SERVICE DATA
FILE NO. 170 - 346

TOSHIBA

COMPACT DISC PLAYER

XR-9421



SPECIFICATIONS

■ AUDIO

Frequency respomse:	20 — 20,000 Hz + 0.5/ — 1.5 dB
Dynamic range:	85 dB
Signal-to-noise ratio:	80 dB
Harmonic distortion:	0.05% (at 1 kHz)
Separation:	70 dB
Wow/flutter:	Undetectable
Headphones output:	15 mW + 15 mW (at 16 ohms)
Line output:	0.8V

■ DISC USED

Playing time:	Up to 75 minutes
Diameter:	4-3/4 in (120 mm)

■ SIGNAL FORMAT

Sampling frequency:	44.1 kHz
Quantization number:	16-bit linear/channel
Transmission bit rate:	4.2336 MB/second
Oversampling:	2 times
Signal processing rate:	88.2 kHz

■ PICK-UP

System:	Object lens drive system optical pick-up
Object lens drive system:	2-dimensional drive
Optical source:	Semiconductor laser
Wavelength:	780 nm

■ GENERAL

Power requirements:	DC 9V IEC R6 ("AA" cell) x 6 (not included)
Power consumption	2.5W
Operating time (alkaline batteries):	Approximately 4 hours
Dimensions:	139 (W) x 42 (H) x 167 (D) mm
Weight (without batteries):	460 g

Specifications are subject to change without notice.

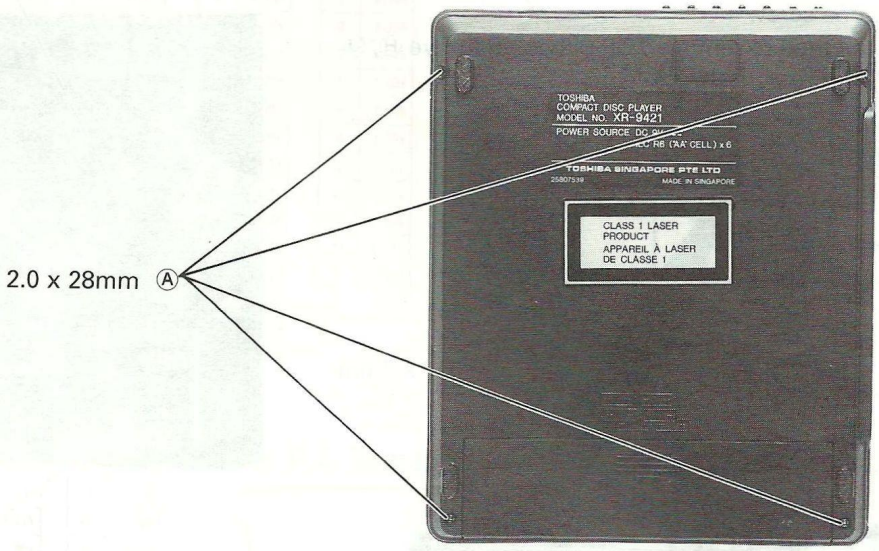
TC, TE, TU, VF

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DISASSEMBLY INSTRUCTIONS

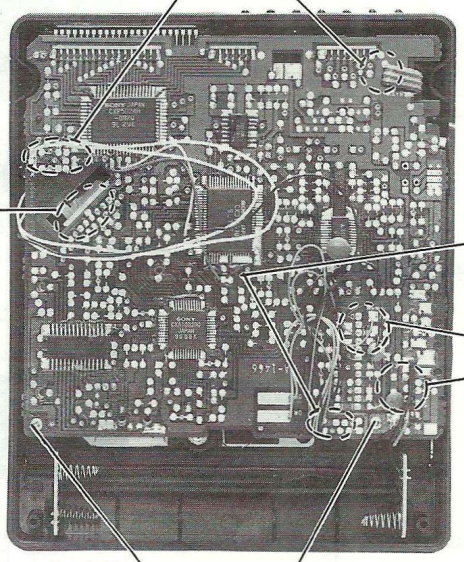
BOTTOM CABINET REMOVAL

1. Remove four screws Ⓐ.

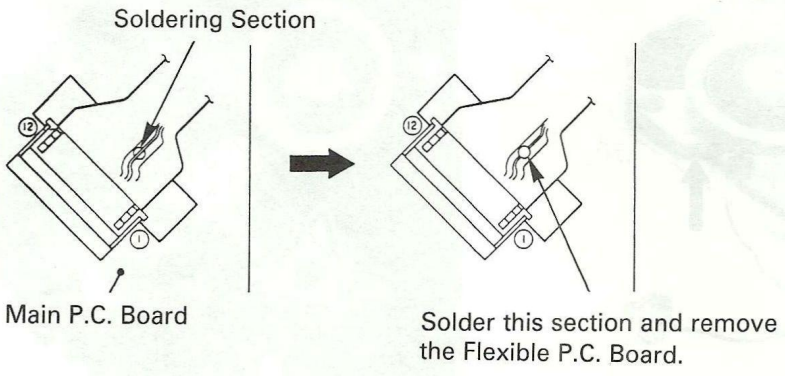


MAIN P.C. BOARD REMOVAL

1. Remove two screws Ⓑ.
2. Disconnect connecting wires Ⓒ, Ⓓ and Ⓔ.
3. Remove the Flexible P.C. Board Ⓕ.



Note: Open the Main P.C. Board, solder the Flexible P.C. Board Ⓕ and short-circuit ③ and ④.

