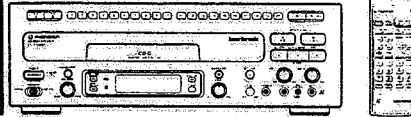


Service Manual



ORDER NO.
RRV1145

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CD CDV LD PLAYER

CLD-V850

CLD-2730K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
KU	CLD-V850	AC120V	—
KC	CLD-V850	AC120V	—
RD	CLD-2730K	AC110—127V/220—240V	With the voltage selector.

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CHAPTER 1

1.1 SAFETY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.



NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

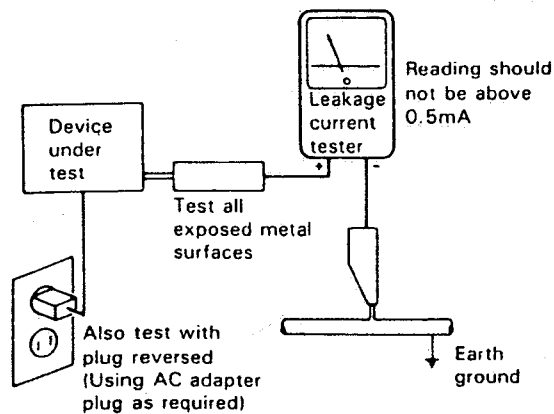
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

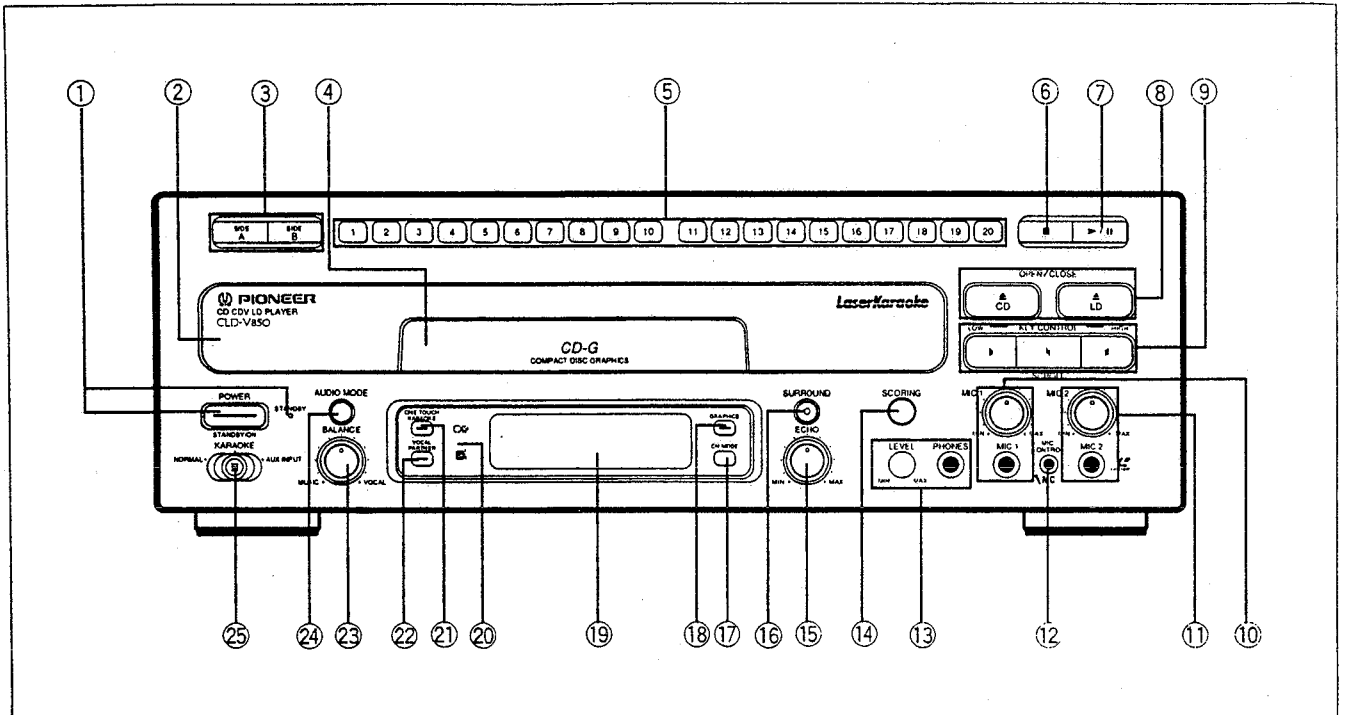
2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

1.2 PANEL FACILITIES



- | | |
|---|--|
| <p>① POWER STANDBY/ON switch and STANDBY indicator
Press to turn the power on and off.</p> <p>② Disc table</p> <p>③ SIDE A/SIDE B buttons</p> <p>④ CD Disc table</p> <p>⑤ Direct music search buttons</p> <p>⑥ Stop (■) button</p> <p>⑦ Play/Pause (▶/) button</p> <p>⑧ OPEN/CLOSE (CD ▲/LD ▲) buttons</p> <p>⑨ KEY CONTROL/SCROLL buttons</p> <p>⑩ MIC 1 jack and MIC 1 level control</p> <p>⑪ MIC 2 jack and MIC 2 level control</p> <p>⑫ MIC CONTROL jack</p> | <p>⑬ PHONES jack and LEVEL control</p> <p>⑭ SCORING button/indicator</p> <p>⑮ ECHO level control</p> <p>⑯ SURROUND button/indicator</p> <p>⑰ CH MODE button</p> <p>⑱ GRAPHICS button/indicator</p> <p>⑲ Display window</p> <p>⑳ Remote sensor</p> <p>㉑ ONE-TOUCH KARAOKE button/indicator</p> <p>㉒ VOCAL PARTNER button/indicator</p> <p>㉓ BALANCE control</p> <p>㉔ AUDIO MODE button</p> <p>㉕ NORMAL/KARAOKE/AUX INPUT selector</p> |
|---|--|

1.3 SPECIFICATIONS

General

System	LaserVision Disc system and Compact Disc digital audio system
Laser	Semiconductor laser wavelength 780 nm
Power requirements	AC 120 V, 60 Hz
Power consumption	45 W
Weight	8.0 kg (17 lbs 10 oz)
Dimensions	420 (W) x 431 (D) x 140 (H) mm 16-9/16 (W) x 16-15/16 (D) x 5-1/2 (H) in
Operating temperature	+5 °C ~ +35 °C (41 °F ~ 95 °F)
Operating humidity	5 % ~ 85 % (There should be no condensation of moisture.)

Video characteristics (two pairs)

Format	NTSC specifications
Video output	
Level	1 Vp-p nominal, sync. negative, terminated
Impedance	75 Ω unbalanced
Jack	RCA jack

Audio characteristics (two pairs)

Output level	
During analog audio output	200 mVrms (1 kHz, 40 %)
During digital audio output	200 mVrms (1 kHz, -20 dB)
Jacks	Both RCA jacks
Number of channels	2 (Stereo)

Other terminals

Control input/output	Both miniature jacks
AUX	RCA jacks
VHF adapter output (Video/Audio)	Both RCA jacks with DC jack

Accessories

Remote control unit	1
Size "AAA" (IEC R03) dry cell batteries	2
Video cord	1
Audio cord	1
Operating instructions	1
Warranty card	1

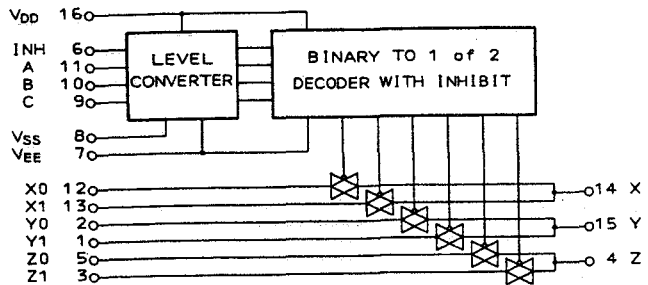
NOTE:

The specifications and design of this product are subject to change without notice, due to improvement.

