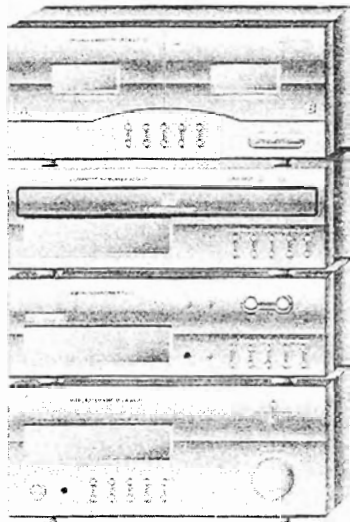


# SERVICE MANUAL

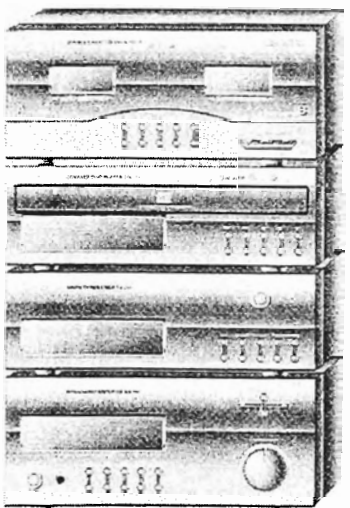
## AUDIO & VIDEO MINI COMPONENT SYSTEM

### P-757



- AV-757  
STEREO INTEGRATED AMPLIFIER
- TX-757  
FM/AM STEREO TUNER & TIMER
- CDC-757/ VCDC-757  
MULTI COMPACT DISC PLAYER  
/ VIDEO COMPACT DISC PLAYER
- DD-757  
STEREO DOUBLE CASSETTE DECK

### P-747



- AX-747  
STEREO INTEGRATED AMPLIFIER
- TX-747  
FM/AM STEREO TUNER & TIMER
- CDC-757/ VCDC-757  
MULTI COMPACT DISC PLAYER  
/ VIDEO COMPACT DISC PLAYER
- DD-757  
STEREO DOUBLE CASSETTE DECK

 **Sherwood®**

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# ▪ AV-757/AX-747 ▪

## SAFETY PRECAUTION

### WARNING

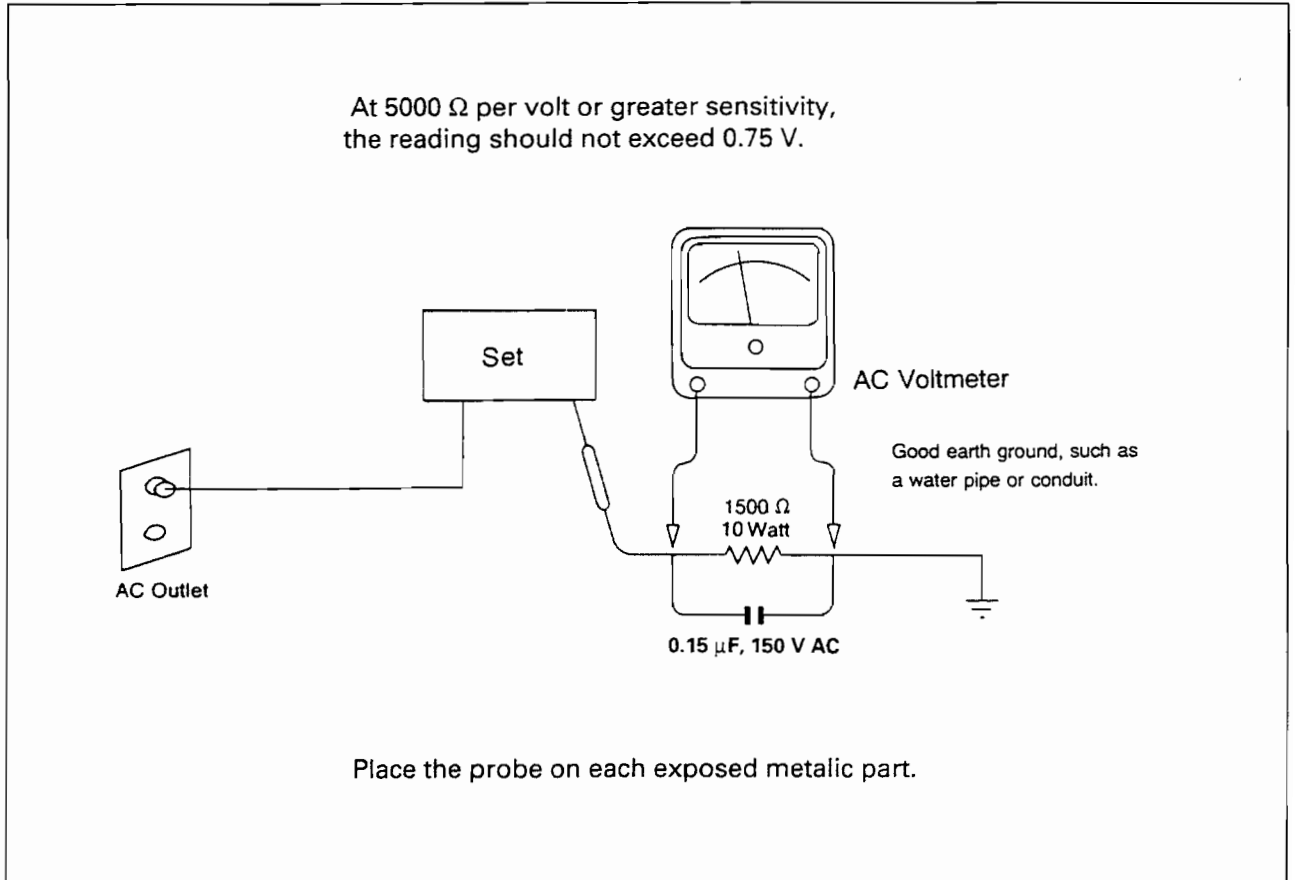
Before servicing this unit, familiarize yourself with the following precautions:

1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by  in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the

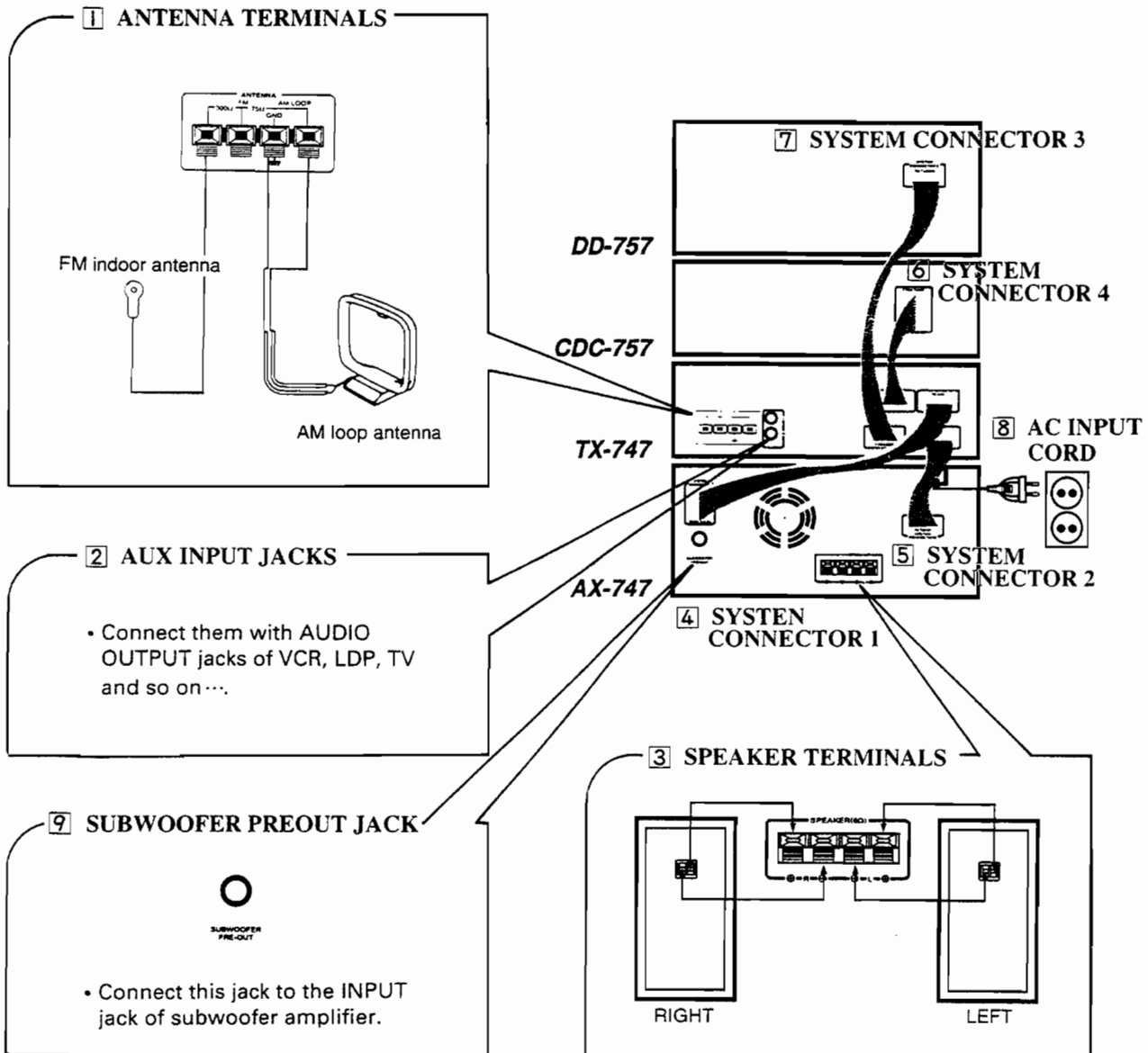
exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate danger of electrical shock. Plug the AC line cord directly into a 120 V AC outlet (120 V AC version only). (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of 5000  $\Omega$  per volt or greater. Then connect a 1500  $\Omega$  10 watt resistor, paralleled by a 0.15  $\mu$ F 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of a 1500  $\Omega$  resistor and a 0.15  $\mu$ F capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



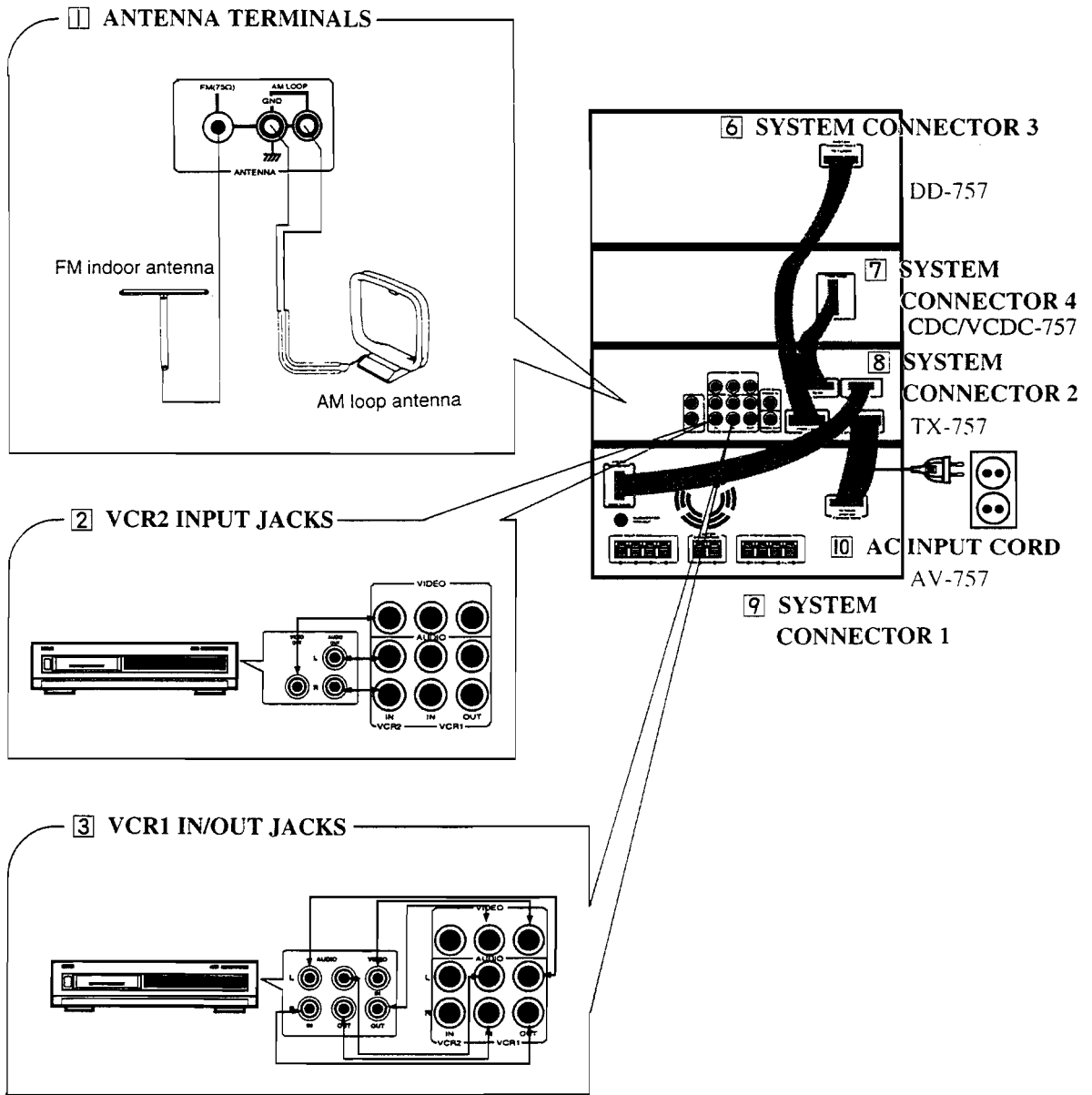
## SYSTEM CONNECTIONS

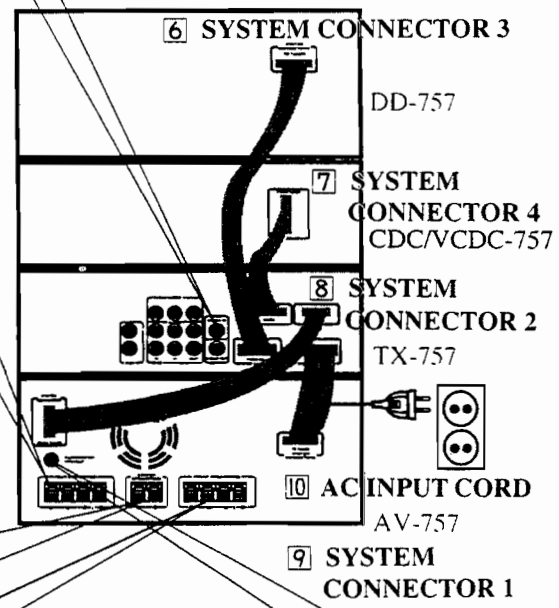
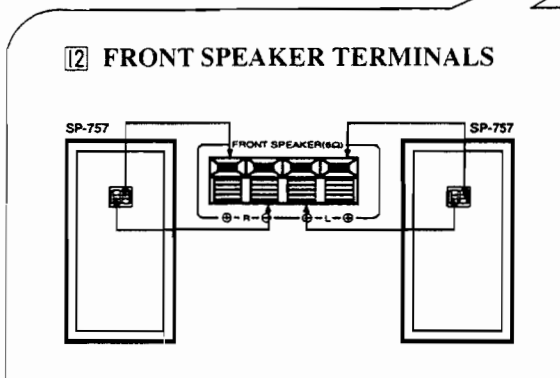
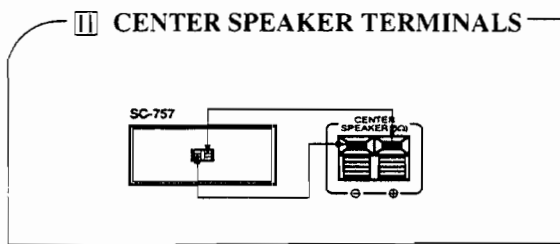
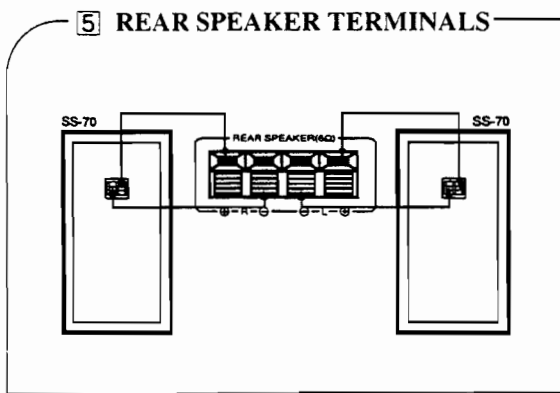
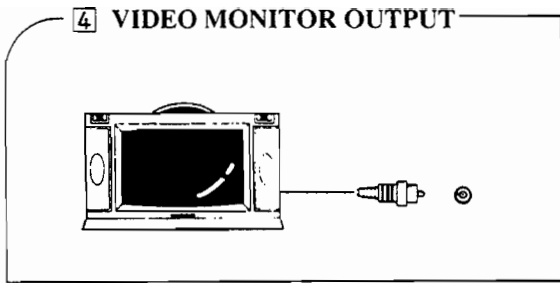
- Do not plug the AC input cord the AC outlet when plugging and unplugging connection cords.
- Make connections firmly and correctly according to the channel (Left and Right), polarity (+ and -) and connector(system 1 to 4). If not, it can cause loss of sound, noise or damage to unit.
- Be sure to use speakers of impedance 6  $\Omega$ .
- Place the AM loop antenna as far as possible from this system, TV, speaker cords and AC input cord and set it to a direction for the best reception.
- If the reception is poor with the AM loop antenna, an AM outdoor antenna can be used without the AM loop antenna.
- If the sound quality is poor with the FM indoor antenna, connect an FM outdoor antenna instead of the FM indoor antenna.
- If the electricity fails or the AC input cord is leaved unplugged for more then 15 days, the memorized contents are all cleared. So you should memorize them again.

### ■ P-747 ■



■ P-757 ■





**13 SUBWOOFER PREOUT JACK**

Connect it to the input jack of subwoofer amplifier.

# SPECIFICATIONS

## FRONT SECTION

Description	Unit	Nominal	Limit
RMS. output power <stereo mode> Input: VIDEO, THD < 0.5%, 6 ohms load both channels driven at 1 kHz	W	≥ 53	≥ 50
<surround mode: AV-757 only> THD < 0.5%, 6 ohms load single channels driven at 1 kHz	W	≥ 33	≥ 30
Total Harmonic Distortion	%	≤ 0.2	≤ 0.2
Signal to Noise Ratio (IHF-A WTD), Input shorted	dB	≥ 85	≥ 80
Channel Separation with 4.7 kohms terminated. Input: VIDEO, 1 kHz	dB	≥ 50	≥ 50
Channel Unbalance, Input: VIDEO, 1 kHz	dB	≤ 1	≤ 2
Frequency Response at -3 dB	Hz	10 ~ 60 k	20 ~ 40 k
X-Bass compensation at 80 Hz	dB	8 ± 2	8 ± 3
EQ Control (60, 150, 400, 1 k, 2.4 k, 6 k, 15 k) Hz	dB	10 ± 2	10 ± 3
Headphone Output at Rated PWR, 50 W Headphone Impedance: 68 ohms	mV	1200 ± 200	1200 ± 300

## CENTER SECTION (AV-757 ONLY)

Description	Unit	Nominal	Limit
RMS. output power THD < 0.5%, 6 ohms, 1 kHz Only center channel driven	W	≥ 33	≥ 30
Signal to Noise Ratio (IHF-A WTD), Input shorted Input: 350 mV	dB	≥ 78	≥ 73
Frequency Response at -3 dB, Wide mode	Hz	20 ~ 18 k	50 ~ 15 k

## REAR SECTION (AV-757 ONLY)

Description	Unit	Nominal	Limit
RMS output power THD < 0.7%, 12 ohms load Only rear channel driven at 1 kHz	W	≥ 18	≥ 15
Signal to Noise Ratio (IHF-A WTD), Input shorted Input: 350 mV, Delay time: 20 ms	dB	≥ 85	≥ 80
Frequency Response at -3 dB	Hz	80 ~ 7 k	100 ~ 6 k

## General

### Power consumption

Model \ Version	A	D	PT INDO	KS
P-747		230 W	260 W	230 W
P-757	140 W	350 W	380 W	240 W

### Dimensions (HxWxD)

AV-757/AX-747: 274 × 117 × 280 mm (10-3/4 × 4-11/18 × 11 inches)  
 DD-757: 274 × 117 × 280 mm (10-3/4 × 4-11/18 × 11 inches)  
 TX-757/TX-747: 274 × 87 × 280 mm (10-3/4 × 3-3/7 × 11 inches)  
 CDC-757/CDC-757: 274 × 87 × 320 mm  
 (10-3/4 × 3-3/7 × 12-10/16 inches)

**Weight (Net)**

(AV-757+DD-757+TX-757+CDC-757/VCDC-757): 14.7 kg (32.407 lbs)  
(AX-747+DD-757+TX-747+CDC-757/VCDC-757): 14.7 kg (32.407 lbs)

**Power Supplies**

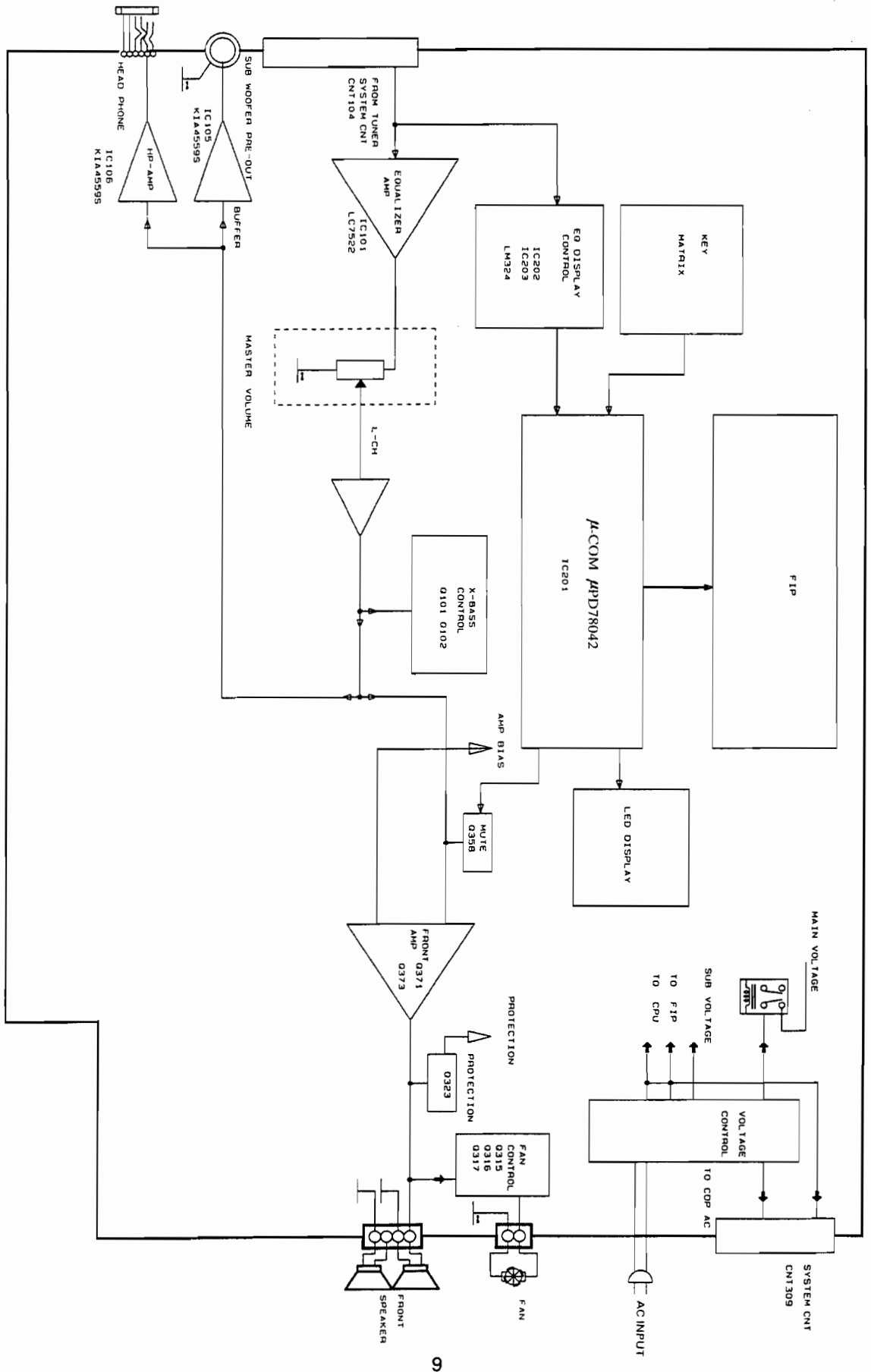
A: 120 V 60 Hz, USA & Canada version  
D: 230 V 50 Hz, Europe version  
B: 110/220 V 50/60 Hz, Multi area version (PT INDO)  
KS: 220 V 60 Hz, Korea version

**Note :** Nominal specs represent the design specs. All units should be able to approximate these. Some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable ; in no case should a unit fail to meet limit specs. This manual is based on the EUROPE Standard wiring diagram, and information on regional component variations through use of parts list. Design and specifications are subject to change without notice for improvement.



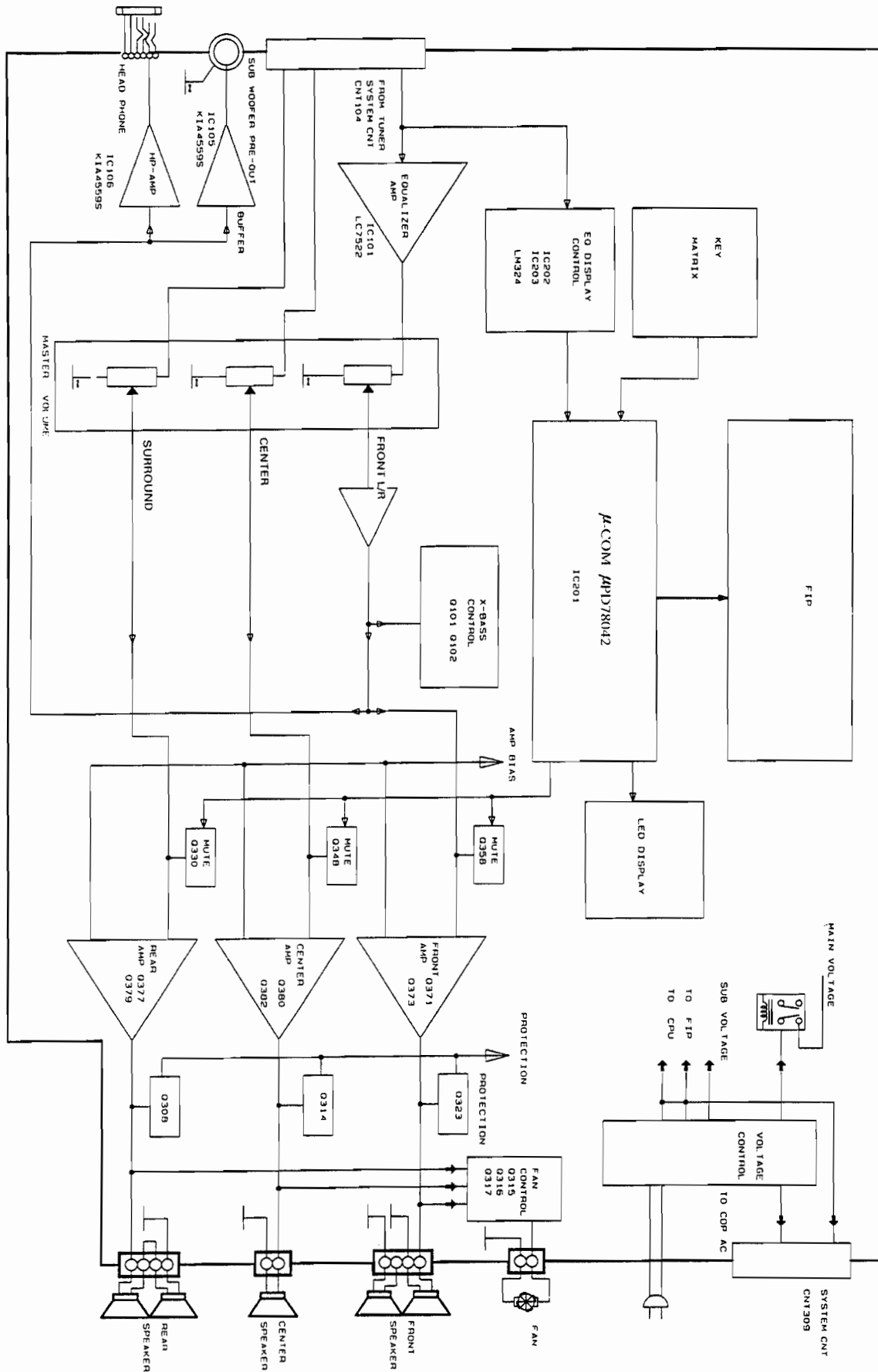
# BLOCK DIAGRAM I

Model No. : AX-747



# BLOCK DIAGRAM II

Model No. : AV-757



## DISASSEMBLY PROCEDURES

REFER TO PAGES 17 AND 24.

### 1 COVER TOP REMOVAL

Remove 6 screws **a** and then remove the Cover Top **2**.

### 2 FRONT PANEL ASSEMBLY REMOVAL

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Remove the Card Cable from wafer (CNT303) on the Main P.C.Board (PCB3).
3. Remove the Card Cable from wafer (CNT101) on the Volume P.C.Board (PCB4).
4. Disconnect (CNT102) from the EQ P.C.Board (PCB1).
5. Remove 7 screws **b** and then remove the Front Panel Assembly **AA**.

### 3 VOLUME P.C.BOARD (PCB4) REMOVAL.

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Disconnect (CNT501) from the Volume P.C. Board (PCB4).
4. Pull out the Volume Knob **12** with Volume LED P.C.Board (PCB6).
5. Remove 2 screws **c** and then remove the Volume P.C.Board (PCB4).

### 4 FRONT P.C.BOARD (PCB2) REMOVAL

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Do steps **2** and **3**.
3. Remove 7 screws **d** and then remove the Front P.C.Board (PCB2) by pressing the hooks around it outward.

### 5 HEADPHONE P.C.BOARD (PCB5) REMOVAL

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Remove a screw **e** and then remove the Headphone P.C.Board (PCB5).

### 6 EQ P.C.BOARD (PCB1) REMOVAL

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Remove the Card Cable from wafer (CNT101) on the EQ P.C.Board (PCB1).

3. Disconnect (CNT102) from the EQ P.C.Board (PCB1).

4. Remove a screw **f** and then remove the EQ P.C.Board (PCB1).

### 7 VOLTAGE SELECTOR P.C.BOARD (PCB7) REMOVAL

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Disconnect (CNT801 and CNT802) from the Voltage Selector P.C.Board (PCB7).
3. Remove a screw **g** and then remove the Voltage Selector P.C.Board (PCB7).

### 8 CHASSIS BACK REMOVAL

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Disconnect (CNT306 and CNT309) from the Main P.C.Board (PCB3).
3. Remove 12 screws **h** and then remove the Chassis Back **27**. (at AV-757)  
Remove 8 screws **h** and then remove the Chassis Back **27**. (at AX-747)

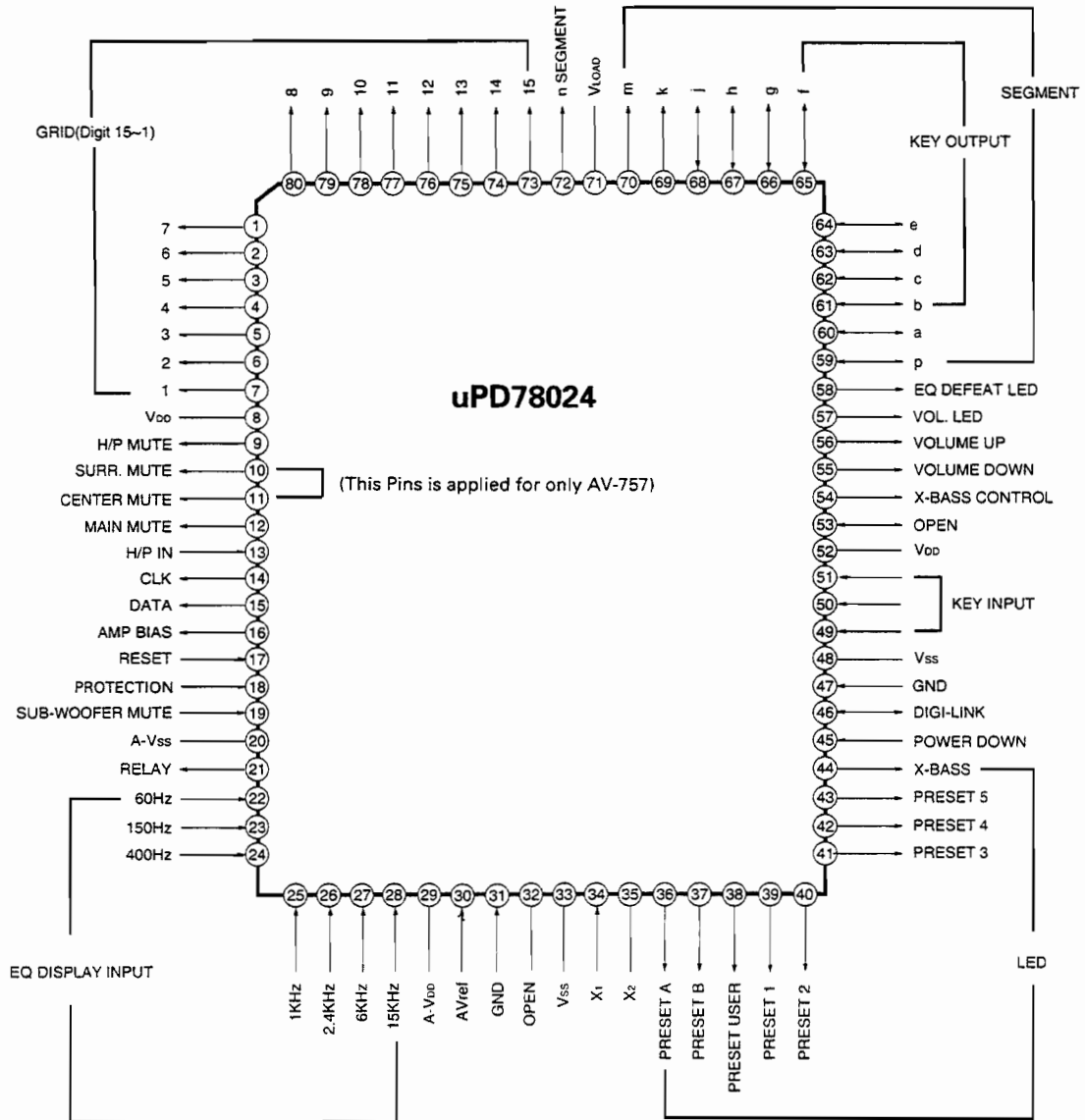
### 9 MAIN P.C.BOARD (PCB3) REMOVAL

1. Remove the Cover Top **2**, referring to the previous step **1**.
2. Do steps **6** and **8**.
3. Remove Card cable from wafer (CNT308) on the Main P.C.Board (PCB3).
4. Disconnect (CNT301 and CNT302) from the Main P.C.Board (PCB3).
5. Remove 3 screws **1**.
6. Remove the Fastener **22** and then remove the Main P.C.Board (PCB3).

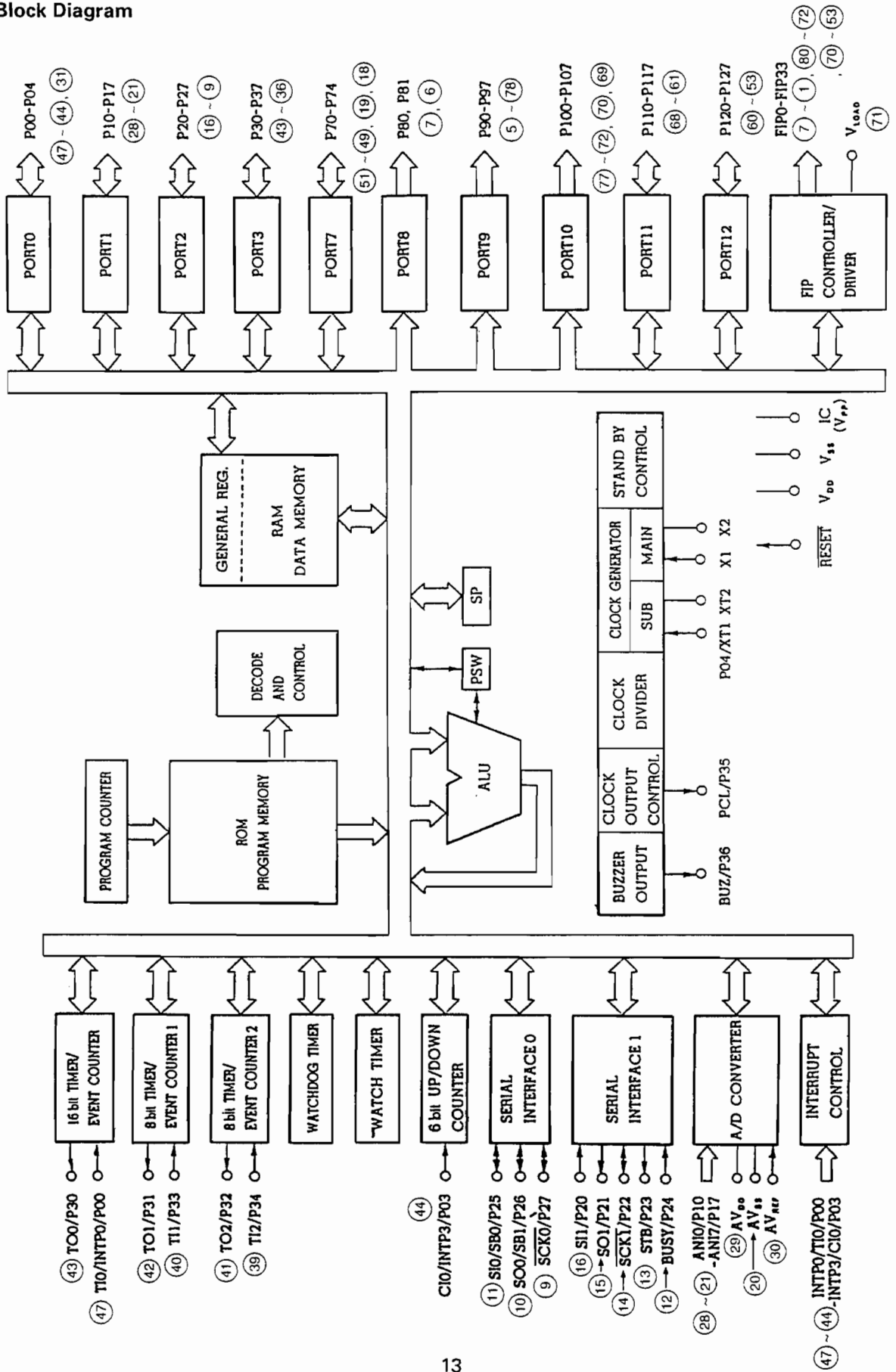
# CIRCUIT DESCRIPTION

## CPU(IC201): $\mu$ PD78042

### 1. Pin Description



## 2. Block Diagram



### 3. Input and Output Terminal Functions

Pin No.	Symbol	Description
1~7	DIGIT 7 ~ DIGIT 1	Output for grid.
8	Vdd	+5 V power supply.
9	H/P MUTE	Output for headphone mute. Output, high level under the following conditions. 1. When power is turned on or off. 2. When headphone plug is inserted. 3. When "-∞ mute signal" is received from the commander. 4. When function is changed.
10	SURR. MUTE <AV-757 ONLY>	Output for surround mute. Output, low level under the following conditions. 1. When power is turned off. 2. When headphone plug is inserted. 3. When "-∞ mute signal" is received from the commander. 4. When function is changed. 5. When surround mode is turned off.
11	CENTER MUTE <AV-757 ONLY>	Output for center mute. Output, low level under the following conditions. 1. When power is turned off. 2. When headphone plug is inserted. 3. When "-∞ mute signal" is received from the commander. 4. When function is changed. 5. When center mode is turned off.
12	MAIN MUTE	Output for left and right channels mute. Output, low level under the following conditions. 1. When power is turned off. 2. When headphone plug is inserted. 3. When "-∞ mute signal" is received from the commander. 4. When function is changed.
13	H/P IN	Input for detecting headphone. When headphone is plugged or unplugged, input is high or low level.
14/15	CLK/DATA	CLK/DATA output to LC7522.
16	AMP BIAS	Output for bias control. When 3 seconds elapses after "power on", "H" and at "power off", "L".
17	RESET	Input to reset u-com.
18	PROTECTION	Input for protection. At "protection on", "L" and at "protection off", "H".
19	SUBWOOFER MUTE	Output for subwoofer preout mute. Output, low level under the following conditions. 1. When power is turned on or off. 2. When function is changed. 3. When "-∞ mute signal" is received from the commander. 4. When headphone plug is inserted.
20	A-Vss	This pin provides the analog ground potential.
21	RELAY	Output for relay control. At "power on", "H" and at "power off", "L".
22~28	EQ DISPLAY INPUT	Input for EQ display.
29	A-Vdd	+5 V power supply.
30	A-Vref	Reference voltage.
31	GND	Ground

Pin No.	Symbol	Description
32	OPEN	Not used !
33	Vss	This pin provides the ground potential.
34/35	X1/X2	Input and output for crystal oscillator.
36 ~ 38	PRESET A,B USER LED	Output to light up preset A, B or user LED. When selecting the desired mode, the corresponding output is "H".
39 ~ 43	PRESET 1,2,3,4,5 LED	Output to light up preset 1, 2, 3, 4 or 5 LED. When selecting the desired mode, the corresponding output is "H".
44	X-BASS LED	Output to light up X-BASS LED. At "x-bass on", "H" and at "x-bass off", "L".
45	P/D	Input for power down. (At "L", it is active)
46	DIGI-LINK	Input/Output for controlling digi-link.
47	GND	Ground
48	Vss	This pin provides the ground potential.
49 ~ 51	KEY INPUT	Input data for key scan.
52	Vdd	+5 V power supply.
53	OPEN	Not used !
54	X-BASS CONTROL	Output for X-BASS control. At "x-bass on", "L" and "x-bass off", "H".
55/56	VOL. UP/DOWN	Output to control volume motor.
57	VOL. LED	Output to light up volume LED. At "power on", "H", and at "power off", "L".
58	EQ DEFEAT LED	Output to light up EQ defeat LED. At "EQ defeat on", "H" and at "EQ defeat off", "L".
59	SEG p	Output for segment.
60	SEG a	Output for segment.
61 ~ 65	SEG b ~ SEG f	Output, for segment, and data output for key scan.
66 ~ 70	SEG g ~ SEG m	Output for segment.
71	Vload	-30 V power supply of the FL controller.
72	SEG n	Output for segment.
73 ~ 80	DIGIT 15 ~ DIGIT 8	Output for grid.

# MECHANICAL PARTS LIST

Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version
<b>PACKAGE</b>					<b>MISCELLANEOUS</b>				
	Box Carton (AV-757)	049605258201	1	KS		Card Cable, 21P, 220mm	4118621225	1	
	Box Carton (AX-747)	049605258202		KS		Card Cable, 21P, 120mm	4118621129	1	
	Box Carton (AV-757)	049605258206	1	A,D,PT,INDO	PCB1	P.C.Board EQ	4005012710	1	
	Box Carton (AX-747)	049605258205	1	A,D,PT,INDO	PCB2	P.C.Board Front	4005012700	1	
	Cushion Poly	9722041210	1		PCB3	P.C.Board Main	4001002800	1	
	Film Soft PE	9715000120	1		PCB4	P.C.Board Headphone	4001002820	1	
<b>CABINET &amp; CHASSIS</b>						PCB5	P.C.Board Volume	4001002840	1
1	Volume, Motor	3228020010	1		PCB6	P.C.Board Volume LED	4001002830	1	
2	Cover, Top	046123017811	1		PCB7	P.C.Board Voltage	4001002810	1	
3	FIP, 15BW16Y	2328130931	1						
4	Switch, Tact	4658003710	16						
5	Jack, Phone	4438005510	1						
6	Indicator, LED	8555051310	3						
7	Button, Power	048545181011	1						
8	Body, Front	048521009711	1						
9	Window, Display	048553023511	1						
10	Panel, Front (AV-757)	048602019811	1						
(10)	Panel, Front (AX-747)	048602019812	1						
11	Badge, INKEL	048535045411	1	KS					
(11)	Badge, SHERWOOD	048535045421	1	A,D,PT,INDO					
12	Knob, Volume	048643007611	1						
13	Button, Function	048543070011	1						
14	Button, EQ, Left	048545131111	1						
15	Button, EQ, Right	048545131121	1						
16	Button, EQ, Up/Down	048543070111	1						
17	Rubber Sponge	6715012010	1						
18	⚠ Power Transformer, 220 V, 60 Hz	2828100851	1	KS					
(18)	⚠ Power Transformer, 230 V, 50 Hz	2828100931	1	D					
(18)	⚠ Power Transformer, 110/220V, 50/60Hz	2828100921	1	PT,INDO					
(18)	⚠ Power Transformer, 120 V, 60 Hz	2828100951	1	A					
19	Spacer, PCB	6705004220	1						
20	Chassis, Main	6121614910	1						
21	Rubber Foot	6035104410	2						
22	Fastener	6528301710	1						
23	Cushion, Foot	6715021230	2						
24	Terminal, Speaker, 4P (AV-757 ONLY)	4408105410	2						
25	Terminal, Speaker, 2P (AV-757 ONLY)	4408107010	1						
26	Fan, DC Brushless	5518103310	1						
27	Chassis, Back (AV-757)	046102044511	1	KS					
(27)	Chassis, Back (AX-747)	046102044411	1	KS					
(27)	Chassis, Back (AV-757)	046102044521	1	A					
(27)	Chassis, Back (AX-747)	046102044421	1	A					
(27)	Chassis, Back (AV-757)	046102044551	1	D					
(27)	Chassis, Back (AX-747)	046102044451	1	D					
(27)	Chassis, Back (AV-757)	046102044591	1	PT,INDO					
(27)	Chassis, Back (AX-747)	046102044491	1	PT,INDO					
28	Connector, Lead Assy	4358615503	1						
29	⚠ Cord, AC Power	4308009310	1	KS					
(29)	⚠ Cord, AC Power	4308009220	1	A					
(29)	⚠ Cord, AC Power	4308009520	1	D,PT,INDO					
30	Stopper, Connector	6518002210	1						
31	Stopper, Cord AC power	6518002310	1						
32	Plate, Ground	6165143510	1	A,D,KS					
(32)	Switch, Slide	4618006510	1	PT,INDO					
33	Heatsink, Power	7503067220	1						
34	Heatsink, Regulator	7505206230	3						
35	Adapter	4428300410	1	PT,INDO					
(35)	Not Used !			A,D,KS					
36	Jack RCA, 1P	4438113720	1	A,D,PT,INDO					
(36)	Not Used !			KS					
<b>Hardware Kit</b>									
S1	Screw, #B BTT 3x8B (AV-757)	8179130063	30						
(S1)	Screw, #B BTT 3x8B (AX-747)	8179130063	26						
S2	Screw, #B WPTT 3x6Y	8179230061	11						
S3	Screw, Heatsink AV-757	8195000310	12						
(S3)	Screw, Heatsink AX-747	8195000310	6						
S4	Screw, #2 WPTC 3x10Y	8159230101	2						
S5	Screw, #2 WPTC 3x16Y	8159230161	1						
S6	Screw, Mecha	8155001210	1						
S7	Screw, #2 FTC 3x8B	8129230083	5						
S8	Screw, BSAM 4x8B	8109440083	4						
S9	Screw, BM 4x30B	8009140303	2						
S10	Screw, Ground	8155000710	2	D					
(S10)	Not Used !			A,KS,PT,INDO					
N1	Nut, HEX Flanged M4Y	8209540011	1						

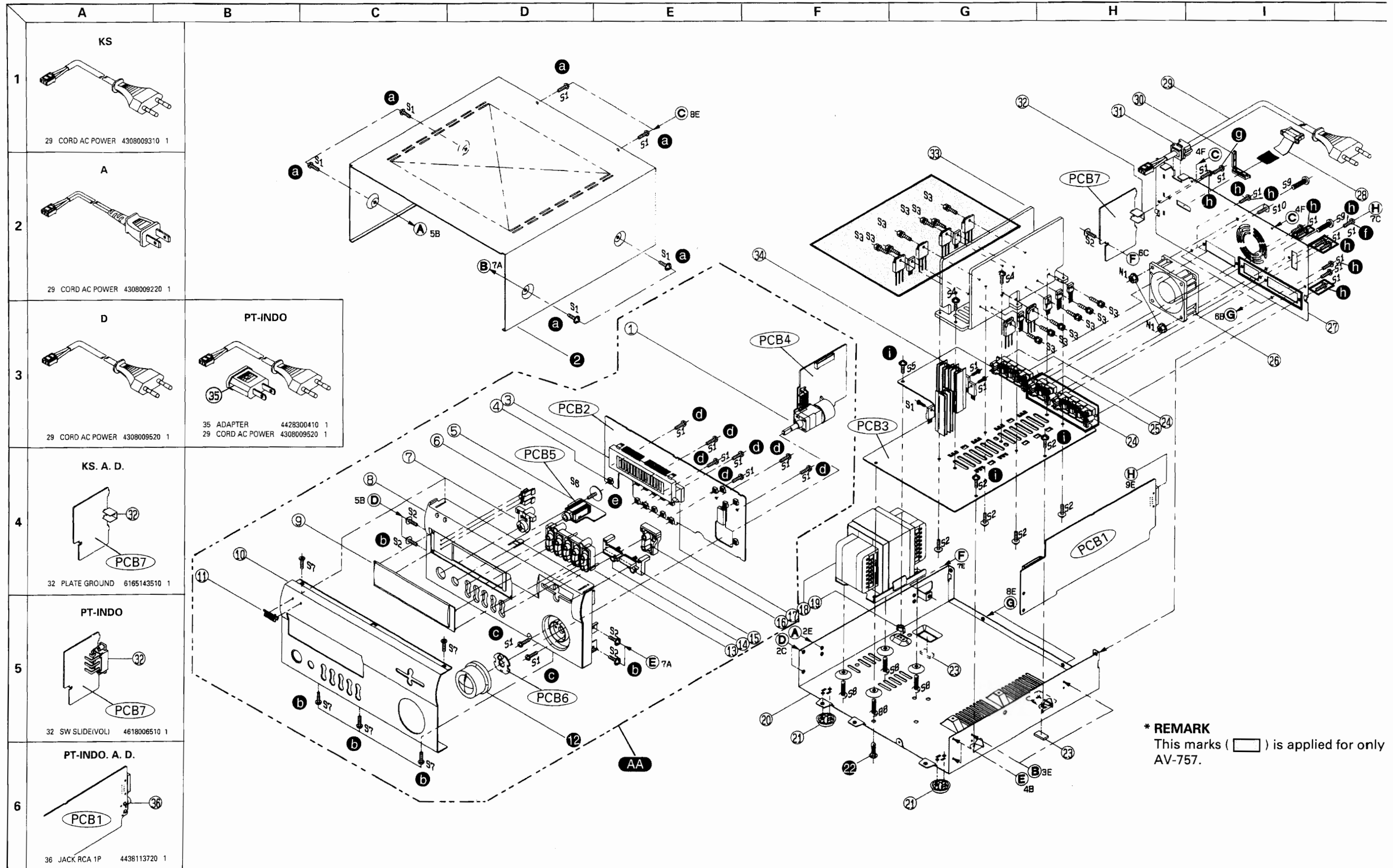
### PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list are of special significance to safety. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.



# EXPLODED VIEW

Model No. : AX-747/AV-757

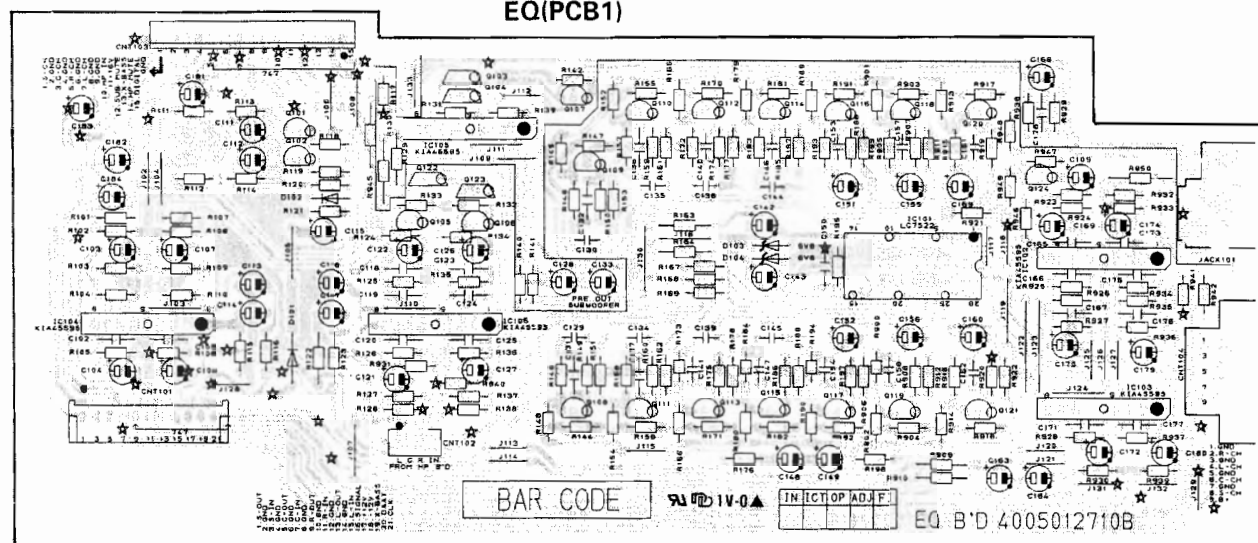


\* REMARK  
This marks (  ) is applied for only AV-757.

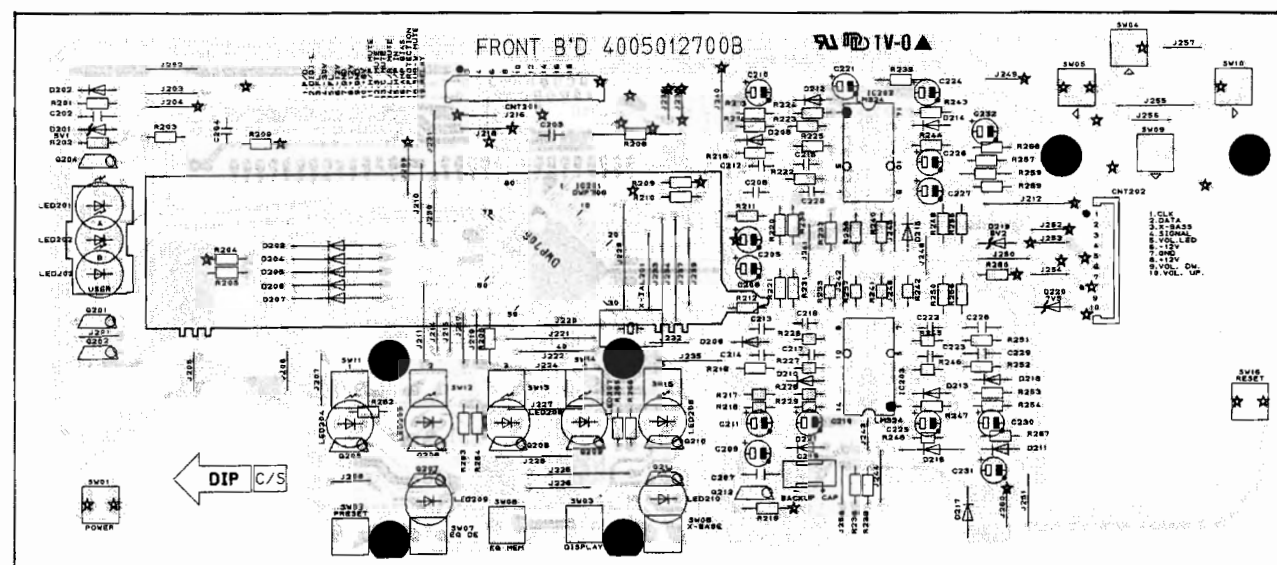
PRINTED CIRCUIT BOARDS

Model No. : AX-747/AV-757

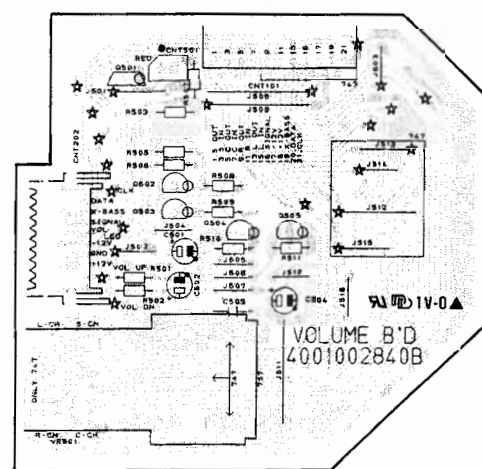
EQ(PCB1)



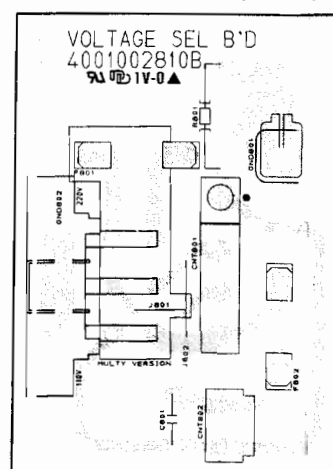
FRONT(PCB2)



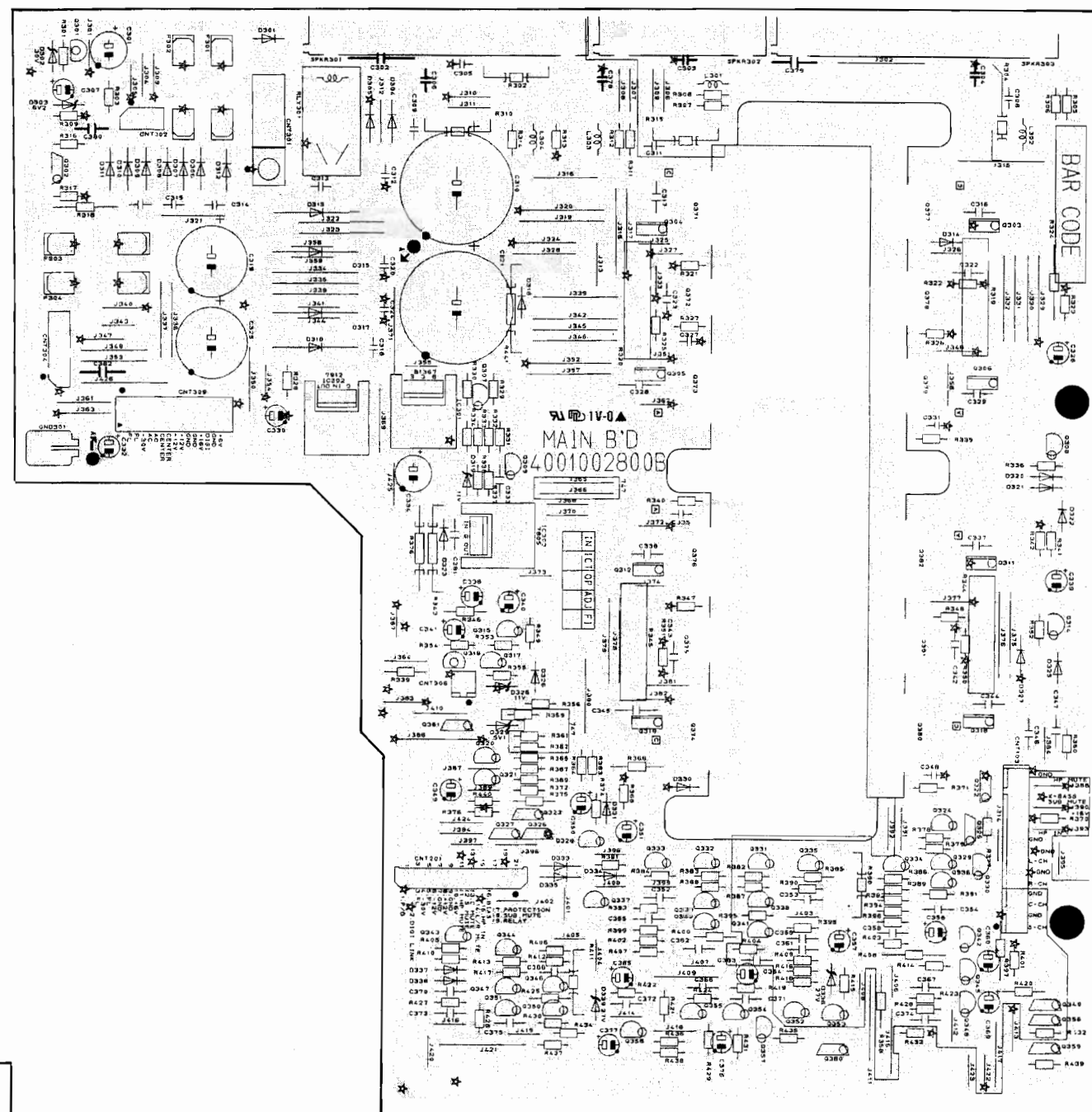
VOLUME(PCB4)



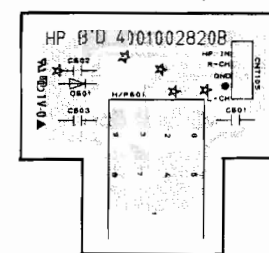
VOLTAGE SEL. (PCB7)



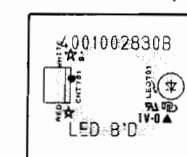
MAIN(PCB3)



HEADPHONE(PCB5)



VOLUME LED(PCB6)



# ELECTRICAL PARTS LIST

**PRODUCT SAFETY NOTICE :** Products marked with  $\Delta$  have special characteristics important to safety. If you replace any of these components, read carefully the product safety notice in this manual. Don't degrade the safety of the product through improper servicing. Resistor/Capacitor tolerance - D : ( $\pm 0.5\%$ ), J : ( $\pm 5\%$ ), K : ( $\pm 10\%$ ), M : ( $\pm 20\%$ ), Z : +80, - 20%

Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version	
<b>PCB1 ASSEMBLY P.C. BOARD EQ</b>															
<b>CAPACITORS</b>															
C102	Ceramic Tubular	100	pF	50 V M	3519101935	1	IC105	KIA4559S/KIA75559S	2168206103	1	A,D,PT INDO	IC105	KIA4559S/KIA75559S	2168206103	1
C103/C104	Electrolytic SG	4.7	uF	50 V M	3479347971	2	(IC105)	Not Used !			KS				
C105	Ceramic Tubular	100	pF	50 V M	3519101935	1	IC106	KIA4559S/KIA75559S	2168206103	1					
C107-C109	Electrolytic SG	4.7	uF	50 V M	3479347971	3	<b>TRANSISTORS</b>								
C111/C112	Electrolytic SG	0.33	uF	50 V M	3479333871	2	Q101/Q102	KTC3198Y, NPN	2208606104	2					
C113/C114	Electrolytic SG	47	uF	16 V M	3479347031	2	Q103	DTC114YS	2208622106	1	A,D,PT INDO	Q103	Not Used !		
C115	Electrolytic SG	22	uF	25 V M	3479222041	1	(Q103)	Not Used !			KS				
C116/C117	Electrolytic SG	47	uF	16 V M	3479347031	2	Q104	DTA114YS/KRM107M	2238006103	1	A,D,PT INDO	Q104	Not Used !		
C118	Ceramic Tubular	820	pF	50 V J	3519821935	1	(Q104)	Not Used !			KS				
C119	Ceramic Tubular	100	pF	50 V M	3519101935	1	Q105/Q106	KTC3198Y, NPN	2208606104	2					
C120	Ceramic Tubular	470	pF	50 V J	3519471935	1	Q107	KTD1302, NPN	2208606112	1	A,D,PT INDO	Q107	Not Used !		
C121	Electrolytic SG	47	uF	16 V M	3479347031	1	(Q107)	Not Used !			KS				
C122	Electrolytic SG	4.7	uF	50 V M	3479347971	1	Q108-Q121	KTC3198Y, NPN	2208606104	4					
C123	Ceramic Tubular	820	pF	50 V J	3519821935	1	Q122	DTA114YS/KRM107M	2238006103	1					
C124	Ceramic Tubular	100	pF	50 V M	3519101935	1	Q123	DTC114YS	2208622106	1					
C125	Ceramic Tubular	470	pF	50 V J	3519471935	1	Q124	KTC3198Y, NPN	2208606104	1					
C126	Electrolytic SG	4.7	uF	50 V M	3479347971	1	<b>RESISTORS</b>								
C127	Electrolytic SG	47	uF	16 V M	3479347031	1	R101	Carbon Film	6.2 kohm	1/5 W J	3069622970	1			
C128	Electrolytic SG	47	uF	16 V M	3479347031	1	R102	Carbon Film	100 kohm	1/5 W J	3069104970	1	A,D,PT INDO		
(C128)	Not Used !						R103	Metal Film	270 ohm	1/5 W J	3029271970	1	KS		
C129/C130	Mylar	0.0033	uF	100 V J	3679332120	2	R104	Carbon Film	6.8 kohm	1/5 W J	3069682970	1			
C131/C132	Ceramic Tubular	330	pF	50 V J	3519331935	2	R105/R106	Carbon Film	100 kohm	1/5 W J	3069104970	2			
C133	Electrolytic SG	47	uF	16 V M	3479347031	1	R107	Carbon Film	6.2 kohm	1/5 W J	3069622970	1	A,D,PT INDO		
(C133)	Not Used !						R108	Carbon Film	100 kohm	1/5 W J	3069104970	1	KS		
C134/C135	Mylar	0.0082	uF	100 V J	3679822120	2	R109	Metal Film	270 ohm	1/5 W J	3029271970	1			
C136/C137	Ceramic Tubular	820	pF	50 V J	3519821935	2	R110	Carbon Film	6.8 kohm	1/5 W J	3069682970	1			
C138/C139	Mylar	0.02	uF	100 V J	3679203120	2	R111/R112	Metal Film	1.5 kohm	1/5 W J	3029152970	2			
C140/C141	Mylar	0.0022	uF	100 V J	3679222120	2	R113/R114	Carbon Film	47 kohm	1/5 W J	3069473970	2			
C142/C143	Electrolytic SG	47	uF	16 V M	3479347031	2	R115/R116	Metal Film	100 ohm	1/5 W J	3029101970	2			
C144/C145	Mylar	0.0047	uF	100 V J	3679472120	2	R117	Metal Film	4.7 kohm	1/5 W J	3029472970	1	A,D,PT INDO		
C146/C147	Mylar	0.047	uF	100 V J	3679473120	2	(R117)	Not Used !			KS				
C148/C149	Electrolytic SG	47	uF	16 V M	3479347031	2	R118/R119	Metal Film	3.3 kohm	1/5 W J	3029332970	2			
C150	Ceramic Tubular	100	pF	50 V M	3519101935	1	R120	Metal Film	220 ohm	1/5 W J	3029221970	1			
C151/C152	Electrolytic SG	0.1	uF	50 V M	3479310871	2	R121	Carbon Film	470 kohm	1/5 W J	3069474970	1			
C153/C154	Mylar	0.015	uF	100 V J	3679153120	2	R122/R123	Metal Film	10 ohm	1/5 W J	3029100970	2			
C155/C156	Electrolytic SG	0.22	uF	50 V M	3479322871	2	R124	Carbon Film	8.2 kohm	1/5 W J	3069822970	1			
C157/C158	Mylar	0.0047	uF	100 V J	3679472120	2	R125	Carbon Film	100 kohm	1/5 W J	3069104970	1			
C159/C160	Electrolytic SG	0.68	uF	50 V M	3479368871	2	R126	Metal Film	3.9 kohm	1/5 W J	3029392970	1			
C161/C162	Mylar	0.1	uF	63 V K	3679104297	2	R127	Carbon Film	100 kohm	1/5 W J	3069104970	1			
C163/C164	Electrolytic SG	47	uF	16 V M	3479347031	2	R128	Metal Film	4.7 ohm	1/5 W J	3029479970	1			
C165/C166	Ceramic Tubular	330	pF	50 V J	3519331935	2	R129-R131	Metal Film	1 kohm	1/5 W J	3029102970	3	A,D,PT INDO		
C167	Ceramic Tubular	150	pF	50 V J	3519151935	1	(R129-R131)	Not Used !			KS				
C168	Electrolytic SG	22	uF	25 V M	3479222041	1	R132/R133	Metal Film	3.3 kohm	1/5 W J	3029332970	2	A,D,PT INDO		
(C168)	Not Used !						R134	Carbon Film	8.2 kohm	1/5 W J	3069822970	1	KS		
C169	Electrolytic SG	1	uF	50 V M	3479310971	1	R135	Carbon Film	100 kohm	1/5 W J	3069104970	1			
C170	Electrolytic SG	2.2	uF	50 V M	3479322971	1	R136	Metal Film	3.9 kohm	1/5 W J	3029392970	1			
C171	Ceramic Tubular	47	pF	50 V J	3519470935	1	R137	Carbon Film	100 kohm	1/5 W J	3069104970	1			
C172	Electrolytic SG	2.2	uF	50 V M	3479322971	1	R138	Metal Film	4.7 ohm	1/5 W J	3029479970	1			
C173	Ceramic Tubular	330	pF	50 V J	3519331935	1	R139	Metal Film	1 kohm	1/5 W J	3029102970	1	A,D,PT INDO		
C174	Electrolytic SG	1	uF	50 V M	3479310971	1	(R139)	Not Used !			KS				
C175	Ceramic Tubular	330	pF	50 V J	3519331935	1	R140/R141	Metal Film	100 ohm	1/5 W J	3029101970	2	A,D,PT INDO		
C176	Ceramic Tubular	150	pF	50 V J	3519151935	1	(R140/R141)	Not Used !			KS				
C177	Ceramic Tubular	47	pF	50 V J	3519470935	1	R142	Metal Film	3.3 kohm	1/5 W J	3029332970	1	A,D,PT INDO		
C178	Ceramic Tubular	100	pF	50 V M	3519101935	1	(R142)	Not Used !			KS				
(C178)	Not Used !						R143	Carbon Film	15 kohm	1/5 W J	3069153970	1			
C179/C180	Electrolytic SG	2.2	uF	50 V M	3479322971	2	R144	Metal Film	390 ohm	1/5 W J	3029391970	1			
C181-C184	Electrolytic SG	4.7	uF	50 V M	3479347971	4	R145	Carbon Film	15 kohm	1/5 W J	3069153970	1			
C185-C187	Ceramic Tubular	0.047	uF	50 V F	3519473935	3	R146	Metal Film	1 kohm	1/5 W J	3029102970	1			
<b>CONNECTORS</b>															
CNT102	Wafer, 4P				4428516310	1	R147	Metal Film	390 ohm	1/5 W J	3029391970	1			
CNT103	Wafer, 15P				4428561520	1	R148	Metal Film	1 kohm	1/5 W J	3029102970	1			
CNT104	Wafer, 9P				4428509820	1	R149/R150	Carbon Film	100 kohm	1/5 W J	3069104970	2			
<b>DIODES</b>															
D101/D102	1N4148, Switching				2058322101	2	R151	Carbon Film	820 kohm	1/5 W J	3069824970	1			
D103/D104	Zener, UZ 6.8 BSC				2258599121	2	R152	Carbon Film	15 kohm	1/5 W J	3069153970	1			
<b>INTEGRATED CIRCUITS</b>															
IC101	LC7522				2168017122	1	R153	Carbon Film	820 kohm	1/5 W J	3069824970	1			
IC102-IC104	KIA4559S/KIA75559S				2168206103	3	R154	Carbon Film	15 kohm	1/5 W J	3069153970	1			
							R155/R156	Metal Film	390 ohm	1/5 W J	3029391970	2			
							R157/R158	Metal Film	1 kohm	1/5 W J	3029102970	2			
							R159/R160	Carbon Film	100 kohm	1/5 W J	3069104970	2			
							R161/R162	Carbon Film	820 kohm	1/5 W J	3069824970	2			
							R163	Metal Film	390 ohm	1/5 W J	3029391970	1			
							R164	Metal Film	470 ohm	1/5 W J	3029471970	1			
<b>PCB2 ASSEMBLY P.C. BOARD FRONT</b>															
<b>CAPACITORS</b>															
C202	Ceramic Tubular	470	pF	50 V J	3519471935	1	<b>MISCELLANEOUS</b>								
C203/C204	Mylar	0.0047	uF	100 V J	3679472120	2	36	Jack RCA, 1P			4438113720	1	A,D,PT INDO		
C205/C206	Electrolytic SG	47	uF	16 V M	3479347031	2	(36)	Not Used !					KS		
C207	Ceramic Tubular	0.047	uF	50 V F	3519473935	1	<b>PCB2 ASSEMBLY P.C. BOARD FRONT</b>								
C208	Mylar	0.033	uF	100 V J	3679331120	1	<b>CAPACITORS</b>								
C209	Electrolytic SG	1	uF	50 V M	3479310971	1	C202	Ceramic Tubular	470	pF	50 V J	3519471935	1		
C210/C211	Electrolytic SG	10	uF	50 V M	3479310071	2	C203/C204	Mylar	0.0047	uF	100 V J	3679472120	2		
C212	Mylar	0.033	uF	100 V J	3679331120	1	C205/C206	Electrolytic SG	47	uF	16 V M	3479347031	2		
C213/C214	Mylar	0.015	uF	100 V J	3679153120	2	C207	Ceramic Tubular	0.047	uF	50 V F	3519473935	1		
C215	Mylar	0.1	uF	100 V J	3679332120	1	C208	Mylar	0.033	uF	100 V J	3679331120	1		
C216/C217	Mylar	0.0056	uF	100 V J	3679562120	2	C209	Electrolytic SG	1	uF	50 V M	3479310971	1		
C218	Electrolytic SG	10	uF	50 V M	3479310071	1	C210/C211	Electrolytic SG	10	uF	50 V M	3479310071	2		
							C212</								

Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version			
R259	Metal Film	3.3 kohm	1/5 W	J	3029332970	1	(C356/C357)	Not Used ! (AX-747)		Q302	DTC114YS	2208622106	1		Q380	2SD718/KTD718, NPN	2028407109	1				
R260	Carbon Film	20 kohm	1/5 W	J	3069203970	1	C358	Ceramic Tubular	0.001 uF 50 V M	3519102935	1	Q303	KSC2690, NPN	2008602102	1	Q381	2SC4137, Bias	2008622110	1			
R262-R266	Metal Film	270 ohm	1/5 W	J	3029271970	5	(C358)	Not Used ! (AX-747)		(Q303)	Not Used ! (AX-747)				Q382	2SB688/KTB688, PNP	2028107106	1				
R267	Carbon Film	10 kohm	1/5 W	J	3069103970	1	C359	Ceramic Tubular	3.3 pF 50 V J	3519033935	1	Q304	KSC2690, NPN	2008602102	1							
R268	Carbon Film	100 kohm	1/5 W	J	3069104970	1	(C359)	Not Used ! (AX-747)		Q305	KSA1220, PNP	2008202101	1									
R269	Carbon Film	12 kohm	1/5 W	J	3069123970	1	C360	Electrolytic SG	0.47 uF 50 V M	3479347971	1	Q306	KSA1220, PNP	2008202101	1							
							(C360)	Not Used ! (AX-747)		(Q306)	Not Used ! (AX-747)				R301	Metal Film	4.7 kohm	1/5 W	J	3029472970	1	
							C361	Ceramic Tubular	0.001 uF 50 V M	3519102935	1	Q307	KTC3198Y, NPN	2208606104	1	R302	Metal Film	10 ohm	1 W	J	3029100470	1
							(C361)	Not Used ! (AX-747)		Q308	KTC3198Y, NPN	2208606104	1	R303	Metal Film	100 ohm	1/5 W	J	3029101970	1		
							C362	Ceramic Tubular	27 pF 50 V J	3519270935	1	(Q308)	Not Used ! (AX-747)		R304	Mylar	0.047 uF 100 V J	3679473120	1			
							(C362)	Not Used ! (AX-747)		Q309	KTC3198Y, NPN	2208606104	1	(R304)	Not Used ! (AX-747)							
							C363	Not Used ! (AX-747)		Q311	KSA1220, PNP	2008202101	1	(R305-R308)	Not Used ! (AX-747)							
							C364/C365	Electrolytic SG	0.47 uF 50 V M	3479347971	2	Q312	KSA1220, PNP	2008202101	1	R309	Carbon Film	20 kohm	1/5 W	J	3069203970	1
							C366	Ceramic Tubular	27 pF 50 V J	3519270935	1	(Q311)	Not Used ! (AX-747)		R310	Metal Film	10 ohm	1 W	J	3029100470	1	
							C367	Ceramic Tubular	470 pF 50 V J	3519471935	1	Q313	KTC3198Y, NPN	2208606104	2	R311-R314	Metal Film	22 ohm	1/5 W	J	3029220970	14
							(C367)	Not Used ! (AX-747)		Q316	MPSA56Y, PNP	2208206113	1	R315	Metal Film	10 ohm	1 W	J	3029100470	1		
							C368	Ceramic Tubular	0.001 uF 50 V M	3519102935	1	Q317	KTC3198Y, NPN	2208606104	1	(R315)	Not Used ! (AX-747)					
							C369	Electrolytic SG	0.47 uF 50 V M	3479347971	1	Q318	KSC2690, NPN	2008602102	1	R316	Metal Film	180 ohm	1/5 W	J	3029181970	1
							(C369)	Not Used ! (AX-747)		(Q318)	Not Used ! (AX-747)				R317	Carbon Film	100 kohm	1/5 W	J	3069104970	1	
							C370	Ceramic Tubular	12 pF 50 V J	3519120935	1	Q319	KSC2690, NPN	2008602102	1	R318	Metal Film	4.7 kohm	1/5 W	J	3029472970	1
							C371/C372	Ceramic Tubular	470 pF 50 V J	3519471935	2	(Q320/Q321)	KTC3198Y, NPN	2208606104	2	R319	Cement	0.39 ohm	5 W	J	3059039776	1
							C373	Ceramic Tubular	3.3 pF 50 V J	3519033935	1	Q322	DTC114YS	2208622106	1	(R319)	Not Used ! (AX-747)					
							C374	Ceramic Tubular	470 pF 50 V J	3519471935	1	(Q322)	Not Used ! (AX-747)		R320	Cement	0.39 ohm	5 W	J	3059039776	1	
							(C374)	Not Used ! (AX-747)		Q323	DTA114YS/KRM107M	2238006103	1	R321	Metal Film	1 kohm	1/5 W	J	3029102970	1		
							C375	Ceramic Tubular	0.001 uF 50 V M	3519102935	1	Q324	KTA1024, PNP	2208206115	1	R322	Metal Film	2.7 kohm	1/5 W	J	3029272970	1
							C376/C377	Electrolytic SG	47 uF 16 V M	3479347031	2	(Q324)	Not Used ! (AX-747)		(R322)	Not Used ! (AX-747)						
							C378-C379	Not Used !			Q325	DTA114YS/KRM107M	2238006103	1	R323	Metal Film	4.7 kohm	1/5 W	J	3029472970	1	
							C381	Ceramic Tubular	0.1 uF 50 V F	3519104935	1	(Q325)	Not Used ! (AX-747)		(R323)	Not Used ! (AX-747)						
							C382	Not Used !			Q326	DTC114YS	2208622106	1	R324	Metal Film	330 ohm	1/5 W	J	3029331970	1	
											Q327	DTA114YS/KRM107M	2238006103	1	R325	Metal Film	2.7 kohm	1/5 W	J	3029272970	1	
											Q328	KTC3198Y, NPN	2208606104	1	R326	Metal Film	1 kohm	1/5 W	J	3029102970	1	
											Q329	KTC3198Y, NPN	2208606104	1	(R326)	Not Used ! (AX-747)						
											(Q329)	Not Used ! (AX-747)		K327	Metal Film	220 ohm	1/5 W	J	3029221970	1		
											Q330	KTD1302, NPN	2208606112	1	R328	Carbon Film	10 kohm	1/5 W	J	3069103970	1	
											(Q330)	Not Used ! (AX-747)		R329	Metal Film	470 ohm	1/5 W	J	302932970	1		
											Q331	KTA1024, PNP	2208206115	1	R330	Metal Film	47 ohm	1/5 W	J	3029470970	1	
											(Q331)	Not Used ! (AX-747)		R331	Carbon Film	22 kohm	1/5 W	J	3069223970	1		
											Q332	KTA1024, PNP	2208206115	1	R332	Metal Film	470 ohm	1/5 W	J	3029471970	1	
											Q333	KTC3206, NPN	2208606118	1	R333	Metal Film	4.7 kohm	1/5 W	J	3029472970	1	
											(Q334/Q335)	KTC3206, NPN	2208606118	2	R334	Carbon Film	47 kohm	1/5 W	J	3069473970	1	
											(Q334/Q335)	Not Used ! (AX-747)		R335	Metal Film	220 ohm	1/5 W	J	3029221970	1		
											Q336	KTC3198Y, NPN	2208606104	1	(R335)	Not Used ! (AX-747)						
											(Q336)	Not Used ! (AX-747)		R336	Carbon Film	15 kohm	1/5 W	J	3069153970	1		
											Q337	KTC3198Y, NPN	2208606104	1	(R336)	Not Used ! (AX-747)						
											Q338	KTC3198Y, NPN	2208606104	1	R337	Metal Film	220 ohm	1/5 W	J	3029221970	1	
											(Q338)	Not Used ! (AX-747)		R338	Metal Film	470 ohm	1/5 W	J	3029471970	1		
											Q339/Q340	KTC3198Y, NPN	2208606104	2	R339	Metal Film	3.3 kohm	1/5 W	J	302932970	1	
											Q341	KTC3198Y, NPN	2208606104	1	R340	Metal Film	220 ohm	1/5 W	J	3029221970	1	
											(Q341)	Not Used ! (AX-747)		R341	Carbon Film	15 kohm	1/5 W	J	3069153970	1		
											Q342	KTC2240/BKTC3200, NPN	2208606108	1	(R341)	Not Used ! (AX-747)						
											(Q342)	Not Used ! (AX-747)		R342	Metal Film	4.7 kohm	1/5 W	J	3029472970	1		
											Q343	KTC3206, NPN	2208606118	1	(R342)	Not Used ! (AX-747)						
											Q344	KTA1024, PNP	2208206115	1	R343	Metal Film	33 ohm	1 W	J	3029330570	1	
											Q345	KTC2240/BKTC3200, NPN	2208606108	1	R344	Cement	0.39 ohm	5 W	J	3059039776	1	
											(Q345)	Not Used ! (AX-747)		(R344)	Not Used ! (AX-747)							
											Q346/Q347	KTC3198Y, NPN	2208606104	2	R345	Cement	0.39 ohm	5 W	J	3059039776	1	
											C348	KTD1302, NPN	2208606112	1	R346	Metal Film	22 ohm	1/5 W	J	3029220970	1	
											(Q348)	Not Used ! (AX-747)		R347	Metal Film	1 kohm	1/5 W	J	3029102970	1		
											Q349	DTA114YS/KRM107M	2238006103	1	R348	Metal Film	1 kohm	1/5 W	J	3029102970	1	
											(Q349)	Not Used ! (AX-747)		(R348)	Not Used ! (AX-747)							
											Q350/Q351	KTC2240/BKTC3200, NPN	2208606108	2	R349	Metal Film	100 ohm	1/5 W	J	3029101970	1	
											Q352-Q355	KTC2240/BKTC3200, NPN	2208606108	4	R350	Metal Film	2.7 kohm	1/5 W	J	3029272970	1	
											(Q352-Q355)	Not Used ! (AX-747)		(R350)	Not Used ! (AX-747)							
											Q356	DTC114YS	2208622106	1	R351	Metal Film	2.7 kohm	1/5 W	J	3029272970	1	
											(Q356)	Not Used ! (AX-747)		R352	Metal Film	330 ohm	1/5 W	J	3029331970	1		
											Q357/Q358	KTD1302, NPN	2208606112	2	(R352)	Not Used ! (AX-747)						
											Q359	DTC114YS	2208622106	1	R353	Metal Film	4.7 kohm	1/5 W	J	3029472970	1	
											Q360/Q361	DTA114YS/KRM107M	2238006103	2	R354	Carbon Film	47 kohm	1/5 W				

Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version
(R361/R362)	Not Used ! (AX-747)				(R420)	Not Used ! (AX-747)			
R363	Metal Film	330 ohm 1/5 W J	3029331970	1	R421	Metal Film	120 ohm 1/5 W J	3029121970	1
R364	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R422	Carbon Film	33 kohm 1/5 W J	3069333970	1
R365	Carbon Film	12 kohm 1/5 W J	3069123970	1	R423	Carbon Film	33 kohm 1/5 W J	3069333970	1
R366	Metal Film	330 ohm 1/5 W J	3029331970	1	(R423)	Not Used ! (AX-747)			
R367	Carbon Film	12 kohm 1/5 W J	3069123970	1	R424	Metal Film	390 ohm 1/5 W J	3029391970	1
R368	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R425	Carbon Film	2 kohm 1/5 W J	3069202970	1
R369	Carbon Film	6.8 kohm 1/5 W J	3069682970	1	R426/R427	Carbon Film	33 kohm 1/5 W J	3069333970	2
R370	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R428	Carbon Film	33 kohm 1/5 W J	3069333970	1
R371	Metal Film	220 ohm 1/5 W J	3029221970	1	(R428)	Not Used ! (AX-747)			
(R371)	Not Used ! (AX-747)				R429	Metal Film	1.8 kohm 1/5 W J	3029182970	1
R372	Carbon Film	6.8 kohm 1/5 W J	3069682970	1	R430	Metal Film	390 ohm 1/5 W J	3029391970	1
R374	Carbon Film	15 kohm 1/5 W J	3069153970	1	R431	Carbon Film	33 kohm 1/5 W J	3069333970	1
R375	Carbon Film	10 kohm 1/5 W J	3069103970	1	R432	Metal Film	4.7 kohm 1/5 W J	3029472970	1
R376/R377	Metal Film	3.3 kohm 1/5 W J	3029332970	2	(R432)	Not Used ! (AX-747)			
R378	Metal Film	120 ohm 1/5 W J	3029121970	1	R433	Metal Film	1 kohm 1/5 W J	3029102970	1
(R378)	Not Used ! (AX-747)				R434	Carbon Film	2 kohm 1/5 W J	3069202970	1
R379	Metal Film	1 kohm 1/5 W J	3029102970	1	R435/R436	Metal Film	3.3 kohm 1/5 W J	3029332970	2
(R379)	Not Used ! (AX-747)				R437	Metal Film	1.8 kohm 1/5 W J	3029182970	1
R380	Metal Film	2.2 kohm 1 W J	3029222470	1	R438	Metal Film	1 kohm 1/5 W J	3029102970	1
(R380)	Not Used ! (AX-747)				R439	Metal Film	4.7 kohm 1/5 W J	3029472970	1
R381	Carbon Film	15 kohm 1/5 W J	3069153970	1	R440	Metal Film	1 kohm 1/5 W J	3029102970	1
R382	Metal Film	120 ohm 1/5 W J	3029121970	1					
(R382)	Not Used ! (AX-747)								
R383	Metal Film	120 ohm 1/5 W J	3029121970	1					
R384	Metal Film	3.3 kohm 1/5 W J	3029332970	1					
R385/R386	Metal Film	120 ohm 1/5 W J	3029121970	2					
(R385/R386)	Not Used ! (AX-747)								
R387	Metal Film	1 kohm 1/5 W J	3029102970	1					
(R387)	Not Used ! (AX-747)								
R388	Metal Film	1 kohm 1/5 W J	3029102970	1					
R389/R390	Metal Film	3.3 kohm 1/5 W J	3029332970	2					
(R389/R390)	Not Used ! (AX-747)								
R391	Metal Film	1 kohm 1/5 W J	3029102970	1					
(R391)	Not Used ! (AX-747)								
R392	Carbon Film	10 kohm 1/5 W J	3069103970	1					
(R392)	Not Used ! (AX-747)								
R393	Carbon Film	33 kohm 1/5 W J	3069333970	1					
R394	Carbon Film	2 kohm 1/5 W J	3069202970	1					
(R394)	Not Used ! (AX-747)								
R395	Carbon Film	10 kohm 1/5 W J	3069103970	1					
(R395)	Not Used ! (AX-747)								
R396	Carbon Film	2 kohm 1/5 W J	3069202970	1					
(R396)	Not Used ! (AX-747)								
R397	Metal Film	1 kohm 1/5 W J	3029102970	1					
(R397)	Not Used ! (AX-747)								
R398	Carbon Film	33 kohm 1/5 W J	3069333970	1					
(R398)	Not Used ! (AX-747)								
R399	Carbon Film	10 kohm 1/5 W J	3069103970	1					
R400	Metal Film	1 kohm 1/5 W J	3029102970	1					
R401	Metal Film	1 kohm 1/5 W J	3029102970	1					
(R401)	Not Used ! (AX-747)								
R402	Carbon Film	2 kohm 1/5 W J	3069202970	1					
R403	Metal Film	390 ohm 1/5 W J	3029391970	1					
(R403)	Not Used ! (AX-747)								
R404	Metal Film	1 kohm 1/5 W J	3029102970	1					
(R404)	Not Used ! (AX-747)								
R405	Metal Film	120 ohm 1/5 W J	3029121970	1					
R406	Carbon Film	10 kohm 1/5 W J	3069103970	1					
R407	Carbon Film	2 kohm 1/5 W J	3069202970	1					
R408	Carbon Film	33 kohm 1/5 W J	3069333970	1					
(R408)	Not Used ! (AX-747)								
R409	Metal Film	390 ohm 1/5 W J	3029391970	1					
(R409)	Not Used ! (AX-747)								
R410	Metal Film	3.3 kohm 1/5 W J	3029332970	1					
R411	Metal Film	2.2 kohm 1 W J	3029222470	1					
R412	Metal Film	1 kohm 1/5 W J	3029102970	1					
R413	Metal Film	120 ohm 1/5 W J	3029121970	1					
R414/R415	Metal Film	1.2 kohm 1/5 W J	3029122970	2					
(R414/R415)	Not Used ! (AX-747)								
R416	Carbon Film	2 kohm 1/5 W J	3069202970	1					
(R416)	Not Used ! (AX-747)								
R417	Metal Film	1 kohm 1/5 W J	3029102970	1					
R418	Carbon Film	2 kohm 1/5 W J	3069202970	1					
(R418)	Not Used ! (AX-747)								
R419	Carbon Film	33 kohm 1/5 W J	3069333970	1					
R420	Metal Film	3.3 kohm 1/5 W J	3029332970	1					

FUSES			
F301/302	△ T 1.6 A, 250 V	5508302335	2 A.D,PT INDO
(F301/302)	△ NB 1.5 A, 250 V	5508202230	2 KS
F303/304	△ T 1 A, 250 V	5508302035	2 A.D,PT INDO
(F303/304)	△ NB 1 A, 250 V	5508100851	2 KS

MISCELLANEOUS			
RLY301	△ Relay, OSA-SS-212DM3	5528001750	1
GND301	Terminal Ground	4235007310	1
24	Terminal, Speaker, 4P	4408105410	2
25	Terminal, Speaker, 2P	4408107010	1
34	Heatsink, Regulator	7505206230	3

PCB4 ASSEMBLY P.C. BOARD VOLUME			
CAPACITORS			
C501	Electrolytic SG	100 uF 16 V M	3479310131 1
C502	Electrolytic SG	47 uF 16 V M	3479347031 1
C503	Ceramic Tubular	0.01 uF 16 V M	3519103915 1
C504	Electrolytic SG	47 uF 16 V M	3479347031 1

CONNECTORS			
CNT501	Wafer, 2P	4428508210	1
CNT202	Wafer, 10P	4428810995	1
CNT101	Wafer, 21P	4428526750	1

TRANSISTORS			
Q501	DTC114YS	2208622106	1
Q502/Q503	KTA1015Y/BKTA1266, PNP	2208206105	2
Q504/Q505	KTC3198Y, NPN	2208606104	2

RESISTORS			
R501/R502	Metal Film	1 kohm 1/5 W J	3029102970 2
R503	Metal Film	220 ohm 1/5 W J	3029221970 1
R505/R506	Metal Film	1 kohm 1/5 W J	3029102970 2
R507	Metal Film	1.5 kohm 1/5 W J	3029152970 1
R508/R509	Metal Film	1 kohm 1/5 W J	3029102970 2
R510/R511	Metal Film	4.7 kohm 1/5 W J	3029472970 2

MISCELLANEOUS			
VR501	Semi Fixed Resistor, 50 k(B)	3248050353	1
1	Volume, Motor	3228020010	1

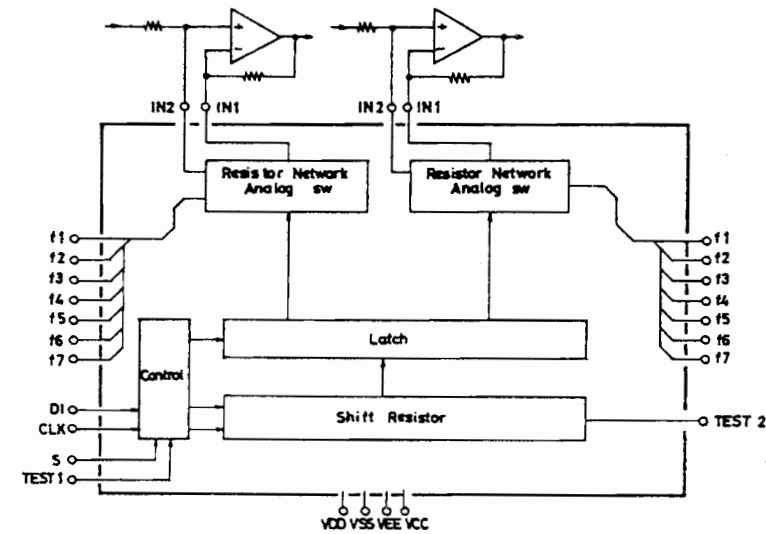
PCB5 ASSEMBLY P.C. BOARD HEADPHONE			
C601-C603	CAP, Ceramic Tu	0.022 pF 25 V J	3519223520 3
CNT105	Connector, Lead Assy, 4P, 300mm	436204303332	1
D601	Diode, 1N4148, Switching	2058322101	1
5	Jack, Phone	4438005510	1

PCB6 ASSEMBLY P.C. BOARD VOLUME LED			
CNT701	Connector, Lead Assy, 2P, 140mm	435102143481	1
LED701	LED, SLH-34K-3	2308220142	1

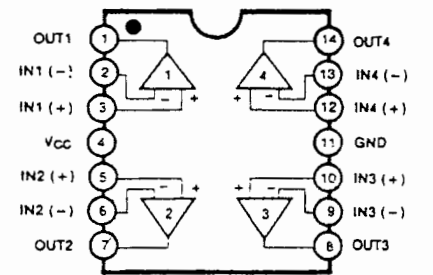
Ref. No.	Description	Part No.	Q'ty	Version
PCB7	ASSEMBLY P.C. BOARD VOLTAGE			
C801	Not Used !			
CNT801	Connector, Wafer LV, 4P	4428525780	1	A,D,PT INDO
(CNT801)	Connector, Wafer LV, 2P	4428525800	1	PT INDO
CNT802	Connector, Wafer LV, 2P	4428100291	1	
F801	△ Fuse, T 2A, 250V	5508302435	1	PT INDO
(F801)	Not Used !			A,D,KS
F802	△ Fuse, T 3.15A, 250V	5508302735	1	A,D,KS
(F802)	△ Fuse, NB 3.5A, 250V	5508202830	1	PT INDO
32	Plate, Ground	6165143510	1	A,D,KS
(32)	Switch, Slide	4618006510	1	PT INDO

## IC FUNCTIONAL BLOCK DIAGRAM

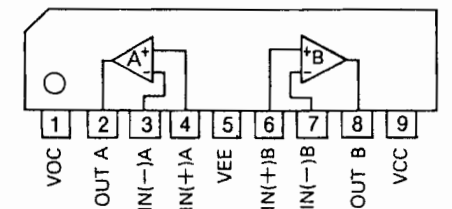
IC101 : LC7522



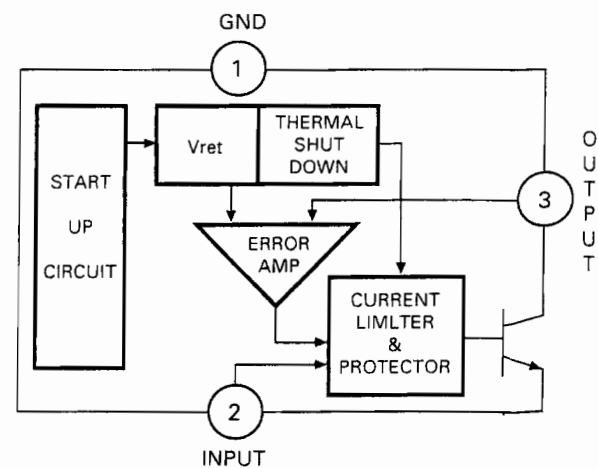
IC102/IC103 : KA324



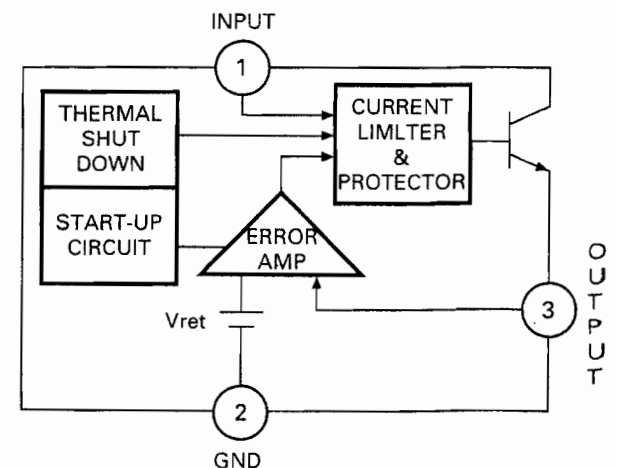
IC102, IC103, IC104, IC105, IC106 : KIA4559S/KIA75559S



IC302 : KA7912

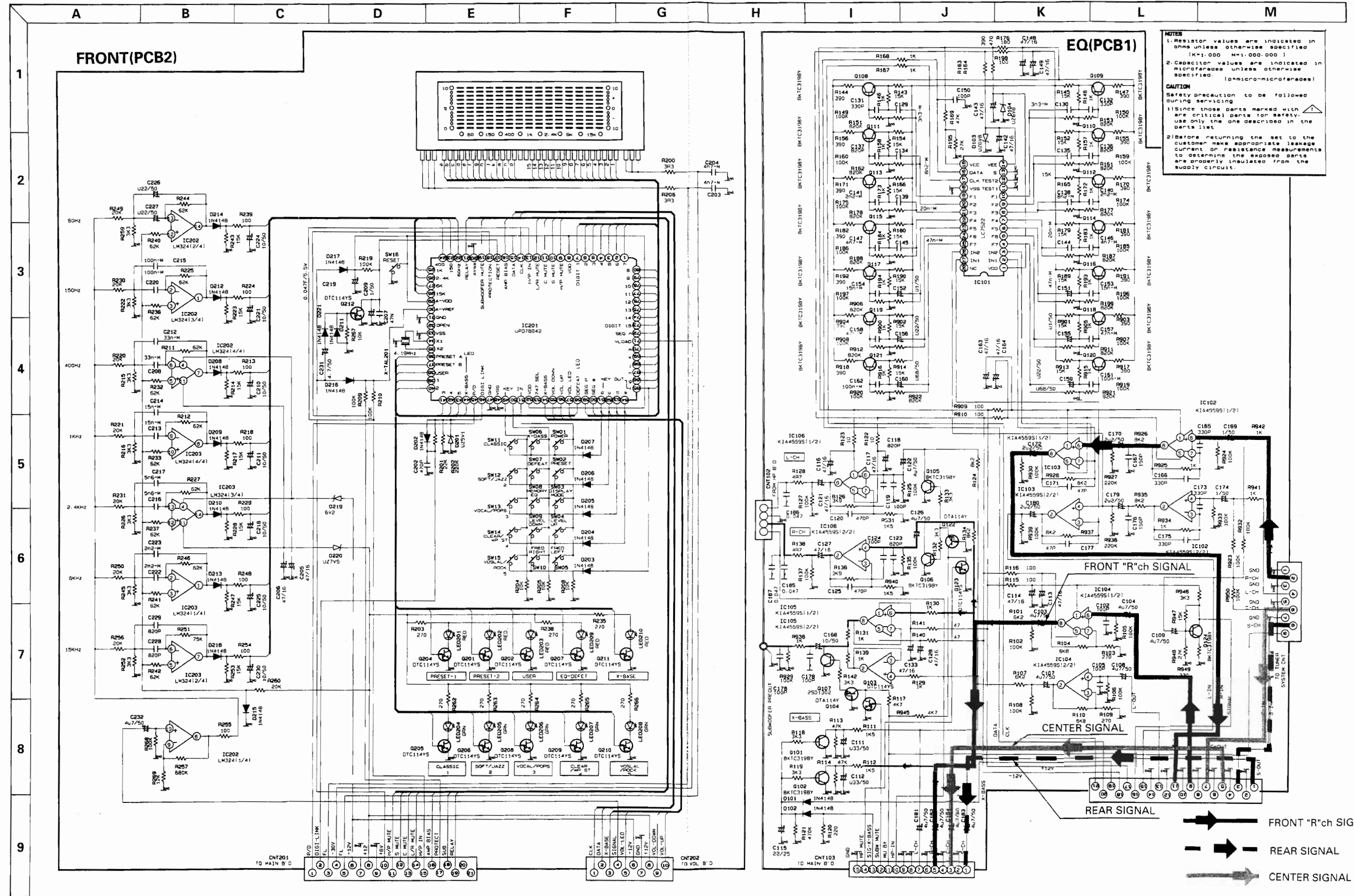


IC303 : KA7805

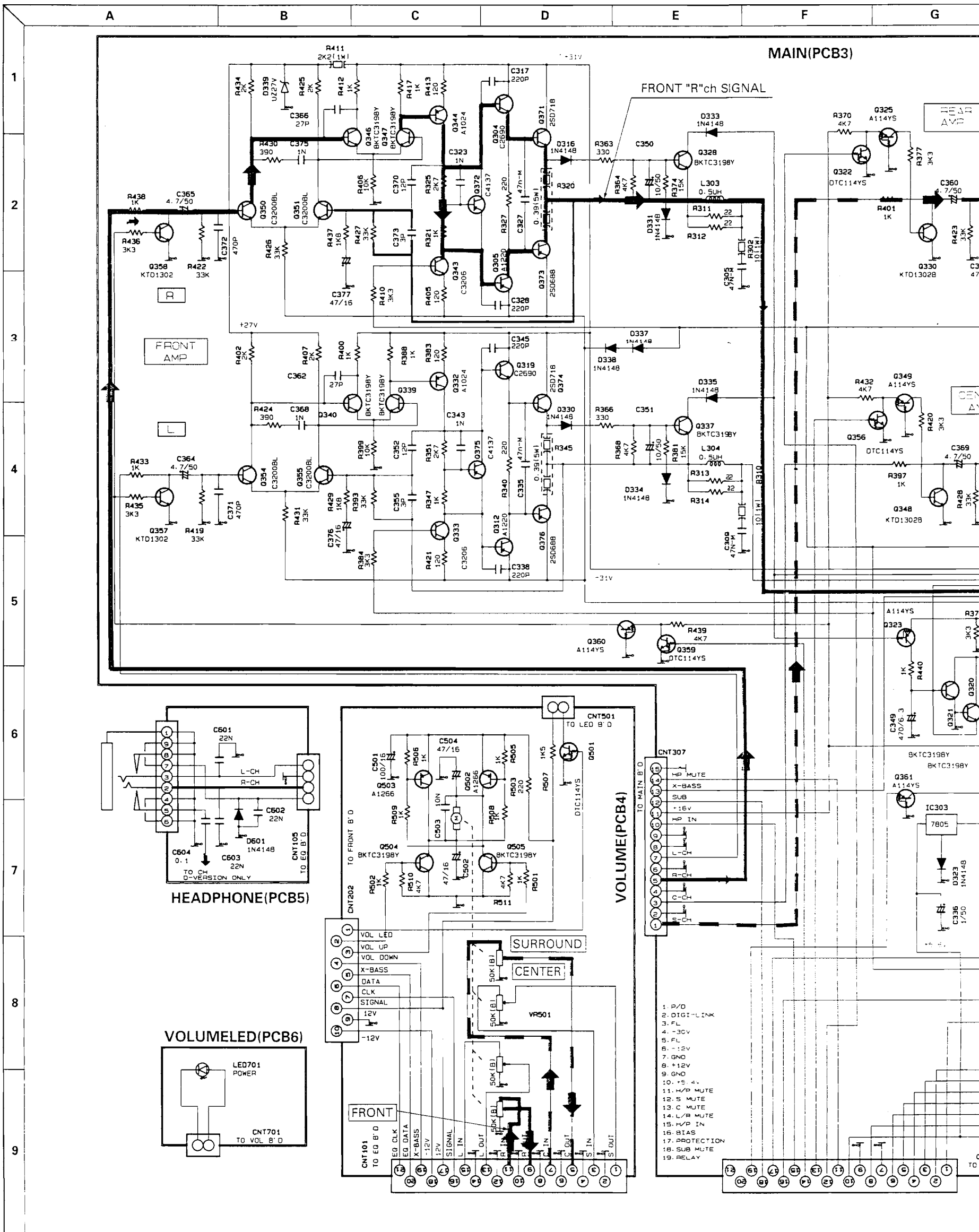


**SCHEMATIC DIAGRAM I**

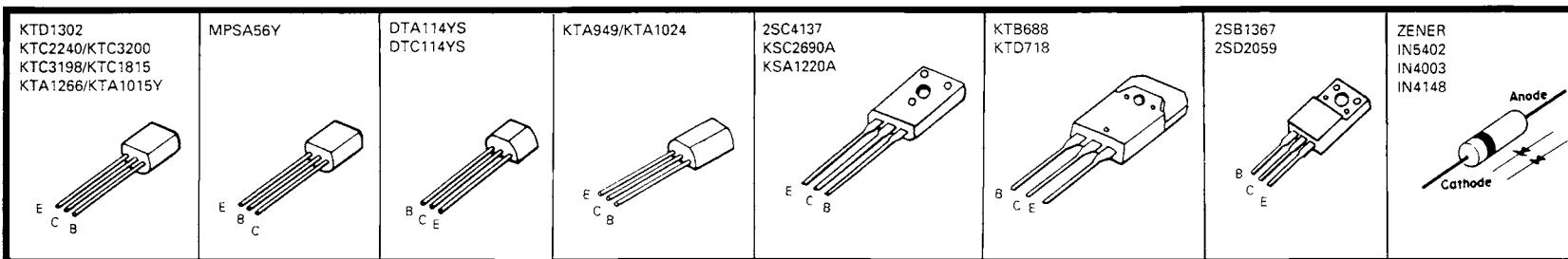
Model No. : AX-747/AV-757



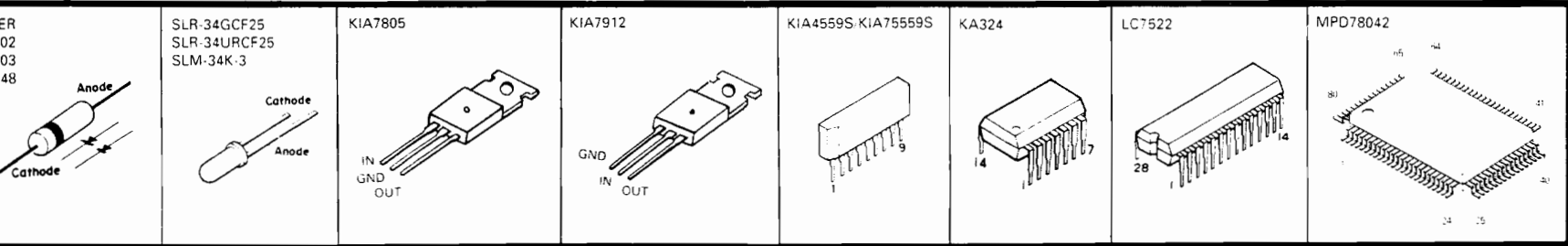
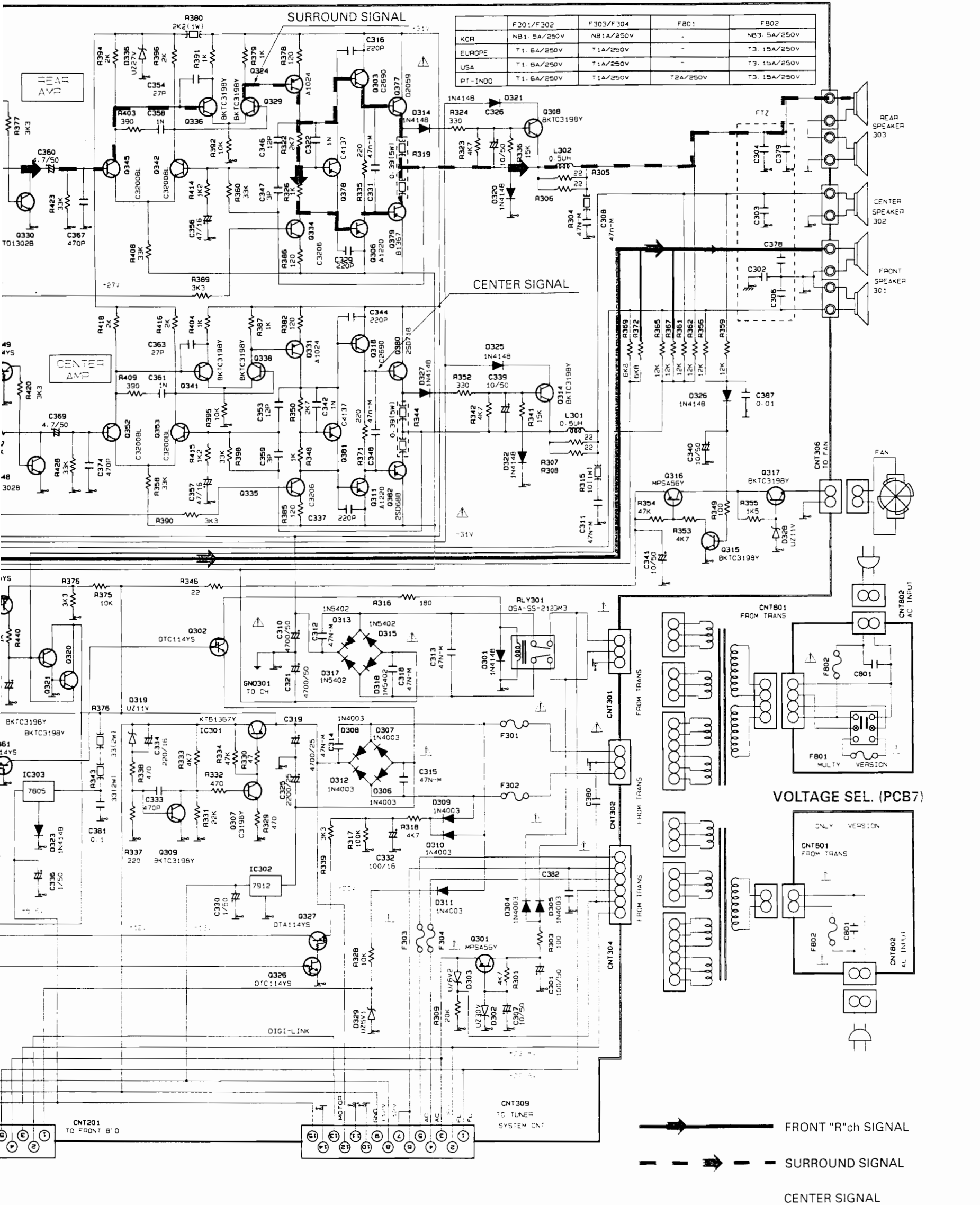
# SCHEMATIC DIAGRAM II



## PIN CONNECTION OF TRANSISTORS, DIODES AND ICs.

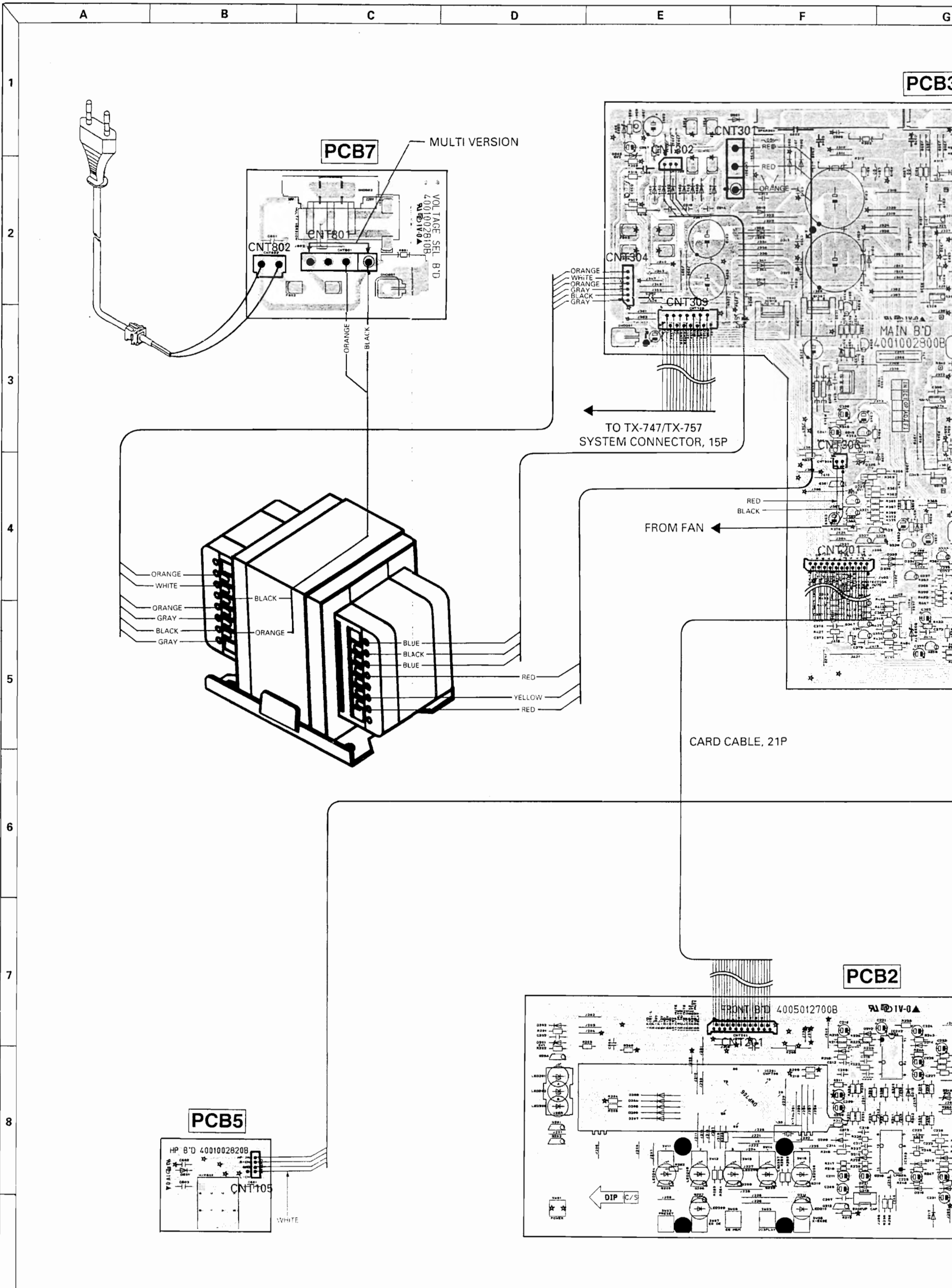


G H I J K L M



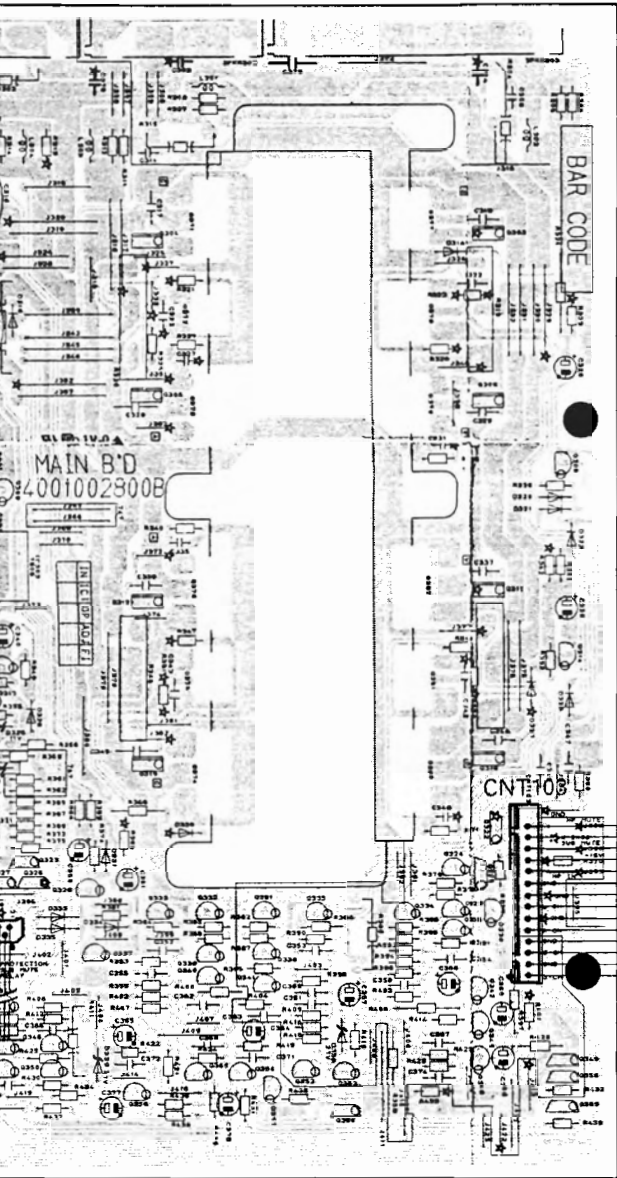


# WIRING DIAGRAM



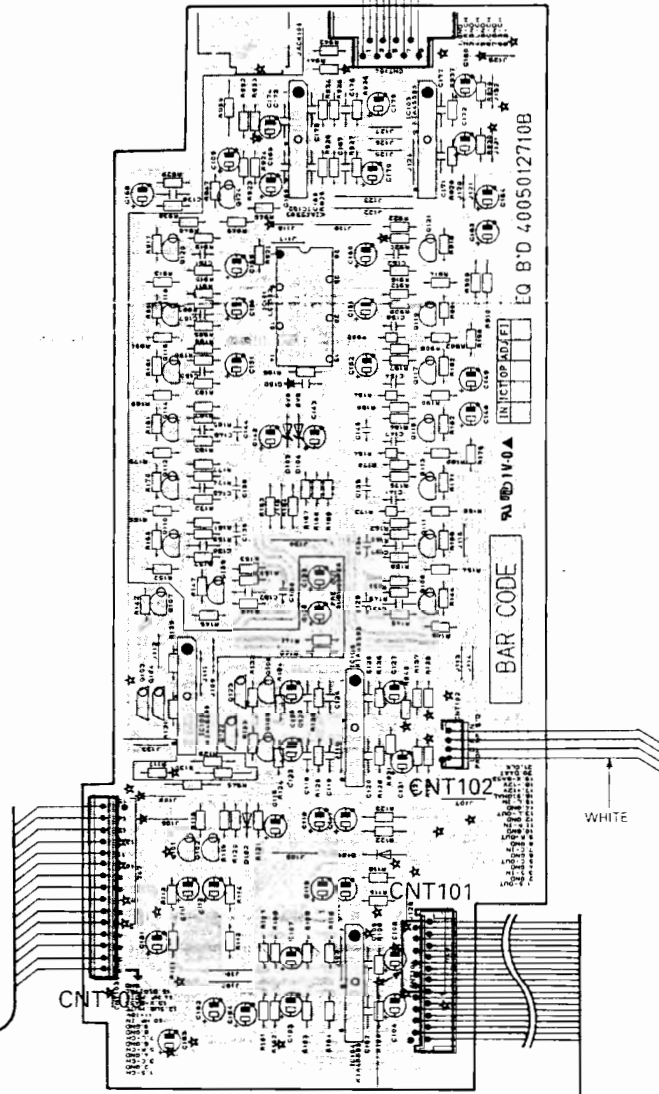
G H I J K L

PCB3



CNT104  
FROM TX-747/TX-757  
SYSTEM CONNECTOR, 9P

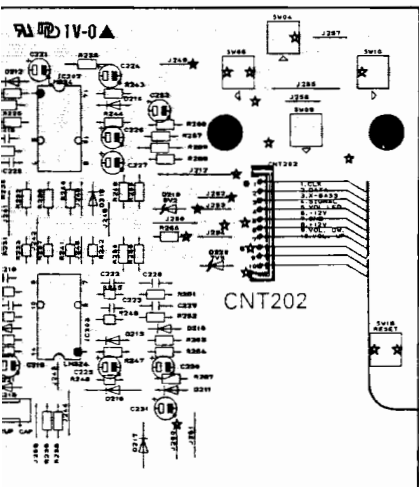
PCB1



B'D TO B'D  
CONNECTOR

AX747

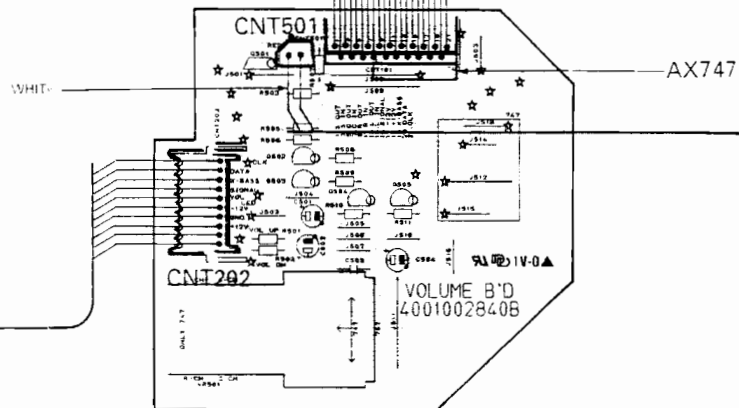
PCB2



CNT101

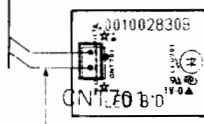
CARD CABLE, 21P(AV-757)  
CARD CABLE, 14P(AX-747)

PCB4



B'D TO B'D  
CONNECTOR

PCB6



# ■ TX-757/747 ■

## SPECIFICATIONS

\* **Preparation** : Output voltage setting at speaker terminal for measurement is 2 V (Input : VIDEO, 1kHz, 250mV)

### FM SECTION

\* Measurement Condition

- Antenna input impedance: 75 ohms

Version	USA/Canada ("A")	Europe ("D")	Korea ("KS")	Multi ("PT INDO")
RF Signal	98.1 MHz	98.0 MHz	98.1 MHz	98.0 MHz

No.	Description	Unit	Nominal	Limit
1	Tuning Frequency Range	KS, A D, PT INDO MHz	87.5 - 107.9 87.5 - 108.0	
2	Scanning Frequency Interval	KS, A D, PT INDO kHz	200 50	
3	FM De-emphasis	KS, A D, PT INDO uS	75 50	
4	Usable Sensitivity 90.1/106.1 MHz, Stereo Mode, S/N=30 dB	uV	≤ 1.5	≤ 3
5	50 dB Quieting Sensitivity S/N=50 dB (IHF BPF)	uV	≤ 50	
6	Signal to Noise Ratio, 75 kHz Dev.	MONO STEREO (BPF) dB	≥ 73 ≥ 70	≥ 67 ≥ 64
7	Total Harmonic Distortion at 1 kHz, 75 kHz Dev.	MONO STEREO (BPF) %	≤ 0.2 ≤ 0.4	≤ 0.4 ≤ 0.8
8	Stereo Threshold	uV	10 ± 2	10 ± 4
9	Muting Threshold	uV	10 ± 2	10 ± 4
10	Output Voltage with 1 kHz, DOLBY Tape (TCC-130) (Reference voltage setting: speaker output 2 V)	mV	4000 ± 400	4000 ± 600
11	Memory Holding Time	week		≥ 4
12	Stereo Separation at 1 kHz, 98 MHz (IHF BPF)	dB	≥ 45	≥ 40

### AM SECTION

\* Measurement Condition

- RF Signal: 999 kHz, 5 mV/m or 207 kHz, 5 mV/m

- MOD.: 400 Hz, 30%

No.	Description	Unit	Nominal	Limit
1	Tuning Frequency Range	KS A PT INDO D kHz	522 ~ 1611 520 ~ 1710 520/522 ~ 1710/1611 522 ~ 1611, 153 ~ 279	
2	Scanning Frequency Interval	KS, D A PT INDO kHz	9 10 9/10	
3	Usable Sensitivity, S/N=20 dB, 30% Mod.	600/1400 kHz 162/252 kHz uV/m	≤ 600 ≤ 1000	≤ 1000 ≤ 1300
4	Signal to Noise Ratio, 30% Mod.	999 kHz, 400 Hz 207 kHz, 400 Hz dB	≥ 40 ≥ 35	≥ 36 ≥ 30
5	Output Voltage, 400 Hz, 30% Mod., 5mV/m (Reference voltage setting: speaker output 2 V)	DOLBY Tape TCC-130 mV	1500 ± 400	1500 ± 600
6	Search Level	uV/m	600 ± 100	600 ± 200

## VIDEO SECTION (TX-757 ONLY)

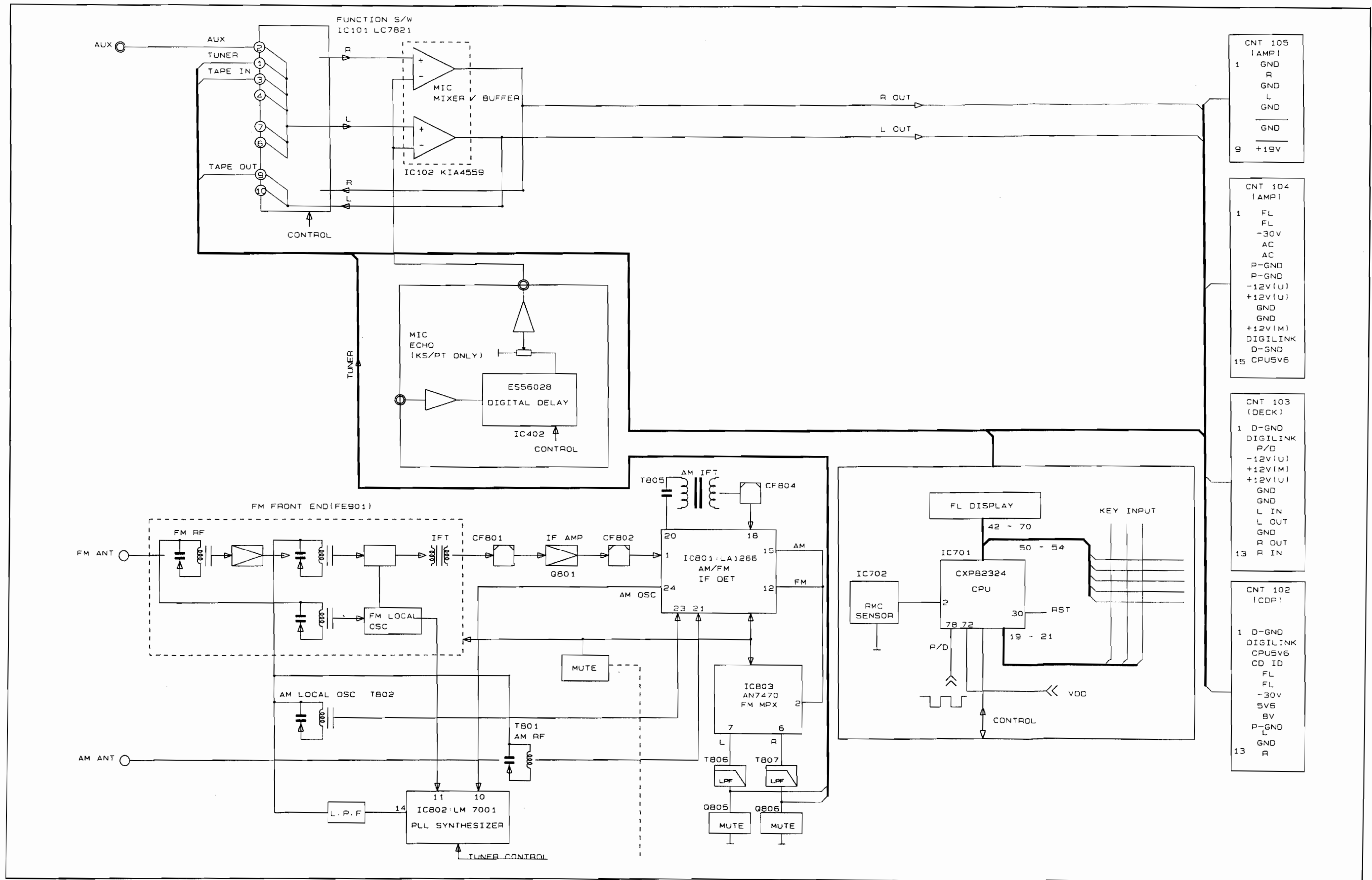
No.	Description	Unit	Nominal	Limit
1	Input Sensitivity/Impedance (75 $\Omega$ )	dB	1Vp-p $\pm$ 0.5	1Vp-p $\pm$ 1
2	Output Voltage/Impedance (75 $\Omega$ )	dB	1Vp-p $\pm$ 0.5	1Vp-p $\pm$ 1
3	Frequency Response at $\mp$ 3 dB	Hz	10~6M	20~5M
4	Crosstalk at 1.0 MHz	dB	$\geq$ 50	$\geq$ 45
5	Signal to Noise Ratio at 1 MHz, Input shorted	dB	$\geq$ 50	$\geq$ 45

## INPUT SECTION

No.	Description	Unit	Nominal	Limit
1	Input Sensitivity TV/AUX etc. (Impedance : 47 kohms) <b>TX-757</b> AUX (Impedance : 49 kohms) <b>TX-747</b> MIC (Impedance: 600 ohms)	mV	250 $\pm$ 20 2.5 $\pm$ 0.2	250 $\pm$ 40 2.5 $\pm$ 0.5
2	Output Voltage at TAPE REC	mV	250 $\pm$ 20	250 $\pm$ 40

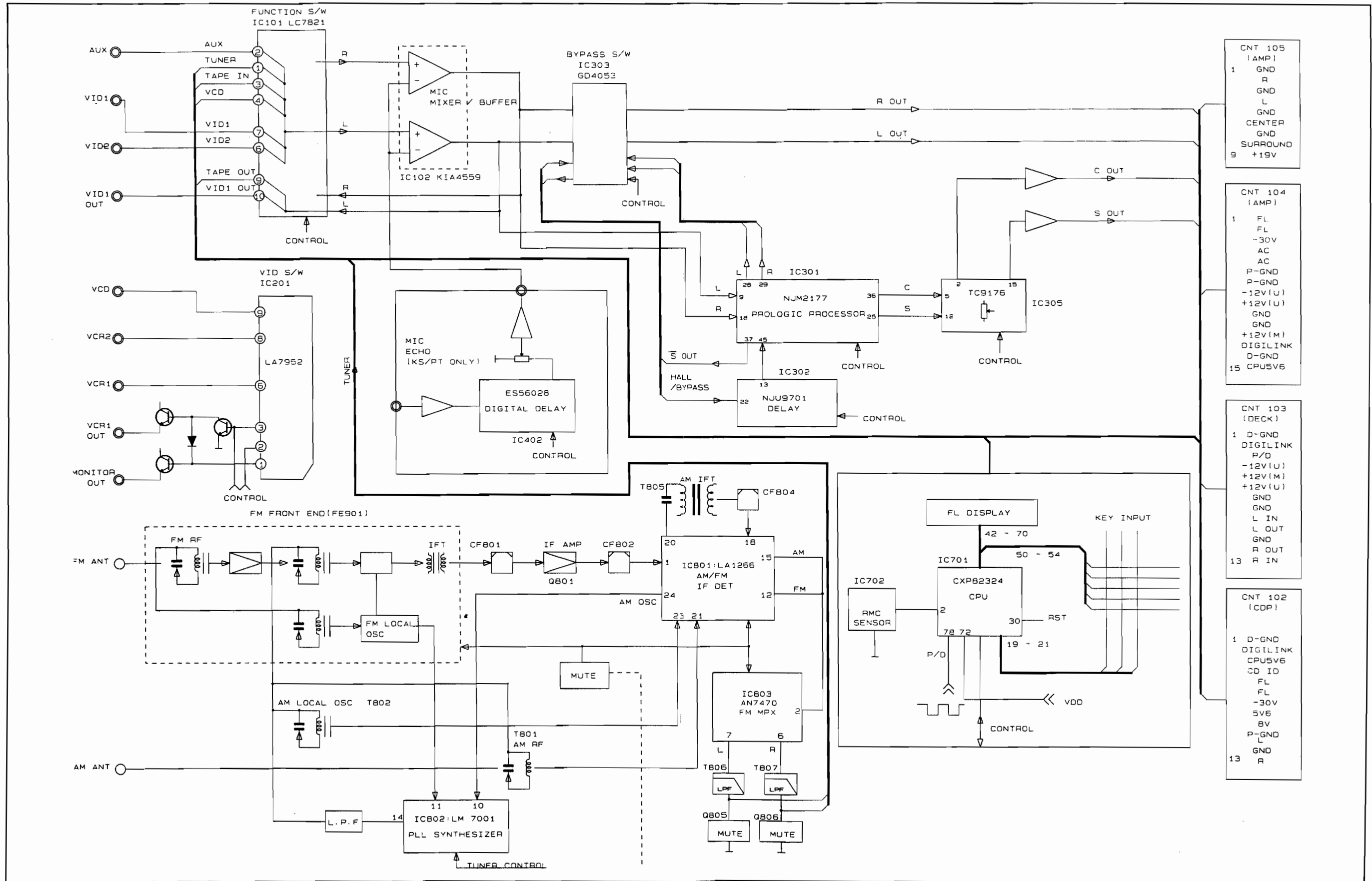
# BLOCK DIAGRAM I

Model No : TX-747



# BLOCK DIAGRAM II

Model No : TX-757



CNT 105 (AMP)  
1 GND  
R  
GND  
L  
GND  
CENTER  
GND  
SURROUND  
9 +19V

CNT 104 (AMP)  
1 FL  
FL  
-30V  
AC  
AC  
P-GND  
P-GND  
-12V(U)  
+12V(U)  
GND  
GND  
+12V(M)  
DIGILINK  
D-GND  
15 CPU5V6

CNT 103 (DECK)  
1 D-GND  
DIGILINK  
P/D  
-12V(U)  
+12V(M)  
+12V(U)  
GND  
GND  
L IN  
L OUT  
GND  
R OUT  
13 R IN

CNT 102 (CDP)  
1 D-GND  
DIGILINK  
CPU5V6  
CD ID  
FL  
FL  
-30V  
5V6  
8V  
P-GND  
L  
GND  
R

## DISASSEMBLY PROCEDURES

REFER TO PAGES 39 AND 52.