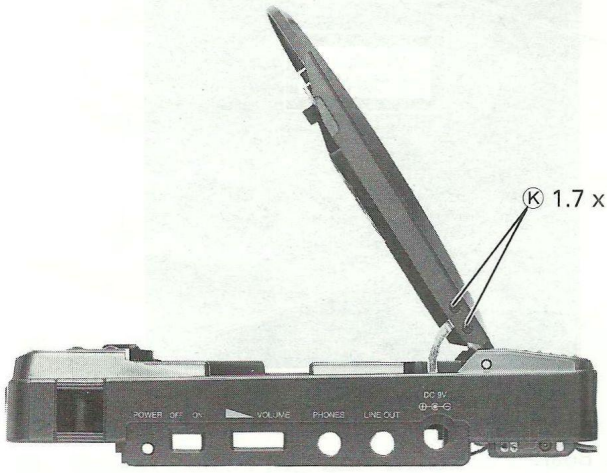


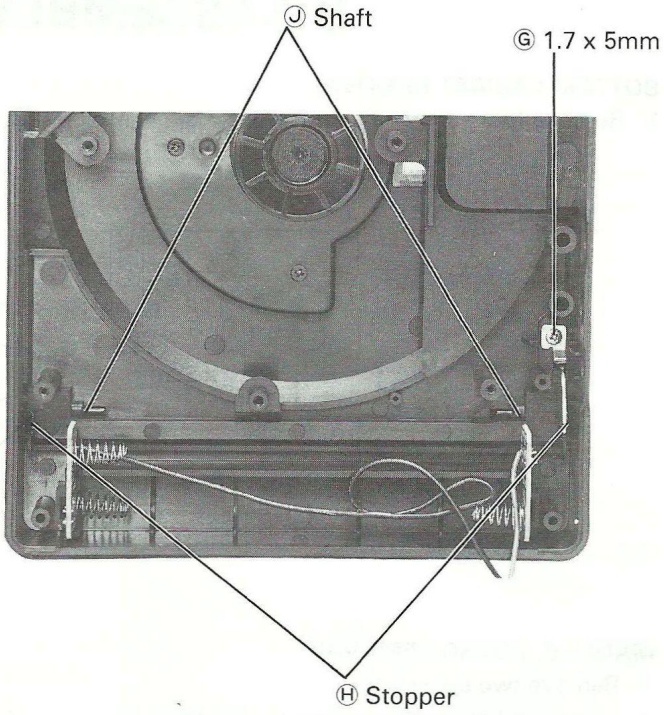
After repairing, mount the Flexible P.C. Board to the connector and solder to short-circuit.

TOP CABINET REMOVAL

1. Remove two stoppers Ⓗ.
2. Remove two shafts Ⓙ.
3. Remove one screw Ⓖ.

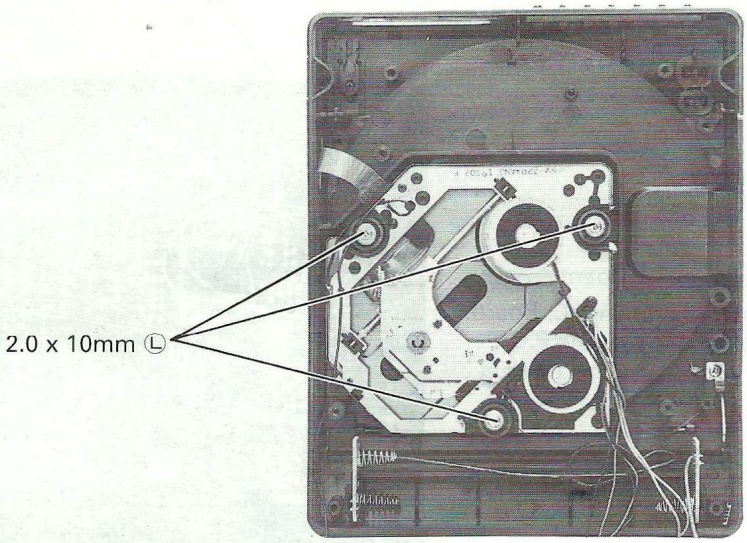
* Another method to remove TOP Cabinet Remove Ⓗ, Ⓙ and Ⓚ.





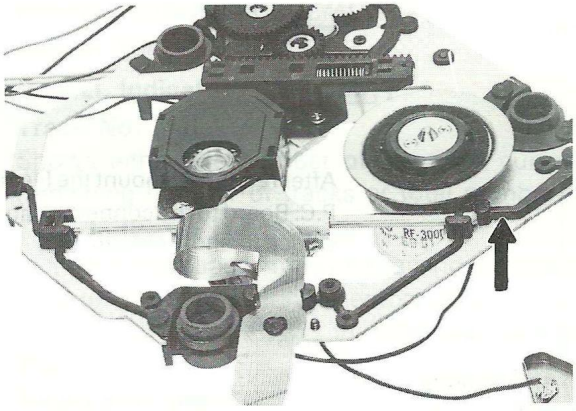
MECHANISM ASSEMBLY REMOVAL

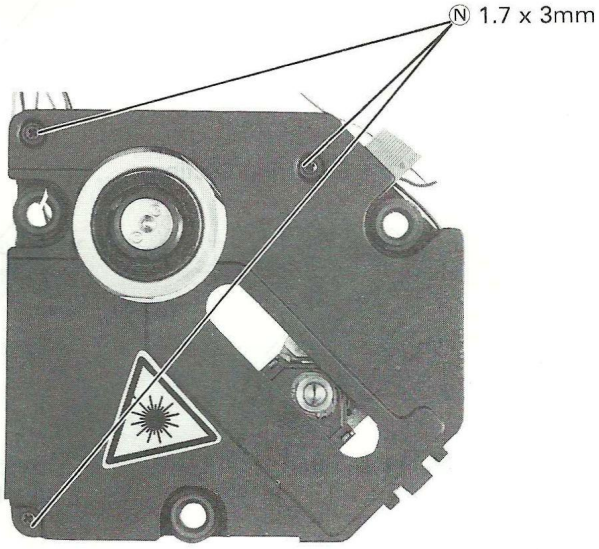
1. Remove three screws Ⓛ.



