDICATES THAT THE BASIC COMMAND FIELD CONTAINS A SENSE COMMAND.
SENSE FF	5	INDICATES THAT A SENSE COMMAND IS INITIATED.
-, SENSE FF	5	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
-,SET CHAR TO LOAD	19, 21	INITIATES CHARACTER TO LOAD FF.
-,SET CHECK CHAR	21, 18, 23, 24 25, 35, 41, 42 63	DURING SET CHECK CHARACTER THE CHECK CHARACTER IS SET INTO REG 2.
-,SET PCR	49, 51	PRESET PAPER CONTROL REG (0-3) = 1,1,1,1 AND SET TPE/CNT = CNT.
-,SET RUN	50,	THIS SIGNAL INITIATES RUN.
SHIFT INP	40, 18, 19	INDICATES THAT 132 CHARACTERS ARE LOADED INTO THE LINE BUFFER.
-,SHIFT INP	40	SEE ABOVE.
SHIFT REG 2	17, 23, 24, 25	DURING SHIFT REG 2 THE REG 1 INFORMATION IS TRANSFERRED TO REG 2.
SI	33, 27	SHIFT IN INPUT CHARACTERS WILL BE CONVERTED ACCORDING TO SHIFT IN CODE TABLE.

SIGNAL	REFERENCE	DESCRIPTION
SIM 0	22, 23	ONE OF SEVEN INPUT DATA LINES, CONTROLLED FROM THE TEST INFORMATION SWITCHES (LOCATED ON MAINTENANCE PANEL).
SIM 1	22, 23	SEE ABOVE.
SIM 2	22, 23	SEE ABOVE.
SIM 3	22, 23	SEE ABOVE.
SIM 4	22, 24	SEE ABOVE.
SIM 5	22, 24	SEE ABOVE.
SIM 6	22, 24	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
-,SI ROW 0	27, 28	ONE OF SIXTEEN DECODING LINES FOR DRIVING THE CHARACTER CONVERTER.
-,SI ROW 1	27, 28	SEE ABOVE.
-,SI ROW 2	27, 28	SEE ABOVE.
-,SI ROW 3	27, 28	SEE ABOVE.
-,SI ROW 4	27, 28	SEE ABOVE.
-,SI ROW 5	27, 28	SEE ABOVE.
-,SI ROW 6	27, 28	SEE ABOVE.
-,SI ROW 7	27, 28	SEE ABOVE.
-,SI ROW 8	27, 28	SEE ABOVE.
-,SI ROW 9	27, 28	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
-,SI ROW 10	27, 28	SEE ABOVE.
-,SI ROW 11	27,28	SEE ABOVE.
-,SI ROW 12	27, 28	SEE ABOVE.
-,SI ROW 13	27, 28	SEE ABOVE.
-,SI ROW 14	27, 28	SEE ABOVE.
-,SI ROW 15	27, 28	SEE ABOVE.
-,SNT 1	20, 18	FIRST OF THREE SYNCHRONIZING INPULSES.
SNT 2	20, 18	SECOND OF THREE SYNCHRONIZING INPULSES.
-,SNT 2	20, 18, 19	SEE SNT 2.
SNT 3	20, 19	THIRD OF THREE SYNCHRONIZING INPULSES.
-,SNT 3	20, 18	SEE SNT 3.

SIGNAL	REFERENCE	DESCRIPTION
SO	33, 27	SHIFT OUT INPUT CHARACTERS WILL BE CONVERTED ACCORDING TO SHIFT OUT CODE TABLE.
-,SO ROW 0	27, 29	ONE OF SIXTEEN DECODING LINES FOR DRIVING THE CHARACTER CONVERTER.
-,SO ROW 1	27, 29	SEE ABOVE.
-,SO ROW 2	27, 29	SEE ABOVE.
-,SO ROW 3	27, 29	SEE ABOVE.
-,SO ROW 4	27, 29	SEE ABOVE.
-,SO ROW 5	27, 29	SEE ABOVE.
-,SO ROW 6	27, 29	SEE ABOVE.
-,SO ROW 7	27, 29	SEE ABOVE.
-,SO ROW 8	27, 29	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
-,SO ROW 9	27, 29	SEE ABOVE.
-,SO ROW 10	27, 29	SEE ABOVE.
-,SO ROW 11	27, 29	SEE ABOVE.
-,SO ROW 12	27, 29	SEE ABOVE.
-,SO ROW 13	27, 29	SEE ABOVE.
-,SO ROW 14	27, 29	SEE ABOVE.
-,SO ROW 15	27, 29	SEE ABOVE.
SPEED	58	INDICATES THAT SPEED ERROR IS DETECTED.
-,SPEED	58, 59, 41	SEE ABOVE.
SPEED CHECK	40, 41, 58	SPEED CHECK IS IN PROGRESS.
-,SPEED CHECK	40	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
SR-EC0	31, 63	SHIFT REG BIT EC0.
SR-EC1	31, 63	SHIFT REG BIT EC1.
SR-M	31, 42, 25	SHIFT REG BIT MARK.
-, SR-M	31, 41	SEE SR-M.
SRM ! SR7	41, 47	INDICATES IF CHARACTER IS A MARKED (PRINTED) CHAR OR A CONTROL CHAR.
SR-P	31, 25	SHIFT REG BIT PARITY.
SR0	31, 47, 23	SHIFT REG BIT 0.
SR1	31, 23, 47	SHIFT REG BIT 1.
SR2	31, 23, 47	SHIFT REG BIT 2.
SR3	31, 23, 47	SHIFT REG BIT 3.

SIGNAL	REFERENCE	DESCRIPTION
SR4	31, 24, 47	SHIFT REG BIT 4.
SR 5	31, 24, 47	SHIFT REG BIT 5.
SR6	31, 24, 47	SHIFT REG BIT 6.
SR 7	31, 24, 64	SHIFT REG BIT 7.
-,SR-7	31, 41, 64	SEE SR 7.
START CONV	18, 27	DETERMINES THE DURATION OF READ CURRENT TO THE CHARACTER CONVERTER (READ ONLY STORE).
START F. CHAR STR	19, 20	INITIATES SYNCHRONIZING OF CHARACTER STROBE AND T-PERIODS.
START F.INPUT	19, 18	INITIATES SYNCHRONIZING OF I/O MMV AND T-PERIOD.
-,START F. INPUT	19, 6, 57	SEE START F. INPUT.

SIGNAL	REFERENCE	DESCRIPTION
START F. INPUT & RESET E	57, 18	TIMING IMPULSE FOR TRANSFER TO n-REG AND PF INPUT DETECTION.
START I/O MMV	5, 18	START I/O MMV INITIATES THE I/O MMV.
STOP	11, 15, 5	STOP INDICATES IF IT IS WANTED TO SHIFT TO LOCAL OR IT IS WANTED TO STOP THE TESTPRINT.
-, STOP	11, 7, 13	SEE STOP.
STOP T	20, 6, 13, 17	STOP T INHIBITS THE T-PERIOD (T1, T2, T3, T4).
-, STOP T	20, 17	SEE STOP T.
-, (STOP & -, TP & -, PFL)	15, 8	
STORAGE PRINTED	41, 40, 64	INDICATES THAT THERE IS NO MORE INFORMATION IN THE LINE BUFFER TO BE PRINTED.
-, STROBE FOR ROS	18	STROBE FOR READ-ONLY-STORE TRANSFERS CONVERTED CHARACTER INTO REG 1- (0-7, P, M).

SIGNAL	REFERENCE	DESCRIPTION
ST/ST FF 2	10, 11, 12	INDICATES THAT THE LOCAL START/STOP SWITCH HAS BEEN ACTIVATED.
-,(ST/ST FF2 & -,TP & -,REMOTE)	12	INDICATES THAT LPE 200 IS NOT REMOTE AND NO TESTPRINT IS IN PROGRESS AND THE LOCAL START/STOP SWITCH HAS BEEN ACTIVATED.

SIGNAL	REFERENCE	DESCRIPTION
TA	17, 49	BASIC TIMING IMPULSE FOR GENERATION OF T1, T2, T3, T4.
TIME OUT	59, 6, 7, 12	INDICATES THAT ONE OF MORE ERRORS EXIST.
-, TIME OUT	59, 61	SEE TIME OUT.
TLR 0	54, 13	TAPE LOOP REGISTER 0.
-, TLR0	54, 13	SEE ABOVE.
-, TLR0 SEL	54, 55	INDICATES THAT CHANNEL 0 IS SELECTED AND HOLE IN TAPE LOOP CHANNEL 0 IS SENSED.
-, TLR 1 SEL	54, 55	SEE ABOVE.
-, TLR 2 SEL	54, 55	SEE ABOVE.
-, TLR 3 SEL	54, 55	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
-, TLR 4 SEL	55	SEE ABOVE.
-, TLR 5 SEL	55	SEE ABOVE.
-, TLR 6 SEL	55	SEE ABOVE.
-, TLR 7 SEL	55	SEE ABOVE.
T(EST) P(RINT)	12, 11, 13, 18 35, 41, 57	TESTPRINT OPERATION IN PROGRESS.
-, T(EST)P(RINT)	12, 5, 13, 15 18, 19	SEE TESTPRINT
TP & DATA GATE	18, 23, 24	THIS SIGNAL ENABLES SIM (0 ....6) INFORMATION TO BE TRANSFERRED TO REG 1.
-, TP & DATA GATE	18, 23, 24, 25	THIS SIGNAL ENABLES LINE (17-23) INFORMATION TO BE TRANSFERRED TO REG 1.
TP P	19	SEE TESTPRINT.

SIGNAL	REFERENCE	DESCRIPTION
TP ! PFL	15	INDICATES THAT TESTPRINT OR PAPER FEED LOCAL IS IN PROGRESS.
-,TP & PFL	15	INDICATES THAT NEITHER TESTPRINT NOR PAPER FEED LOCAL IS IN PROGRESS.
-,TP & -,PFL & REMOTE	15, 11, 13	REMOTE WITHOUT ANY LOCAL OPERATION IN PROGRESS.
TP SWITCH	14, 12	THIS SIGNAL INDICATES THAT TESTPRINT IS WANTED.
TRANSFER TO n-REG	18, 26	DURING TRANSFER TO n-REG THE INFORMATION IN REG 1- (0, 1, 2, 3) IS TRANSFERRED TO n-REG (0, 1, 2, 3).
TRANSFER TO PCR	49, 51	DURING TRANSFER TO PCR THE PAPER CONTROL REG (0-3) AND TPE/CNT IS SET ACCORDING TO THE CONTROL CHARACTER IN PROGRESS.
-,TRANSFER T. REG 1 F. INPUT	18, 23, 24, 25	DURING TRANSFER TO REG 1 FROM INPUT THE INFORMATION IS TRANSFERRED TO REG 1 FROM ONE OF FOUR ALTERNATIVE INPUTS.

SIGNAL	REFERENCE	DESCRIPTION
TRANSFER T. REG 1 F. SR	18, 23, 24, 25	DURING TRANSFER TO REG 1 FROM SR THE INFORMATION IN SR (0, 1, 2, 3, 4, 5, 6, 7, P, M, EC0, EC1) IS TRANSFERRED TO REG 1 (0, 1, 2, 3, 4, 5, 6, 7, P, M, EC0 EC1).
TPE	51, 49	ADVANCE PAPER ACCORDING TO TAPE MODE.
TPE P	49, 50	SEE ABOVE.
T1	17, 18, 21, 33 49, 58, 62, 63	FIRST OF FOUR TIMING IMPULSES IN A T-PERIOD.
-,T1	17, 35, 57, 63	SEE T1.
T2	17, 33, 36, 37 42, 48, 63, 64	SECOND OF FOUR TIMING IMPULSES IN A T-PERIOD.
-,T2	17, 49	SEE T2.
T3	17, 48, 49	THIRD OF FOUR TIMING IMPULSES IN A T-PERIOD.

SIGNAL	REFERENCE	DESCRIPTION
-,T3	17, 57, 62	SEE T3.
-,T3 B	17, 31	ONE OF TWO INPULSES FOR GENERATING SHIFT INPULSES TO MOS SHIFT REGISTER.
T3 C	17, 18, 31	ONE OF TWO IMPULSES FOR GENERATING SHIFT IMPULSES TO MOS SHIFT REGISTER.
-,T3 C	17	SEE T3 C.
T4	17, 7, 19, 20 21, 40, 41, 49 64	FOURTH OF FOUR TIMING IMPULSES IN A T-PERIOD.
-,T4	17, 34	SEE T4.

SIGNAL	REFERENCE	DESCRIPTION
WRITE DEC	4, 5, 13	INDICATES THAT THE BASIC COMMAND FIELD CONTAINS A WRITE COMMAND.
WRITE FF	5, 7	INDICATES THAT A WRITE COMMAND IS INITIATED.
-, WRITE FF	5, 6	SEE ABOVE.

SIGNAL	REFERENCE	DESCRIPTION
-,0 DEC	32	INDICATES THAT REG 1-4, REG 1-3 = 0,0
-,8 DEC	32, 33, 34, 35	INDICATES THAT REG 1-4, REG 1-3 = 0, 1
-,16 DEC	32	INDICATES THAT REG 1-4, REG 1-3 = 1, 0
-,24 DEC	32, 33, 34	INDICATES THAT REG 1-4, REG 1-3 = 1, 1

SIGNAL	REFERENCE	DESCRIPTION	
-,(128+0) DEC	32, 33	INDICATES THAT A CONTROL CHARACTER IS PRESENT IN REG 1 AND THAT REG 1-2, REG 1-1, REG 1-0	= 0, 0, 0
-,(128+1) DEC	32, 34	SEE ABOVE	= 0, 0, 1
-,(128+2) DEC	32, 36	SEE ABOVE	= 0, 1, 0
-,(128+3) DEC	32, 34, 36	SEE ABOVE	= 0, 1, 1
-,(128+4) DEC	32, 36	SEE ABOVE	= 1, 0, 0
-,(128+5) DEC	32, 36	SEE ABOVE	= 1, 0, 1
-,(128+6) DEC	32, 33	SEE ABOVE	= 1, 1, 0
-,(128+7)	32, 33	SEE ABOVE	= 1, 1, 1

CONTROL AND ADJUSTMENT INTRODUCTION 20

This section describes the OFF LINE OPERATION modes to control the RC 610 functions, the electrical adjustments, and the mechanical adjustments and alignments.

Maintenance Panel 20.1

The maintenance panel allows the printer to be operated independently of the computer. Utilizing the maintenance panel and operator panel, the majority of the logic circuitry of the printer can be checked. The primary exceptions are the bus line drivers and receivers.

Off Line Operation 20.2

Off line operation can be performed from the OPERATOR CONTROL PANEL and MAINTENANCE PANEL, presupposed the printer is in the LOCAL and OFF LINE state.

Form Feed 20.3

Form feed can be performed in two ways:

1. a. Press the FORM/LINE pushbutton to illuminate the FORM indicator.
   b. Press the TESTPRINT/PAPER FEED pushbutton to illuminate the PAPER FEED indicator.
   c. By pressing the LOCAL START/STOP pushbutton the paper will advance to top of the next formular controlled by formate tape track 0.
   Momentarily the START indicator will be illuminated and the STOP indicator extinguished.

2. Load FF character (see character loading procedures)

Line Feed 20.4

Line feed can be performed in two ways:

1. a. Press the FORM/LINE pushbutton to illuminate the LINE indicator.
   b. Press the TESTPRINT/PAPER FEED pushbutton to illuminate the PAPER FEED indicator.

c. By pressing the LOCAL START/STOP pushbutton the paper will advance to the next line.
Momentarily the START indicator will be illuminated and the STOP indicator extinguished.

2. Load NL character (see character loading procedures).

Quick Loading and One Line Printing of All the Same Character 20.5

a. Press the TESTPRINT/PAPER FEED pushbutton to illuminate the TESTPRINT indicator.
b. Set the desired character to be loaded into the Line store by depressing the appropriate pushbuttons (0-6) on the MAINTENANCE PANEL.
c. Press the LOAD NORMAL/RELOAD pushbutton to LOAD NORMAL.
d. Press the CHARACTER LOAD/AUTO LOAD pushbutton to AUTO LOAD.
e. Press the FORM/LINE pushbutton to the desired paper feed mode.
f. By depressing the LOCAL START/STOP pushbutton the line will be loaded and printed. The paper will be advanced according to the FORM/LINE mode state.
Momentarily the START indicator will be illuminated and the STOP indicator extinguished.
g. If more than one line is desired press the LOCAL START/STOP pushbutton the wanted number of times.

Quick Loading and Continuous Printing of All the Same Character 20.6

a. Press the TESTPRINT/PAPER FEED pushbutton to illuminate the TESTPRINT indicator.
b. Set the desired character to be loaded into the line store by depressing the appropriate pushbuttons (0-6) on the MAINTENANCE PANEL.
c. Press the LOAD NORMAL/RELOAD pushbutton to RELOAD.
d. Press the CHARACTER LOAD/AUTO LOAD pushbutton to AUTO LOAD.
e. Press the FORM/LINE pushbutton to the desired paper feed mode.

f. By pressing the LOCAL START/STOP pushbutton the line will be loaded and printed. The paper will be advanced according to the FORM/LINE mode state.
The START indicator will be illuminated and STOP indicator extinguished.
Printing will continue until the LOCAL START/STOP pushbutton is depressed. By depressing the LOCAL START/STOP pushbutton the START indicator will be extinguished and the STOP indicator illuminated.

Character Loading and One Line Printing 20.7

a. Press the TESTPRINT/PAPER FEED pushbutton to illuminate the TESTPRINT indicator.
b. Press the LOAD NORMAL/RELOAD pushbutton to LOAD NORMAL.
c. Press the CHARACTER LOAD/AUTO LOAD to CHARACTER LOAD.

Up to 132 graphic characters can be loaded. To load the line repeat step d and e the wanted number of times.

d. Set the desired character to be loaded into the line buffer by depressing the appropriate pushbuttons (0-6) on the MAINTENANCE PANEL.
e. By pressing the LOCAL START/STOP pushbutton the character will be loaded into the line buffer.
Momentarily the START indicator will be illuminated and the STOP indicator extinguished.
f. Set the desired control character (NL, VT, FF, CR) to be loaded into the paper instruction logic.
g. By pressing the LOCAL START/STOP pushbutton the control character will be loaded, the stored line printed, and the paper advanced according to the control character just loaded.
Momentarily the START indicator will be illuminated and the STOP indicator extinguished.

a. Press the TESTPRINT/PAPER FEED pushbutton to illuminate the TESTPRINT indicator.
b. Press the LOAD NORMAL/RELOAD pushbutton to LOAD NORMAL.
c. Press the CHARACTER LOAD/AUTO LOAD to CHARACTER LOAD.

Up to 132 graphic characters can be loaded. To load the line repeat step d and e the wanted number of times.

d. Set the desired character to be loaded into the line buffer by depressing the appropriate pushbuttons (0-6) on the MAINTENANCE PANEL.
e. By pressing the LOCAL START/STOP pushbutton the character will be loaded into the line buffer.
Momentarily the START indicator will be illuminated and the STOP indicator extinguished.
f. Set the desired control character (NL, VT, FF) to be loaded into the paper instruction logic.
g. Press the LOAD NORMAL/RELOAD pushbutton to RELOAD.
h. By pressing the LOCAL START/STOP pushbutton the control character will be loaded, the line printed, and the paper advanced according to the control character just loaded.
The START indicator will be illuminated and STOP indicator extinguished. Printing will continue until LOCAL START/STOP pushbutton is depressed. By depressing the LOCAL START/STOP pushbutton the START indicator will be extinguished and the STOP indicator illuminated.