1.4 IC INFORMATION

■ BU4053BCF (KFCB ASSY IC103) ● ANALOG MULTIPLEXER

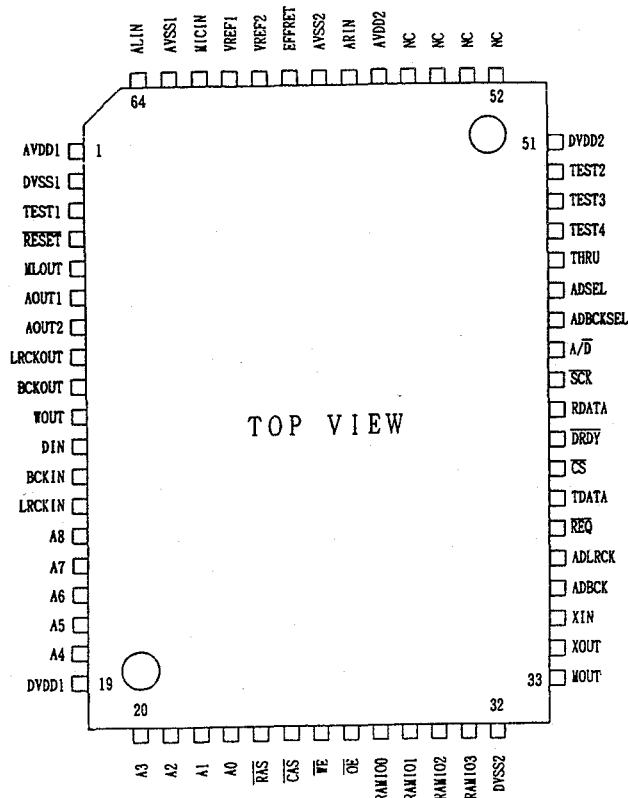
● Block Diagram



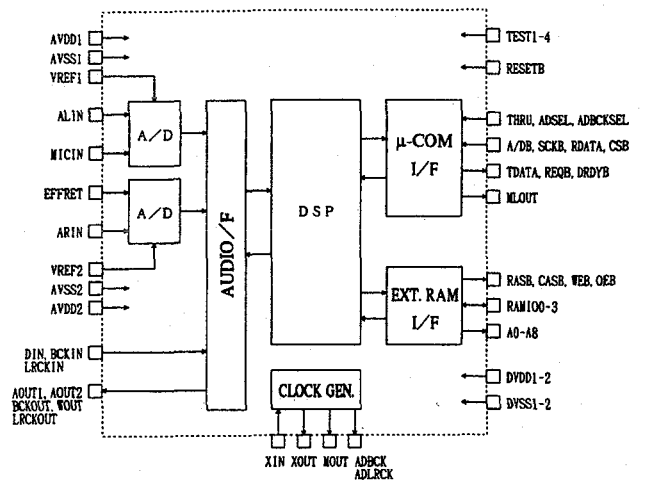
● The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PM0005A (KFCB ASSY IC104) ● DSP IC

● Pin Assignment



● Block Diagram



● Pin function (PM0005A)

No.	Pin	I/O	Function
1	AV _{DD1}	—	Power supply pin for A/D converter 1
2	DV _{ss1}	—	Ground pin 1 for logical block
3	TEST1	IC	Selection pin for test mode. Normally fixed at "H".
4	RESET	IS	Reset input pin. Reset when "L".
5	MLOUT	OC	Output pin for microphone level judgement.
6	AOUT1	OC	Audio serial data output pin 1
7	AOUT2	OC	Audio serial data output pin 2
8	LRCKOUT	OC	LR clock output pin. "H": Lch, "L": Rch
9	BCKOUT	OC	Bit clock output pin. Outputs 32fs.
10	WOUT	OC	Word clock output pin
11	DIN	IC	Audio serial data input pin.
12	BCKIN	IC	Bit clock input pin
13	LRCKIN	IC	LR clock input pin
14	A8	OC	Address output pins for external DRAM
15	A7	OC	
16	A6	OC	
17	A5	OC	
18	A4	OC	
19	DV _{DD1}	—	Power supply pin 1 for logical block
20	A3	OC	Address output pins for external DRAM
21	A2	OC	
22	A1	OC	
23	A0	OC	
24	RAS	OC		Row address strobe output pin for external DRAM
25	CAS	OC	Column address strobe output pin for external DRAM
26	WE	OC	Write enable output pin for external DRAM
27	OE	OC	Output enable output pin for external DRAM
28	RAMIO0	IOD	Data input/output pins for external DRAM
29	RAMIO1	IOD	
30	RAMIO2	IOD	
31	RAMIO3	IOD	
32	DV _{ss2}	—	Ground pin 2 for logical block
33	MOUT	OC	Master clock output pin
34	XOUT	OCX	Crystal oscillator connection pin
35	XIN	ICX	

No.	Pin	I/O	Function
36	ADBCK	IO	Bit clock output pin for external A/D converter
37	ADLRCK	IO	LR clock output pin for external A/D converter
38	REQ	OT	Data transfer request output pin for microcomputer
39	TDATA	OT	Data output pin for microcomputer
40	CS	IC	Chip select input pin for microcomputer interface
41	DRDY	OT	Signal receive condition output pin for microcomputer
42	RDATA	IC	Serial data input pin from microcomputer
43	SCK	IC	Serial clock input pin for receiving data from microcomputer
44	A/D	IC	Address/data judgement pin for data from microcomputer
45	ADBCKSEL	IC	Output selection input pin for ADBCK pin. 32fs/64fs
46	ADSEL	IC	Digital/Analog audio selection input pin
47	THRU	IC	Setting pin for through mode. Normally fixed at "L".
48	TEST4	IC	Selection input pins for test mode. Normally fixed at "H".
49	TEST3	IC	
50	TEST2	IC	
51	DV _{DD2}	—	Power supply pin 2 for logical block
52	NC		Not connected.
53	NC		
54	NC		
55	NC		
56	AV _{DD2}	—	Power supply pin for A/D converter 2
57	ARIN	IA	Rch input pin of analog audio
58	AV _{ss2}	—	Ground pin for A/D converter 2
59	EFFRET	IA	Effect return input pin
60	VREF2	IAR	Reference voltage input pin for A/D converter 2
61	VREF1	IAR	Reference voltage input pin for A/D converter 1
62	MICIN	IA	Microphone input pin
63	AV _{ss1}	—	Ground pin for A/D converter 1
64	ALIN	IA	Lch input pin of analog audio

1.5 ADJUSTMENTS

1.5.1 TEST MODE

1) How to start test mode

With the MAIN ASSY test mode JP (W564) dropped to GND, the test mode is started by putting the power switch ON. (Fig. 1)

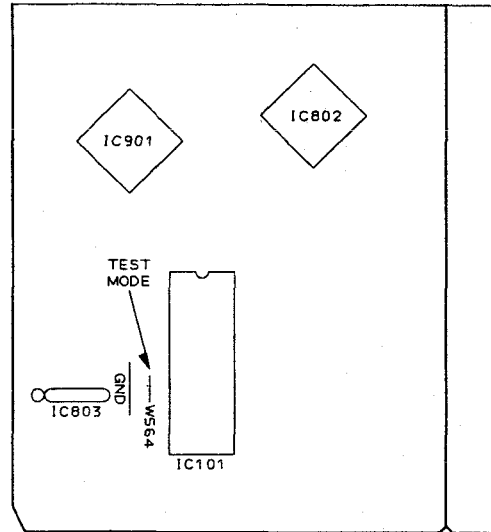
After confirming that all FL indicators are lit, remove test mode jumper wire and GND connection. Or, with power switch ON, press test mode remote control (GGF1067) ESC key and TEST key in order.

2) How to cancel test mode

Turn power switch OFF. Or, press test mode remote control ESC key.

3) Functions and key control when in test mode

Note : For keys not on player or on accompanying remote control, use test mode remote control (GGF1067)



MAIN ASSY
Fig. 1

• Key operation in the Test mode

Player Status	Key Operation	Function	Remarks
Tray Open	⏪/⏩ SKIP (Refer to Note 1)	⏪: Shifts the tray in the closed direction and also raises the turn table while pressing the key. ⏩: Shifts the tray in the open direction and also lowers the turn table while pressing the key.	
Tray Open	▶ PLAY	Clamps	
Clamp	▶ PLAY	Turns the disc through TRK Servo OFF	TRK-OFF
TRK Servo OFF	▶ PLAY	TRK Servo ON	TRK-ON
TRK Servo ON	▶ PLAY	TRK Servo OFF	TRK-OFF
TRK Servo ON	◀||/||▶ (STEP)	FOCS balance select	F-0/F-1
TILT Neutral	+ MULTI-SPEED	TILT Servo ON	T-□ : ON
TILT ON	-MULTI-SPEED	TILT Neutral	T-□ : N
TILT Neutral or ON	⏪/⏩ SKIP	Setting TILT Servo to OFF, can force TILT to move.	T-1 to T-E
Clamp	◀/▶ SCAN	Can force the slider to move	S-LD S-CDV S-CD S-IN
Play	|| PAUSE	Still	
Play	■ STOP	Stop	
Stop	▲ OPEN	Open	
Play	<div style="text-align: center;"> +10 ↓ 0 to 9 ↓ ▶ PLAY </div>	Sets to SEARCH Lead Address Input mode. Designates the SEARCH lead address through keys 0 to 9. Press the CLEAR [C] key if the designated address is incorrect. Searches the designated address upon pressing the PLAY key.	

Note 1 : Press SKIP (⏪/⏩) Keys after the tray is set to open state by pressing Open (▲) key. Because, in tray open state, pressing PLAY (▶) key causes it to set to clamp state and SKIP (⏪/⏩) keys can not function properly.

Table 1

CLD-V850, CLD-2730K

● Player Operation In the Test Mode (Disc tray is removed)

Operate the player by selecting a test mode function with the keys on the player or on the remote control unit.

· CD PLAYBACK

- ① Place the CD disc on the turn table.

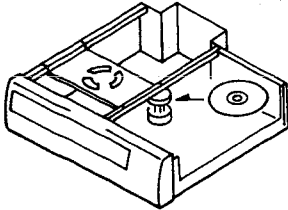


Fig. 2

- ② Press the PLAY (▶) key once.
(Twin gear starts to move.)
③ Push the cam plate (Fig. 3) in the direction of the arrow and wait until the CD disc is clamped.