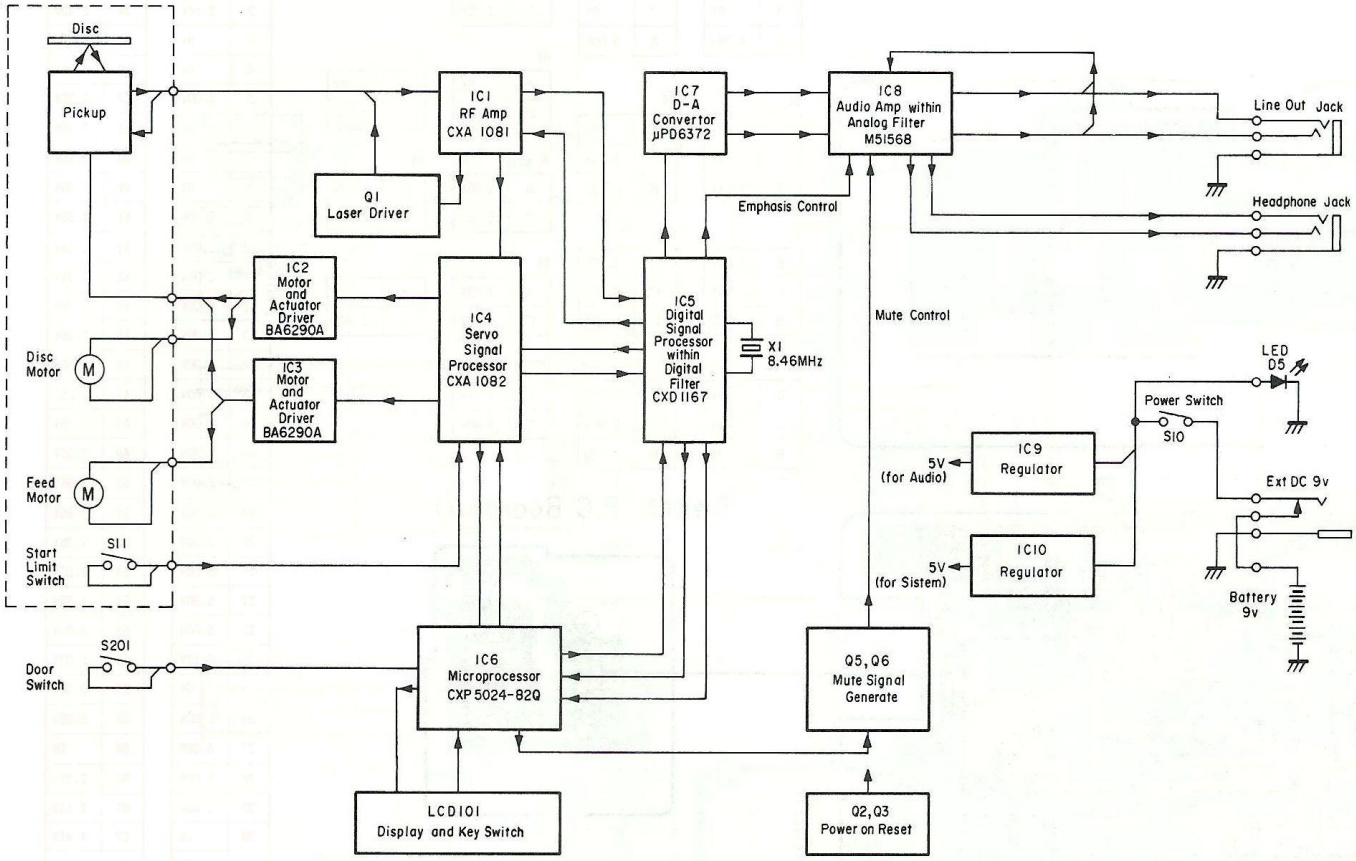
LASER PICKUP REMOVAL

1. Remove three screws Ⓝ to remove the cover.
2. While pushing the Mechanism Chassis plastic section Ⓜ, remove the Pickup Shaft.

