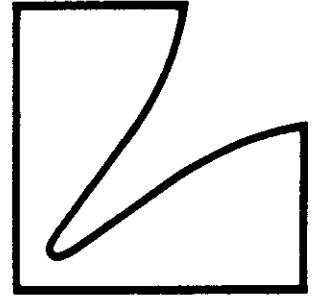
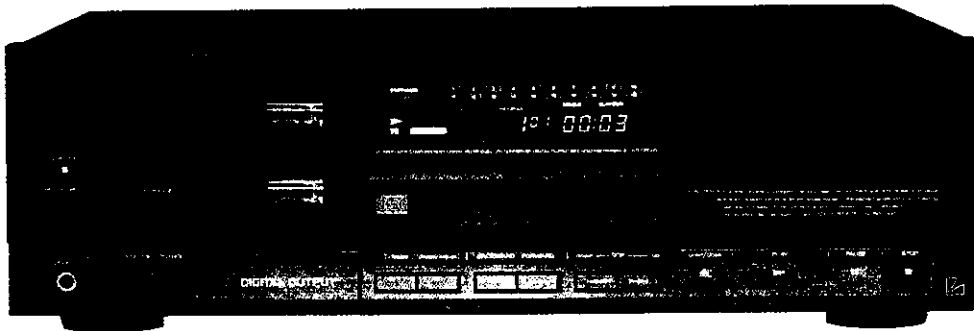


SERVICE MANUAL



Compact Disc Player

D-103u



Adjustment Procedures

1. Compact Disc Section

(1) Connections

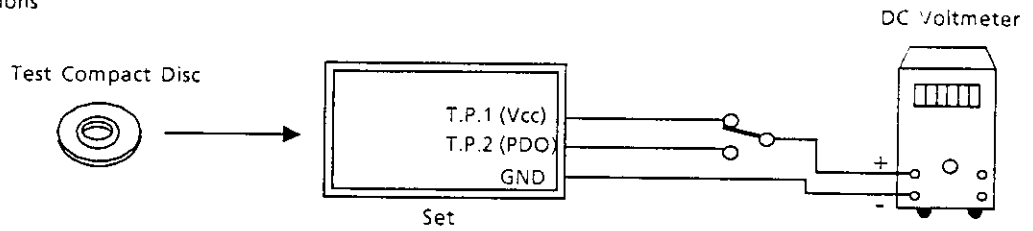


Figure 15

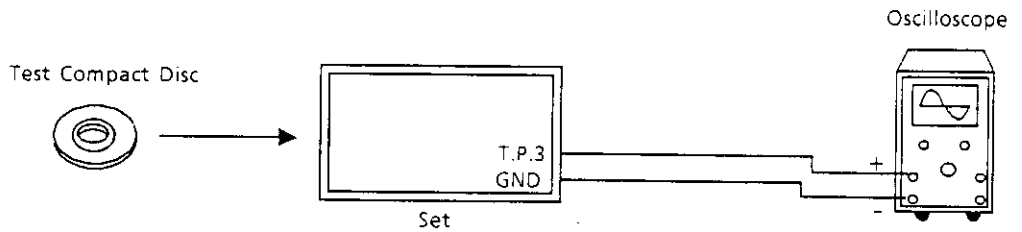


Figure 16

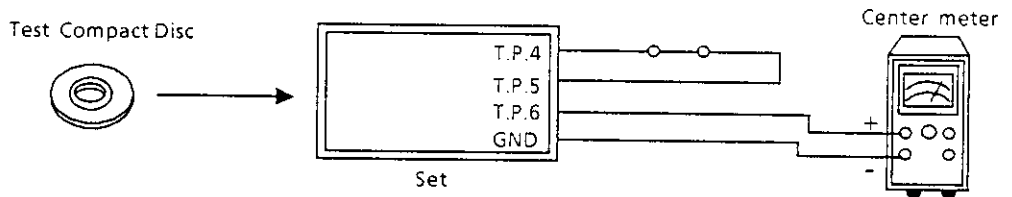


Figure 17

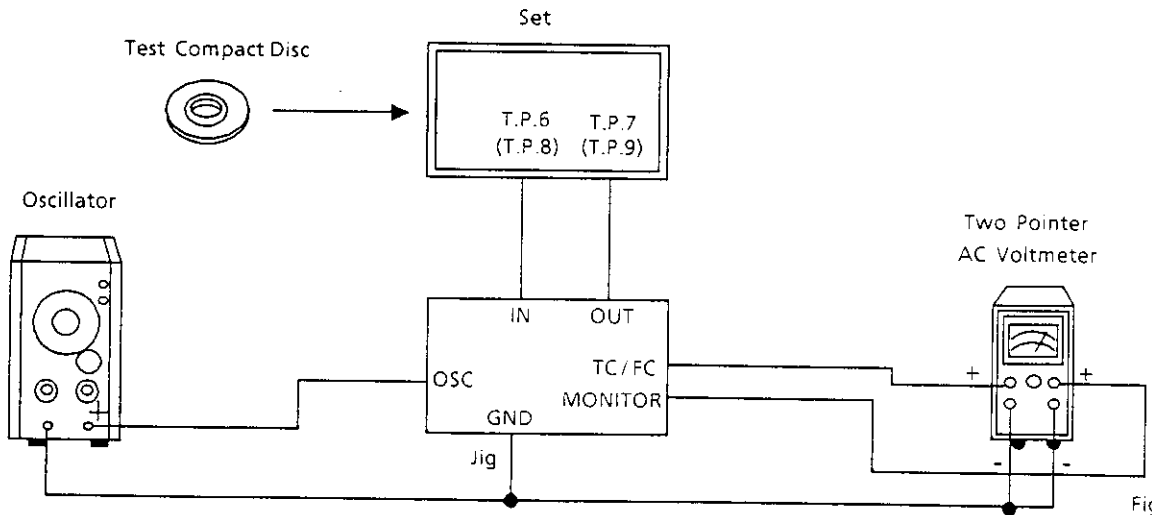


Figure 18

Note : Use the Jig which using for D-105u

(2) Control Settings

Power Switch	ON
Play Switch	ON
Others	OFF

(3) Test CD

Tracking Error Balance Adjustment	SONY YEDS-18 (No7)
	A-BEX TCD-782 (No8)
Others	SONY YEDS-18 (No2)
	A-BEX TCD-782 (No2)