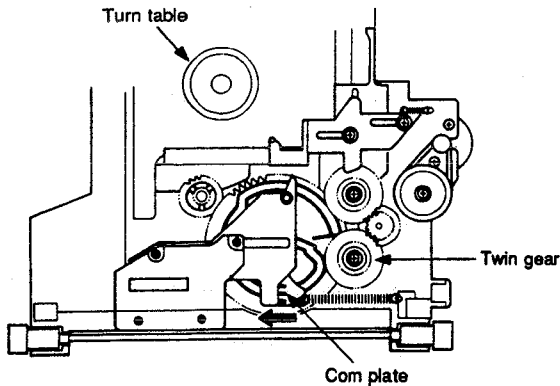
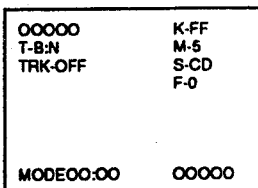


Fig. 3

- ④ Press the ◀◀ or ▶▶ keys to appear "S-CD" on the TV screen display.



TV screen display

Fig. 4

- ⑤ After pressing the PLAY (▶) key once to clamp the disc, press the PLAY (▶) key twice, disc will be normally played back.

· LD PLAYBACK

- ① Place the LD disc on the turn table.

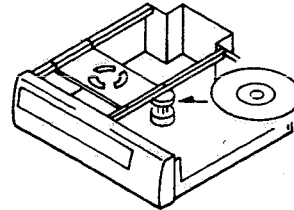
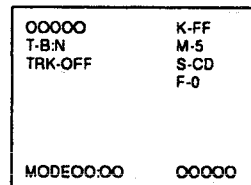


Fig. 5

- ② Press the PLAY (▶) key once.
(Twin gear starts to move.)
③ Press the SKIP REV (◀◀) key to raise the turn table (spindle motor section) while pressing the cam plate (Fig. 3) in the direction of the arrow. Raise it to the position where the LD disc can be easily placed on the turn table. If the turn table is raised too high, lower it with the SKIP FWD (▶▶) key.
④ Place the LD disc on the turn table and press the PLAY (▶) key once to clamp the disc.
⑤ Press the ◀◀ or ▶▶ keys to appear "S-LD" on the TV screen display.



TV screen display

Fig. 6

- ⑥ After pressing the PLAY (▶) key once to clamp the disc, press the PLAY (▶) key twice, disc will be normally played back.

1.5.2 ADJUSTMENT PRECAUTIONS

● Equipment and jigs needed for adjustment

- CD test disc (STD-901 or STD-902)
- LD test disc (GGV1003)
- Medium-sized blade screwdriver
- Small blade screwdriver
- Hexagonal wrench (straight type, size: 3mm)
- Resistor (10KΩ × 2, 47KΩ × 1)
- Large Phillips screwdriver
- Medium-sized Phillips screwdriver
- Two-channel oscilloscope (with delay)
- AF oscillator
- Frequency counter
- Digital voltmeter
- TV monitor
- Low pass filter

● Preparation for adjustment

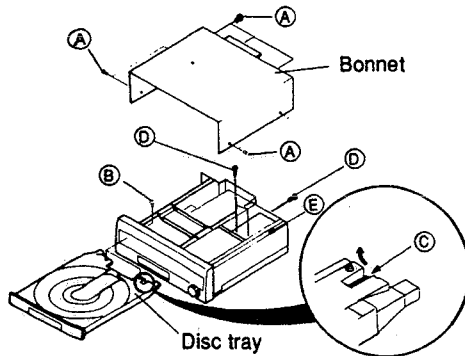


Fig. 1

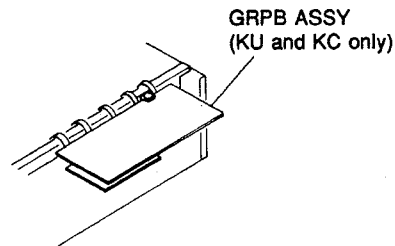


Fig. 2

● As shown in Fig. 3, fit MAIN assy into PCB holder on the chassis and by standing it against the inside of the chassis, the back side of the board (pattern side) can be diagnosed. (Fig. 3)

● Notes When Adjusting Centering

For both A-side and B-side, if the amplitude of the error waveform of the disc's innermost and outermost tracks at TRK - OFF are about the same, then course adjustment is not necessary.

If waveform S/N is bad and difficult to observe in "2. Coarse centering adjustment for A-Side play" and "6. Fine centering adjustment for A-Side play" use the low pass filter in diagram.

● Rack Assy Position When Adjusting Centering

When moving slider to inner position to adjust the innermost track of disc during centering adjustment, be careful not to keep the mechanism stopper and RACK Assy from bumping each other. (Fig. 4)

● Notes When Adjusting Pickup Assy

Please clean lens first when readjusting the PICKUP Assy that is on this product. Also, when changing PICKUP Assy, change whole CARRIAGE Assy (VWT1100).

1. Remove the 7 screws (A) that stabilize the bonnet and take off the bonnet. (Fig. 1)
2. Remove the 2 tray stopper screws (B) and press the OPEN/CLOSE button to put the tray unit in the open position. (Fig. 1)
3. While pushing the hook on the right rear of the disc tray (C) to the left, pull out the tray unit. (Fig. 1)
4. Remove the 3 screws (D) that stabilize GRPB ASSY and attach GRPB ASSY to the PCB holder (E) as shown in Fig. 2. (KU and KC only)

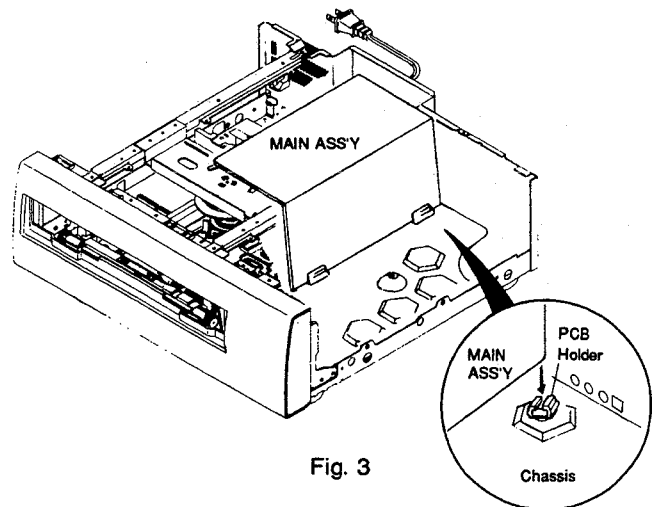


Fig. 3

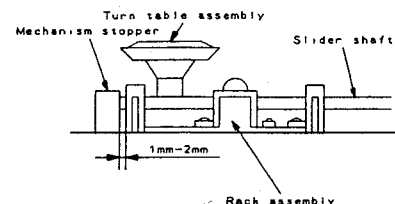
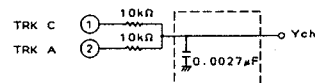
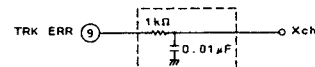


Fig. 4

1.5.3 MECHANISM ASSY ADJUSTMENT LOCATION

Note: Be careful not to turn centering adjustment screw and TAN adjustment screw past their adjustment range.