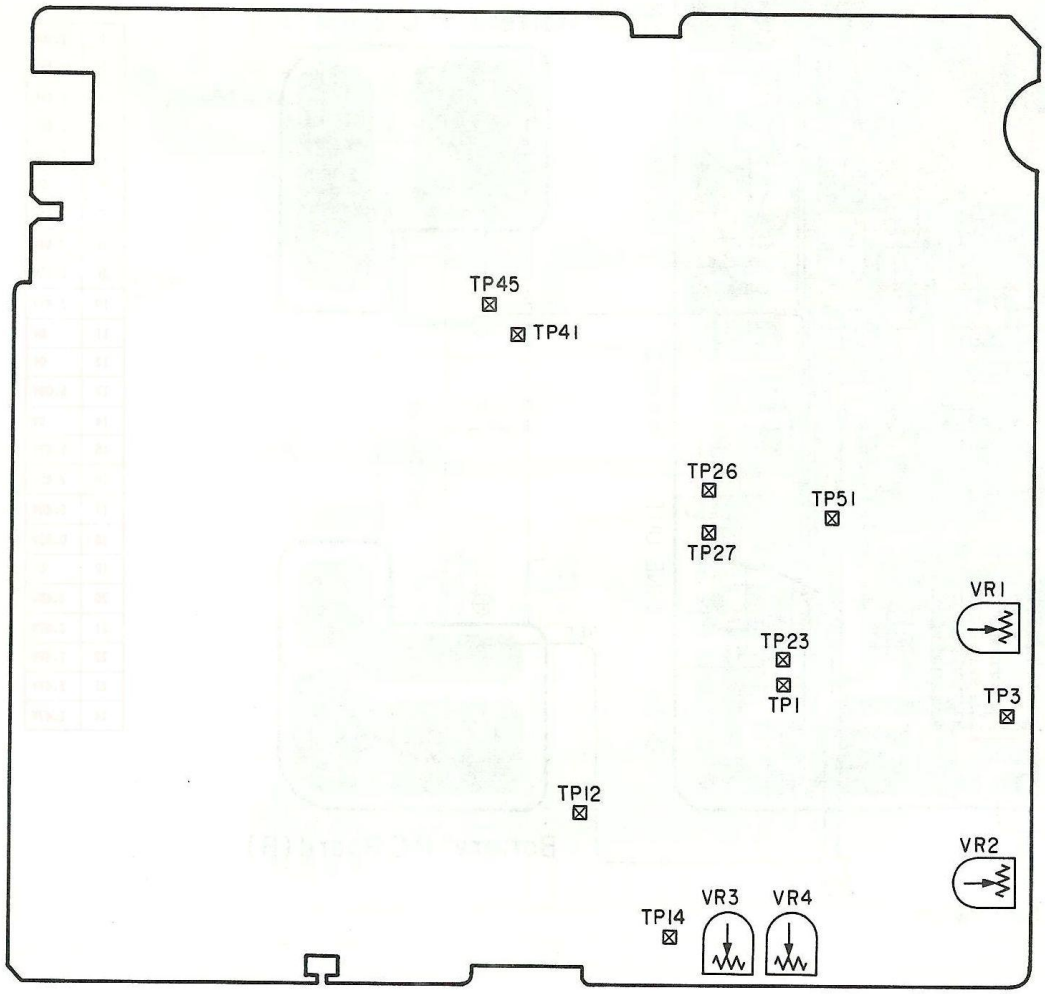




BLOCK DIAGRAM



CD ADJUSTMENT

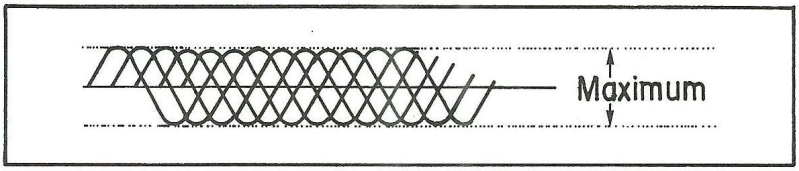


PLL FREE-RUN FREQUENCY ADJUSTMENT

1. Connect the IC4 TP27 (PDI) and TP23 (Vdd +5V) with 10K ohm.
   Connect the IC5 TP26 (PDO) and TP51 ground with lead wire.
2. CD Mechanism STOP mode.
3. Connect a Frequency counter to the TP41 (PLCK) and TP45 (ground).
4. Adjust the VR5 on the CD P.C. Board to make the counter reading 4.3218 MHz.

FOCUS OFF-SET ADJUSTMENT

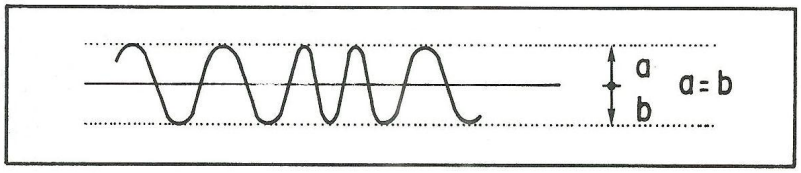
1. Connect Synchroscope to the TP1 (RFO) and TP51 (ground).
2. Playingback the test disc. (YEDS-7).
3. Adjustment the VR2 on the CD P.C. Board to make scope reading Maximum point.



E-F BALANCE ADJUSTMENT

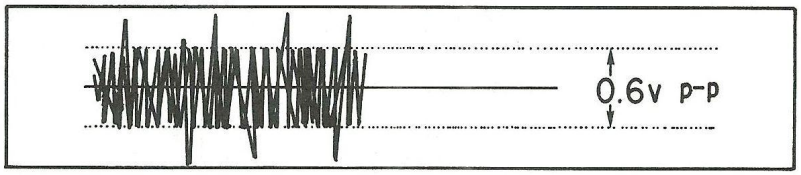
1. Connect a Push-switch (non-lock type) to the VR4-center pin (IC4-pin 45) (Tracking servo off terminal) and Vref. (IC4-pin 1). (Push-switch: push for short position).
2. Connect a Synchroscope to the TP17 (TE) and TP3 (Vref). (IC1-pin 14).
3. Playingback the test disc. (YEDS-7).
4. Adjustment VR1 on the CD P.C. Board to make scope wave above and below center line (Vref.) in same shape above and size with push-switch on position.

***CAUTION:** Do not keep the push-switch depressed for more than two to three seconds.
If you do not finish adjustment within this time, release and depress the push-switch again for readjustment.



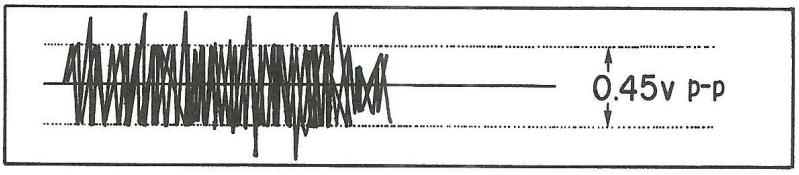
FOCUS GAIN ADJUSTMENT

1. Connect a Synchroscope to the TP14 (FEO) and TP3 (Vref). (IC4-pin 1).
2. Playingback the test disc. (YEDS-7).
3. Adjustment VR3 on the CD P.C.Board to make scope reading 0.6V p-p.



TRACKING GAIN ADJUSTMENT

1. Connect a Synchroscope to the TP12 (TEO) and TP3 (Vref). (IC4-pin 1).
2. Playingback the test disc (YEDS-7).
3. Adjustment VR4 on the CD P.C. Board to make scope reading 0.45 V p-p.



ELECTRICAL PARTS LO

IC1

1	2.62V
2	2.64V
3	2.62V
4	4.20V
5	2.87V
6	0V
7	2.27V
8	2.27V
9	2.22V
10	2.22V
11	2.21V
12	2.21V
13	2.21V
14	2.21V
15	1.17V
16	3.40V
17	0V
18	2.20V
19	2.21V
20	2.20V
21	0.12V
22	0V
23	1.35V
24	2.18V
25	0V
26	2.24V
27	2.23V
28	0.28V
29	0V
30	5.00V

IC4

1	2.21V
2	2.20V
3	2.10V
4	2.18V
5	2.22V
6	2.21V
7	2.73V
8	2.20V
9	2.12V
10	5.00V
11	2.22V
12	2.20V
13	2.21V
14	2.23V
15	2.21V
16	2.21V
17	0.78V
18	0.11V
19	0V
20	0.11V
21	5.00V
22	5.00V
23	0V
24	5.00V

25	5.00V
26	0V
27	2.58V
28	2.59V
29	2.24V
30	2.33V
31	3.55V
32	2.30V
33	0V
34	0V
35	0V
36	0.13V
37	5.00V
38	2.24V
39	2.24V
40	2.27V
41	0.30V
42	0V
43	0V
44	0.12V
45	2.24V
46	2.22V
47	2.24V
48	2.24V