### 1 COVER TOP REMOVAL.

Remove 5 screws **S2** (05 to 09) and then remove the Cover Top **30**.

### 2 FRONT PANEL ASSEMBLY REMOVAL

1. Remove the Cover Top **30**, referring to then previous step **1**.
2. Remove the Card Cable from wafer (CNT701) on the Main P.C.Board (PCB1)
3. Disconnect (CNT401) from the Main P.C.Board (PCB5).
4. Remove 7 screws **S2** (01 to 04), **S1** (01 to 03) and then remove the Front Panel Assembly **AA**.

### 3 MIC P.C.BOARD (PCB3) REMOVAL

1. Remove the Cover Top **30**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Remove 2 screw **S3** (01, 02) and then remove the Mic PC.Board (PCB3)

### 4 FRONT P.C.BOARD (PCB2) REMOVAL

1. Remove the Cover Top **30**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Remove 9 screws **S2** (23 to 31) and then remove the Front P.C.Board (PCB2).

### 5 RMC P.C.BOARD (PCB5) REMOVAL

1. Remove the Cover Top **30**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Remove screw **S2** (22) and then remove (PCB5) by pressing the hooks around it outward.

### 6 MAIN P.C.BOARD (PCB1) REMOVAL

1. Remove the Cover Top **30**, referring to the previous step **1**.
2. Remove the Card Cable from wafer(CNT701) on the Main P.C.Board(PCB1).
3. Disconnect (CNT401, CNT102, CNT105) from the Main P.C.Board(PCB1).
4. Disconnect (CP501) from the Voltage P.C.Board (PCB4).

5. Remove 2 screw **S4** (03), **S5** (01) on the Main P.C.Board(PCB1).

6. Remove 9 screws **S2** (14 to 20, 11, 21) from the Chassis Back **25** (TX-757).  
Remove 6 screw **S2** (14, 15, 19, 20, 21,11) from the Chassis Back **25** (TX-747).

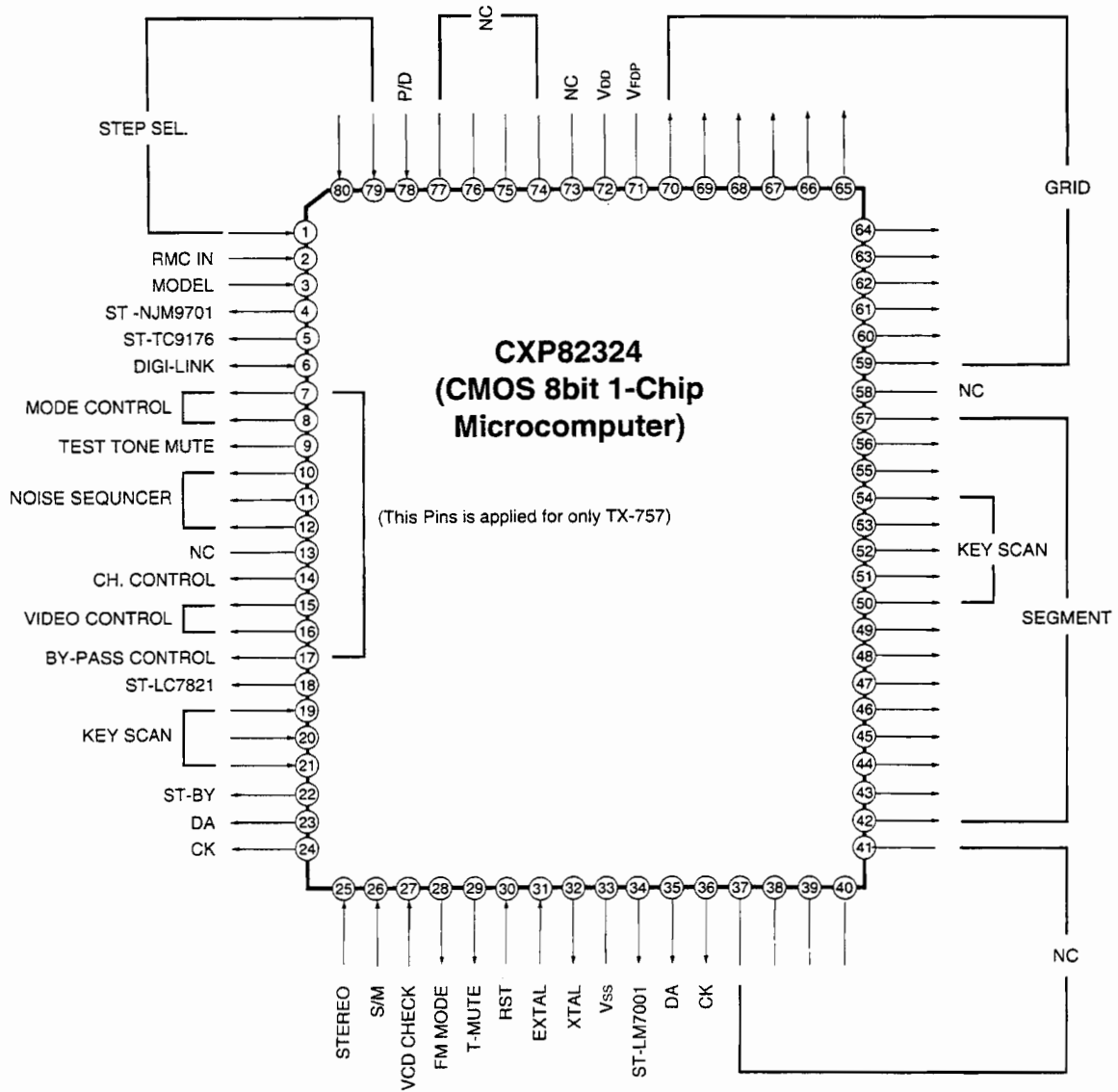
### 7 VOLTAGE P.C.BOARD(PCB4) REMOVAL

1. Remove the Cover Top **30**, referring to the previous step **1**.
2. Disconnect (CP501) from the Voltage P.C.Board(PCB4).
3. Remove 2 screws **S4** (01, 02).
4. Remove the Fastener **13** and then remove the Voltage P.C.Board(PCB4).

# CIRCUIT DESCRIPTION

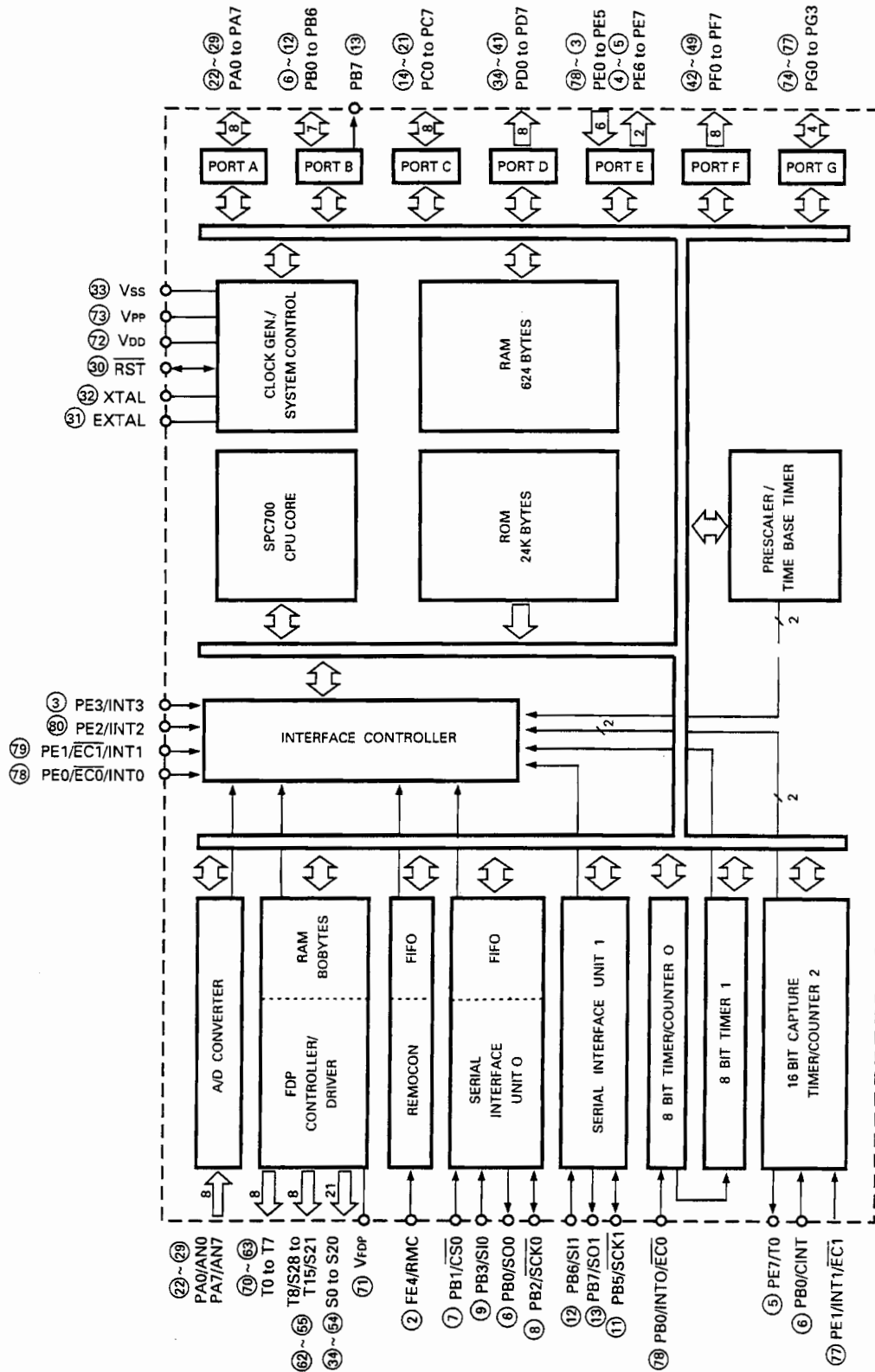
## IC701 : CXP82324 (CMOS 8bit 1-Chip Microcomputer)

### 1. Pin Connection Diagram





## 2. Block Diagram



### 3. Input and Output Terminal Functions

Pin No.	Symbol	Description																																																												
79, 80, 1	STEP SEL	Input to select frequency band and step according to regions. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Region</th> <th>Frequency</th> <th>Step</th> <th>79</th> <th>80</th> <th>1</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Korea</td> <td>FM: 87.5 ~ 107.9 MHz</td> <td>200 kHz</td> <td>L</td> <td>H</td> <td>H</td> </tr> <tr> <td>AM: 522 ~ 1611 kHz</td> <td>9 kHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="3">PT INDO</td> <td>FM: 87.5 ~ 108 MHz</td> <td>50 kHz</td> <td>L</td> <td>L</td> <td>H</td> </tr> <tr> <td>AM: 522 ~ 1611 kHz</td> <td>9 kHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td>520 ~ 1710 kHz</td> <td>10 kHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="3">Europe</td> <td>FM: 87.5 ~ 108 MHz</td> <td>50 kHz</td> <td>L</td> <td>L</td> <td>L</td> </tr> <tr> <td>AM: 522 ~ 1611 kHz</td> <td>9 kHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td>153 ~ 279 kHz</td> <td>9 kHz</td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="2">USA/Canada</td> <td>FM: 87.5 ~ 107.9 MHz</td> <td>200 kHz</td> <td>L</td> <td>H</td> <td>L</td> </tr> <tr> <td>AM: 520 ~ 1710 kHz</td> <td>10 kHz</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Region	Frequency	Step	79	80	1	Korea	FM: 87.5 ~ 107.9 MHz	200 kHz	L	H	H	AM: 522 ~ 1611 kHz	9 kHz				PT INDO	FM: 87.5 ~ 108 MHz	50 kHz	L	L	H	AM: 522 ~ 1611 kHz	9 kHz				520 ~ 1710 kHz	10 kHz				Europe	FM: 87.5 ~ 108 MHz	50 kHz	L	L	L	AM: 522 ~ 1611 kHz	9 kHz				153 ~ 279 kHz	9 kHz				USA/Canada	FM: 87.5 ~ 107.9 MHz	200 kHz	L	H	L	AM: 520 ~ 1710 kHz	10 kHz			
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	AM: 520 ~ 1710 kHz	10 kHz																																																												
2	RMC IN	Input for remote control signal. (At "L", it is active)																																																												
3	MODEL	Input to segment, and data output for key scan.																																																												
4	ST-NJU9701	Chip enable output for NJM9701.																																																												
5	ST-TC9176	Chip enable output for TC9176.																																																												
6	DIGI-LINK	Output/Input for communication with other sets.																																																												
7, 8	MODE CONTROL	Output to select prologic mode. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Pin No.</th> <th>Normal</th> <th>Wide</th> <th>Phantom</th> </tr> </thead> <tbody> <tr> <td>7</td> <td>H</td> <td>L</td> <td>L</td> </tr> <tr> <td>8</td> <td>L</td> <td>H</td> <td>L</td> </tr> </tbody> </table>	Pin No.	Normal	Wide	Phantom	7	H	L	L	8	L	H	L																																																
Pin No.	Normal	Wide	Phantom																																																											
7	H	L	L																																																											
8	L	H	L																																																											
9	TEST TONE MUTE	Output is "H" when the test tone mode is being activated.																																																												
10 ~ 12	NOISE SEQUENCER	Output to select noise sequence in prologic mode.																																																												
13	NC	Not Used !																																																												
14	CH. CONTROL	Output to select the channel mode in NJM2177.																																																												
15, 16	VIDEO CONTROL	Output to select the video signal in LA7952. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Pin No.</th> <th>VCR1</th> <th>VCR2</th> <th>VCD</th> </tr> </thead> <tbody> <tr> <td>15</td> <td>H</td> <td>L</td> <td>L</td> </tr> <tr> <td>16</td> <td>L</td> <td>H</td> <td>H</td> </tr> </tbody> </table>	Pin No.	VCR1	VCR2	VCD	15	H	L	L	16	L	H	H																																																
Pin No.	VCR1	VCR2	VCD																																																											
15	H	L	L																																																											
16	L	H	H																																																											
17	BY-PASS CONTROL	Output to allow the audio signal to by-pass dolby decoder IC NJM2177. At "L" the signal is by-passed.																																																												
18	ST-LC7821	Chip enable output for LC7821.																																																												
19 ~ 21	KEY INPUT	Data input for key scan.																																																												
22	ST-BY	When power is on, control data output is "H". When power is off, control data output is "L".																																																												
23/24	DA/CK	Data/Clock output for LC7821, NJM9701 and TC9176.																																																												
25	STEREO	Input to light "STEREO" indicator. (At "L", it is active)																																																												
26	S/M	Input to detect RF level of station during tuning.																																																												
27	VCD CHECK	Input to detect CDC ("H") or VCDC ("L").																																																												
28	FM MODE	Output to select FM MONO or STEREO. At "H", FM MONO is selected and at "L", FM STEREO is selected.																																																												
29	T-MUTE	Output for tuner mute. (At "H", it is active)																																																												
30	RST	Input to reset CPU.																																																												
31	EXTAL	Input for crystal oscillator.																																																												

Pin No.	Symbol	Description
32	XTAL	Output for crystal oscillator.
33	Vss	Ground
34	ST-LM7001	Chip enable output for LM7001.
35/36	DA/CK	Data/Clock output for LM7001.
37~41	NC	Not Used !
42~49	SEGMENT	Segment signal output for FIP.
50~54	SEGMENT/ KEY SCAN	Segment signal output for FIP and Data output for key scan.
55~57	SEGMENT	Segment signal output for FIP.
58	NC	Not Used !
59~70	GRID	Grid signal output for FIP.
71	Vfdp	Power supply for FIP controller.
72	Vdd	+5V Power supply.
73	NC	Not Used ! (Connected to Vdd)
74~77	NC	Not Used !
78	P/D	Input to detect power down.(At "H", it is active)

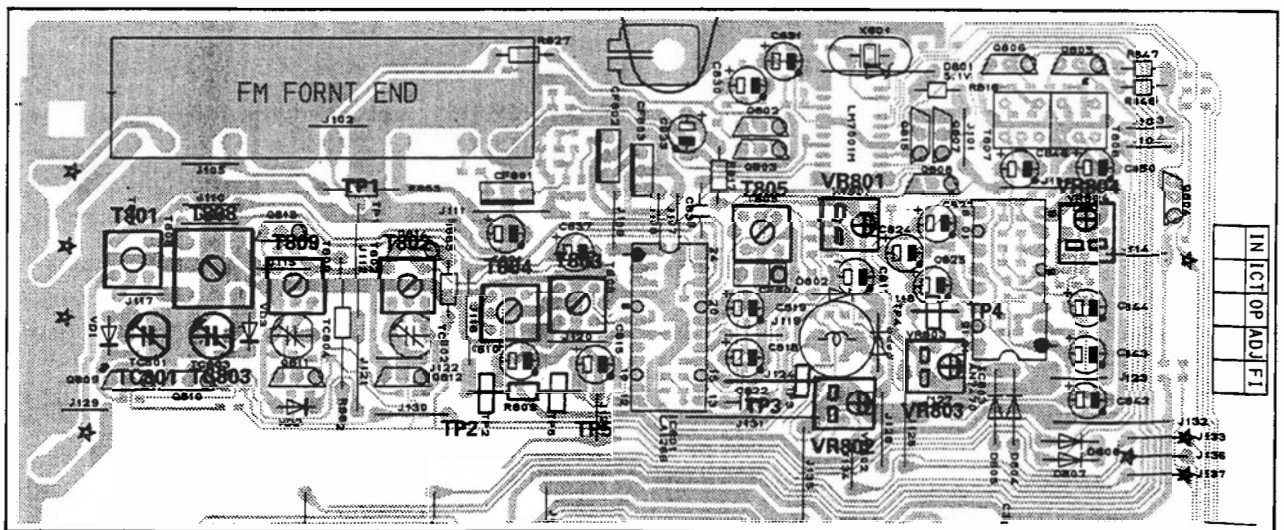
## ALIGNMENT PROCEDURES

### 1. Equipment Required

- AM Standard Signal Generator (AM SSG)
- Oscilloscope
- AC Voltmeter
- FM Standard Signal Generator (FM SSG)
- Stereo Modulator
- Audio Generator
- Distortion Meter
- DC Voltmeter
- Frequency Counter

**Note:** Disconnect external FM antenna prior to alignment.

### 2. Alignment and Test Points (PCB1)

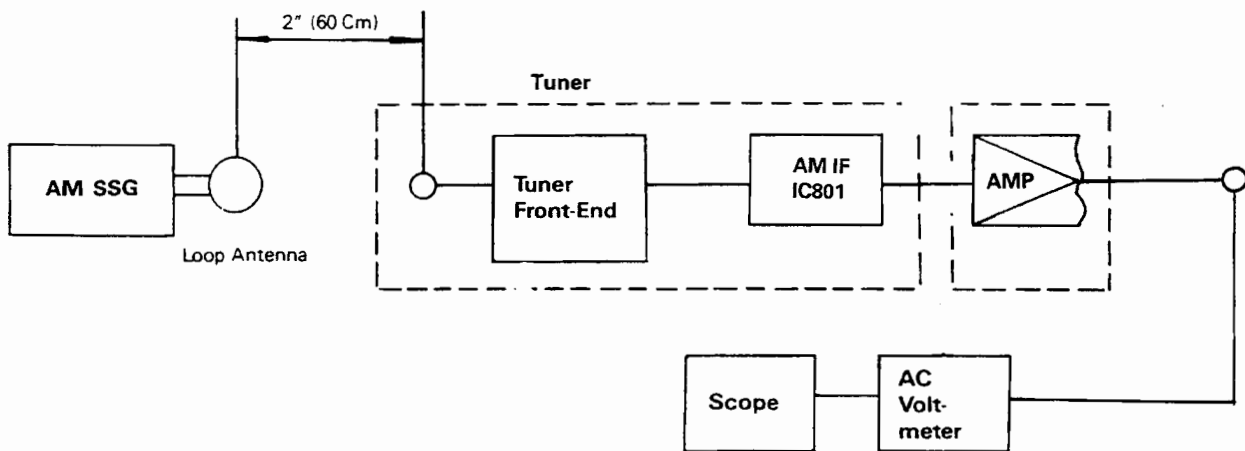


### 3. AM IF and RF Alignment

Preparation

1. Output of Signal Generator should not be higher than necessary to obtain an optimum output reading.

Step	Signal Generator Frequency	Receiver Frequency on the Display	Equipment Connection	Adjustment point	Adjust for
1	999 kHz (400 Hz, Mod.)	522 kHz	DC Voltmeter TP1	T802	1.1 V reading
	207 kHz (400 Hz, Mod.)	153 kHz	DC Voltmeter TP1	T809	1.8 V reading
2	594 kHz (400 Hz, Mod.)	594 kHz	AC Voltmeter to speaker terminal	T801 (ANT Coil)	Maximum reading
3	1404 kHz (400 Hz, Mod.)	1404 kHz	AC Voltmeter to speaker terminal	T801 (ANT Trimmer)	Maximum reading
4	450 kHz (400 Hz, Mod.)	999 kHz	AC Voltmeter to speaker terminal	T805 (IFT)	Maximum reading
5	999 kHz (400 Hz, Mod.)	999 kHz	DC Voltmeter TP3	VR801	FL display 'TUNED' Indication on receiver with AM SSG output level of 800 $\mu$ V/m 1.4V reading
6	162 kHz (400 Hz, Mod.)	162 kHz	speaker terminal	T808	Maximum reading
7	252 kHz (400 Hz, Mod.)	252 kHz	speaker terminal	TC803	Maximum reading



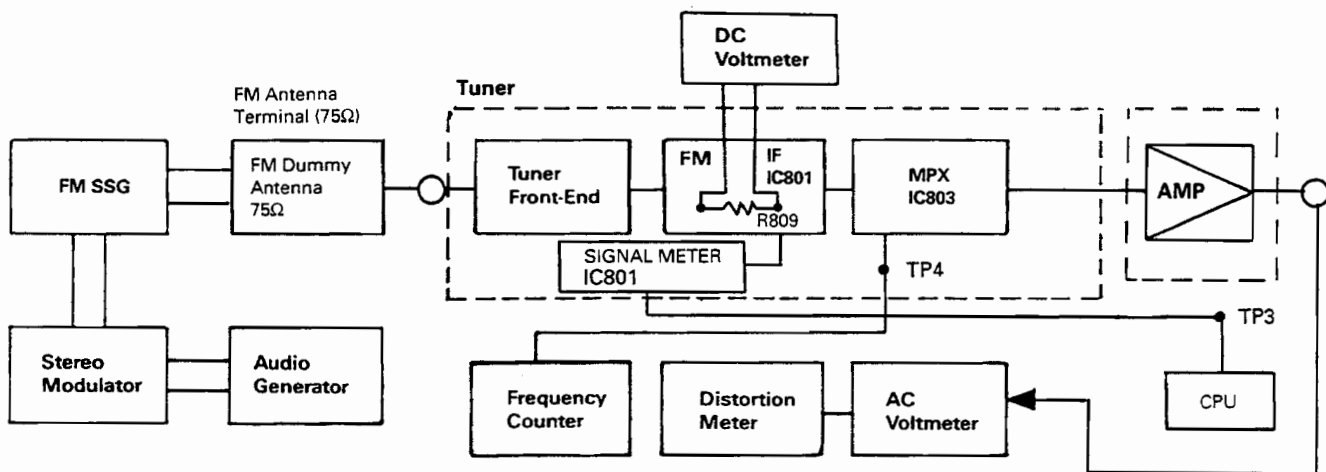
AM Alignment Connection

### 4. FM IF Alignment

Preparation

1. Signal Generator output should be no higher than necessary to obtain an optimum output reading.
2. Switch Press to FM.
3. Signal generator deviation : 40 kHz (D, PT Version) or 75kHz (A, KS Version)

Step	Signal Generator Frequency	Receiver Frequency on the Display	Equipment Connection	Adjustment point	Adjust for
1	98.0 MHz (1 kHz, Mod.)	98.0 MHz	Distortion meter to speaker terminal	T804	Maximum distortion
2	98.0 MHz (1 kHz, Mod.)	98.0 MHz	DC Voltmeter to TP3	VR802	FL display 'TUNED' Indication on receiver with FM SSG output level of $10\mu V$ 1.3V reading
3	98.0 MHz (1 kHz, Mod.)	98.0 MHz	DC Voltmeter to TP2 & TP5	T803	Zero reading on DC voltmeter.



FM RF/IF and MPX Alignment Connection

## 5. MPX Alignment

### Preparation

1. Switch: Press to FM.
2. Tuner for 98 MHz on band.
3. Signal Generator output level:  $1000\mu V$ .
4. Deviation: 40 kHz (D, PT Version) or 75kHz (A, KS Version) at 100% modulation of composite signal.
5. Connect Signal Generator to FM antenna terminal through FM dummy antenna ( $75\Omega$ ).

Step	19 kHz Modulation Level	Signal Generator Frequency Setting	Equipment Connection	Adjustment point	Adjust for
1	Pilot off	Carrier only	Frequency counter connect to TP4	VR803	$76\text{ kHz} \pm 50\text{ Hz}$
2	8% Mod.	Composite to channel 1 kHz R	AC voltmeter to R channel speaker terminal	-	Setting 0dB reference
3	8% Mod.	Composite to channel 1 kHz L	AC voltmeter to R channel speaker terminal	VR804	AC voltmeter reading should be at least 40 dB below.
4	8% Mod.	Composite to channel 1 kHz R	AC voltmeter to R channel speaker terminal	VR804	Same as Step 3.
If you could not obtain -40 dB readings in Steps 3 and 4 (compared with Step 2), readjust VR804 until you obtain -40 dB readings for both Steps 3 and 4. Nominal is -45dB.					

## TROUBLESHOOTING

Symptom	Cause and Remedy
Unit inoperative (FL indicator does not light)	<p>A) Filament resistor R723 or R722 is Blown. Replace the resistor.</p> <p>B) Check the CNT104 (Pin No. 1, 2, 3) and CNT701 (Pin No. 1, 2, 3).</p>
FM inoperative	<p>A) Defective front-end. Replace.</p> <p>B) Defective FM switch. Replace the switch.</p> <p>C) PLL IC(LM7001) Malfunction. Replace the IC(LM7001).</p> <p>D) Defective coil T803 or T804. Replace the coil(s).</p> <p>E) Defective lead-in. Repair or replace the lead-in.</p> <p>F) Ceramic filter CF801, CF802 defective. Replace the defective ceramic filter(s).</p> <p>G) Defective controller circuit component. Replace.</p>
Poor multiplex separation	<p>A) Improper adjustment. Readjust VR803 and VR804. (Refer to MPX Alignment.)</p> <p>B) IC803 defective. Replace.</p> <p>C) Variable resistor VR803 or VR804 defective. Replace the variable resistor(s).</p>
STEREO indicator does not light	<p>A) Defective indicator in FL. Replace.</p> <p>B) Improper adjustment of VR803 of tuner board. Make readjustment.</p> <p>C) Defective IC803 Replace the defective component.</p>
FM volume not sufficient	<p>A) If volume from both L and R channels is not loud enough: Front - end section defective. Faulty C801, Coil T803. Defective C838 of tuner Board.</p> <p>If sound of one channel is not loud enough: Defective T806, T807</p>
FM Mono has no effect	<p>A) Defective FM MODE switch. Replace.</p>

Symptom	Cause and Remedy
AM inoperative	<p>A) Damaged IC801 of tuner board. Replace.</p> <p>B) Defective T801, T802, T805 or CF804 of tuner board. Replace the defective component(s).</p> <p>C) Resistor R829, R822 defective. Replace the defective component(s).</p> <p>D) Capacitor C857, C818, C822 defective. Replace the defective capacitor(s).</p> <p>E) Defective AM switch. Replace.</p> <p>F) Defective varicap diode VD1, VD2. Replace Varicap diode(s).</p> <p>G) Damaged AM loop antenna. Repair or replace.</p> <p>H) Defective controller circuit component. Replace.</p>
Auto tune inoperative (UP/DOWN)	<p>A) Poor contact in Up/Down key. Repair or replace.</p> <p>B) Defective IC701. Replace.</p> <p>C) Defective tuner circuit component. Replace.</p> <p>D) In case of FM only, improper adjustment of FM front-end. Readjust.</p>
Manual tune inoperative(UP/DOWN) (AM or FM)	<p>A) Poor contact in Up/Down key. Replace.</p> <p>B) Defective IC701. Replace.</p>
Memory setting inoperative	<p>A) Poor contact in memory set key. Replace.</p> <p>B) Defective IC701. Replace the defective component.</p>
FL inoperative	<p>A) FL defective. Replace.</p> <p>B) Defective IC701. Replace.</p> <p>C) Defective X701. Replace.</p>
Remote Control Unit inoperative	<p>A) Weak Battery. Replace.</p> <p>B) Defective. Replace.</p> <p>C) Defective IC701(CPU). Replace.</p>

# MECHANICAL PARTS LIST

## Model No. : TX-757

Ref. No.	Description	Part No.	Q'ty	Version
<b>PACKAGE</b>				
	Box Carton	049605258301	1	KS
	Box Carton	049605258304	1	D,PT INDO A
	Poly Bag	9705001550	1	
	Cushion Poly	9722041410	1	
	Film Soft PE	9715000120	1	
<b>ACCESSORIES</b>				
	Assembly Commander	541810127015	1	KS
	Assembly Commander	541810127025	1	D,PT INDO A
	Battery 1.5V AA(R6M)	5518001610	1	KS
	FM Antenna Wire Dipole	4348000320	1	KS,PT INDO A
	FM Antenna Cord	4348001110	1	D
	Cord RCA, 1P	4328206410	1	KS,PT INDO
	Manual Instruction	9007018440	1	KS
	Manual Instruction	9007018441	1	PT INDO
	Manual Instruction	9007018451	1	D
	Manual Instruction	9007018443	1	A
	Antenna AM Loop Stand Strip Wire	2608207361	1	KS,PT INDO A
	Antenna AM Loop Stand Type	2608207360	1	D
<b>CABINET &amp; CHASSIS</b>				
1	Badge, INKEL	048535045411	1	KS
(1)	Badge, SHERWOOD	048535045421	1	A,D,PT INDO
2	Panel Front	048602020111	1	KS
(2)	Panel Front	048602020131	1	A,D,PT INDO
3	Window Display	048553023512	1	
4	Body Front	048521009511	1	
5	Button Function	048543070012	1	
6	Button Input, 1 key	048545131311	2	
7	Button Mode, 2 key	048545131411	1	
8	Jack Phone	4438005510	1	KS,PT INDO
(8)	Not Used !			A,D
9	Shield Fence	6165146110	1	KS,PT INDO
(9)	Not Used !			A,D
10(VR401)	Volume Mic	3208052410	1	KS,PT INDO
(10)	Not Used !			A,D
11	Foot & Rubber	6035104310	2	
12	Fastener, 12H	6528301710	2	KS,PT INDO
(12)	Fastener, 12H	6528301710	1	A,D
13	Fastener, 19H	6528300210	2	
14	Spacer PCB	6705004220	1	
15	Cushion Foot	6715021230	2	
16	Chassis Main	6121614930	1	
17	Heatsink Regulator TR.	7505206210	1	
18	Jack RCA, 2P	4438103020	1	
19	Jack RCA, 9P	4438114510	1	
20	Jack RCA, 2P	4438103010	1	
21	Terminal Antenna, 4P	4408107120	1	A,KS,PT INDO
(21)	Terminal Antenna, 4P	4408108220	1	D
22	Shield Plate	6165151910	1	A,KS,PT INDO
(22)	Not Used !			D
23	Stopper Connector	6518002210	1	
24	Stopper Connector	6518002110	1	
25	Chassis Back	046102045411	1	KS
(25)	Chassis Back	046102045491	1	PT INDO
(25)	Chassis Back	046102045421	1	A
(25)	Chassis Back	046102045451	1	D
26	Cover Top	046123018011	1	
27	Shield Fence, Front-end	6163115510	1	A,KS,PT INDO
(27)	Not Used !			D
28	Switch Tact	4658003710	14	
29	Switch Tact	4658004010	1	
30	Sponge Rubber	6715012010	1	
31	Knob Rotary	048545131511	1	KS,PT INDO
(31)	Not Used !			A,D
<b>HARDWARE KIT</b>				
S1	Screw, #2FTC 3x8B	8129230083	5	
S2	Screw, #BBTT 3x8B	8179130083	32	KS,PT INDO
(S2)	Screw, #BBTT 3x8B	8179130083	31	A,D
S3	Screw, Mecha	8155001210	2	KS,PT INDO
(S3)	Not Used !			A,D
S4	Screw, #BWPTT 3x6Y	8179230061	3	
S5	Screw, #2WPTC 3x14Y	8159230141	1	
<b>MISCELLANEOUS</b>				
	Card Cable, 13P, 140mm	4118613145	1	
	Card Cable, 20P, 200mm	4118620205	1	
	Connector, System, 13P, 500mm	4358613501	1	
	Connector, System, 9P, 500mm	4358609501	1	
PCB1	P.C.Board Main	4004001500	1	
PCB2	P.C.Board Mic (KS, PT INDO AREA ONLY)	4004001530	1	
PCB3	P.C.Board Power	4005512700	1	
PCB4	P.C.Board Front	4004001510	1	
PCB5	P.C.Board RMC	4004001520	1	

## Model No. : TX-747

Ref. No.	Description	Part No.	Q'ty	Version
<b>PACKAGE</b>				
	Box Carton	04960525830	1	KS
	Box Carton	04960525830	1	D,PT INDO
	Poly Bag	9705001550	1	
	Cushion Poly	9722041410	1	
	Film Soft PE	9715000120	1	
<b>ACCESSORIES</b>				
	Assembly Commander	41810126015	1	KS
	Assembly Commander	41810126025	1	D,PT INDO
	Battery 1.5V AA(R6M)	5518001610	1	KS
	FM Antenna Wire Dipole	4348000320	1	KS,PT INDO
	FM Antenna Cord	4348001110	1	D
	Cord RCA, 1P	4328206410	1	KS,PT INDO
	Manual Instruction	9007018450	1	KS
	Manual Instruction	9007018452	1	PT INDO
	Manual Instruction	9007018451	1	D
	Antenna AM Loop Stand Strip Wire	2608207361	1	KS,PT INDO
	Antenna AM Loop Stand Type	2608207360	1	D
<b>CABINET &amp; CHASSIS</b>				
1	Badge, INKEL	04853504541	1	KS
(1)	Badge, SHERWOOD	04853504542	1	A,D,PT INDO
2	Panel Front	04860202012	1	KS
(2)	Panel Front	04860202014	1	D
3	Window Display	04855302351	1	
4	Body Front	04852100951	1	
5	Button Function	04854307001	1	
6	Button Input, 1 key	04854513131	2	
7	Not Used !			
8	Jack Phone	4438005510	1	
9	Shield Fence	6165146110	1	
10	Volume Mic	3208052410	1	
11	Foot & Rubber	6035104310	2	
12	Fastener, 12H	6528301710	2	KS,PT INDO
13	Fastener, 19H	6528300210	2	
14	Spacer PCB	6705004220	1	
15	Cushion Foot	6715021230	2	
16	Chassis Main	6121614930	1	
17	Heatsink Regulator TR	7505206210	1	
18	Not Used !			
(17)	Not Used !			
18	Not Used !			
19	Not Used !			
20	Jack RCA, 2P	4438103010	1	
21	Terminal Antenna, 4P	4408107120	1	A,KS,PT INDO
(21)	Terminal Antenna, 4P	4408108220	1	D
22	Shield Plate	6165151910	1	A,KS,PT INDO
(22)	Not Used !			D
23	Stopper Connector	6518002210	1	
24	Stopper Connector	6518002110	1	
25	Chassis Back	046102045311	1	KS,PT INDO
(25)	Chassis Back	046102045391	1	A
(25)	Chassis Back	046102045351	1	D
26	Cover Top	046123018011	1	
27	Shield Fence, Front-end	6163115510	1	A,KS,PT INDO
(27)	Not Used !			D
28	Switch Tact	4658003710	11	
29	Switch Tact	4658004010	1	
30	Sponge Rubber	6715012010	1	
31	Knob Rotary	048545131511	1	A,KS,PT INDO
(31)	Not Used !			D
<b>HARDWARE KIT</b>				
S1	Screw, #2FTC 3x8B	8129230083	5	
S2	Screw, #BBTT 3x8B	8179130083	29	KS,PT INDO
(S2)	Screw, #BBTT 3x8B	8179130083	28	A,D
S3	Screw, Mecha	8155001210	2	A,KS,PT INDO
(S3)	Not Used !			D
S4	Screw, #BWPTT 3x6Y	8179230061	3	
S5	Screw, #2WPTC 3x14Y	8159230141	1	
<b>MISCELLANEOUS</b>				
	Card Cable, 20P, 200mm	4118620205		
	Connector, System, 13P, 500mm	4358613501		
	Connector, System, 9P, 500mm	4358609501		
PCB1	P.C.Board Main	4004001500		
PCB2	P.C.Board Mic (KS, PT INDO AREA ONLY)	4004001530		
PCB3	P.C.Board Power	4005512700		
PCB4	P.C.Board Front	4004001510		
PCB5	P.C.Board RMC	4004001520		

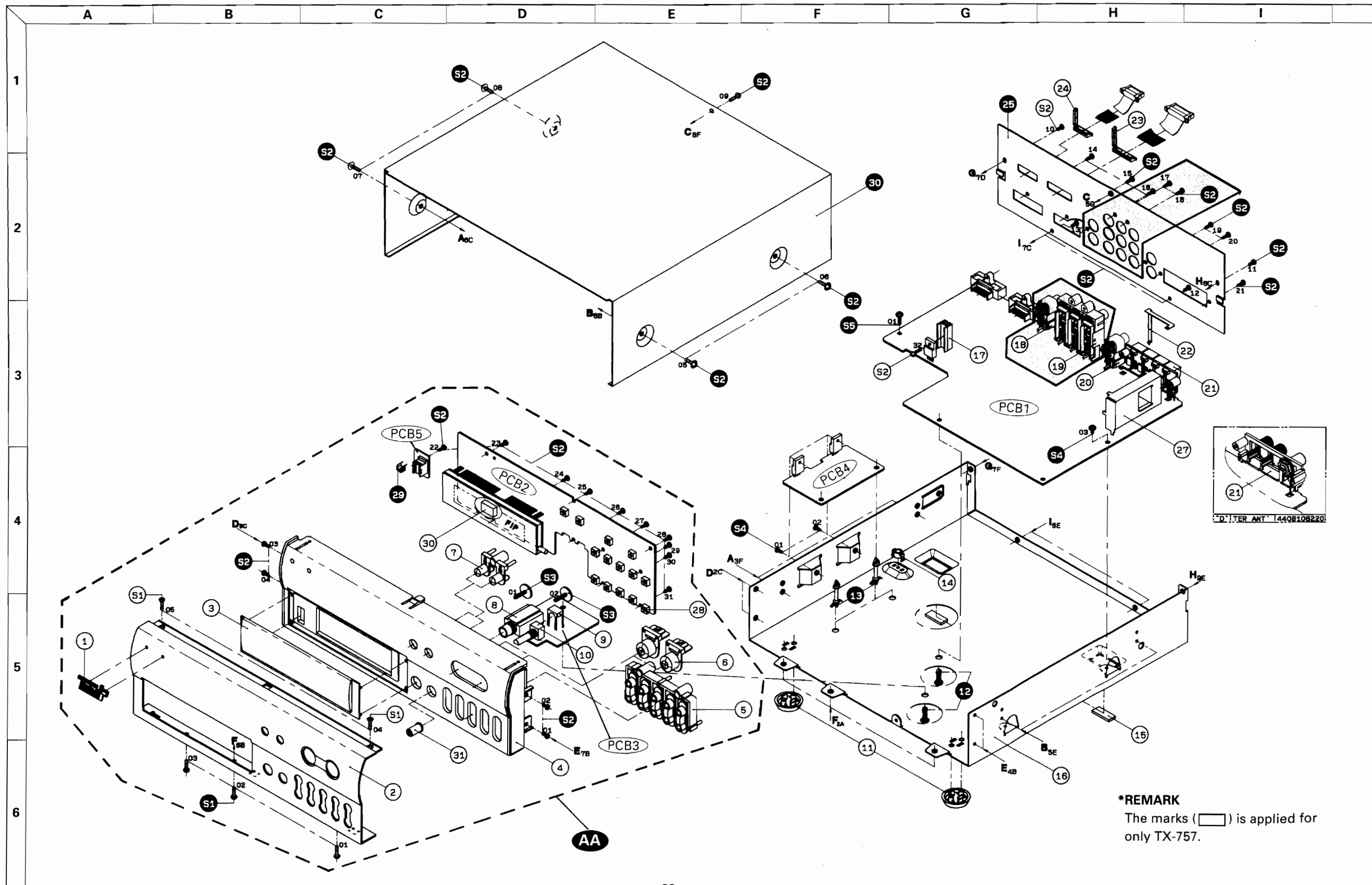
### PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol in the parts list are of special significance to safety. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.



# EXPLODED VIEW

Model No : TX-757/747

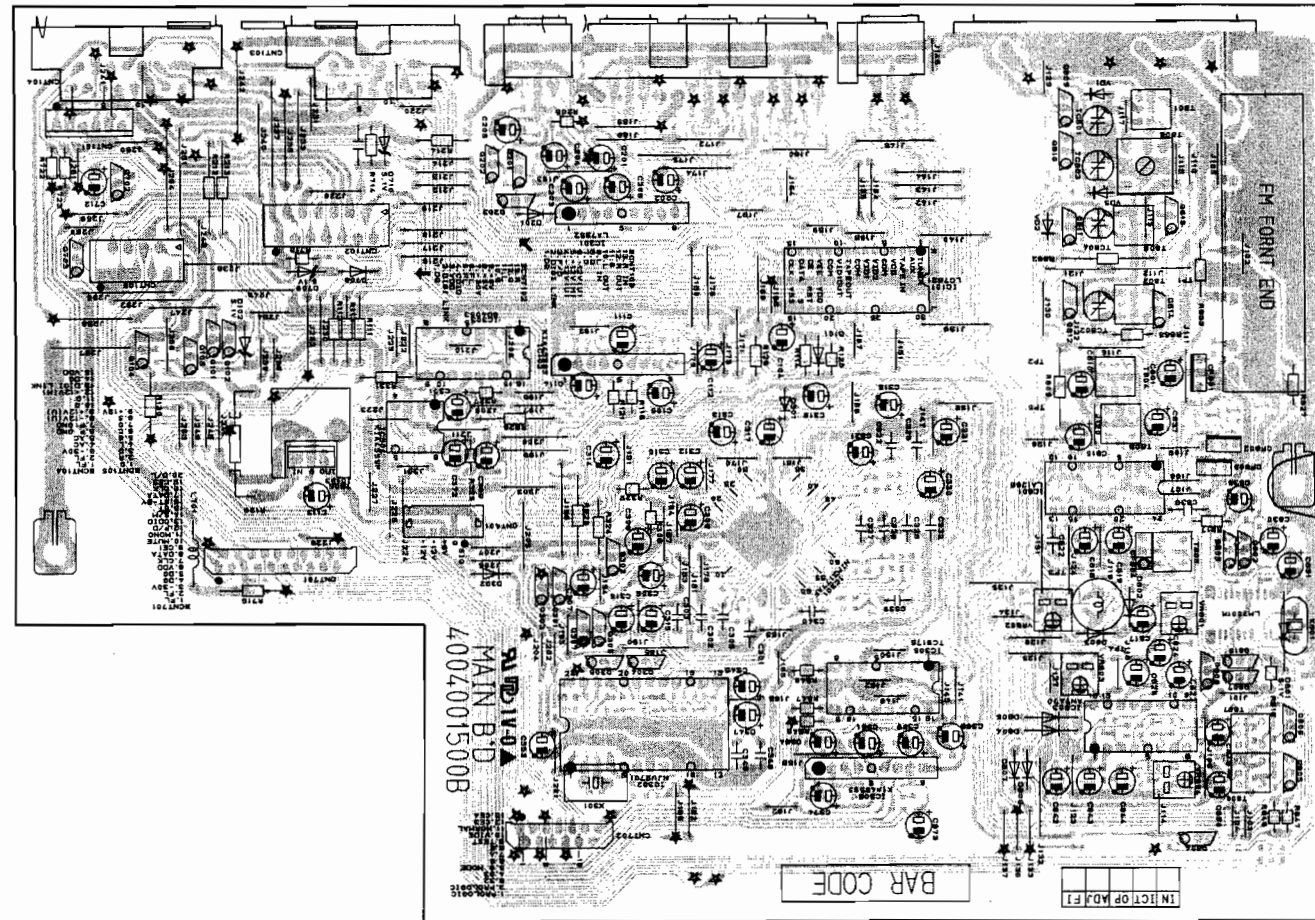


**\*REMARK**  
The marks ( ) is applied for only TX-757.

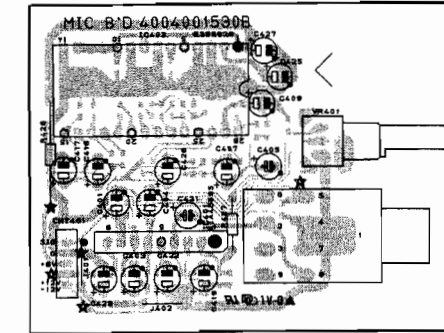
# PRINTED CIRCUIT BOARDS

Model No : TX-757/747

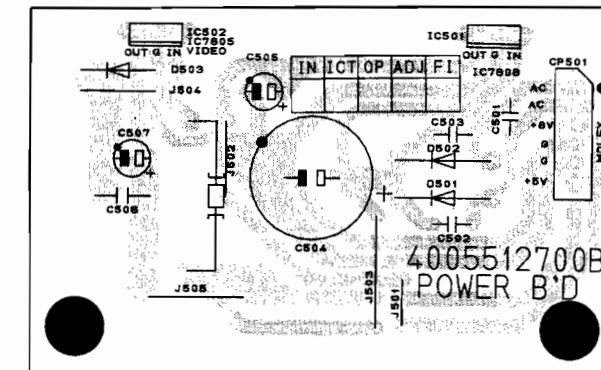
MAIN (PCB1)



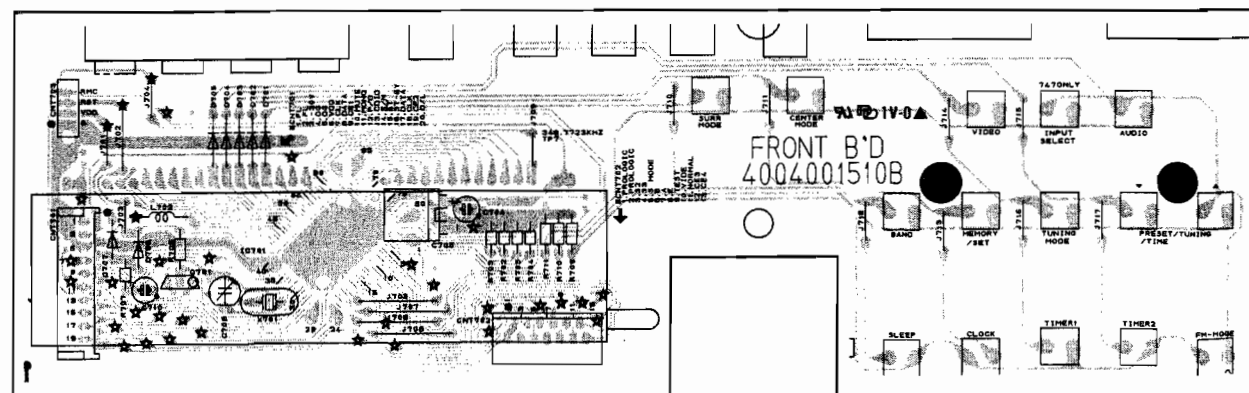
MIC (PCB3)



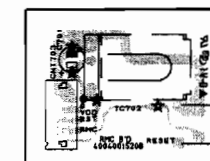
POWER (PCB4)



FRONT (PCB2)



RMC (PCB5)



# ELECTRICAL PARTS LIST

**PRODUCT SAFETY NOTICE :** Products marked with  $\Delta$  have special characteristics important to safety. If you replace any of these components, read carefully the product safety notice in this manual. Don't degrade the safety of the product through improper servicing. Resistor/Capacitor tolerance - D : ( $\pm 0.5\%$ ), J : ( $\pm 5\%$ ), K : ( $\pm 10\%$ ), M : ( $\pm 20\%$ ), Z : +80, - 20%

Model No. : TX-757

Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version
<b>PCB1 ASSEMBLY P.C. BOARD MAIN</b>									
<b>CAPACITORS</b>									
C100/C101	Chip	0.1 uF	50 V Z	3539104060	2				
C102	Chip, CH	100 pF	50 V J	3539101210	1				
C103	Chip	0.047 uF	50 V Z	3539473060	1				
C104	Electrolytic SG	1 uF	50 V M	3479310971	1				
C105	Chip	0.047 uF	50 V Z	3539473060	1				
C107 (C107)	Chip, CH	220 pF	50 V J	3539221210	1	KS,PT INDO D.A			
C108	Electrolytic SG	10 uF	35 V M	3479310061	1				
C110 (C110)	Chip, CH	220 pF	50 V J	3539221210	1	KS,PT INDO D.A			
C111/C112	Electrolytic SG	47 uF	16 V M	3479347031	2				
C113	Electrolytic SG	4.7 uF	50 V M	3479347971	1				
C114	Electrolytic SG	10 uF	35 V M	3479310061	1				
C115-C128 (C115-C128)	Chip, CH	100 pF	50 V J	3539101210	14	D KS,PT INDO.A			
C201-C203	Electrolytic SG	10 uF	35 V M	3479310061	3				
C204/C205	Electrolytic SG	470 uF	10 V M	3479347121	2				
C206	Electrolytic SG	100 uF	16 V M	3479310131	1				
C207	Chip	0.047 uF	50 V Z	3539473060	1				
C301	Mylar	0.047 uF	100 V J	3679473120	1				
C302/C303	Mylar	0.1 uF	63 V K	3679104297	2				
C304	Chip, CH	680 pF	50 V J	3539681210	1				
C305	Mylar	0.047 uF	100 V J	3679473120	1				
C306	Electrolytic SG	22 uF	16 V M	3479322031	1				
C307-C309	Electrolytic SG	10 uF	35 V M	3479310061	3				
C310	Electrolytic SG	22 uF	16 V M	3479322031	1				
C311	Chip	0.005 uF	50 V K	3539472820	1				
C312	Electrolytic SG	0.47 uF	50 V M	3479347871	1				
C313/C314	Electrolytic SG	4.7 uF	50 V M	3479347971	2				
C315	Electrolytic SG	0.22 uF	50 V M	3479322871	1				
C316	Electrolytic SG	10 uF	35 V M	3479310061	1				
C317	Electrolytic SG	220 uF	16 V M	3479322131	1				
C318	Electrolytic SG	4.7 uF	50 V M	3479347971	1				
C319	Electrolytic SG	4.7 uF	50 V M	3479347971	1				
C320	Chip	0.006 uF	50 V K	3539562820	1				
C321	Electrolytic SG	220 uF	10 V M	3479322121	1				
C322	Mylar	0.047 uF	100 V J	3679473120	1				
C323	Chip, CH	470 pF	50 V J	3539471210	1				
C324	Chip	0.005 uF	50 V J	3539472820	1				
C325	Chip	0.006 uF	50 V K	3539562820	1				
C326	Mylar	0.68 uF	63 V K	3679684297	1				
C327-C329	Mylar	0.22 uF	63 V K	3679224297	3				
C330/C331	Electrolytic SG	4.7 uF	50 V M	3479347971	2				
C332	Mylar	0.22 uF	63 V K	3679224297	1				
C333-C336	Chip	0.1 uF	50 V Z	3539104060	4				
C337/C338	Chip	0.022 uF	50 V K	3539223820	2				
C339/C340	Mylar	0.1 uF	63 V K	3679104297	2				
C341	Chip, CH	680 pF	50 V J	3539681210	1				
C342	Chip	0.006 uF	50 V K	3539562820	1				
C343	Electrolytic SG	1 uF	50 V M	3479310971	1				
C344	Chip	0.006 uF	50 V K	3539562820	1				
C345	Chip, CH	470 pF	50 V J	3539471210	1				
C346	Chip	0.1 uF	50 V Z	3539104060	1				
C347	Electrolytic SG	47 uF	16 V M	3479347031	1				
C348/C349	Mylar	0.047 uF	100 V J	3679473120	2				
C350	Chip	0.1 uF	50 V Z	3539104060	1				
C351	Chip	0.003 uF	50 V K	3539332820	1				
C352	Chip, CH	470 pF	50 V J	3539471210	1				
C353	Electrolytic SG	220 uF	10 V M	3479322121	1				
C354	Chip	0.1 uF	50 V Z	3539104060	1				
C355/C356	Chip, CH	270 pF	50 V J	3539271210	2				
C357/C358	Chip, CH	100 pF	50 V J	3539101210	2				
C359	Electrolytic SG	4.7 uF	50 V M	3479347971	1				
C360	Chip	0.1 uF	50 V Z	3539104060	1				
C361	Electrolytic SG	47 uF	16 V M	3479347031	1				
C362	Chip, CH	100 pF	50 V J	3539101210	1				
C363	Chip, CH	680 pF	50 V J	3539681210	1				
C364	Electrolytic SG	0.47 uF	50 V M	3479347871	1				
C365	Chip	0.1 uF	50 V Z	3539104060	1				
C366	Electrolytic SG	47 uF	16 V M	3479347031	1				
C367	Chip, CH	100 pF	50 V J	3539101210	1				
C368	Chip, CH	680 pF	50 V J	3539681210	1				
C369	Electrolytic SG	47 uF	16 V M	3479347031	1				
C370	Chip, CH	100 pF	50 V J	3539101210	1				
C371	Electrolytic SG	1 uF	50 V M	3479310971	1				
C372	Electrolytic SG	47 uF	16 V M	3479347031	1				
C373	Electrolytic SG	4.7 uF	50 V M	3479347971	1				
C374	Electrolytic SG	0.47 uF	50 V M	3479347871	1				
C711	Chip, CH	470 pF	50 V J	3539471210	1				
C712	Electrolytic SG	1 uF	50 V M	3479310971	1				
C801	Electrolytic SG	100 uF	16 V M	3479310131	1				
C802	Chip	0.047 uF	50 V Z	3539473060	1				
C803	Chip, CH	33 pF	50 V J	3539330210	1				
C804	Chip	0.01 uF	50 V K	3539103820	1				
C805	Chip, CH	33 pF	50 V J	3539330210	1				
C806-C809	Chip	0.047 uF	50 V Z	3539473060	4				
C810	Electrolytic SG	47 uF	16 V M	3479347031	1				
C811-C813	Chip, CH	100 pF	50 V J	3539101210	3				
C814	Chip, CH	330 pF	50 V J	3539331210	1				
C815	Electrolytic SG	1 uF	50 V M	3479310971	1				
C816	Chip	0.047 uF	50 V Z	3539473060	1				
C817	Electrolytic SG	10 uF	35 V M	3479310061	1				
C818	Electrolytic SG	3.3 uF	50 V M	3479333971	1				
C819	Electrolytic SG	2.2 uF	50 V M	3479322971	1				
C820	Chip	0.022 uF	50 V K	3539223820	1				
C821	Chip	0.047 uF	50 V Z	3539473060	1				
C822	Mylar	0.047 uF	100 V J	3679473120	1				
C823	Chip, CH	470 pF	50 V J	3539471210	1				
C824	Electrolytic SG	3.3 uF	50 V M	3479333971	1				
C825	Electrolytic SG	1 uF	50 V M	3479310971	1				
C826	Chip	0.047 uF	50 V Z	3539473060	1				
C827	Electrolytic SG	0.22 uF	50 V M	3479322871	1				
C828/C829	Chip	0.01 uF	50 V K	3539103820	2				
C830	Electrolytic SG	4.7 uF	50 V M	3479347971	1				
C831	Electrolytic SG	47 uF	16 V M	3479347031	1				
C832	Chip	0.047 uF	50 V Z	3539473060	1				
C833	Electrolytic SG	47 uF	16 V M	3479347031	1				
C834/C835	Chip	0.047 uF	50 V Z	3539473060	2				
C837	Electrolytic SG	10 uF	35 V M	3479310061	1				
C838	Chip	0.047 uF	50 V Z	3539473060	1				
C839	Ceramic Tubular	0.001 uF	50 V K	3519102935	1				
C840	Chip	0.047 uF	50 V Z	3539473060	1				
C841	Chip, CH	470 pF	50 V J	3539471210	1				
C842	Electrolytic SG	4.7 uF	50 V M	3479347971	1				
C843	Electrolytic SG	100 uF	16 V M	3479310131	1				
C844	Electrolytic SG	100 uF	10 V M	3479310121	1				
C845	Chip	120 pF	50 V J	3539121210	1				
C846	Chip	0.002 uF	50 V K	3539152820	1	KS.A			
C846 (C846)	Chip	0.001 uF	50 V K	3539102820	1	D,PT INDO			
C847	Chip	0.002 uF	50 V K	3539152820	1	KS.A			
C847 (C847)	Chip	0.001 uF	50 V K	3539102820	1	D,PT INDO			
C848	Electrolytic SG	2.2 uF	50 V M	3479322971	1				
C849	Chip	0.002 uF	50 V K	3539222820	1				
C850	Electrolytic SG	2.2 uF	50 V M	3479322971	1				
C851	Chip	0.002 uF	50 V K	3539222820	1				
C852	Chip, CH	15 pF	50 V J	3539150210	1				
C853	Chip	0.047 uF	50 V Z	3539473060	1	D			
C853 (C853)	Not Used!					KS,PT INDO.A			
C854	Chip	0.047 uF	50 V Z	3539473060	1	D			
C854 (C854)	Not Used!					KS,PT INDO.A			
C855	Chip, CH	180 pF	50 V J	3539181210	1	D			
C855 (C855)	Not Used!					KS,PT INDO.A			
C856	Chip, CH	33 pF	50 V J	3539330210	1	D			
C856 (C856)	Not Used!					KS,PT INDO.A			
C857	Chip, CH	470 pF	50 V J	3539471210	1	D			
C858/C859	Chip, CH								

Model No. : TX-757

Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version	
R809	Carbon Film	18 kohm	1/5 W	J	3069183970	1	KS,A	VR803	5 kohm (B)	3248050243	1									
(R809)	Carbon Film	47 kohm	1/5 W	J	3069473970	1	D,PT INDO	VR804	200 kohm	3248020443	1									
R810	Chip	22 ohm	1/10 W	J	3099220870	1														
R811	Chip	2.4 kohm	1/10 W	J	3099243870	1														
R812	Chip	10 kohm	1/10 W	J	3099103870	1		X301	Resonator, CSA2.00MG-TF21	3938124001	1									
R813	Chip	68 kohm	1/10 W	J	3099683870	1		X801	Crystal, 7.2MHz	3978101031	1									
R814	Chip	4.7 kohm	1/10 W	J	3099472870	1		TC801	Trimmer, 10P	3838001140	1									
R815	Chip	33 ohm	1/10 W	J	3099330870	1		TC803	Trimmer, 10P	3838001140	1	D								
R816	Metal Film	240 ohm	1/5 W	J	3029241970	1		(TC803)	Not Used !											
R817	Metal Film	330 ohm	1/5 W	J	3029331970	1		17	Heatsink Regulator TR.	7505206210	1									
R818	Chip	2 kohm	1/10 W	J	3099202870	1	KS,A	18	Jack RCA, 2P	4438103020	1									
(R818)	Chip	3.9 kohm	1/10 W	J	3099392870	1	D,PT INDO	19	Jack RCA, 9P	4438114510	1									
R819	Chip	2.2 kohm	1/10 W	J	3099222870	1		20	Jack RCA, 2P	4438103010	1									
R820	Chip	22 kohm	1/10 W	J	3099223870	1	KS,PT INDO,A	21	Terminal Antenna, 4P	4408107120	1	A,KS,PT INDO								
(R820)	Chip	12 kohm	1/10 W	J	3099123870	1	D	(21)	Terminal Antenna, 4P	4408108220	1	D								
R821	Chip	68 ohm	1/10 W	J	3099680870	1		22	Shield Plate	6165151910	1	A,KS,PT INDO								
R822	Chip	100 kohm	1/10 W	J	3099104870	1		(22)	Not Used !											
R823	Chip	47 kohm	1/10 W	J	3099473870	1		27	Shield Fence, Front-end	6163115510	1	A,KS,PT INDO								
R824	Chip	1 kohm	1/10 W	J	3099102870	1		(27)	Not Used !											
R825	Chip	560 ohm	1/10 W	J	3099561870	1		FRONT-EN	Front -End, FTH4-460V	3928101850	1	D								
R826	Chip	10 kohm	1/10 W	J	3099103870	1		FRONT-EN	ASSEMBLY P.C.BOARD FRONT END	054002009835	1	KS,PT INDO,A								
R827	Carbon Film	5.6 kohm	1/5 W	J	3069562970	1		C81	CAP, CeramicTubular, 8.2 pF 50 V K	3511825235	1									
R828/R829	Chip	100 ohm	1/10 W	J	3099101870	2		C83	CAP, CeramicTubular, 100 pF 50 V J	3519101935	1									
R831	Chip	47 kohm	1/10 W	J	3099473870	1	KS,A	C84	CAP, CeramicTubular, 0.001 uF 50 V Z	3519102935	1									
(R831)	Chip	33 kohm	1/10 W	J	3099333870	1	D,PT INDO	C85	CAP, CeramicTubular, 3.9 pF 50 V K	3511395235	1									
R832	Chip	22 kohm	1/10 W	J	3099223870	1	KS,A	C86	CAP, CeramicTubular, 5.6 pF 50 V K	3511565235	1									
(R832)	Chip	27 kohm	1/10 W	J	3099273870	1	D,PT INDO	C87	CAP, CeramicTubular, 2.2 pF 50 V K	3511225235	1									
R833	Chip	22 kohm	1/10 W	J	3099223870	1	KS,A	C88	CAP, CeramicTubular, 18 pF 50 V J	3511186135	1									
(R833)	Chip	27 kohm	1/10 W	J	3099273870	1	D,PT INDO	C89	CAP, CeramicTubular, 0.001 uF 50 V Z	3519102935	1									
R834	Chip	8.2 kohm	1/10 W	J	3099822870	1	KS,A	C90	CAP, CeramicTubular, 8.2 pF 50 V K	3511825235	1									
(R834)	Chip	5.6 kohm	1/10 W	J	3099562870	1	D,PT INDO	C91	CAP, CeramicTubular, 3.3 pF 50 V K	3511335235	1									
R835	Chip	10 kohm	1/10 W	J	3099103870	1		C92	CAP, CeramicTubular, 15 pF 50 V J	3519150935	1									
R836	Chip	8.2 kohm	1/10 W	J	3099822870	1	KS,A	L81	Coil, Inductor, 0.47 uH	2648647882	1									
(R836)	Chip	5.6 kohm	1/10 W	J	3099562870	1	D,PT INDO	L82	Coil, Inductor, 2.2 uH	2648622982	1									
R837	Chip	1 kohm	1/10 W	J	3099102870	1		Q81	TR, KSC2786R	2208406128	1									
R838/R839	Chip	56 kohm	1/10 W	J	3099563870	2		Q82/Q83	TR, KTC3193-0, NPN	2208406125	2									
R840-R842	Chip	3.3 kohm	1/10 W	J	3099332870	3		Q84	FET, 2SK544	2218217000	1									
R843	Chip	10 kohm	1/10 W	J	3099103870	1	KS,A	R81	RES, Carbon Film 100 kohm 1/5 W J	3069104970	1									
(R843)	Chip	3.3 kohm	1/10 W	J	3099332870	1	D,PT INDO	R82/R83	RES, Carbon Film 33 kohm 1/5 W J	3069333970	2									
R844	Chip	3.3 kohm	1/10 W	J	3099332870	1		R84	RES, Metal Film 220 ohm 1/5 W J	3029221970	1									
R845	Chip	10 kohm	1/10 W	J	3099103870	1	KS,A	R85	RES, Carbon Film 330 kohm 1/5 W J	3069334970	1									
(R845)	Chip	3.3 kohm	1/10 W	J	3099332870	1	D,PT INDO	R86/R87	RES, Metal Film 390 ohm 1/5 W J	3029391970	2									
R846/R847	Metal Film	3.9 kohm	1/5 W	J	3029392970	2		R88	RES, Carbon Film 560 kohm 1/5 W J	3069564970	1									
R848	Chip	15 kohm	1/10 W	J	3099153870	1		R89	RES, Carbon Film 33 kohm 1/5 W J	3069333970	1									
R849	Chip	1 kohm	1/10 W	J	3099102870	1		R90	RES, Metal Film 390 ohm 1/5 W J	3029391970	1									
R850	Chip	6.8 kohm	1/10 W	J	3099682870	1		R91	RES, Carbon Film 680 kohm 1/5 W J	3069684970	1									
R851	Chip	100 kohm	1/10 W	J	3099104870	1		VD81-VD83	Vractor, SVC211SPA-C	2258817103	3									
R852	Chip	3.3 kohm	1/10 W	J	3099332870	1	KS,A													
(R852)	Chip	1.8 kohm	1/10 W	J	3099182870	1	D,PT INDO													
R853	Carbon Film	100 kohm	1/5 W	J	3069104970	1	D													
(R853)	Not Used !						A,KS,PT INDO													
R854	Chip	56 kohm	1/10 W	J	3099563870	1	D													
(R854)	Not Used !						KS,PT INDO,A													
R855	Chip	100 kohm	1/10 W	J	3099104870	1	D													
(R855)	Not Used !						KS,PT INDO,A													
R856/R857	Chip	47 kohm	1/10 W	J	3099473870	1	D													
(R856/R857)	Not Used !						KS,PT INDO,A													
R858	Chip	1 Mohm	1/10 W	J	3099105870	1	D													
(R858)	Not Used !						KS,PT INDO,A													
R859	Chip	100 kohm	1/10 W	J	3099104870	1														
R860/R861	Chip	47 kohm	1/10 W	J	3099473870	2	D													
R862/R863	Carbon Film	47 kohm	1/5 W	J	3069473970	2	D													
R860-R863	Chip	47 kohm	1/10 W	J	3099473870	4	D													
(R860-R863)	Not Used !						KS,PT INDO,A													
<b>COILS</b>																				
L701	Inductor, 1 mH 03	2648610283	1																	
L801	Inductor, 20.8mH	2648601430	1																	
(L801)	Not Used !						KS,PT INDO,A													
T801	AM-ANT	2608201120	1																	
T802	AM-OSC	2638201150	1																	
T803	FM-DET-A	2838501110	1																	
T804	FM-DET-B	2838501210	1																	
T805	AM-IFT	2848001250	1																	
T806/T807	MPX, 19 kHz, FB-7SG	2658301100	2																	
T808	LW ANT	2608201130	1				D													
(T808)	Not Used !						KS,PT INDO,A													
T809	LW OSC	2638401060	1				D													