Tape Loop Phase Adjustments 20.9

Improper tape loop phasing is indicated by intermittent failure of the paper to halt at the programmed line. This condition could be caused by disorientation between the tape loop shaft and the tape loop pulley.

NOTE

Before performing the following procedure, ensure that the paper is positioned correctly relative to the top-of-form tape hole. In addition, should the intermittent failure occur for a channel near a tape splice, ensure that an improper splice is not causing the failure.

Perform the following procedures to phase the tape loop:

a. Prepare a tape with every other hole punched in all channels except for the channel 1. Channel one is to be used to define the formular (i.e. one hole in this channel). Install tape in loop reader.

b. Program the printer to execute a VT instruction (refer to 20.5) and observe the wave form relationship between the line strobe pulse (LSA P-220B10) derived from the paper position count wheel and channel 0 (CH 0-228A18).
The line strobe should occur at the nominal center of the tape loop output.
For ref. see logic diagrams 44, 53.

NOTE

Tape loop reader will stop just beyond the hole that initiates the stop.

c. If adjustment is required, remove printer power and loosen two set screws which secure pickup wheel to tape loop reader shaft.

d. Slightly reposition the shaft and retighten both set screws.

CAUTION

Always tighten both set screws to prevent a screw from becoming disengaged when the printer is operated.

e. Recheck channel 0 phasing. If correct, check other channels for proper phasing. When channel 0 is still considerably misphased, repeat steps c. and d. until phasing is correct.

20.10

Hammer Bank Alignments

Refer to:

MODEL dp/p-4300
INSTRUCTION MANUAL
MECHANICS
208716-1
REVISION D
SEPT 1967

Hammer Flight Time Adjustment (see Fig. 20)

The hammers are individually adjustable for proper flight times by means of their back stop screws. The hammer flight times should be adjusted to correct misregistration of individual characters, to compensate for the back stop screw wear, or whenever a hammer or back stop screw is replaced.

CAUTION

The air duct must be removed to access the back stop screws. Precautions must be taken that during hammer adjustment, the hammer bank is not permitted to overheat.

When a number of hammers or the complete hammer bank is being adjusted for proper flight times, the printer can be programmed (from the COMPUTER or from the MAINTENANCE PANEL and the OPERATOR PANEL) to print a complete line of characters.
When a single hammer is being adjusted the printer should be programmed to print continuously in the corresponding column only.
The printer may be continuously operated, printing the single column without any danger of overheating.
These procedures assume that the hammer bank is properly positioned.
Perform the following procedures to adjust hammer flight times:

a. Remove air duct by releasing four quick turn screws.
b. Use special extender board to access the hammer boards in card cages 100 and 200.
c. Connect oscilloscope voltage probe to the junction of R01 and R02 (see hammer driver printed circuit diagram) of hammer 0 in position 101.
d. Check output of R01/R02 junction for an output 3,6 Volts in amplitude. If required, adjust to 3,6 Volts (by means of the HAMMER CURRENT CONTROL trimpot located in pos. 117) in order to establish the 1,8 ampere hammer drive current.
e. Check first and last three hammers for a flight time of 1,45 milliseconds with the oscilloscope voltage probe.

NOTE

If each of the first and last three hammers are not within 30 microseconds of each other, adjust all hammers for proper flight time and check flight time per the following procedure.

f. Using a grease pencil, mark point of impact on oscilloscope face.
g. Move the probe to each of the outputs of the hammer drivers to be adjusted and adjust corresponding back stop screws. All flight times must be within 30 microseconds of each other. Any flight time shall be no less than 1,4 milliseconds and no more than 1,5 milliseconds.
h. The duration of the drive pulse should be 1,8 mSec. app.

Power Supply Adjustments 20.12

The voltage generator (refer to logic diagram 72).
adjustment procedure is as follows

The potentiometer shall be set so that the most negative reference voltage is -3V6.

For generating the two signals : Multi and +5V pow OK, and +35, -35, +50V pow OK, the following voltage diviations are supervised (refer to logic diagrams 71, 72):

± 5 0/0 at +20, +12, +5, -6, -14, -20, -28 Volts
-20 0/0 at +50, +35, -35 Volts.

Potentiometers for line adjustments of the multipower supply voltages are accessible from the front of the electronic gate.

Character Drum Phasing (see Fig. 21) 20.13

Improper character drum phasing is indicated by a difference in ink density between tops and bottoms of a Line of printed characters.
This condition can normally by corrected by adjusting the phasing control.
If this does not correct the problem the internal phasing control should be adjusted.

Should this problem persist, it can be corrected by adjusting the character count wheel phasing. When this procedure is performed after replacing a drum gate component, first perform the count wheel phasing adjustment and then the internal phasing control adjustment only if required.

Phasing Control Adjustment 20.14

Phasing control adjustment can be done by the operator by means of the ten revolutions PHASING CONTROL trimpot (located on the top of the PICKUP AMPS, PHASE CONTROL ASSEMBLY) refer to logic diagram 44.

Internal Phasing Control Adjustment 20.15

The internal phasing control determines the point from which the operator (by means of the PHASING CONTROL trimpot) is able to adjust the phase. The internal phasing control trimpot is located in 512C30 (refer to logic diagram 45).
Perform the following procedures:

a. ADJUST PHASING NTROL trimpot to mid-range.
b. Perform print operation and attempt to obtain proper phasing by adjusting the INTERNAL PHASING CONTROL trimpot.
c. If step b. does not result in proper phasing alternately, adjust PHASING CONTROL trimpot and the INTERNAL PHASING CONTROL trimpot for a proper combination of positions.
d. If step c. does not result in proper phasing the count wheel must be rephased.

Count Wheel Phasing Adjustment 20.16

Count wheel phasing is adjusted by slightly reorientering the character count wheel until the top and bottom of a character in column 1 is printed with equal ink density. Print column 1 is significant (assuming other pertinent adjustments are properly set) since the remaining print characters will be synchronized by adjusting column 1. Perform the following procedures to adjust the count wheel phasing:

a. Set PHASING CONTROL trimpot and INTERNAL PHASING CONTROL trimpot to mid-range.
b. Remove printer power and allow character drum to come to a halt.

c. Open drum gate and remove right-hand gear cover.

d. Loosen two count wheel lock screws sufficient to allow count wheel to be rotated independent of character drum shaft.

e. Rotate count wheel slightly.

CAUTION

The toothed configuration of the count wheel is critical. Exercise extreme care when performing the above procedure and avoid contacting count wheel with any tools that might cause damage.

f. Tighten lock screws and replace gear cover.

WARNING

To avoid personnel injury, do not operate the printer with the count wheel gear cover removed.

g. Close drum gate and perform print operation. Check for proper ink density of the column 1 character. If required, repeat step a. through f. until proper registration is attained.

NOTE

The orientation of the index pin defines the next character row as character 0. Rotation of the count wheel may cause intermittent or persistent printing of wrong characters. Refer to Index Pin Alignment.

Index Pin Alignment 20.17

Misalignment of the index pin may cause premature or tardy arrival of index pulses, causing loss of proper synchronization between the character rows and the character counter. This would result in intermittent or persistent printing of wrong characters. The printed characters would be those associated with the character row above or below that of the programmed character. To align the index pin perform the following procedures:

a. Remove printer power and allow character drum to come to a halt.

b. Remove right-hand gear cover.

c. Check index pin setting by observing the waveforms at 512B16 and 512E21. Refer to logic diagram 45.
The 512E26 impulse should occur equidistant between the two pulses (which correspond to the final and initial character strobes) at 512B16.

d. If the index pin appears to be misaligned loosen index wheel lock screw sufficient to allow index wheel to be rotated independent of character drum shaft.

e. Rotate index wheel slightly.

f. Tighten lock screw and replace gear cover.

g. Close drum gate and perform print operation and determine if problem is eliminated. If the problem still exists, repeat step a. through g.

Clock Adjustment 20.18

The timing clock frequency should be checked whenever a progressive difference in ink density is observed at the tops or bottoms of characters along a printed line.
Timing clock adjustment is as follows:

a. To perform this procedure use single part (preferable 15 Lbs = 56,5 g/m^2) copy.

b. Adjust phase control for proper printing of leftmost columns.

c. Connect oscilloscope to 501A1 (CP 5 MHz on logic diagram 16).

d. Adjust CLOCK FREQ. ADJ trimpot to obtain an approximate 0,2 microsecond repetition rate.

e. Further adjust the CLOCK FREQ. ADJ trimpot to obtain equal density between tops and bottoms of high order characters, i.e. columns 131, 130, 129, etc.

Paper Feed Drive Electronic Adjustment 20.19

Paper feed drive system misadjustments may be indicated by several symptoms.
When the single line stepping time exceeds specifications (15 mSec.) adjustment is required.
Vertical registration errors of individual characters may occur when the system is not allowed sufficient time to settle. If vertical registration is a problem and cannot be corrected by operators controls, the paper feed drive system adjustment should be checked. The logic element being adjusted is illustrated on logic diagram 52.

The system only has to be adjusted for single line stepping.

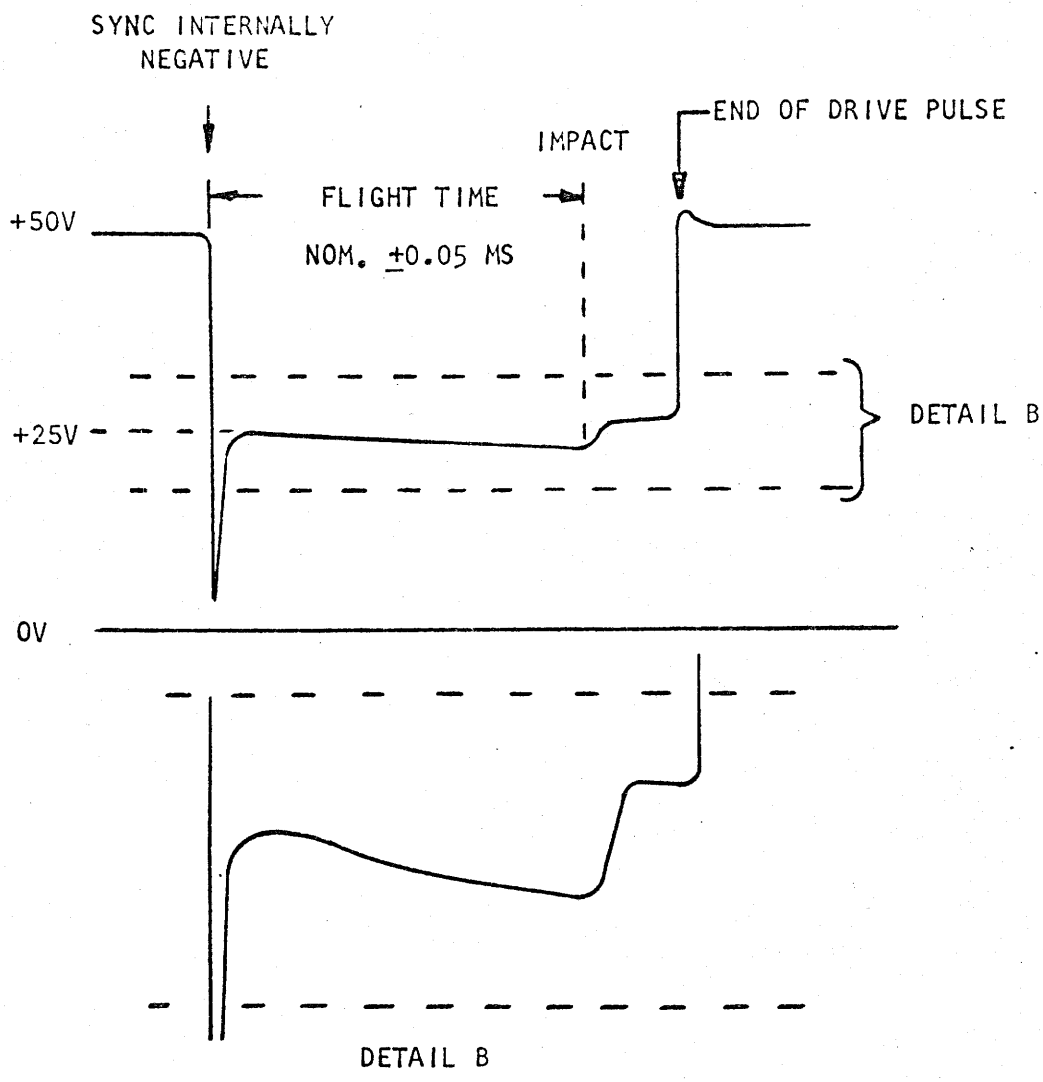
a. Program the printer for single line stepping (refer to 20.7)
b. Control the duration for single line stepping by observing the waveform at 230 C-.
   The total duration must be less than 15 mSec. The duration can be adjusted by means of the velocity potentiometer located on the Servo Ampl. (located in pos. 230).
c. Check that the DC TACHO GENERATOR 230A30 voltage is 2V4 $\pm$0V3.

The waveforms for the paper feed drive system are illustrated on TIMING DIAGRAMS 18, 19, 20.

Mechanical Adjustments and Alignments 20.20

Refer to:

MODEL dp/p-4300
INSTRUCTION MANUAL
MECHANICS
208716-1
REVISION D
SEPT 1967



LPE 200

A20748

HAMMER DRIVE VOLTAGE WAVEFORM

Figure

Fig 20

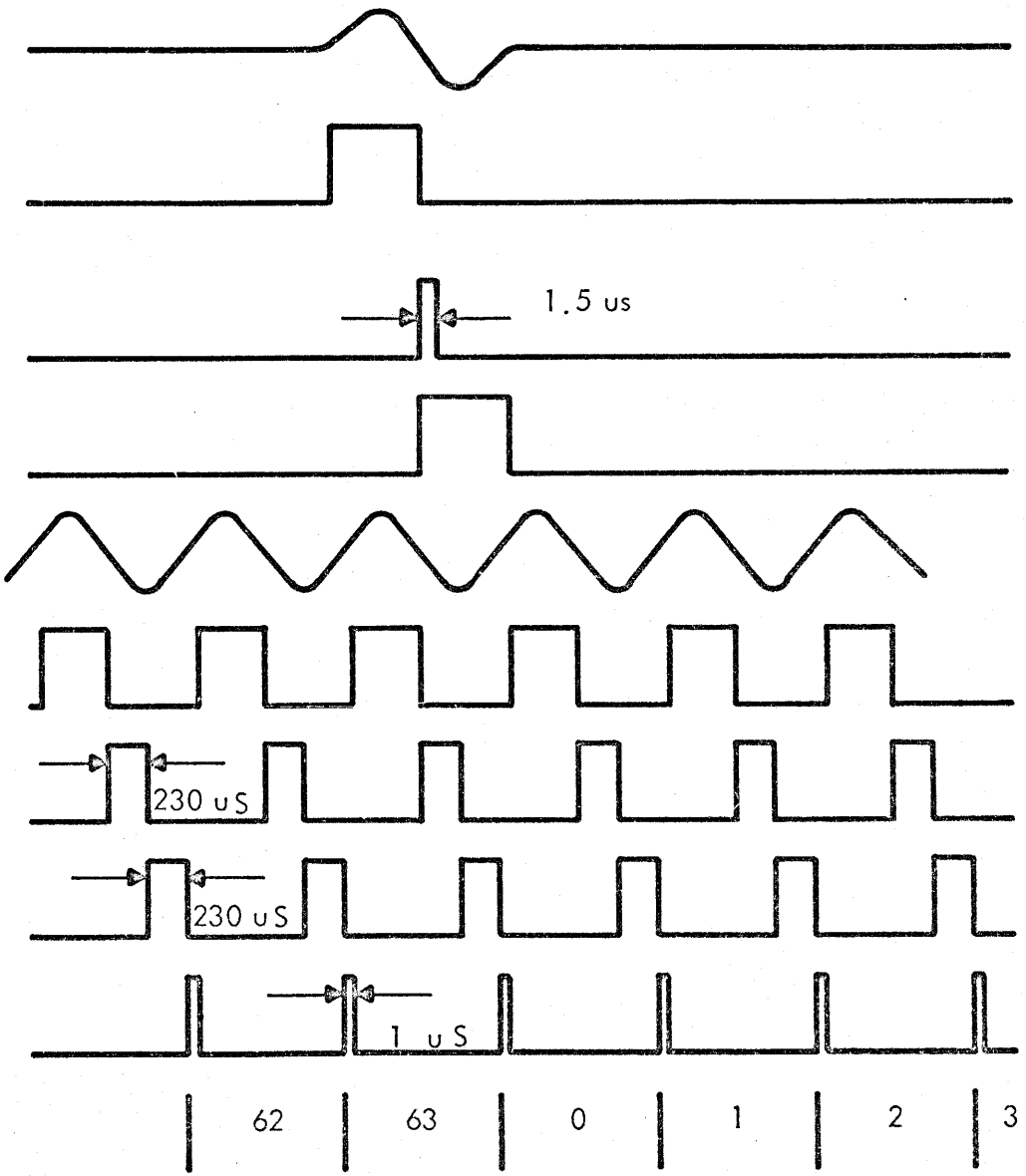
LPE 200

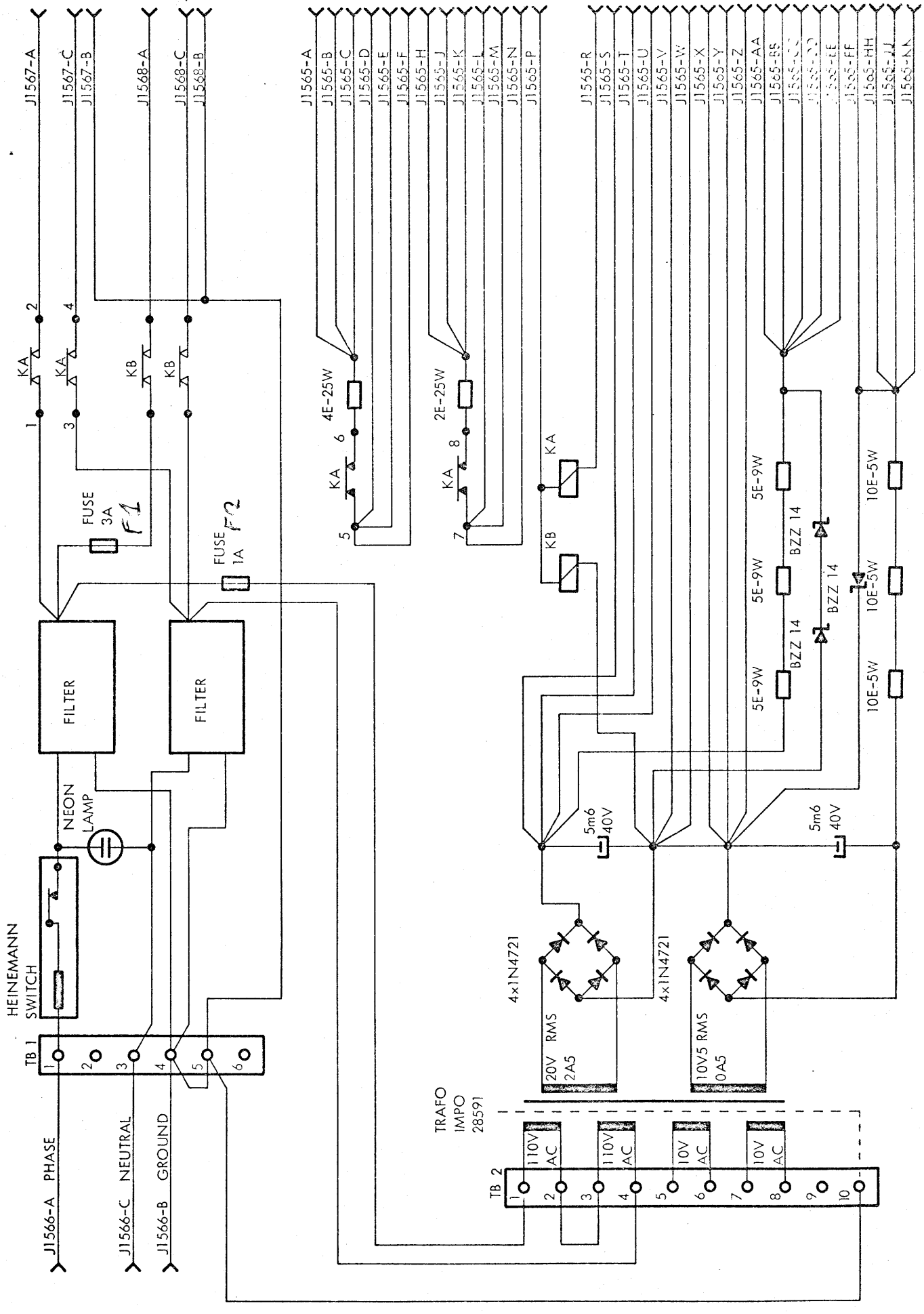
A 20753

INDEX - AND CHAR STROBE

figure

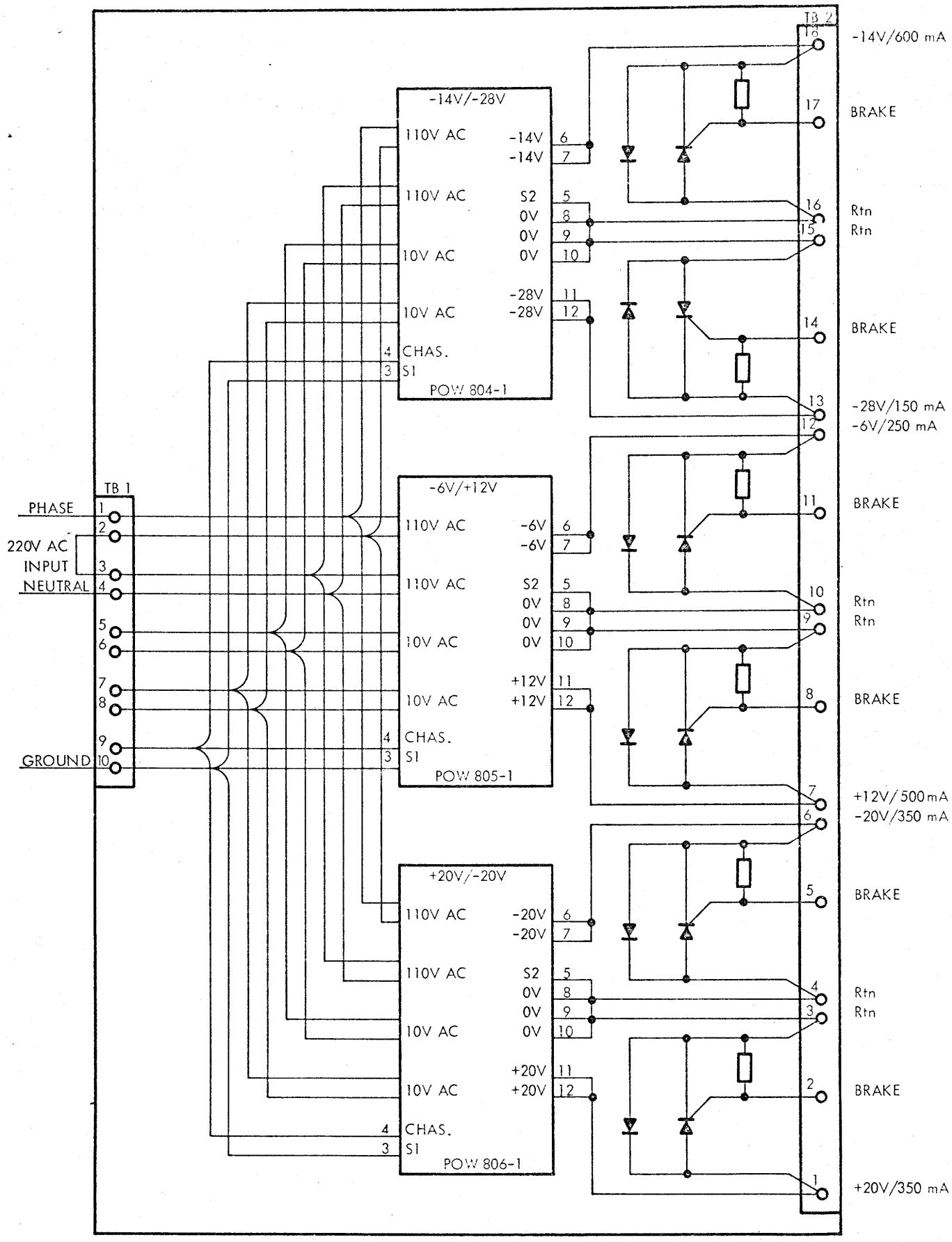
fig. 21



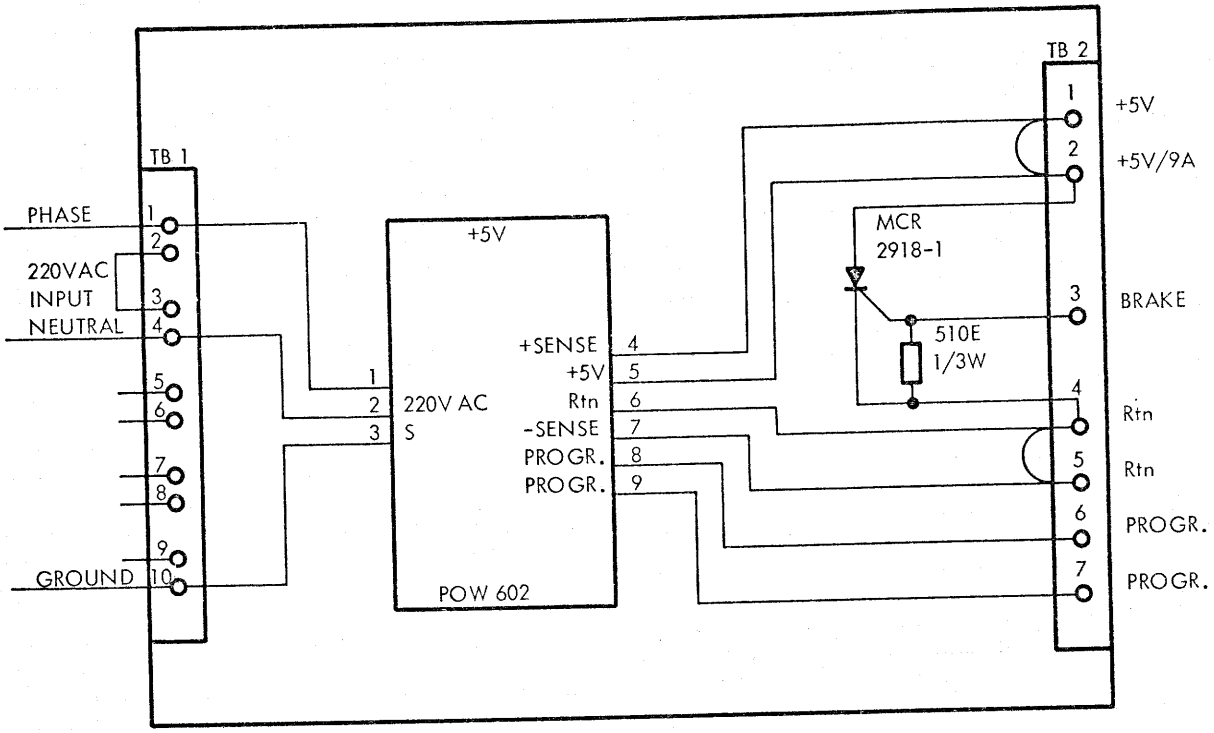


LPE 200 RELAY BOX Fig. 22

A10462 Figure



RESISTORS: 510 E 1/3W 5%
DIODES: WESTINGHOUSE 409 B
SCR's : MOTOROLA 2N 4172



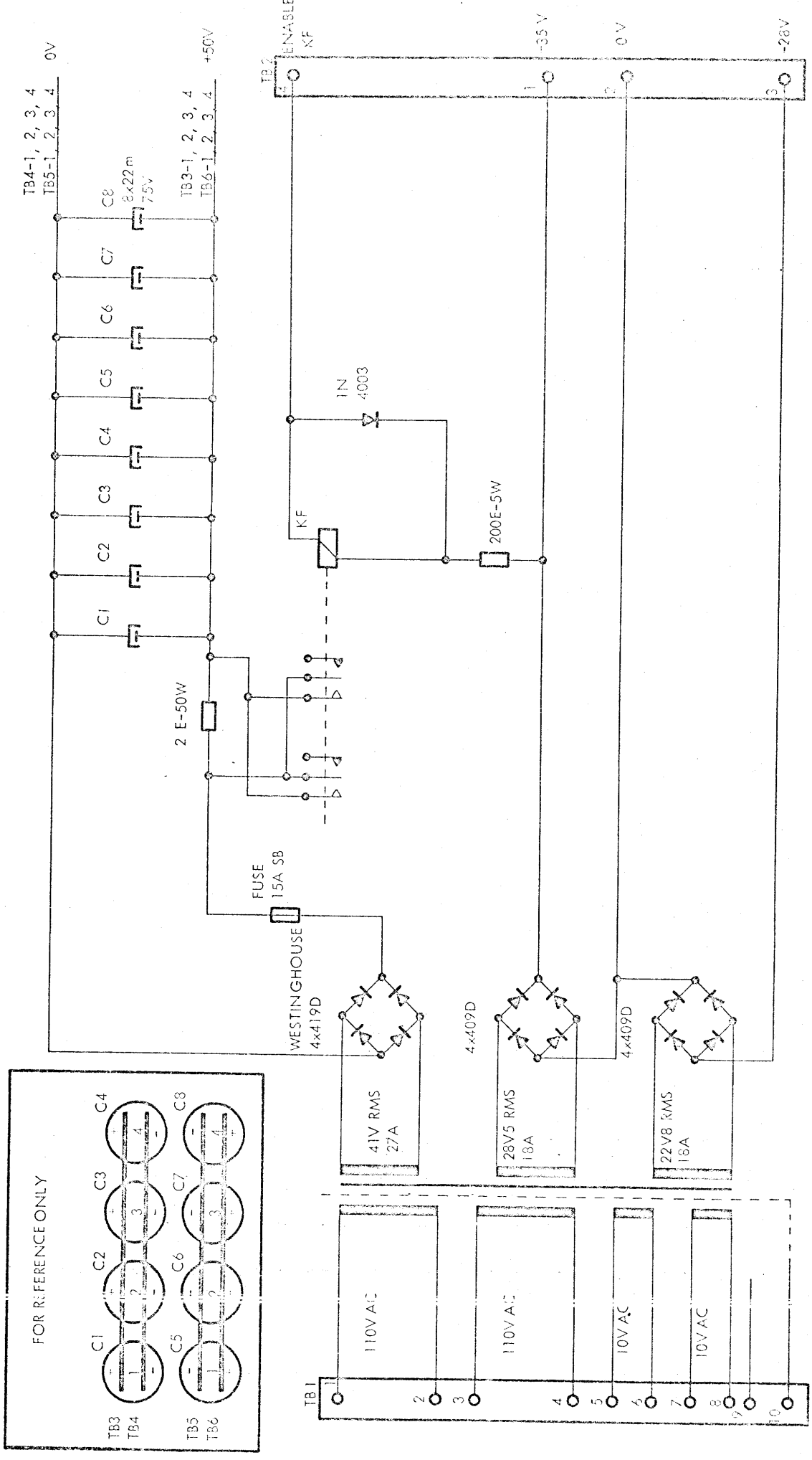
LPE 200

A10464

+5V DC POWER SUPPLY

Figure

Fig. 24

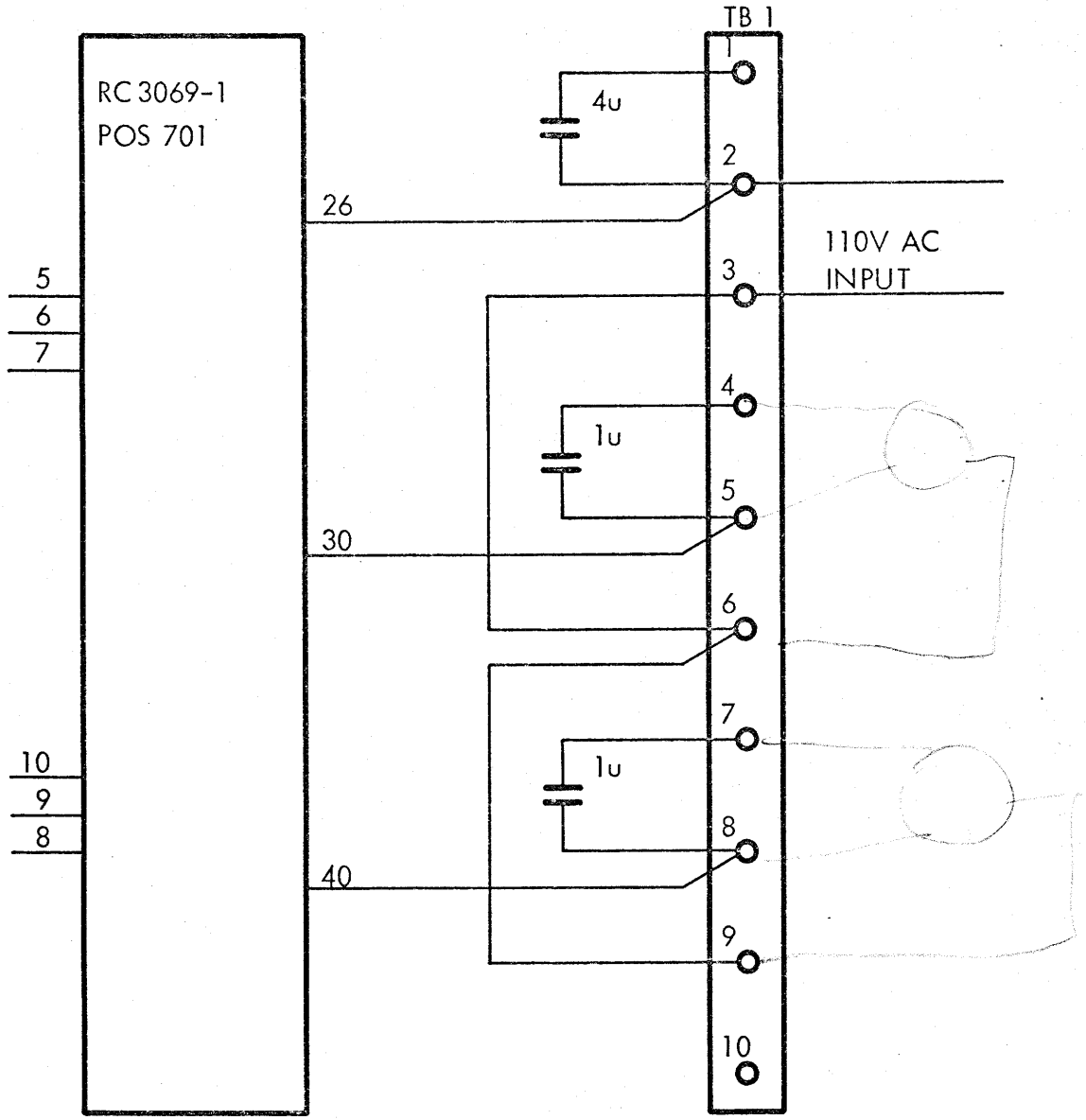


LPE 200

P 10092

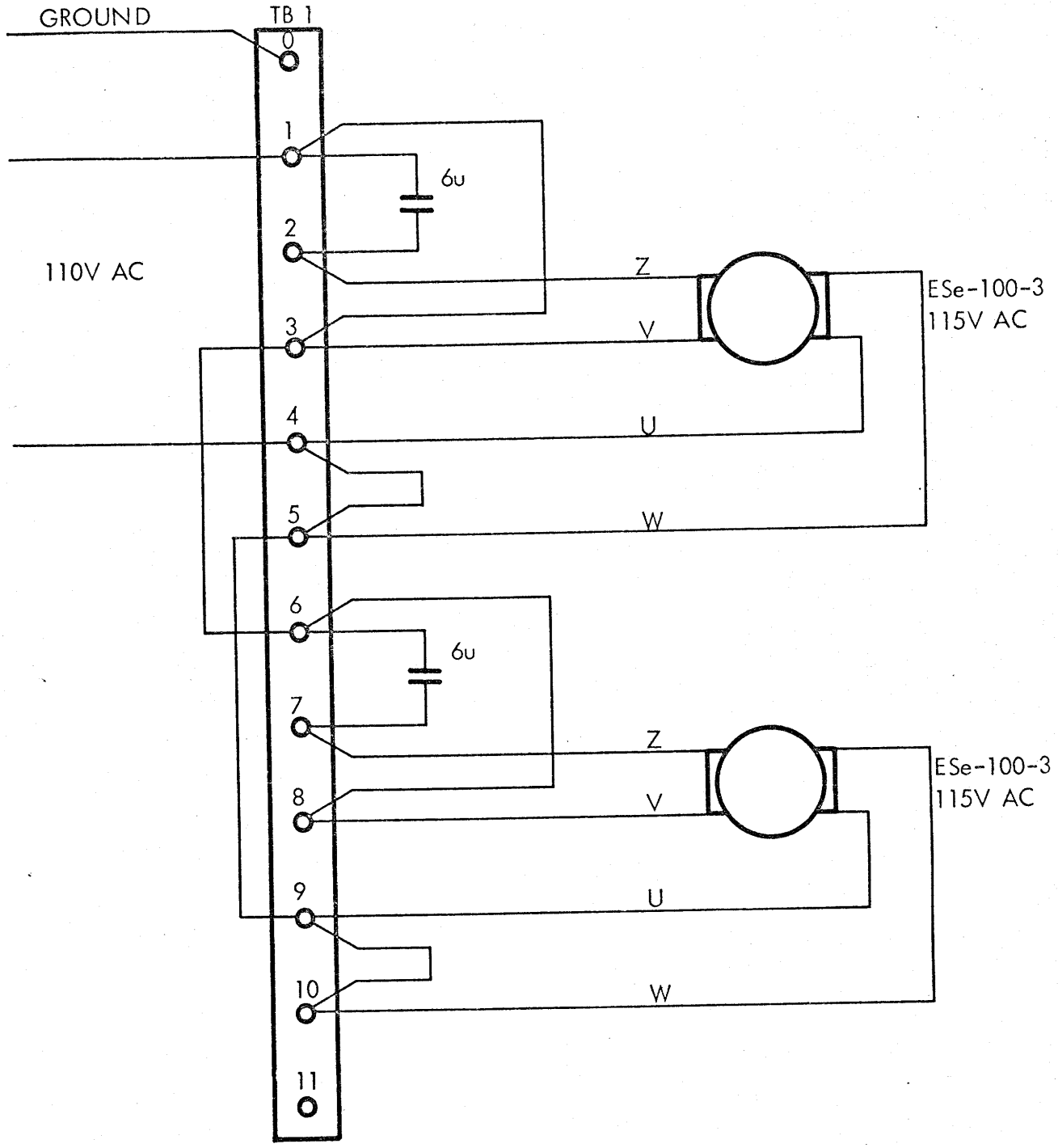
PAPER FEED AND HAMMER
POWER SUPPLY
Figure