IC2

1	8.70V
2	2.20V
3	2.20V
4	2.20V
5	2.20V
6	2.20V
7	0.18V
8	2.20V
9	2.20V
10	2.20V
11	2.20V
12	0V

IC3

1	8.70V
2	2.20V
3	2.20V
4	2.20V
5	2.20V
6	2.20V
7	0.18V
8	2.20V
9	2.20V
10	2.20V
11	2.20V
12	0V

IC7

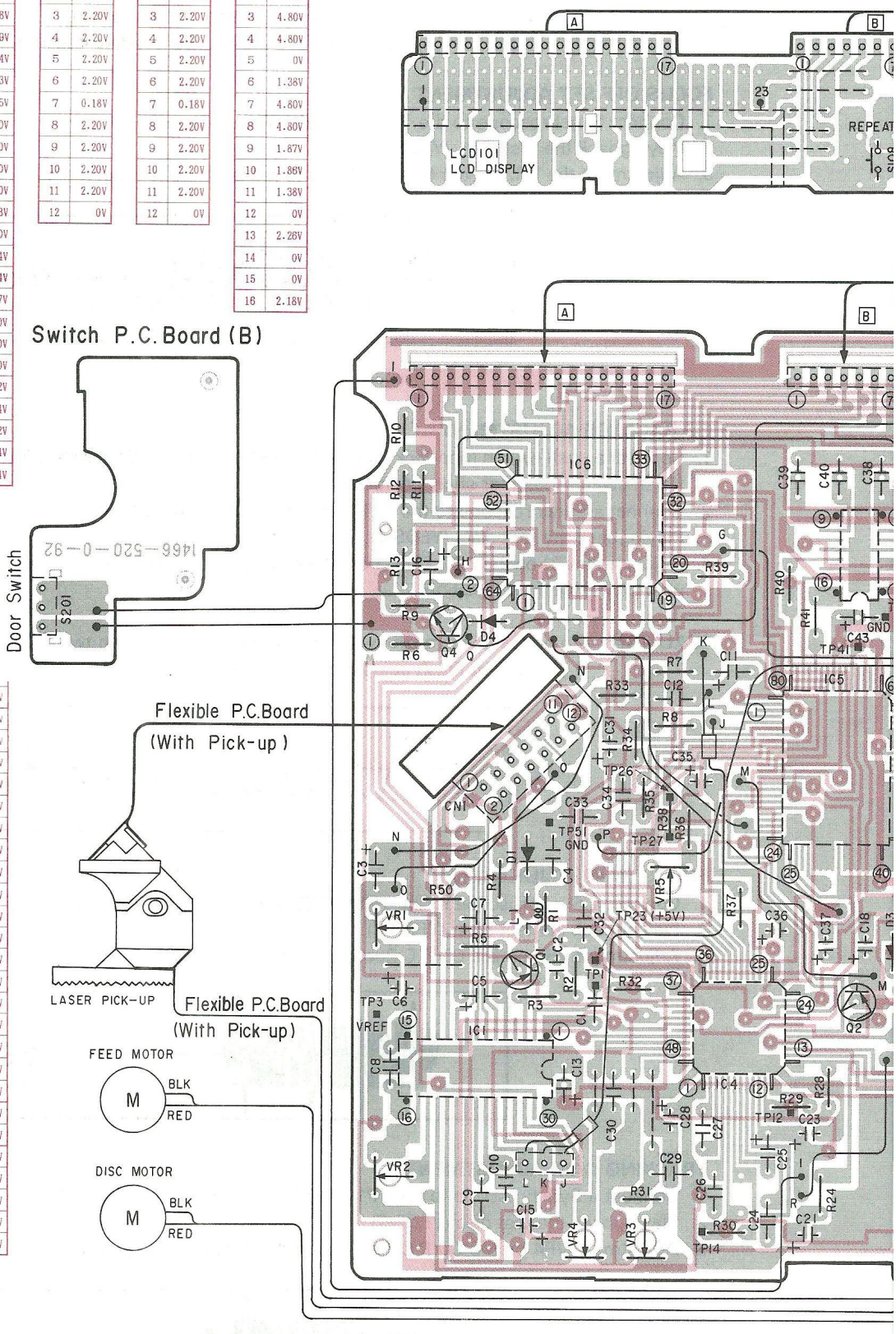
1	0V
2	0V
3	4.80V
4	4.80V
5	0V
6	1.38V
7	4.80V
8	4.80V
9	1.87V
10	1.86V
11	1.38V
12	0V
13	2.26V
14	0V
15	0V
16	2.18V