— Adjustment Range of Centering Adjustment Screw —

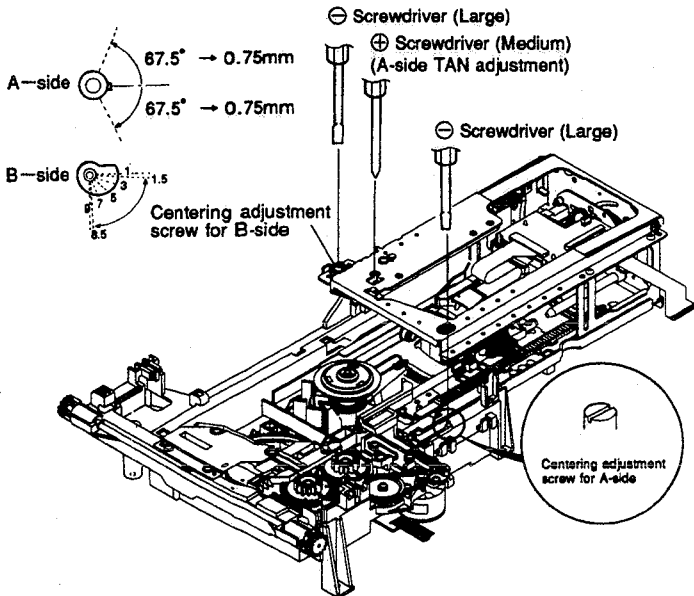


Fig. 1 Mechanism Assy Adjustment

— Adjustment Range of TAN Adjustment Screw —

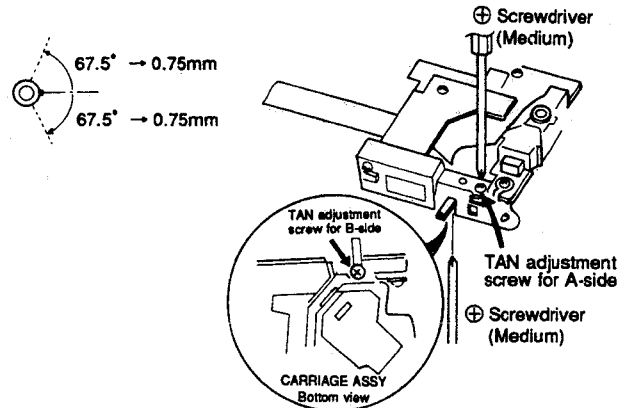


Fig. 2 Carriage Assy Adjustment

1.5.4 MAIN ASSY ADJUSTMENT LOCATION

● MAIN ASSY

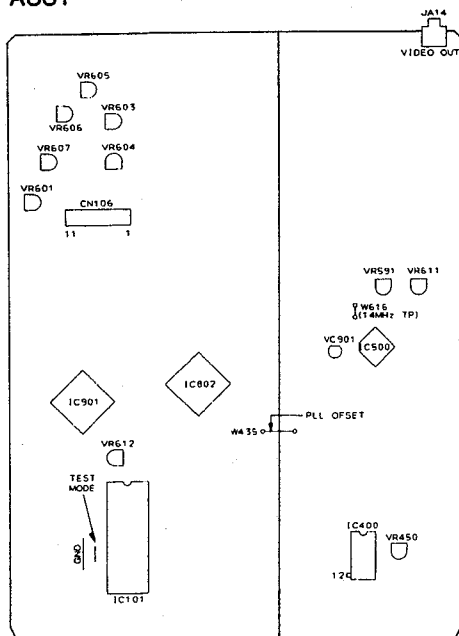


Fig. 3 Adjustment diagram of MAIN ASSY

- VR607 : Tilt offset adjustment
- VR605 : FCS Balance adjustment (TRK error max)
- VR606 : FCS Balance adjustment (RF level max)
- VR604 : FCS Servo loop gain adjustment
- VR603 : TRKG Servo loop gain adjustment
- VR601 : RF Level adjustment
- VR612 : PLL Offset adjustment
- VC901 : Master clock adjustment
- VR450 : Video level adjustment (1)
- VR611 : Video level adjustment (2)
- VR591 : Composite sync level adjustment

1.5.5 MECHANICAL ADJUSTMENT

NOTE : All VRs and CNs (connectors) in the tables are parts of MAIN ASSY.

Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
1 Tilt offset Check and adjustment	VR607	• TV monitor	Tilt indication on Test mode screen	• Power ON • Test mode • Disc not installed	1. Check if the tilt indication on the test mode screen is at T-6 to T-8. 2. If the tilt indication is not at T-6 to T-8, adjust VR607 until the tilt indication reaches T-6 to T-8.	
2 Coarse centering adjustment for A-side play	Mechanism assembly Centering adjustment screw for A-side play	• Screwdriver (Large) • Oscilloscope • STD-901 or STD-902 • MIX resistor 	CN106 X : ⑨ pin (TRK ERR) Y : ①+② pin (TRK SUM)	• Test mode TRK servo OFF Tilt servo ON • Innermost track of STD-901 or STD-902 which does not come in contact with the mechanical stopper.	Note : Be careful not to turn the centering adjustment screw past its limit. 1. Move the slider until it does not come in contact with the mechanical stopper at the slider position indication S-IN. 2. Observe TRK ERR (Xch) and TRK SUM (Ych) at the X-Y mode during TRK Servo OFF. 3. Adjust centering adjustment screw for A-side until the Lissajous' figure is horizontal.	
3 FCS balance adjustment (1) TRK ERR MAX	VR605	• Oscilloscope • STD-901 or STD-902	CN106 ⑨ pin (TRK ERR)	• Test mode TRK servo OFF Tilt servo ON • Inner track of STD-901 or STD-902	1. Observe TRK ERR at CH1 of the oscilloscope during TRK Servo OFF. 2. Adjust VR605 until the amplitude of the waveform reaches its maximum and the envelope is very clear.	
4 FCS balance adjustment (2) RF LEVEL MAX	VR606	• Oscilloscope • STD-901 or STD-902	CN106 ③ pin (RF)	• Test mode TRK servo ON Tilt servo ON • Inner track of STD-901 or STD-902	1. Observe RF at CH1 of the oscilloscope at TRK Servo ON. 2. Adjust VR606 until the amplitude of the waveform reaches its maximum and the envelope is very clear.	
5 Tangential direction angle adjustment for A-side play	Carriage assembly TAN adjustment screw for A-side play	• Oscilloscope • STD-901 or STD-902 • Screwdriver (Medium)	CN106 ③ pin (RF)	• Test mode TRK servo ON Tilt servo ON • Outermost track of STD-901 or STD-902 (position where TAN screw can be seen)	Note : Be careful not to turn the TAN adjustment screw past its limit. 1. Observe RF at CH1 of the oscilloscope at TRK Servo Close. 2. Turn TAN adjustment screw for A-side until the amplitude of the waveform reaches its maximum and the envelope is very clear. After adjustment, stabilize the screw with an adhesive.	
6 Fine centering adjustment for A-side play	Mechanism assembly Centering adjustment screw for A-side play	• Oscilloscope • STD-901 or STD-902 • MIX resistor 	CN106 X : ⑨ pin (TRK ERR) Y : ①+② pin (TRK SUM)	• Test mode TRK servo OFF Tilt servo ON • Innermost track of STD-901 or STD-902 which does not come in contact with the mechanical stopper.	Note : Be careful not to turn the centering adjustment screw past its limit. Perform fine centering adjustment again by following the same procedure as in "Coarse centering adjustment for A-side play" (2). After adjustment, stabilize the screw with an adhesive.	
7 Crosstalk check and tilt offset adjustment.	VR607	• TV monitor • GGV1003	Crosstalk check screen	• Test mode TRK servo ON Tilt servo ON • GGV1003 still #115	1. Search for address #115 of GGV1003 and still the address 2. Check the crosstalk. If the crosstalk is pronounced, adjust VR607 until the crosstalk is not noticeable.	
When the crosstalk is still noticeable in spite of the adjustment in (7), after carrying out the adjustment in (1) and bringing the tilt indication to T-6 to T-8, use a hexagonal wrench driver (straight type, size : 3mm) to adjust the TAN adjustment screw on the bottom side of the player through the GGV1003 # 115 STILL screen. Afterwards, perform the adjustment procedures from (6).						

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram	
8	FCS Servo loop gain adjustment (Perform with either method A or B)	A	VR604	<ul style="list-style-type: none"> Oscilloscope GGV1003 AF Oscillator Resistor (47kΩ) 	CN106 X : ⑦ pin FCS IN Y : ⑥ pin FCS ERR	<ul style="list-style-type: none"> Test mode TRK servo ON Tilt servo ON GGV1003 #15,000still 	1. Xch : Connect to ⑦ pin with 47kΩ Ych : Connect to ⑥ pin 2. Search #15,000 of GGV1003 and still the address. 3. Connect AF oscillator between Xch and 47kΩ and adjust VR604 until Lissajous' figure is a circle.	
		B	VR604	<ul style="list-style-type: none"> Oscilloscope GGV1003 Clip etc. (Short GND—⑦ pin) 	CN106 X : — Y : ⑥ pin FCS ERR ⑦ pin GND (⑦, ⑥ pin Short)	<ul style="list-style-type: none"> Test mode Stop mode F-1 	1. Ych : connect to ⑥ pin. Drop ⑦ pin to GND. 2. Put in GGV1003, press reverse side of skip key and bring F-0 to F-1. 3. Press brake and adjust VR604 until the waveform level is 2.6 Vp-p ±0.1 V.	
9	TRK Servo loop gain adjustment (Perform with either method A or B)	A	VR603	<ul style="list-style-type: none"> Oscilloscope GGV1003 AF Oscillator Resistor (47kΩ) 	CN106 X : ⑩ pin TRK IN Y : ⑨ pin TRK ERR	<ul style="list-style-type: none"> Test mode TRK servo ON Tilt servo ON GGV1003 #15,000still 	1. Xch : Connect to ⑩ pin with 47kΩ Ych : Connect to ⑨ pin 2. Search #15,000 of GGV1003 and still the address. 3. Connect AF oscillator between Xch and 47kΩ and adjust VR603 until Lissajous' figure is a circle.	
		B	VR603	<ul style="list-style-type: none"> Oscilloscope GGV1003 	CN106 X : — Y : ⑨ pin TRK ERR	<ul style="list-style-type: none"> Test mode TRK servo ON Tilt servo ON F-1 GGV1003 #15,000still 	1. Ych : connect to ⑨ pin. 2. Search #15,000 of GGV1003 and still the address. 3. Adjust VR603 until the waveform level is 1.6 Vp-p ±0.1 V.	
10	RF level adjustment	VR601	<ul style="list-style-type: none"> Oscilloscope GGV1003 	CN106 ③ pin (RF)	<ul style="list-style-type: none"> Test mode TRK servo ON Tilt servo ON GGV1003 #15,000still 	1. Search for address #15,000 of GGV1003, still the address, and observe RF at CH1. 2. Adjust VR601 until RF amplitude is 300mVp-p ±50 mV.		
11	Coarse centering adjustment for B-side play	Centering adjustment screw for B-side play	<ul style="list-style-type: none"> Oscilloscope GGV1003 MIX resistor ⊖ Screwdriver (Large) 	CH1 : CN106—9 (TRKG ERR) CH2 : CN106—1 and 2 (TRKG SUM) (X-Y mode)	<ul style="list-style-type: none"> Test mode #100still TRK servo ON/OFF Tilt servo ON 	Note : Be careful not to turn the centering adjustment screw past its limit. 1. Move carriage Ass'y toward B-side and still with test disc #100. (TRKG ON) 2. Observe TRK ERR (Xch) and TRK SUM (Ych) at the X-Y mode during TRK Servo OFF. 3. Turn centering adjustment screw for B-side play until the Lissajous' figure is horizontal.		
12	Tangential direction angle adjustment for B-side play	TAN adjustment screw for B-side play	<ul style="list-style-type: none"> Oscilloscope GGV1003 ⊕ Screwdriver (Medium) 	Video output terminal (TV monitor)	<ul style="list-style-type: none"> Test mode #115still TRK servo ON Tilt servo ON 	Note : Be careful not to turn the TAN adjustment screw past its limit. 1. Move carriage Ass'y toward B-side and still with test disc #115. (TRKG ON) 2. Turn TAN adjustment screw for B-side play until RF waveform amplitude is at its maximum. 3. Check to see that crosstalk on monitor screen is at its minimum.		
13	Fine centering adjustment for B-side play	Centering adjustment screw for B-side play	<ul style="list-style-type: none"> Oscilloscope GGV1003 MIX resistor ⊖ Screwdriver (Large) 	CH1 : CN106—9 (TRKG ERR) CH2 : CN106—1 and 2 (TRKG SUM) (X-Y mode)	<ul style="list-style-type: none"> Test mode #100still TRK servo ON/OFF Tilt servo ON 	Perform fine adjustment again following same steps as in procedure (11) "Coarse centering adjustment."		