Fig. 25



LPE 200 RIBBON CONTROL Fig. 26

A20653 Figure



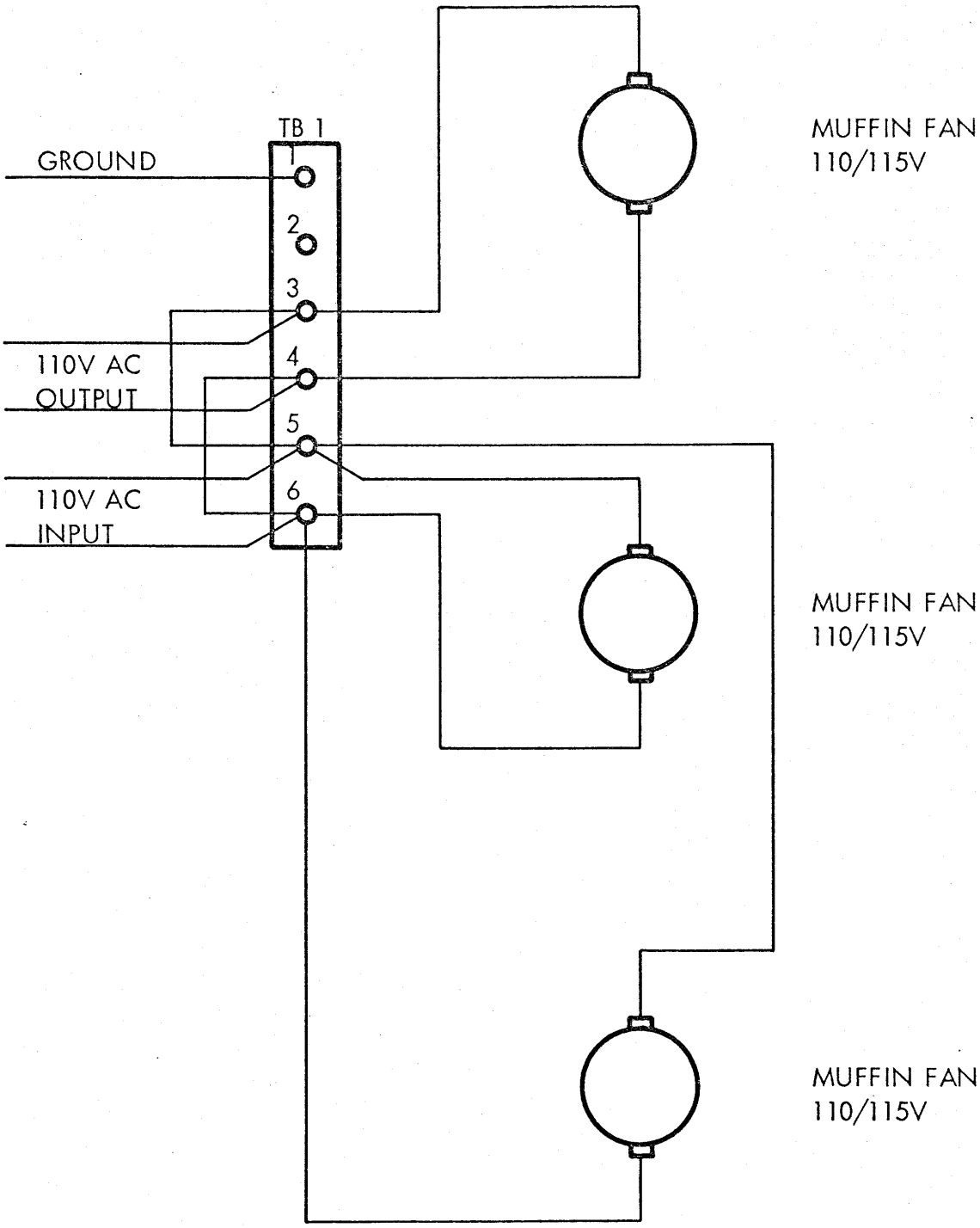
PAPER DRIVE BLOWER
HAMMER BANK BLOWER

LPE 200

A20654

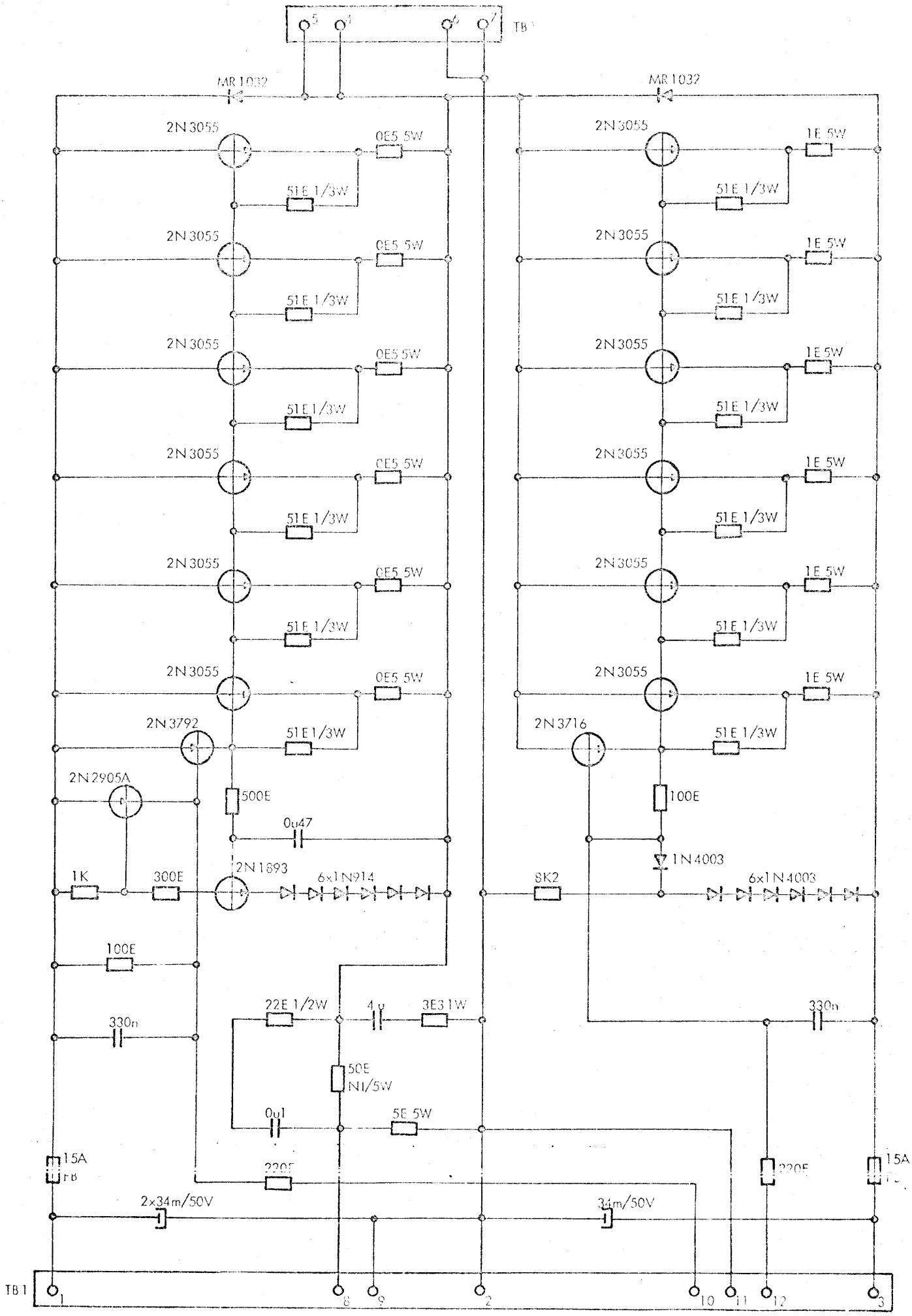
Figure

Fig. 27



LPE 200 ELECTRONICS GATE FANS Fig. 28

A20655 Figure



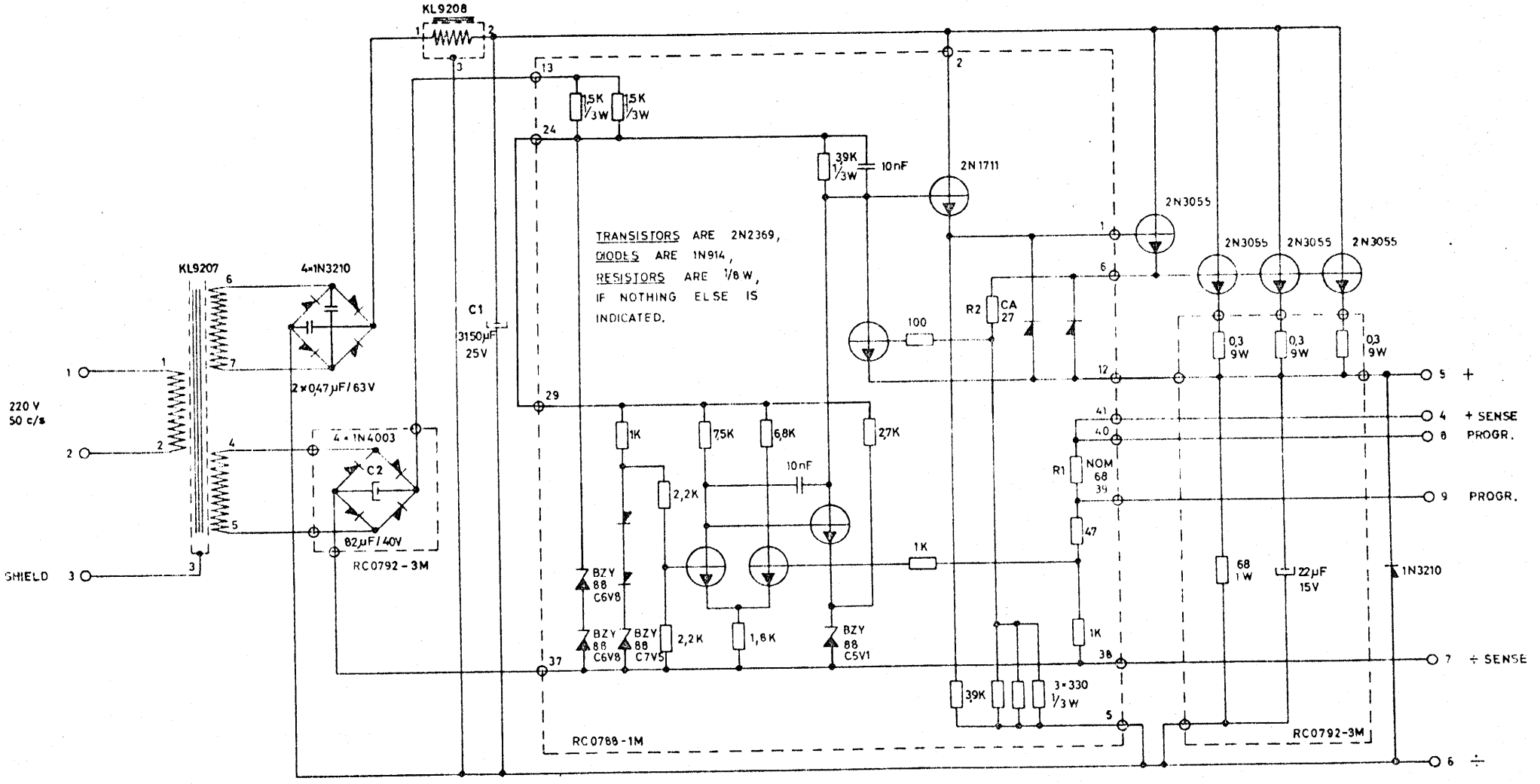
LPE 200

PAPER FEED POWER AMPLIFIER

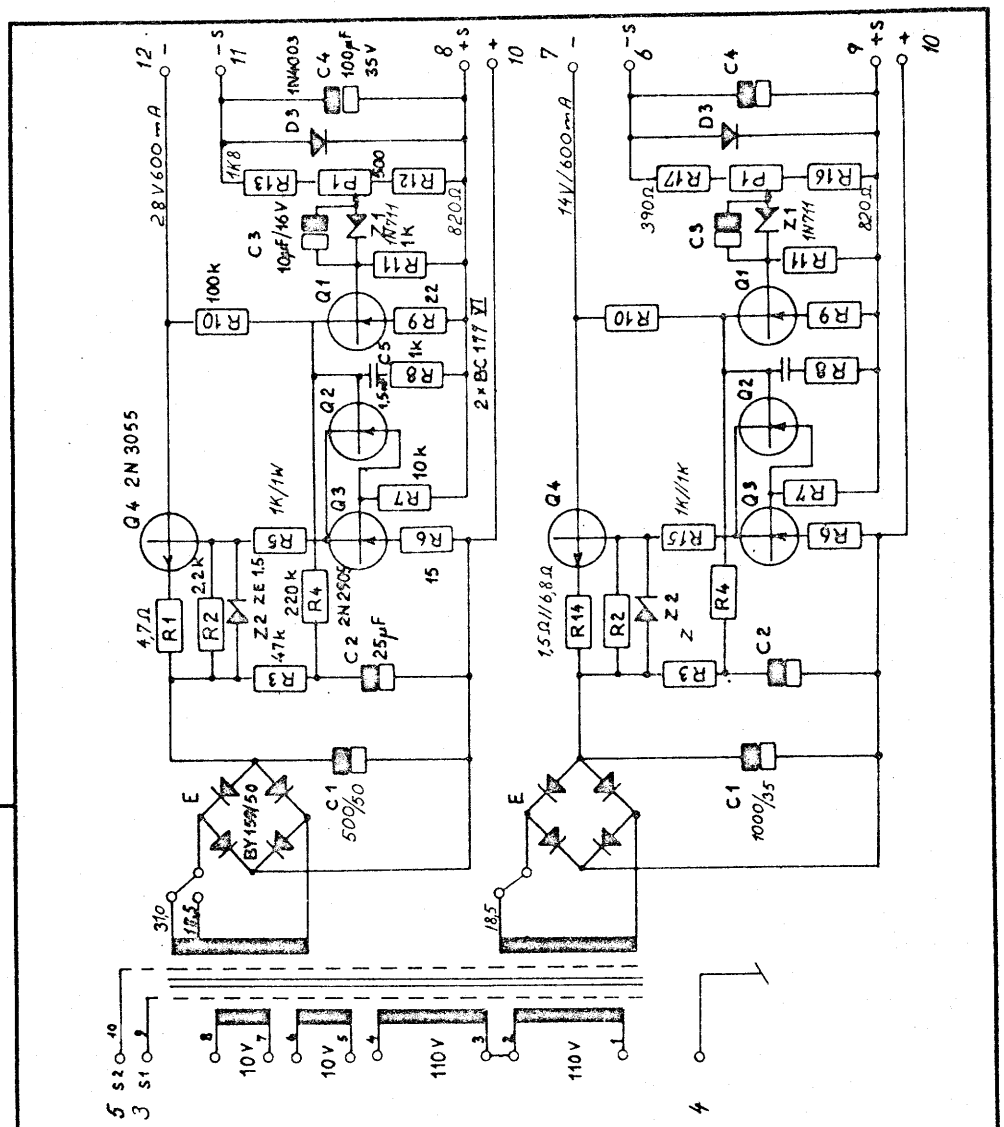
Fig. 29

R10093

Figure



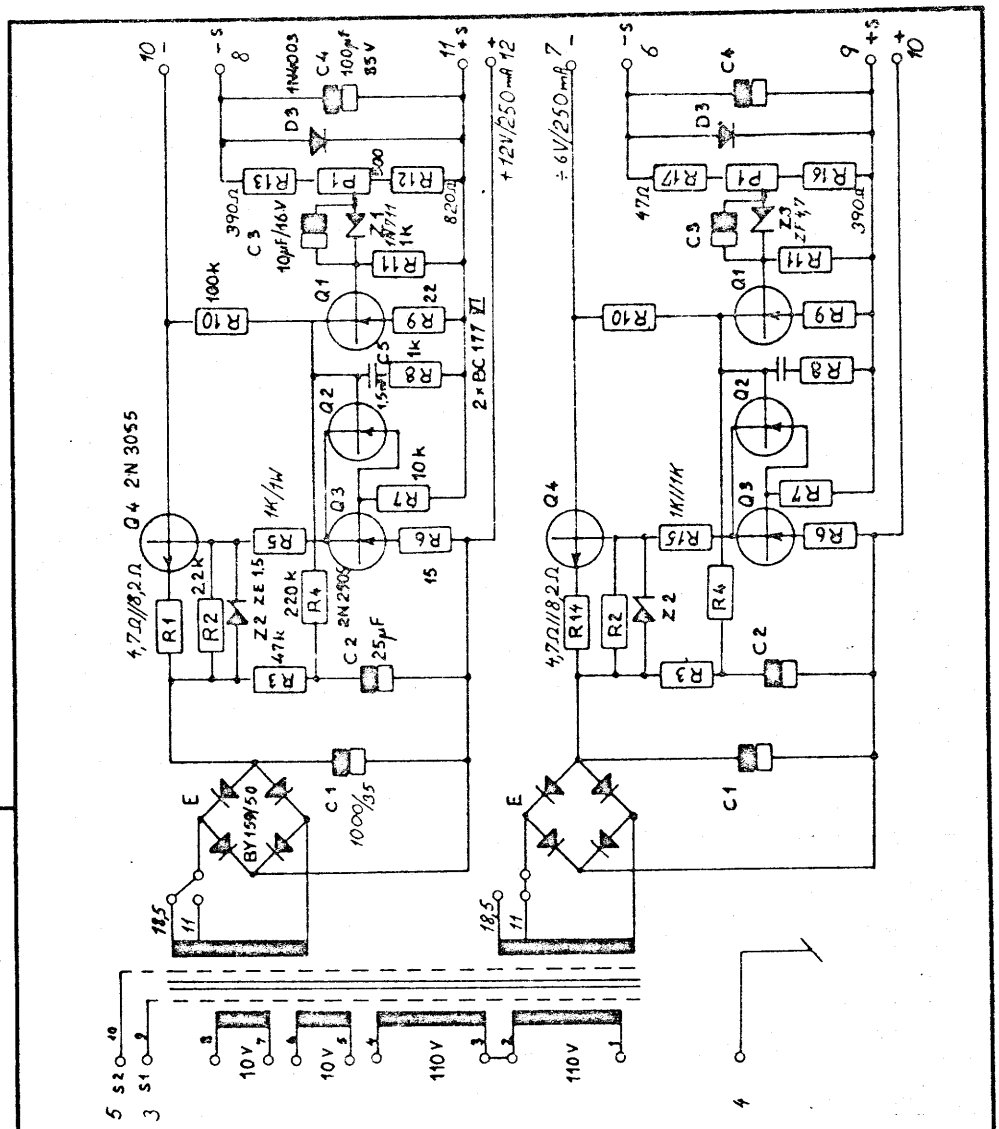
Unit: POW 602	Designed 1-9-66 JAK	POW 602	Drawing No V 2902
CENTRALEN	Approved	5V, 9A	Drawn by AL 23-2-67
	Checked 1/3-67 JAK		Checked
	Last Revision 250969 HC		Sheets / Sheet