(4) Adjustment Procedures

Step	Description	Connections	Oscillator	Test Point	Adjustment
1	VCO Adjustment	Figure 14	-	T.P.1 T.P.2	Take measurement of the voltage at the T.P.1. Then adjust VR202 so that the output voltage at the T.P.2 becomes. $1/2 \pm 10\text{mV}$ of the voltage at the T.P.1.
2	Focus Bias Adjustment	Figure 15	-	T.P.3	Adjust VR201 so that the T.P.3 (Eye pattern) signal is at its maximum, with a favorable Eye pattern as shown in Figure 18.
3	Tracking Error Balance Adjustment	Figure 16	-	T.P.4 T.P.5 T.P.6	After short circuiting between T.P.4 and T.P.5, turn VR204 fully counterclockwise. When the center meter is connected to the unit, the meter pointer will deflect between "a" and "b" as shown in Figure 19. Adjust VR203 until minimum deflection of the center meter shows "0". In this case, minimum deflection shows "0" stands for that "a". After the adjustment set VR204 to its center position.
4	Tracking Gain Adjustment	Figure 17	1kHz 100mV	T.P.6 T.P.7	Adjust VR204 so that both arms of the voltmeter come at the same position.
5	Focus Gain Adjustment	Figure 17	1kHz 100mV	T.P.8 T.P.9	Adjust VR205 so that both arms of the voltmeter come at the same position.

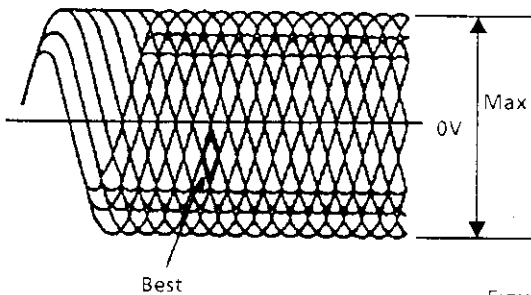


Figure 18

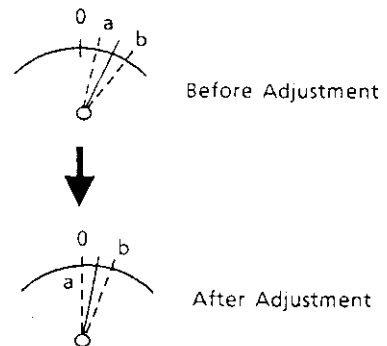
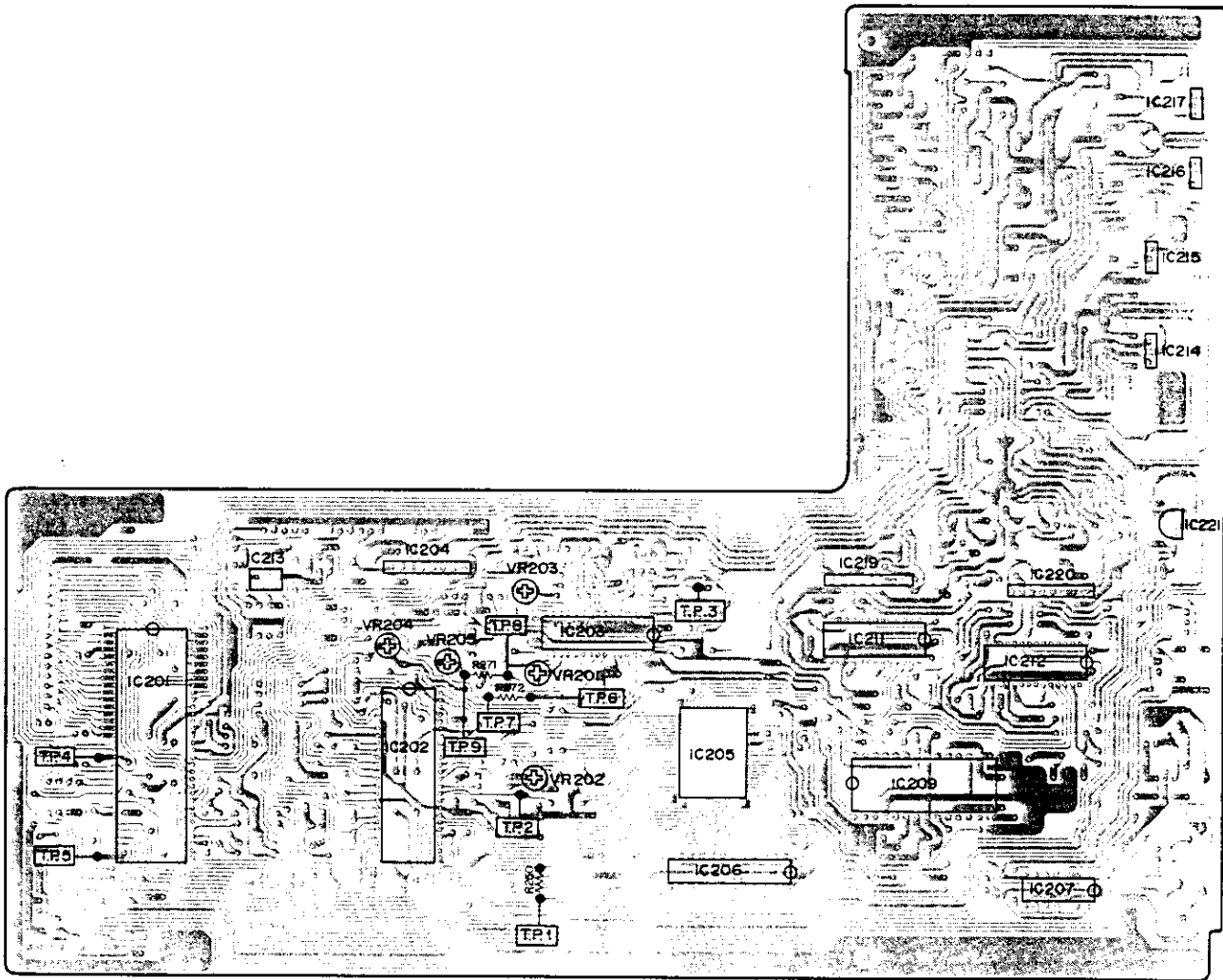