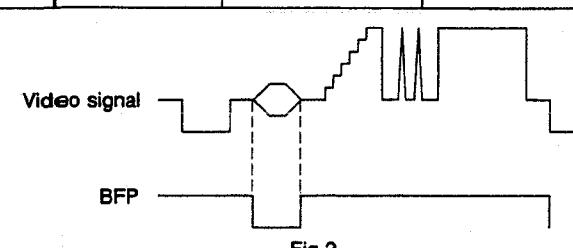
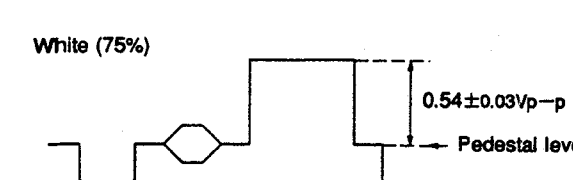
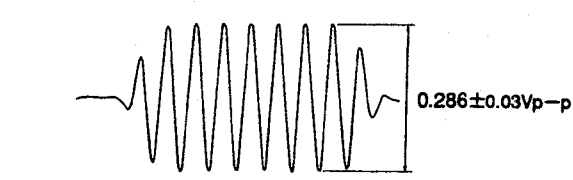
1.5.6 ELECTRICAL ADJUSTMENT

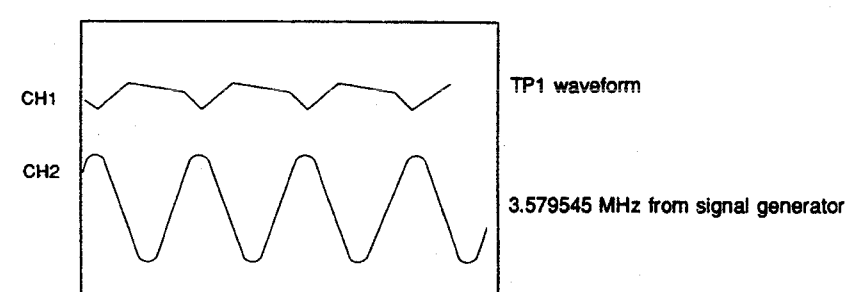
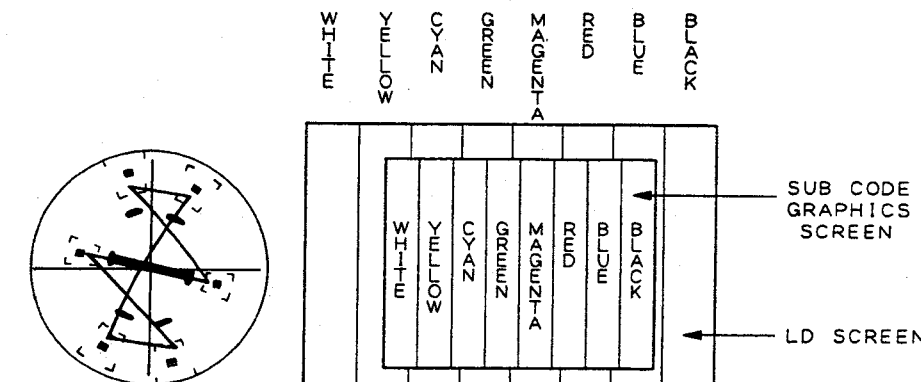
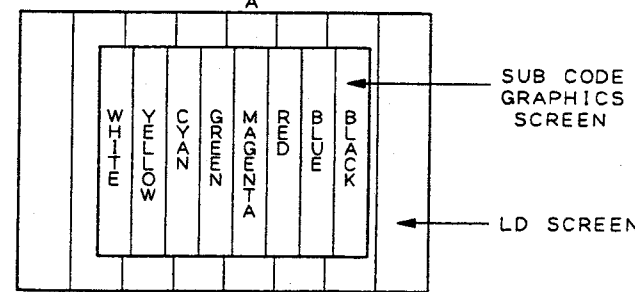
ADJUSTMENT TABLE OF MAIN ASSY

Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
1 PLL offset adjustment	VR612	<ul style="list-style-type: none"> Oscilloscope DC Volt meter STD-901 or STD-902 (or LDD disc) 	Digital sound terminal W435	<ul style="list-style-type: none"> Test mode Tilt servo ON TRK servo ON/OFF Digital sound play 	<p>With TRK Servo OFF, play digital sound and coarsely adjust VR612 so that sound is produced.</p> <p>Connect W435 and DC voltmeter and while playing digital sound, turn TRK Servo on and off. Adjust VR612 so that DC voltage difference between ON and OFF conditions is $0 \pm 0.05V$.</p>	
3 Master clock adjustment	VC901	<ul style="list-style-type: none"> Frequency counter 	W616	<ul style="list-style-type: none"> POWER ON STOP 	<p>Connect 14MHz TP(W616) and frequency counter. Adjust VC901 so that frequency with power ON (stop) is $14.31818MHz \pm 10Hz$.</p>	
3 Video level adjustment (1)	VR450 (VIDEO LEV.1)	<ul style="list-style-type: none"> Oscilloscope GGV1003 	<ul style="list-style-type: none"> IC400 (PA0058A) ② pin 	<ul style="list-style-type: none"> Normal mode GGV1003 #19,900still 	<p>Connect IC400 ② pin and oscilloscope. When stilled with GGV1003 #19,900 (composite), measure video signal. Adjust VR450 until level from sync tip to 100% white becomes $1.633Vp-p \pm 3\%$.</p>	
4 Video level adjustment (2)	VR611	<ul style="list-style-type: none"> TV monitor Oscilloscope GGV1003 	<p>Video output terminal (75Ω terminated) (NOTE1)</p>	<ul style="list-style-type: none"> Normal mode GGV1003 #19,900still 	<p>Connect video output terminal and oscilloscope. (video output terminal is terminated with 75Ω)</p> <p>When stilled with GGV1003 #19,900 (composite), measure video signal and adjust VR611 until level from pedestal to 100% white becomes $0.714Vp-p \pm 5\%$.</p>	
5 Composite sync level adjustment	VR591	<ul style="list-style-type: none"> TV monitor Oscilloscope GGV1003 	<p>Video output terminal (75Ω terminated) (NOTE1)</p>	<ul style="list-style-type: none"> Normal mode GGV1003 #19,900still 	<p>Connect video output terminal and oscilloscope. (video output terminal is terminated with 75Ω)</p> <p>When stilled with GGV1003 #19,900 (composite), measure video signal and adjust VR591 until level from sync tip to 100% white becomes $1.0Vp-p \pm 5\%$.</p>	

Note1 : It is possible to terminate video output terminal with 75Ω by connecting TV monitor.