Model No. : TX-747

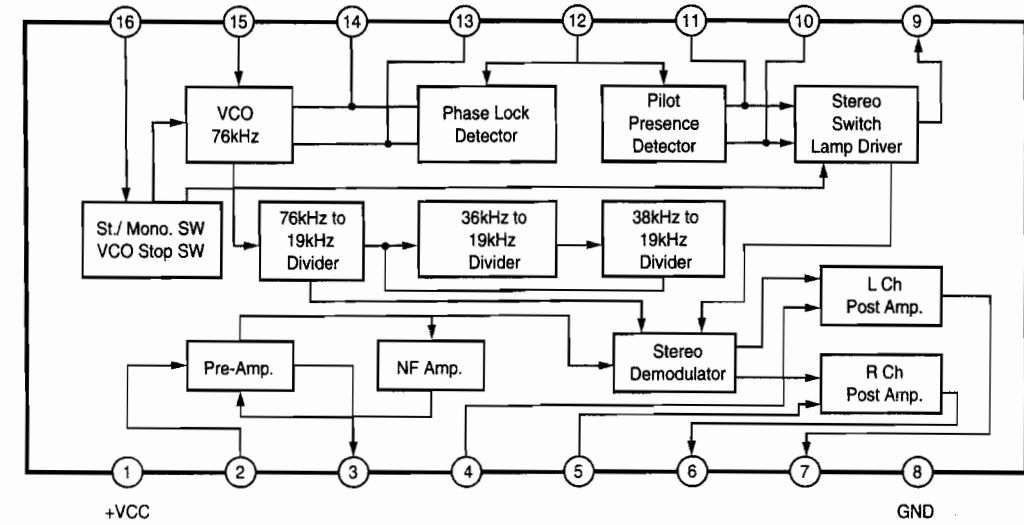
Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version		
<b>PCB1 ASSEMBLY P.C.BOARD MAIN</b>					<b>CONNECTORS</b>						
C101	Chip	0.1	uF	50 V Z	3539104060	1	CNT101	Lead Ass'y, 6P, 160mm	36106163761	1	
C102	Chip, CH	100	pF	50 V J	3539101210	1	CNT102	Wafer, 13P	4428525340	1	
C103	Chip	0.047	uF	50 V Z	3539473060	1	CNT103	Wafer, 13P	4428513820	1	
C104	Electrolytic SG	1	uF	50 V M	3479310971	1	CNT104	Wafer, 15P	4428515820	1	
C105	Chip	0.047	uF	50 V Z	3539473060	1	CNT105	Wafer, 9P	4428525300	1	
C107	Chip, CH	220	pF	50 V J	3539221210	1	CNT401	Wire Trap, 5P	4428531105	1	
(C107)	Not Used!						(CNT401)	Not Used!			
C108	Electrolytic SG	10	uF	35 V M	3479310061	1	CNT701	Wafer, FPC, 20P	4426001020	1	
C110	Chip, CH	220	pF	50 V J	3539221210	1					
(C110)	Not Used!										
C111/C112	Electrolytic SG	47	uF	16 V M	3479347031	2	D101	1N4148, Switching	2058322101	1	
C113	Electrolytic SG	4.7	uF	50 V M	3479347971	1	D102	Zener, UZ 5.1 BSB	2258599103	1	
(C113)	Not Used!						D708	1N4148, Switching	2058322101	1	
C114	Electrolytic SG	10	uF	35 V M	3479310061	1	D709/D710	Zener, UZ 5.1 BSB	2258599103	2	
C115-C118	Chip, CH	100	pF	50 V J	3539101210	4	D801	Zener, UZ 5.1 BSB	2258599103	1	
(C115-C118)	Not Used!						D802-D805	1N4148, Switching	2058322101	4	
C711	Chip, CH	470	pF	50 V J	3539471210	1	D806/D807	1N4148, Switching	2058322101	2	
C712	Electrolytic SG	1	uF	50 V M	3479310971	1	(D806/D807)	Not Used!			
C801	Electrolytic SG	100	uF	16 V M	3479310131	1	VD1/VD2	Varactor, SVC321SPA-C	2258817104	2	
C802	Chip	0.047	uF	50 V Z	3539473060	1	VD3	Varactor, SVC321SPA-C	2258817104	1	
C803	Chip, CH	33	pF	50 V J	3539330210	1	(VD3)	Not Used!			
C804	Chip	0.01	uF	50 V K	3539103820	1					
C805	Chip, CH	33	pF	50 V J	3539330210	1					
C806-C809	Chip	0.047	uF	50 V Z	3539473060	4	IC101	LC7821	2168017132	1	
C810	Electrolytic SG	47	uF	16 V M	3479347031	1	IC102	KIA4559S/KIA75559S	2168206103	1	
C811-C813	Chip, CH	100	pF	50 V J	3539101210	3	IC103	KIA7806P1, Regulator	2168606110	1	
C814	Chip, CH	330	pF	50 V J	3539331210	1	(IC103)	Not Used!			
C815	Electrolytic SG	1	uF	50 V M	3479310971	1	IC801	LA1266	2168017128	1	
C816	Chip	0.047	uF	50 V Z	3539473060	1	IC802	LM7001M	2138017136	1	
C817	Electrolytic SG	10	uF	35 V M	3479310061	1	IC803	AN7470	2168410101	1	
C818	Electrolytic SG	3.3	uF	50 V M	3479333971	1					
C819	Electrolytic SG	2.2	uF	50 V M	3479322971	1					
C820	Chip	0.022	uF	50 V K	3539223820	1	Q101	DTC114YS	2208622106	1	
C821	Chip	0.047	uF	50 V Z	3539473060	1	Q102	KRA107M/MDTA114YS	2238006103	1	
C822	Mylar	0.047	uF	100 V J	3679473120	1	Q103	2SA1515	2208722102	1	
C823	Chip, CH	470	pF	50 V J	3539471210	1	Q104	BKTC3199Y, NPN	2208610109	1	
C824	Electrolytic SG	3.3	uF	50 V M	3479333971	1	Q702/Q703	DTC114TS	2208622108	2	
C825	Electrolytic SG	1	uF	50 V M	3479310971	1	Q801	Chip, KTC3880	2207606002	1	
C826	Chip	0.047	uF	50 V Z	3539473060	1	Q802/Q803	BKTC3199Y, NPN	2208610109	2	
C827	Electrolytic SG	0.22	uF	50 V M	3479322871	1	Q804	KRA107M/MDTA114YS	2238006103	1	
C828/C829	Chip	0.01	uF	50 V K	3539103820	2	Q805/Q806	BKTC3199Y, NPN	2208610109	2	
C830	Electrolytic SG	4.7	uF	50 V M	3479347971	1	Q807/Q808	KRA107M/MDTA114YS	2238006103	2	
C831	Electrolytic SG	47	uF	16 V M	3479347031	1	Q809-Q814	BKTC3199Y, NPN	2208610109	6	
C832	Chip	0.047	uF	50 V Z	3539473060	1	(Q809-Q814)	Not Used!			
C833	Electrolytic SG	47	uF	16 V M	3479347031	1	Q815	KRA107M/MDTA114YS	2238006103	1	
C834/C835	Chip	0.047	uF	50 V Z	3539473060	2	(Q815)	Not Used!			
C837	Electrolytic SG	10	uF	35 V M	3479310061	1					
C838	Chip	0.047	uF	50 V Z	3539473060	1	R101/R102	Chip	1 kohm 1/10 W J	3099102870	2
C839	CeramicTubular	0.001	uF	50 V K	3519102935	1	R111-R113	Metal Film	1 kohm 1/5 W J	3029102970	3
C840	Chip	0.047	uF	50 V Z	3539473060	1	R114	Carbon Film	100 kohm 1/5 W J	3069104970	1
C841	Chip, CH	470	pF	50 V J	3539471210	1	R115	Chip	51 kohm 1/10 W J	3099513870	1
C842	Electrolytic SG	4.7	uF	50 V M	3479347971	1	R116	Metal Film	4.7 kohm 1/5 W J	3029472970	1
C843	Electrolytic SG	100	uF	16 V M	3479310131	1	(R116)	Not Used!			
C844	Electrolytic SG	100	uF	10 V M	3479310121	1	R117	Chip	4.7 kohm 1/10 W J	3099472870	1
C845	Chip	120	pF	50 V J	3539121210	1	(R117)	Chip	0 ohm 1/10 W J	3099000870	1
C846	Chip	0.002	uF	50 V K	3539152820	1	R118	Chip	2.2 kohm 1/10 W J	3099222870	1
(C846)	Chip	0.001	uF	50 V K	3539102820	1	(R118)	Chip	1 kohm 1/10 W J	3099102870	1
C847	Chip	0.002	uF	50 V K	3539152820	1	R119	Chip	2.2 kohm 1/10 W J	3099222870	1
(C847)	Chip	0.001	uF	50 V K	3539102820	1	(R119)	Not Used!			
C848	Electrolytic SG	2.2	uF	50 V M	3479322971	1	R120	Chip	51 kohm 1/10 W J	3099513870	1
C849	Chip	0.002	uF	50 V K	3539222820	1	R121	Metal Film	4.7 kohm 1/5 W J	3029472970	1
C850	Electrolytic SG	2.2	uF	50 V M	3479322971	1	(R121)	Not Used!			
C851	Chip	0.002	uF	50 V K	3539222820	1	R122	Chip	4.7 kohm 1/10 W J	3099472870	1
C852	Chip, CH	15	pF	50 V J	3539150210	1	(R122)	Chip	0 ohm 1/10 W J	3099000870	1
C853	Chip	0.047	uF	50 V Z	3539473060	1	R123	Chip	2.2 kohm 1/10 W J	3099222870	1
(C853)	Not Used!						(R123)	Chip	1 kohm 1/10 W J	3099102870	1
C854	Chip	0.047	uF	50 V Z	3539473060	1	R124	Chip	2.2 kohm 1/10 W J	3099222870	1
(C854)	Not Used!						(R124)	Not Used!			
C855	Chip, CH	180	pF	50 V J	3539181210	1	R125/R126	Metal Film	100 ohm 1/5 W J	3029101970	2
(C855)	Not Used!						R127	Chip	47 kohm 1/10 W J	3099473870	1
C856	Chip, CH	33	pF	50 V J	3539330210	1	R128	Chip	3.3 kohm 1/10 W J	3099332870	1
(C856)	Not Used!						R129	Metal Film	22 ohm 1 W J	3029220470	1
C857	Chip, CH	470	pF	50 V J	3539471210	1	(R129)	Not Used!			
C858/C859	Chip, CH	100	pF	50 V J	3539101210	2	R130	Carbon Film	10 kohm 1/5 W J	3069103970	1
(C858/C859)	Not Used!						R131	Chip	22 kohm 1/10 W J	3099223870	1
							R132	Carbon Film	220 kohm 1/5 W J	3069224970	1
							R133	Carbon Film	100 kohm 1/5 W J	3069104970	1
							R134	Chip	4.7 kohm 1/10 W J	3099472870	1
							R135	Chip	5.6 kohm 1/5 W J	3069562970	1
							R136	Carbon Film			
							R137	Chip			
							R138	Chip			
							R139	Chip			
							R140	Chip			
							R141	Chip			
							R142	Chip			
							R143	Chip			
							R144	Chip			
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							R175	Chip			

**Model No. : TX-747**

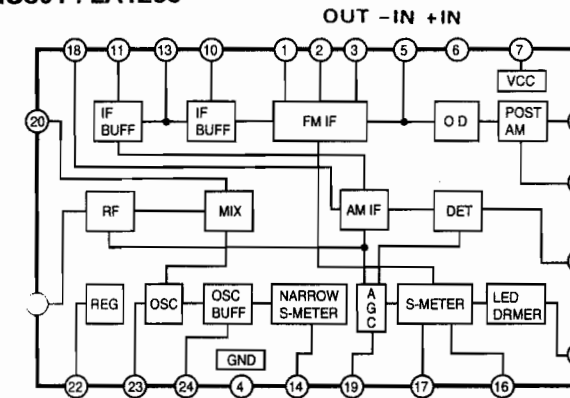
Ref. No.	Description	Part No.	Q'ty	Version	Ref. No.	Description	Part No.	Q'ty	Version
CNT401	CONNECTOR Lead Ass'y, 5P, 180mm	36405180732	1		Q701	TRANSISTOR BKTC3199Y, NPN	2208610109	1	
IC401	INTEGRATED CIRCUITS KIA4559S/KIA75559S	2168206103	1		R701	RESISTORS Chip	100 kohm 1/10 W J	3099104870	1
IC402	ES56028E, Digital Echo	2138633001	1		R702-R706	Carbon Film	100 kohm 1/5 W J	3069104970	5
R401	RESISTORS Chip	0 ohm 1/10 W J	3099000870	1	R707	Carbon Film	10 kohm 1/5 W J	3069103970	1
R402	Chip	4.7 kohm 1/10 W J	3099472870	1	R708	Chip	10 kohm 1/10 W J	3099103870	1
R403	Chip	1 kohm 1/10 W J	3099102870	1	R709-R711	Carbon Film	100 kohm 1/5 W J	3069104970	3
R404	Chip	100 kohm 1/10 W J	3099104870	1	X701	MISCELLANEOUS Crystal, 10MHz	3978011001	1	
R405	Chip	10 kohm 1/10 W J	3099103870	1	FL701	FL Display, CM1361C	2328002308	1	
R406	Chip	15 kohm 1/10 W J	3099153870	1	28	Switch Tact	4658003710	11	
R407	Chip	8.2 kohm 1/10 W J	3099822870	1	PCB5	ASSEMBLY P.C. BOARD RMC			
R408	Chip	12 kohm 1/10 W J	3099123870	1	C701	CAP, Electrolytic SG	10 uF 35 V	3479310081	1
R409	Chip	3.3 kohm 1/10 W J	3099332870	1	CNT703	Connector, Wire Trap, 5P		4428531104	1
R410	Chip	12 kohm 1/10 W J	3099123870	1	IC702	TFMT4380, Remote Sensor		2408005001	1
R411	Chip	15 kohm 1/10 W J	3099153870	1	29	Switch Tact	4658004010	1	
R412	Chip	10 kohm 1/10 W J	3099103870	1					
R413	Chip	15 kohm 1/10 W J	3099153870	1					
R414	Chip	6.8 kohm 1/10 W J	3099682870	1					
R415	Chip	68 kohm 1/10 W J	3099683870	1					
R416	Chip	6.8 kohm 1/10 W J	3099682870	1					
R417	Chip	68 kohm 1/10 W J	3099683870	1					
R418	Chip	27 kohm 1/10 W J	3099273870	1					
R419	Chip	560 ohm 1/10 W J	3099561870	1					
R420	Chip	15 kohm 1/10 W J	3099153870	1					
R421/R422	Chip	330 ohm 1/10 W J	3099331870	2					
R423	Chip	1 kohm 1/10 W J	3099102870	1					
R424	Chip	100 kohm 1/10 W J	3099104870	1					
R425	Chip	47 kohm 1/10 W J	3099473870	1					
R426	Metal Film	10 ohm 1/5 W J	3029100970	1					
R427	Carbon Film	15 kohm 1/5 W J	3069153970	1					
8	MISCELLANEOUS Jack Phone	4438005510	1						
9	Shield Fence	6165146110	1						
10	Volume Mic, 10 kohm	3208052410	1						
PCB3	ASSEMBLY P.C. BOARD POWER								
C501-C503	Mylar	0.047 uF	100 V J	3679473120	3				
C504	Electrolytic SD	4700 uF	25 V M	3409347248	1				
C505	Electrolytic SG	1 uF	50 V M	3479310971	1				
C506	Ceramic Tubular	0.022 uF	25 V Z	3579223530	1	KS,PT INDO			
(C506)	Not Used !					D.A			
C507	Electrolytic SG	1 uF	50 V M	3479310971	1	KS,PT INDO			
(C507)	Not Used !					D.A			
D501/D502	1N4003, Rectifier			2058512108	2				
D503	1N4148, Switching			2058322101	1	KS,PT INDO			
(D503)	Not Used !					D.A			
IC501	KIA7805PI, Regulator			2168606116	1				
IC502	KIA7805PI, Regulator			2108499104	1	KS,PT INDO			
(IC502)	Not Used !					D.A			
R501	Metal Film	3.3 ohm	2 W J	3029339570	1	KS,PT INDO			
(R501)	Not Used !					D.A			
CP501	Wafer, 6P			4428505810	1				
PCB4	ASSEMBLY P.C. BOARD FRONT								
C702/C703	Chip	0.047 uF	50 V Z	3539473060	2				
C704	Electrolytic SSE	47 uF	10 V M	3479147025	1				
C705	Electric Back-up	0.047 F	5.5 V	3438247315	1				
C706	Chip	0.1 uF	50 V Z	3539104060	1				
C707	Chip, CH	22 pF	50 V J	3539220210	1				
C708	Trimmer, CH	10 pF		3838001140	1				
C709	Chip, CH	33 pF	50 V J	3539330210	1				
C710	Electrolytic SSE	10 uF	16 V M	3479110035	1				
C713/C714	Chip	0.1 uF	50 V Z	3539104060	2				
CNT701	CONNECTORS Wafer, FPC, 20P	4426001120	1						
CNT703	Lead Ass'y, 4P, 80mm	36404080732	1						
D701-D707	DIODES 1N4148, Switching	2058322101	7						
IC701	INTEGRATED CIRCUIT CXP82324-331Q, CPU, DWP449	2139322704	1						
L702	COIL Inductor, 1 mH 03	2648610283	1						

**IC FUNCTIONAL BLOCK DIAGRAM**

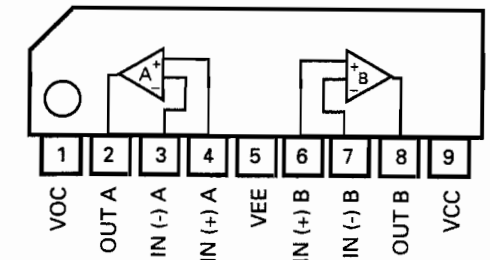
**IC803 : AN7470**



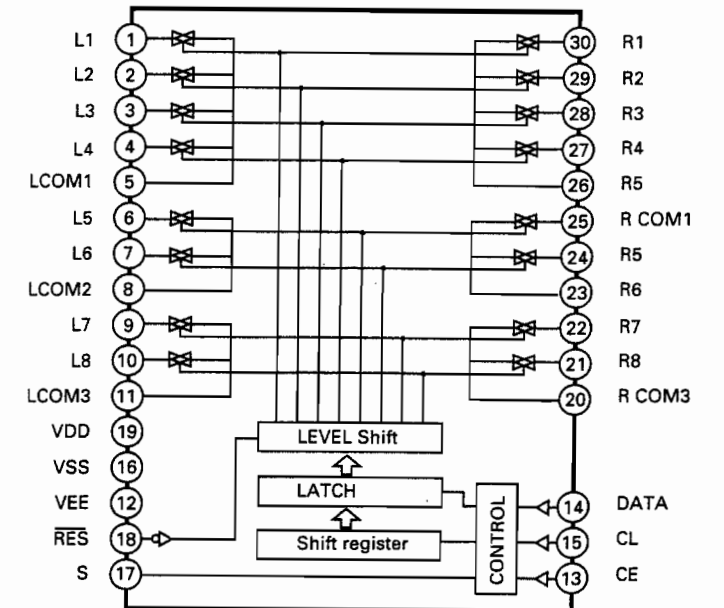
**IC801 : LA1266**



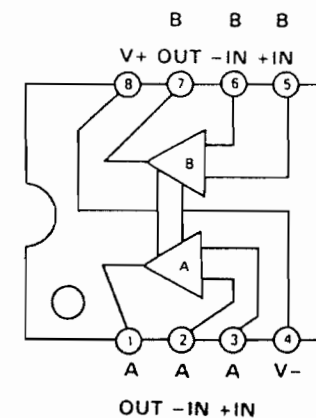
**IC102, IC306, IC401 : KIA4559S/KIA75559S**



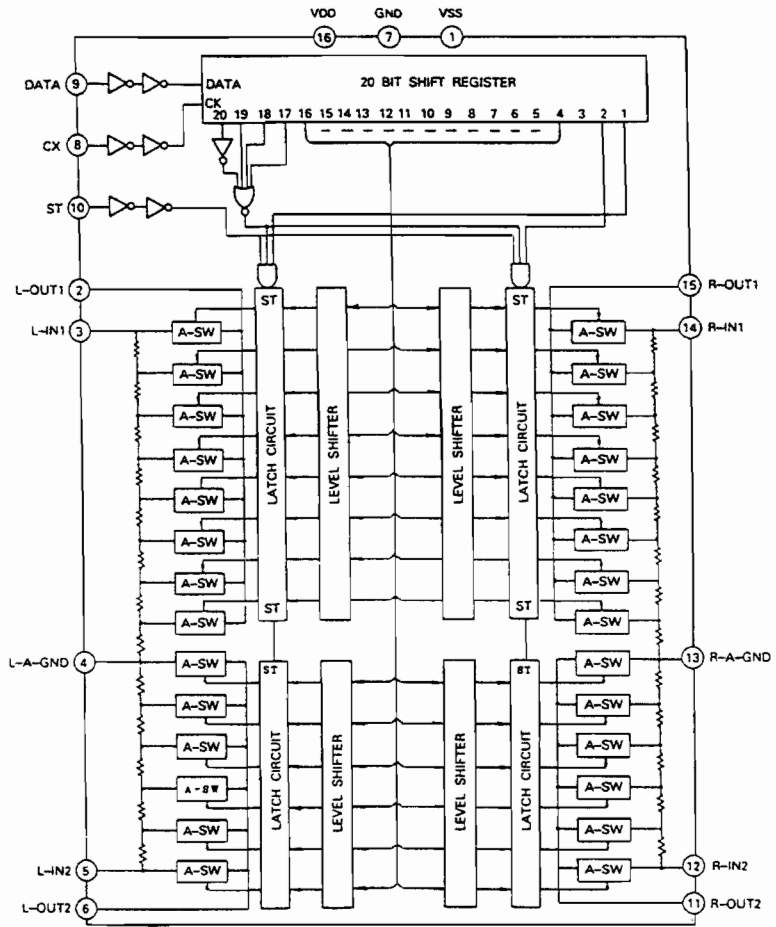
**IC101 : LC7821**



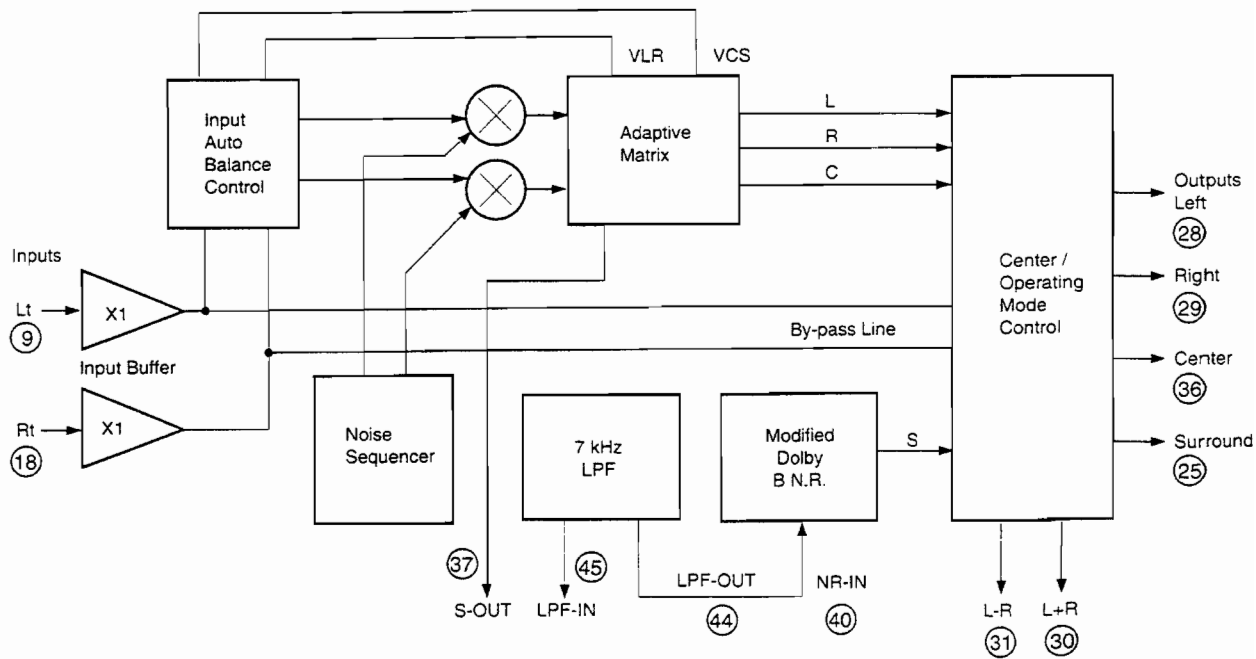
**IC304 : KIA4559S/KIA7559P**



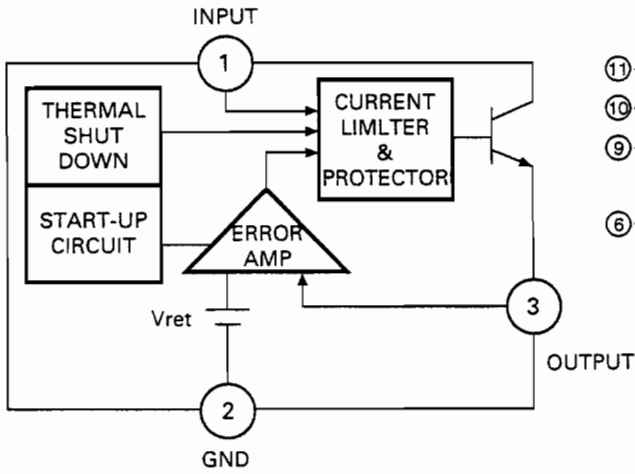
**IC305 : TC9176P**



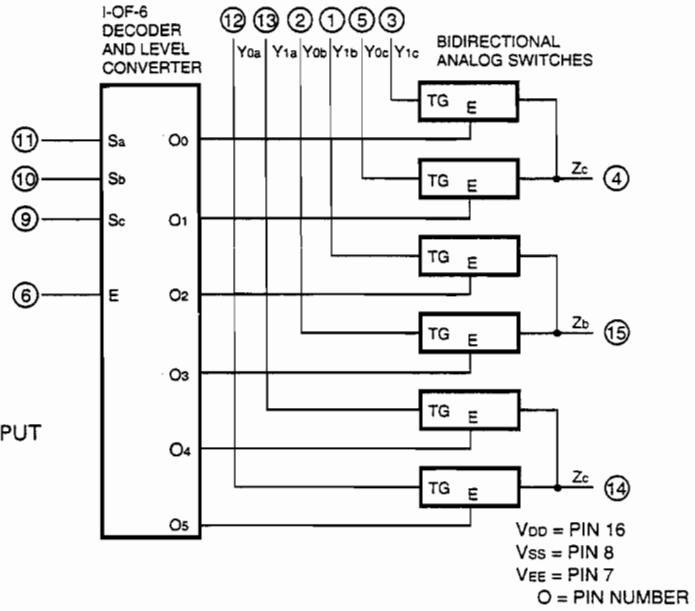
**IC301 : NJM2177FB3**



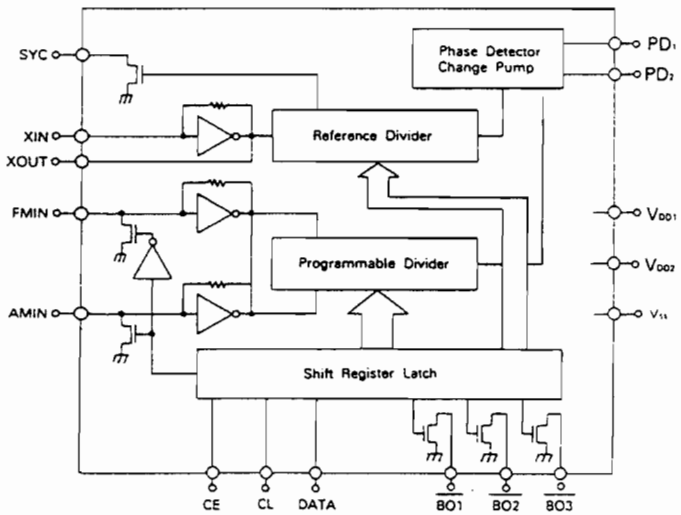
IC502 : KIA7805PI  
 IC103 : KIA7806PI  
 IC501 : KIA7808PI



IC303 : GD4053B

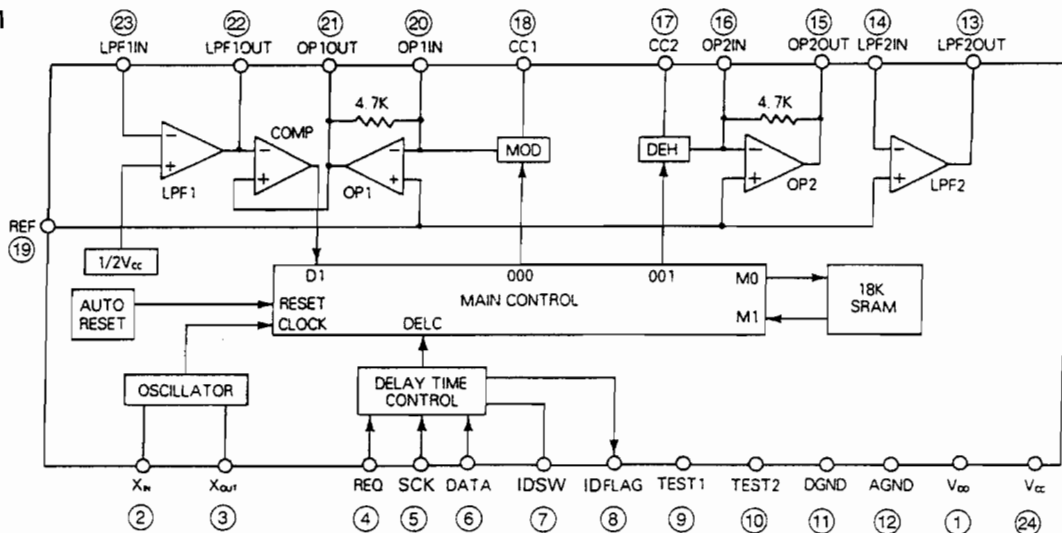


IC802 : LM7001M



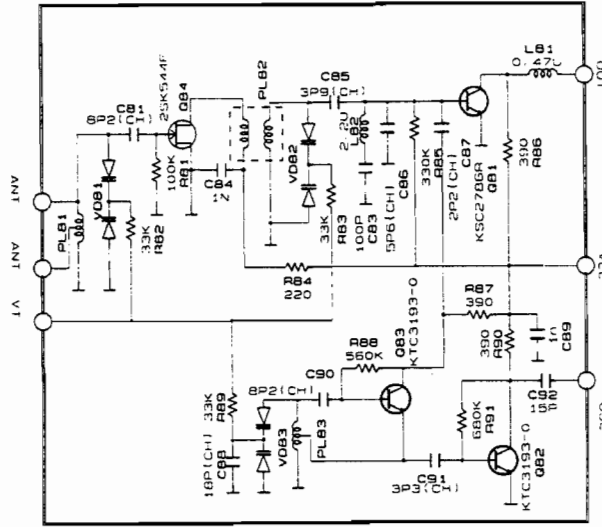
Pin Name		
No	LM 7001	LM7001M
1	XOUT	XOUT
2	XIN	XIN
3	CE	NC
4	CL	CE
5	DATA	CL
6	SYC	DATA
7	BO1	SYC
8	BO2	BO1
9	BO3	BO2
10	AMIN	BO3
11	FMIN	NC
12	VDD1	AMIN
13	VDD2	NC
14	PD1	FMIN
15	PD2	NC
16	VSS	VDD1
17		VDD2
18		PD1
19		PD2
20		VSS

IC302 : NJU9701

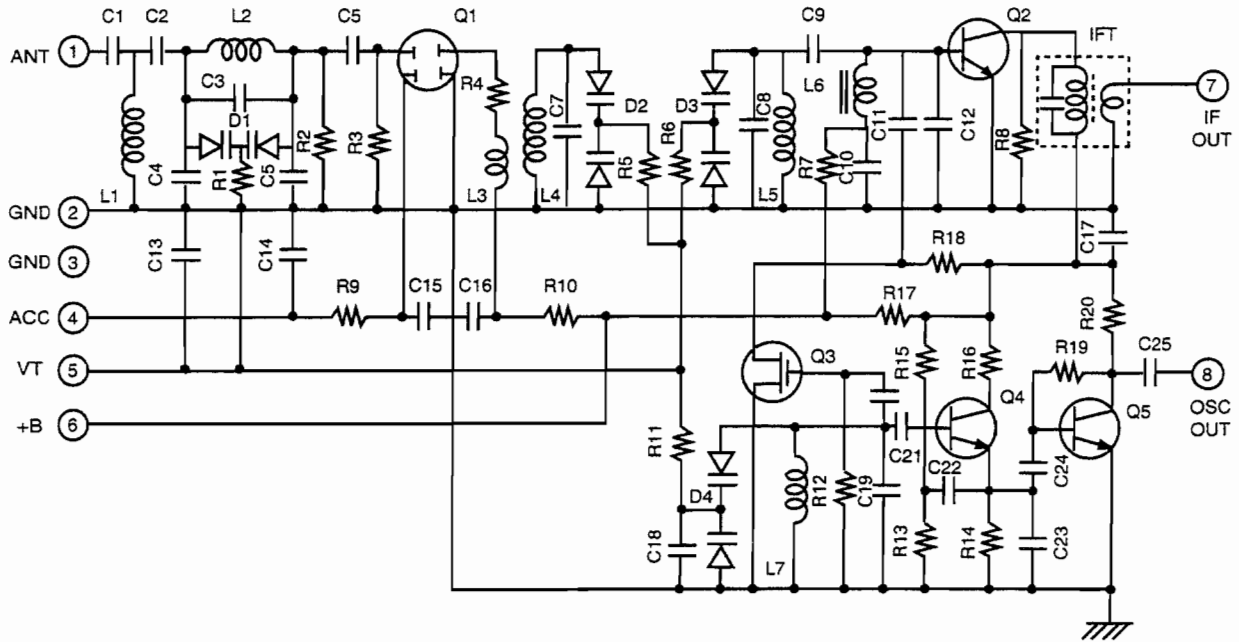




**FM FRONT - END (A, PT INDO, KS VERSION)**



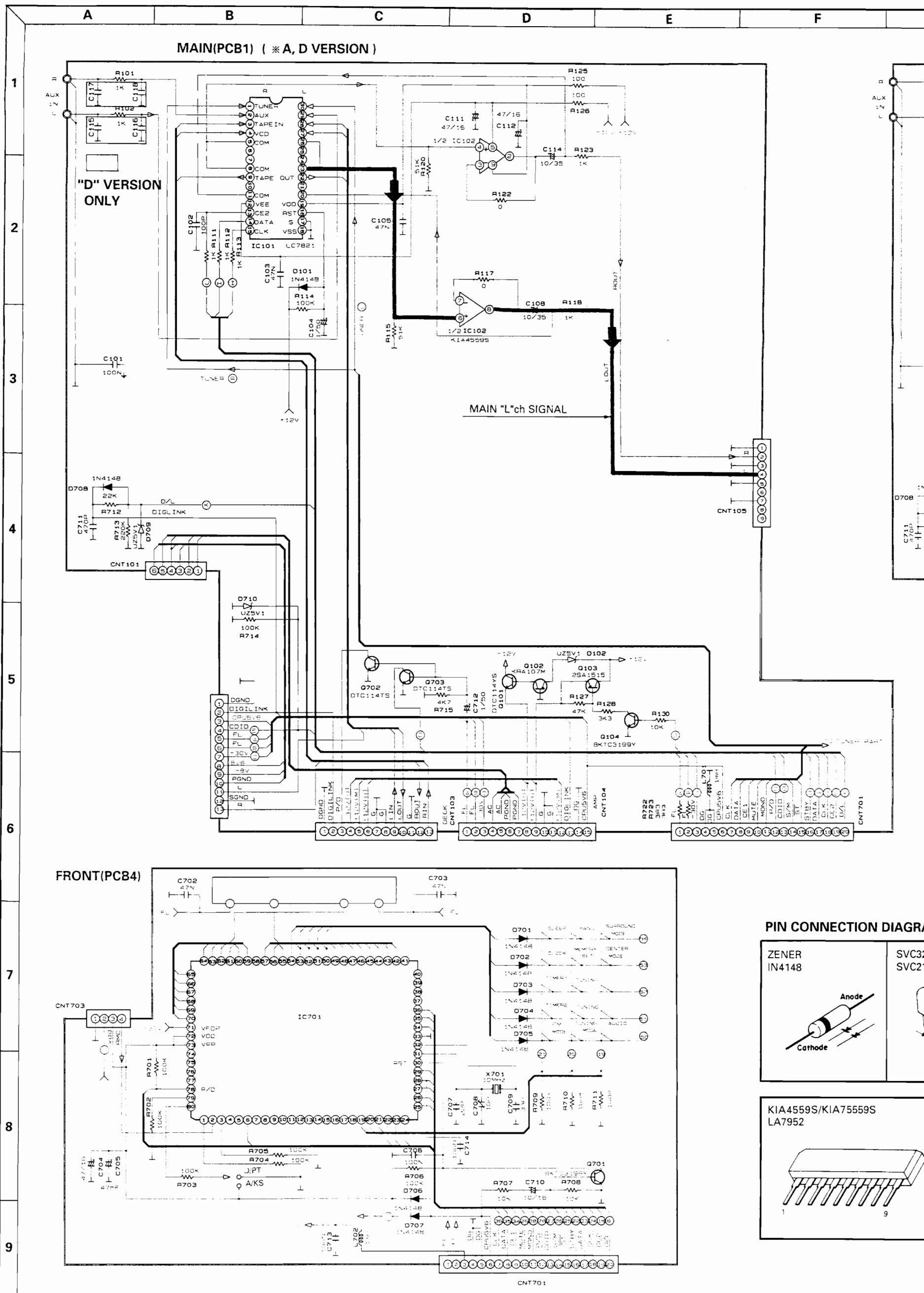
**FM FRONT - END  
FTA4 - 460V (D Version)**



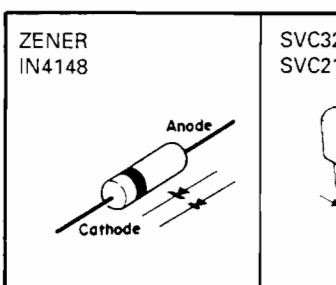
Ref. No.	Content	Ref. No.	Content	Ref. No.	Content	Ref. No.	Content	Ref. No.	Content	Ref. No.	Content	Ref. No.	Content
IFT	10.7 MHz	C1	22 pF	C11	1 pF	C21	8 pF	R1	33 kΩ	R11	33 kΩ	Q1	3SK 180
		C2	15 pF	C12	22 pF	C22	27 pF	R2	100 kΩ	R12	10 kΩ	Q2	2SC3142
L6	2.2 or 1 MHz	C3	0-5 pF	C13	22 pF	C23	20 pF	R3	100 kΩ	R13	10 kΩ	Q3	2SK 543
		C4	18 pF	C14	22 nF	C24	2 pF	R4	22-330 Ω	R14	1-1.8 kΩ	Q4	2SC2814
L1-L5, L7	AIR WIL	C5	7 pF	C15	0-22 nF	C25	15 pF	R5	33 kΩ	R15	10 kΩ	Q5	2SC2814
		C6	7 pF	C16	22 nF			R6	33 kΩ	R16	330 Ω	D1	KV1440
		C7	4-10 pF	C17	22 nF			R7	1-3.3 kΩ	R17	100 Ω	D2	KV1440
		C8	0-7 pF	C18	33-68 pF			R8	-	R18	470 Ω	D3	KV1440
		C9	5 pF	C19	0-5 pF			R9	10 kΩ	R19	330 kΩ	D4	KV1440
		C10	100 or 220 pF	C20	2 pF			R10	100-1 kΩ	R20	330 Ω		

## NOTE

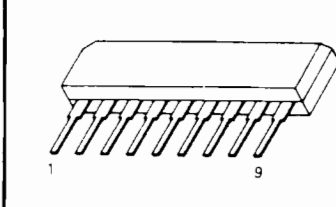
# SCHEMATIC DIAGRAM I



## PIN CONNECTION DIAGRAM

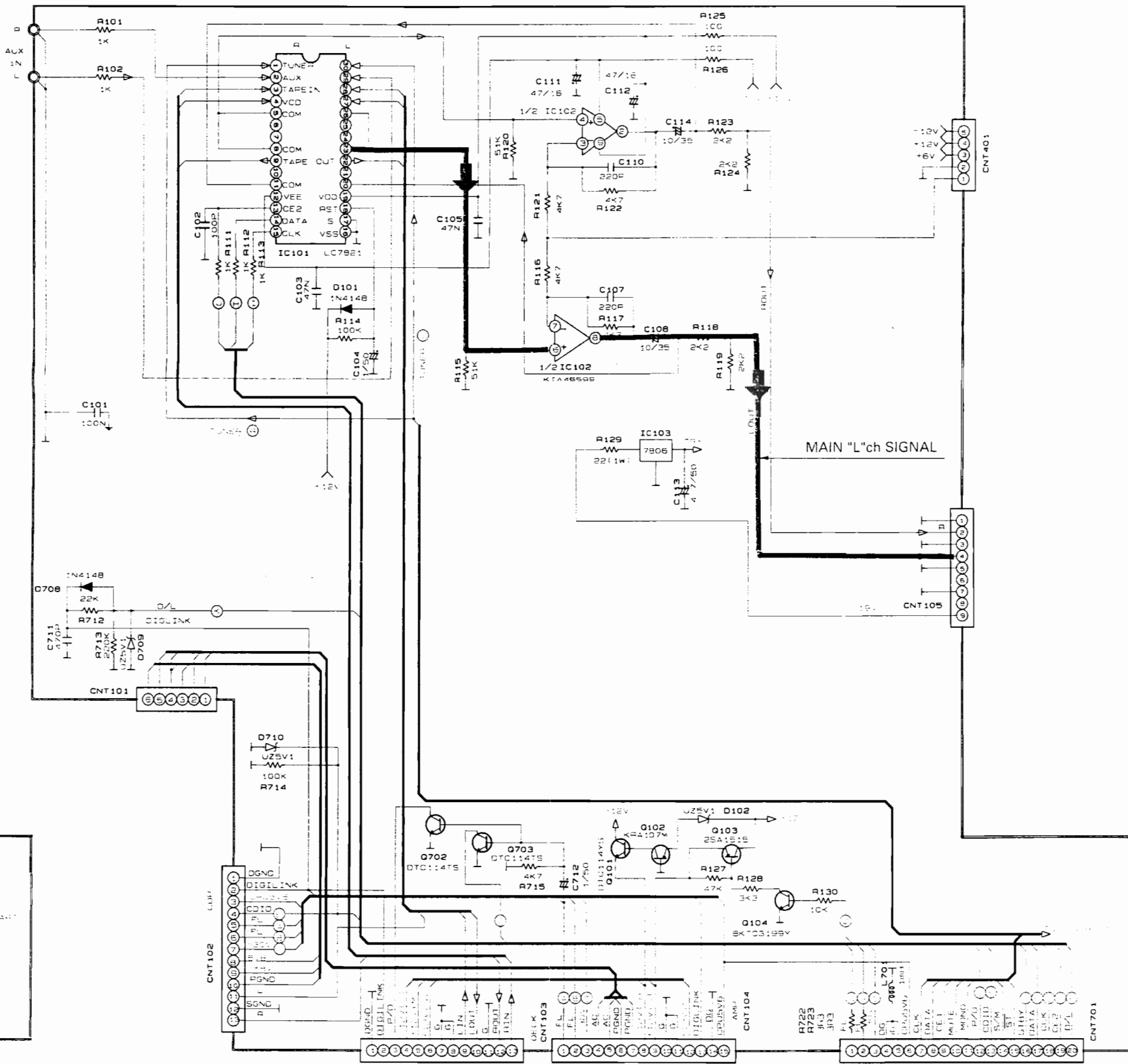


## KIA4559S/KIA7559S LA7952



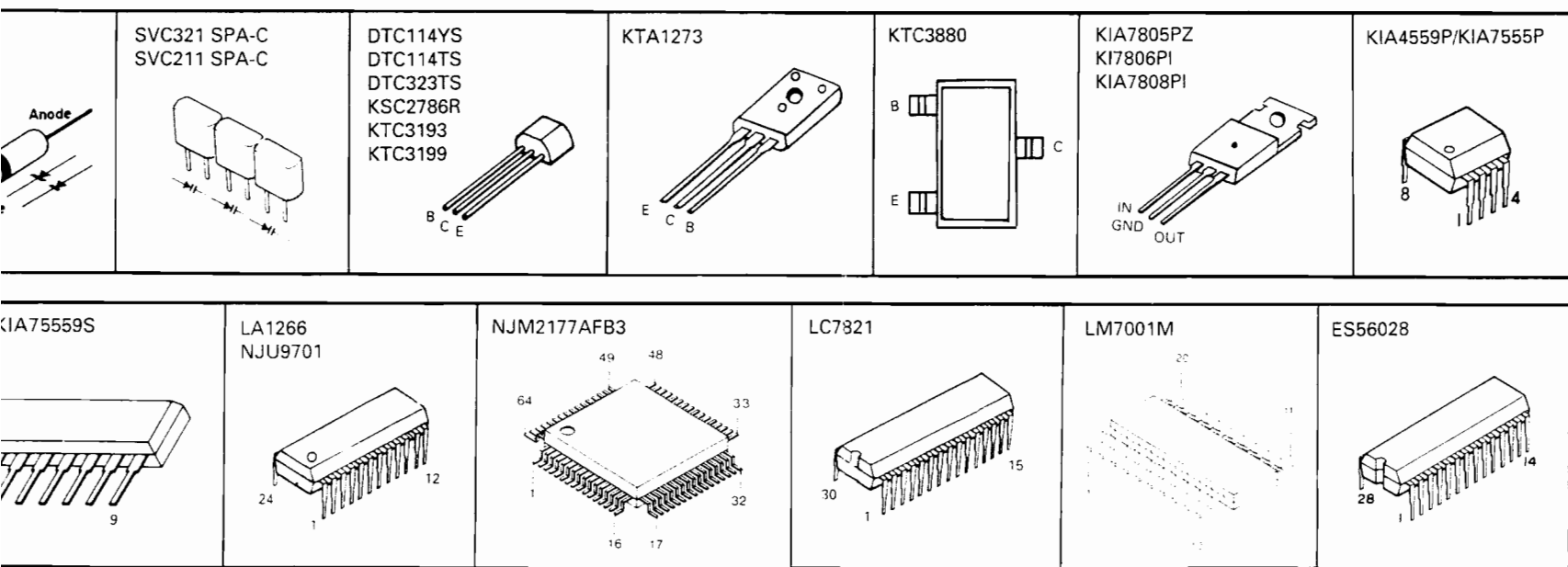
G H I J K L

MAIN(PCB1) ( \*KS, PT INDO VERSION )

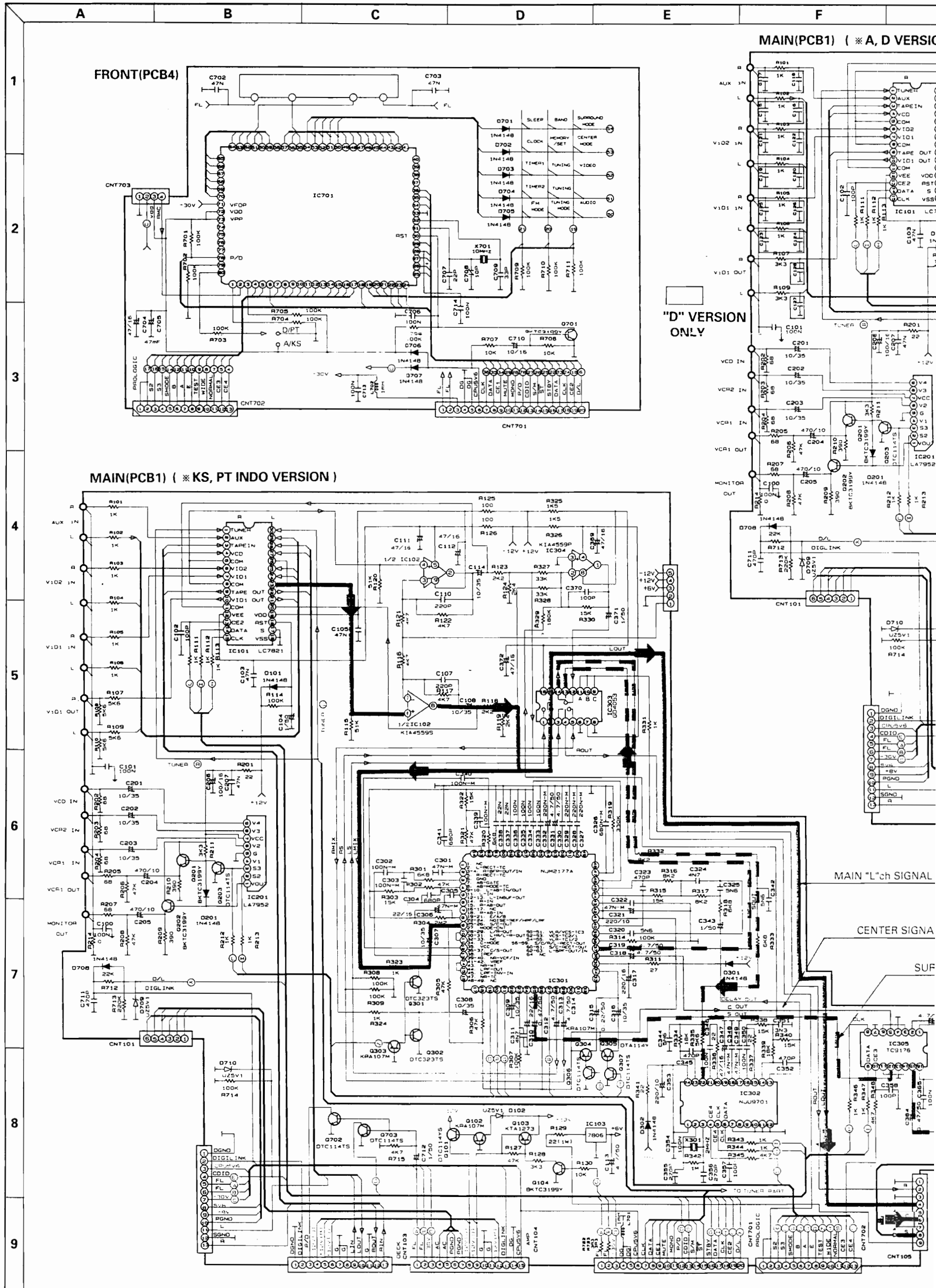


MAIN "L"ch. SIGNAL

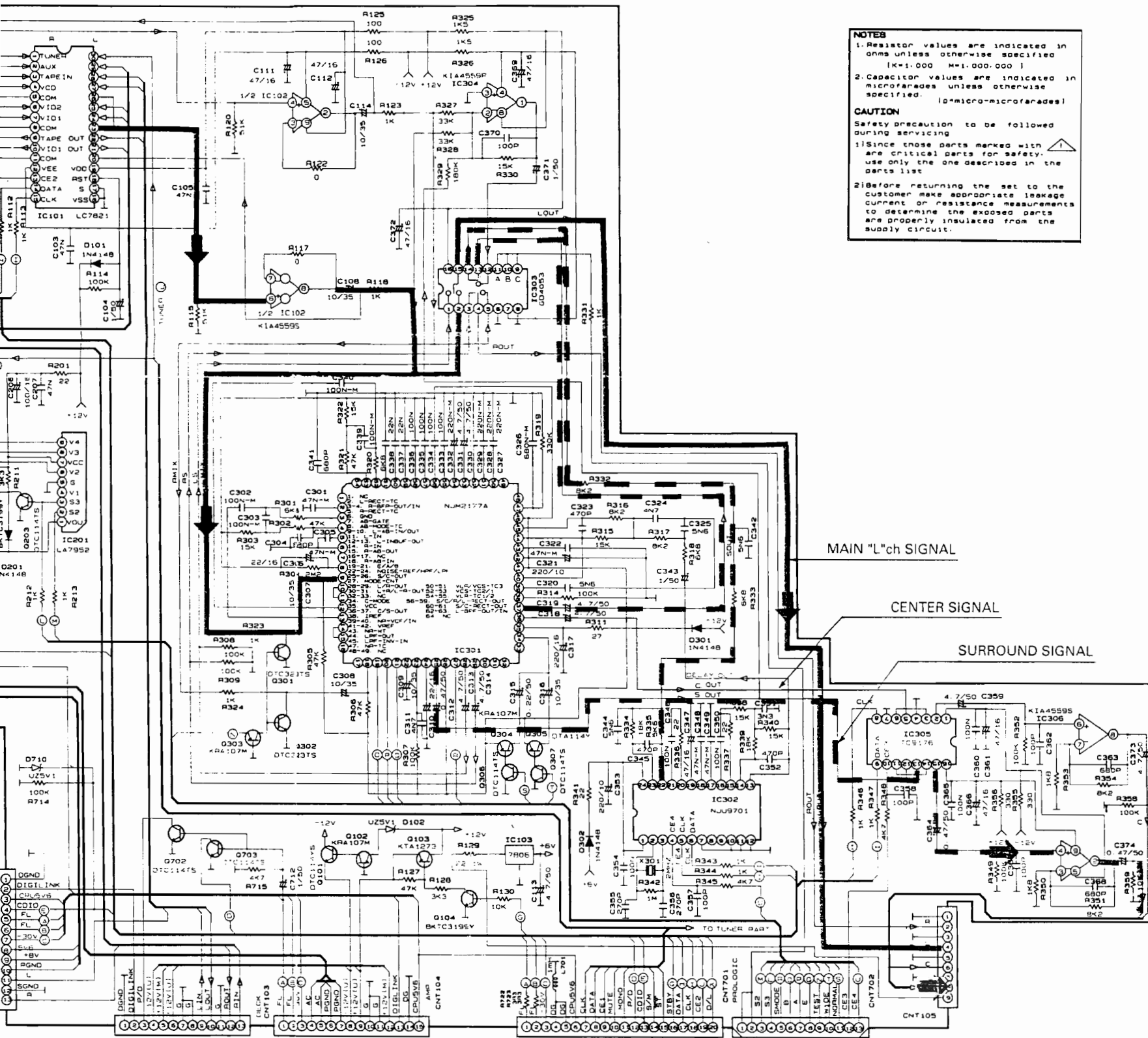
SECTION DIAGRAM DIODES, TRANSISTORS AND ICs




# SCHEMATIC DIAGRAM II



(A, D VERSION)



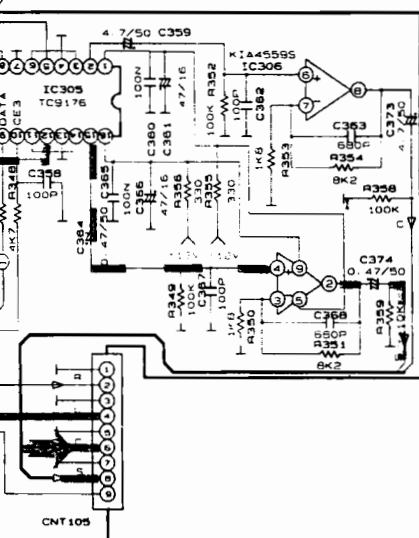
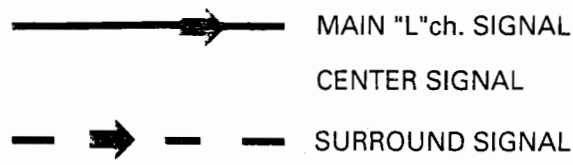
**NOTES**  
 1. Resistor values are indicated in ohms unless otherwise specified (K=1,000 M=1,000,000)  
 2. Capacitor values are indicated in microfarads unless otherwise specified (p=micro-microfarads)

**CAUTION**  
 Safety precaution to be followed during servicing  
 1) Since those parts marked with  are critical parts for safety, use only the one described in the parts list.  
 2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.