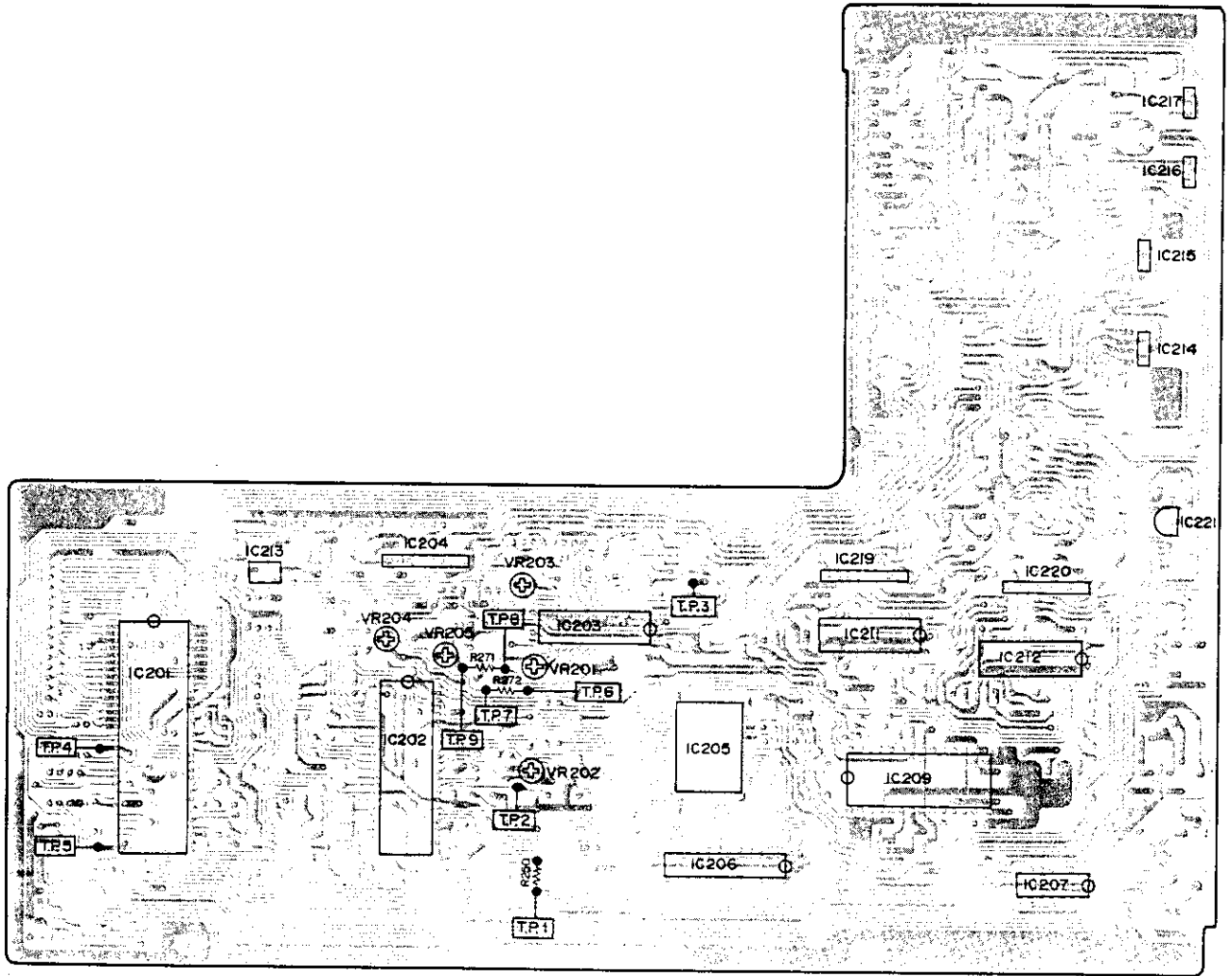
Figure 19

Adjustment Location

Main P.C. Board (Component Side) AD model

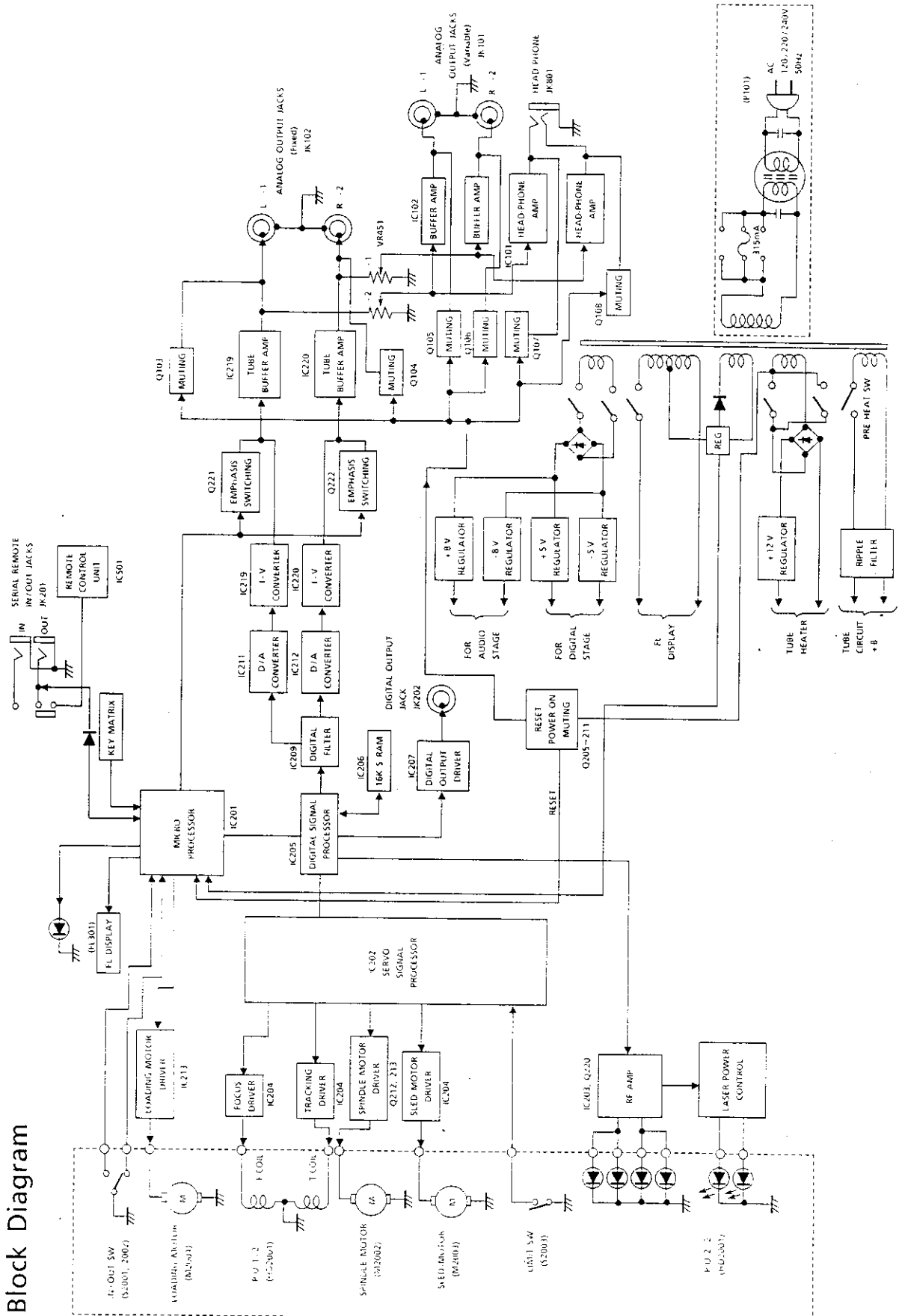


Main P.C. Board (Component Side) EK model



Block Diagram

Block Diagram



Schematic Diagram(1/2)

NOTE

- All resistance values are in ohms $R \times 1,000 M = 1,000,000$
- All capacitance values are in microfarads $P = \frac{1}{1,000,000}$
- *: General Foreign made only(EK);
 Δ: West Germany model only(AD);
 others: common.