IC5

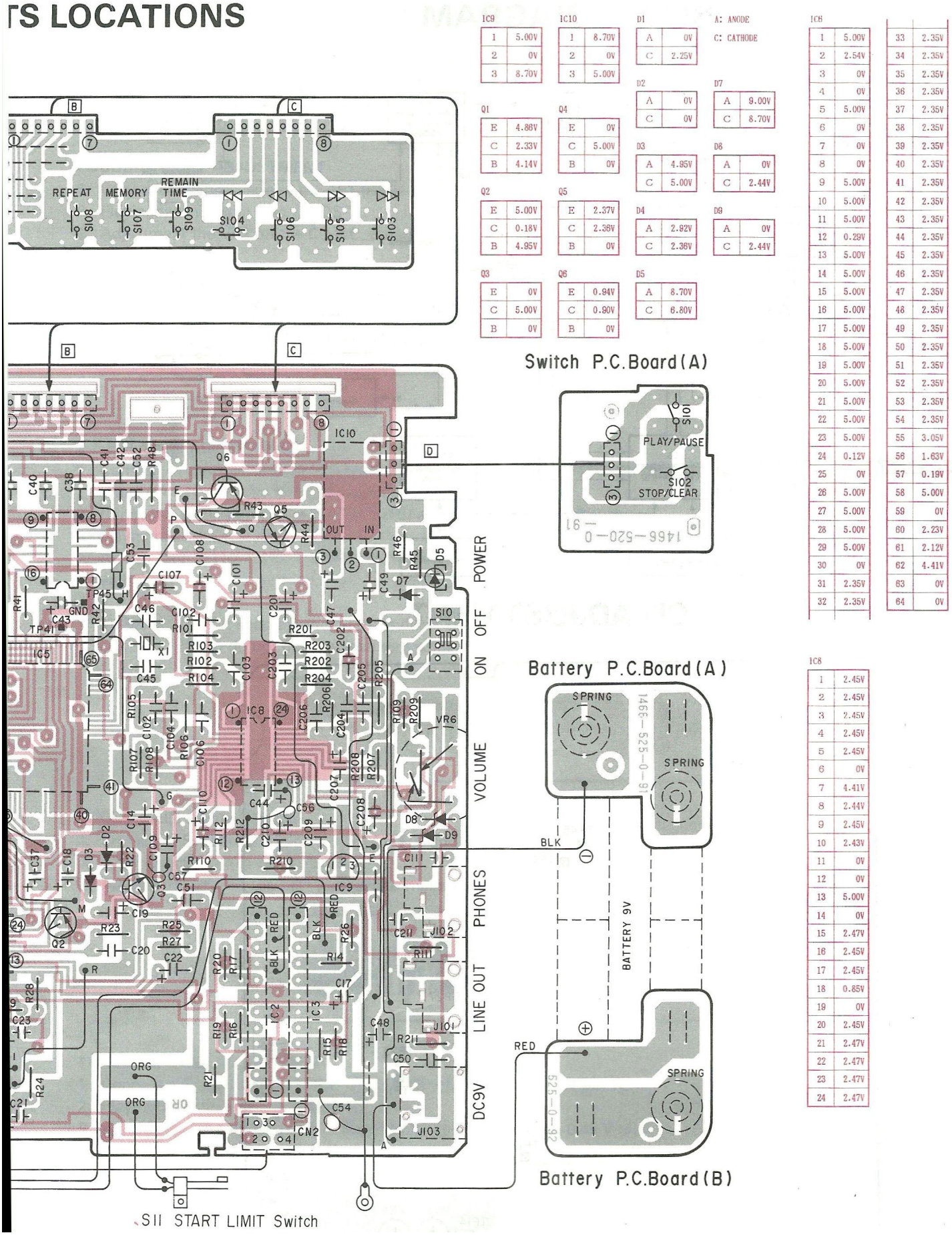
1	0V
2	0V
3	0V
4	0.23V
5	2.27V
6	2.27V
7	0V
8	2.13V
9	2.18V
10	0V
11	2.51V
12	0V
13	5.00V
14	5.00V
15	0V
16	4.90V
17	0.13V
18	0.11V
19	2.56V
20	0V
21	0.75V
22	4.11V
23	0V
24	0V
25	5.00V
26	5.00V
27	2.24V

28	0V
29	0V
30	0V
31	0V
32	0V
33	5.00V
34	0V
35	0V
36	0V
37	0V
38	0V
39	0V
40	0V
41	0V
42	0V
43	0V
44	0V
45	0V
46	0V
47	0V
48	0V
49	0V
50	0V
51	2.10V
52	0V
53	2.24V
54	2.00V

55	5.00V
56	0V
57	0V
58	0V
59	0V
60	1.14V
61	1.14V
62	3.30V
63	3.32V
64	1.72V
65	1.72V
66	1.72V
67	5.00V
68	2.25V
69	2.25V
70	2.17V
71	5.00V
72	5.00V
73	5.00V
74	5.00V
75	2.24V
76	2.11V
77	2.16V
78	0V
79	2.25V
80	2.28V