E_{out}/I_{out}	Z 1	R 1	R 12	R 13	C 1	E_{transf}
3-5V/o,5 A	ZF 2,7	1,5 ohm	39o ohm	47 ohm	1ocouF/35V	11 V
5-7V/o,5 A	ZF 4,7	1,5 ohm	39o ohm	47 ohm	1ooouF/35V	11 V
7-8V/o,5 A	IN 7o8	1,5 ohm	82o ohm	22o ohm	1ooouF/35V	11 V
12-15V/o,5A	IN 711	1,5 ohm	82o ohm	39o ohm	1ooouF/35V	18,5V
2oV/o,35A	IN 711	2,o ohm	68o ohm	1,5kohm	1ooouF/5oV	25,oV
28V/o,15A	IN 711	4,7 ohm	82o ohm	1,8kohm	5oouF/5oV	31,oV

	DANICA-ELEKTRONIK Bagsværd Denmark	KONSTR. TEGN. GODK.
MÅLESTOK MATERIALE	MODULAR POWER SUPPLY type POW 8o4/1	TEGNING NR. 89078

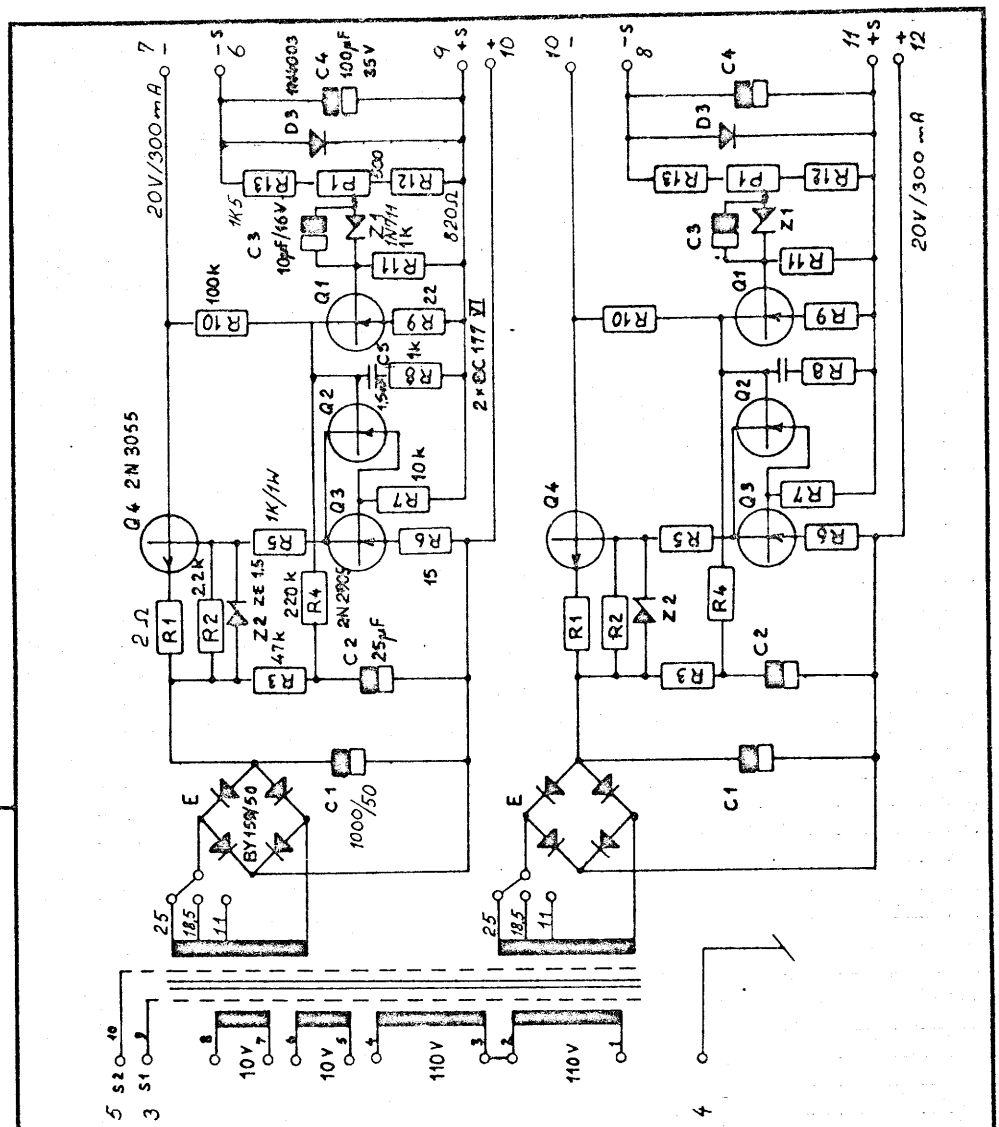
A 4 AGF 864



E_{out}/I_{out}	Z 1	R 1	R 12	R 13	C 1	E_{transf}
3-5V/o,5 A	ZF 2,7	1,5 ohm	39o ohm	47 ohm	1ooouF/35V	11 V
5-7V/o,5 A	ZF 4,7	1,5 ohm	39o ohm	47 ohm	1ooouF/35V	11 V
7-8V/o,5 A	IN 7o8	1,5 ohm	82o ohm	22o ohm	1ooouF/35V	11 V
12-15V/o,5A	IN 711	1,5 ohm	82o ohm	39o ohm	1ooouF/35V	18,5V
2oV/o,35A	IN 711	2,o ohm	68o ohm	1,5kohm	1ooouF/5oV	25,oV
28V/o,15A	IN 711	4,7 ohm	82o ohm	1,8kohm	5ooouF/5oV	31,oV

	DANICA-ELEKTRONIK Bagsværd Denmark	KONSTR TEGN GODK
MÅLESTOK MATERIALE	MODULAR POWER SUPPLY type PSU 805/1	TEGNING NR. 69077

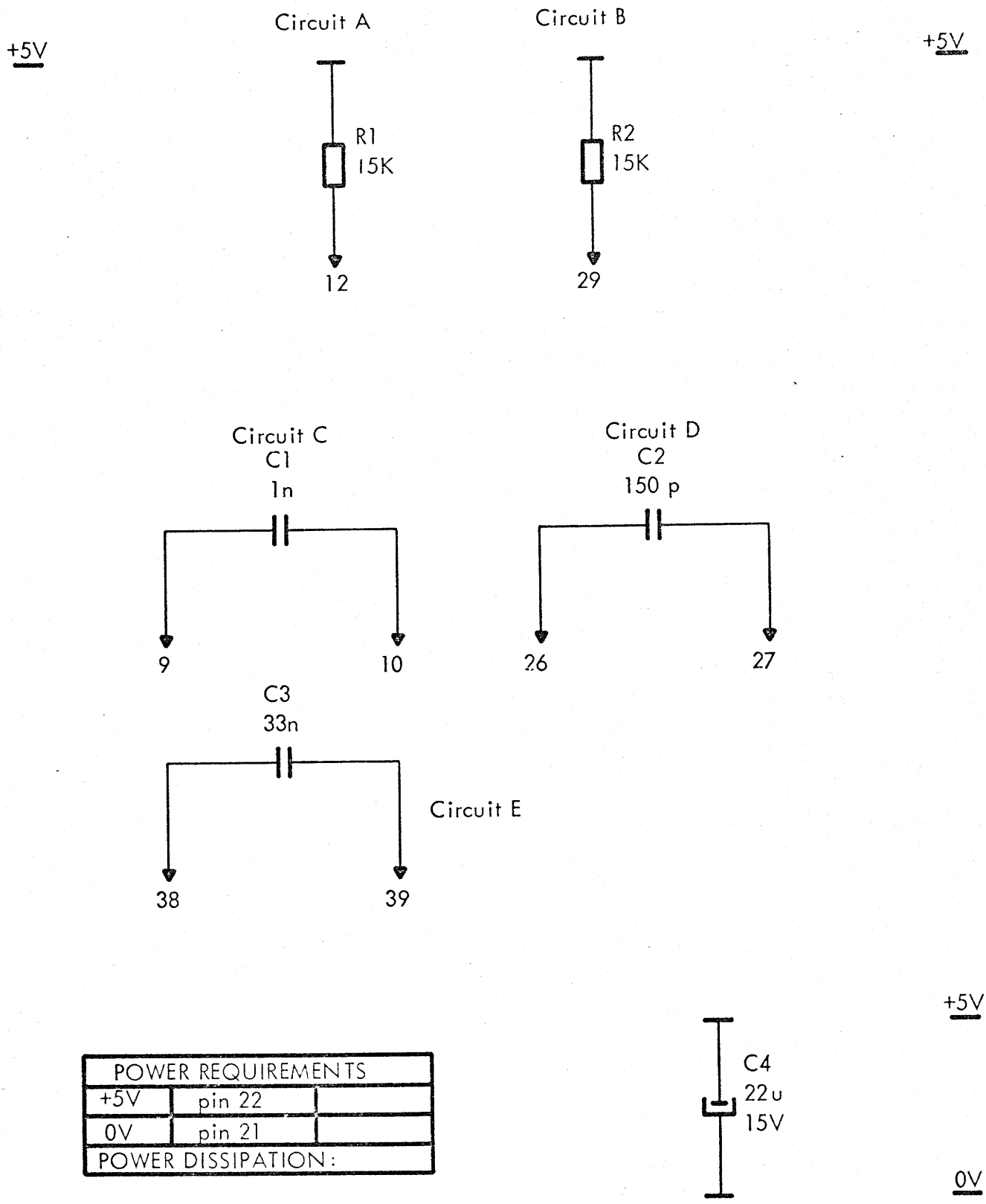
A 4 AGF BF



E_{out}/I_{out}	Z 1	R 1	R 12	R 13	C 1	E_{transf}
3-5V/o,5 A	ZF 2,7	1,5 ohm	39o ohm	47 ohm	1ooouF/35V	11 V
5-7V/o,5 A	ZF 4,7	1,5 ohm	39o ohm	47 ohm	1ooouF/35V	11 V
7-0V/o,5 A	IN 7o8	1,5 ohm	82o ohm	22o ohm	1ooouF/35V	11 V
12-15V/o,5A	IN 711	1,5 ohm	82o ohm	39o ohm	1ooouF/35V	18,5V
2oV/o,35A	IN 711	2,o ohm	68o ohm	1,5kohm	1ooouF/5oV	25,oV
28V/o,15A	IN 711	4,7 ohm	82o ohm	1,8kohm	5ooouF/5oV	31,oV

	DANICA-ELEKTRONIK Bagsværd Denmark	KONSTR. TEGN. GODK.
MÅLESTOK MATERIALE	MODULAR POWER SUPPLY typo PCI 806/1	TEGNING NR. 69076

A 4 AGF 864



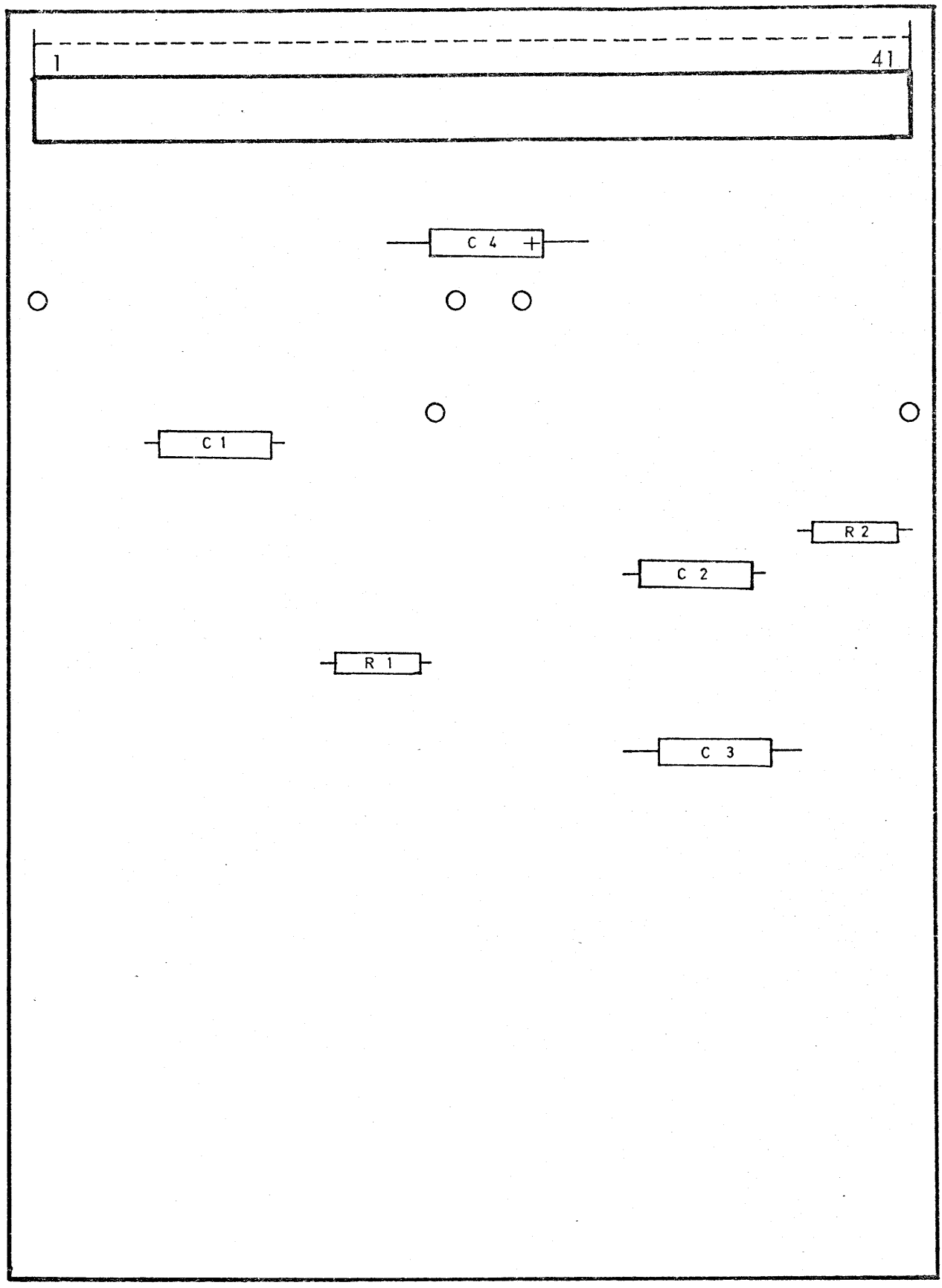
POWER REQUIREMENTS		
+5V	pin 22	
0V	pin 21	
POWER DISSIPATION:		