Voltage Measuring Conditions

- Power Supply Voltage
- Measuring Meter
- Measuring Point Reference
- Measuring Conditions

AC120/220/240V/50Hz
 Digital Multimeter
 Between Ground
 In pla. mode of non-signal track
 (TEST CD.SON YEDS-16 TRACK NO.2)

	E	C	B
Q101	-30.2V	-43.8V	-38.7V
Q102	85.1V	130.5V	85.6V
Q103	0V	0V	-7.6V
Q104	0V	0V	-7.6V
Q105	0V	0V	-7.6V
Q106	0V	0V	-7.6V
Q107	0V	0V	-7.6V
Q108	0V	0V	-7.6V
Q204	0V	0V	2.8V
Q205	11.7V	-7.5V	0V
Q206	4.9V	4.9V	0V
Q207	0V	0V	6.3V
Q208	0V	0V	6.3V
Q209	0V	0V	0V
Q210	0V	0V	0V
Q211	0V	0V	0V
Q212	0.6V	—	1V
Q213	0.6V	-12V	1V
Q220	4V	1.8V	2.8V
Q221	0V	0V	-7.6V
Q222	0V	0V	-7.6V
Q223	4.5V	0V	4.8V
Q224	0V	4.5V	0V
Q225	0V	0V	4.5V
Q226	0V	0V	0V

IC201			
1	25.3V	32.4.9V	
2	22.6V	34.1.4V	
3	-2.7V	32.4.9V	
4	-4.5V	—	
5	-2.5V	32.1.4.8V	
6	-3.2.8V	32.1.4.8V	
7	-3.2.8V	35.0V	
8	-3.2.8V	45.0V	
9	-3.2.8V	4.0V	
10	-3.2.8V	4.2.0V	
11	-3.2.8V	4.3.2.2V	
12	-3.2.8V	4.4.1.8V	
13	-3.2.8V	4.5.1.9.1V	
14	-3.2.8V	4.6.1.8.7V	
15	-3.2.8V	4.7.0V	
16	0V	4.8.2.3V	
17	-7.6V	4.9.2.3V	
18	4.8V	5.0.0V	
19	-35.6V	5.1.0V	
20	-7.4V	5.2.0V	
21	0V	5.3.8V	
22	4.9V	5.4.0V	
23	0.4V	5.5.0V	
24	4.9V	5.6.0V	
25	4.5V	5.7.2.2.2V	
26	1.4V	5.8.2.4.2V	
27	1.4V	5.9.2.3.8V	
28	4.9V	6.0.1.7.1V	
29	0V	6.1.1.0.1V	
30	4.8V	6.2.1.5.6V	
31	—	6.3.2.2.6V	
32	5V	6.4.2.9.8V	

IC204		
1	0V	
2	0V	
3	-4.9V	
4	-4.5V	
5	-4.9V	
6	-4.9V	
7	-4.9V	
8	-4.9V	
9	0V	
10	-4.8V	
11	0V	
12	0V	
13	0V	
14	0V	
15	0V	
16	-4.9V	

IC203		
1	0V	
2	1.1V	
3	0V	
4	2.8V	
5	2.8V	
6	-4.5V	
7	-0.4V	
8	0V	
9	0V	
10	0V	
11	0V	
12	-0.6V	
13	-0.4V	
14	0V	
15	-2.2V	
16	-1.9V	
17	-4.9V	
18	0V	

IC206		
1	2.5V	
2	2.5V	
3	2.4V	
4	2.4V	
5	2.4V	
6	2.4V	
7	2.4V	
8	2.4V	
9	1.9V	
10	1.9V	
11	1.9V	
12	0V	
13	1.9V	
14	1.9V	
15	1.9V	
16	1.9V	
17	1.9V	
18	2.6V	
19	0.3	
20	2.6V	
21	4.3V	
22	1.9V	
23	2.8V	
24	4.9V	
25	0V	
26	2.4V	
27	2.4V	
28	4.4V	
29	0.2V	
30	4.9V	

IC205			
1	0V	4.1	2.4V
2	-4.8V	4.2	2.4V
3	2.5V	4.3	2.4V
4	2.7V	4.4	2.5V
5	2.4V	4.5	2.5V
6	2.4V	4.6	2.8V
7	4.9V	4.7	1.9V
8	2.4V	4.8	2.2V
9	2.4V	4.9	2.3V
10	0V	5.0	2.6V
11	1.5V	5.1	—
12	0V	5.2	0V
13	4.9V	5.3	2.3V
14	4.9V	5.4	—
15	1.4V	5.5	0V
16	4.9V	5.6	0V
17	0V	5.7	4.9V
18	4.8V	5.8	0V
19	0V	5.9	0V
20	—	6.0	—
21	—	6.1	—
22	—	6.2	—
23	1.4V	6.3	—
24	0V	6.4	—
25	4.9V	6.5	—
26	4.9V	6.6	—
27	2.3V	6.7	—
28	4.8V	6.8	—
29	1.8V	6.9	—
30	1.8V	7.0	—
31	1.9V	7.1	—
32	1.9V	7.2	—
33	4.9V	7.3	4.9V
34	1.9V	7.4	—
35	1.9V	7.5	—
36	1.9V	7.6	2.3V
37	1.9V	7.7	—
38	2.4V	7.8	2.5V
39	2.4V	7.9	2.4V
40	2.4V	8.0	2.5V

IC105	IC214	IC215	IC216	IC217	IC221
1	15.7V	5.7V	-4.8V	7.9V	-7.8V
2	0V	0V	-12.8V	0V	-12.8V
3	11.8V	12V	0V	12V	0V

IC101	IC102	IC219	IC220
1	0V	0V	0V
2	0V	0V	0V
3	0V	0V	0V
4	-7.8V	-7.8V	-7.8V
5	0V	0V	0V
6	0V	0V	0V
7	0V	0V	0V
8	-9V	7.9V	7.9V