TS LOCATIONS



IC9

1	5.00V
2	0V
3	8.70V

IC10

1	8.70V
2	0V
3	5.00V

D1

A	0V
C	2.25V

A: ANODE
C: CATHODE

D2

A	0V
C	0V

D7

A	9.00V
C	8.70V

Q1

E	4.86V
C	2.33V
B	4.14V

Q4

E	0V
C	5.00V
B	0V

D3

A	4.95V
C	5.00V

D8

A	0V
C	2.44V

Q2

E	5.00V
C	0.18V
B	4.95V

Q5

E	2.37V
C	2.36V
B	0V

D4

A	2.82V
C	2.36V

D9

A	0V
C	2.44V

Q3

E	0V
C	5.00V
B	0V

Q6

E	0.94V
C	0.90V
B	0V

D5

A	8.70V
C	6.80V

IC8

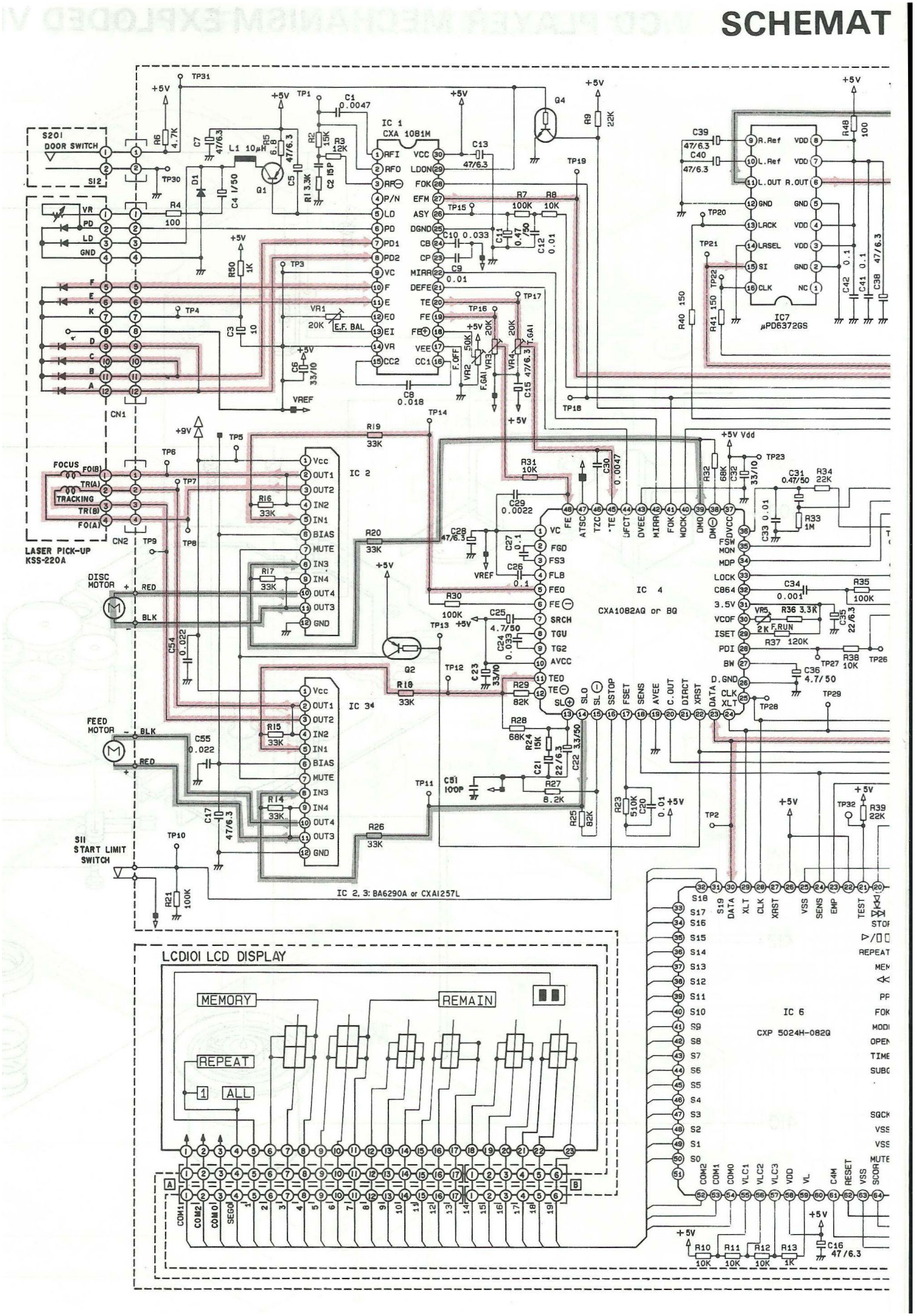
1	5.00V
2	2.54V
3	0V
4	0V
5	5.00V
6	0V
7	0V
8	0V
9	5.00V
10	5.00V
11	5.00V
12	0.29V
13	5.00V
14	5.00V
15	5.00V
16	5.00V
17	5.00V
18	5.00V
19	5.00V
20	5.00V
21	5.00V
22	5.00V
23	5.00V
24	0.12V
25	0V
26	5.00V
27	5.00V
28	5.00V
29	5.00V
30	0V
31	2.35V
32	2.35V

33	2.35V
34	2.35V
35	2.35V
36	2.35V
37	2.35V
38	2.35V
39	2.35V
40	2.35V
41	2.35V
42	2.35V
43	2.35V
44	2.35V
45	2.35V
46	2.35V
47	2.35V
48	2.35V
49	2.35V
50	2.35V
51	2.35V
52	2.35V
53	2.35V
54	2.35V
55	3.05V
56	1.63V
57	0.19V
58	5.00V
59	0V
60	2.23V
61	2.12V
62	4.41V
63	0V
64	0V