1.5.7 GRPB ASS'Y ADJUSTMENT ※CLD-V850/KU and KC only

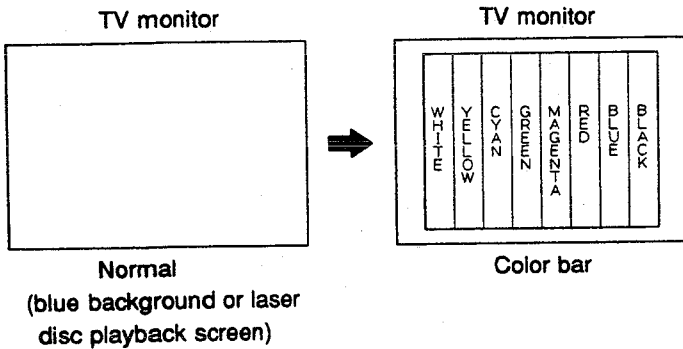
Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure
BFP adjustment	VR3154	• Oscilloscope	CN3151-1 (C2113) TP-2	• NORMAL #19,900still	Observe the CN3151-1 (C 2113) video signal and TP2 waveform when the system is put into still mode with # 19.900 of GGV1003. Adjust VR3154 so that the timing of the burst section of the video signal is as in Figure 2.
 <p>Fig.2</p>					
Graphic output level adjustment	VR3153	• Oscilloscope or • Waveform monitor	CN3151-3 (C2201)	• COLOR BAR	In Color Bar mode, connect the oscilloscope to CN3151-3 (C2201) and observe the subcode graphics waveform. Adjust VR3153 so that the voltage of the white level (75%) waveform from the pedestal level is $0.54 \pm 0.03 V_{p-p}$. (Figure 3)
 <p>Fig.3</p>					
Burst level adjustment	VR3152	• Oscilloscope • Waveform • TV monitor	CN3151-3 (C2201)	• COLOR BAR	In Color Bar mode, connect the oscilloscope and CN3151-3 (C2201) and observe the subcode graphics waveform. Adjust VR3152 so that the color burst level is $0.286 \pm 0.03 V_{p-p}$. (Figure 4)
 <p>Fig.4</p>					

Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure
3.58MHz free-run frequency adjustment	VC3151	• Frequency counter • Oscilloscope (SIGNAL GENERATOR : S.G)	TP-1	• NORMAL • COLOR BAR	Remove CN2101 from the GRPB assembly. With the system in Normal mode, connect the frequency counter to TP1 and adjust VC 3151 so that the frequency is $3.579545 \text{ MHz} \pm 3\text{Hz}$. If it is difficult to adjust with the above method, use the following method. Set a signal generator to 3.579545 MHz and input it to CH2 of the oscilloscope. Connect TP1 and CH1 of the oscilloscope and trigger with CH2. Adjust VR3151 so that both the CH1 and CH2 waves stand still.
 <p>Fig.5</p>					
<p>Note : During this adjustment, the video signal from the laser disc player must not be input to Pin 20 of IC3151. That is why the adjustment is made with CN2101 removed from the GRPB ass'y.</p>					
APC adjustment	VR3151	• TV monitor or • Vector scope	Video out	• COLOR BAR	In Color Bar Mode, connect the player V output terminal and the vector scope. Set to still with #5450 of GGV1003 and adjust VR3151 so that the phase difference is no greater than $\pm 5^\circ$ between the subcode graphics color bars on the vector scope and the playback laser disc color bars. (Figure 6)
 <p>Fig.6</p>					
 <p>Fig.7</p>					
<p>If you do not have a vector scope, display the subcode graphics and playback laser disc color bars together on the TV monitor, compare them, and adjust VR3151 so that there is no color phase distortion. (Figure 7)</p>					

● GRPB ASS'Y ADJUSTMENT PRECAUTIONS

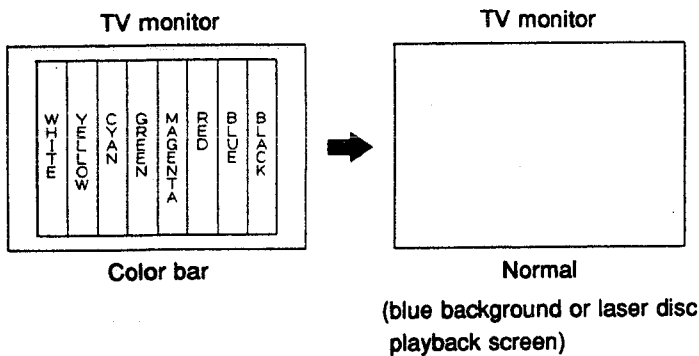
1. Entering the graphics board operating modes

① Normal → Color Bar :



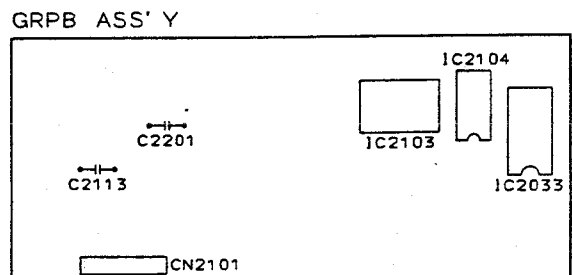
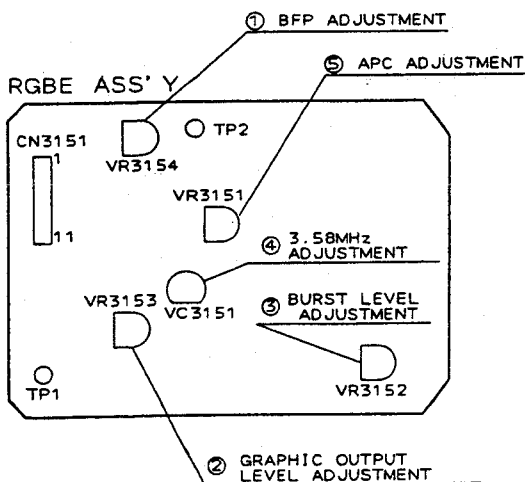
With the power on, if you press the **ESC** key on the dedicated test mode remote controller (GGF1067), then press the **GRAPHIC** button on the player itself or on the accessory remote controller, the color bars appear on the TV monitor screen. In this adjustment, this state is called Color Bar mode. These color bars are called subcode graphics to differentiate them from the color bars that appear when a laser disc is played.

② Color Bar → Normal :



If you send with the same procedure as in ①, the subcode graphics disappear from the screen.

2. GRPB ASS'Y adjustment location



1.6 PARTS LIST FOR PACKING AND EXPLODED VIEWS

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- Parts list without notice are common for CLD-V850/KU, CLD-V850/KC and CLD-2730K/RD.

1.6.1 PACKING

(1) FOR CLD-V850/KU

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
NSP	1	Pad(R)	VHA1148		16	.....
	2	Pad(L)	VHA1147		17	Operating instructions(French)	VRD1024
	3	Packing case	VHG1358	NSP	18	Warranty card	ARY1039
	4	Mic(DM-21A)	VPM1006		19	Operating instructions(English)	VRB1119
	5	Mic holder	VHC1013	NSP	20	Polyethylene bag	VHL-014
	6	Battery cover	PZN1012	NSP	21	Catalog	VRY1051
	7	Remote control unit	VXX2068	NSP	22	Tape	Z11-061
	8	Mirror mat sheet	VHL1012	NSP	23	Sample disc	KS-01
	9	Audio cord	VDE1033				
	10	Video cord	VDE1034				
NSP	11	Battery (R03, AAA)	VEM-022				
NSP	12	Polyethylene bag	Z21-029				
	13	Caution label	VRM1044				
	14	.....				
NSP	15	Caution (UC)	VRR1020				
	16	.....				
	17	.....				
NSP	18	Warranty card	ARY1044				
	19	Operating instructions(English)	VRB1119				
NSP	20	Polyethylene bag	VHL-014				
NSP	21	Catalog	VRY1051				
NSP	22	Tape	Z11-061				
NSP	23	Sample disc	KS-01				

Note: The microphone, software catalog and sample disc are special items for the commercial campaign. Accordingly, they cannot be supplied as service parts.

(3) FOR CLD-2730K/RD

Mark	No.	Description	Parts No.
	1	Pad(R)	VHA1148
	2	Pad(L)	VHA1147
	3	Packing case	VHG1357
	4	Mirror mat sheet	VHL1012
NSP	5	Battery (R03, AAA)	VEM-022
	6	Video cord	VDE1034
	7	Audio cord	VDE1033
NSP	8	Polyethylene bag	Z21-029
NSP	9	Caution (UC)	VRR1020
	10	Battery cover	PZN1012
	11	Remote control unit	VXX2069
	12	Operating instructions (English, Spanish, Chinese)	VRB1118
NSP	13	R, R/G Caution	ARR-007
	14	Polyethylene bag	VHL-014
	15	Warranty card	ARW1020
	16	Caution label	VRM1044
	17	UPC cord label	VRW1409

(2) FOR CLD-V850/KC

Mark	No.	Description	Parts No.
NSP	1	Pad(R)	VHA1148
	2	Pad(L)	VHA1147
	3	Packing case	VHG1358
	4	Mic(DM-21A)	VPM1006
	5	Mic holder	VHC1013
	6	Battery cover	PZN1012
	7	Remote control unit	VXX2068
	8	Mirror mat sheet	VHL1012
	9	Audio cord	VDE1033
	10	Video cord	VDE1034
NSP	11	Battery (R03, AAA)	VEM-022
NSP	12	Polyethylene bag	Z21-029
	13	Caution label	VRM1044
	14	KC label	VRW1402
NSP	15	Caution (UC)	VRR1020

1.6.2 EXTERIOR AND DISC TRAY SECTION

(1) CONTRAST OF CLD-V850/KU, CLD-V850/KC AND CLD-2730K/RD.