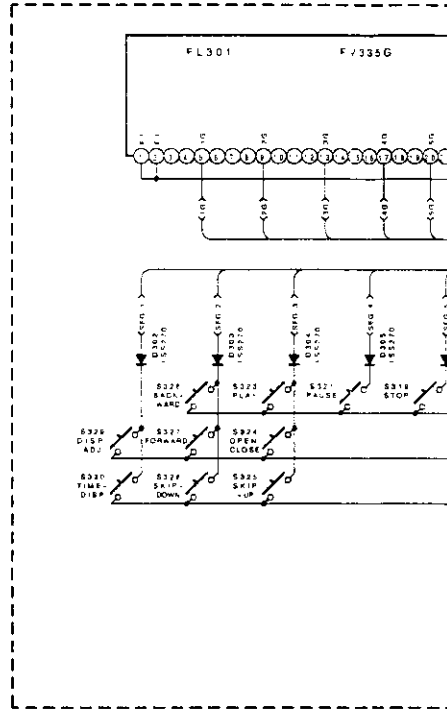
IC213		
1	0.4.9V	
2	-4.9.4.9V	
3	-12.8V	
4	-4.9.4.9V	
5	12V	

IC202			
1	-4.9V	12.5	-4.9V
2	-4.9V	12.5	0V
3	0V	12.5	—
4	0V	2.8	4.9V
5	0V	2.9	0V
6	0V	3.0	4.9V
7	0V	3.1	4.9V
8	0V	3.2	0V
9	0V	3.3	2.4V
10	0V	3.4	2.5V
11	0.9V	3.5	2.3V
12	0V	3.6	2.3V
13	0.3V	3.7	3.5V
14	0V	3.8	2.5V
15	0V	3.9	4.9V
16	4.9V	4.0	2.5V
17	0V	4.1	4.9V
18	-3.2V	4.2	2.5V
19	0V	4.3	4.9V
20	-7.6V	4.4	0V
21	0V	4.5	1.1V
22	-4.9V	4.6	2.4V
23	-3.8V	4.7	0V
24	4.9V	4.8	0V

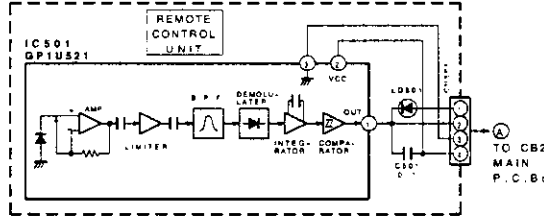
IC209	IC211	IC212
1	2.5V	—
2	2.3V	—
3	4.9V	—
4	5.9V	—
5	—	—
6	2.6V	—
7	2.6V	—
8	0V	2.3V
9	2V	5V
10	4.9V	2V
11	—	3V
12	—	0V
13	—	0V
14	4.7V	0V
15	4.9V	0V
16	4.9V	-7.8V
17	4.9V	0V
18	—	0V
19	—	4.9V
20	—	4.9V
21	0V	—
22	4.9V	—
23	2.1V	3.4V
24	2.1V	1.9V
25	3.7V	3.7V
26	1.9V	1.9V
27	—	-7.8V
28	2.5V	—