MAIN 'L'ch SIGNAL

CENTER SIGNAL

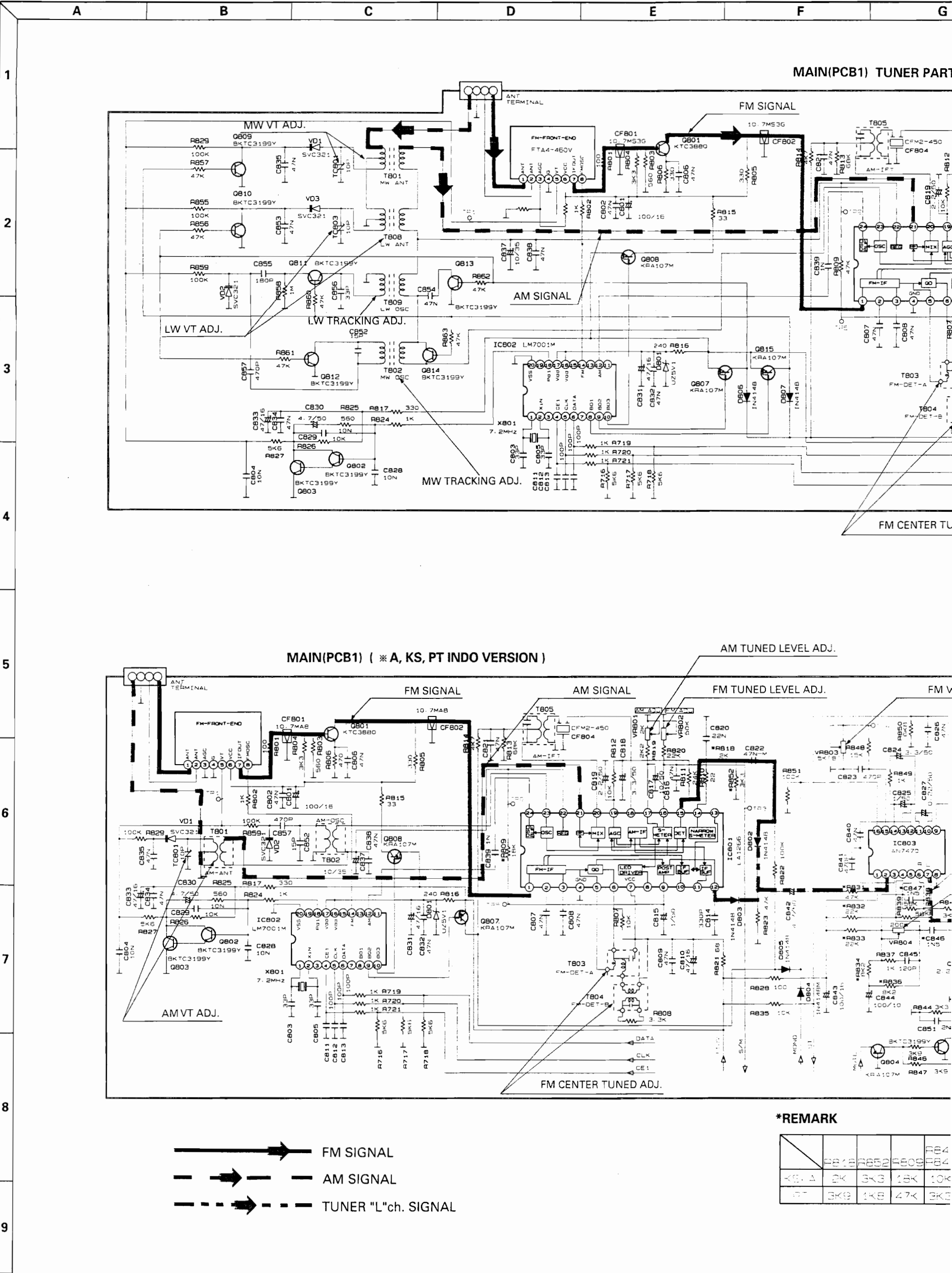
SURROUND SIGNAL



**NOTES**  
 1. Resistor values are indicated in ohms unless otherwise specified (K=1,000 M=1,000,000)  
 2. Capacitor values are indicated in microfarads unless otherwise specified (p=micro-microfarads)

**CAUTION**  
 Safety precaution to be followed during servicing  
 1) Since those parts marked with  are critical parts for safety, use only the one described in the parts list.  
 2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

**SCHEMATIC DIAGRAM III**



MAIN(PCB1) TUNER PART

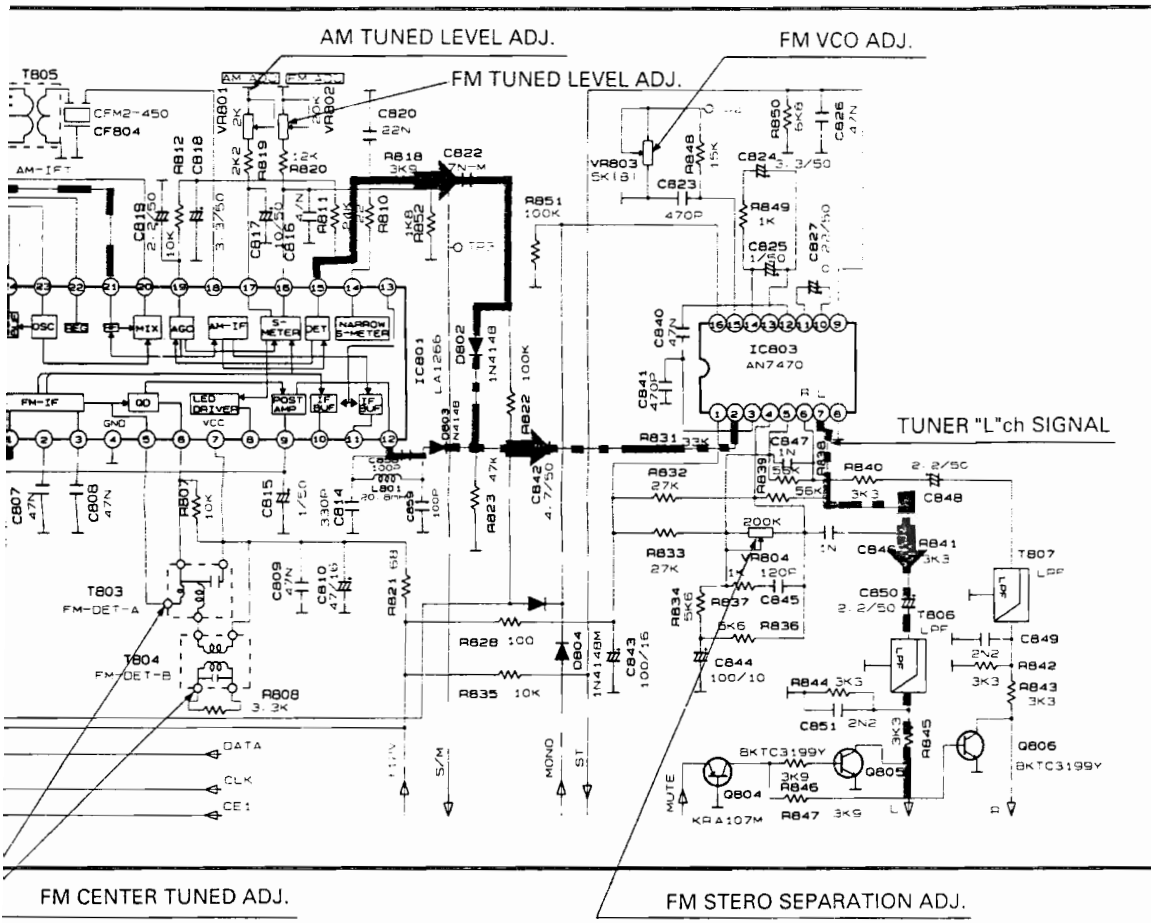
MAIN(PCB1) ( \* A, KS, PT INDO VERSION )

**\*REMARK**

	FR	KS	PT	INDO
Q804	2K	3K3	18K	10K
Q809	2K	3K3	18K	10K
Q810	2K	3K3	18K	10K
Q811	2K	3K3	18K	10K
Q812	2K	3K3	18K	10K
Q813	2K	3K3	18K	10K
Q814	2K	3K3	18K	10K
Q815	2K	3K3	18K	10K

G H I J K L

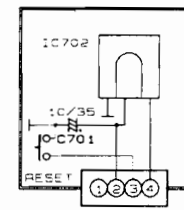
TUNER PART D VERSION



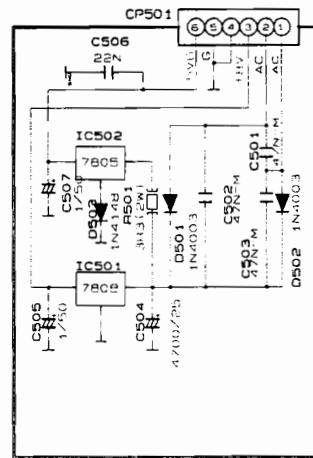
**NOTES**  
 1. Resistor values are indicated in ohms unless otherwise specified. (K=1,000 M=1,000,000)  
 2. Capacitor values are indicated in microfarads unless otherwise specified. (micro-microfarads)

**CAUTION**  
 Safety precaution to be followed during servicing:  
 1) Since those parts marked with are critical parts for safety, use only the one described in the parts list.  
 2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

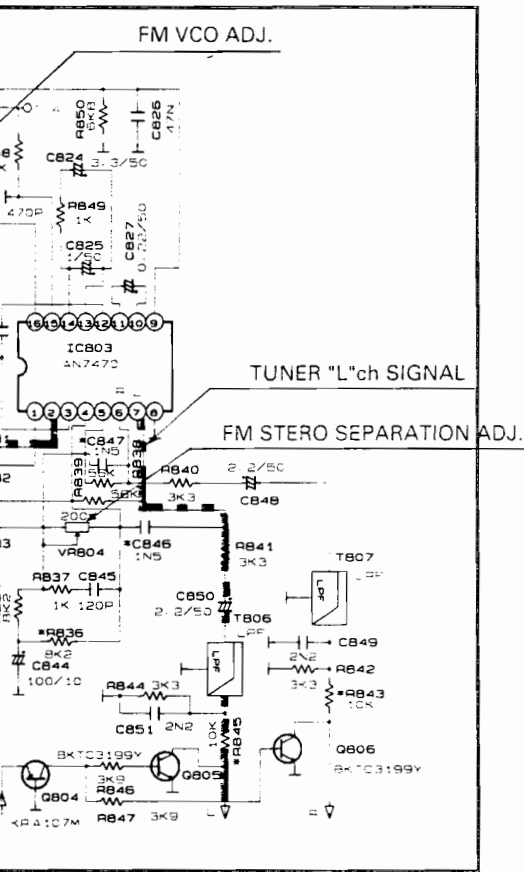
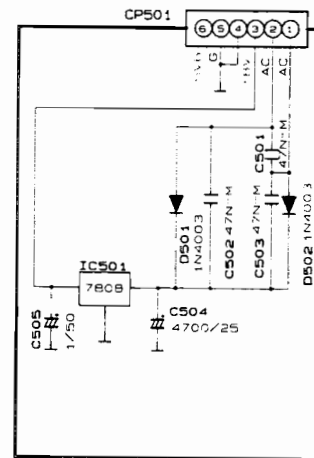
RMC(PCB5)



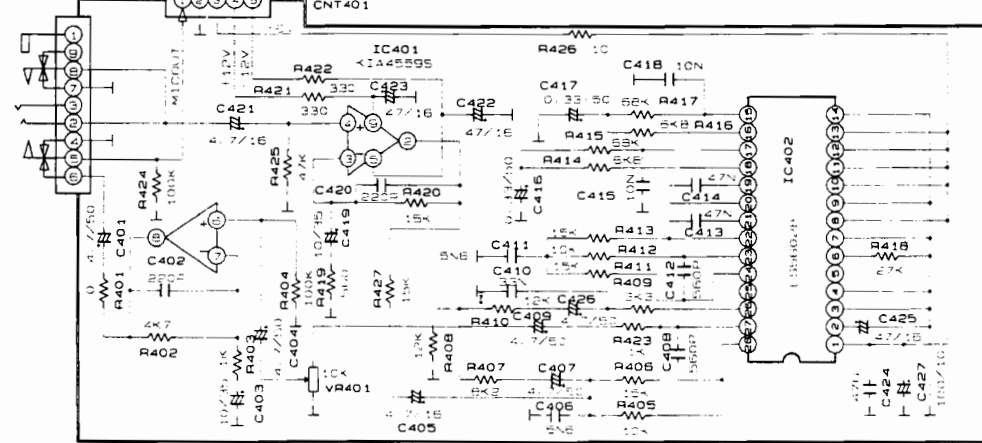
POWER(PCB3) (\*KS, PT INDO VERSION)



POWER(PCB3) (\*A/D VERSION)



MIC(PCB2) (\*KS, PT INDO VERSION ONLY)

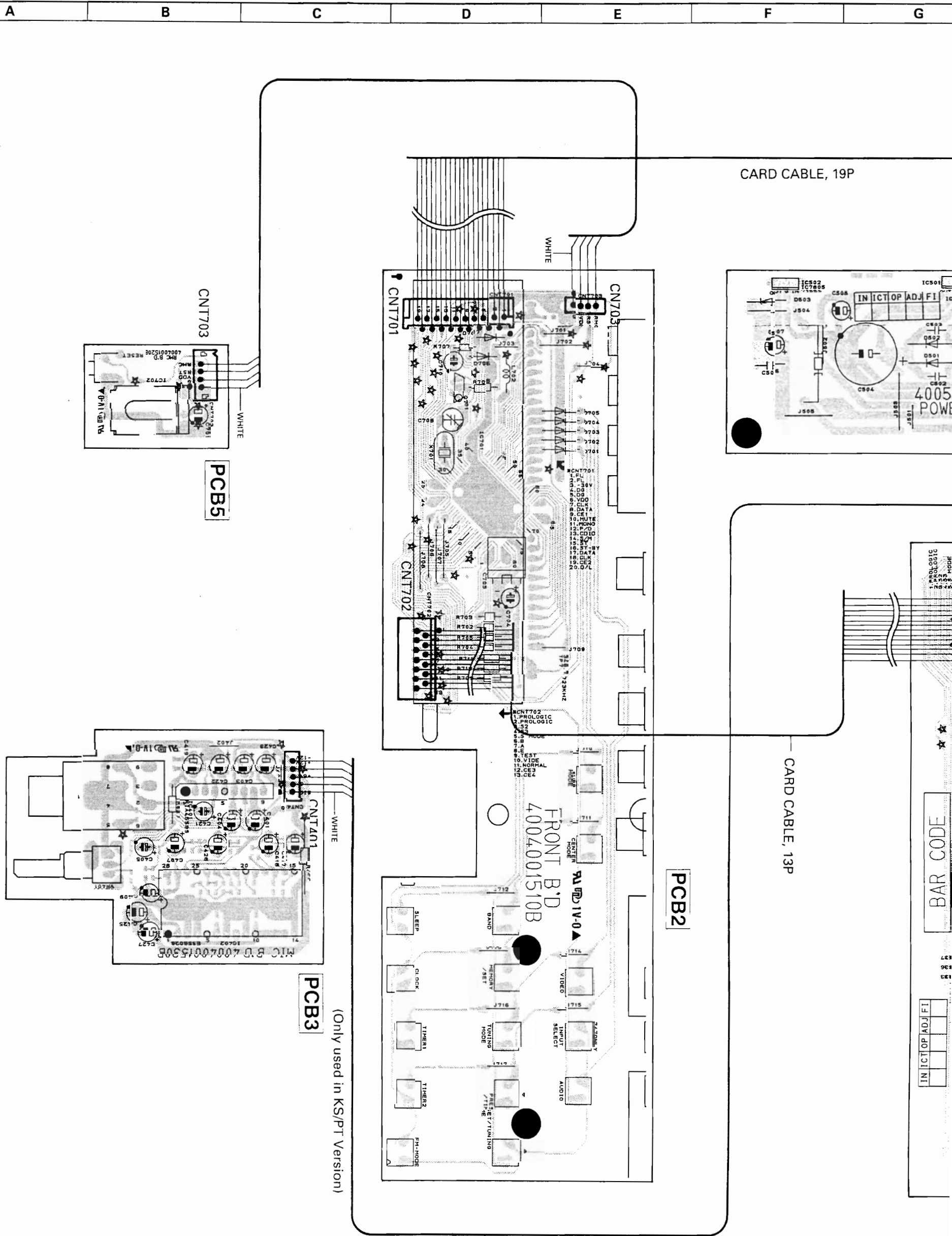


10K	10K	10K	10K	10K	10K	10K	10K	10K	10K
10K	10K	10K	10K	10K	10K	10K	10K	10K	10K
10K	10K	10K	10K	10K	10K	10K	10K	10K	10K



# WIRING DIAGRAM

1  
2  
3  
4  
5  
6  
7  
8  
9



G

H

I

J

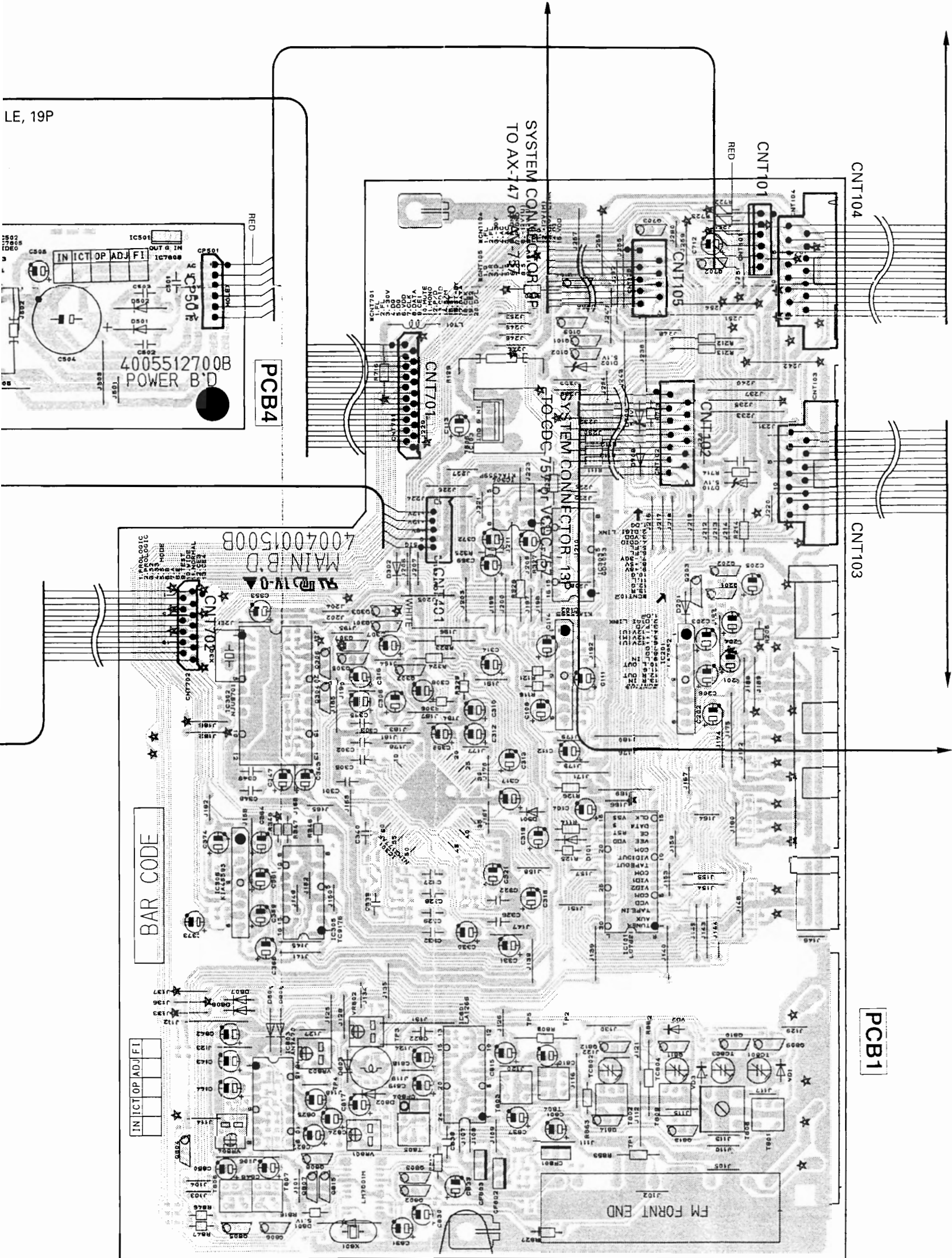
K

L

LE, 19P

SYSTEM CONNECTOR, 15P  
FROM AX-747 or AV-757

SYSTEM CONNECTOR, 13P  
FROM DD-757



BAR CODE

PCB1

PCB4

4004001500B  
MAIN B.D.

4005512700B  
POWER B.D.

SYSTEM CONNECTOR, 15P  
FROM AX-747 or AV-757

SYSTEM CONNECTOR, 13P  
FROM DD-757

IN ICTOP ADJ.FI

FM FRONT END

# ▪ VCDC-757/CDC-757 ▪

## SPECIFICATIONS

### GENERAL

Transmission bit ratio	4.3218 Mbit/sec
Transmission on clock	16.9344 MHz
Error correction	CIRC C1: Double correction C2: Quadruple correction

### PICK-UP

System object lens type	Optical pick-up
Object lens drive system	2 Dimensional parallel drive type
Optical source	Semiconductor laser
Wave length	780 nm
Tracking system	3 Beam tracking servo type

### OTHER

D/A Converter	1 bit twin with digital filter
---------------	--------------------------------

### ELECTRICAL

- Measuring methods in conformity with EIAJ CP-307, CCIR 468-3
- Reference level: 0 dB
- Test disc: SONY CD-3 YEDS-7, A, BEX TCD725
- Filter: 30 kHz, 18 dB/oct low pass filter

Description	Track	Nominal	Limit	
Frequency Response at 20 Hz - 20 kHz	2 - 13	± 1.0 dB	± 2.0 dB	
Signal to Noise Ratio at 1 kHz (Weighted A)	23	75 dB	70 dB	
Dynamic Range at 1 kHz, 60 dB (Weighted A)	20	75 dB	70 dB	
Total Harmonic Distortion at 0 dB	100 Hz	4	0.06%	0.1%
	1 kHz	7	0.06%	0.1%
	20 kHz	13	0.08%	0.1%
Channel Separation at 1 kHz (Selective)	30, 34	55 dB	50 dB	
Channel Unbalance at 1 kHz	7	± 1.0 dB	± 2.0 dB	
Access Time (Track to next track)		7 sec	9 sec	
Disc Defects	Black dot	10 - 15	700 μM	700 μM
	Interrupt	3 - 9	800 μM	800 μM
	Fingerprint	17 - 19	ALL	ALL
De-emphasis	39	± 0.2 dB	± 0.3 dB	
	40	± 0.3 dB	± 0.5 dB	
	41	± 0.5 dB	± 1.0 dB	

### ENVIRONMENTAL

#### Test to specification

Temperature between 59°F (15°C) and 95°F (35°C) and relative humidity between 45% and 75%, with power supply voltage of 10% the normal supply voltage.

Test disc: SONY YEDS-7 or ABEX TCD784, TCD725.

#### Operation

Unit must work properly and correctly at the temperature range from 32°F (0°C) to 113°F (45°C) and the relative humidity from 40% to 80%, and with the supply voltage.

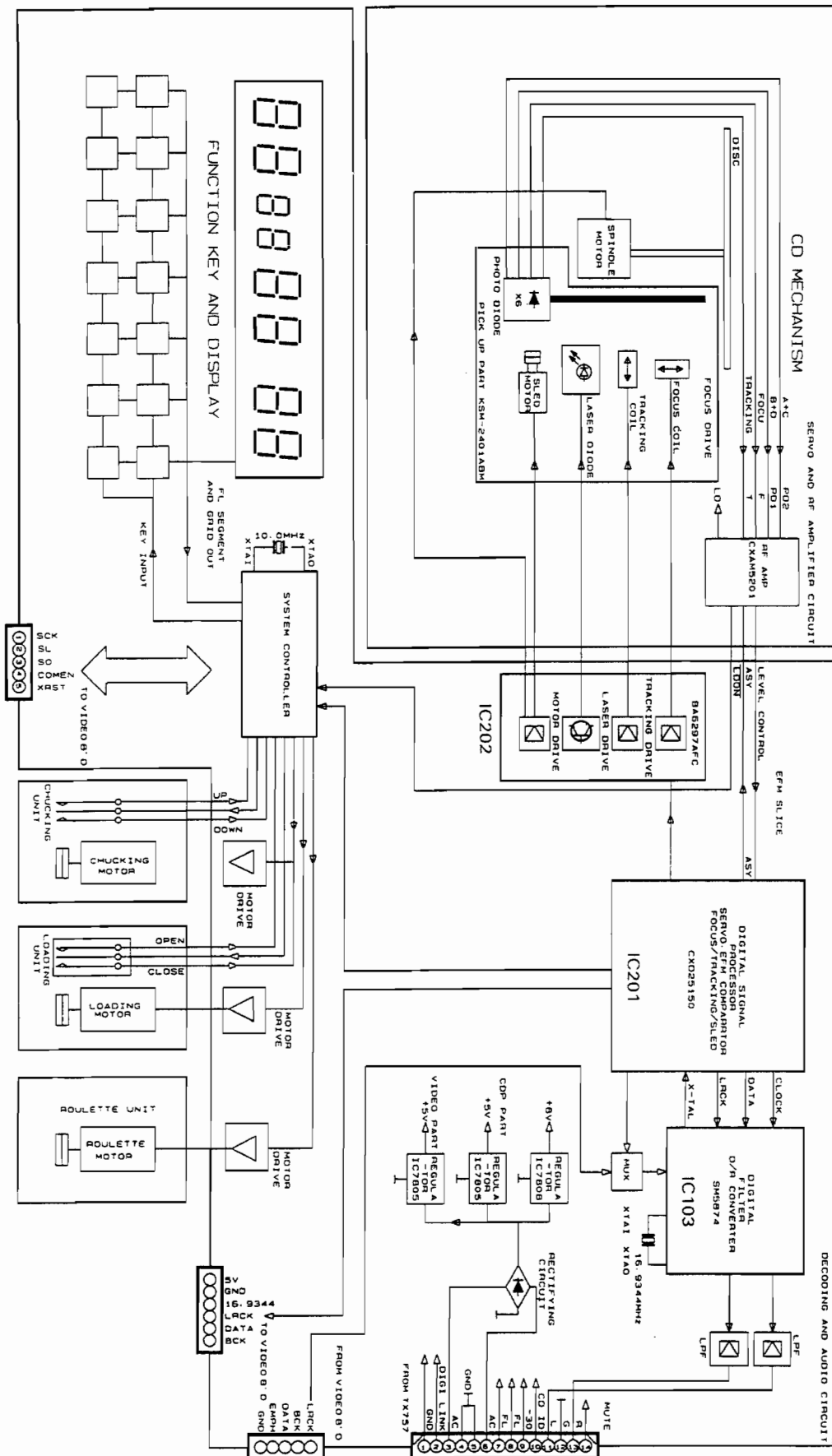
#### Storage

Temperature test: 48 hours each at -40°F (-40°C) and 149°F (65°C).

Humidity test: 40°C 95% relative humidity.

# BLOCK DIAGRAM I

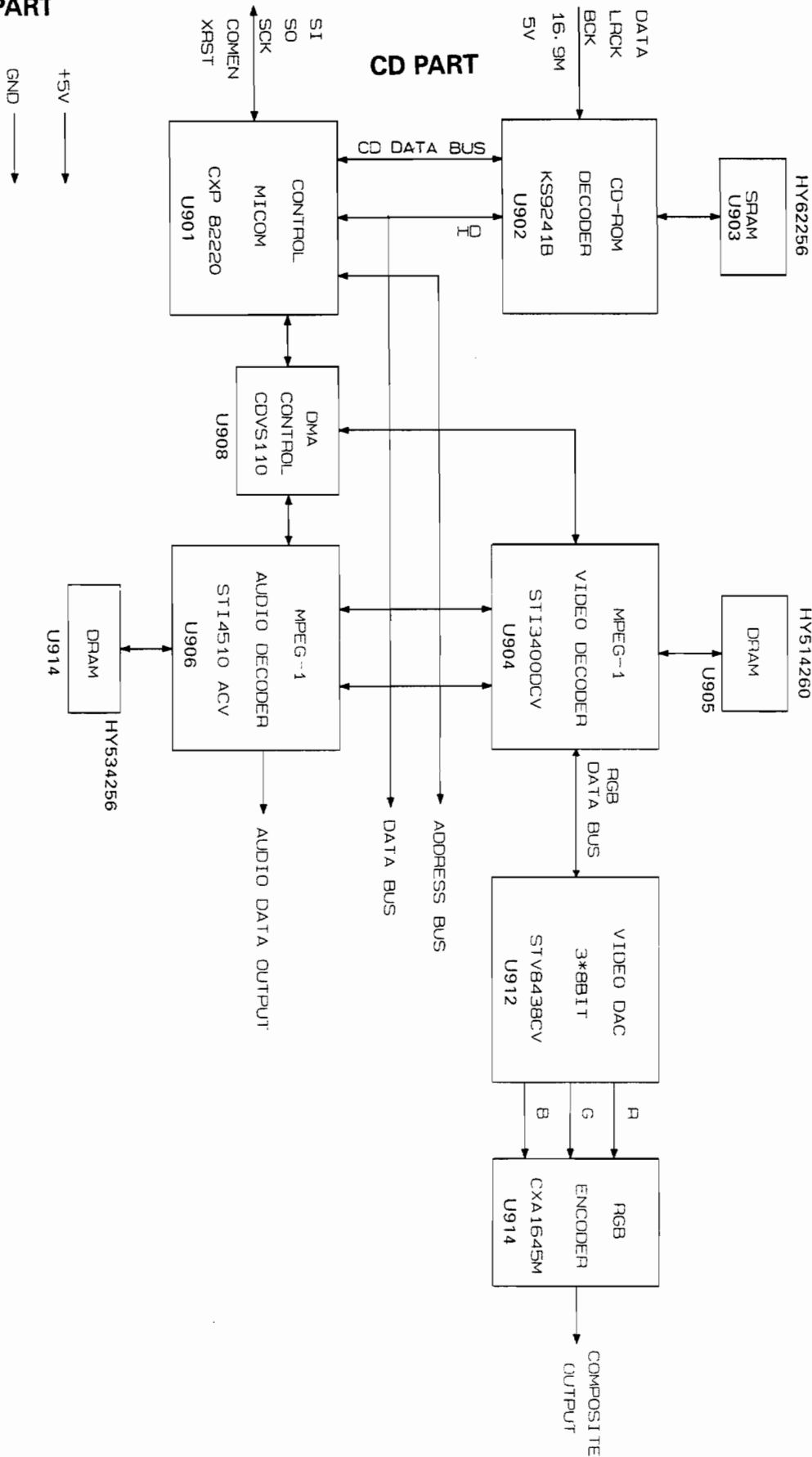
Model No : CDC-757/VCDC-757



# BLOCK DIAGRAM II

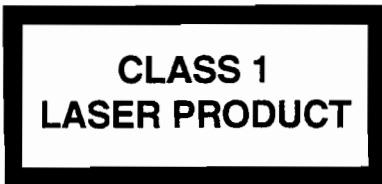
Model No. : VCDC-757

## MPEG PART



# LASER BEAM SAFETY PRECAUTIONS

## CLASS 1 LASER PRODUCT

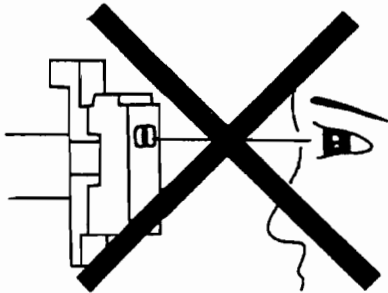


### CAUTION

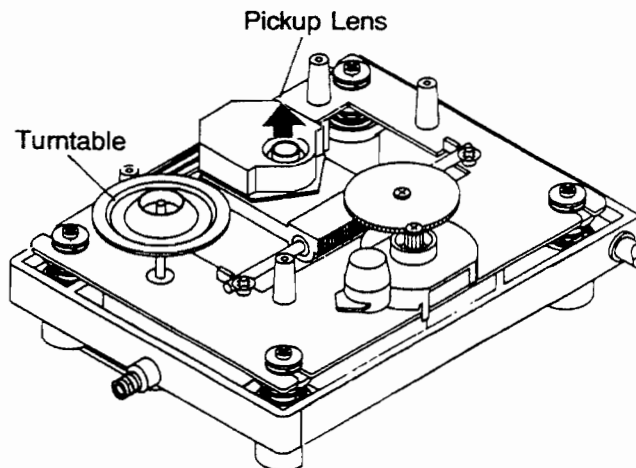
Invisible laser radiation when the unit is open. DO not stare into beam.

CAUTION: USE OF ANY CONTROLS, ADJUSTMENT, OR PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.



This compact disc player uses a pickup that emits a laser beam. The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 1 foot away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.



### CAUTION:

Using controls and adjustment, or doing procedures other than those specified herein, may result in hazardous radiation exposure.

## SAFETY PRECAUTIONS



### WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

### HANDLING LASER PICKUP

The laser diode in the optical system of this player can be damaged by electrostatic discharge from your clothes or your body. Proper electrostatic grounding for service personal is required during servicing.

## BEFORE REPAIRING THE COMPACT DISC PLAYER

### Preparation

#### • Human Body Grounding:

Many of the components used in this compact disc player, including the laser pickup, are sensitive to electrostatic discharge. Service personal should be grounded with an electrostatic armband (1 Mohm).

#### • Caution:

Static charge on clothing does not escape through a body grounding wrist band. Be careful not to contact the pickup or electrical components with your clothing.

#### • Workbench and Tool Grounding:

A properly-grounded electroconductive plate (1 Mohm) or metal sheet should be fitted to the workbench surface. Tools and instruments (such as soldering irons and scopes) should be grounded to prevent AC leakage.

Incorrect



Fig. 1

Correct

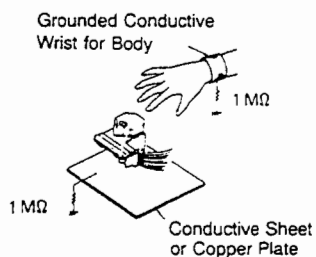


Fig. 2



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Attention: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant ou une autre sortie de courant, sauf si les lames peuvent être insérées à fond sans en laisser aucune partie à découvert.

**Note:** Laser diodes are so susceptible to damage from static electricity that, even if a static discharge does not ruin a diode, it can shorten its life or cause it to work improperly.

## PICKUP REPLACEMENT

### Caution:

Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pickup, take appropriate measures, such as using a conductive mat and a grounded soldering iron, to protect the laser diode from static damage.

1. Remove the CD mechanism assembly by referring to the "EXPLODED VIEW II" on page 72 (See Fig. 3).

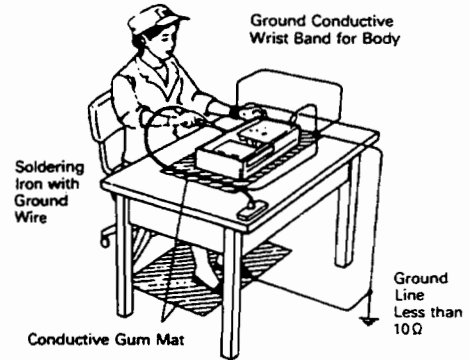


Fig. 3

2. Remove four screws S12 (See Fig. 4).

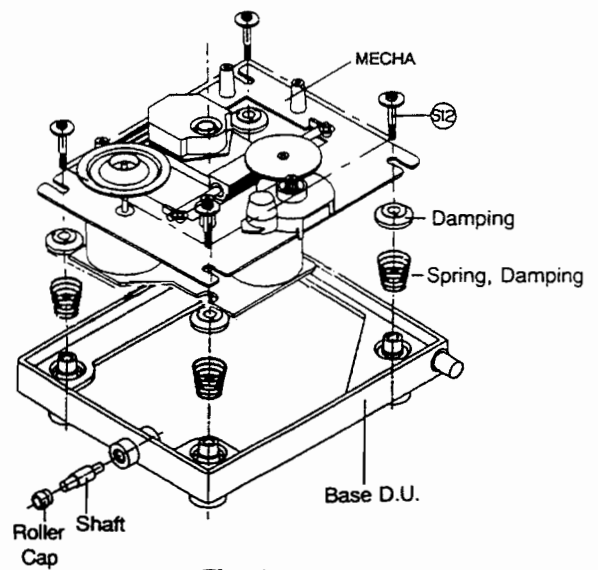


Fig. 4

3. Remove the gear A (See Fig. 5).
4. Pull out the slide shaft.

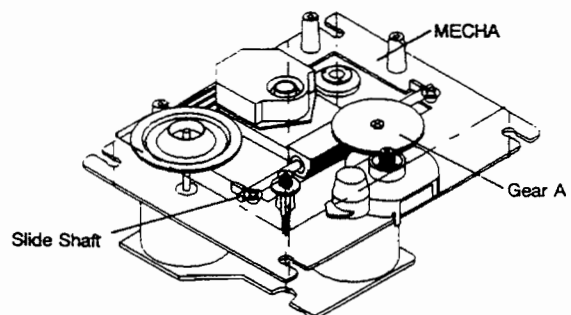


Fig. 5



5. Remove the pickup (See Fig. 6).

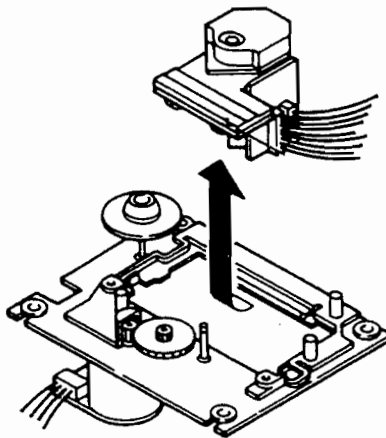


Fig. 6

6. Refer to the EXPLODED VIEW II of the compact disc mechanism on page 72 for detailed illustrations.

### OPERATION CHECK

When the power switch is turned on after the chucking arm is removed, observe the objective lens and check the following. (The optical system block should be at the lead-in position when it is checked.)

1. The disc table should be at the innermost position after the chucking arm is removed.
2. The diffused light of the laser beam can be seen when the power switch is turned on.
3. Vertical (up and down) movement of the objective lens takes place (2 or 3 times).

## DISASSEMBLY PROCEDURES

REFER TO PAGES 71 AND 82.

### 1 COVER TOP REMOVAL

Remove 5 screws **a** and then remove the Cover Top **7**.

### 2 FRONT PANEL ASSEMBLY REMOVAL

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Remove 8 screws **b**.
3. Disconnect (CP401) from Front1 P.C.Board (PCB4) and then remove the Front Panel Assembly **AA**.

### 3 FRONT1, 2 P.C.BOARD (PCB4, PCB5) REMOVAL

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Remove 6 screws **c** and then remove the Front1, 2 P.C.Board (PCB4, PCB5).

### 4 ASSEMBLY MECHANISM REMOVAL

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Remove 4 screws **d**.
4. Disconnect (CP301) from CNT P.C.Board (PCB3) and then remove the Assembly Mechanism **f**.

### 5 DSP P.C.BOARD (PCB2) REMOVAL

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Do steps **2** and **4**.
3. Remove the card cable from wafer (CP203 and CP202) on the DSP P.C.Board (PCB2)
4. Disconnect (CP201) from the DSP P.C.Board (PCB2).
5. Remove 3 screws **e** and then remove the DSP P.C.Board (PCB2).

### 6 MAIN P.C.BOARD (PCB1) REMOVAL

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Do steps **2** and **4**.
3. Remove 3 screws **f** and then remove the 2 taps (attached to the Main P.C.Board)

from the body mechanism.

4. Remove the card cable from wafer (CP109) on the Main P.C.Board (PCB1).
5. Disconnect (CP102, CP101, CN106 and CP103) from the Main P.C.Board (PCB1).
6. Disconnect (CP901, CP902, CP903 and CP904) from the MPEG P.C.Board (PCB7). (This step is applicable for only VCDC757)

### 7 MPEG P.C.BOARD (PCB7) REMOVAL

(This step is applicable for only VCDC757)

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Do steps **2** and **4**.
3. Disconnect (CP901, CP902, CP903 and CP904) from the MPEG P.C.Board (PCB7)
4. Remove 3 screws **g** and then remove the MPEG P.C.Board (PCB7).

### 8 VIDEO JACK P.C.BOARD (PCB6) REMOVAL

(This step is applicable for only VCDC757)

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Disconnect (CP601) from the MPEG P.C.Board (PCB7).
3. Remove a screw **h** and then remove the Video Jack P.C.Board (PCB6).

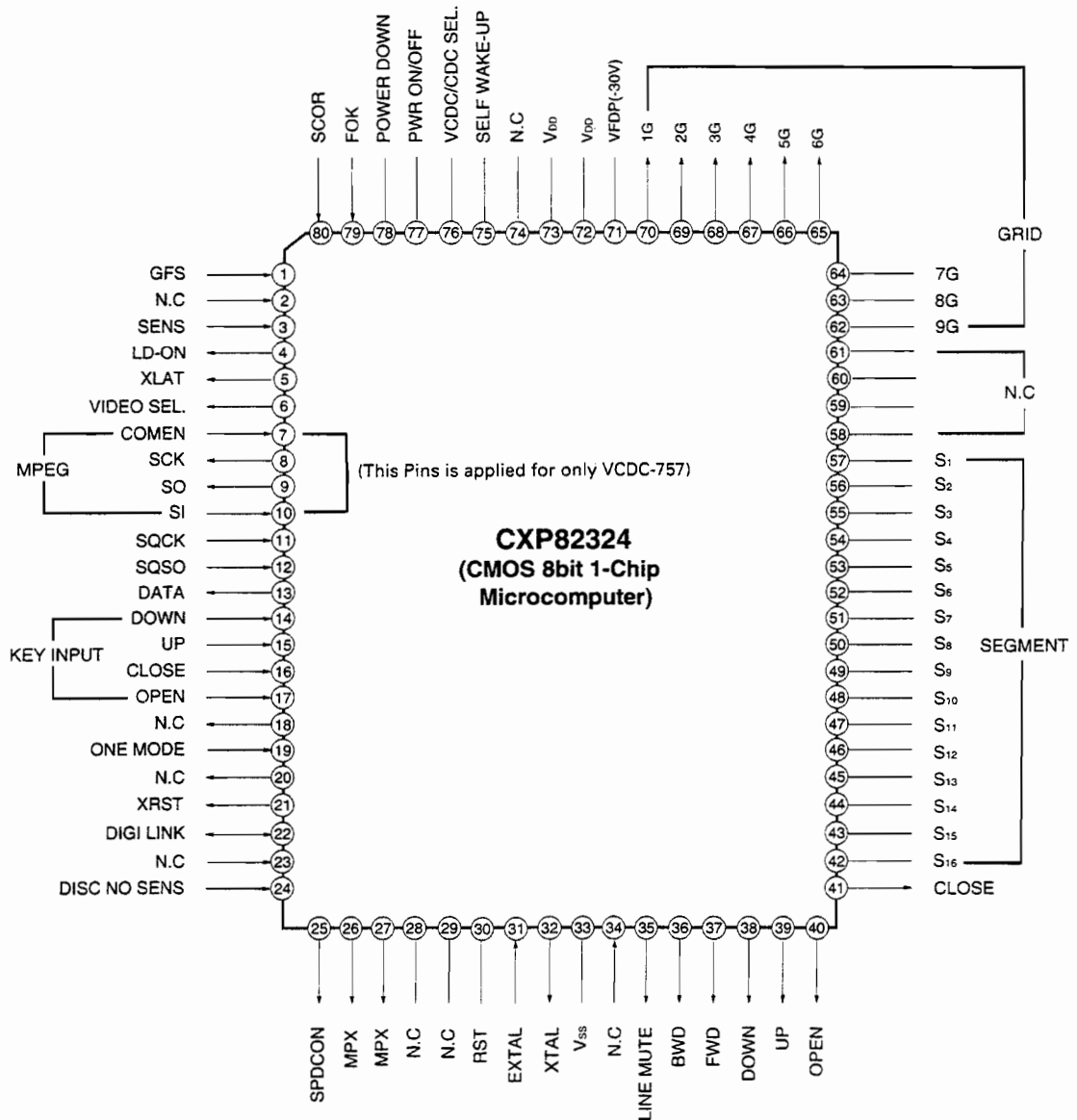
### 9 CNT P.C.BOARD (PCB3) REMOVAL

1. Remove the Cover Top **7**, referring to the previous step **1**.
2. Disconnect (CP301) from the CNT P.C.Board (PCB3).
3. Remove 2 screws **i** and then remove the CNT P.C.Board (PCB3).

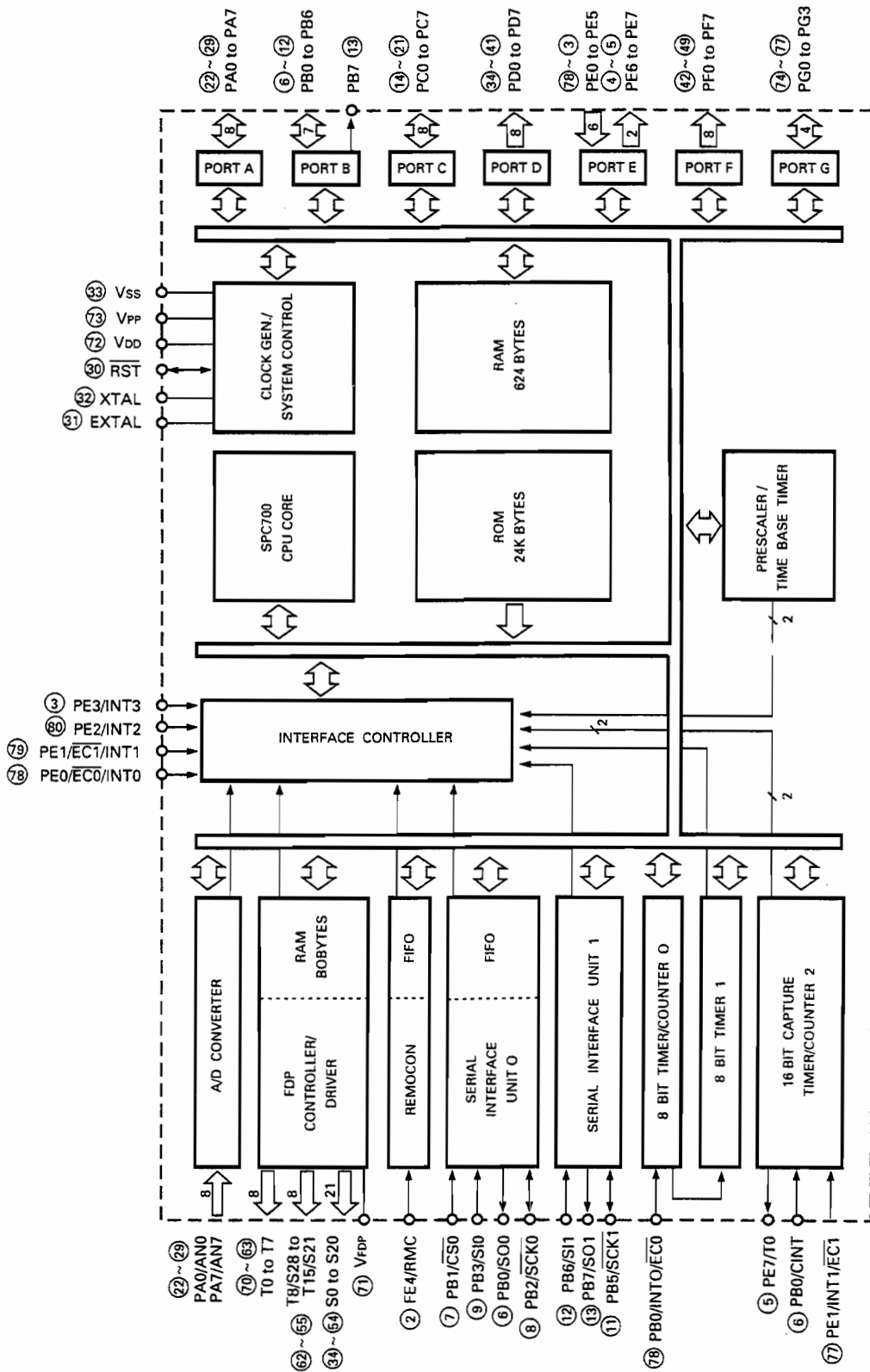
# CIRCUIT DESCRIPTION

## 1. IC201 : CXP82324 (CMOS 8bit 1-Chip Microcomputer)

### 1-1. Pin Connection Diagram



# 1-2. Block Diagram



### 1-3. Input and Output Terminal Functions

Pin No.	Symbol	Description																								
1	GFS	GFS signal input from CXD2515Q.																								
2	NC	Not used !																								
3	SENS	Sense signal output to pick-up unit (M-101).																								
4	LD-ON	LD-on signal output to pick-up unit (M-101).																								
5	XLAT	Serial latch data output to CXD2515Q.																								
6	VIDEO SEL	Output for controlling audio signal to 74HC157. If video CD, then "H" and if normal CD, then "L".																								
7	COMEN (MPEG)	Input for checking data transmission to MPEG CPU.																								
8	SCK (MPEG)	Clock data output to MPEG CPU.																								
9	SO (MPEG)	Serial data output to MPEG CPU.																								
10	SI (MPEG)	Serial data input from MPEG CPU.																								
11	SQCK	Clock data input for subcode-Q readout to CXD2515Q.																								
12	SQSO	Subcode-Q signal input from CXD2515Q.																								
13	DATA	Serial data output to CXD2515Q.																								
14~17	KEY INPUT	Data input for key scan.																								
18	NC	Not used !																								
19	ONE MODE	Input for test mode for production.																								
20	NC	Not used !																								
21	XRST	Output for resetting CXD2515Q. (At "L", it is active)																								
22	DIGI-LINK	Input for remocon data.																								
23	NC	Not used !																								
24	DISC NO SENS	Roulette sensor data input from mecha.																								
25	SPDCON	Output for roulette motor to stop the disc roulette.																								
26, 27	MPX SEL	According to settings, each MPX mode operates as follows. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="2">Pin No.</th> <th colspan="2">Signal Output</th> </tr> </thead> <tbody> <tr> <td>26</td> <td>27</td> <td>L-CH.</td> <td>R-CH.</td> </tr> <tr> <td>"L"</td> <td>"H"</td> <td>L-CH.</td> <td>L-CH.</td> </tr> <tr> <td>"H"</td> <td>"L"</td> <td>R-CH.</td> <td>R-CH.</td> </tr> <tr> <td>"H"</td> <td>"H"</td> <td>L+R-CH.</td> <td>L+R-CH.</td> </tr> <tr> <td>"L"</td> <td>"L"</td> <td>L-CH.</td> <td>L-CH.</td> </tr> </tbody> </table>	Pin No.		Signal Output		26	27	L-CH.	R-CH.	"L"	"H"	L-CH.	L-CH.	"H"	"L"	R-CH.	R-CH.	"H"	"H"	L+R-CH.	L+R-CH.	"L"	"L"	L-CH.	L-CH.
Pin No.		Signal Output																								
26	27	L-CH.	R-CH.																							
"L"	"H"	L-CH.	L-CH.																							
"H"	"L"	R-CH.	R-CH.																							
"H"	"H"	L+R-CH.	L+R-CH.																							
"L"	"L"	L-CH.	L-CH.																							
28, 29	NC	Not used !																								
30	RST	Input for resetting CPU. (At "L", it is active)																								
31	EXTAL	Input of 10.0 MHz oscillator crystal.																								
32	XTAL	Output of 10.0 MHz oscillator crystal.																								
33	Vss	Ground																								
34	NC	Not used !																								
35	LINE MUTE	Output for audio mute. (At "H", it is active)																								
36	ROULETTE BWD(-)	Output for driving motor to rotate counter clockwise the roulette.																								
37	ROULETTE FWD(+)	Output for driving motor to rotate counter clockwise the roulette.																								
38	PICK-UP DOWN	Output for chucking motor to draw down the pick-up.																								
39	PICK-UP UP	Output for chucking motor to draw up the pick-up.																								
40	TRAY OPEN	Output for driving motor to open the tray. (At "H", it is active)																								
41	TRAY CLOSE	Output for driving motor to close the tray. (At "H", it is active)																								
42~57	SEGMENT	Segment signal output for FIP.																								
58~61	NC	Not used !																								
62~70	GRID	Grid signal output of for FIP.																								
71	V <sub>FDP</sub>	-30 V power supply for FIP controller.																								
72, 73	V <sub>dd</sub>	+5 V power supply for CPU.																								
74	NC	Not used !																								
75	SELF WAKE-UP	Input for waking up CPU.																								
76	VCDC/CDC SEL	Input for selecting VCDC-757 or CDC-757. If "H", then VCDC-757 and if "L", then CDC-757.																								
77	PWR ON/OFF	Output for power off when function changed. (At "L", it is active)																								
78	POWER DOWN	Input for detecting power-down. (At "L", it is active)																								
79	FOK	FOK signal input from CXD2515Q.																								
80	SCOR	GFS signal input from CXD2515Q.																								

## 2. APC CIRCUIT

A semiconductor laser is used as the light source for the optical pickup. As the laser diode has large negative temperature characteristics in its optical output when driven with a constant current, a circuit must be provided to stabilize this output. For this purpose, a monitor diode which detects the optical output of the laser diode is used in the semiconductor laser.

As the laser diode emits light from its bonded surface, light is emitted both in front and behind. The light emitted behind is monitored with the monitor diode installed on its rear surface, and the optical output is thus controlled. The light emitted in front becomes the light source for the pickup.

Fig. 7 shows the APC circuit.

When the temperature rises and the optical output decreases, the monitor diode current ( $I_s$ ) decreases, the electric potential of OE-IC pin 24 rises, the base current of the driving transistor increases, and the laser diode current increases. This causes the reduced optical output to return to its former level.

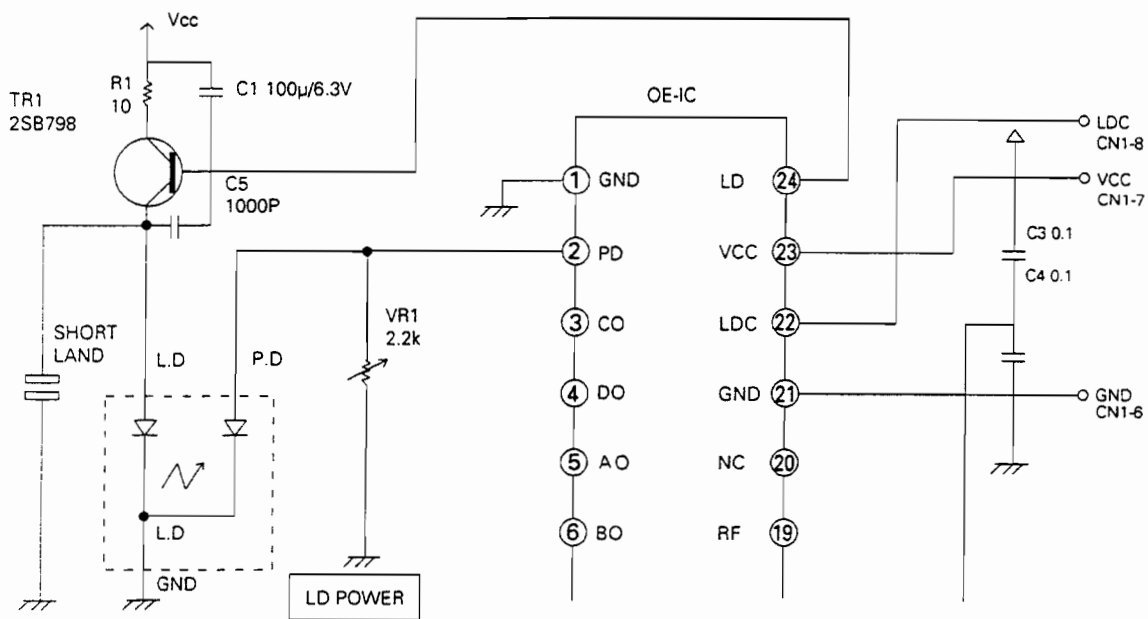


Fig. 7

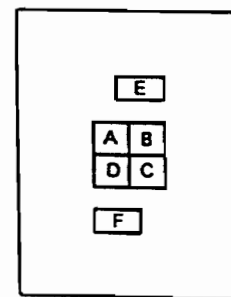
## 3. FOCUS SERVO

### 3-1. Optical pickup

This set employs a three-beam optical pickup comprised of six division photodiodes, A through F as shown in Fig. 8. The four photo diodes (A through D) at the center provide focus error detection by using their property to allow the beam to focus into a round image only at a certain point.

The sums of outputs from diagonal two elements of four division photo diodes (A+C and B+D) are compared by the differential amplifier in OE-IC to detect the shape of the beam image.

The remaining two diodes (E and F) provide tracking error detection by means of sub-beam spots.



Three spotted (six-division) photo diodes

Fig. 8

### 3-2. Focus error detecting operation

Fig. 9 shows the reflected laser beam from a disc is polarized 90° with the beam-splitter and sent to the cylindrical lens. The beam passed through this cylindrical lens is then sent to the four division photo diodes and focuses into an image whose shape varies with the distance between the disc and the objective lens. Such change in the beam shape causes the current flowing from the photo diodes to vary.

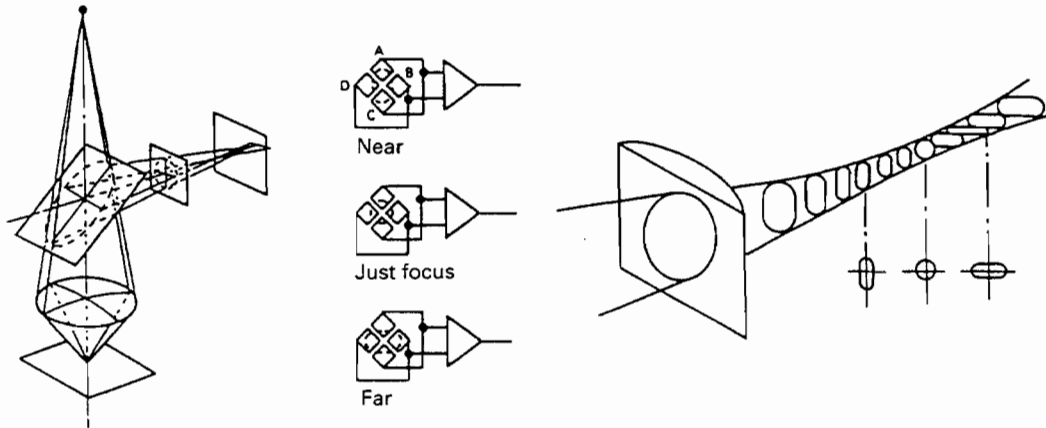


Fig. 9

### 3-3. Tracking error detection system

Fig. 10 shows the principle of the tracking error detection system which employs the three beam system.

The laser beam is divided into the main beam and two sub-beams by diffraction grating and they are arranged on one line. The center line connecting these three beams has a slight offset angle against the main beam. The main beam is received by photo diodes A, B, C and D and two sub-beams by E and F respectively.

Fig. 10-A shows the on-track state. As both auxiliary beams 1 and 2 are slightly on the track in this state, the outputs of photo diodes E and F are equal and the tracking signal is 0(zero). When the track is shifted to the left (Fig. 10-B), the auxiliary beam 1 is off the pit. This allows more light to be received by the photo diode E, resulting in positive (+) tracking signal output. On the other hand, when the track is shifted to the right (Fig. 10-C), the amount of light received by the photo diode F increases, resulting in negative (-) tracking signal output. And these extreme signals are detected as tracking error signals.

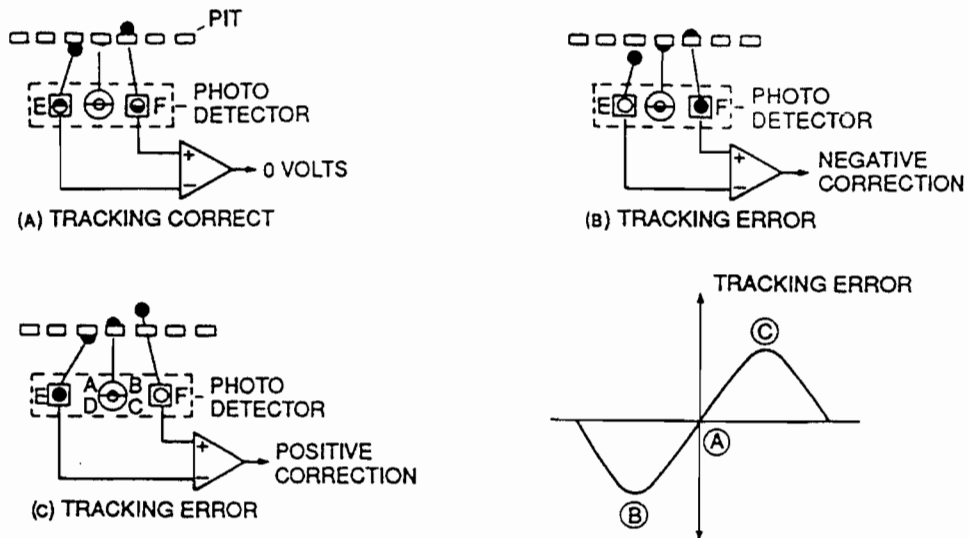


Fig. 10

# TROUBLESHOOTING

[Repair item 1] At power on, "0" and some parts are not displayed.

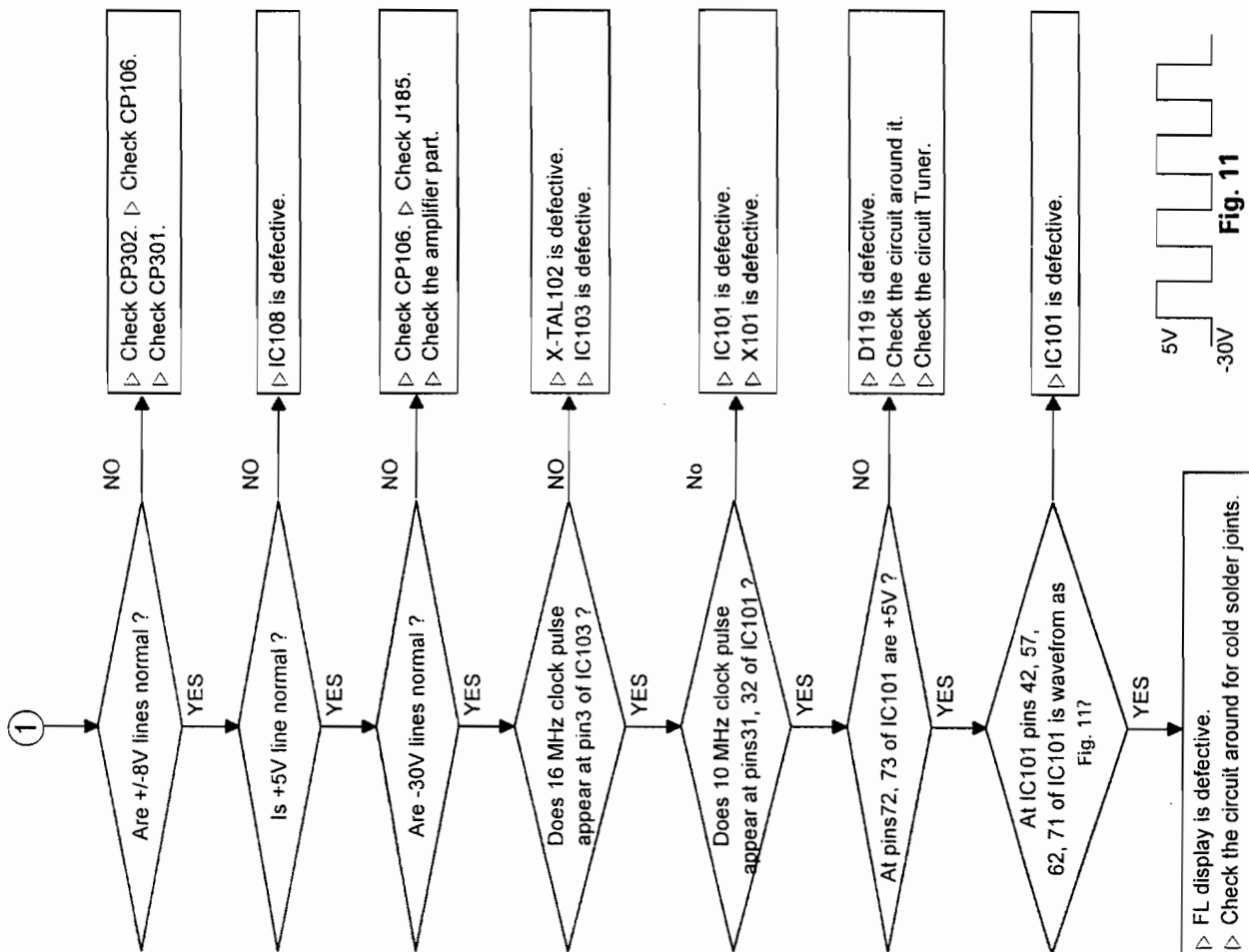
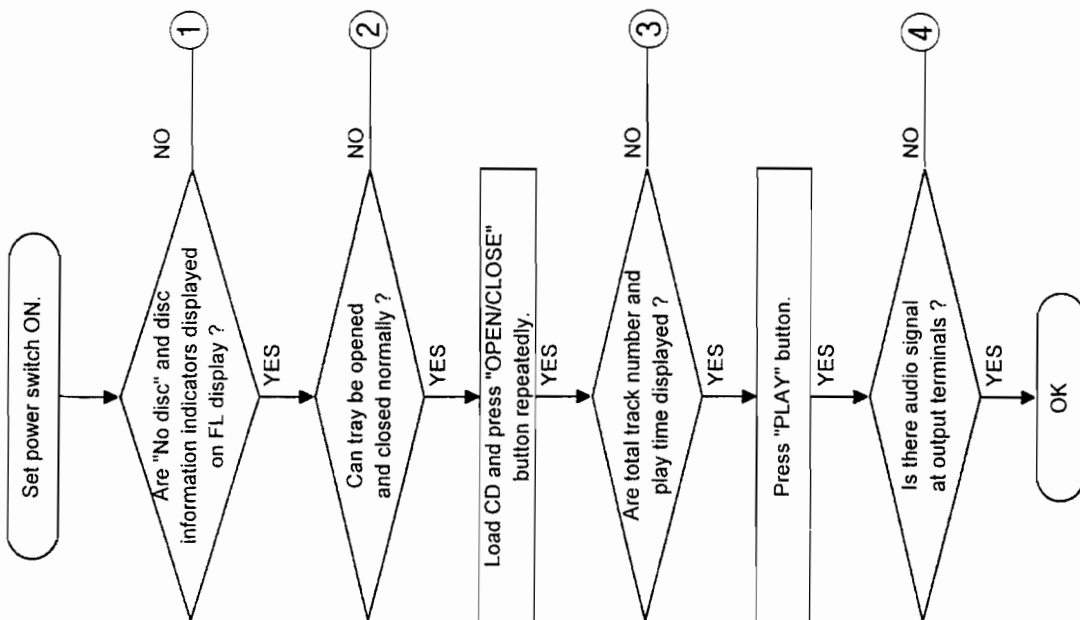
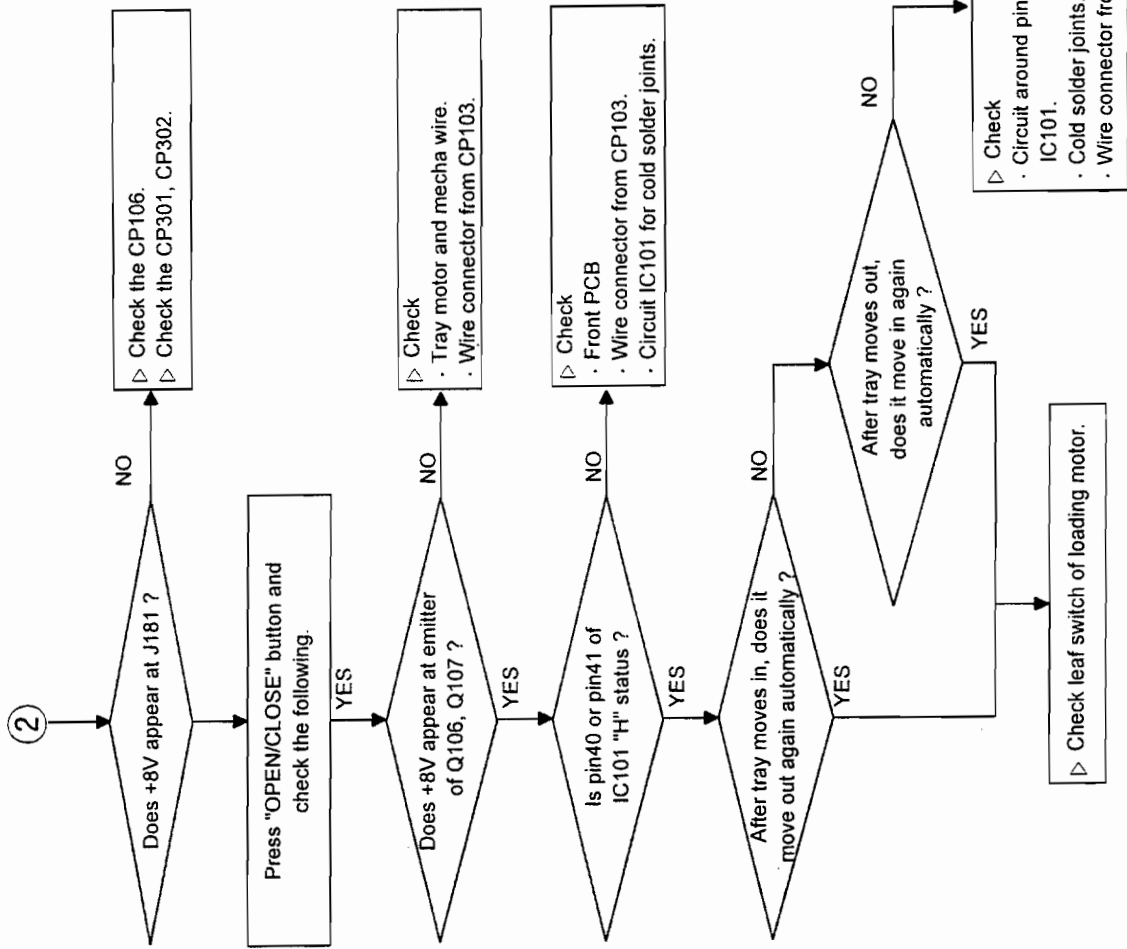


Fig. 11

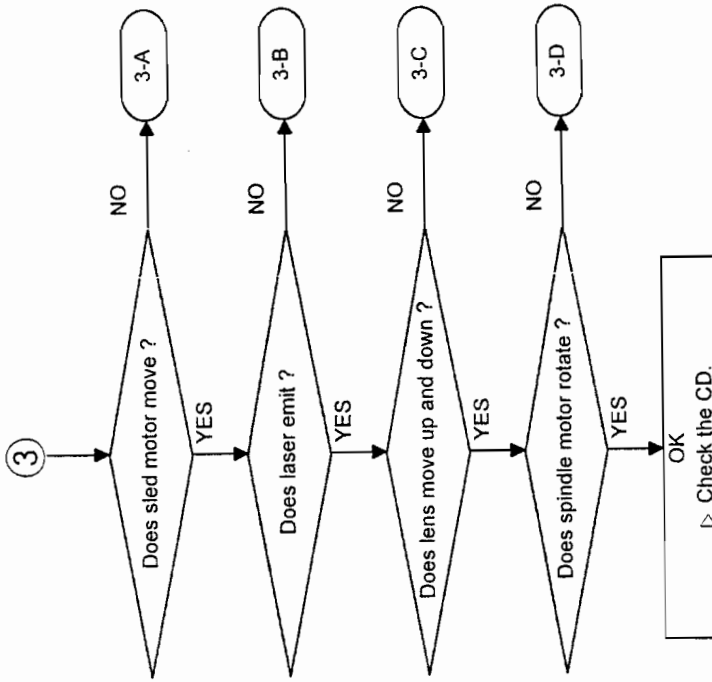




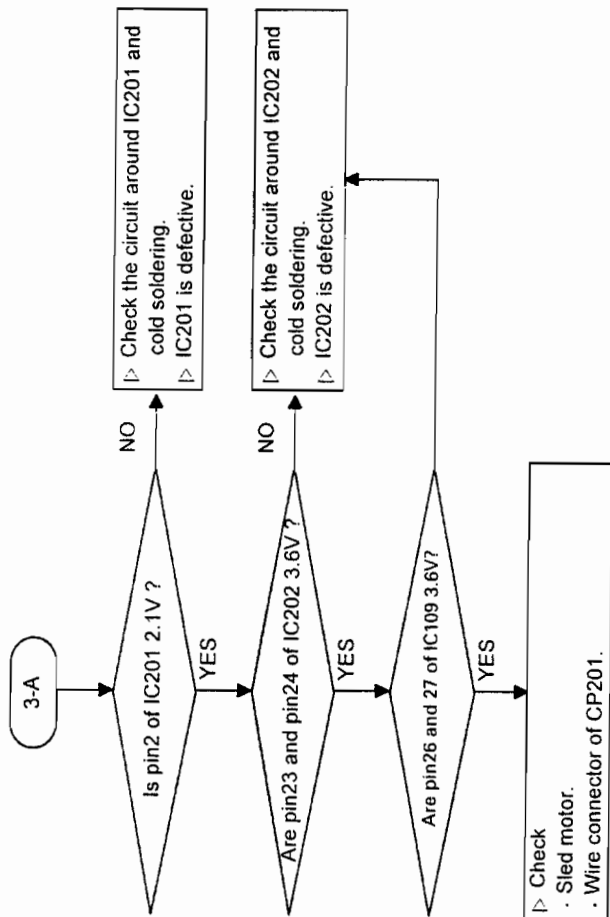
[repair item 2] Tray cannot be opened and closed by pressing "OPEN/CLOSE" button.