DISCRETE COMPONENTS

RC0899-42

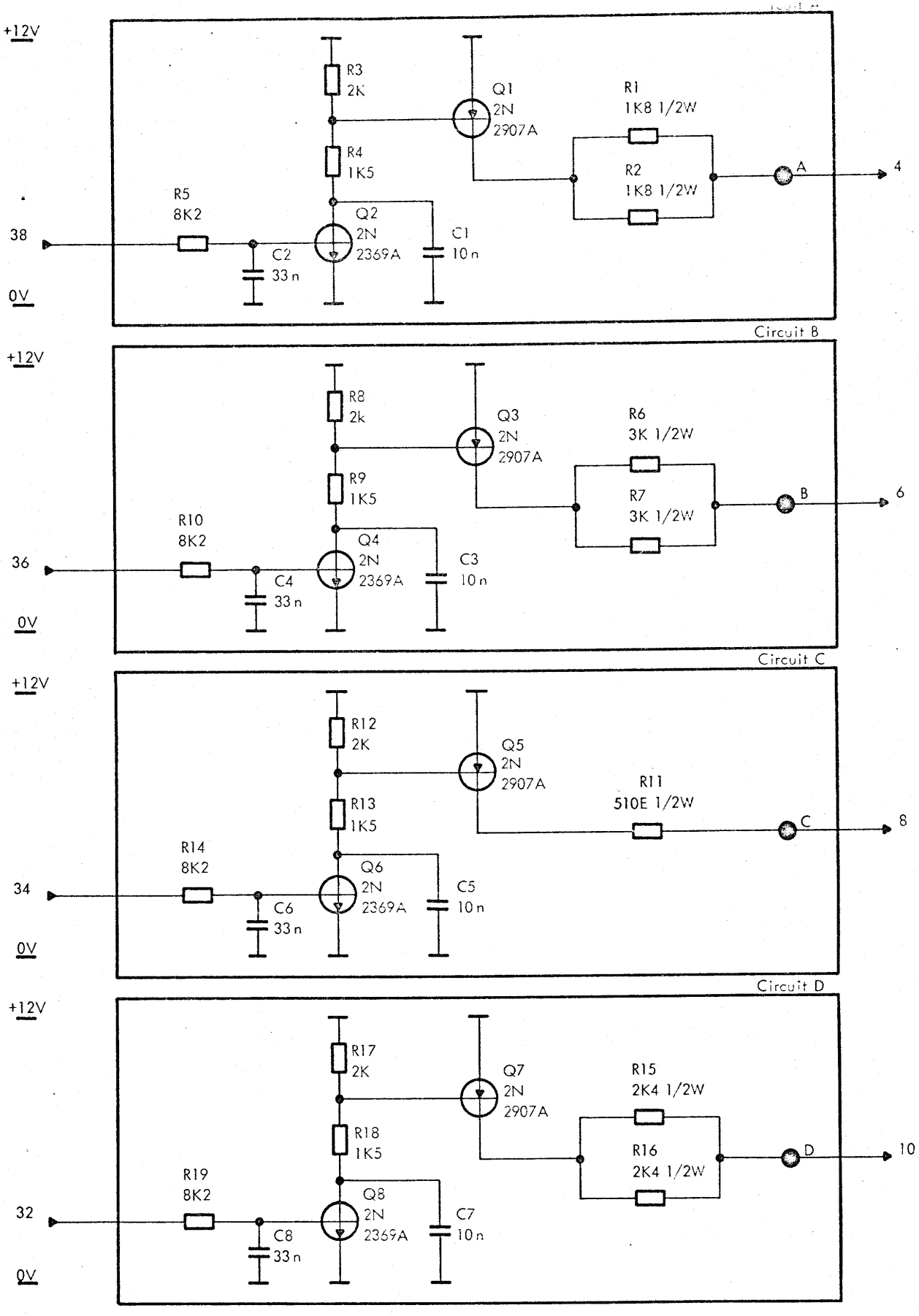
A20261

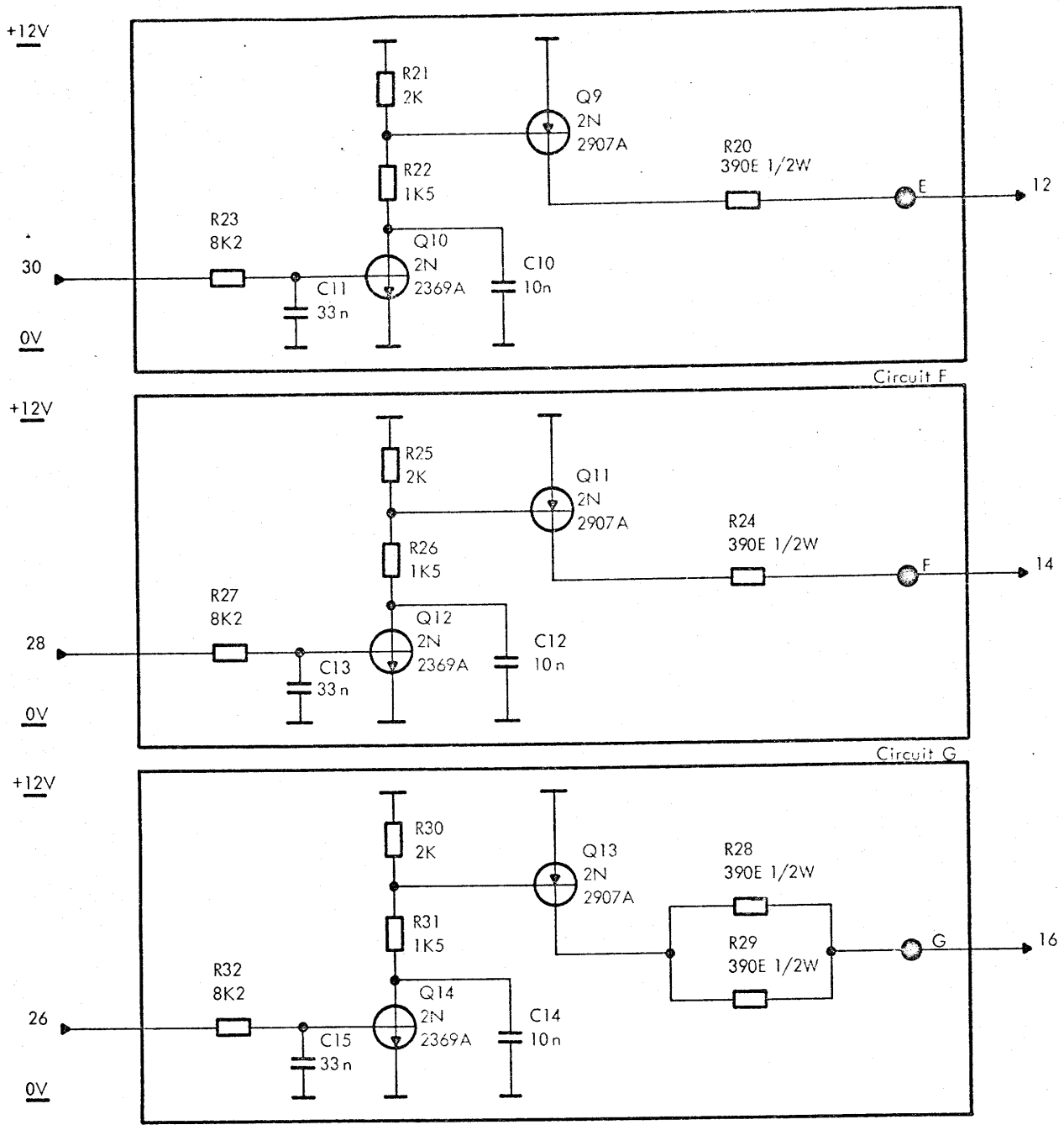
PCBA Circuit Diagram



RCLM400 RC0899-42

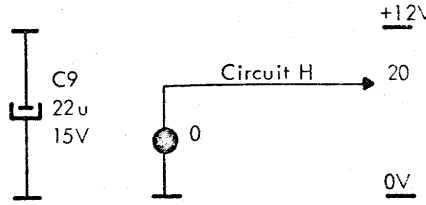
A20526 PCB Assembly Drawing


+12V
R3
2K
Q1
2N
2907A
R1
1K8 1/2W
R4
1K5
R2
1K8 1/2W
A
4
R5
8K2
Q2
2N
2369A
C1
10n
38
C2
33n
0V
Circuit B
+12V
R8
2k
Q3
2N
2907A
R6
3K 1/2W
R9
1K5
R7
3K 1/2W
B
6
R10
8K2
Q4
2N
2369A
C3
10n
36
C4
33n
0V
Circuit C
+12V
R12
2K
Q5
2N
2907A
R11
510E 1/2W
R13
1K5
C
8
R14
8K2
Q6
2N
2369A
C5
10n
34
C6
33n
0V
Circuit D
+12V
R17
2K
Q7
2N
2907A
R15
2K4 1/2W
R18
1K5
R16
2K4 1/2W
D
10
R19
8K2
Q8
2N
2369A
C7
10n
32
C8
33n
0V



POWER REQUIREMENTS		
+12V	pin 1	
0V	pin 21	
POWER DISSIPATION: *		

*
CIRCUIT A ON: 12V/71mA, 935 mW
CIRUIT B & C & D & E & F & G ON: 580 mW
TOTAL ON: 1.515 mW

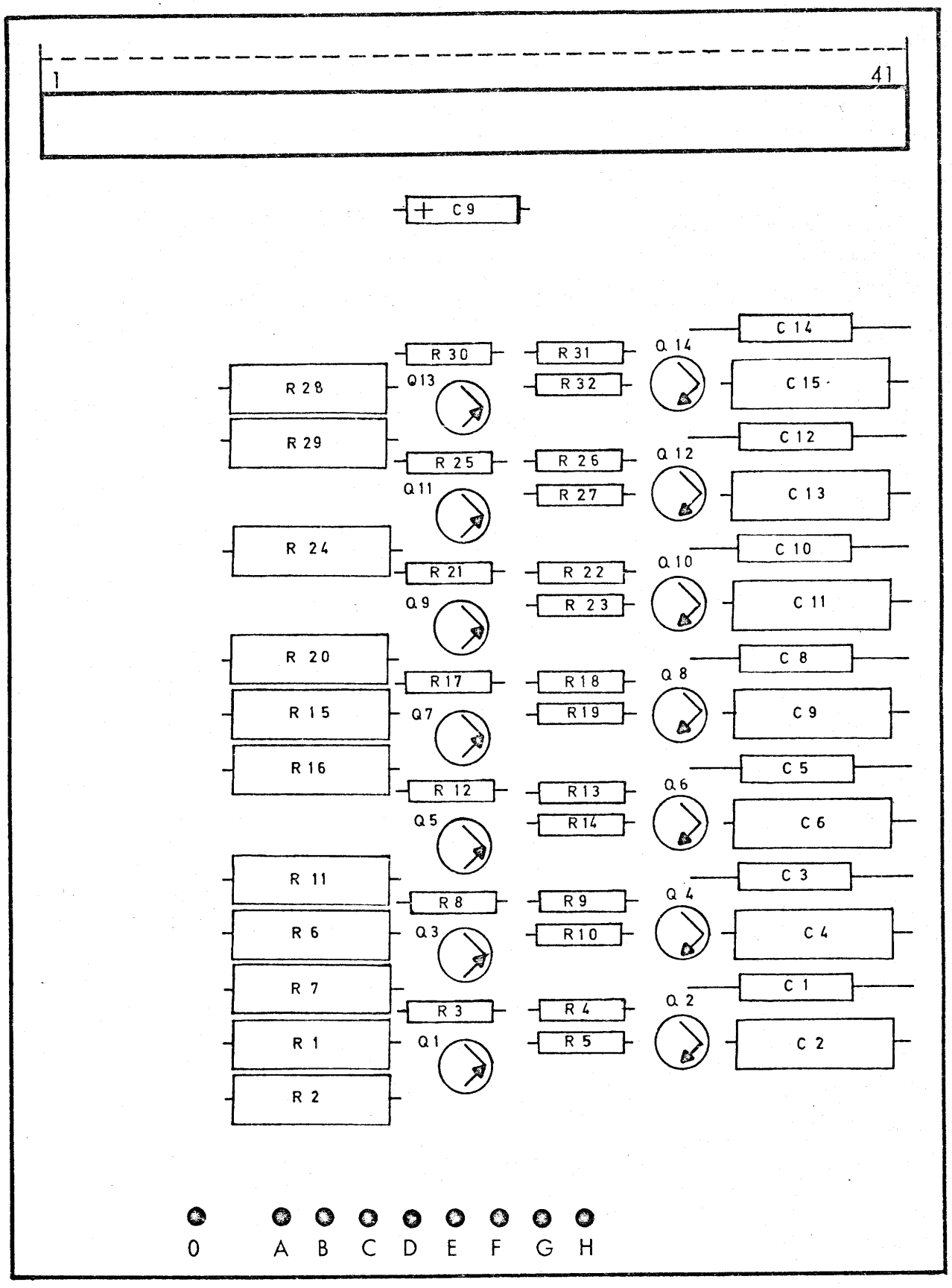


SCR - DRIVERS

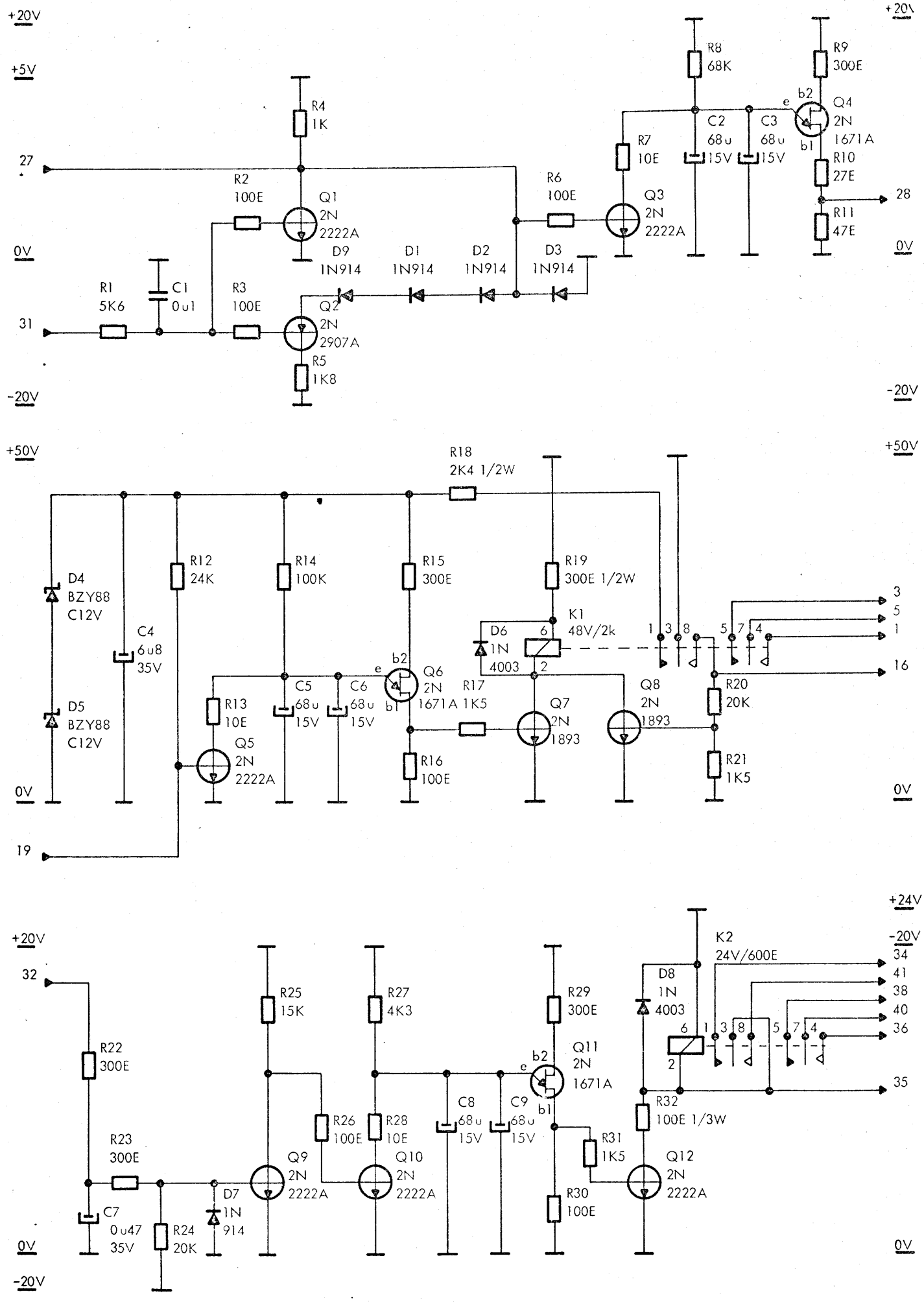
RC3039-1
P 2 of 2

A10522

PCBA Circuit Diagram


1
41
C 9
R 30
R 31
Q 14
C 14
R 28
Q13
R 32
C 15
R 29
R 25
R 26
Q 12
C 12
Q11
R 27
C 13
R 24
R 21
R 22
Q 10
C 10
Q9
R 23
C 11
R 20
R17
R18
Q 8
C 8
R 15
Q7
R19
C 9
R 16
R 12
R13
Q 6
C 5
Q5
R14
C 6
R 11
R 8
R 9
Q 4
C 3
R 6
Q3
R10
C 4
R 7
R 3
R 4
Q 2
C 1
R 1
Q1
R 5
C 2
R 2
0
A
B
C
D
E
F
G
H

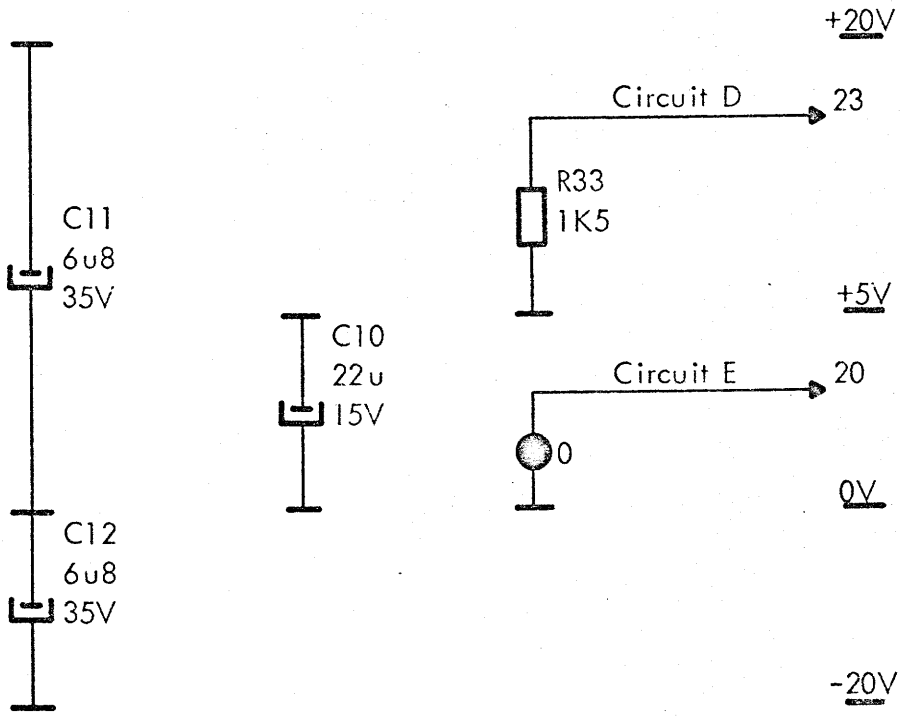
RC3039-1



TIME OUT DELAY (app. 6,5 sec)
CAPACITOR CHARGE AND DRUM DELAY (app. 10 sec)
OVERTEMP. AND HAMMER CURRENT ALARM DELAY (app. 400 mS)
PCBA Circuit Diagram

A10523

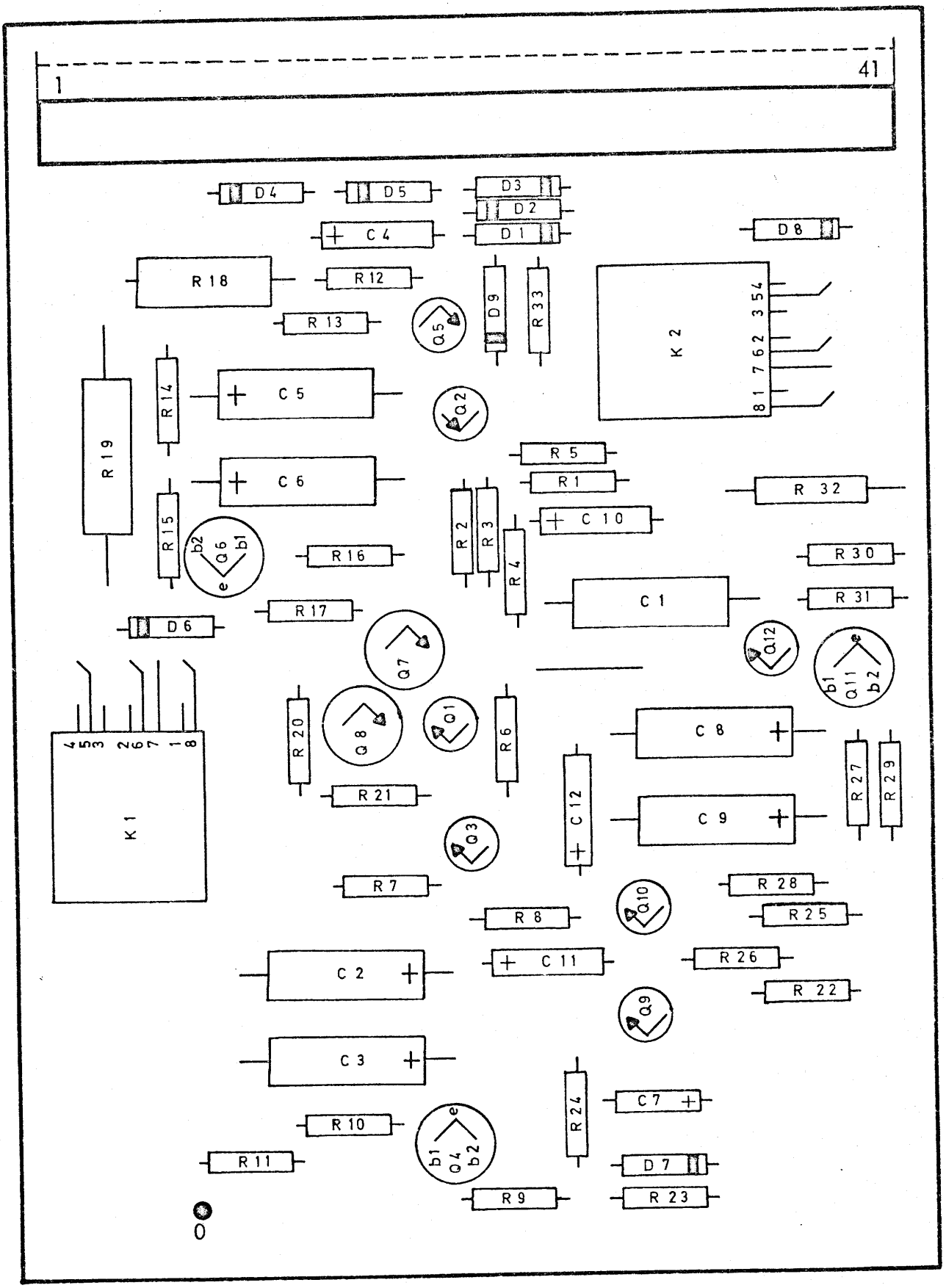
RC3047-2
P 1 of 2



POWER REQUIREMENTS		
+50V	pin 4	37 mA
+24V	pin 39	45 mA
+20V	pin 29	7 mA
+5V	pin 22	9,5 mA
0V	pin 21	
-20V	pin 30	11 mA
POWER DISSIPATION: 4128mW		