IC 5	IC501
TRANSISTORS (Q)	Q101

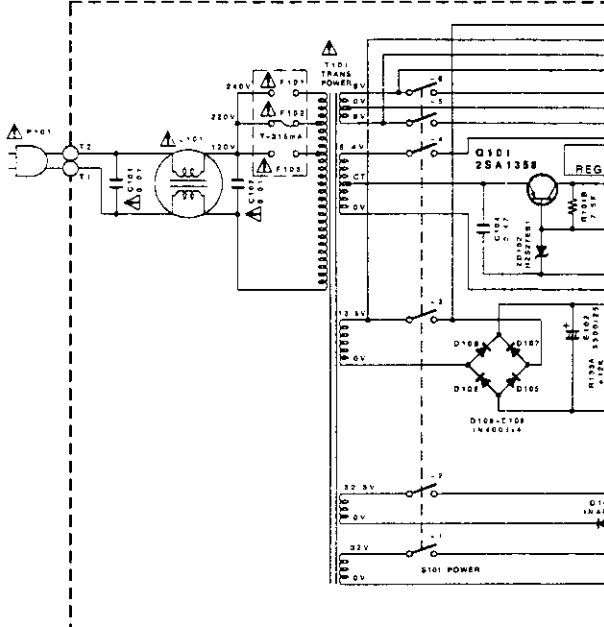
FL/KEY Board P.C. Board

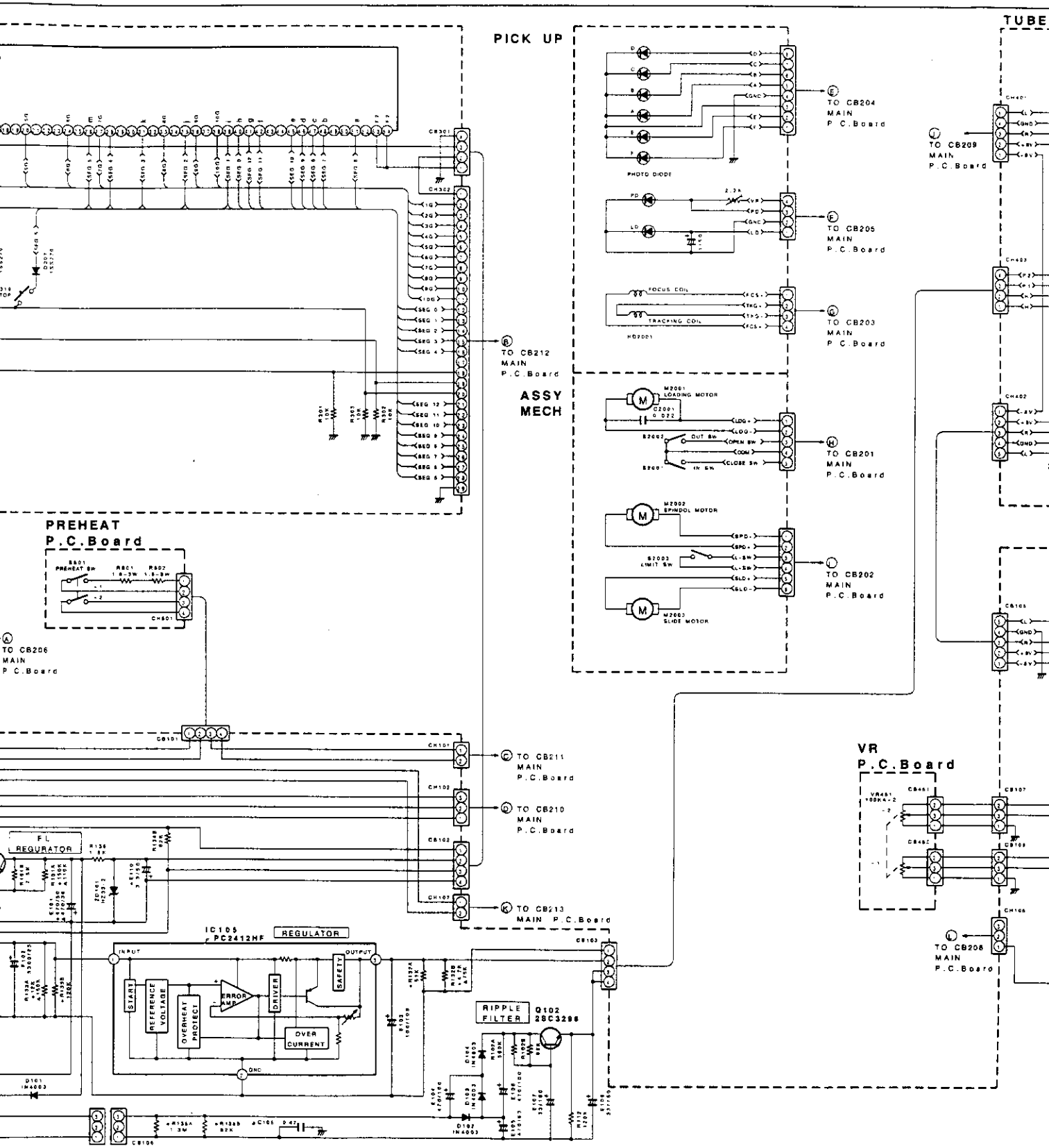


REMOTE P.C. Board



POWER SUPPLY P.C. Board



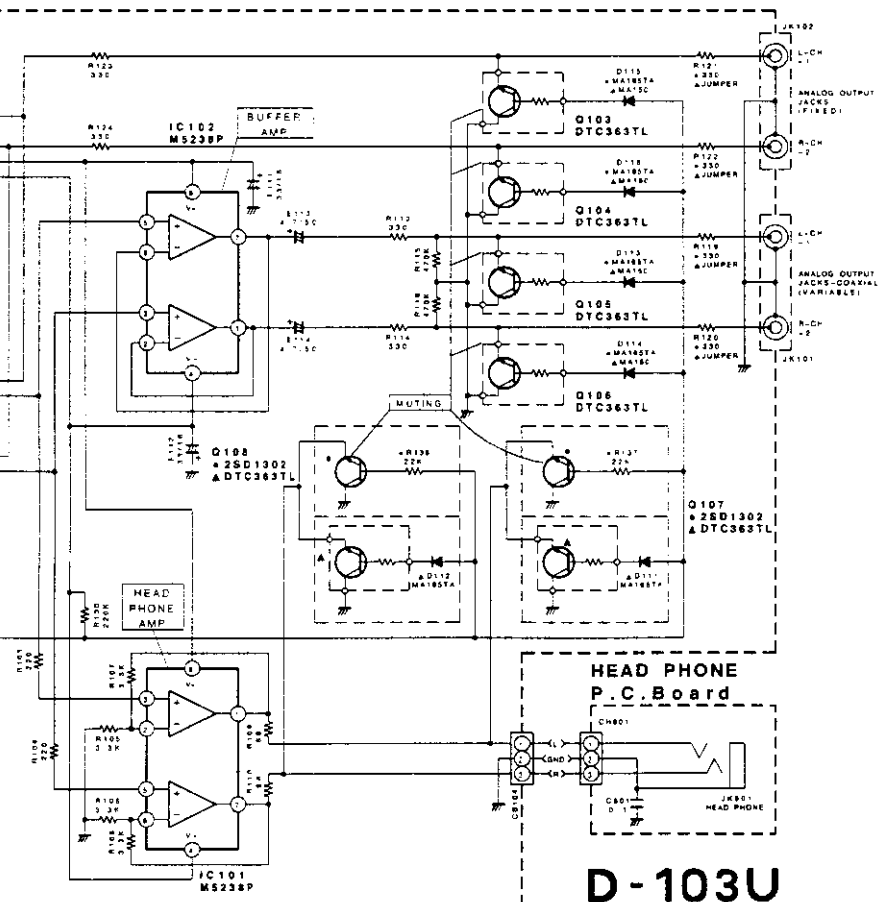
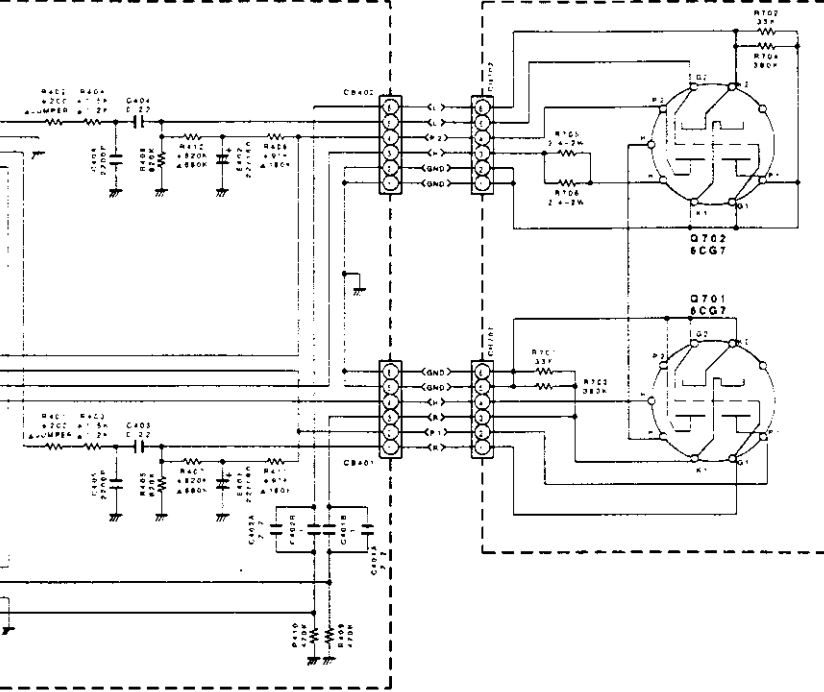