[Repair item 3] "0" is displayed instead of total playing time and track number.



[Repair item 3-A] Sled motor dose not move.



[Repair item 3-C] Object lens of pickup unit does not move up and down.

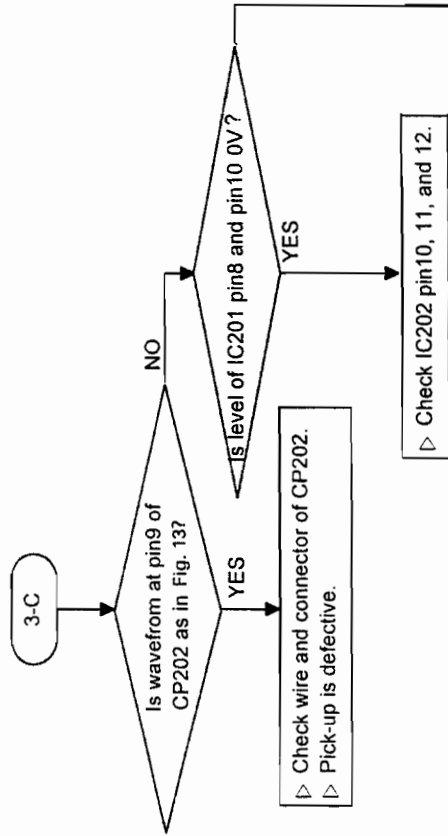


Fig. 13

[Repair item 3-B] Laser does not emit.

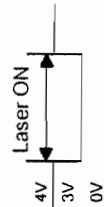
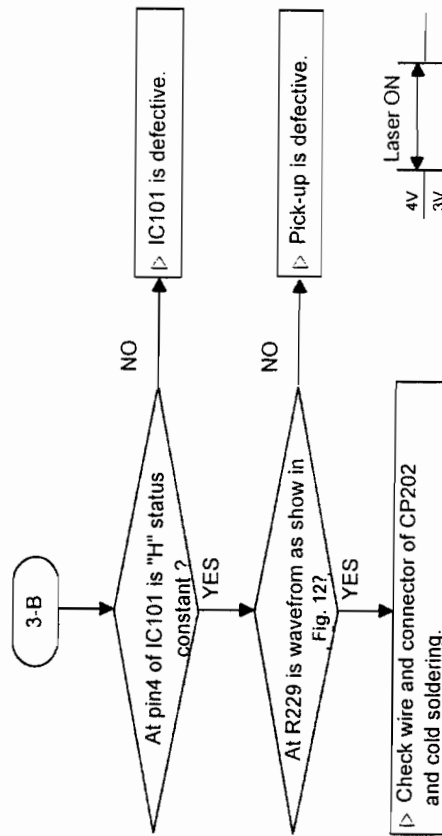
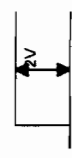
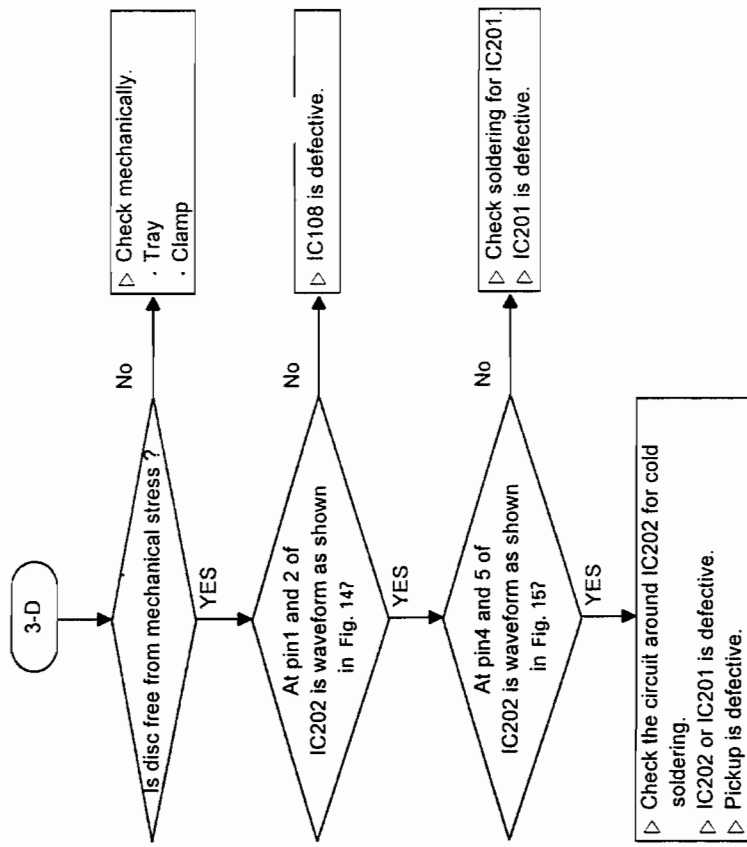
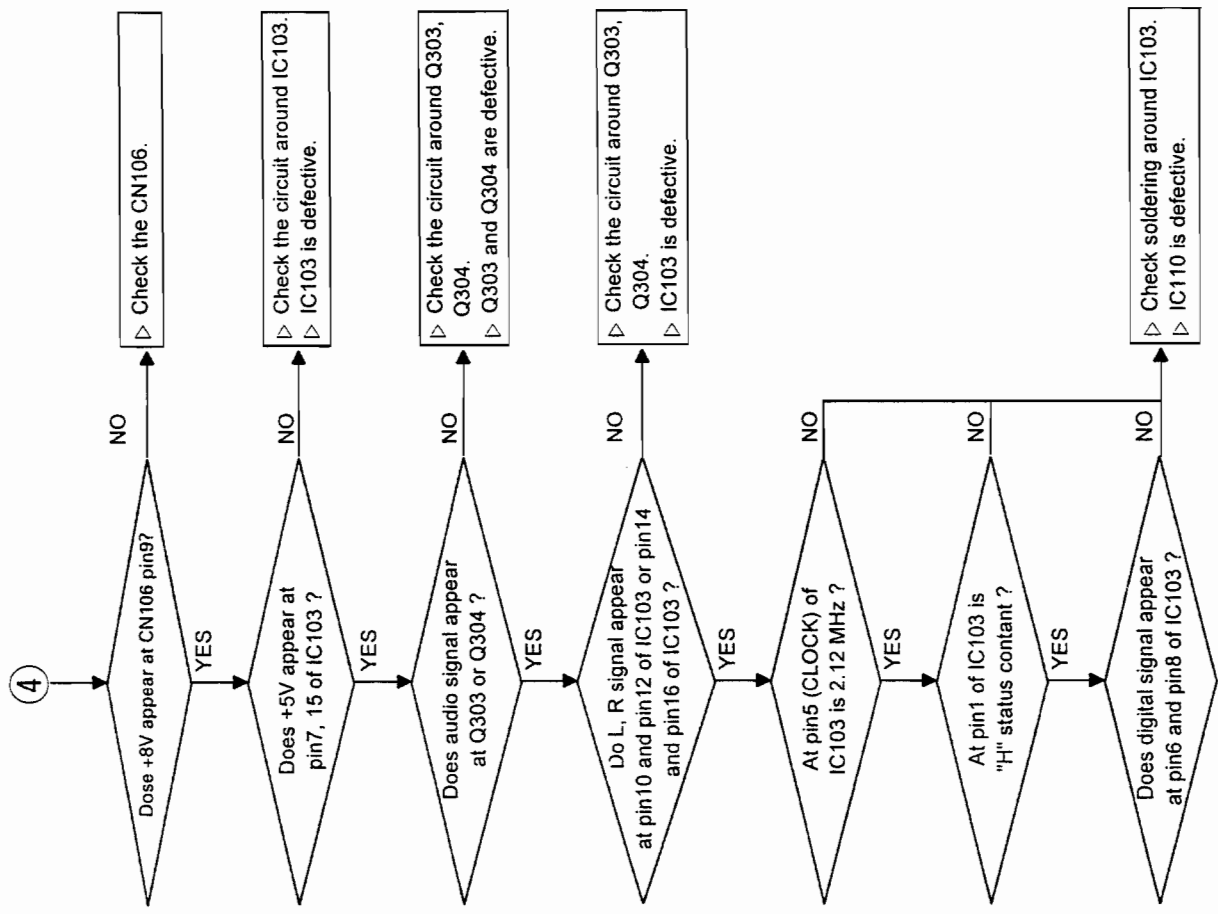


Fig. 12

[Repair item 3-D] Spindle motor does not rotate.





[Repair item 4] No sound signal.



# MECHANICAL PARTS LIST

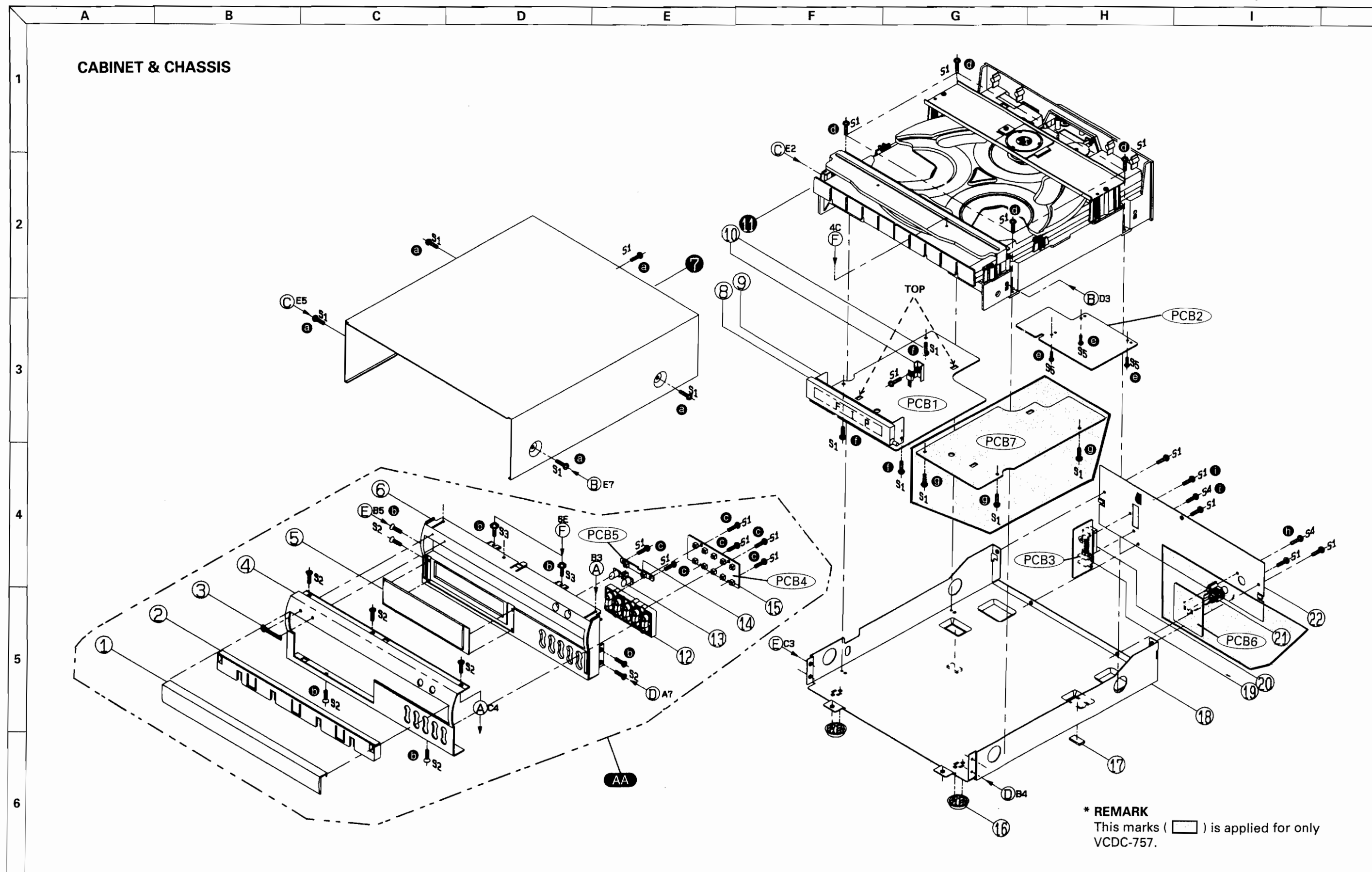
Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version
	<b>PACKAGE</b>				23	Sheet Tapping	6725003610	1	
	Carton Box	049605258410	1	KS	24	Belt Loading	7165002510	1	
	Carton Box	049605258403	1	A,D,PT INDO	25	P.C.Board Sensor	4009500500	1	
	Cushion Poly	9722041310	1		26	Base Magnet	6063103010	1	
	Film Soft PE	9715000120	1		27	Cover Magnet	6023408610	1	
					28	Magnet	5125000910	1	
	<b>ACCESSORIES</b>				29	Pulley Motor	7113001310	1	
	Cord Patch, 1P	4328201910	1	KS	30	Rubber Damping	6715024510	4	
	Demo Disc, Video CD	5058001210	1	KS	31	Spring Damping	6555014010	4	
					32	Poly Washer (C 2.1)	8338300710	1	
	<b>CABINET &amp; CHASSIS</b>				33	Poly Washer (C 4.1)	8338301310	1	
	Door (CDC757)	048663001412	1		34	Poly Washer (C 5.2)	8338301410	1	
(1)	Door (VCDC757)	048663001411	1	KS	35	Poly Washer (C 3.1)	8338301210	1	
2	Base Door	6043010510	1		36	Screw Mecha	8155001210	3	
3	Badge, INKEL	048535045411	1	KS	37	Screw Damping	8155001610	4	
(3)	Badge, SHERWOOD	048535045421	1	A,D,PT INDO	38	Screw BM 2x3Y	8009120031	2	
4	Panel Front (CDC757)	048602019912	1		39	Screw BM 2.6x4Y	8009126041	4	
(4)	Panel Front (VCDC757)	048602019911	1	KS	40	Screw #1 WPT 2.6x8Y	8159126081	2	
5	Window	8553023510	1		41	Screw #1 BT 2.6x8Y	8109126080	2	
6	Body Front	048521009811	1		42	Screw #1 BT 3x8Y	8109130081	3	
7	Cover Top	046123017911	1		43	Screw #1 BT 3x10B	8109130101	6	
8	FIP, 9CEM6	2328130322	1		44	Screw #1 WPT 3x15Y	8159130151	1	
9	Shield Fence	6163115610	1		45	Screw BTTS 3x4Y	8109430051	1	
10	Heatsink	7505202410	1		46	Connector, Lead Ass'y, 5P	436105080121	1	
11	Assembly Mechanism	5728000840	1		47	Connector, Lead Ass'y, 5P	436105080121	1	
12	Button Function	048543070211	1		48	Connector, Wafer, 5P	5798100307	1	
13	Button Skip	048543070311	1		49	Connector, Lead Ass'y, 2P	436202070132	1	
14	Switch Tact	4658004410	2		50	Connector, Wafer, 2P		1	
15	Switch Tact	4658003710	10		51	Resistor, 150 ohm, 1/5 W, J	3069151970	1	
16	Foot	6035104310	2		52	Resistor, 10 kohm, 1/5 W, J	3069103970	1	
17	Rubber Foot	6715021230	2		53	Drive Unit, KSM-2401ABM)	5728001110	1	
18	Chassis Main	6121615010	1		54	Motor, RF-500TB-12560	5558001810	1	
19	Plate Ground	6165143510	1		55	Motor, FF-130SH-14230	5558200410	1	
20(CP302)	Connector, System	4428513820	1		56	Switch Lever, SSCF-21004A	4638003410	2	
21	Jack RCA	4438113810	1		57	Photo Sensor, SG-23F1	78001111	1	
22	Chassis Back (VCDC757)	046102045111	1	KS					
(22)	Chassis Back (CDC757)	046102045211	1	KS					
(22)	Chassis Back	046102045221	1	A					
(22)	Chassis Back	046102045251	1	D					
(22)	Chassis Back	046102045291	1	PT INDO					
	<b>HARDWARE KIT</b>								
S1	Screw, #8 BTT 3x8B (VCDC757)	8179130083	27	KS					
(S1)	Screw, #8 BTT 3x8B (CDC757)	8179130083	24						
S2	Screw, #2 FTC 3x10B	8129230083	9						
S3	Screw, #8 WTT 3x6Y	8179230061	2						
S4	Screw Gurond, 3x10B (VCDC757)	8155000710	2	KS					
(S4)	Screw Gurond, 3x10B (CDC757)	8155000710	1						
S5	Screw, #2 BTC 2.6x8B	8109260083	3						
	<b>MISCELLANEOUS</b>								
	Connector, Lead Ass'y, 6P, 80mm	435206082042	1						
	Connector, Lead Ass'y, 14P, 420mm	435214422022	1						
	Card Cable, 12P	4118512100	1						
	Card Cable, 19P	4118619085	1						
PCB1	P.C.Board Main	4004000700	1						
PCB2	P.C.Board DSP	4004000710	1						
PCB3	P.C.Board CNT	4004000730	1						
PCB4	P.C.Board Front 1	4004000720	1						
PCB5	P.C.Board Front 2	4004000750	1						
PCB6	P.C.Board Video Jack (VCDC757)	4004000740	1	KS					
(PCB6)	Not Used ! (CDC757)								
PCB7	P.C.Board MPEG (VCDC757)	4009000100	1	A,D,PT INDO					
(PCB7)	Not Used ! (CDC757)								
11	<b>ASSEMBLY MECHANISM (ICM02D)</b>	<b>5728000840</b>							
1	Gear Center	7105000410	2						
2	Gear Pulley	7105000510	1						
3	Gear Roulette	7105000610	1						
4	Gear Motor	7105000710	1						
5	Gear Worm	7105000810	1						
6	Bracket Side	6505133510	4						
7	Chuck Chassis	6023408710	1						
8	Bracket Motor	6023801010	1						
9	Frame Front	6023601320	1						
10	Guide Chuck	6063103110	1						
11	Gear Loading	7103001910	1						
12	Base D.U	6062101520	1						
13	Cam Gear	7142000510	1						
14	Cover Cam	7142000610	1						
15	Roulette	7121400320	1						
16	Tray Roulette	6021800410	1						
17	Body Mecha	6021601310	1						
18	Rubber Limit	6715022810	2						
19	Rubber Bracket	6715023310	3						
20	Shaft Gear Roulette	7005007910	1						
21	Cover Roulette	6735011410	1						
22	Sheet Tray	6705022510	1						

### PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list are of special significance to safety. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

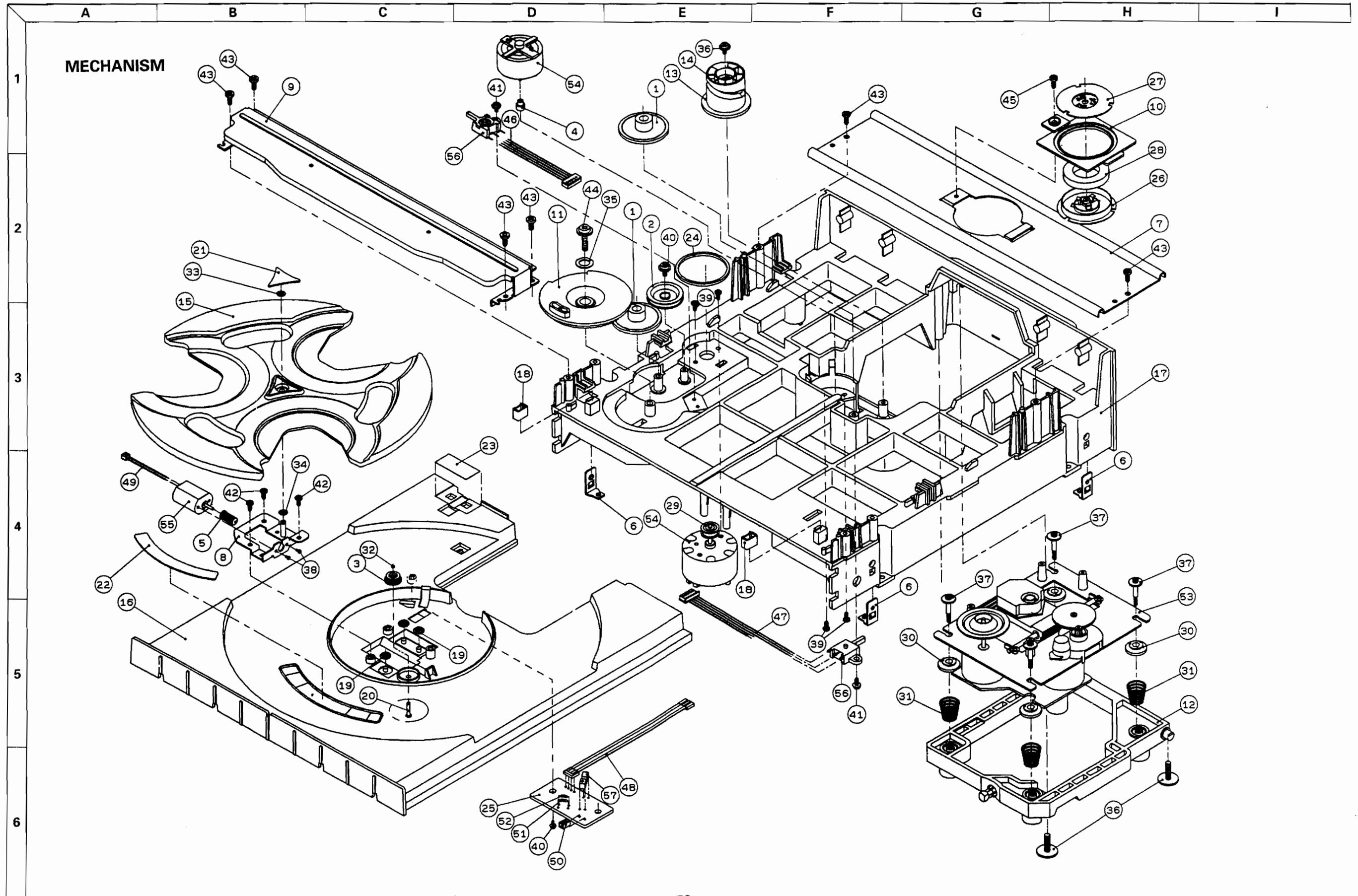
# EXPLODED VIEW I

Model No : CDC-757/VCDC-757



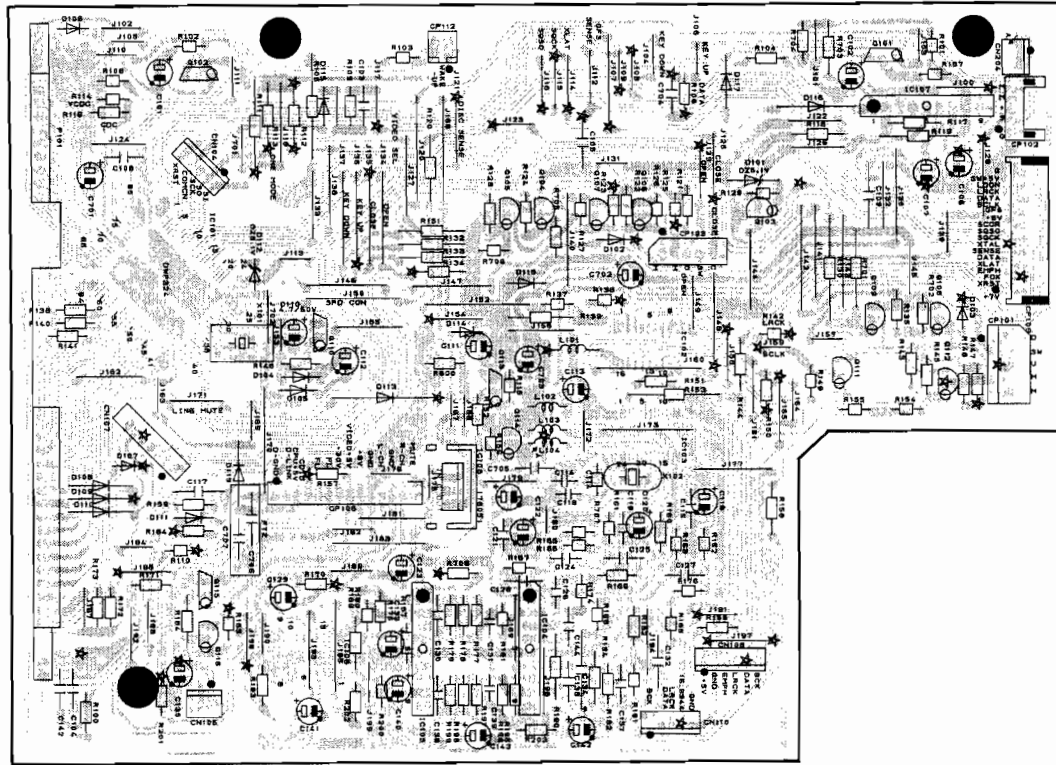
# EXPLODED VIEW II

Model No : CDC-757/VCDC-757



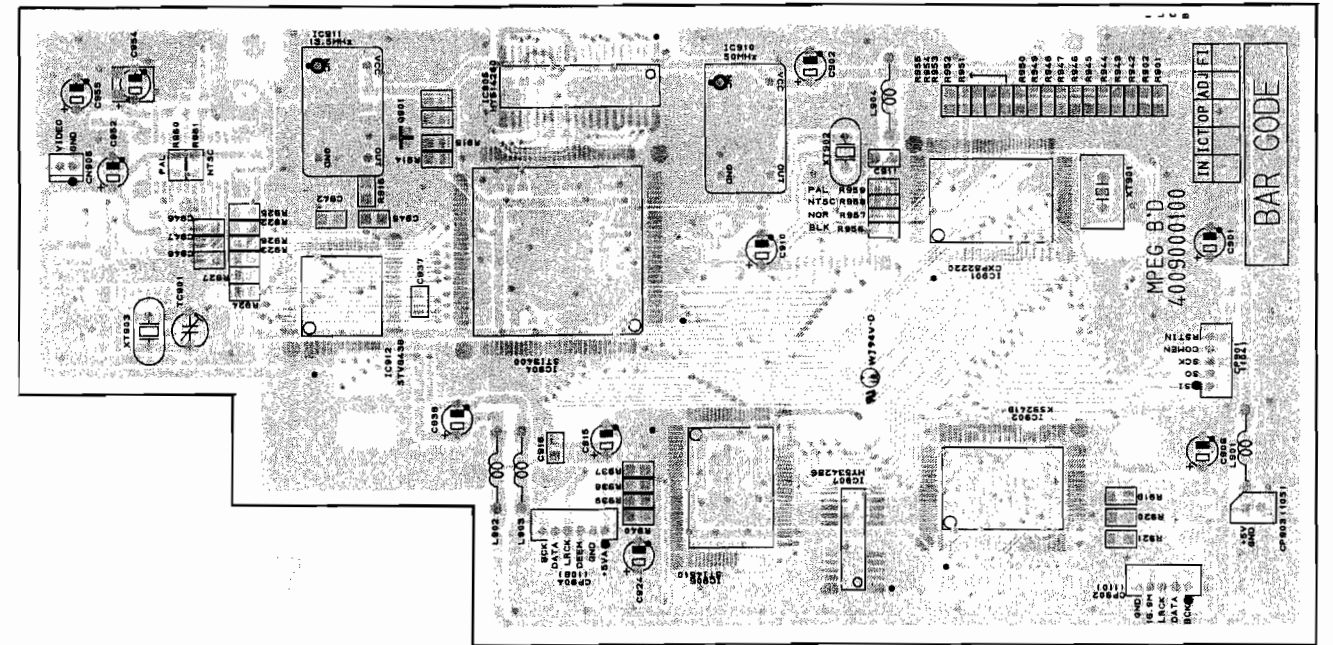
PRINTED CIRCUIT BOARDS

MAIN(PCB1)

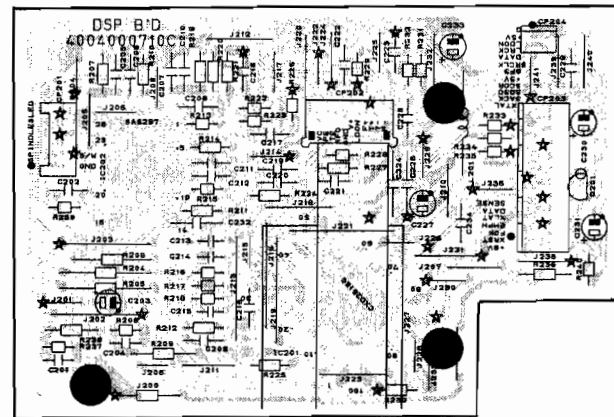


MPEG(PCB7) : VCDC757 ONLY

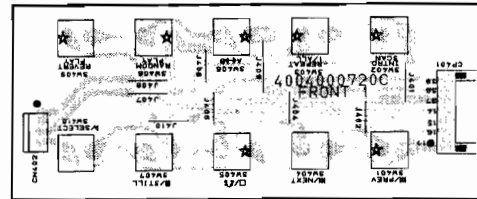
- Top View -



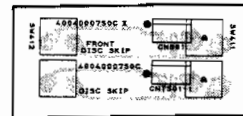
DSP(PCB2)



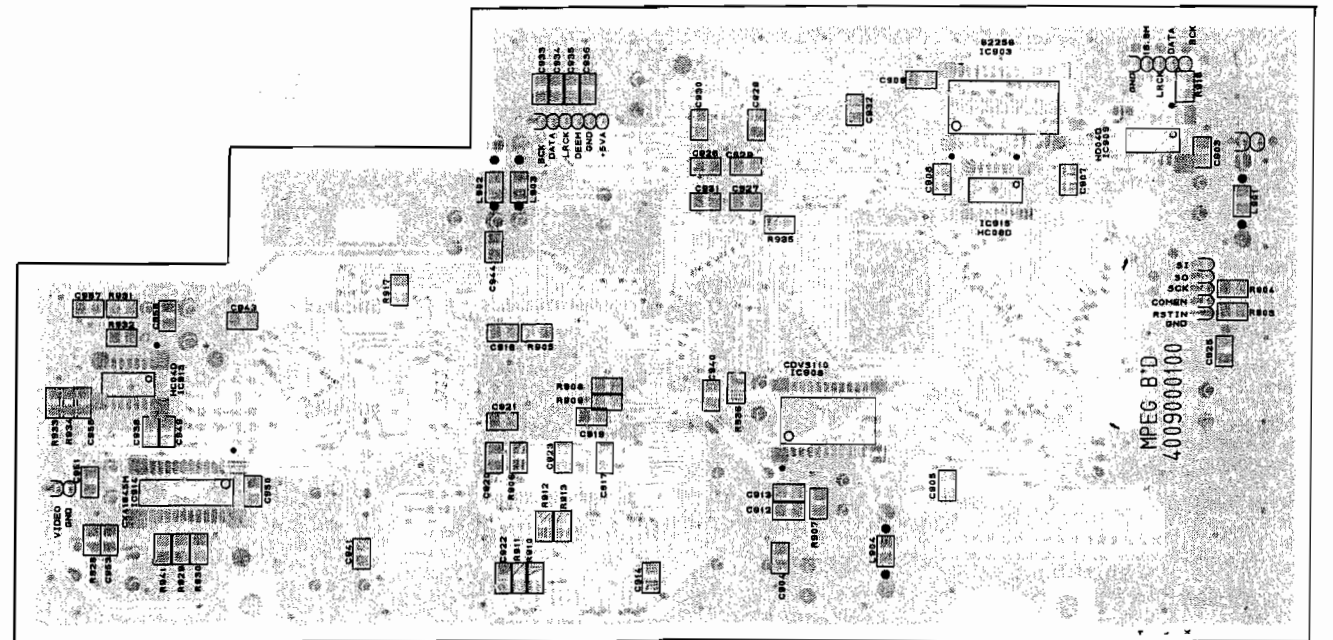
FRONT 1(PCB4)



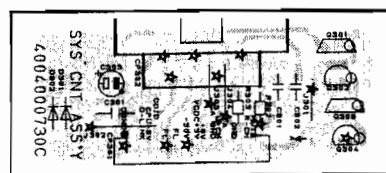
FRONT 2(PCB5)



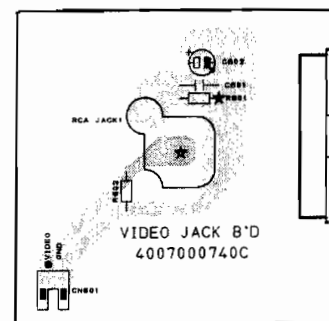
-Bottom View -



CNT(PCB3)



VIDEO JACK(PCB6) : VCDC757 ONLY



# ELECTRICAL PARTS LIST

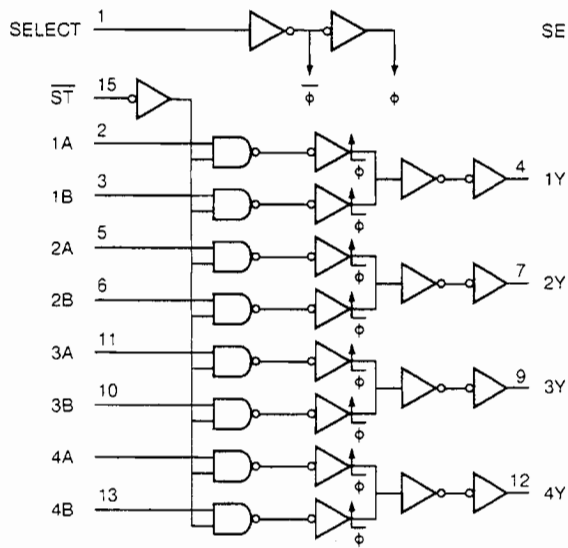
**PRODUCT SAFETY NOTICE :** Products marked with  $\Delta$  have special characteristics important to safety. If you replace any of these components, read carefully the product safety notice in this manual. Don't degrade the safety of the product through improper servicing. Resistor/Capacitor tolerance - D : ( $\pm 0.5\%$ ), J : ( $\pm 5\%$ ), K : ( $\pm 10\%$ ), M : ( $\pm 20\%$ ), Z : +80, - 20%

Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version	
<b>PCB1 ASSEMBLY P.C. BOARD MAIN</b>															
<b>CAPACITORS</b>															
C101	Electrolytic SG	4.7 uF	50 V M	3479347971	1	R102	Carbon Film	3.3 kohm	1/5 W J	3069332970	1	R103	Carbon Film	100 kohm	
C102	Electrolytic SG	100 uF	10 V M	3479310121	1	R104	Carbon Film	10 kohm	1/5 W J	3069104970	1	R105	Carbon Film	100 kohm	
C103	Ceramic Tubular	1000 pF	50 V J	3519102935	1	R106	Metal Film	1 kohm	1/5 W J	3029102970	1	R107	Carbon Film	1.2 kohm	
C105	Ceramic Tubular	220 pF	50 V J	3519221935	1	R108	Carbon Film	47 kohm	1/5 W J	3069473970	1	R109	Carbon Film	10 kohm	
C106/C107	Electrolytic SG	100 uF	10 V M	3479310121	2	R110	Carbon Film	2.2 ohm	1/5 W J	3069229970	1	R111-R113	Carbon Film	68 kohm	
C108/C109	Ceramic Tubular	0.1 uF	50 V J	3519104935	2	R114	Carbon Film	100 kohm	1/5 W J	3069104970	1	R115	Carbon Film	68 kohm	
C110	Electrolytic SG	3.3 uF	50 V M	3479333971	1	R116	Carbon Film	100 kohm	1/5 W J	3069104970	1	R117	Metal Film	1 ohm	
C111	Electrolytic SG	2.2 uF	50 V M	3479322971	1	R118	Carbon Film	4.7 kohm	1/5 W J	3069472970	1	R119	Carbon Film	3.3 kohm	
C113/C114	Electrolytic SG	100 uF	10 V M	3479310121	2	R120	Metal Film	100 ohm	1/5 W J	3029101970	1	R121	Metal Film	33 ohm	
C115	Ceramic Tubular	0.022 pF	50 V J	3519223935	1	R122/R123	Metal Film	560 ohm	1/5 W J	3029561970	2	R124	Metal Film	1 kohm	
C116	Electrolytic SG	100 uF	10 V M	3479310121	1	R125	Metal Film	56 ohm	1/5 W J	3029560970	1	R126/R127	Metal Film	2.2 kohm	
C117	Ceramic Tubular	220 pF	50 V J	3519221935	1	R128	Metal Film	1 kohm	1/5 W J	3029102970	1	R129	Metal Film	270 ohm	
C118	Ceramic Disc, CH	33 pF	50 V J	3528330210	1	R130	Metal Film	1 kohm	1/5 W J	3029102970	1	R131-R134	Carbon Film	47 kohm	
C119	Ceramic Tubular	0.022 pF	50 V J	3519223935	1	R135	Metal Film	680 ohm	1/5 W J	3029681970	1	R136	Metal Film	1 kohm	
C120	Electrolytic SG	100 uF	10 V M	3479310121	1	R137	Metal Film	1 kohm	1/5 W J	3029102970	1	R138	Carbon Film	120 kohm	
C121	Ceramic Tubular	0.022 pF	50 V J	3519223935	1	R139	Carbon Film	68 kohm	1/5 W J	3069683970	1	R140/R141	Carbon Film	120 kohm	
C122/C123	Electrolytic SG	100 uF	10 V M	3479310121	2	R142	Metal Film	100 ohm	1/5 W J	3029101970	1	R143	Metal Film	330 ohm	
C124-C128	Ceramic Tubular	120 pF	50 V J	3519121935	5	R144	Metal Film	220 ohm	1/5 W J	3029221970	1	R145	Metal Film	330 ohm	
C129	Electrolytic SG	10 uF	50 V M	3479310071	1	R146	Carbon Film	100 kohm	1/5 W J	3069104970	1	R147/R148	Metal Film	33 ohm	
C130	Ceramic Tubular	100 pF	50 V J	3519101935	1	R149-R151	Metal Film	100 ohm	1/5 W J	3029101970	3	R152	Carbon Film	750 ohm	
C131	Mylar	0.001 uF	100 V J	3679102120	1	R153	Metal Film	100 ohm	1/5 W J	3029101970	1	R154/R155	Metal Film	2.2 kohm	
C132	Ceramic Tubular	120 pF	50 V J	3519121935	1	R156	Carbon Film	47 kohm	1/5 W J	3069473970	1	R157	Carbon Film	10 kohm	
C133	Electrolytic SG	100 uF	10 V M	3479310121	1	R158	Metal Film	330 ohm	1/5 W J	3029331970	1	R159	Carbon Film	220 kohm	
C134	Ceramic Tubular	120 pF	50 V J	3519121935	1	R160-R163	Carbon Film	10 kohm	1/5 W J	3069103970	4	R164	Carbon Film	22 kohm	
C135	Electrolytic SG	1 uF	50 V M	3479310971	1	R165/R166	Carbon Film	33 kohm	1/5 W J	3069333970	2	R167	Carbon Film	47 kohm	
C136	Ceramic Tubular	120 pF	50 V J	3519121935	1	R168	Metal Film	100 ohm	1/5 W J	3029101970	1	R169	Carbon Film	33 kohm	
C137	Ceramic Tubular	100 pF	50 V J	3519101935	1	R170	Carbon Film	100 kohm	1/5 W J	3069104970	1	R171	Carbon Film	68 kohm	
C138	Ceramic Tubular	100 pF	50 V J	3519101935	1	R172/R173	Carbon Film	120 kohm	1/5 W J	3069124970	2	R174	Carbon Film	33 kohm	
C139	Mylar	0.001 uF	100 V J	3679102120	1	R175	Carbon Film	22 kohm	1/5 W J	3069223970	1	R176	Carbon Film	33 kohm	
C140	Electrolytic SG	100 uF	10 V M	3479310121	1	R177	Carbon Film	22 kohm	1/5 W J	3069223970	1	R178	Carbon Film	20 kohm	
C141	Electrolytic SG	10 uF	50 V M	3479310071	1	R179	Carbon Film	20 kohm	1/5 W J	3069203970	1	R180	Metal Film	100 ohm	
C142	Ceramic Tubular	0.1 uF	50 V J	3519104935	1	R181	Carbon Film	15 kohm	1/5 W J	3069153970	1	R182	Carbon Film	33 kohm	
C143	Electrolytic SG	100 uF	10 V M	3479310121	1	R183	Carbon Film	47 kohm	1/5 W J	3069473970	1	R184	Carbon Film	750 ohm	
C144	Ceramic Tubular	120 pF	50 V J	3519121935	1	R185/R186	Carbon Film	33 kohm	1/5 W J	3069333970	2	R187	Carbon Film	22 kohm	
C701	Electrolytic SG	470 uF	10 V M	3479347121	1	R188	Metal Film	220 ohm	1/5 W J	3029221970	1	R189	Carbon Film	22 kohm	
C702	Electrolytic SG	470 uF	10 V M	3479347121	1	R190-R192	Carbon Film	47 kohm	1/5 W J	3069473970	3	R193	Carbon Film	100 kohm	
C704	Ceramic Tubular	1000 pF	50 V J	3519102935	1	R194	Carbon Film	22 kohm	1/5 W J	3069223970	1	R195	Metal Film	100 ohm	
<b>CONNECTORS</b>															
CN104	Lead Ass'y, 5P, 220mm	436205223782	1	R196	Carbon Film	15 kohm	1/5 W J	3069153970	1	R197	Carbon Film	22 kohm	1/5 W J	3069223970	1
CN105	Lead Ass'y, 2P, 80mm	436101083167	1	R198	Carbon Film	20 kohm	1/5 W J	3069203970	1	R199	Carbon Film	20 kohm	1/5 W J	3069203970	1
CN106	Lead Ass'y, 14P, 420mm	435214423822	1	R200	Carbon Film	22 kohm	1/5 W J	3069223970	1	R201	Carbon Film	22 kohm	1/5 W J	3069223970	1
CN107	Lead Ass'y, 7P, 180mm	436207183332	1	R202	Metal Film	100 ohm	1/5 W J	3029101970	1	R203	Carbon Film	22 kohm	1/5 W J	3069223970	1
CN108	Lead Ass'y, 6P, 80mm	436206083132	1	R204-R206	Carbon Film	15 kohm	1/5 W J	3069153970	3	R207/R208	Carbon Film	7.5 kohm	1/5 W J	3069752970	2
CN110	Lead Ass'y, 5P, 100mm	436205103132	1	R209	Carbon Film	15 kohm	1/5 W J	3069473970	1	R210	Carbon Film	7.5 kohm	1/5 W J	3069752970	1
CP101	Wafer, 5P	4428513450	1	R211	Carbon Film	15 kohm	1/5 W J	3069153970	1	R212	Carbon Film	68 kohm	1/5 W J	3069683970	2
CP102	Wafer, 5P	4428525550	1	R213/R214	Carbon Film	7.5 kohm	1/5 W J	3069752970	2	R215	Carbon Film	7.5 kohm	1/5 W J	3069752970	1
CP103	Wafer, 5P	4428506910	1	R216	Carbon Film	47 ohm	1/5 W J	3029479970	1	R219	Metal Film	47 ohm	1/5 W J	3029479970	1
CP109	Wafer, FPC, 19P	4428526316	1	R220	Carbon Film	22 kohm	1/5 W J	3069223970	1	R221	Carbon Film	68 kohm	1/5 W J	3069683970	1
<b>DIODES</b>															
D101	Zener, UZ 5.1 BSB	2258599103	1	R222	Carbon Film	12 kohm	1/5 W J	3069123970	1	R223	Carbon Film	33 kohm	1/5 W J	3069333970	1
D102-D111	1N4148, Switching	2058322101	10	R224	Carbon Film	1 Mohm	1/5 W J	3069105970	1	R225	Carbon Film	15 kohm	1/5 W J	3069153970	1
D112	Zener, UZ 5.1 BSB	2258599103	1	R226	Carbon Film	10 kohm	1/5 W J	3069103970	1	R227	Carbon Film	15 kohm	1/5 W J	3069103970	1
D113-D119	1N4148, Switching	2058322101	7	R228/R230	Carbon Film	100 kohm	1/5 W J	3069104970	2	R231	Carbon Film	100 kohm	1/5 W J	3069104970	1
<b>INTEGRATED CIRCUITS</b>															
IC101	CXP82324-330Q	2139322703	1	R232	Carbon Film	100 kohm	1/5 W J	3069104970	1	R233-R225	Metal Film	330 ohm	1/5 W J	3029331970	3
IC102	GD74HC157	2139036002	1	R236	Metal Film	1 kohm	1/5 W J	3029102970	1	R237	Carbon Film	7.5 kohm	1/5 W J	3069752970	1
IC103	SM5874AM, DA Converter	2139937001	1	R238	Carbon Film	1 kohm	1/5 W J	3069153970	1	R239	Carbon Film	15 kohm	1/5 W J	3069153970	1
IC104/105	KIA4559S/KIA75559S	2168206103	2	R240	Carbon Film	7.5 kohm	1/5 W J	3069472970	1	<b>PCB3 ASSEMBLY PCB CNT</b>					
IC106	NJM4052BCF	2168027107	1	C301/C302 Capacitor, Mylar 0.0022 uF 100 V J 3679222120 2											
IC107	TA7291S	2168007204	1	C303 Capacitor, Electrolytic SG 47 uF 16 V M 3479347031 1											
IC108	KA7805, Regulator	2168602105	1	C304 Capacitor, Ceramic Tubular 0.047 uF 50 V J 3519473935 1											
<b>COILS</b>															
L101-L104	Inductor, 10 uH	2648610082	4	CP301 Connector, Wafer, 14P 4428517310 1											
<b>TRANSISTORS</b>															
Q101/Q102	DTC114YS	2208622106	2	20(CP302) Connector, Wafer, 13P 4428513820 1											
Q103-Q105	KTC3198Y, NPN	2208606105	3	D301/D302 Diode, 1N4148, Switching 2058322101 2											
Q106/Q107	KTA1015/BKTA1266Y, PNP	2208206105	2	Q301 Transistor, DTA114YS 2208222105 1											
Q108/Q109	KTC3198Y, NPN	2208606105	2	Q302/Q303 Transistor, DTC323TS 2238422100 2											
Q110	DTC114YS	2208622106	1	Q304 Transistor, DTC114YS 2208622106 1											
Q111/Q112	KTA1015/BKTA1266Y, PNP	2208206105	2	R302/R303 Resistor, Metal Film 100 ohm 1/5 W J 3029101970 2											
Q113	DTC114YS	2208622106	1	<b>PCB4 ASSEMBLY PCB FRONT.1</b>											
Q114	KTA966A/KTA1273, PNP	2228106104	1	GN402 Connector, Lead Ass'y, 3P, 110mm 436103112632 1											
Q115	DTC114YS	2208622106	1	CP401 Connector, Wafer, 7P 4428525570 1											
Q116	KTA966A/KTA1273, PNP	2228106104	1	15 Switch Tact 4658003710 10											
<b>MISCELLANEOUS</b>															
X101	Resonator, CST10.00MTW	3938131750	1	U910 Crystal, OSC, 5.0 MHz 3938213002 1											
X102	Crystal, 16.9344 MHz	3938101500	1	U911 Crystal, OSC, 13.5 MHz 3938131750 1											
8	FIP, 9CEM6	2328130322	1	XT901 Resonator, 10 MHz 3908101330 1											
<b>ASSEMBLY PCB FRONT 2</b>															
<b>CAPACITORS</b>															
C201	CeramicTubular	680 pF	50 V J	3519681935	1	<b>ASSEMBLY PCB VIDEO JACK (VCDC757 ONLY)</b>									
C202	CeramicTubular	0.002 uF	50 V Z	3519223935	1	C801	Capacitor, CeramicTubular	0.1 uF	50 V Z	3519104935	1	<b>CONNECTORS</b>			
C203	Electrolytic SG	470 uF	10 V M	3479347121	1	C802	Capacitor, Electrolytic SG	22 uF	16 V M	3479322031	1	<b>CP901 Wafer, 5P 4428516410 1</b>			
C204	CeramicTubular	680 pF	50 V J	3519681935	1	CN601	Connector, Wafer, 2P			4428525520	1	<b>CP902 Wafer, 5P 4428516410 1</b>			
C205/C206	CeramicTubular	0.022 uF	50 V Z	3519223935	2	R601	Resistor, Metal Film	10 ohm	1/5 W J	3029100970	1	<b>CP903 Wafer, 2P 4428508210 1</b>			
C207	CeramicTubular	0.1 uF	50 V Z	3519104935	1	21	Jack RCA			4438113810	1	<b>CP904 Wafer, 6P 4428516510 1</b>			
C208	CeramicTub														

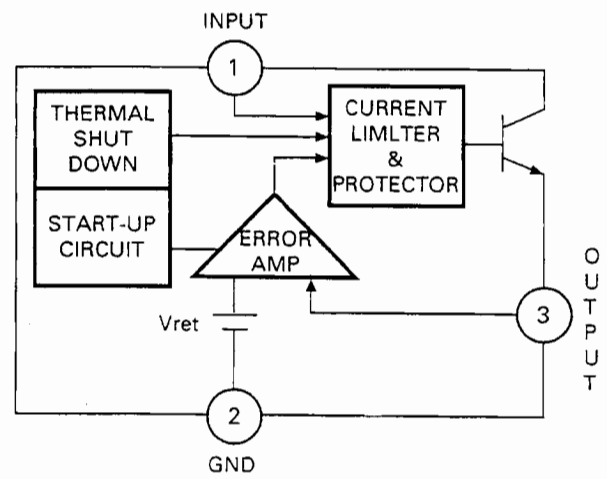


# IC FUNCTIONAL BLOCK DIAGRAM

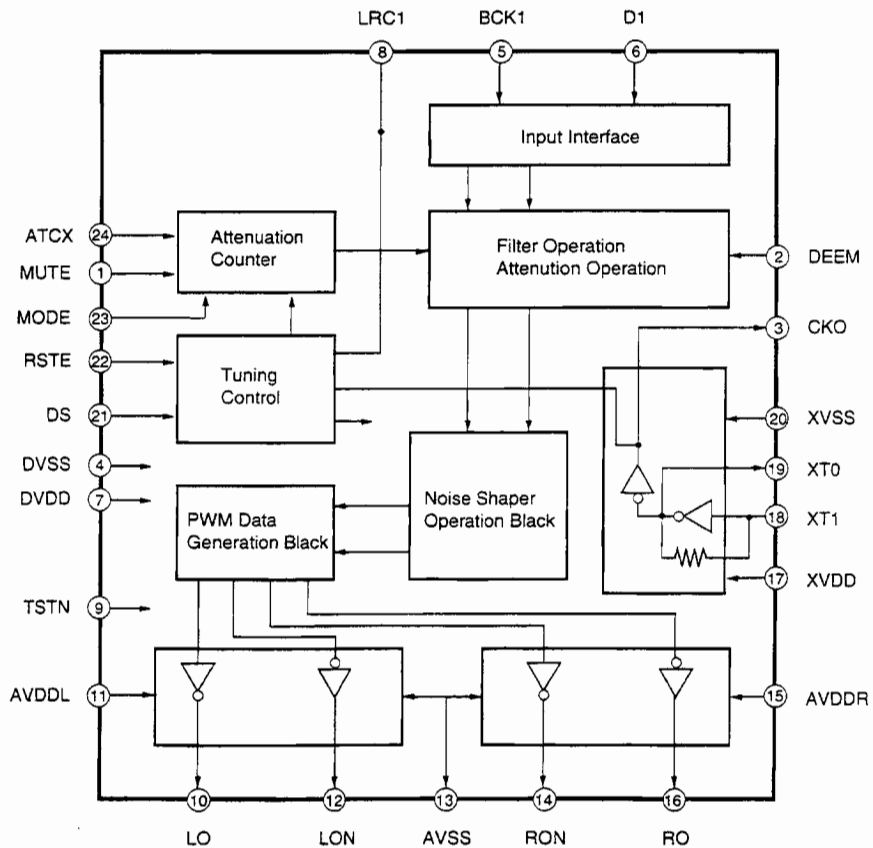
**IC102 : GD74HC157**



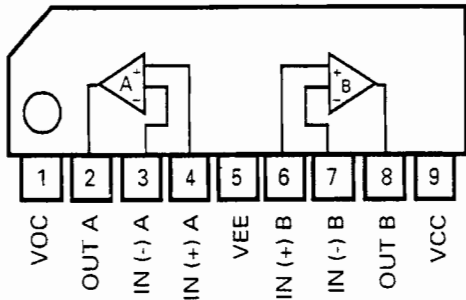
**IC108 : KA7805**



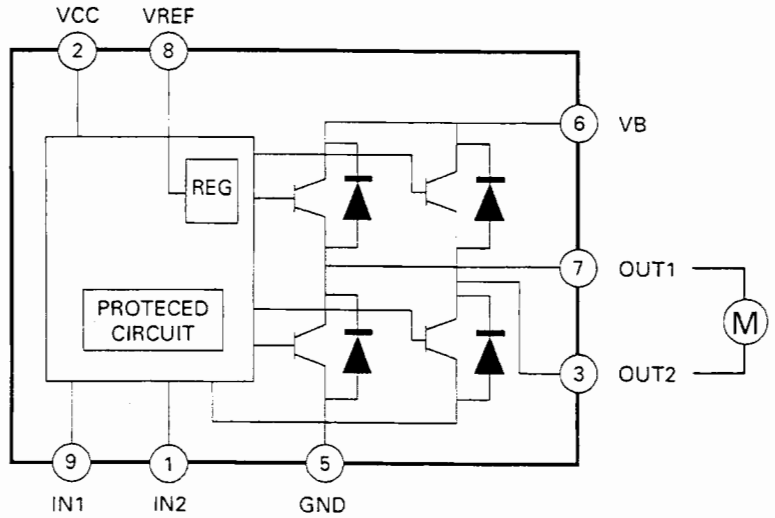
**IC103 : SM5874AM**



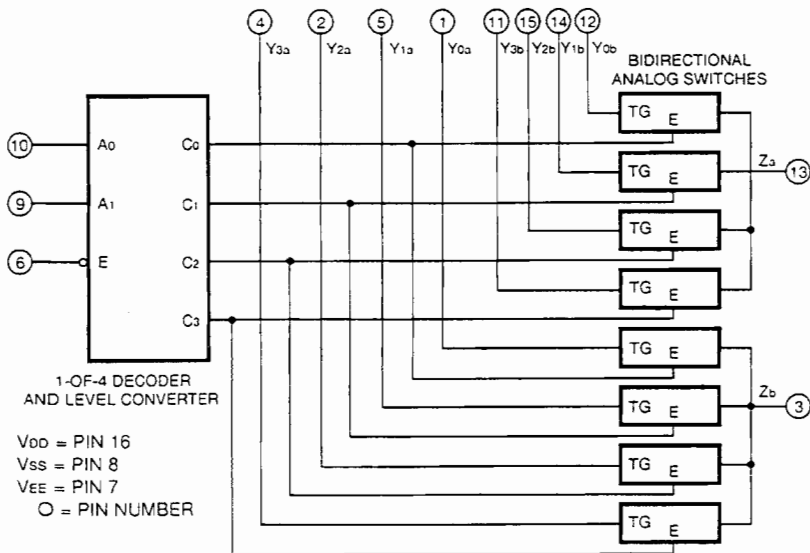
**IC104/IC105**  
: KIA4559S/KIA75559S



**IC107 : TA7291S**



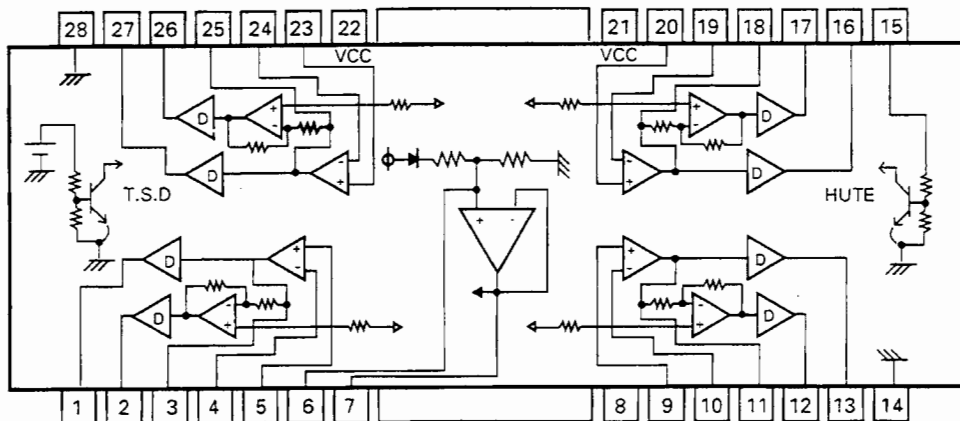
**IC106 : NJM4052 BCF**



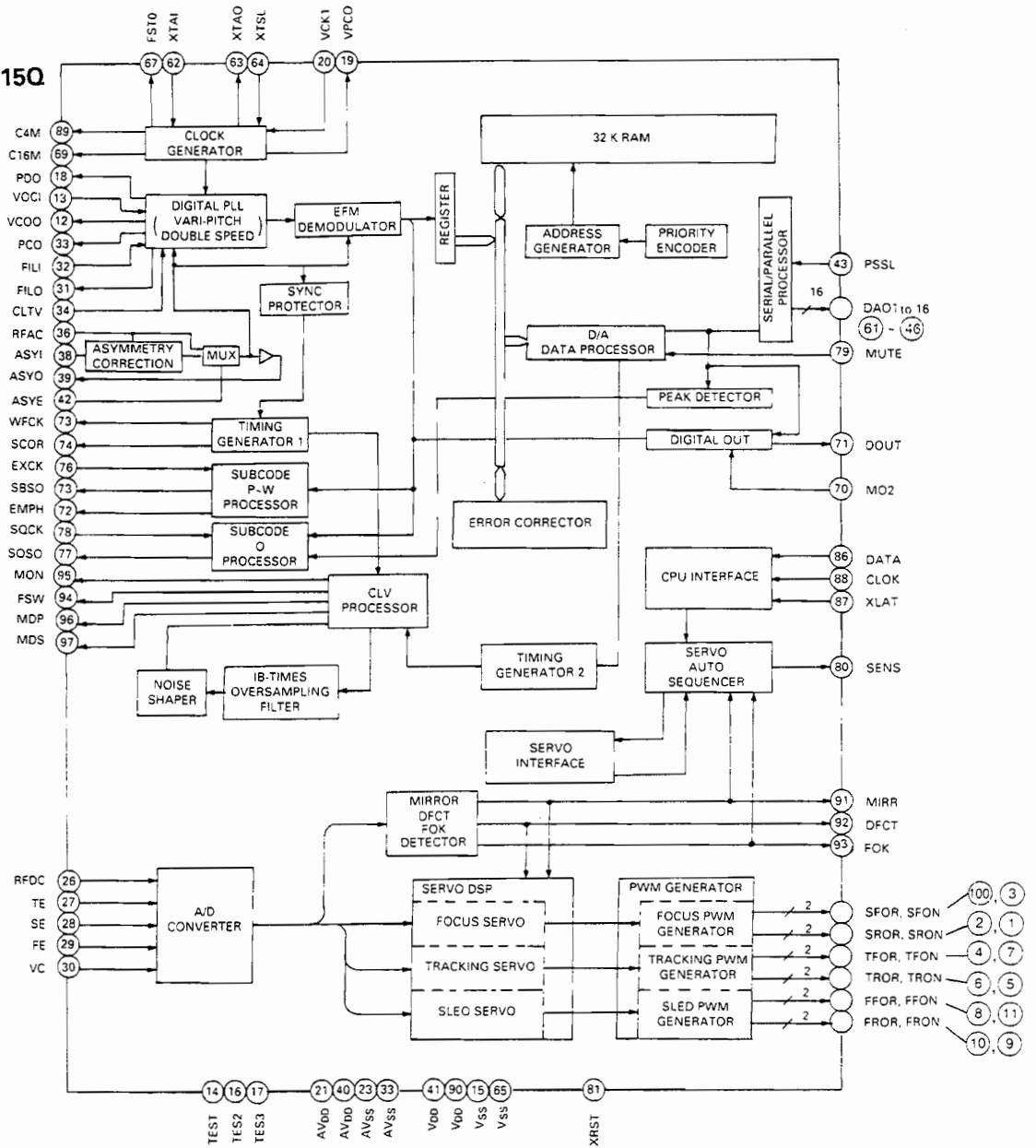
**TRUTH TABLE**

INPUT			CHANNELS			
E	A <sub>1</sub>	A <sub>0</sub>	Y <sub>0</sub> -Z	Y <sub>1</sub> -Z	Y <sub>2</sub> -Z	Y <sub>3</sub> -Z
L	L	L	ON	OFF	OFF	OFF
L	L	H	OFF	ON	OFF	OFF
L	H	L	ON	OFF	ON	OFF
L	H	H	ON	OFF	OFF	ON
H	X	X	ON	OFF	OFF	OFF