A20733

PCBA Circuit Diagram



RC3047-2

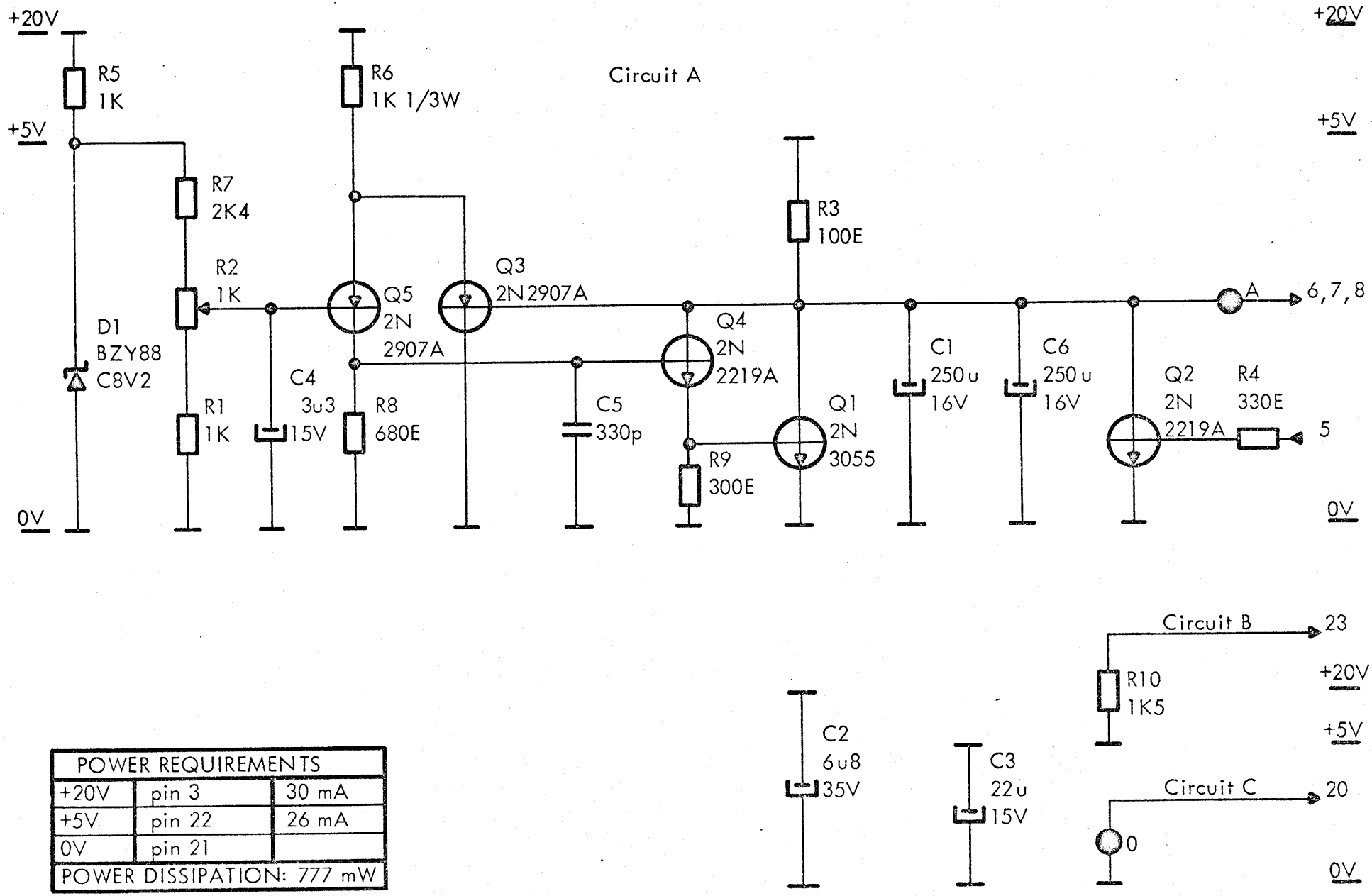
A20559 PCB Assembly Drawing

A20266

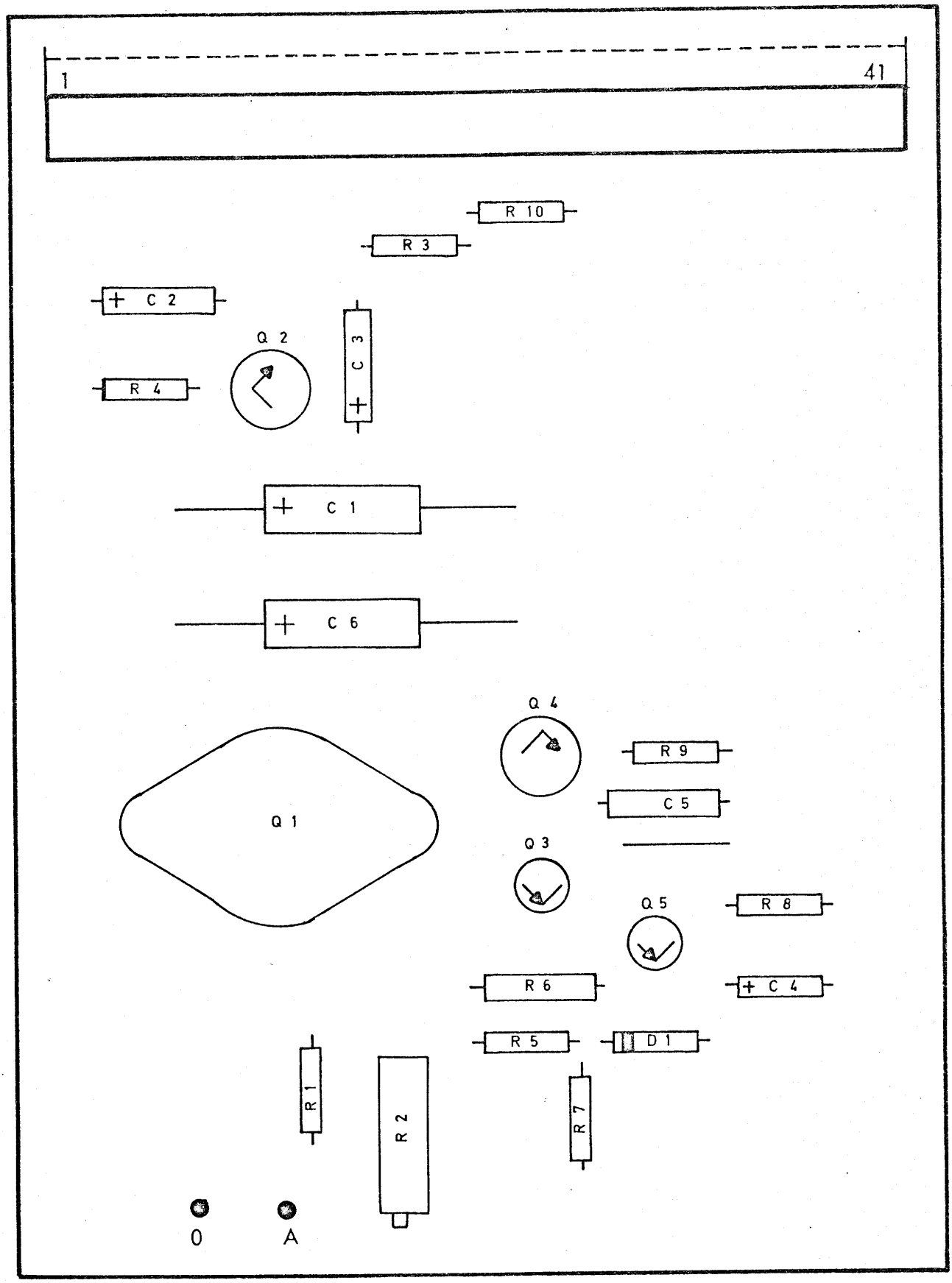
PCBA Circuit Diagram

HAMMER CURRENT CONTROL

RC3065-1

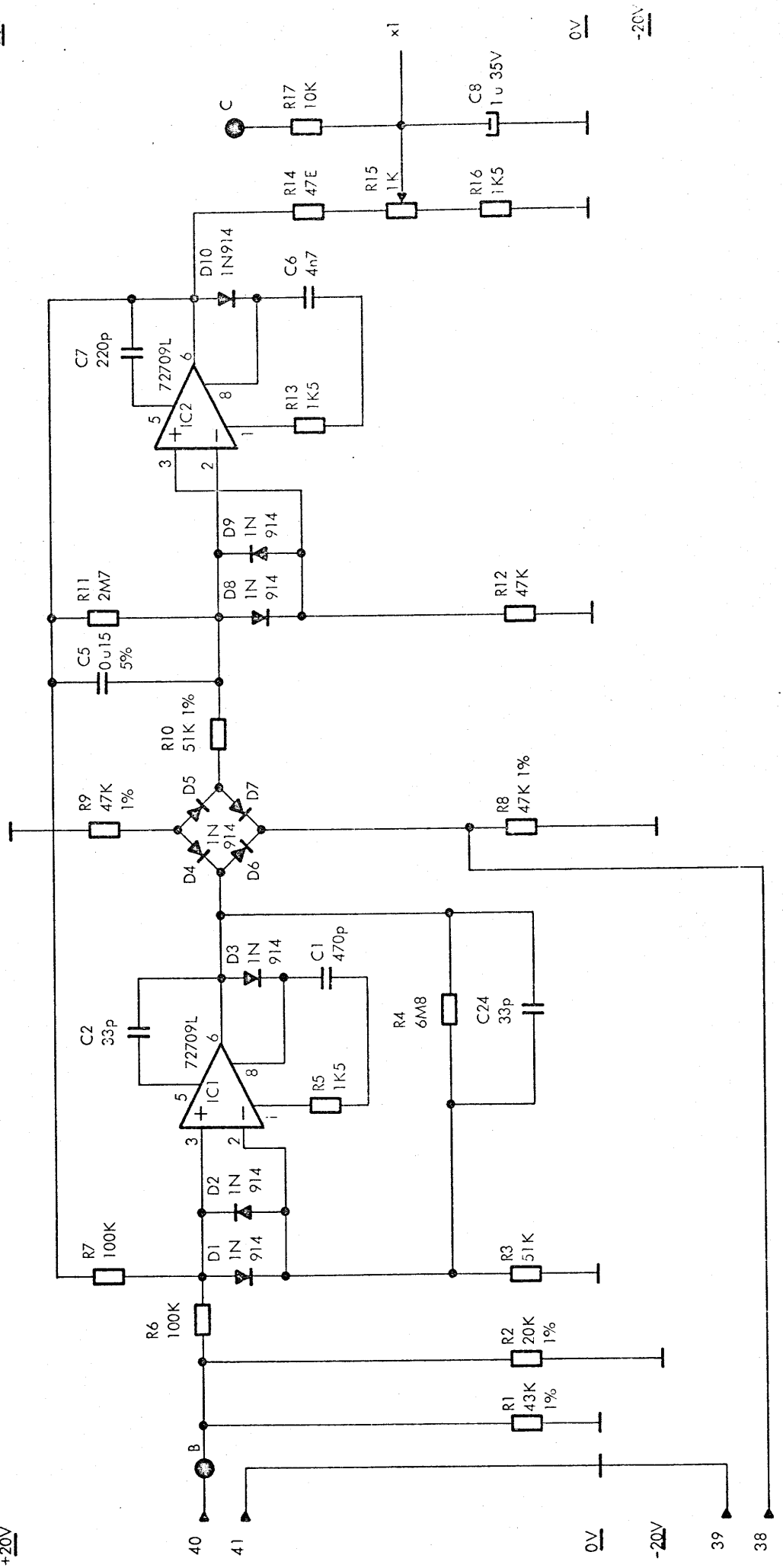


POWER REQUIREMENTS		
+20V	pin 3	30 mA
+5V	pin 22	26 mA
0V	pin 21	
POWER DISSIPATION: 777 mW		