IC102
IC101

Q103 Q105 Q108 Q702
Q104 Q106 Q107 Q701

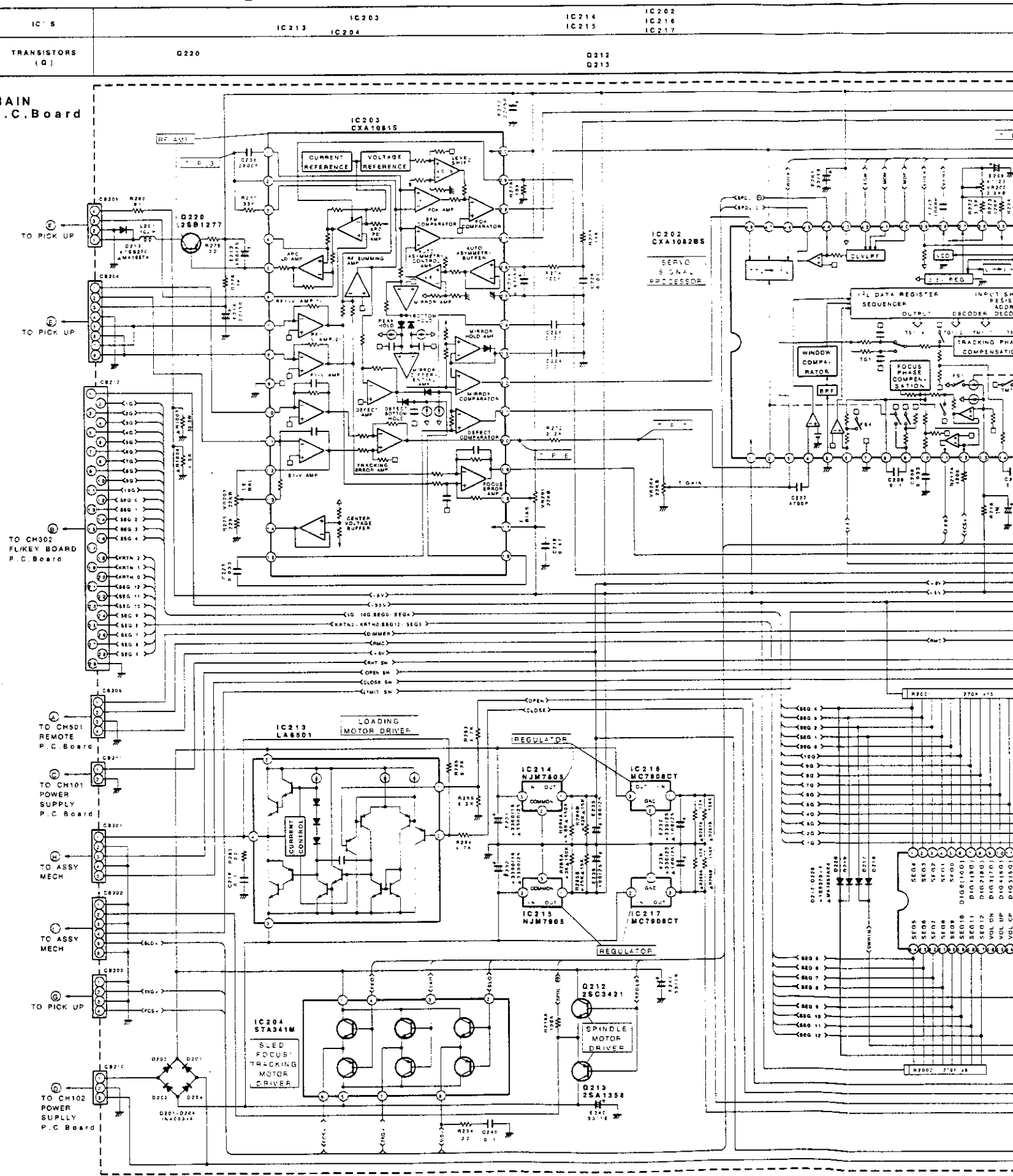
P.C. Board 2

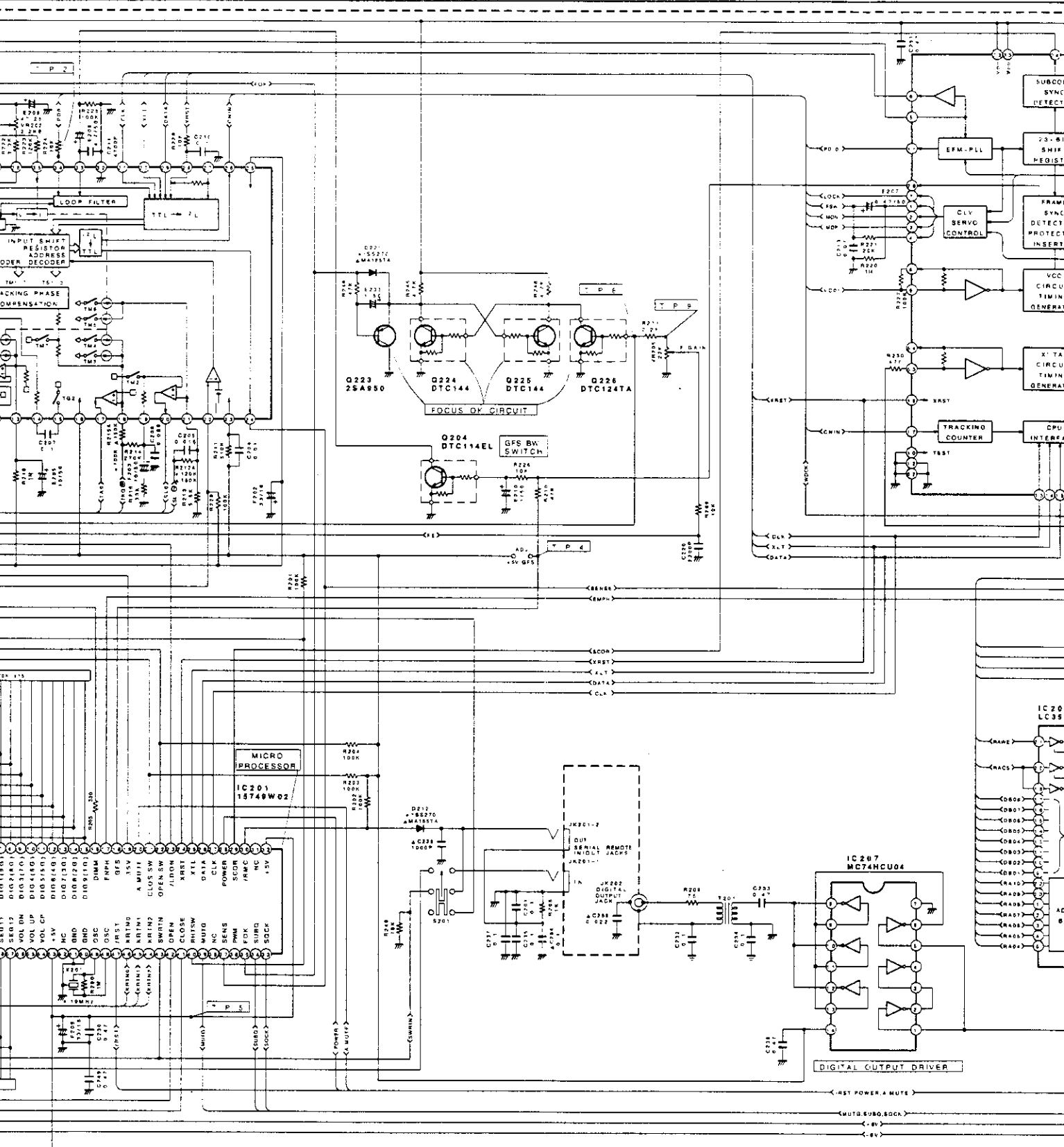
TUBE P.C. Board 1



D-103U

Schematic Diagram (2/2)