● CLD - V850/KU, CLD - V850/KC and CLD - 2730K/RD have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		
			CLD - V850/KU	CLD - V850/KC	CLD - 2730K/RD
NSP	20	CD door	VNK2717	VNK2717	VNK2716
	23	Tray panel	VNK2712	VNK2712	VNK2711
	26	Tray panel ASSY - S	VXX2056	VXX2056	VXX2055
	34	65 Label	ORW1069	Not used	Not used

(2) PARTS LIST FOR CLD-V850/KU

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
NSP	1	Bonnet S	VXX1932	NSP	21	Damper ASSY	VXA2112
	2	Screw	BCZ40P060FZK		22	KARAOKE badge	VAM1034
	3	Screw	BBT30P080FCC		23	Tray panel	VNK2712
	4	Damp cushion	VEC1602		24	Name plate	VAM1032
	5	Screw	VBA1032		25	Tray ASSY - S	VXX2035
NSP	6	Guide plate (R)	VNE1806	NSP	26	Tray panel ASSY - S	VXX2056
	7	Guide plate (L)	VNE1805		27	Disc pad (L)	VEC1657
	8	CD tray	VNK2395		28	Disc pad (C)	VEC1658
	9	Lock plate spring	VBH1188		29	Carry label	VRW1289
	10	Lock plate	VNL1513		30	.....
	11	Stop ring	VEB1091		31	T back	VNE1946
	12	Screw	BPZ30P060FCU		32	LD tray ASSY	VXA2085
	13	Cushion	VEC1660		33	Screw	BPZ30P080FCU
	14	LD tray	VNK2394		34	65 Label	ORW1069
	15	Damp cushion	VEC1110				
	16	Door spring	VBH1223				
	17	Door shaft	VLL1441				
	18	Screw	IPZ20P050FMC				
	19	Door holder	VNE1905				
	20	CD door	VNK2717				

1.6.3 TOP VIEW SECTION

(1) CONTRAST OF CLD-V850/KU, CLD-V850/KC AND CLD-2730K/RD.

● CLD - V850/KU, CLD - V850/KC and CLD - 2730K/RD have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		
			CLD - V850/KU	CLD - V850/KC	CLD - 2730K/RD
NSP	3	PCB holder(G)	VNE1953	VNE1953	VNE1895
	6	Screw	IBZ30P080FCC	IBZ30P080FCC	Not used
	10	GRPB ASSY	VWV1319	VWV1319	Not used
	12	└─ RGBE ASSY	VWV1335	VWV1335	Not used
	11	Angle(G)	VNE1934	VNE1934	Not used

(2) PARTS LIST FOR CLD-V850/KU

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	Screw	BBT30P080FCC	NSP	7	P plate holder	PNY-405
	2	Center angle	VNE1897		8	Screw	BBT30P080FCC
	3	PCB holder(G)	VNE1953		9	Screw	IBZ30P080FCC
	4	.....			10	GRPB ASSY	VWV1319
	5	Damper plate	VBK1045		11	Angle(G)	VNE1934
	6	Screw	IBZ30P080FCC	NSP	12	RGBE ASSY	VWV1335
					13	Earth plate	VNE1518

CLD-V850, CLD-2730K

1.6.4 FRONT PANEL SECTION

(1) CONTRAST OF CLD-V850/KU, CLD-V850/KC AND CLD-2730K/RD.

● CLD - V850/KU, CLD - V850/KC and CLD - 2730K/RD have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		
			CLD - V850/KU	CLD - V850/KC	CLD - 2730K/RD
NSP	1	Front panel ASSY-S	VXX2089	VXX2089	VXX2061
	2	Front panel	VNK2723	VNK2723	VNK2718
	4	FL Panel(4)	VEC1688	VEC1688	Not used
	4	FL Panel(2)	Not used	Not used	VEC1690
	12	L key (R)	VNK2670	VNK2670	VNK2760
	17	FLKB ASSY	VWG1563	VWG1563	VWG1562

(2) PARTS LIST FOR CLD-V850/KU

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
NSP	1	Front panel ASSY-S	VXX2089	NSP	16	PONB ASSY	VWG1548
	2	Front panel	VNK2723		17	FLKB ASSY	VWG1563
	3	Cushion	VEC1497		18	JACB ASSY	VWV1390
	4	FL Panel(4)	VEC1688		19	DIKB ASSY	VWG1546
	5	VR knob(S)	VNK2671		20	Headphone knob	PAC1707
NSP	6	VR knob(L)	VNK2674	21	Main key	VNK2666	
	7	Plastic rivet	VEC1298	22	Volume holder	VNE1933	
	8	NRPB (PC board)	VNZ1546	23	ABKB ASSY	VWG1547	
	9	PW button	VNK2668	24	Screw	BPZ26P080FMC	
	10	L key (L)	VNK2669	25	Rubber spacer	VEB1219	
	11	LED lens	PNW2019				
	12	L key (R)	VNK2670				
	13	10 key (L)	VNK2724				
	14	10 key (R)	VNK2664				
	15	Slide knob	VNK2675				

1.6.5 DISC CLAMPER SECTION

Mark	No.	Description	Parts No.
	1	Ball holder	VNL1616
	2	Steel ball	VNX1013
	3	LD hub	VNT1047
	4	Ball cover	VNL1602
	5	Cover spring	VBH1234
	6	LD spring	VBH1240
	7	Clamper head	VNL1603
	8	Clamper	VNL1604
	9	Clamp spring	VBH1239
	10	Rubber sheet	VEB1114
	11	Ball holder	VNL1289
	12	Center plate	VNE1898
	13	Clamper holder	VNL1605
	14	Stabilizer	VNE1906
	15	Screw	CPZ20P060FMC

1.6.6 BOTTOM VIEW SECTION

(1) CONTRAST OF CLD-V850/KU, CLD-V850/KC AND CLD-2730K/RD.

● CLD-V850/KU, CLD-V850/KC and CLD-2730K/RD have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.		
			CLD-V850/KU	CLD-V850/KC	CLD-2730K/RD
△	6	Power supply ASSY	VWR1200	VWR1200	VWR1201
	7	AC power cord	PDG1015	PDG1015	PDG1056
	8	AC cord stopper	CM-22C	CM-22C	CM-22B
	9	Rear panel	VNA1418	VNA1446	VNA1419
	11	MAIN ASSY	VWS1144	VWS1144	VWS1146
△	36	Voltage selector	Not used	Not used	VSB1004
	37	Tube for voltage selector	Not used	Not used	VEC1675

(2) PARTS LIST FOR CLD-V850/KU

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
NSP	1	Base chassis	VNA1353		21	Screw	BBZ30P060FCC
	2	Insulator ASSY	VXA1998		22	Side stay	VNE1896
	3	Board spacer	VEC1623	NSP	23	Side stay (R)	VNE1810
NSP	4	PCB spacer	PNY-404		24	.....
NSP	5	PCB stay	VEC1174		25	AC cord tube	VEC1651
△	6	Power supply ASSY	VWR1200		26	PCB holder	VEC1624
	7	AC power cord	PDG1015	NSP	27	Side stay (L)	VNE1809
	8	AC cord stopper	CM-22C		28	KFCB ASSY	VWV1394
	9	Rear panel	VNA1418		29	.....
	10	Tray stopper	VNL1600		30	.....
	11	MAIN ASSY	VWS1144		31	Screw	IBZ30P080FCC
NSP	12	Damp cushion	VEC1110	NSP	32	HM spacer	VEB1215
	13	Carriage stopper	VNE1919	NSP	33	EXTC ASSY	VWG1549
NSP	14	Damp cushion	VEC1602		34	.....
	15	Screw	BBZ30P080FMC	NSP	35	Wire clamp (A)	VEC1217
	16	Screw	BBT30P080FCC		36	.....
	17	Screw	BPZ30P140FMC		37	.....
	18	Screw	BBZ30P040FMC				
NSP	19	Cord holder	Z09-061				
	20	Front angle	VNE1894				

1.6.7 MECHANISM SECTION

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	Mech. base	VNK1990		16	CAS spring	VBH1190
	2	Clamp cam	VNL1621		17	Shaft holder	VNE1817
	3	Cam gear	VNL1507		18	Rubber belt	VEB1184
	4	CD plate	VNL1576		19	Synchro gear ASSY	VXA1822
	5	Cam plate	VNL1511	NSP	20	LOSB ASSY	VWG1471
NSP	6	Carriage motor	VXM1033		21	Screw	BMZ26P040FMC
	7	Roller	VNL1042		22	Screw	Z39-019
	8	Motor pulley	PNW1643	NSP	23	LOMB ASSY	VWG1470
	9	L-SW lever	VNL1504				
	10	C-SW lever	VNL1505				
	11	R-SW lever	VNL1506				
	12	Center gear	VNL1509				
	13	Twin gear	VNL1508				
	14	Gear pully	VNL1510				
	15	CDP spring	VBH1191				