RC3065-1

A20534 PCB Assembly Drawing

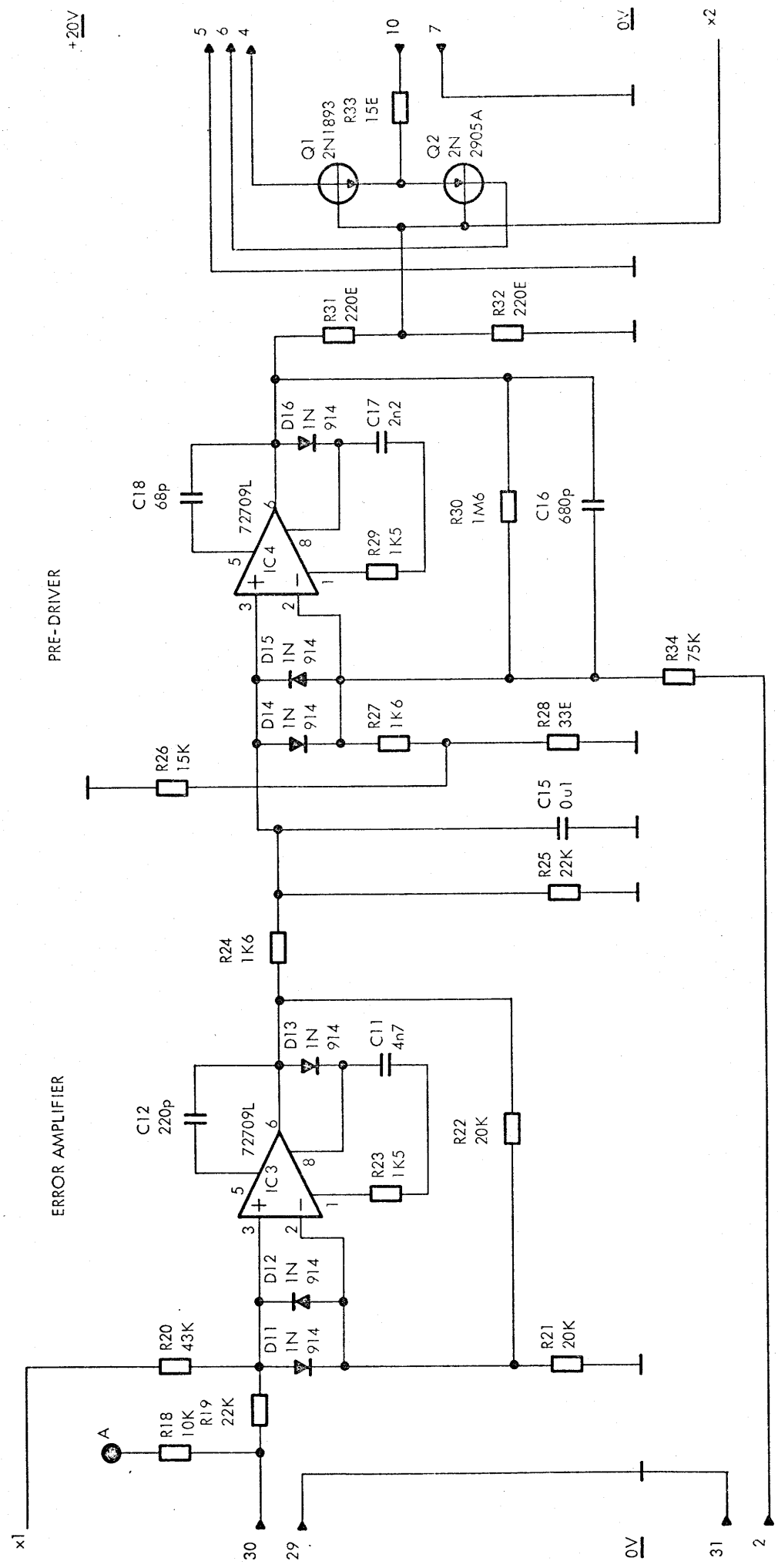


SERVO AMPLIFIER

RC3067-1
P 1 of 3

A10148

PCBA Circuit Diagram

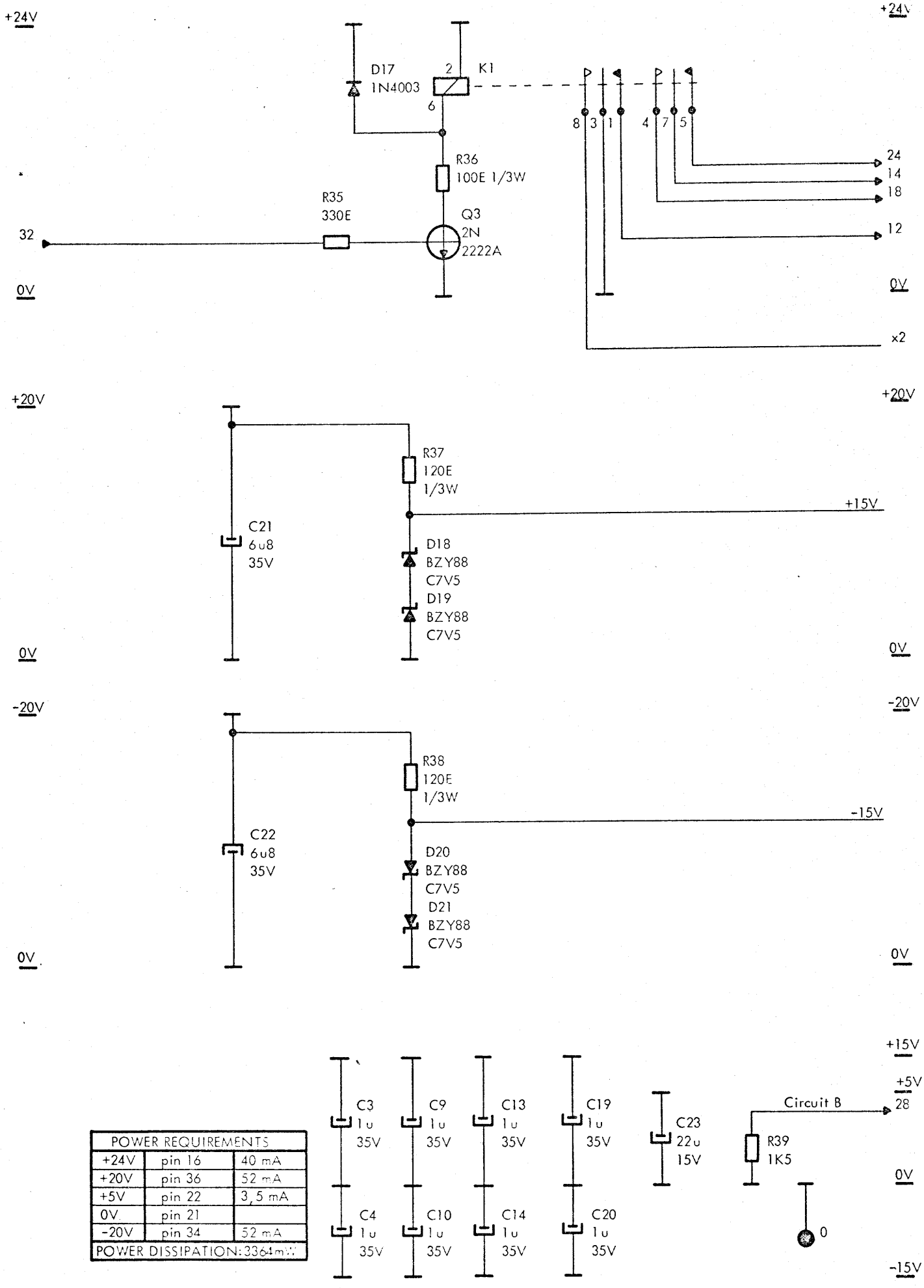


SERVO AMPLIFIER

RC3067-1
P 2 of 3

A10149

PCBA Circuit Diagram



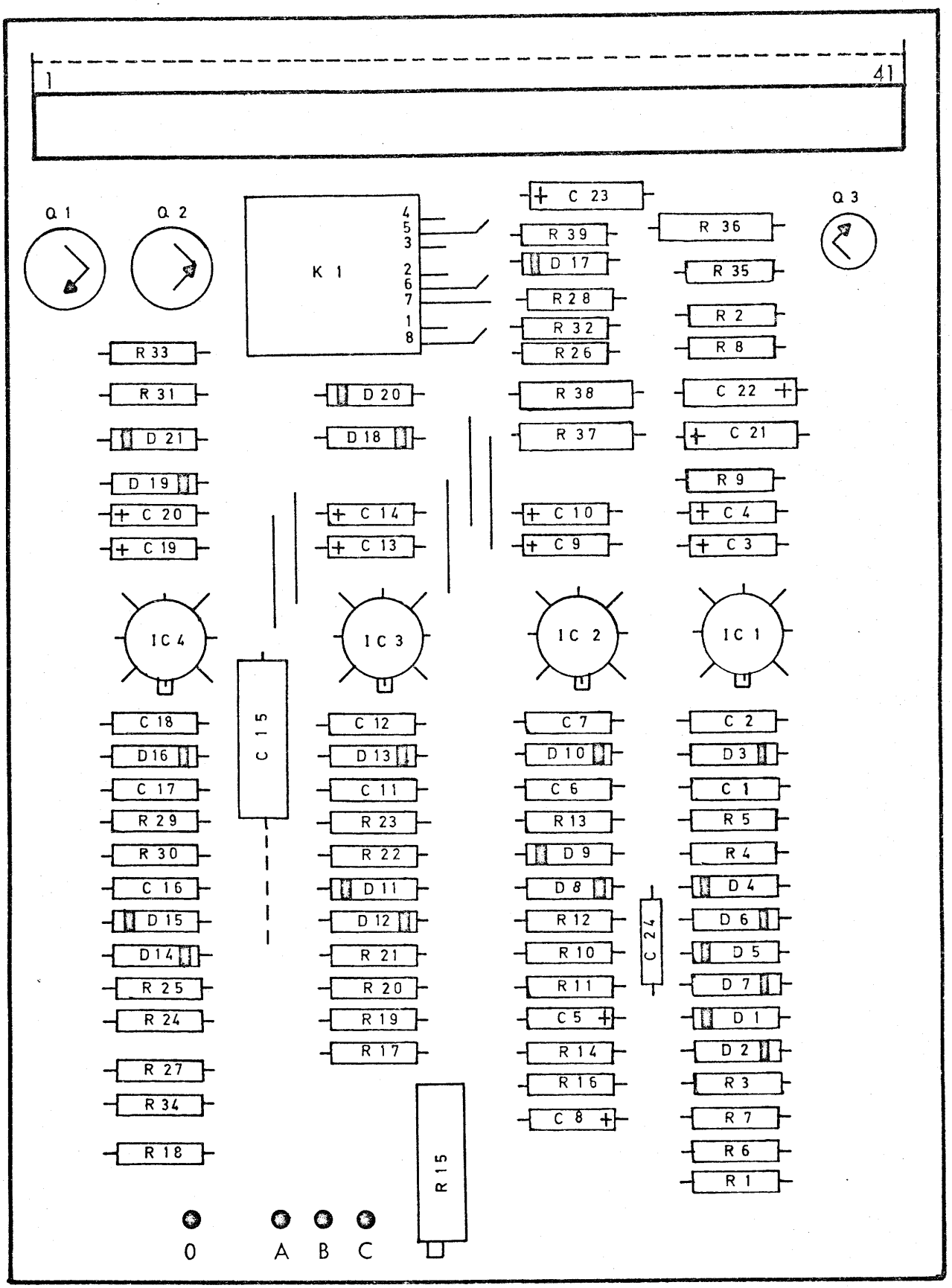
POWER REQUIREMENTS		
+24V	pin 16	40 mA
+20V	pin 36	52 mA
+5V	pin 22	3,5 mA
0V	pin 21	
-20V	pin 34	52 mA
POWER DISSIPATION: 3364mW		

SERVO AMPLIFIER

PCBA Circuit Diagram

A10150

RC3067-1
P 3 of 3



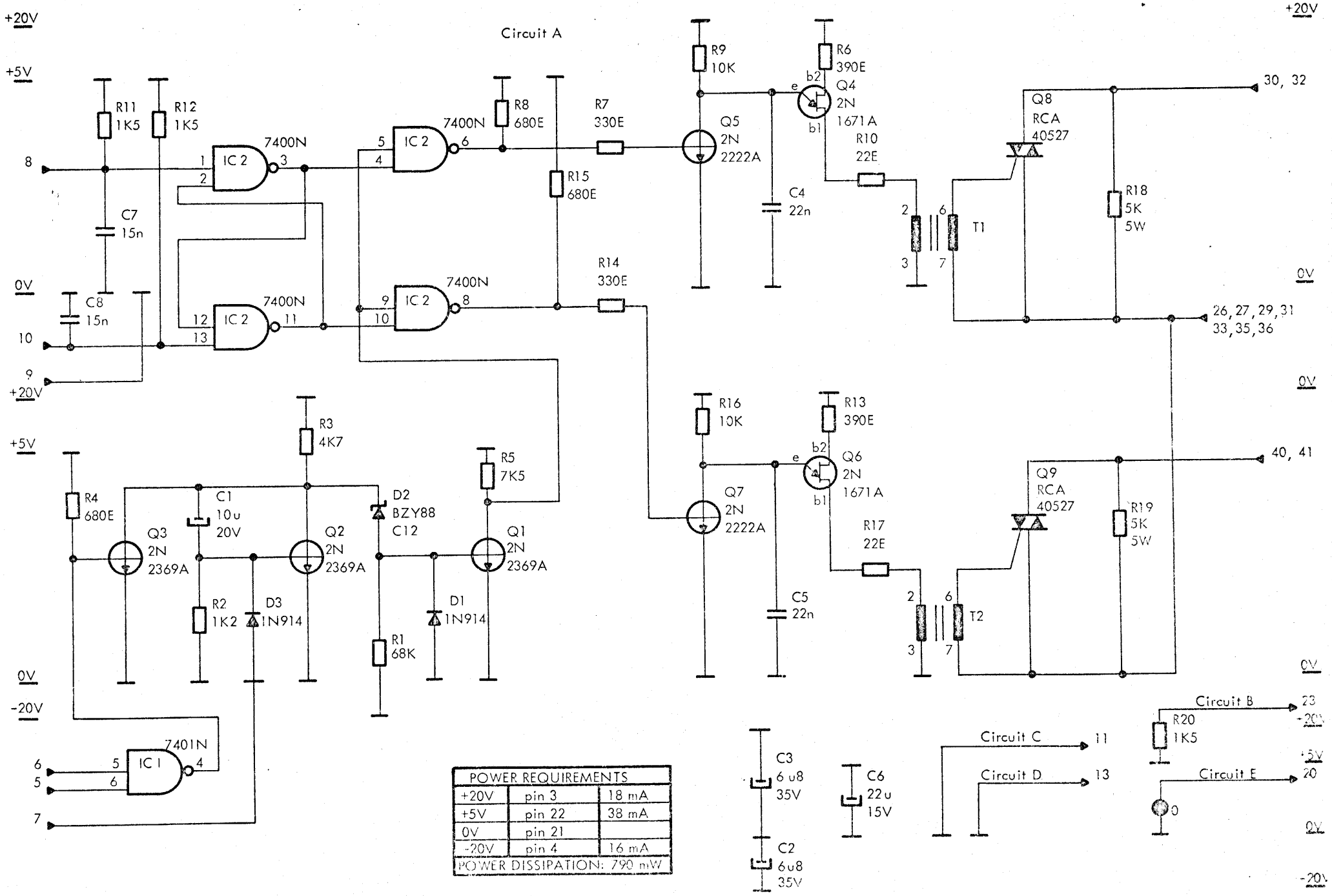
RC3067-1

A20580 PCB Assembly Drawing

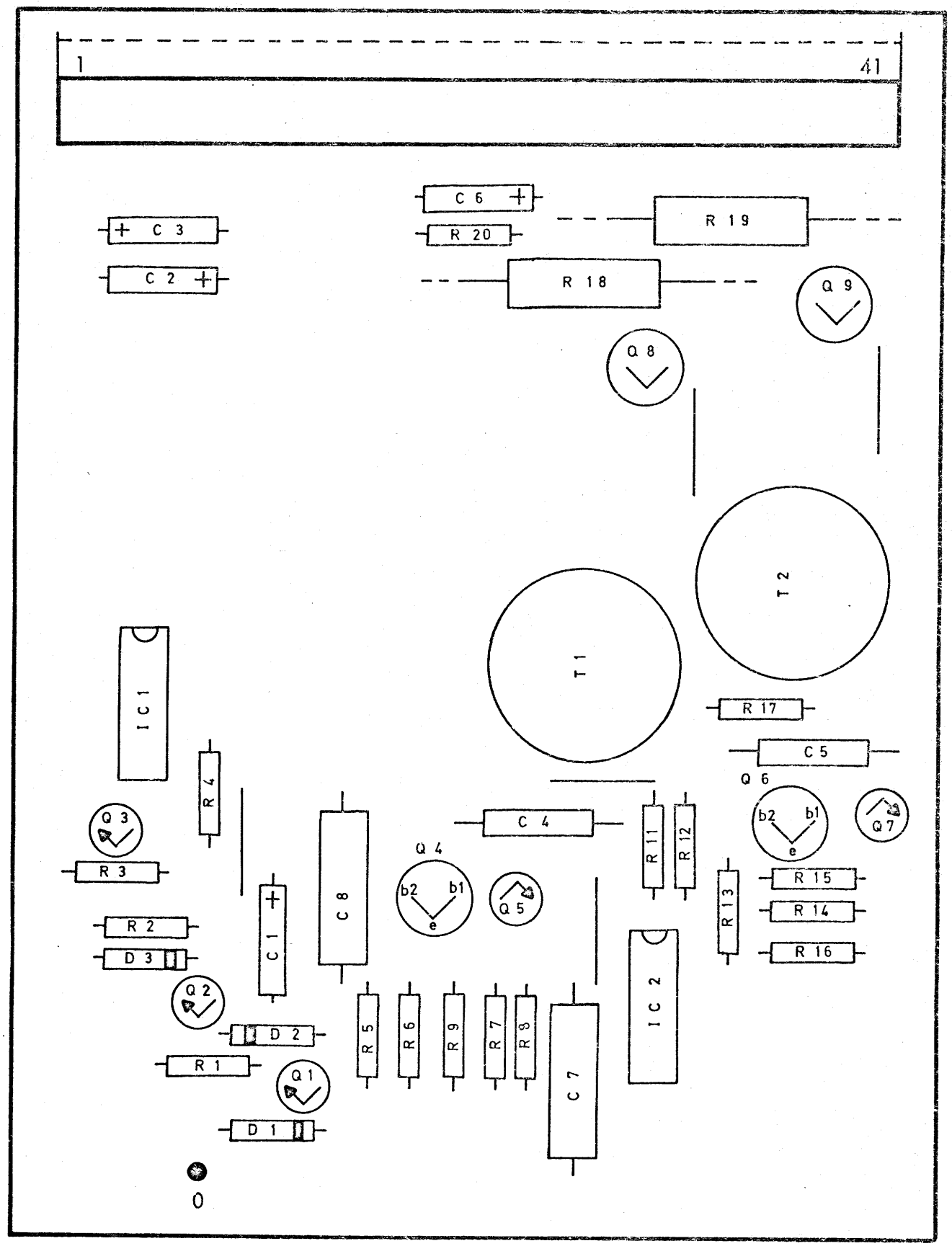
A10146

PCBA Circuit Diagram

RC3069-1



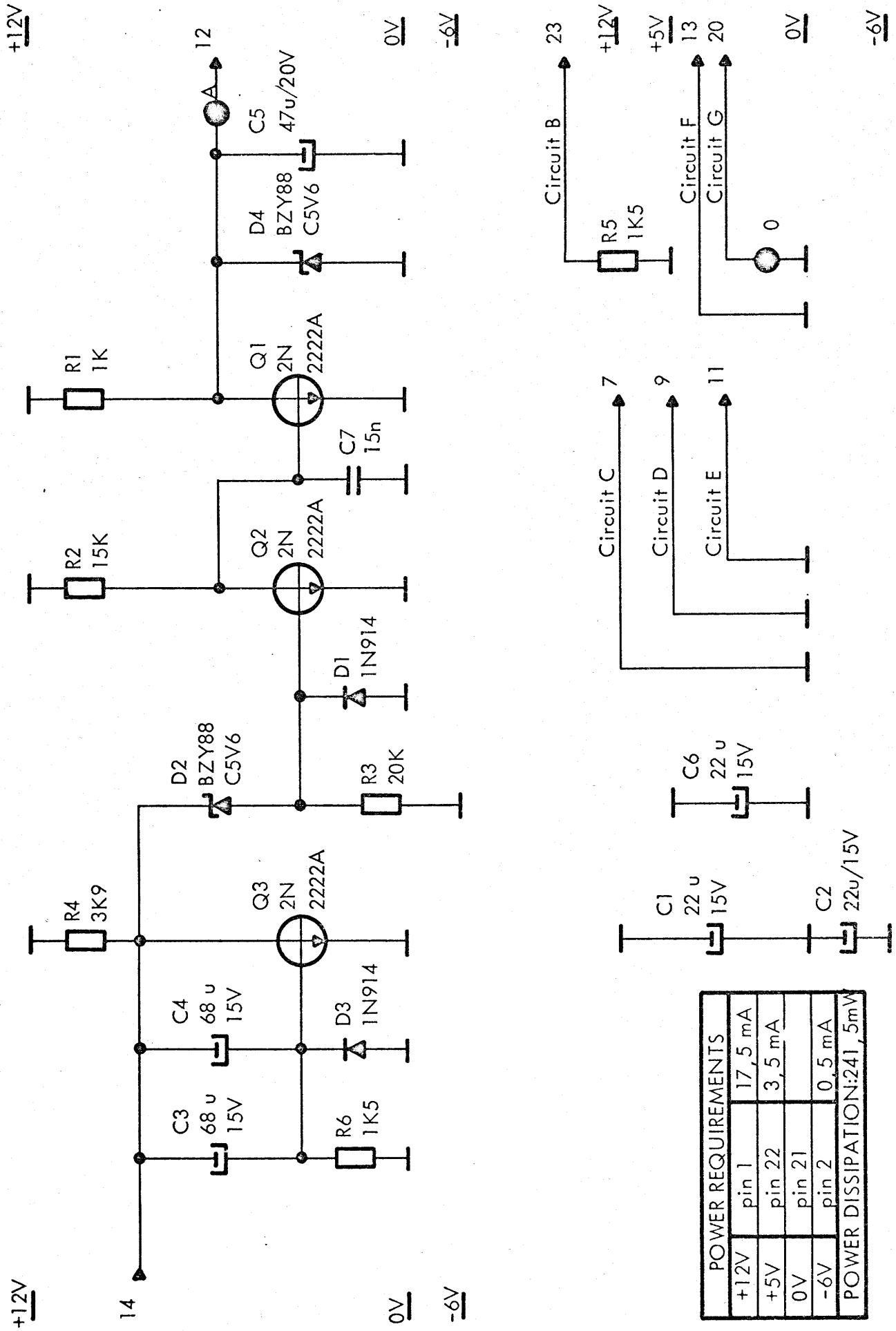
POWER REQUIREMENTS		
+20V	pin 3	18 mA
+5V	pin 22	38 mA
0V	pin 21	
-20V	pin 4	16 mA
POWER DISSIPATION: 790 mW		



RC 3069-1

A20532

PCB Assembly Drawing

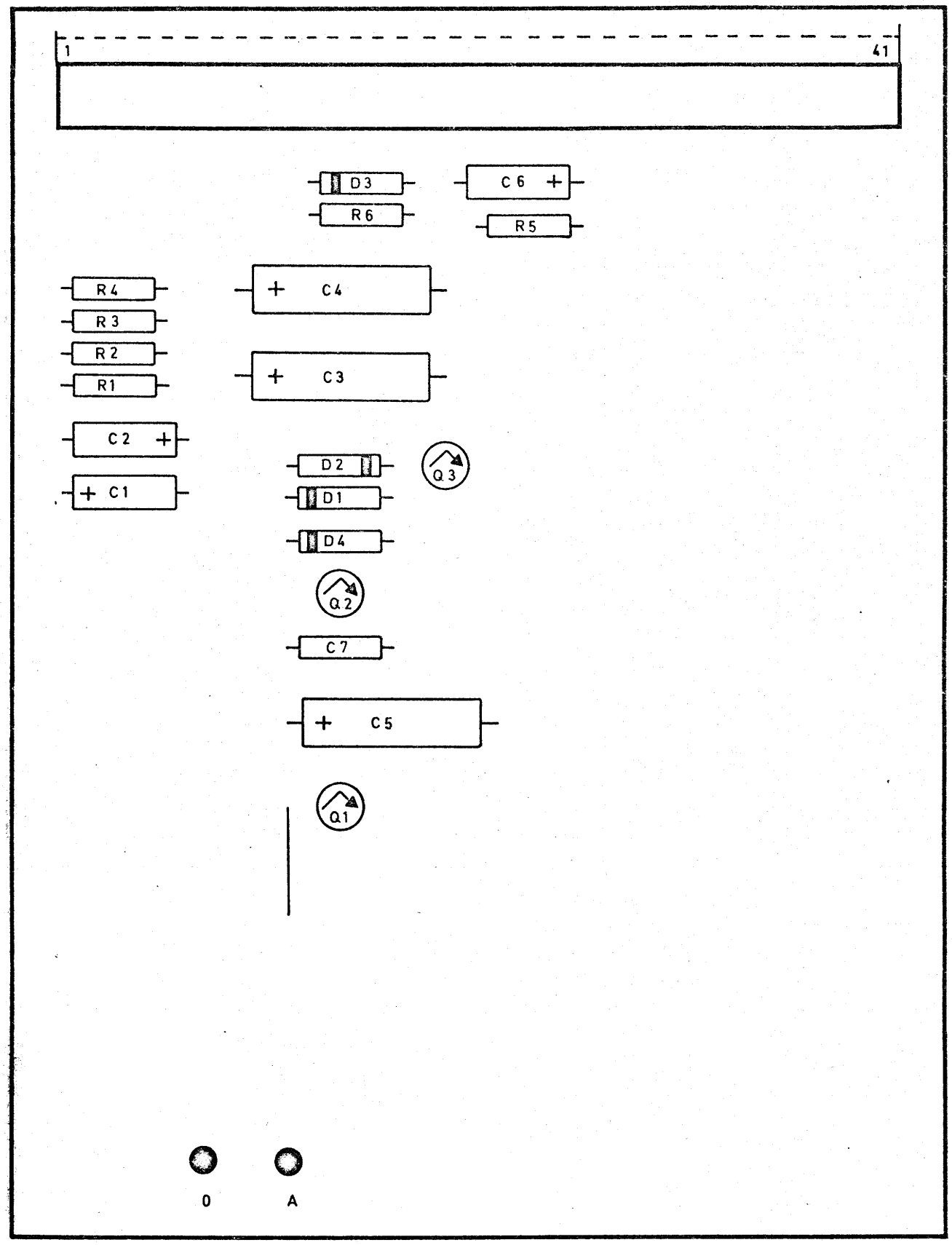


POWER ON DELAY

RC3096-1

A20901

PCBA Circuit Diagram



RC3096-1

A20903 PCB Assembly Drawing

A/S REGNECENTRALEN

SCANDINAVIAN INFORMATION PROCESSING SYSTEMS

HEADQUARTERS: FALKONER ALLÉ 1 . DK-2000 COPENHAGEN F . DENMARK
TELEPHONE: (01) 105366 . TELEX: 6282 RCHQ DK . CABLES: REGNECENTRALEN