**IC202 : BA6297**

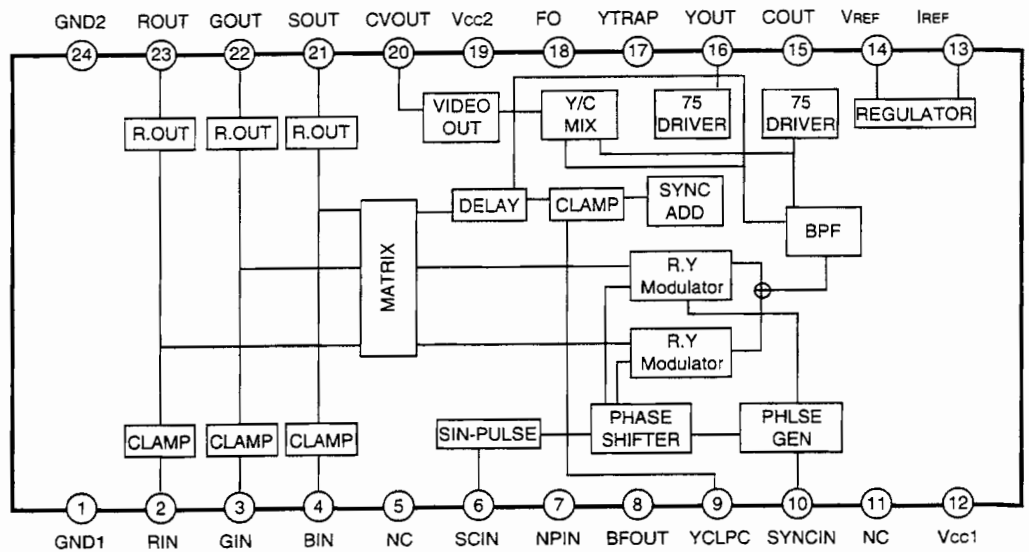


**IC201 : CXD2515Q**

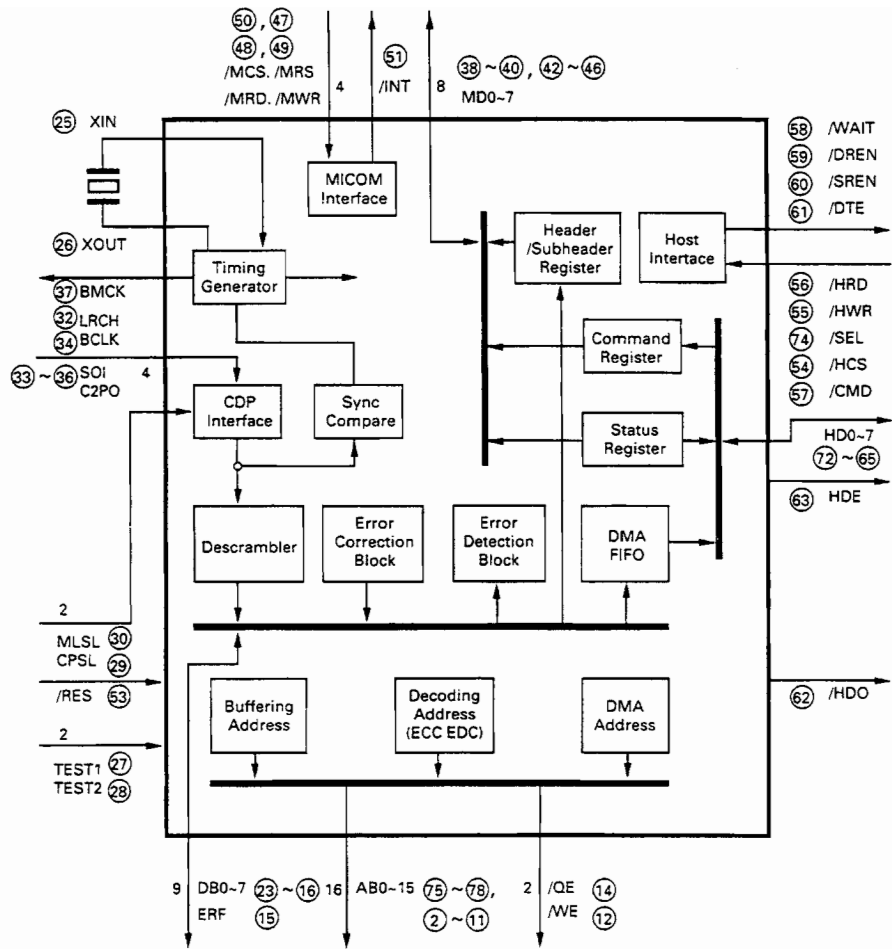


**MPEG PART**

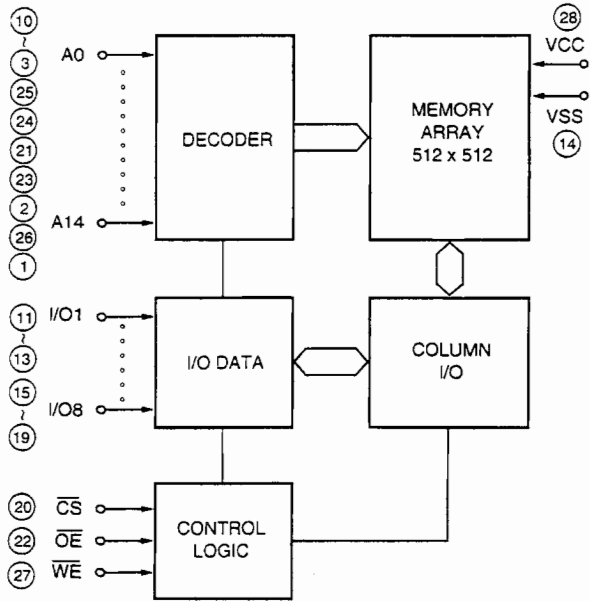
**U914 : CXD1645N - T6**



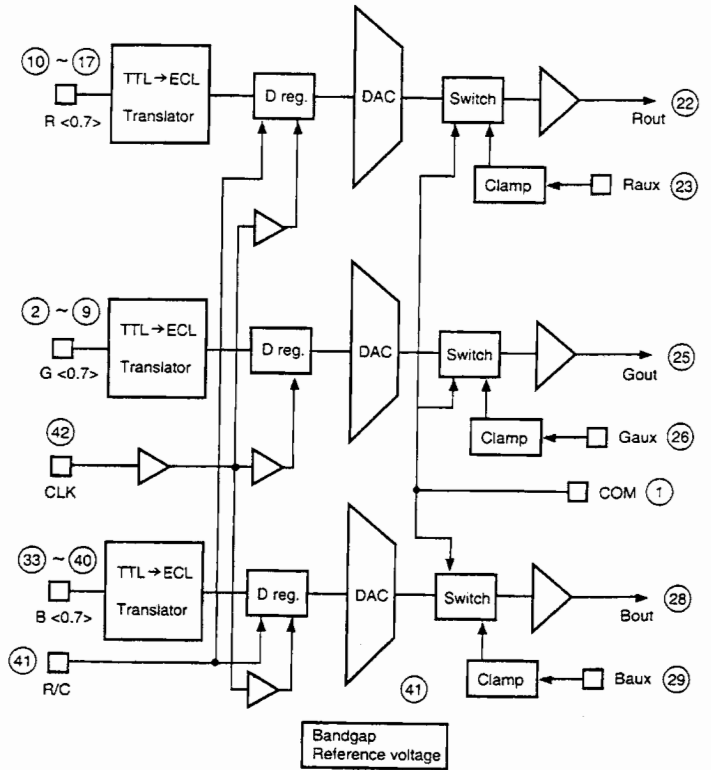
**U902 : KS9241B**



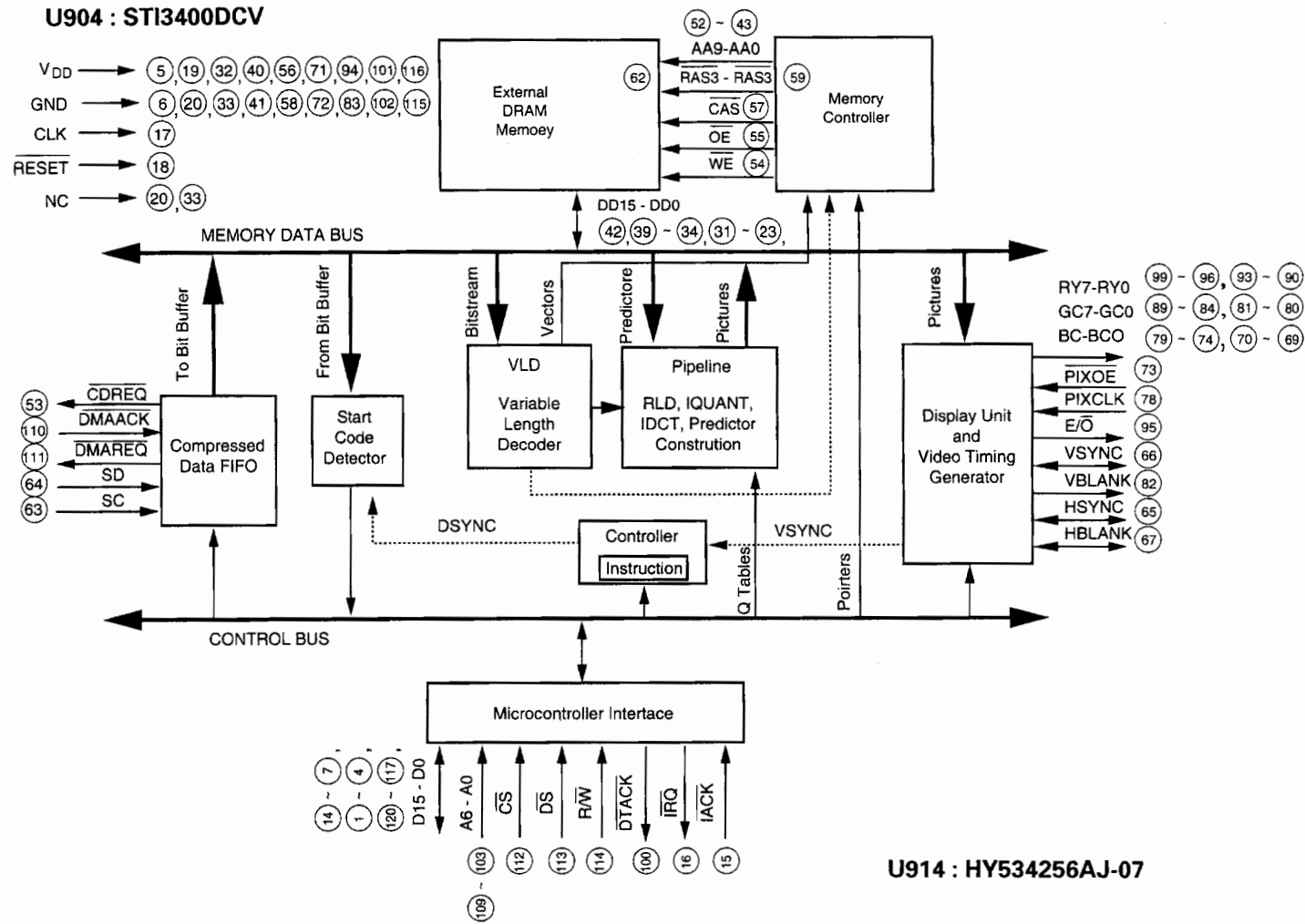
**U903 : HY62256ALJ**



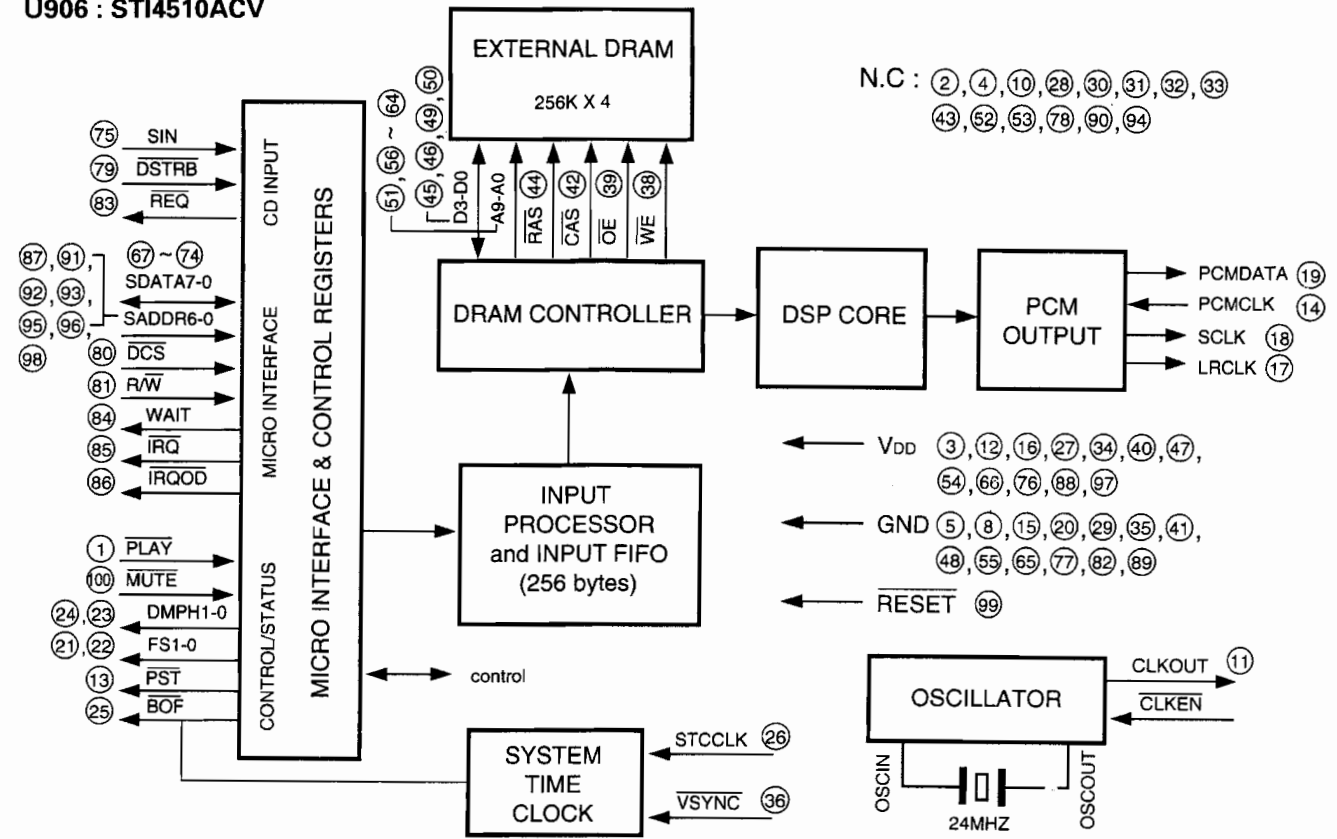
**U912 : STV8438CV**



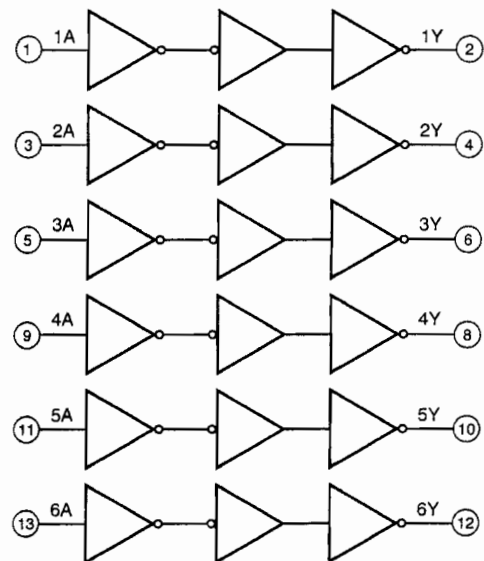
**U904 : STI3400DCV**



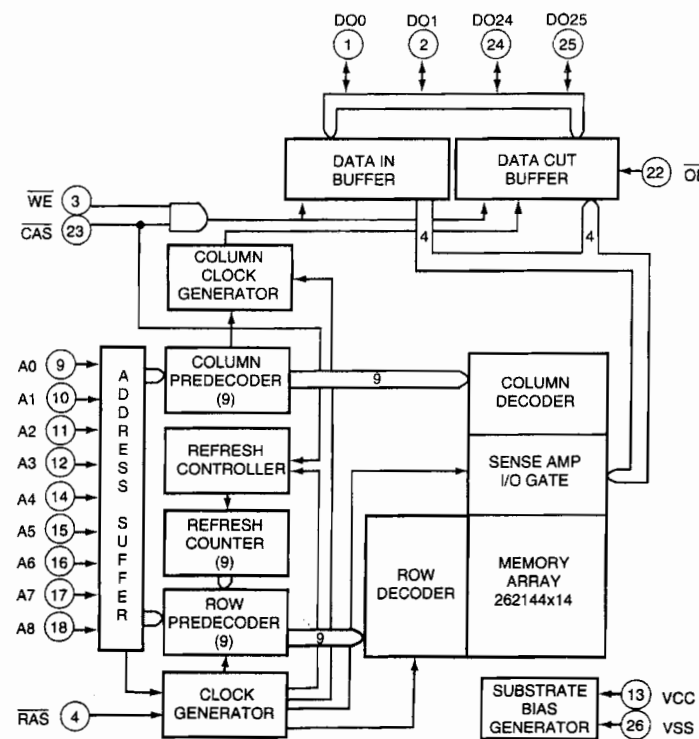
**U906 : STI4510ACV**



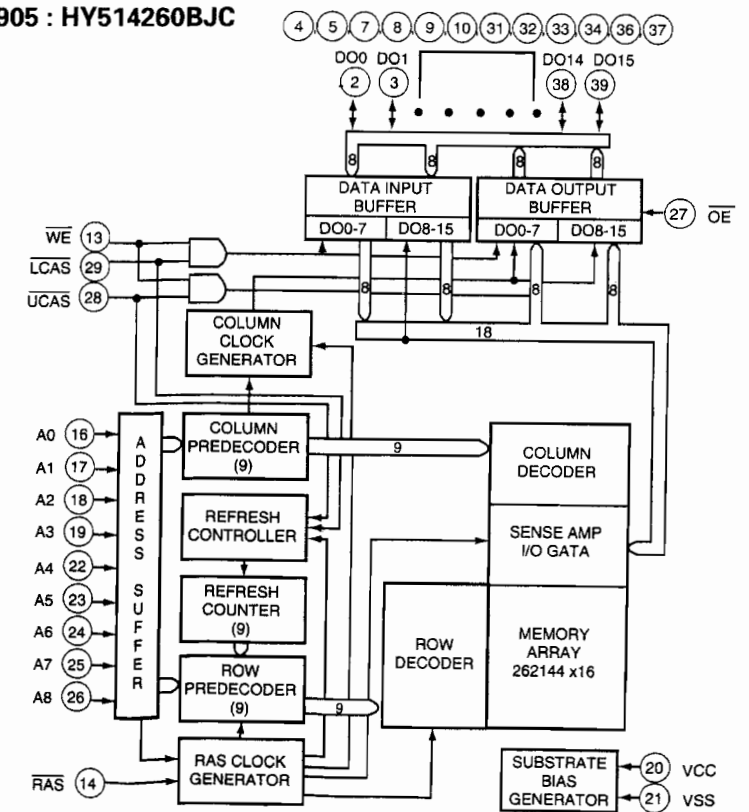
**U909A/U913C/U913D : GD74HC04D**



**U914 : HY534256AJ-07**

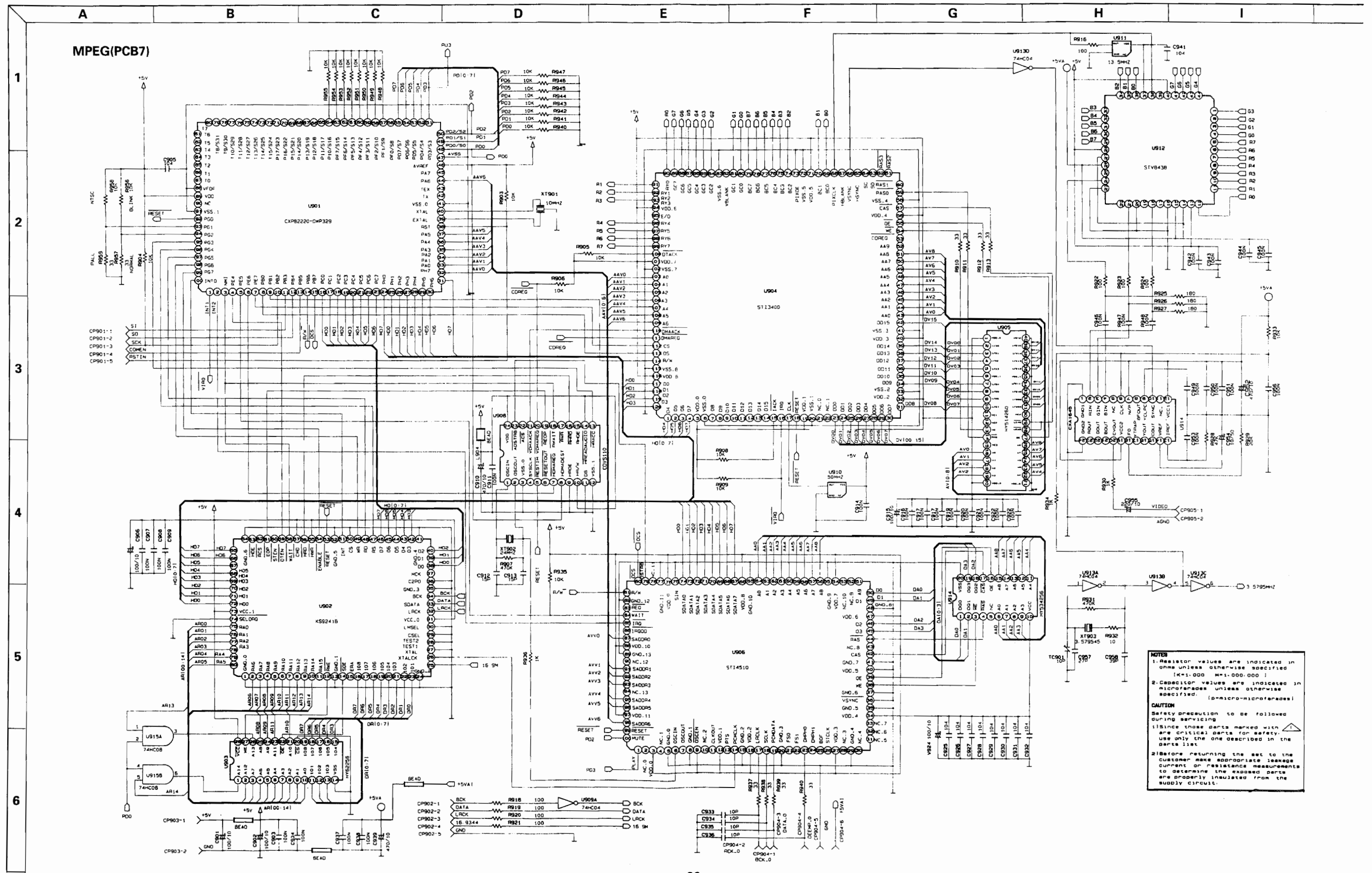


**U905 : HY514260BJC**



# SCHEMATIC DIAGRAM I

Model No. : VDC-757



**NOTES**

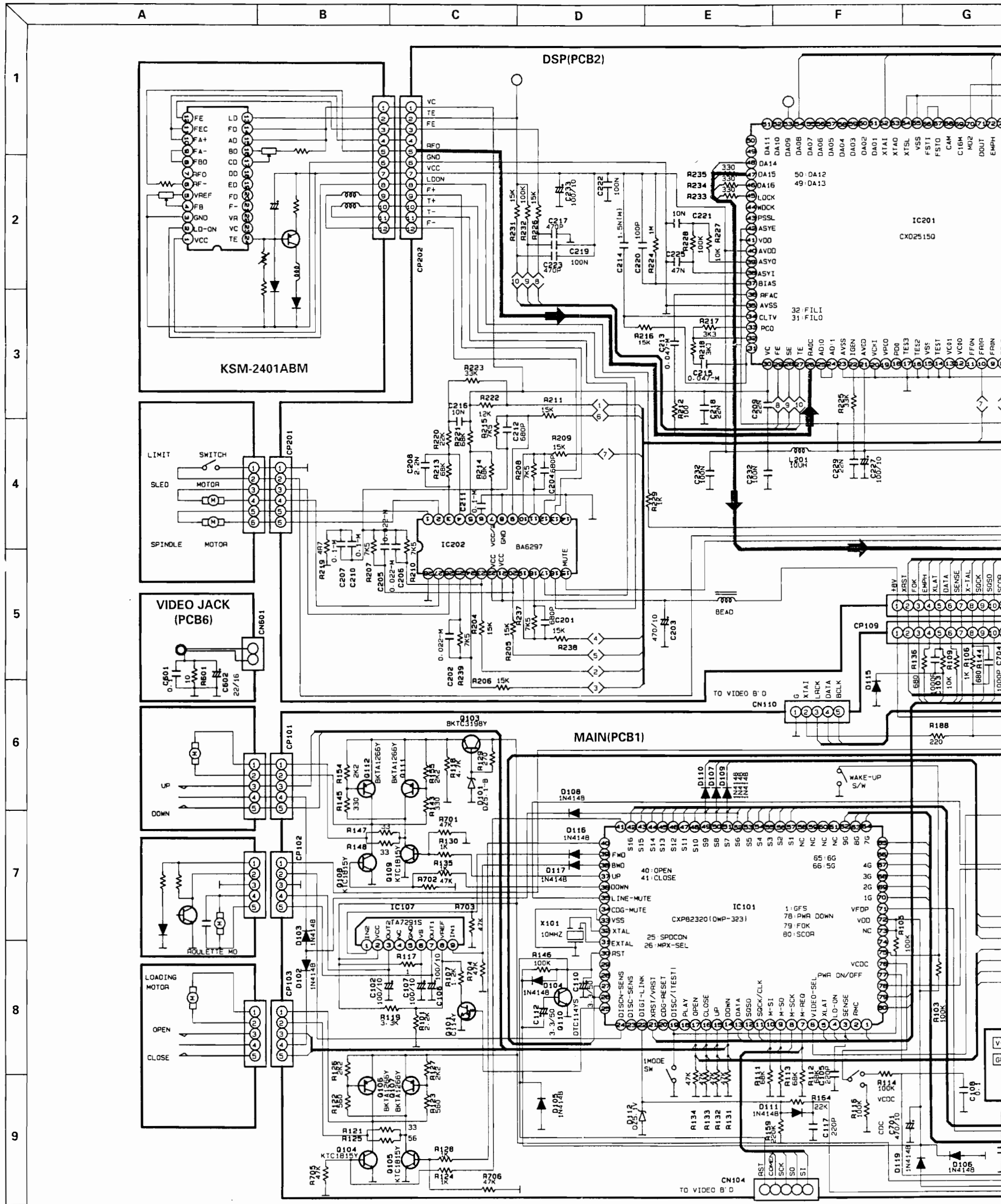
- Resistor values are indicated in ohms unless otherwise specified. (K=1,000 M=1,000,000)
- Capacitor values are indicated in microfarads unless otherwise specified. (p=micro-microfarads)

**CAUTION**

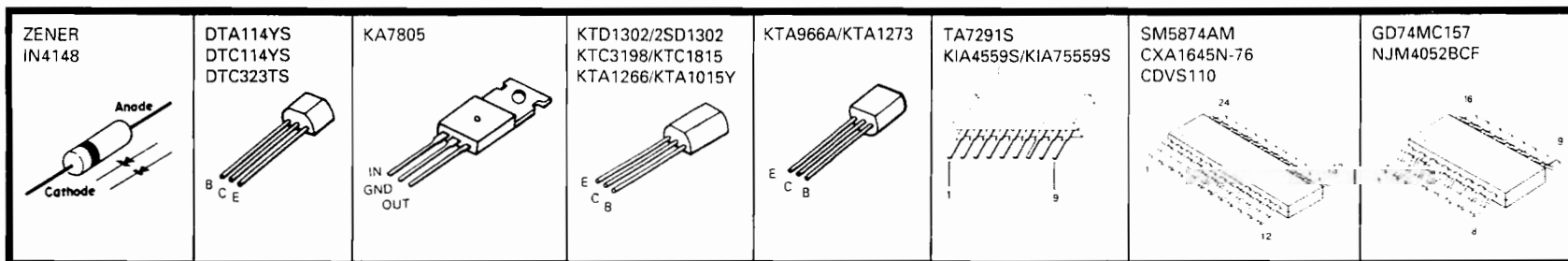
Safety precaution to be followed during servicing:

- Since those parts marked with are critical parts for safety, use only the one described in the parts list.
- Before returning the set to the customer, make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

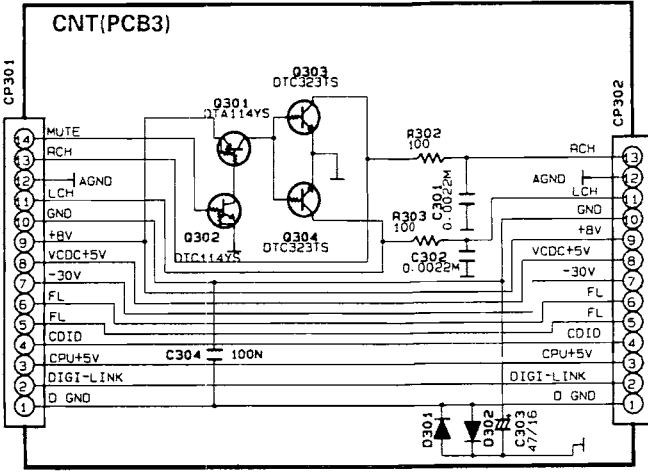
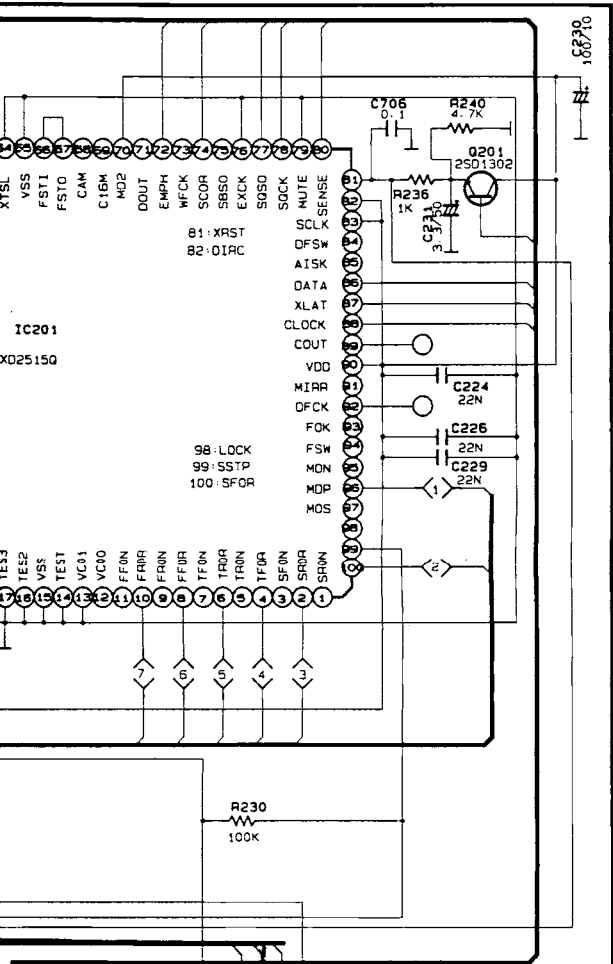
# SCHEMATIC DIAGRAM II



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.



G H I J K L M



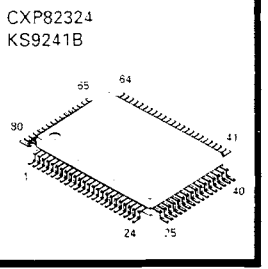
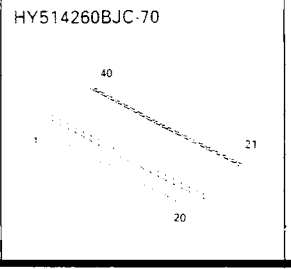
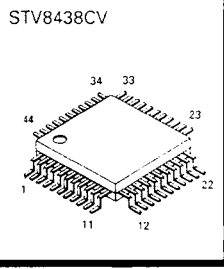
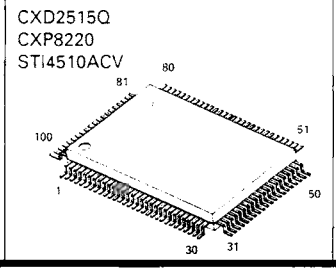
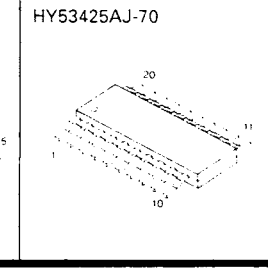
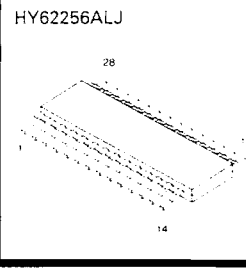
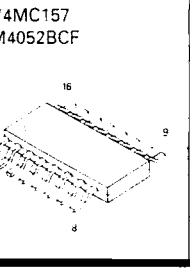
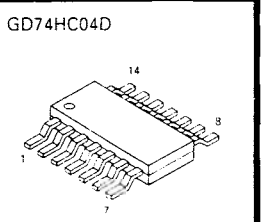
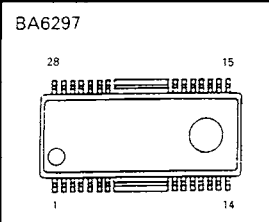
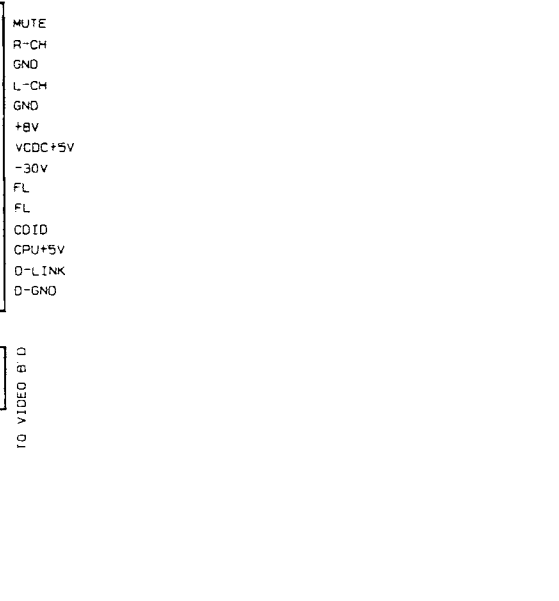
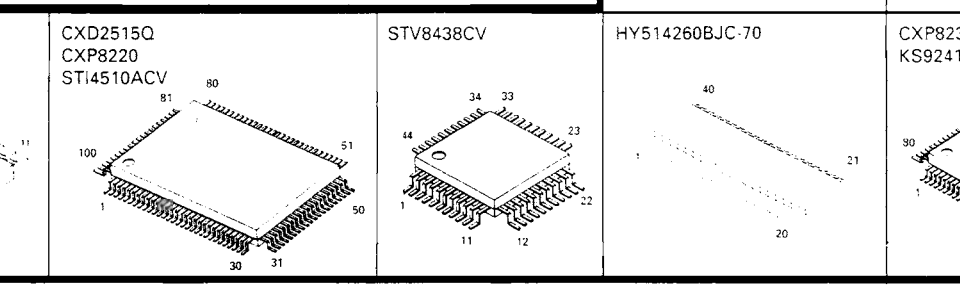
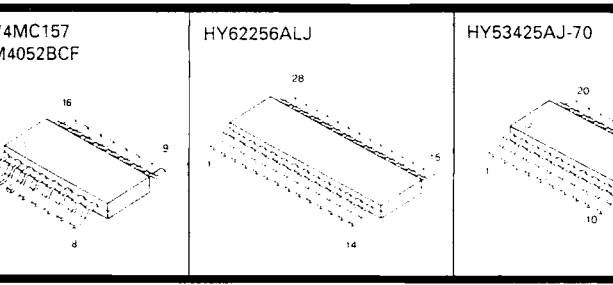
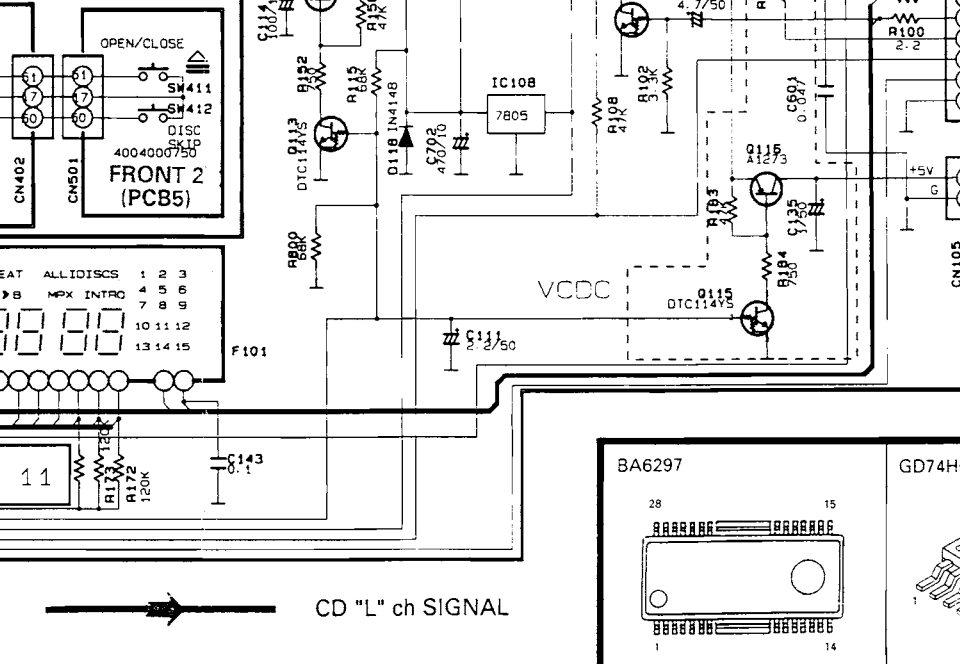
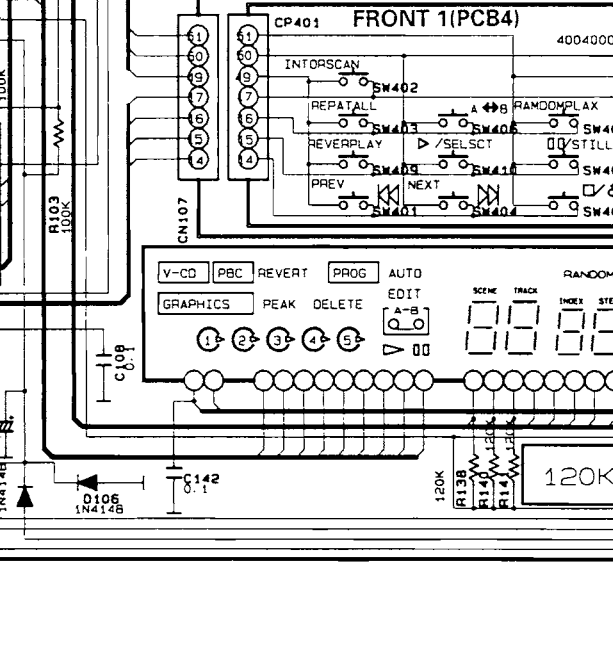
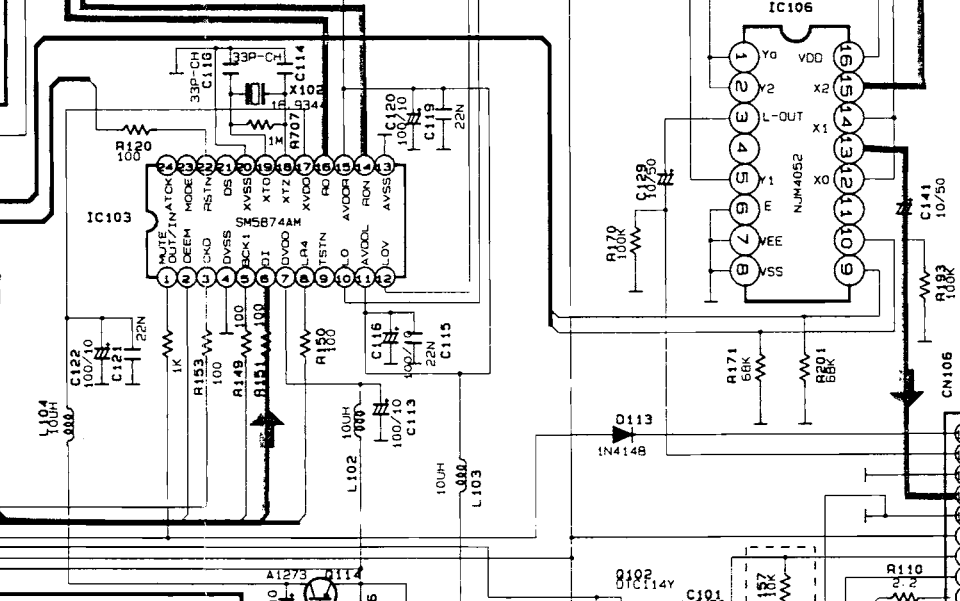
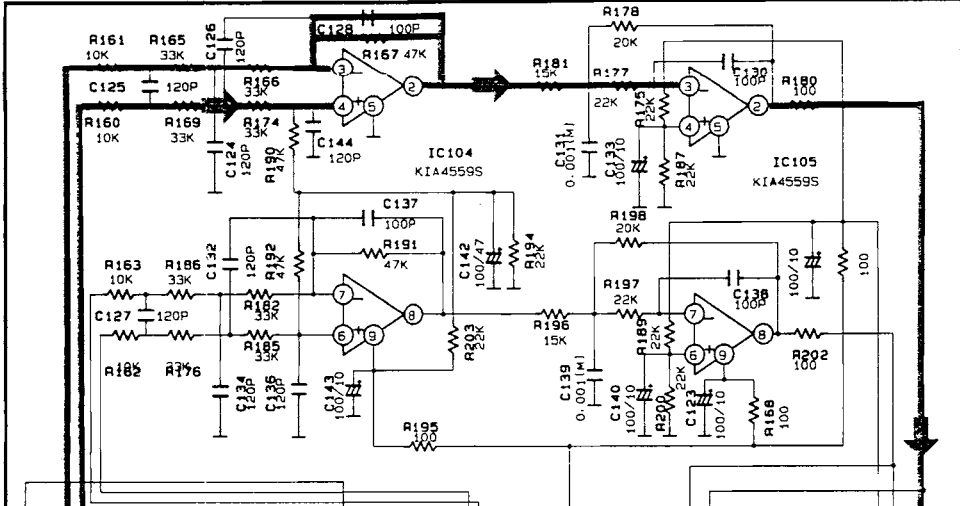
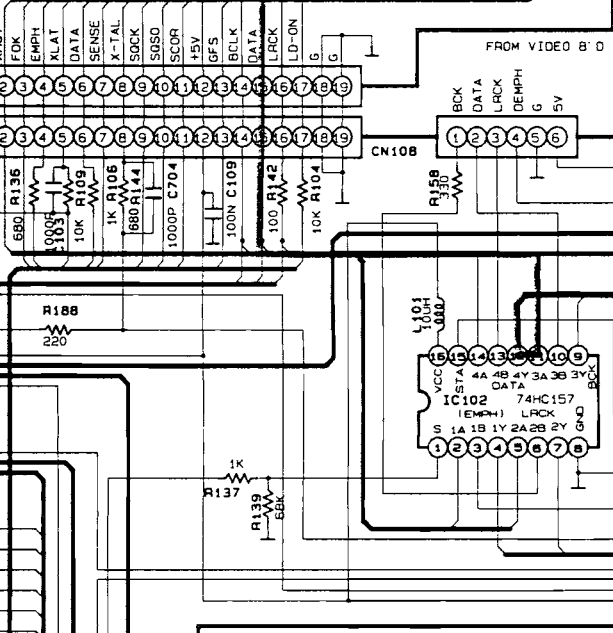
**NOTES**

1. Resistor values are indicated in ohms unless otherwise specified  
[k=1,000 M=1,000,000]
2. Capacitor values are indicated in microfarads unless otherwise specified.  
[p=micro-microfarads]

**CAUTION**

Safety precaution to be followed during servicing

- 1) Since those parts marked with  $\triangle$  are critical parts for safety, use only the one described in the parts list.
- 2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

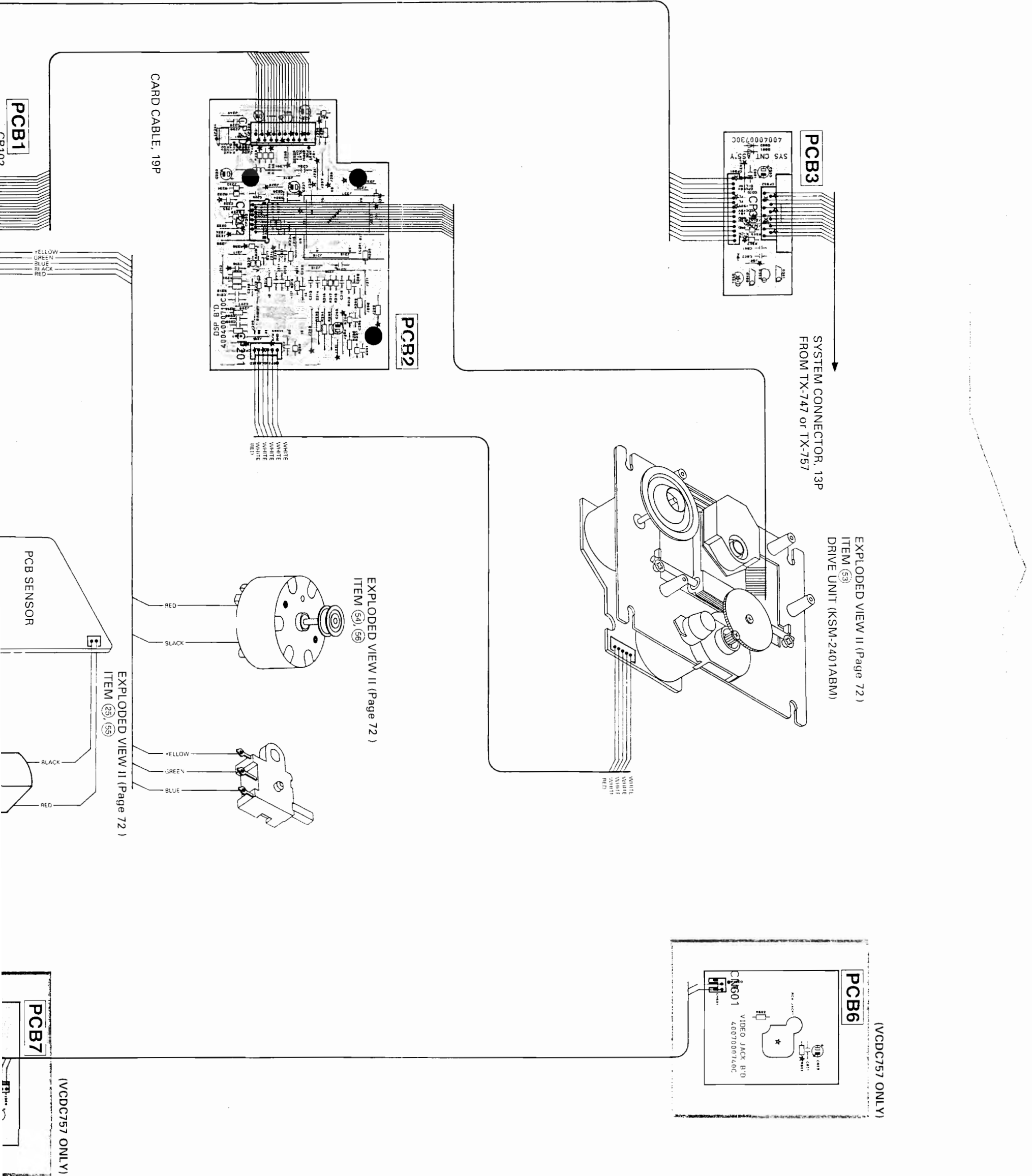


CD "L" ch SIGNAL





G H I J K L



# ▪ DD-757 ▪

## SPECIFICATIONS

### Track Configuration

The 4-track, 2-channels and a rotary reverse type head stereo cassette deck motors

1-Electronic governor

1-High torque DC motor (Reel)

### Mechanism

1-Motor, 1-Solenoid mechanism

### Heads

Rec/Playback head

Hard permalloy

Eraser head

Double gap ferrite

Tape Speed 1-7/8 IPS (4.76 cm/sec) (FWD/REV)

$\pm 1.0/\pm 1.0\%$

Wow/Flutter (CCIR Unweighted)

No more than 0.35%

Fast Winding Time (C-60)

About 120 sec

Input Sensitivity Impedance

REC IN

400 mV/51 k $\Omega$

Output Level/Load Impedance

PLAY OUT

400 mV/1.5 k $\Omega$

Signal to Noise Ratio (W.CCIR/ARM)

CrO<sub>2</sub> Tape with Dolby B/C NR

More than 66/76 dB

CrO<sub>2</sub> Tape without Dolby B/C NR

More than 56 dB

Frequency Response (-20 dB REC Dolby NR off)

Normal Tape

20 Hz - 17.5 kHz,  $\pm 3$  dB

CrO<sub>2</sub> Tape

20 Hz - 17.5 kHz,  $\pm 3$  dB

Metal Tape

20 Hz - 17.5 kHz,  $\pm 3$  dB

Total Harmonic Distortion (3rd, 333 Hz, 0 dB, Normal Tape)

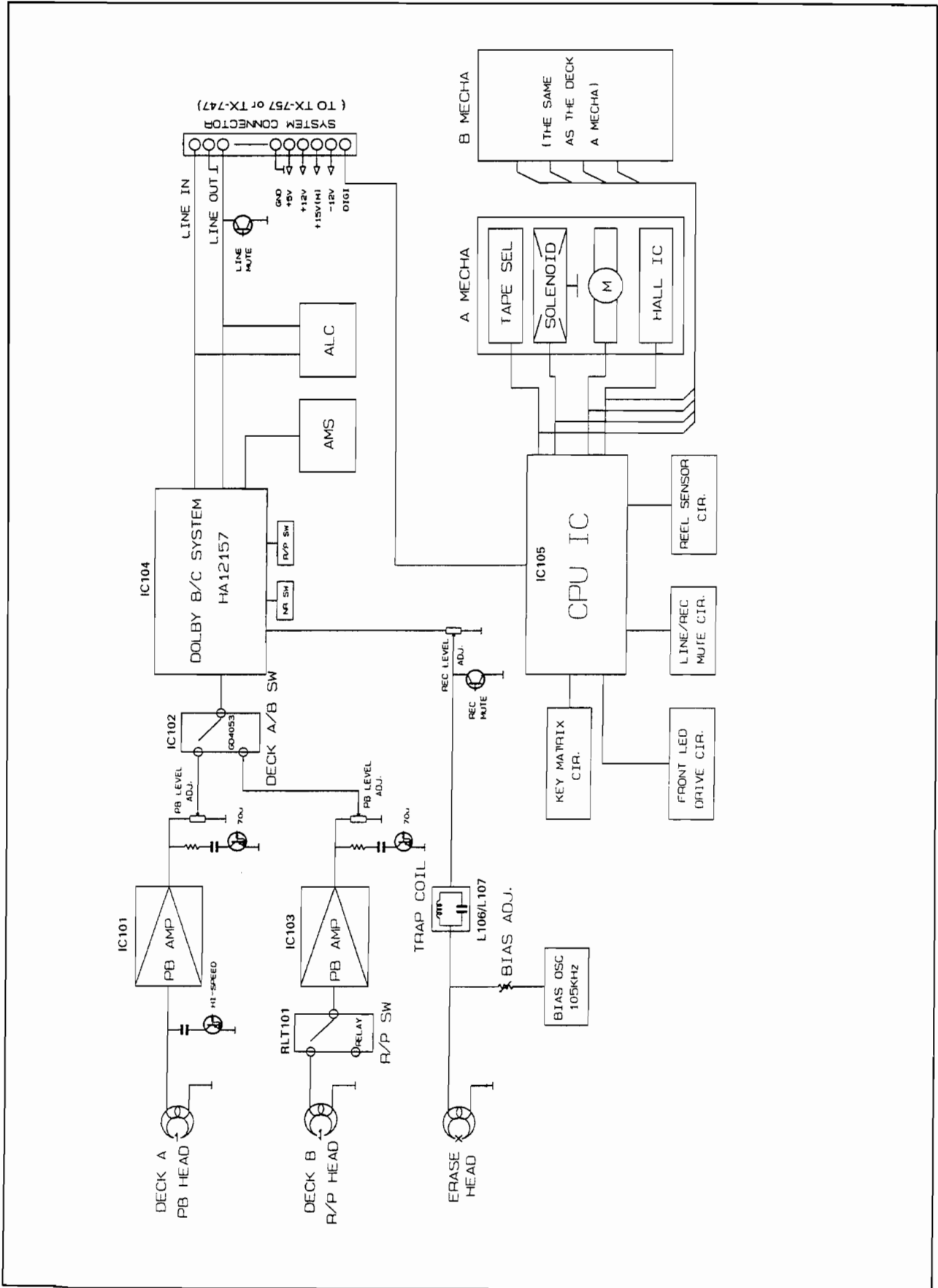
No more than 1.0%

Channel Separation

No more than 38 dB

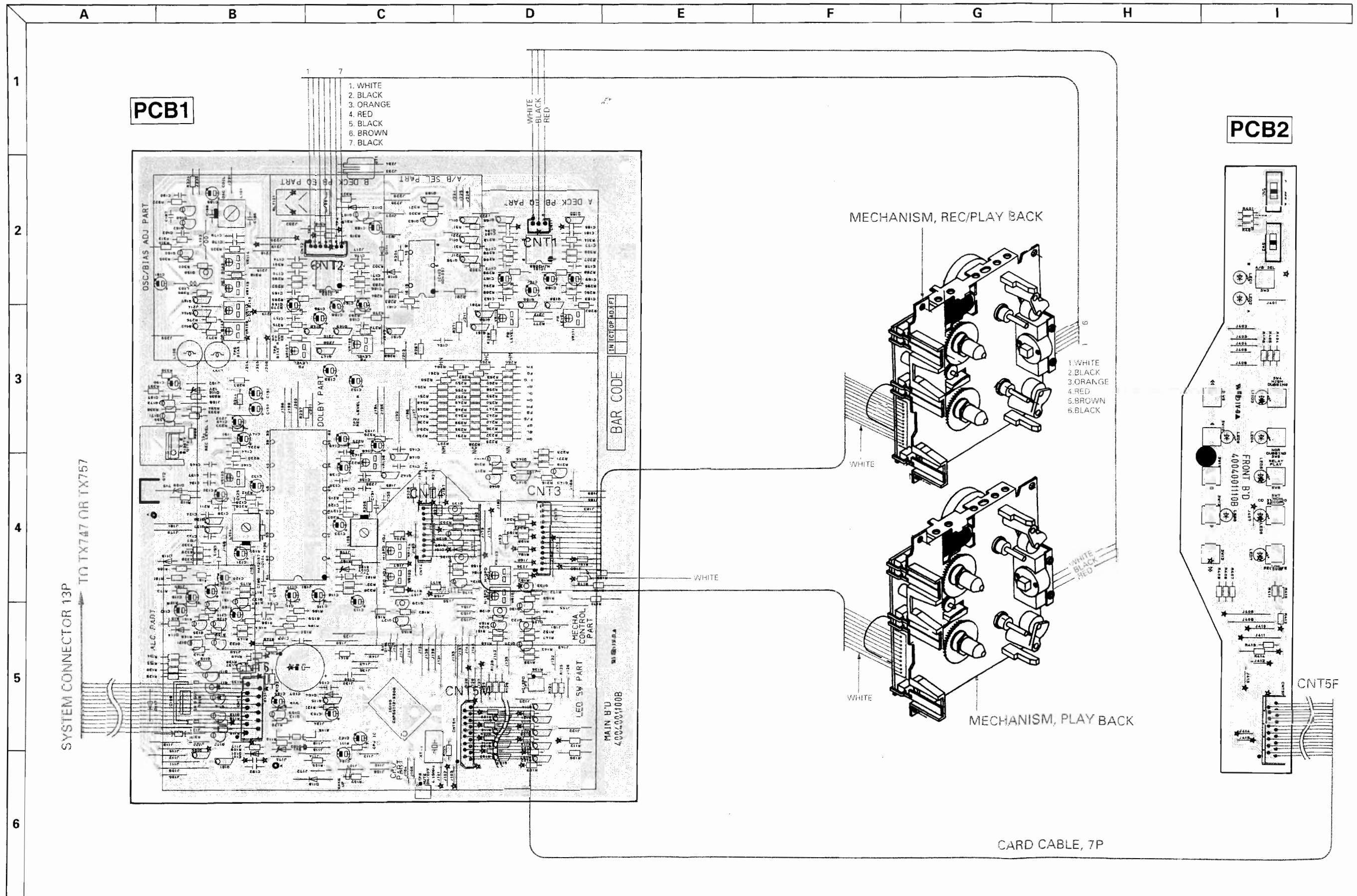
# BLOCK DIAGRAM

Model No. : DD-757



# WIRING DIAGRAM

Model No. : DD-757



## DISASSEMBLY PROCEDURES

REFER TO PAGES 85 AND 95.

### 1 COVER TOP REMOVAL

Remove 6 screws **a** and then remove the Cover Top **39**.

### 2 FRONT PANEL ASSEMBLY REMOVAL

1. Remove the Cover Top **39**, referring to the previous step **1**.
2. Remove the card cable from wafer (CNT5M) on the Main P.C.Board (PCB1).
3. Disconnect (CNT1, CNT2, CNT3 and CNT4) from Main P.C.Board (PCB1).
4. Remove 7 screws **b** and then remove the Front Panel Assembly **AA**.

### 3 MECHANISM ASSEMBLY REMOVAL

1. Remove the Cover Top **39**, referring to the previous step **1**.
2. Remove the Front Panel Assembly **AA**, referring to the previous step **2**.
3. Remove Base Door **7** and **8** by pressing the hooks of both sides and pulling it toward you gently.
4. Remove 8 screws **c** and then remove the Mechanism **25** and **26**.
5. Remove the Lid Cassette **9** right and left.
6. Remove 4 screws **d** and then remove the Guide Door **19**.

### 4 FRONT P.C.BOARD (PCB2) REMOVAL

1. Remove the Cover Top **39**, referring to the previous step **1**.
2. Do steps **2** and **3**.
3. Remove 2 screws **e** and then remove the Front P.C.Board (PCB2).

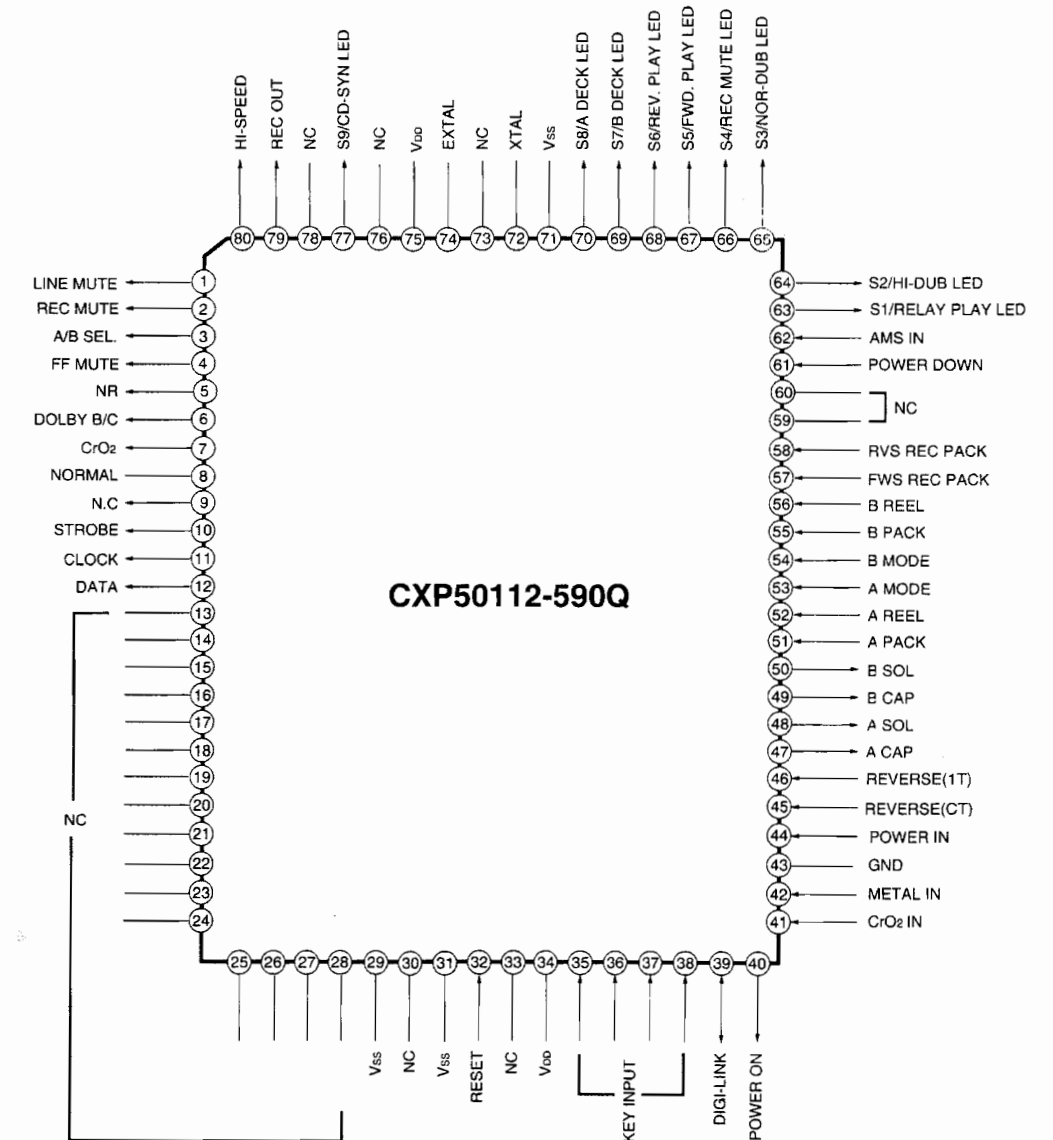
### 5 MAIN P.C.BOARD (PCB1) REMOVAL

1. Remove the Cover Top **39**, referring to the previous step **1**.
2. Remove the card cable from wafer (CNT5M) on the Main P.C.Board (PCB1).
3. Disconnect (CNT1, CNT2, CNT3, CNT4 and CNT6) from the Main P.C.Board (PCB1).
4. Remove 2 screws **f** and then Main P.C.Board (PCB1).

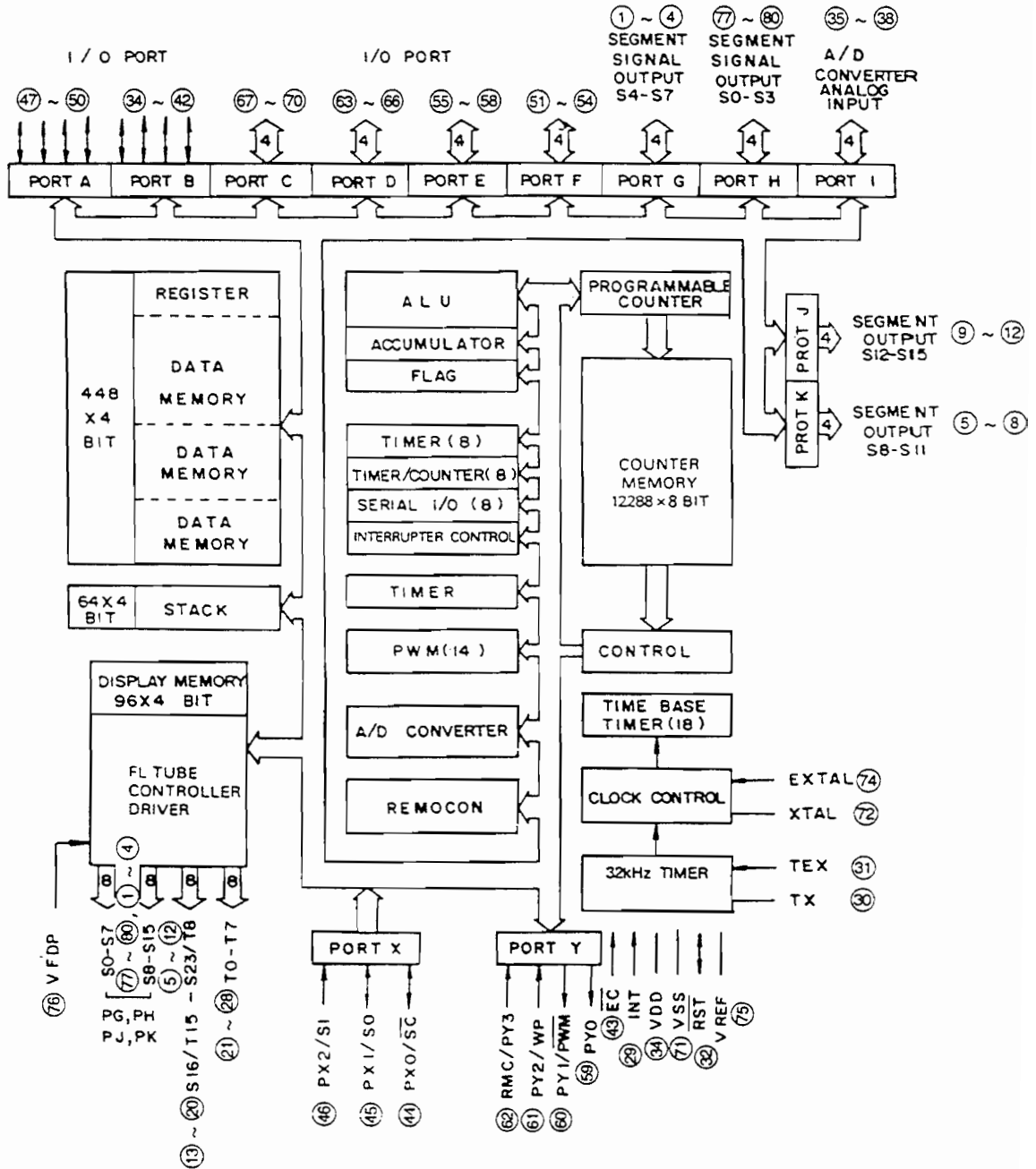
## CIRCUIT DESCRIPTION

### CPU(IC105):CXP50112-590Q

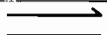


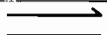


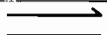


#### 1. Pin Description



## 2. Block Diagram



### 3. Input and Output Terminal Function

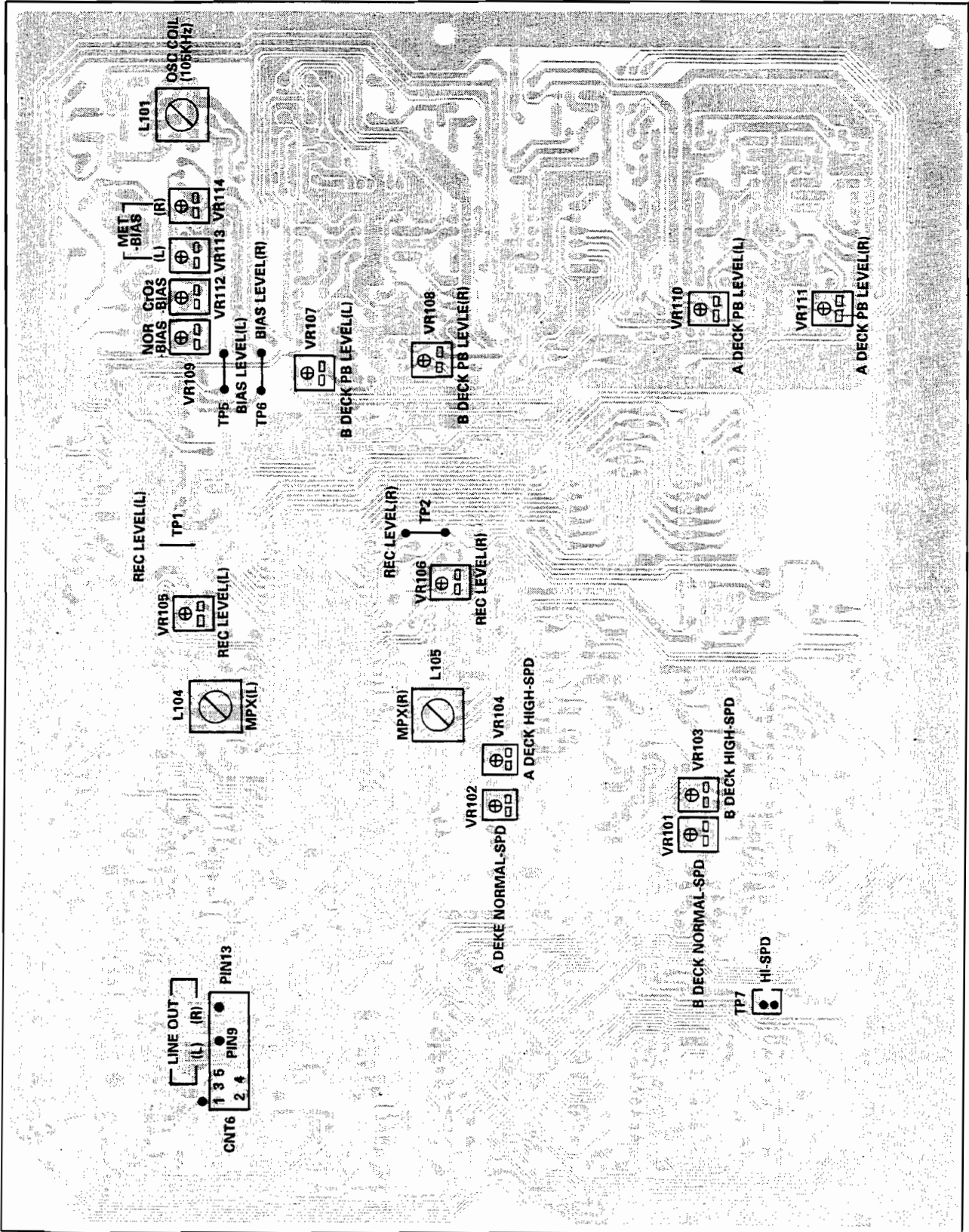
Pin No.	Symbol	Description												
1	LINE MUTE	Output for muting the line output. Except play or recording (dubbing), output is "H".												
2	REC MUTE	Output for muting recording output. (If recording, then "L")												
3	A/B SEL.	Output for controlling to select Deck A or B. (If Deck B, then "H")												
4	FF MUTE	Output for muting line output during FF or REW. (If FF or REW, then "H")												
5	NR	Output for controlling the noise reduction. (If the NR mode, then "H")												
6	B/C	Output for controlling the DOLBY B/C. (If the DOLBY B, then "H")												
7	C <sub>r</sub> O <sub>2</sub>	Output for checking a C <sub>r</sub> O <sub>2</sub> mode on Deck B. (If C <sub>r</sub> O <sub>2</sub> tape, then "H".)												
8	NORMAL	Output for checking a Nor. mode on Deck B. (If Nor. tape, then "H".)												
9	NC	Not Used !												
10	STROBE	Strobe output to IC104 (HA12157).												
11	CLK	Clock output to IC104 (HA12157).												
12	DATA	Data output to IC104 (HA12157).												
13~28	NC	Not Used !												
29	Vss	This pin provides the ground potential.												
30	NC	Not Used !												
31	Vss	This pin provides the ground potential.												
32	RESET	Input for the resetting system.												
33	NC	Not Used !												
34	Vdd	+5 V power supply for CPU (IC105).												
35~38	KEY INPUT	Data input for key scan.												
39	DIGI-LINK	Input/Output for controlling DIGI-LINK.												
40	POWER ON	Output for power on. (If power on, then "H")												
41	CrO <sub>2</sub> IN	Input for checking a C <sub>r</sub> O <sub>2</sub> tape on Deck B. (If C <sub>r</sub> O <sub>2</sub> tape, then "H")												
42	METAL IN	Input for checking a metal tape on Deck B. (If metal tape, then "H")												
43	GND	Ground												
44	POWER IN	Input for power on for itself. (If power on itself, then "L")												
45/46	REVERSE CT/1T	According to reverse mode switch setting, input for selecting the desired reverse mode. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Reverse mode</th> <th>Reverse CT</th> <th>Reverse 1T</th> </tr> </thead> <tbody> <tr> <td></td> <td>L</td> <td>H</td> </tr> <tr> <td></td> <td>H</td> <td>L</td> </tr> <tr> <td></td> <td>H</td> <td>H</td> </tr> </tbody> </table>	Reverse mode	Reverse CT	Reverse 1T		L	H		H	L		H	H
Reverse mode	Reverse CT	Reverse 1T												
	L	H												
	H	L												
	H	H												
47	A CAP.	Output for driving the capstan of Deck A.												
48	A SOL.	Output for driving the solenoid of Deck A.												
49	B CAP.	Output for driving the capstan of Deck B												
50	B. SOL.	Output for driving the solenoid of Deck B												
51	A PACK	Input for checking a tape on Deck A. (If there's a tape, then "L")												
52	A REEL	Input for detecting the reel pulse from Deck A.												
53	A MODE	Input for detecting the play state on Deck A.												
54	B MODE	Input for detecting the play state on Deck B.												
55	B PACK	Input for checking a tape on Deck B. (If there's a tape, then "L")												
56	B REEL	Input for detecting the reel pulse from Deck B.												
57	FWD REC PACK	Input for checking the forward tap of tape. (If there's the tape, then "L")												
58	RVS REC PACK	Input for checking the reverse tap of tape. (If there's the tape, then "L")												
59/60	NC	Not Used !												