MICRO PROCESSOR
IC201
15749W02

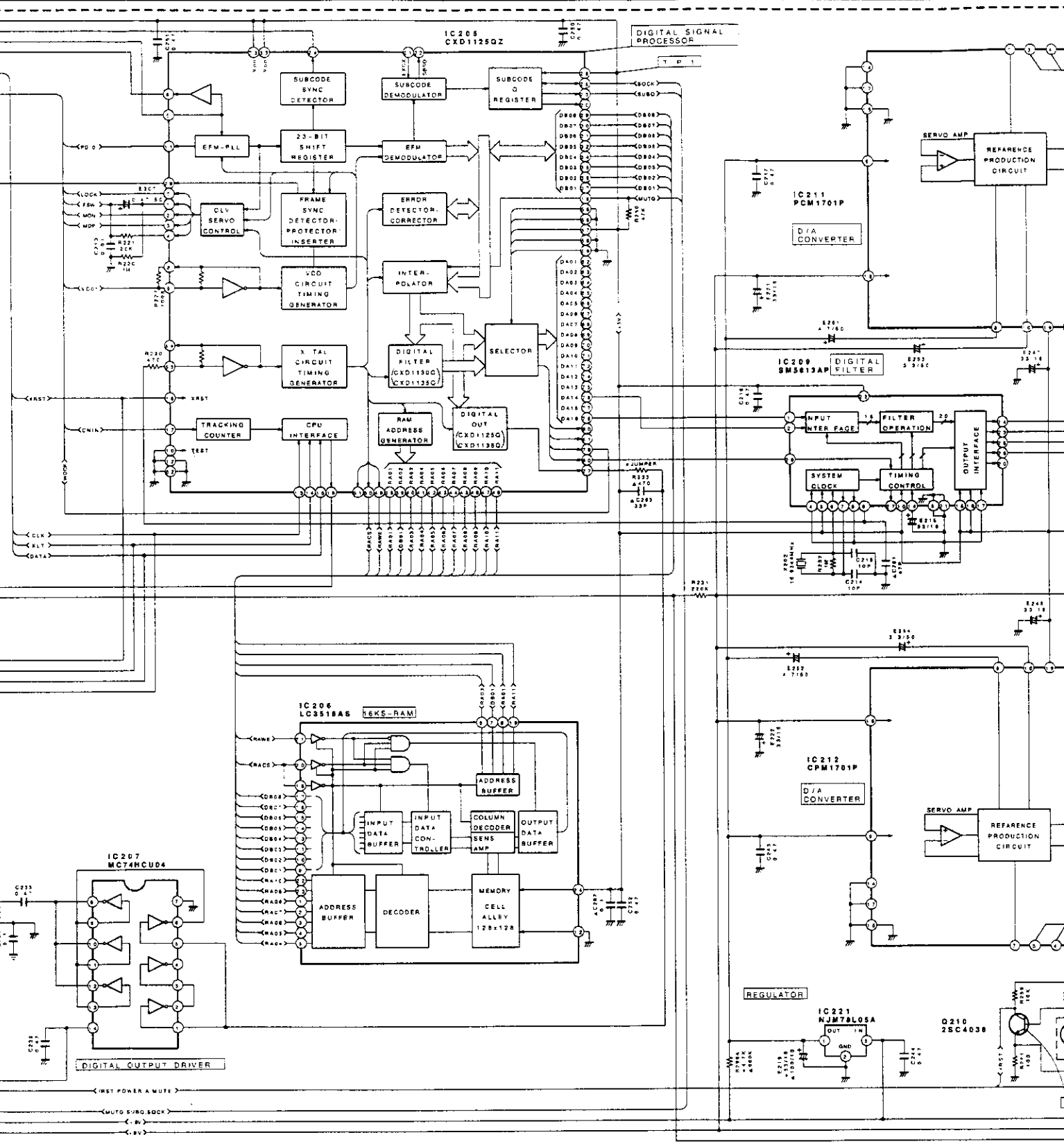
FOCUS OF CIRCUIT

IC207
MCT74HC04

DIGITAL OUTPUT DRIVER

IC20
LC35

AC 8



DIGITAL SIGNAL PROCESSOR

IC205
CXD1125QZ

SUBCODE SYNC DETECTOR

SUBCODE DEMODULATOR

SUBCODE REGISTER

EFM-PLL

23-BIT SHIFT REGISTER

EFM DEMODULATOR

ERROR DETECTOR/CORRECTOR

INTERPOLATOR

DIGITAL FILTER (CXD1150G) (CXD1125G)

SELECTOR

RAM ADDRESS GENERATOR

DIGITAL OUT (CXD1125G) (CXD1138G)

VCO CIRCUIT TIMING GENERATOR

X-TAL CIRCUIT TIMING GENERATOR

TRACKING COUNTER

CPU INTERFACE

IC211
PCM1701P

D/A CONVERTER

IC209
SBS019AP

DIGITAL FILTER

INPUT INTERFAC

FILTER OPERATION

SYSTEM CLOCK

TIMING CONTROL

OUTPUT INTERFAC

IC206
LC3518A6

16K5-RAM

ADDRESS BUFFER

ADDRESS BUFFER

INPUT DATA BUFFER

INPUT DATA CONTROLLER

COLUMN DECODER

OUTPUT DATA BUFFER

ADDRESS BUFFER

DECODER

MEMORY CELL ARRAY 128x128

IC212
CPM1701P

D/A CONVERTER

REGULATOR

IC221
NJM79L05A

OUT 1M

Q210
2SC4038

DIGITAL OUTPUT DRIVER

SERVO AMP

REFERENCE PRODUCTION CIRCUIT

SERVO AMP

REFERENCE PRODUCTION CIRCUIT

REGULATOR

IC221
NJM79L05A

OUT 1M

Q210
2SC4038

REST POWER & MUTE

MUTE S.W. SOCK

C.B.

C.V.

Q210 Q209 Q208 Q221 Q222 Q207 Q208 Q211 Q205