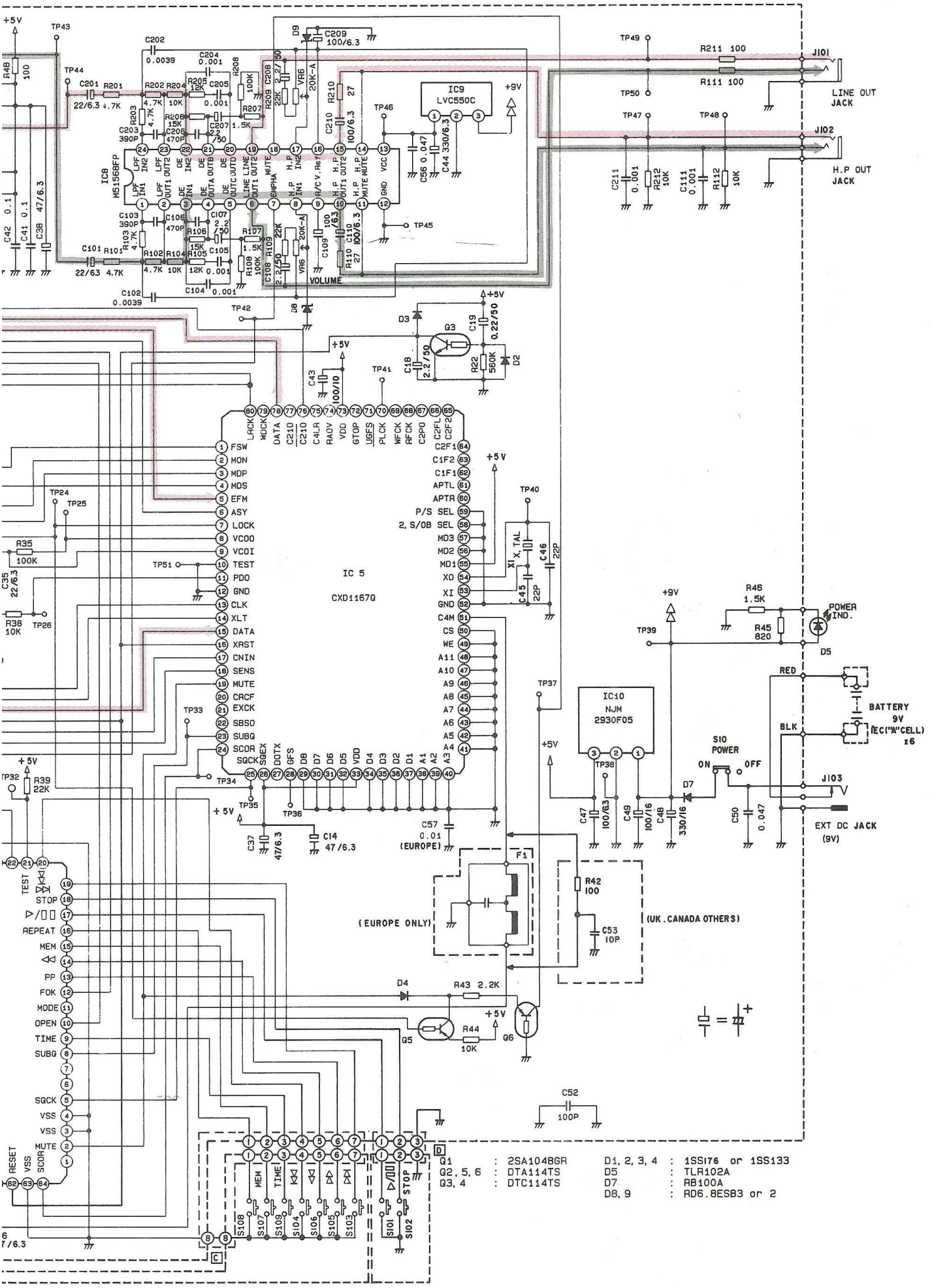
IC8

1	2.45V
2	2.45V
3	2.45V
4	2.45V
5	2.45V
6	0V
7	4.41V
8	2.44V
9	2.45V
10	2.43V
11	0V
12	0V
13	5.00V
14	0V
15	2.47V
16	2.45V
17	2.45V
18	0.85V
19	0V
20	2.45V
21	2.47V
22	2.47V
23	2.47V
24	2.47V

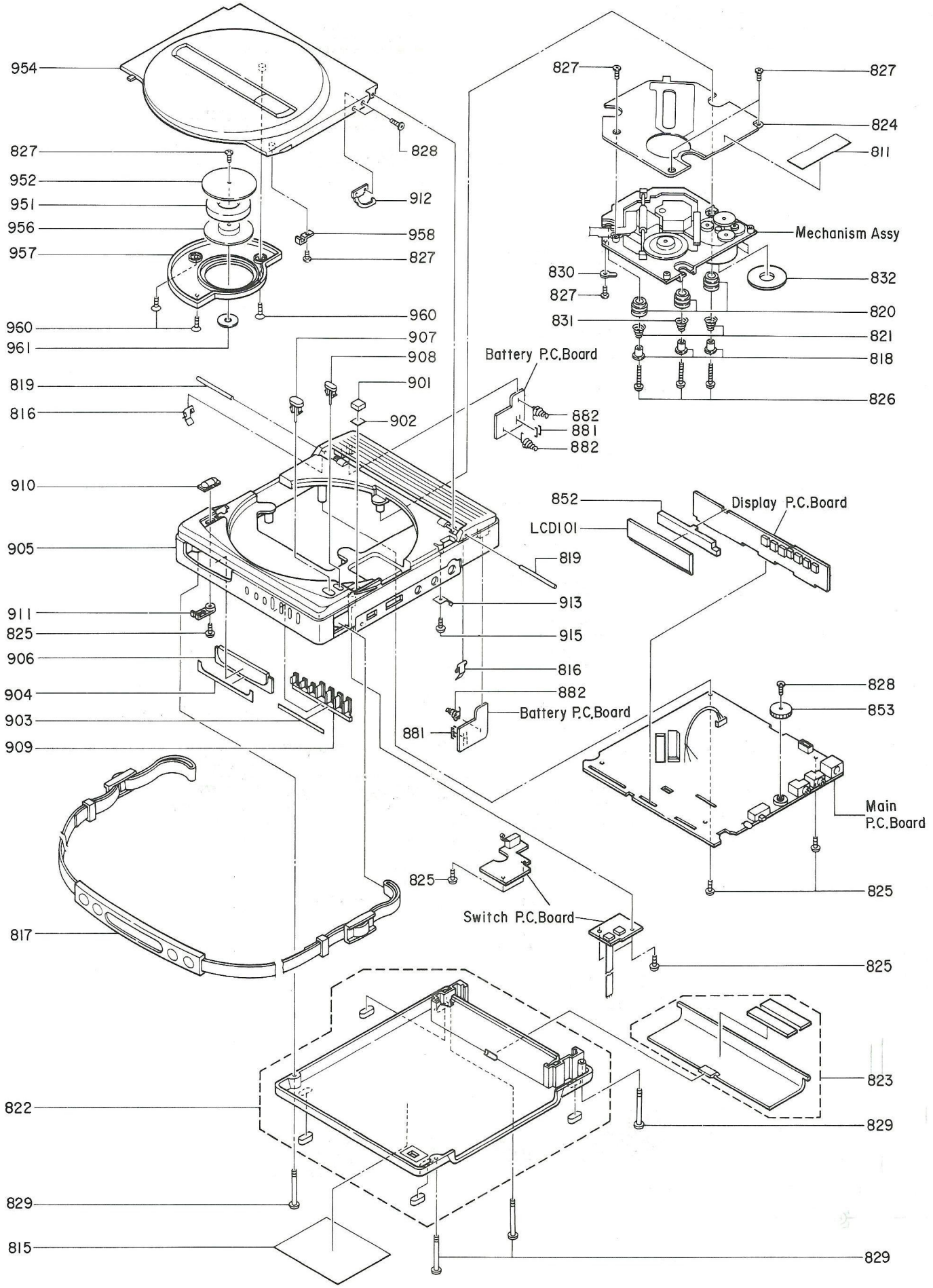
SCHEMAT


S201
DOOR SWITCH
SI2
SII
START LIMIT
SWITCH
CN1
CN2
LASER PICK-UP
KSS-220A
FOCUS
TRACKING
DISC
MOTOR
FEED
MOTOR
IC 1
CXA 1081M
IC 2
IC 34
IC 2, 3: BA6290A or CXA1257L
IC 4
CXA1082AQ or BQ
IC 6
CXP 5024H-082Q
IC7
μPD6372GS
LCD101 LCD DISPLAY
MEMORY
REMAIN
REPEAT
ALL
VR1
20K
E.F. BAL
F.OFF
F.GAI
VREF
+5V
+9V
+5V Vdd

ATIC DIAGRAM



CD PLAYER CABINET EXPLODED VIEW



CD PLAYER MECHANISM EXPLODED VIEW