Pin No.	Symbol	Description
61	POWER DOWN	Input for checking the power down. (If power down, then "L")
62	AMS IN	Input for checking the blank space during AMS (Automatic Music Searching) (If on the blank space, then "H").
63	S1 RL-PLAY	Output for lighting on the LED at relay play mode. (If relay play, then "H")
64	S2 HI-DUB	Output for lighting on the LED at high dubbing mode. (If high dubbing, then "H").
65	S3 NOR-DUB	Output for lighting on the LED at normal dubbing mode. (If normal dubbing, then "H").
66	S4 REC MUTE	Output for lighting on the LED at recording mute mode. (If recording must, then "H").
67	S5 FWD PLAY	Output for lighting on the LED at forward play mode. (If forward play, then "H")
68	S6 REV PLAY	Output for lighting on the LED at reverse play mode. (If reverse play, then "H")
69	S7 B DECK	Output for lighting on the LED at deck B mode. (If deck B play, then "H")
70	S8 A DECK	Output for lighting on the LED at deck A mode. (If deck A play, then "H")
71	Vss	This pin provides the ground potential.
72	XTAL	Output for crystal oscillator.
73	NC	Not Used !
74	EXTAL	Input for crystal oscillator.
75	Vdd	+5 V power supply for CPU (IC105).
76	NC	Not Used !
77	S9 CD-SYN LED	Output for lighting on the LED at CD synchro mode. (If CD synchro, then "L")
78	NC	Not Used !
79	REC OUT	Output for controlling the record.
80	HI-SPEED	Output for controlling the tape speed. (If hi-speed, then "H")

# ALIGNMENT PROCEDURES

## Adjustment and Test Points (PCB2)



## Before Measurements and Adjustments

The following general conditions apply to the electrical measurements and adjustments unless especially stated otherwise.

- Dolby NR switch off.
- Use 400mV(200 nwb/m) for 0 dB as the standard level of the unit.

### 1. Test tape

- TCC-155 Azimuth (14kHz, -24 dB)
- TCC-114 Tape speed (3.15 kHz, -10 dB)
- TCC-130 Playback level (Dolby NR ref. tape 400 Hz, 0 dB)
- TCC-185C Playback frequency response

- Reference Blank Tape.

- Normal TDK AC-224
- CrO<sub>2</sub> TDK AC-513
- Metal TDK AC-712

### 2. Instruments required

- Audio frequency oscillator
- ACVM or dual channel mV-meter
- Wow/Flutter meter
- Oscilloscope

### Playback Section

Adjustments	Test tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to	
Head Azimuth	TCC-155 14 kHz (A.BEX)	FWD Play (A & B Deck)		Line output	AC mV-meter Oscilloscope	Adjusting a right screw of head	Max • Lissajous wave from become a straight, line with an angle 45 deegrees	
		REW Play (A & B Deck)				Adjusting a left screw of head		
Playback at normal speed	TCC-114 3.15 kHz -10 dB(A. Bex)	Play (A & B Deck)			Wow and Flutter Meter		A Deck VR102 & B Deck VR101	3150 Hz ± 30 Hz
Playback at hi-speed (TP7 short)	TCC-114 3.15 kHz -10 dB(A.Bex)						A Deck VR104 & B Deck VR103	4725 Hz ± 45 Hz
Playback Level	TCC-130 400 Hz, 0 dB(A. Bex)						A Deck VR110,111	400 mV
							B Deck VR107,VR108	400 mV
Playback Frequency Response	TCC-185C 12.5 kHz, 1 kHz, 60 Hz (A. Bex)		AC mV-meter		See graph Fig. 2 freq. response			

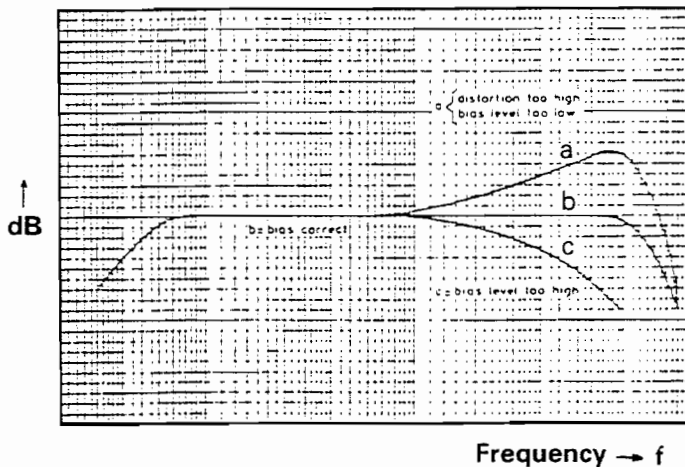
### Recording Section

Adjustments	Test tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to
Bias OSC Frequency	AC-712(TDK)	Rec/Pause		TP5	Frequency Counter	L101	105 kHz ± 400 Hz

Adjustments	Test tape	Mode	Apply Signal to	Measure on	Read on	Adjust with	Adjust to
Target Value Bias	Metal, AC-712			TP5, TP6		VR113, VR114	AC 10.9 V
	CrO <sub>2</sub> , AC-513					VR112	AC 6.8 V
	Normal, AC-224					VR109	AC 6 V
Recording Level	AC-712 (TDK)		400 Hz, 80 mV to Line in	TP1, TP2		VR105, VR106	About 6.7mV
Bias	AC-712 AC-513 AC-224 (TDK)	Rec/Pause	400 Hz to Line	Line out	AC mV-meter	See Target Value Bias	If necessary repeat bias adjustment See graph fig. 1
			4 kHz - 6.3 kHz 10 kHz - 12 kHz 14 kHz - 16 kHz to Line in	Recording number of frequency with the same input voltage and play them back.			
19kHz Suppression	Arbitrary Tape	Rec/Pause	19 kHz to Line	Line out	AC mV-meter	LF Generator	100mV
				Line out	AC mV-meter Oscilloscope	L104/105	Minimize the reading on ACVM.

**Note:**

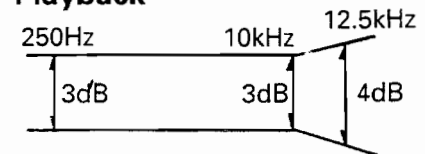
- \*a. Prior to any measurement or adjustment with the tape running, heads and tape guides should be degaussed and cleaned. Reference below the figuer.
- \*b. The maximum permissible speed variation  $\pm 1.0\%$ . Moerover the Wow and Flutter can be read. This value on line out should exceed 0.2%.
- \*c. The voltage on line out should be 400 mV  $\pm$  20 mV. If not, it reduce the LF signal (bias disabled) as many as the reading was too low or too high by VR107/108, VR110/111.
- \*d. When the channel is adjsted, this may slightly affect the adjustment of the other channel. If the adjustment is correct, the frequency response curve will be similar to curve b in figuer 1, distrortion below 3%.



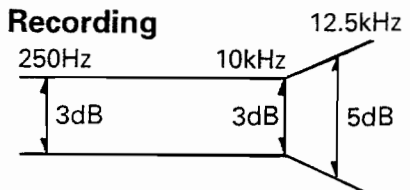
**REC Bias & THD Graph**

**Fig. 1**

**Playback**



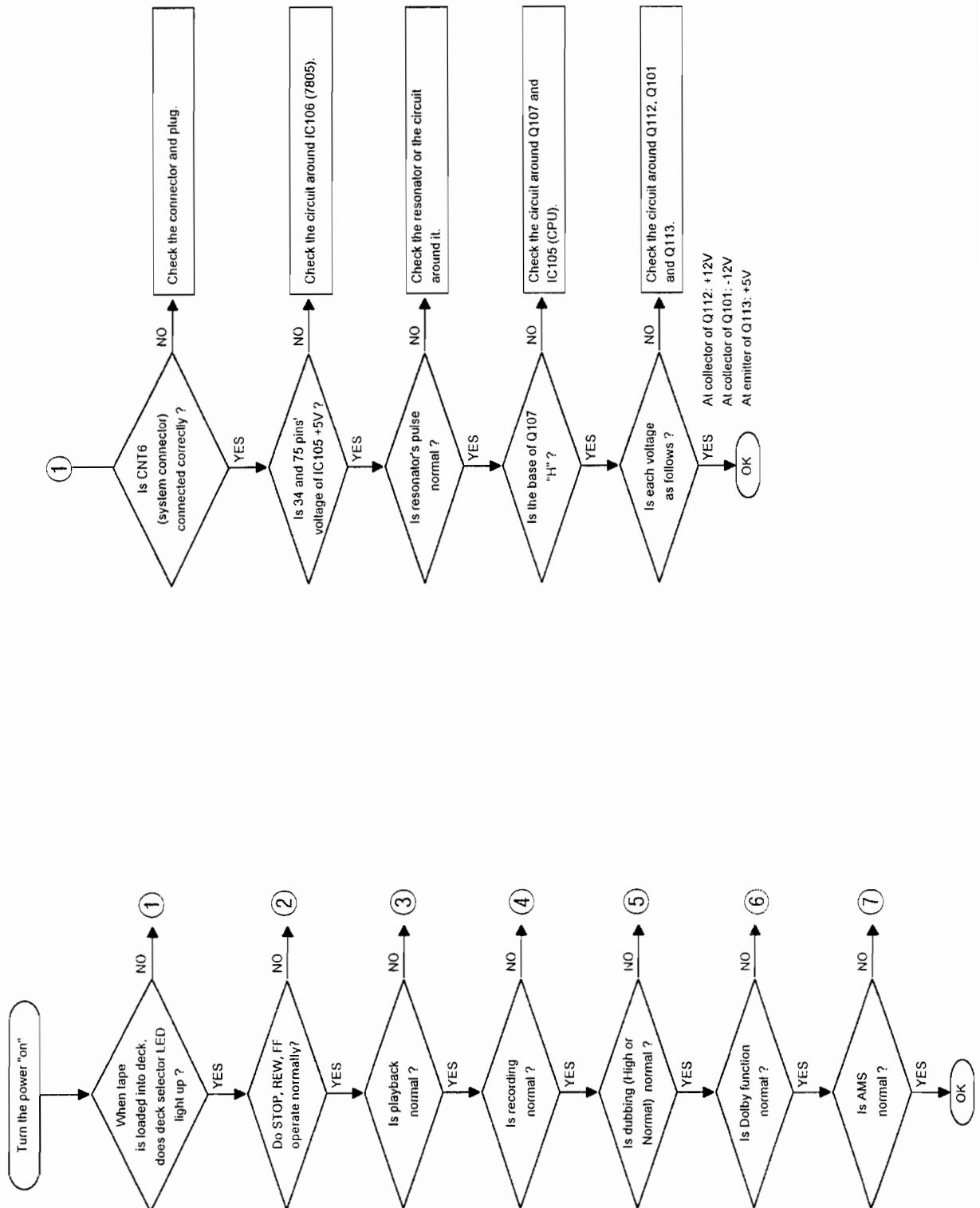
**Recording**

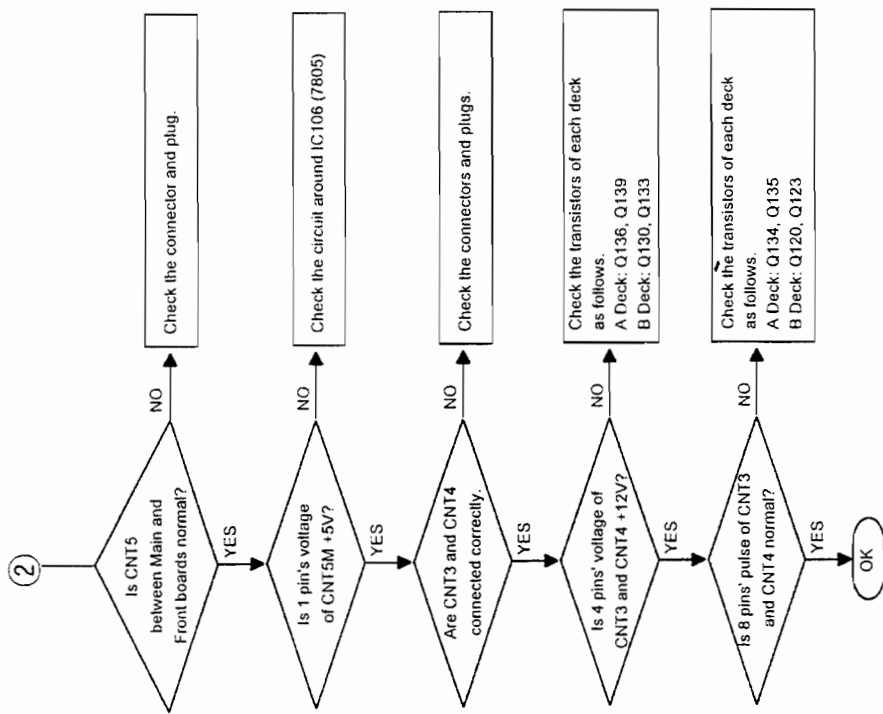
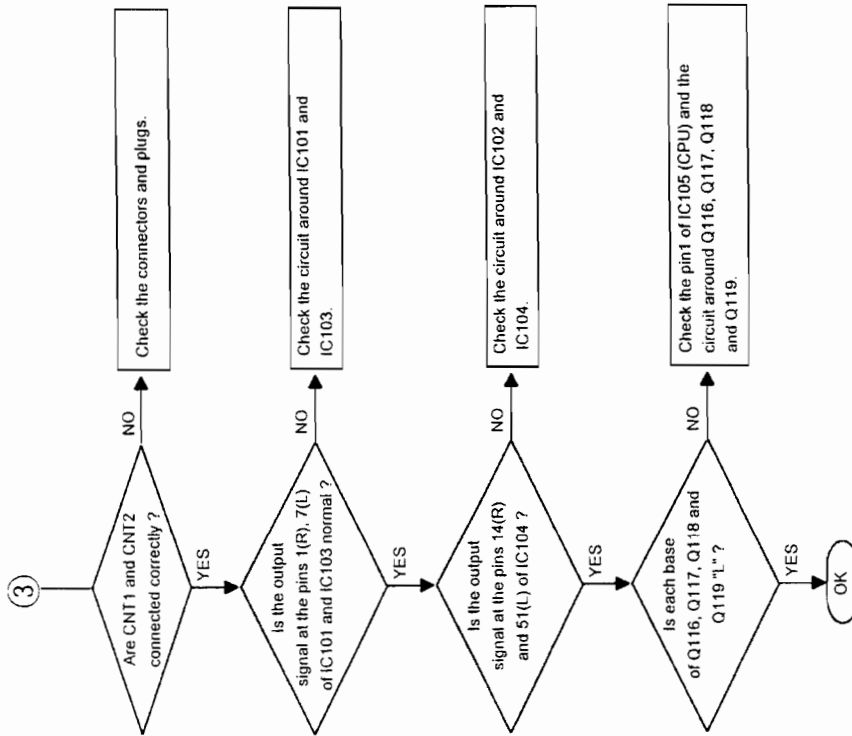


**Allowable Playback/Recording Frequency Response Zone**

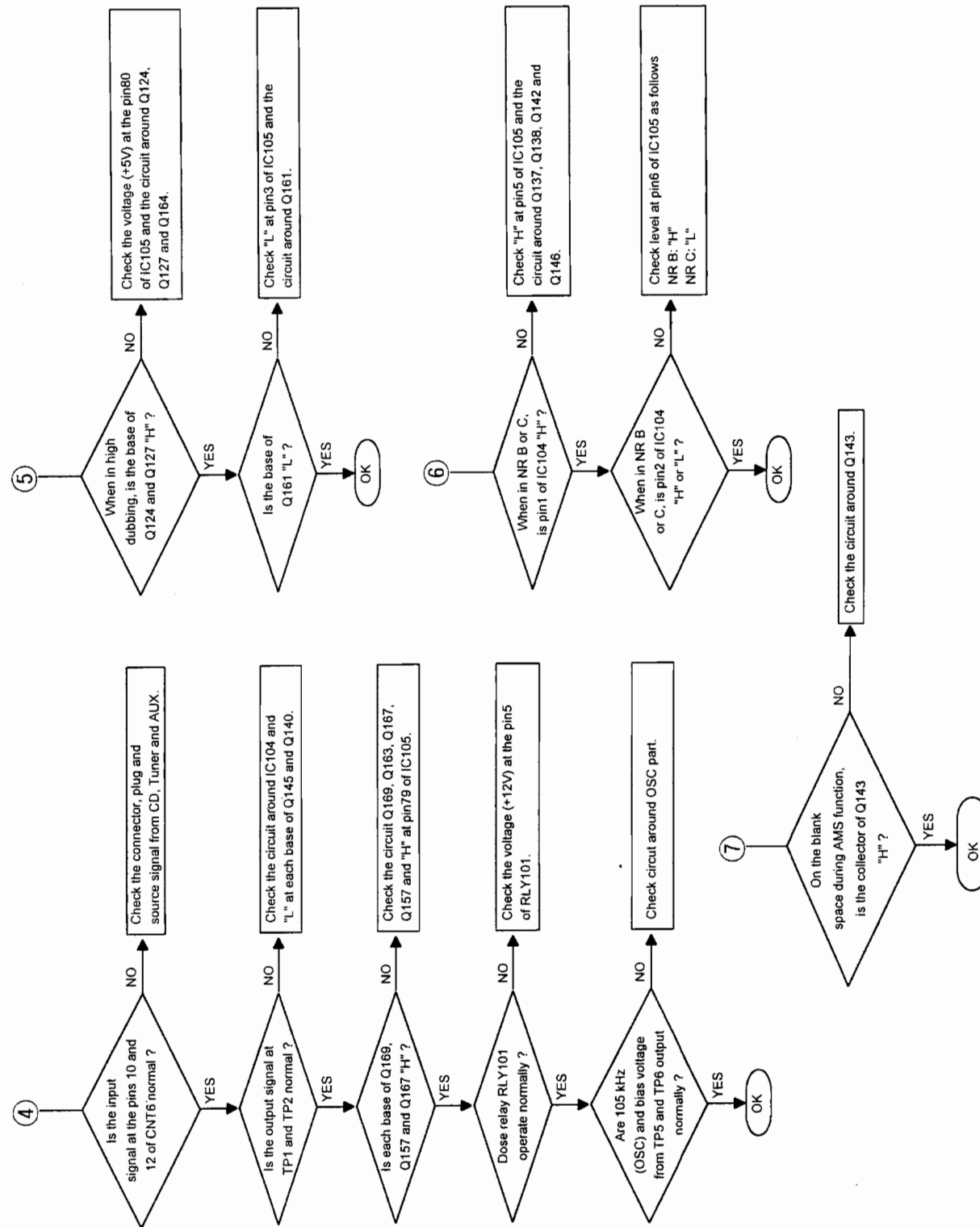
**Fig. 2**

# TROUBLESHOOTING





# MECHANICAL PARTS LIST



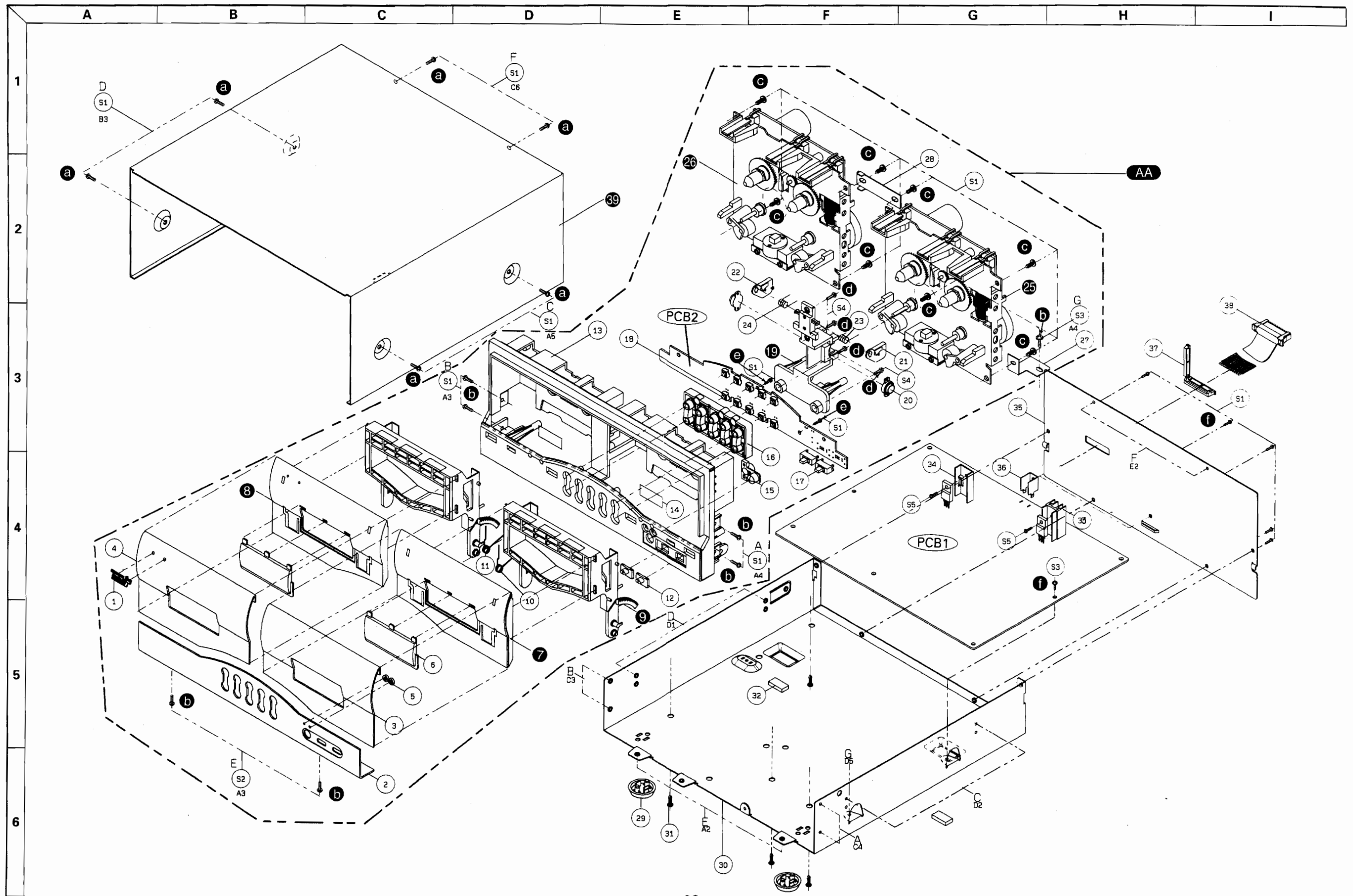
Ref. No.	Description	Parts No.	Q'ty	Version
<b>PACKAGE</b>				
	Carton Box	049605258203	1	KS
	Carton Box	049605258204	1	A,D,PT INDO
	Cushion Poly	9722041210	1	
	Film Soft PE	9715000120	1	
<b>CABINET &amp; CHASSIS</b>				
1	Badge, INKEL	048535045411	1	KS
(1)	Badge, SHERWOOD	048535045421	1	A,D,PT INDO
2	Panel Front	048602020011	1	
3	Door, Right	048663001511	1	
4	Door, Left	048663001521	1	
5	Indicator LED	8555052610	2	
6	Window Door	048555052711	2	
7	Base Door, Right	046512001911	1	
8	Base Door, Left	046512001921	1	
9	Lid Cassette	8562006610	1	
10	Door Spring	6555610210	1	
11	Door Spring	6555610220	1	
12	Knob Slide	048545131611	2	
13	Body Front	048521009611	1	
14	Label Mirror	9057095396	2	
15	Button Selector	048545131211	1	
16	Button Function	048543070212	1	
17	Switch Slide	4618008310	2	
18(SW3-13)	Switch Tact	4658004410	11	
19	Guide Door	8523013410	1	
20	Damper Oil	6308002310	2	
21	Lever Eject, Right	7143104220	1	
22	Lever Eject, Left	7143104210	1	
23	Spring Lever "A"	6555013510	1	
24	Spring Lever "B"	6555013520	1	
25	Deck Mecha, R/P	5708015110	1	
26	Deck Mecha, CMAL2Z035A	5708014710	1	
27	Bracket Shield	6165151310	1	
28	Bracket Shield	6165151210	1	
29	Foot	6035104310	2	
30	Chassis Main	6121614920	1	
31	Fastener	6528301710	4	
32	Cushion Foot	6715021230	1	
33	Heatsink	7505202410	1	
34	Heatsink	7505202410	1	
35	Chassis Back	046102044611	1	KS
(35)	Chassis Back	046102044613	1	PT INDO
(35)	Chassis Back	046102044612	1	D
(35)	Chassis Back		1	A
36	Plate Ground	6165143510	1	
37	Stopper Connector	6518002210	1	
38	Connector, System, 13P	4358613501	1	
39	Cover Top	046123017821	1	
<b>HARDWARE KIT</b>				
S1	Screw, #2BTT 3x8B	8179130083	25	
S2	Screw, #2FTC 3x8B	8129230083	2	
S3	Screw, #2WPTT 3x6Y	8159230061	2	
S4	Screw, #2BTC 3x10B	8109230103	4	
S5	Screw, #2BTC 3x6B	8109230063	2	
<b>MISCELLANEOUS</b>				
	Connector, Lead Ass'y, 3P, 220mm, Shield	436203227032	1	
	Connector, Lead Ass'y, 10P, 200mm	436210200532	1	
	Connector, Lead Ass'y, 7P, 200mm, Shield	435207208002	1	
	Connector, Lead Ass'y, 13P, 200mm	436213200532	1	
	Card Cable, YS=1.25-17-180-C	4118617185	1	
PCB1	P.C.Board Main	4004001100	1	
PCB2	P.C.Board Front	4004001110	1	

## PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  $\Delta$  in the parts list are of special significance to safety. When replacing a component identified with  $\Delta$ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

# EXPLODED VIEW

Model No. : DD-757

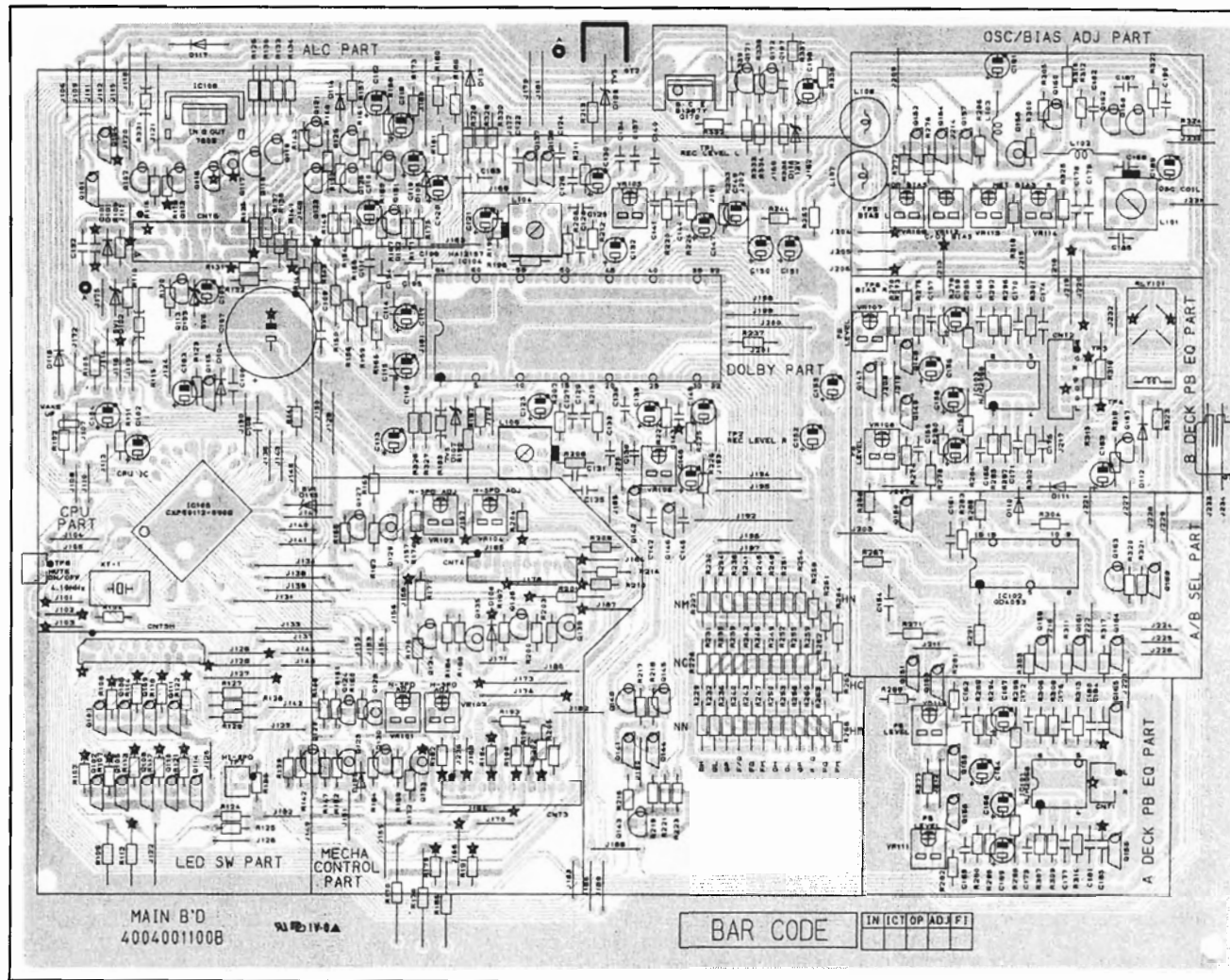




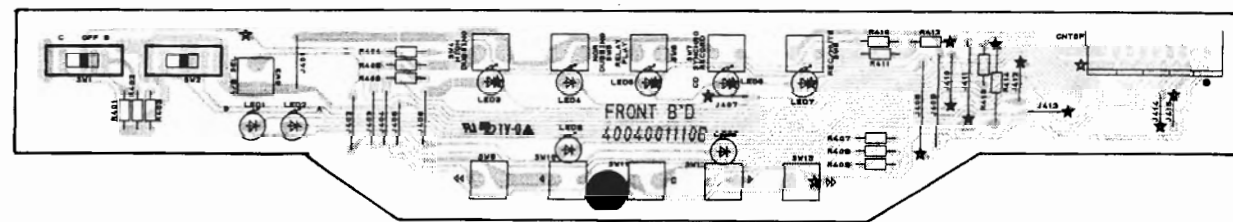
# PRINTED CIRCUIT BOARDS

Model No. : DD-757

MAIN(PCB2)



FRONT(PCB1)



# ELECTRICAL PARTS LIST

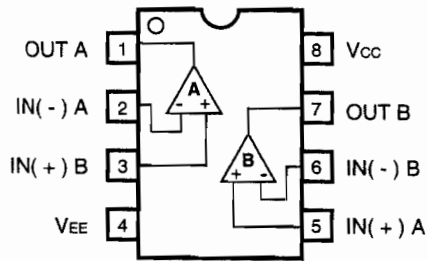
**PRODUCT SAFETY NOTICE :** Products marked with  $\Delta$  have special characteristics important to safety.  
 If you replace any of these components, read carefully the product safety notice in this manual.  
 Don't degrade the safety of the product through improper servicing.  
 Resistor/Capacitor tolerance - D : ( $\pm 0.5\%$ ), J : ( $\pm 5\%$ ), K : ( $\pm 10\%$ ), M : ( $\pm 20\%$ ), Z : +80, - 20%

Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version
PCB1	ASSEMBLY P.C. BOARD MAIN				C195/C196	Ceramic Tubular	100	pF 50 V J	3519101935 2
	<b>CAPACITORS</b>				C197	Ceramic Tubular	470	pF 50 V J	3519471935 1
C101	Ceramic Tubular	220	pF 50 V J	3519221935 1	C198	Electrolytic SG	10	uF 50 V M	3479310071 1
C102	Electrolytic SG	1	uF 50 V M	3479310971 1		<b>CONNECTORS</b>			
C103	Electrolytic SG	4.7	uF 50 V M	3479347971 1	CNT1	Wafer, 3P	4428516210	1	
C104/C105	Electrolytic SG	10	uF 50 V M	3479310071 2	CNT2	Wafer, 7P	4428516610	1	
C106	Ceramic Tubular	0.1	uF 50 V Z	3519104935 1	CNT3	Wafer, 13P	4428517210	1	
C107	Electrolytic SG	2200	uF 25 V M	3409322249 1	CNT4	Wafer, 10P	4428516910	1	
C108/C109	Ceramic Tubular	0.1	uF 50 V Z	3519104935 2	CNT5M	Wafer, FFC, 17P	4428509015	1	
C110	Electrolytic SG	1	uF 50 V M	3479310971 1	CNT6	Wafer, 13P	4428513800	1	
C111	Ceramic Tubular	0.1	uF 50 V Z	3519104935 1		<b>DIODES</b>			
C112	Electrolytic SG	220	uF 10 V M	3479322121 1	D101	1N4148, Switching	2058322101	1	
C113	Electrolytic SG	100	uF 16 V M	3479310131 1	D102	Zener, UZ 5.1 BSB	2258599103	1	
C114/C115	Ceramic Tubular	270	pF 50 V J	3519271935 2	D103	Zener, UZ 5.6 BSB	2258599104	1	
C116-C118	Electrolytic SG	2.2	uF 50 V M	3479322971 3	D104-D106	1N4148, Switching	2058322101	3	
C119	Electrolytic SG	0.1	uF 50 V M	3479310871 1	D107	Zener, UZ 7.5 BSC	2258599130	1	
C120	Electrolytic SG	10	uF 50 V M	3479310071 1	D108	1N4148, Switching	2058322101	1	
C121	Electrolytic SG	100	uF 16 V M	3479310131 1	D109	Zener, UZ 7.5 BSC	2258599130	1	
C122	Mylar	0.001	uF 100 V J	3519102120 1	D110/D111	1N4148, Switching	2058322101	2	
C123	Electrolytic SG	10	uF 50 V M	3479310071 1	D112	1N4003, Rectifier	2258128002	1	
C124	Mylar	0.001	uF 100 V J	3519102120 1	D113/D114	1N4148, Switching	2058322101	2	
C125	Mylar	0.0022	uF 100 V J	3679222120 1	D115	Zener, UZ 5.1 BSB	2258599103	1	
C126	Mylar	0.0047	uF 100 V J	3679472120 1	D116	Zener, UZ 12.0 BSC	2258599116	1	
C127-C129	Mylar	0.0022	uF 100 V J	3679222120 3	D117/D118	1N4003, Rectifier	2258128002	2	
C130	Electrolytic SG	10	uF 50 V M	3479310071 1		<b>INTEGRATED CIRCUITS</b>			
C131	Mylar	0.0047	uF 100 V J	3679472120 1	IC101	NJM2068D	2168020106	1	
C132	Electrolytic SG	10	uF 50 V M	3479310071 1	IC102	GD4053	2138001117	1	
C133/C134	Mylar	0.0022	uF 100 V J	3679222120 2	IC103	NJM2068D	2168020106	1	
C135-C138	Mylar	0.1	uF 63 V K	3679104297 4	IC104	HA12157	2168011135	1	
C139	Electrolytic SG	10	uF 50 V M	3479310071 1	IC105	CXP50112-590Q	2139322702	1	
C140/C141	Mylar	0.1	uF 63 V K	3679104297 2	IC106	KIA7805P, Regulator	2168606103	1	
C142	Mylar	0.001	uF 100 V J	3519102120 1		<b>COILS</b>			
C143/C144	Mylar	0.022	uF 100 V J	3679223120 2	L101	OSC Bias, CQN-K5174	2638601350	1	
C145	Mylar	0.001	uF 100 V J	3519102120 1	L102/L103	Inductor, 10 uH	2648610082	2	
C146	Electrolytic SG	1	uF 50 V M	3479310971 1	L104/L105	Filter, MPX, FB-10D	2658301120	2	
C147/C148	Electrolytic SG	10	uF 50 V M	3479310071 2	L106/L107	Trap Bias, 389AC-K5049	2658501150	2	
C149	Electrolytic SG	1	uF 50 V M	3479310971 1		<b>TRANSISTORS</b>			
C150/C151	Electrolytic SG	10	uF 50 V M	3479310071 2	Q101	DTC114YS	2208622106	1	
C152/C153	Electrolytic SG	1	uF 50 V M	3479310971 2	Q102/Q103	DTC114TS	2208622108	2	
C154	Ceramic Tubular	220	pF 50 V J	3519221935 1	Q104	KRA107M/DTA114YS	2238006103	1	
C155	Mylar	0.022	uF 100 V J	3679223120 1	Q105/Q106	DTC114TS	2208622108	2	
C156	Electrolytic SG	47	uF 16 V M	3479347031 1	Q107	KTC3198Y, NPN	2208606105	1	
C157	Mylar	0.022	uF 100 V J	3679223120 1	Q108-Q111	DTC114TS	2208622108	3	
C158	Electrolytic SG	47	uF 16 V M	3479347031 1	Q112	MPSA56, PNP	2208206113	1	
C159/C160	Electrolytic SG	4.7	uF 50 V M	3479347971 2	Q113	MPSA06Y, NPN	2208606114	1	
C161	Ceramic Tubular	220	pF 50 V J	3519221935 1	Q114	DTC114TS	2208622108	1	
C162/C163	Mylar	0.022	uF 100 V J	3679223120 2	Q115	DTC114YS	2208622106	1	
C164	Electrolytic SG	47	uF 16 V M	3479347031 1	Q116-Q119	KTD1302, NPN	2208606112	4	
C165/C166	Mylar	0.022	uF 100 V J	3679223120 2	Q120-Q122	KTC3198Y, NPN	2208606105	3	
C167	Electrolytic SG	4.7	uF 50 V M	3479347971 1	Q123	MPSA56, PNP	2208206113	1	
C168	Electrolytic SG	47	uF 16 V M	3479347031 1	Q124-Q127	KTC3198Y, NPN	2208606105	4	
C169	Electrolytic SG	4.7	uF 50 V M	3479347971 1	Q128/Q129	MPSA56, PNP	2208206113	2	
C170/C171	Ceramic Tubular	100	pF 50 V J	3519101935 2	Q130-Q132	KTC3198Y, NPN	2208606105	3	
C172/C173	Mylar	0.022	uF 100 V J	3679223120 2	Q133	MPSA56, PNP	2208206113	1	
C174	Ceramic Tubular	560	pF 50 V J	3519681935 1	Q134	KTC3198Y, NPN	2208606105	1	
C175	Ceramic Tubular	680	pF 50 V J	3519681935 1	Q135	MPSA56, PNP	2208206113	1	
C176/C177	Ceramic Tubular	100	pF 50 V J	3519101935 2	Q136	KTC3198Y, NPN	2208606105	1	
C178-C181	Ceramic Tubular	560	pF 50 V J	3519561935 4	Q137/Q138	DTC114TS	2208622108	2	
C182	Mylar	0.0056	uF 100 V J	3679562120 1	Q139	MPSA56, PNP	2208206113	1	
C183	Electrolytic SG	47	uF 16 V M	3479347031 1	Q140	KTD1302, NPN	2208606112	1	
C184/C185	Ceramic Tubular	220	pF 50 V J	3519221935 2	Q141	KRA107M/DTA114YS	2238006103	1	
C186	Mylar	0.0022	uF 100 V J	3679222120 1	Q142	DTC114TS	2208622108	1	
C187	Mylar	0.033	uF 100 V J	3679333120 1	Q143	KTC3198Y, NPN	2208606105	1	
C188	Mylar	0.0022	uF 100 V J	3679222120 1	Q144	DTC114YS	2208622106	1	
C189	Electrolytic SG	100	uF 16 V M	3479310131 1	Q145	KTD1302, NPN	2208606112	1	
C190	Mylar	0.0056	uF 100 V J	3679562120 1					
C191	Electrolytic SG	100	uF 25 V M	3479310141 1					
C192	Ceramic Tubular	0.1	uF 50 V Z	3519104935 1					
C193	Ceramic Tubular	100	pF 50 V J	3519101935 1					
C194	Ceramic Tubular	0.1	uF 50 V Z	3519104935 1					

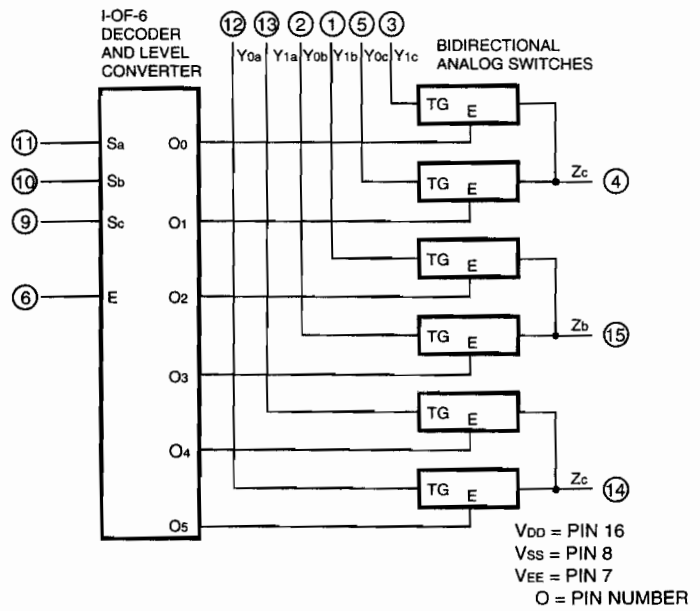
Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version	
Q146	DTC114TS	2208622108	1		R169	Metal Film	680 ohm 1/5 W J	3029681970	1	R256	Carbon Film	22 kohm 1/5 W J	3069223970	1	PCB2	ASSEMBLY P.C.BOARD FRONT				
Q147-Q157	DTC114YS	2208622106	11		R170	Carbon Film	47 kohm 1/5 W J	3069473970	1	R257	Carbon Film	5.6 kohm 1/5 W J	3069562970	1	R401	RES, Carbon Film	15 kohm 1/5 W J	3069153970	1	
Q158	MPSA56, PNP	2208206113	1		R171	Carbon Film	470 kohm 1/5 W J	3069474970	1	R258	Carbon Film	33 kohm 1/5 W J	3069333970	1	R402	RES, Metal Film	1.2 kohm 1/5 W J	3029122970	1	
Q159	DTC114YS	2208622106	1		R172	Carbon Film	47 kohm 1/5 W J	3069473970	1	R259/R260	Carbon Film	22 kohm 1/5 W J	3069223970	2	R403	RES, Metal Film	3.3 kohm 1/5 W J	3029332970	1	
Q160	KTC2236A/KTC3205, NPN	2228407117	1		R173	Carbon Film	10 kohm 1/5 W J	3069103970	1	R261/R262	Carbon Film	100 kohm 1/5 W J	3069104970	2	R404	RES, Carbon Film	8.2 kohm 1/5 W J	3069822970	1	
Q161	DTC114YS	2208622106	1		R174	Metal Film	560 ohm 1/5 W J	3029561970	1	R263/R264	Carbon Film	120 kohm 1/5 W J	3069124970	2	R405	RES, Metal Film	3.3 kohm 1/5 W J	3029332970	1	
Q162	KTC2236A/KTC3205, NPN	2228407117	1		R175	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R265	Carbon Film	150 kohm 1/5 W J	3069154970	1	R406	RES, Metal Film	1.8 kohm 1/5 W J	3029182970	1	
Q163	KTA1015Y/BKTA1266, PNP	2208206105	1		R176	Metal Film	3.3 kohm 1/5 W J	3029332970	1	R266	Carbon Film	120 kohm 1/5 W J	3069124970	1	R407	RES, Carbon Film	8.2 kohm 1/5 W J	3069822970	1	
Q164-Q166	DTC114YS	2208622106	3		R177	Metal Film	1.5 kohm 1/5 W J	3029152970	1	R267-R269	Carbon Film	33 kohm 1/5 W J	3069333970	3	R408	RES, Metal Film	1.8 kohm 1/5 W J	3029182970	1	
Q167	KTC3198Y, NPN	2208606105	1		R178	Carbon Film	4.7 kohm 1/5 W J	3069473970	1	R270	Metal Film	3.9 kohm 1/5 W J	302932970	1	R409/R410	RES, Metal Film	3.3 kohm 1/5 W J	3029332970	2	
Q168	KTC2236A/KTC3205, NPN	2228407117	1		R179	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R271	Metal Film	3.3 kohm 1/5 W J	3029332970	1	R411	RES, Metal Film	1.8 kohm 1/5 W J	3029182970	1	
Q169	DTC114YS	2208622106	1		R180	Carbon Film	10 kohm 1/5 W J	3069103970	1	R272	Metal Film	820 ohm 1/5 W J	3029821970	1	R412-R414	RES, Metal Film	1.2 kohm 1/5 W J	3029122970	3	
Q170	2SB1367Y/KTB1367, PNP	2028106109	1		R181	Carbon Film	56 kohm 1/5 W J	3069563970	1	R273	Metal Film	47 ohm 1/5 W J	3029470970	1	LED1-LED5	LED, SLR-34GC N49, Green		2381040301	5	
Q171/Q172	KTC3198Y, NPN	2208606105	2		R182	Metal Film	560 ohm 1/5 W J	3029561970	1	R274/R275	Metal Film	3.3 kohm 1/5 W J	3029332970	2	LED6/LED7	LED, SLR-34URC N49, Red		2381215704	2	
					R183	Carbon Film	120 ohm 1/4 W J	3069121270	1	R276	Metal Film	1.5 kohm 1/5 W J	3029152970	1	LED8/LED9	LED, SLR-34GC N49, Green		2381040301	2	
	<b>RESISTORS</b>				R184	Metal Film	680 ohm 1/5 W J	3029681970	1	R277	Carbon Film	10 kohm 1/5 W J	3069103970	1	CNT5F	Connector, Wafer, FFC, 17P		4428517826	1	
R102	Carbon Film	10 kohm 1/5 W J	3069103970	1	R185	Carbon Film	47 kohm 1/5 W J	3069473970	1	R278	Metal Film	47 ohm 1/5 W J	3029470970	1	18(SW3-13)	Switch Tact		4658004410	11	
R103	Metal Film	220 ohm 1/5 W J	3029221970	1	R186	Carbon Film	10 kohm 1/5 W J	3069103970	1	R279/R280	Metal Film	3.3 kohm 1/5 W J	3029332970	2						
R104	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R188	Carbon Film	47 kohm 1/5 W J	3069473970	1	R281/R282	Metal Film	47 ohm 1/5 W J	3029470970	2						
R105	Carbon Film	10 kohm 1/5 W J	3069103970	1	R190	Metal Film	3.9 kohm 1/5 W J	302932970	1	R283	Metal Film	3.3 kohm 1/5 W J	3029332970	1						
R106	Carbon Film	47 kohm 1/5 W J	3069473970	1	R191	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R284/R285	Metal Film	33 ohm 1/5 W J	3029330970	2						
R107/R108	Metal Film	220 ohm 1/5 W J	3029221970	2	R192	Metal Film	2.7 kohm 1/5 W J	3029272970	1	R286	Metal Film	1 kohm 1/5 W J	3029102970	1						
R109	Carbon Film	22 kohm 1/5 W J	3069223970	1	R193	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R288	Metal Film	100 ohm 1/5 W J	3029101970	1						
R110	Carbon Film	220 kohm 1/5 W J	3069224970	1	R194	Carbon Film	47 kohm 1/5 W J	3069473970	1	R289/R290	Metal Film	3.3 kohm 1/5 W J	3029332970	2						
R111	Metal Film	4.7 ohm 1/5 W J	3029473970	1	R195	Carbon Film	18 kohm 1/5 W J	3069183970	1	R291	Carbon Film	33 kohm 1/5 W J	3069333970	1						
R112	Carbon Film	47 kohm 1/5 W J	3069473970	1	R196	Metal Film	2.7 kohm 1/5 W J	3029272970	1	R292/R293	Carbon Film	6.8 kohm 1/5 W J	3069682970	2						
R113/R114	Metal Film	220 ohm 1/5 W J	3029221970	2	R197	Metal Film	3.3 kohm 1/5 W J	3029332970	1	R294/R295	Metal Film	3.3 kohm 1/5 W J	3029332970	2						
R115	Metal Film	47 ohm 1W J	3029470470	1	R198	Carbon Film	68 kohm 1/5 W J	3069683970	1	R296/R297	Carbon Film	100 kohm 1/5 W J	3069104970	2						
R116	Metal Film	3.3 kohm 1/5 W J	3029332970	1	R199	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R298/R299	Metal Film	33 ohm 1/5 W J	3029330970	2						
R117/R118	Metal Film	220 ohm 1/5 W J	3029221970	2	R200	Metal Film	680 ohm 1/5 W J	3029681970	1	R300-R302	Carbon Film	100 kohm 1/5 W J	3069104970	3						
R119	Carbon Film	47 kohm 1/5 W J	3069473970	1	R201	Carbon Film	68 kohm 1/5 W J	3069683970	1	R303	Carbon Film	33 kohm 1/5 W J	3069333970	1						
R120	Metal Film	150 ohm 1/5 W J	3029151970	1	R202	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R304	Carbon Film	22 kohm 1/5 W J	3069223970	1						
R121/R122	Metal Film	220 ohm 1/5 W J	3029221970	2	R203	Carbon Film	47 kohm 1/5 W J	3069473970	1	R305	Metal Film	1.5 kohm 1/5 W J	3029152970	1						
R123	Carbon Film	47 kohm 1/5 W J	3069473970	1	R204	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R306/R307	Carbon Film	6.8 kohm 1/5 W J	3069682970	2						
R124/R125	Metal Film	4.7 kohm 1/5 W J	3029472970	2	R205	Carbon Film	10 kohm 1/5 W J	3069103970	1	R308-R310	Carbon Film	100 kohm 1/5 W J	3069104970	3						
R126	Metal Film	1 kohm 1/5 W J	3029102970	1	R206	Carbon Film	5.6 kohm 1/5 W J	3069562970	1	R311/R312	Carbon Film	33 kohm 1/5 W J	3069333970	2						
R127-R129	Metal Film	4.7 kohm 1/5 W J	3029472970	3	R207/R208	Carbon Film	22 kohm 1/5 W J	3069223970	2	R313/R314	Carbon Film	100 kohm 1/5 W J	3069104970	2						
R130	Metal Film	1 kohm 1/5 W J	3029102970	1	R209/R210	Carbon Film	47 kohm 1/5 W J	3069473970	2	R315/R316	Metal Film	10 ohm 1/5 W J	3029100970	2						
R131	Carbon Film	56 kohm 1/5 W J	3069563970	1	D	R211	Carbon Film	5.6 kohm 1/5 W J	3069562970	1	R317	Carbon Film	10 kohm 1/5 W J	3069103970	1					
(R131)	Carbon Film	51 kohm 1/5 W J	3069513970	1	A,KS,PT INDO	R212	Metal Film	560 ohm 1/5 W J	3029561970	1	R318	Carbon Film	22 kohm 1/5 W J	3069223970	1					
R132	Carbon Film	8.2 kohm 1/5 W J	3069822970	1	D	R213	Metal Film	100 ohm 1/5 W J	3029101970	1	R319	Metal Film	4.7 kohm 1/5 W J	3029472970	1					
(R132)	Metal Film	3.3 kohm 1/5 W J	3029332970	1	A,KS,PT INDO	R214	Metal Film	4.7 kohm 1/5 W J	3029472970	1	R320	Carbon Film	47 kohm 1/5 W J	3069473970	1					
R133/R134	Metal Film	1 kohm 1/5 W J	3029102970	2	D	R215	Metal Film	560 ohm 1/5 W J	3029561970	1	R321	Metal Film	3.3 kohm 1/5 W J	3029332970	1					
R135	Carbon Film	56 kohm 1/5 W J	3069563970	1	D	R216	Carbon Film	47 kohm 1/5 W J	3069473970	1	R322	Carbon Film	33 kohm 1/5 W J	3069333970	1					
(R135)	Carbon Film	51 kohm 1/5 W J	3069513970	1	A,KS,PT INDO	R217/R218	Metal Film	3.3 kohm 1/5 W J	3029332970	2	R323	Metal Film	10 ohm 1/5 W J	3029100970	1					
R136	Carbon Film	10 kohm 1/5 W J	3069103970	1	D	R219-R223	Carbon Film	100 kohm 1/5 W J	3069104970	5	R324	Metal Film	4.7 ohm 1/5 W J	3029479970	1					
R137	Carbon Film	8.2 kohm 1/5 W J	3069822970	1	D	R224/R225	Carbon Film	51 kohm 1/5 W J	3069513970	2	R325	Carbon Film	22 kohm 1/5 W J	3069223970	1					
(R137)	Metal Film	3.3 kohm 1/5 W J	3029332970	1	A,KS,PT INDO	R226	Metal Film	2.2 kohm 1/5 W J	3029222970	1	R326/R327	Carbon Film	10 kohm 1/5 W J	3069103970	2					
R138	Metal Film	1.5 kohm 1/5 W J	3029152970	1	D	R227	Carbon Film	39 kohm 1/5 W J	3069393970	1	R328-R330	Metal Film	1 kohm 1/5 W J	3029102970	3					
R139	Metal Film	3.3 kohm 1/5 W J	3029332970	1	D	R228	Carbon Film	33 kohm 1/5 W J	3069333970	1	R331	Metal Film	68 ohm 2W J	3029680570	1					
R140	Carbon Film	12 kohm 1/5 W J	3069123970	1	D	R229	Carbon Film	12 kohm 1/5 W J	3069123970	1	R332	Carbon Film	47 kohm 1/5 W J	3069473970	1					
R141	Carbon Film	100 kohm 1/5 W J	3069104970	1	D	R230	Carbon Film	43 kohm 1/5 W J	3069433970	1	R333	Metal Film	470 ohm 1/5 W J	3029471970	1					
R142/R143	Metal Film	1.5 kohm 1/5 W J	3029152970	2	D	R231	Carbon Film	33 kohm 1/5 W J	3069333970	1	R334	Carbon Film	22 kohm 1/5 W J	3069223970	1					
R144	Carbon Film	12 kohm 1/5 W J	3069123970	1	D	R232	Carbon Film	22 kohm 1/5 W J	3069223970	1	R335	Metal Film	680 ohm 1/5 W J	3029681970	1					
R145	Carbon Film	8.2 kohm 1/5 W J	3069822970	1	D	R233	Metal Film	2.2 kohm 1/5 W J	3029222970	1	R336	Metal Film	4.7 kohm 1/5 W J	3029472970	1					
R146	Carbon Film	33 kohm 1/5 W J	3069333970	1	D	R234	Carbon Film	43 kohm 1/5 W J	3069433970	1	R337	Metal Film	220 ohm 1/5 W J	3029221970	1					
R147	Metal Film	680 ohm 1/5 W J	3029681970	1	D	R235	Carbon Film	47 kohm 1/5 W J	3069473970	1	R338	Metal Film	470 ohm 1/5 W J	3						

# IC FUNCTIONAL BLOCK DIAGRAM

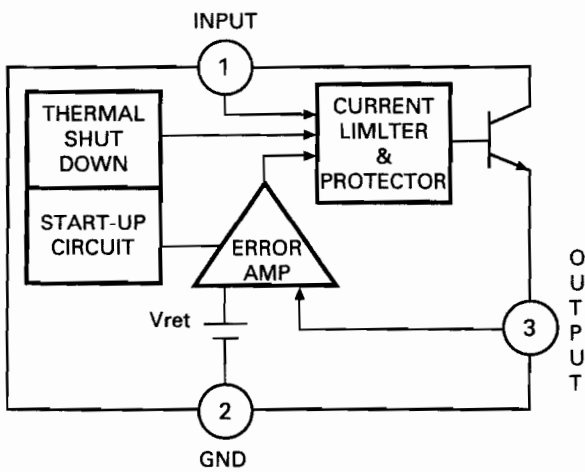
IC101, IC103 : NJM2068D



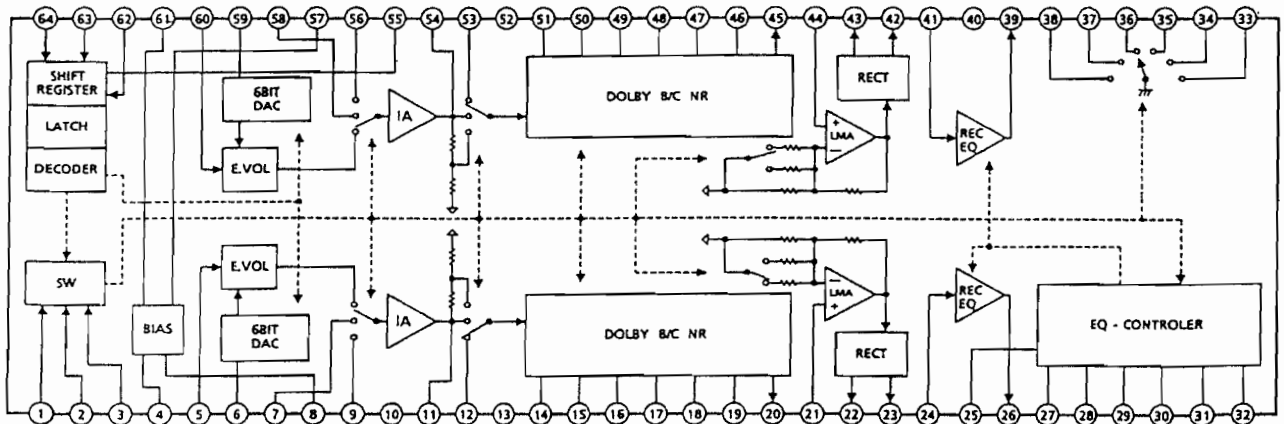
IC102 : GD4053B



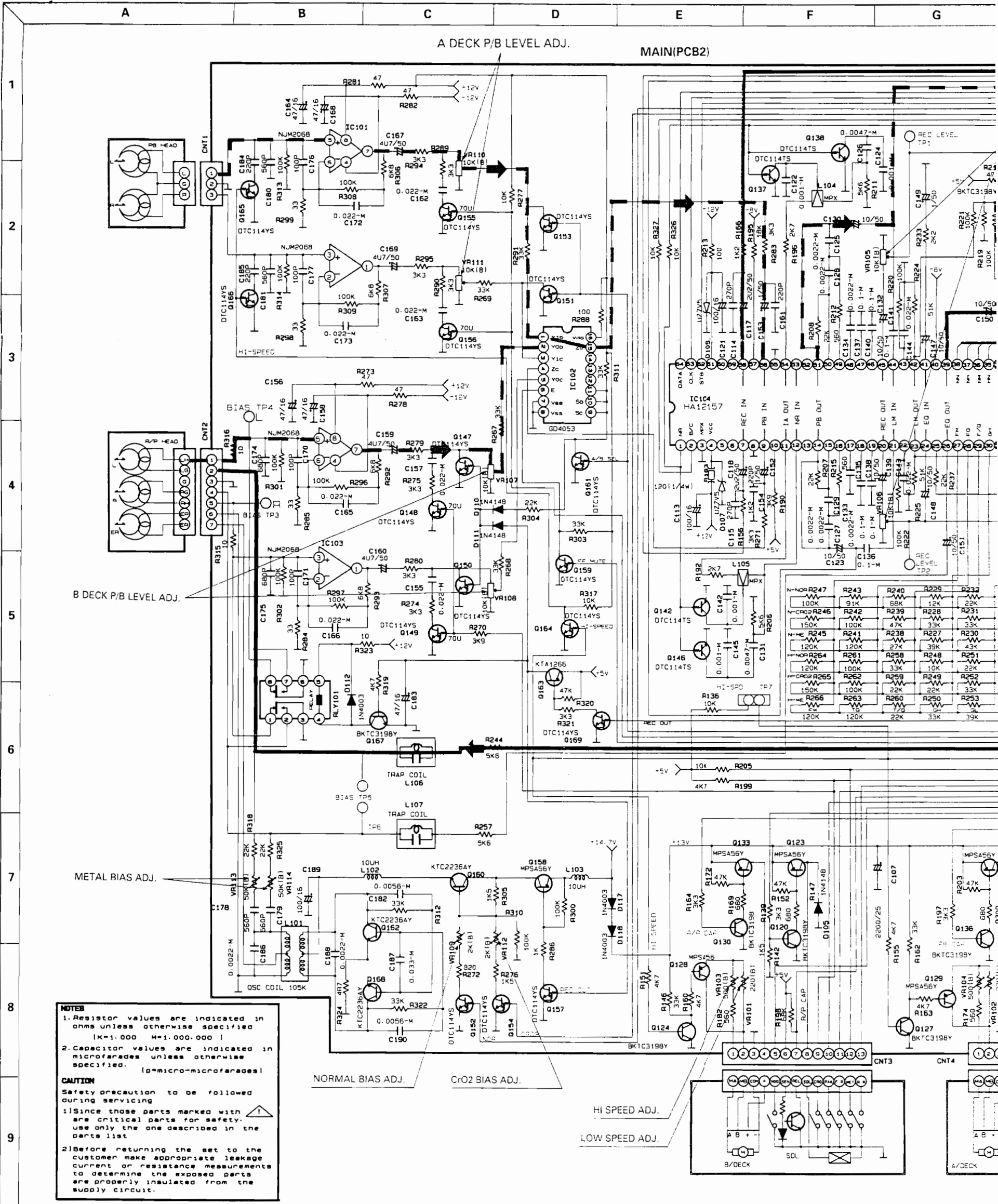
IC106 : KIA7806P



IC104 : HA12157NT



# SCHEMATIC DIAGRAM



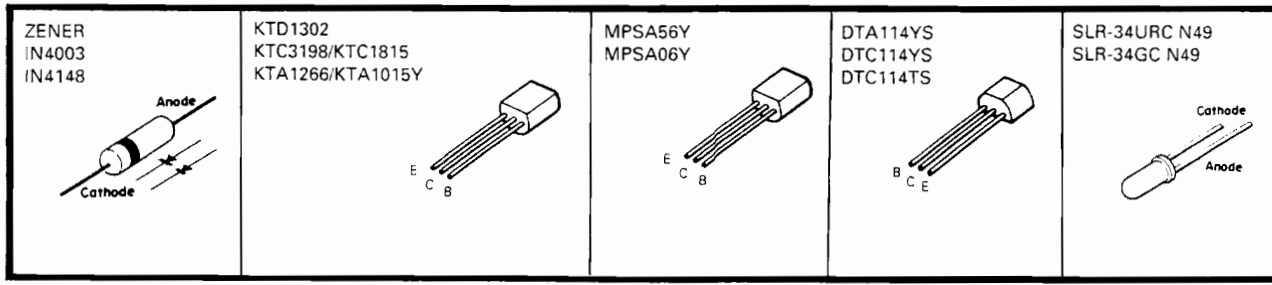
**NOTES**

1. Resistor values are indicated in ohms unless otherwise specified  
 (K=1,000 M=1,000,000)
2. Capacitor values are indicated in microfarads unless otherwise specified.  
 (p=micro-microfarads)

**CAUTION**  
 Safety precaution to be followed during servicing

- 1) Since those parts marked with a triangle are critical parts for safety, use only the one described in the parts list.
- 2) Before returning the set to the customer make appropriate leakage current or resistance measurements to determine the exposed parts are properly insulated from the supply circuit.

## PIN CONNECTION OF DIODES, TRANSISTORS AND ICs



G H I J K L M