CLD-V850, CLD-2730K

1.6.8 MECHANISM ASSY

Mark	No.	Description	Parts No.
	1	Tilt base (Upper)	VNB1027
	2	Rack (Upper)	VNL1560
	3	Rack spring (Upper)	VBH1213
	4	CA shaft (Upper)	VLL1446
	5	Screw	PMZ20P070FMC
	6	Shaft support	VNL1563
	7	Support spring	VBH1236
	8	Screw	IPZ30P060FMC
	9	B cam spring	VBH1233
	10	B cam	VNL1564
	11	Lever spring	VBH1214
	12	Turn SW	DSK1003
	13	R plate ASSY	VNL1566
	14	Screw	BBZ26P060FMC
	15	TM rack	VNL1556
	16	Screw	CBZ26P060FMC
	17	Turn gear	VNL1565
	18	TM support	VNE1888
	19	Washer	YE20FUC
	20	Washer	WA32D080D080
NSP	21	Head lock	VNL1580
	22	CNNB ASSY	VWG1469
	23	TAN guide	VNE1887
	24	Rack (lower)	VNL1567
	25	Rack spring (lower)	VBH1215
	26	Screw	BBZ30P060FMC
	27	SW base	VNE1886
	28	Screw	PBZ26P060FMC
	29	Slide SW	OSHI001
	30	Screw	PMZ20P060FMC
	31	.....
	32	Thrust spring	VBH1235
	33	Tilt spring	VBH1218
	34	Key lock	VBK1044
	35	CB holder	VNL1618
△	36	SPDL motor ASSY	VXA1986
	37	Screw	PMA30P050FMC
	38	Y gear	VNL1501
	39	Washer	WT26D060D025
	40	Tilt cam spring	VBH1189
	41	FG base	VNL1577
NSP	42	FG ASSY	VWG1472
	43	Tilt base (lower)	VNL1555
	44	MK flexible cable	VNP1439
	45	Screw	ABZ30P060FMC
	46	TM guide	VNL1558
	47	Screw	PPZ20P080FMC
	48	CA shaft (lower)	VLL1447
NSP	49	SPDL motor	VXM1053
	50	Oil stopper washer	VBF1002
NSP	51	Turn table ASSY	VXA1760
NSP	52	Rubber sheet	VEB1135
	53	Centering spring	VBH1024
	54	PRC hub	VNL1612
	55	PRC table	VNL1613

Mark	No.	Description	Parts No.
	56	Screw	CPZ20P060FMC
	57	Lock lever	VNL1562
	58	Tilt cam	VNL1559
	59	Spacer	VEB1020
NSP	60	Earth lead unit	VDA1455
	61	Screw	Z39-019
NSP	62	Stop cushion	VEC1605
	63	Carriage ASSY	VWT1100
	64	Motor base	VNE1889

1.6.9 CARRIAGE ASSY

Mark	No.	Description	Parts No.
	1	TAN plate ASSY	VXA1981
	2	Screw	BMZ20P080FMC
	3	TAN spring (B)	VBH1217
	4	TAN lever (B)	VNL1569
	5	.....
	6	TAN lever (A)	VNL1568
	7	TAN spring (A)	VBH1237
	8	Screw	VBA1016
	9	Screw	Z39-026
NSP	10	Shaft holder	VNT1042
	11	Limit SW	OSHI001
	12	Screw	PMZ20P060FMC
	13	Screw	BBZ26P060FZK
	14	Screw	BPZ26P060FMC
	15	Flexible holder	VNL1579
NSP	16	Screw	PPZ20P060FZK
	17	Washer	WT17D034D050
NSP	18	Gear (C)	VNL1572
	19	Gear (B)	VNL1571
	20	Screw	PMA20P040FMC
NSP	21	Motor holder ASSY	VNL1584
	22	Gear (E)	VNL1574
	23	Gear (F)	VNL1575
	24	.....
NSP	25	Gear (D)	VNL1573
NSP	26	Gear shaft	VLL1448
NSP	27	PCB	VNP1425
NSP	28	ZH connector	B2B-ZR
NSP	29	Slider motor	VXM1027
	30	Gear (A)	VNL1570
	31	Box cover	VNL1578
	32	Housing ASSY	VKP1852
NSP	33	Pickup ASSY	VWY1037
	34	Motor holder ASSY-S	VXX2015
	35	Slider motor ASSY	VXX2014

1.7 PCB PARTS LIST

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	→	56 × 10 ¹	→	561	RD1/8PM	<table border="1"><tr><td>5</td><td>6</td><td>7</td></tr></table> J	5	6	7
5	6	7								
47kΩ	→	47 × 10 ³	→	473	RD1/4PS	<table border="1"><tr><td>4</td><td>7</td><td>3</td></tr></table> J	4	7	3
4	7	3								
0.5Ω	→	0R5			RN2H	<table border="1"><tr><td>0</td><td>R</td><td>5</td></tr></table> K	0	R	5
0	R	5								
1Ω	→	010			RS1P	<table border="1"><tr><td>0</td><td>1</td><td>0</td></tr></table> K	0	1	0
0	1	0								

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	→	562 × 10 ¹	→	5621	RN1/4PC	<table border="1"><tr><td>5</td><td>6</td><td>2</td><td>1</td></tr></table> F	5	6	2	1
5	6	2	1								

● LIST OF WHOLE PCB ASSEMBLIES

Mark	PCB Assemblies	Part No.			Remarks
		CLD-V850/KU	CLD-V850/KC	CLD-2730K/RD	
	MAIN ASSY	VWS1144	VWS1144	VWS1146	
NSP	FRPB ASSY	VWM1517	VWM1517	VWM1516	
	├── FLKB ASSY	VWG1563	VWG1563	VWG1562	
NSP	├── DIKB ASSY	VWG1546	VWG1546	VWG1546	
NSP	├── ABKB ASSY	VWG1547	VWG1547	VWG1547	
NSP	├── PONB ASSY	VWG1548	VWG1548	VWG1548	
NSP	└── JACB ASSY	VWV1390	VWV1390	VWV1390	
NSP	KRAB ASSY	VWM1510	VWM1510	VWM1510	
NSP	├── EXTC ASSY	VWG1549	VWG1549	VWG1549	
	└── KFCB ASSY	VWV1394	VWV1394	VWV1394	
	GRP ASSY	VWV1319	VWV1319	Not used	
NSP	└── RGBE ASSY	VWV1335	VWV1335	Not used	
	POWER SUPPLY ASSY	VWR1200	VWR1200	VWR1201	
NSP	MACB ASSY	VWM1420	VWM1420	VWM1420	
NSP	├── CNNB ASSY	VWG1469	VWG1469	VWG1469	
NSP	├── LOMB ASSY	VWG1470	VWG1470	VWG1470	
NSP	├── LOSB ASSY	VWG1471	VWG1471	VWG1471	
NSP	└── FG ASSY	VWG1472	VWG1472	VWG1472	

● CONTRAST OF PCB ASSEMBLIES

POWER SUPPLY ASSY

VWR1200 and VWR1201 have the same construction except for the following:

Mark	Symbol & Description	Part No.	
		VWR1200	VWR1201
	R61	VCN1035	VCN1037

CLD-V850, CLD-2730K

MAIN ASSY

VWS1144 and VWS1146 have the same construction except for the following:

Mark	Symbol & Description	Part No.	
		VWS1144	VWS1146
C676	C677,C678,C695,C696	CEAS100M50	Not used
		CKSQYF104Z25	Not used
CN310,CN604	CN602	B2B-PH-K-S	Not used
		B4B-PH-K-S	Not used
IC702		TC74HC4053AP	Not used
J27		PF06PG-C15	Not used
R675,R676		RSI/10S332J	Not used
R9003		RSI/10S223J	Not used
R9014		RD1/6PM682J	Not used
R603		Not used	RSI/10S000J

FLKB ASSY

VWG1563 and VWG1562 have the same construction except for the following:

Mark	Symbol & Description	Part No.	
		VWG1563	VWG1562
	D114	SEL6410E	Not used
	Q107	DTC114ES	Not used
	R128	RD1/6PM181J	Not used
	S102,S105	RSG1030	Not used

● PARTS LIST FOR CLD-V850/KU

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
MAIN ASSY			SEMICONDUCTORS		
	IC202,IC205,IC804,IC903	BA4560F	D202		11EQS06
	IC351	CA0002AM	D102,D203,D204,D450		1SS254
	IC803	LA6510L	D905-D907,D963,D964		1SS254
	IC802	LC78681E	D903		DAN202K
	IC206	NJM78L08A	D201		FC54M
	IC207	NJM79L08A	COILS AND FILTERS		
	IC401	PA0023AD	L413		LAU100J
	IC400	PA0058A	L810		LAU101J
	IC801	PAC002A	L414		LAU120J
	IC901	PAC003A	L802-L804		LAU121J
	IC500	PD0146A	L351		LAU181J
	IC101	PD0184C	L201-L206,L352,L412,L461		LAU220J
	IC603	PD0198A	L800,L801		LAU220J
	IC201	PD2026B(L)	L411,L470,L471,L571		LAU270J
	IC902	TA8464K	L590,L591		LAU270J
	IC702	TC74HC4053AP	L410		LAU330J
	Q102,Q154,Q474,Q580,Q591	2SA1037K	L420,L421		LAU390J
	Q793,Q802,Q912,Q963	2SA1037K	L430,L462		LAU560J
	Q834	2SB1237X	L460		LFA561J
	Q794,Q795	2SC1740S	F580		VTF1054
	Q201,Q202,Q410,Q411	2SC2412K	SWITCHES AND RELAYS		
	Q442-Q444,Q460,Q475	2SC2412K	S201		VSH1009
	Q611-Q613,Q621,Q681,Q801	2SC2412K	CAPACITORS		
	Q805,Q903-Q905,Q907-Q909	2SC2412K	C562		CCSQCH050C50
	Q911,Q913,Q917	2SC2412K	C420,C428,C434,C436,C438		CCSQCH070D50
	Q152,Q803,Q804	2SC3802K	C475,C595		CCSQCH070D50
	Q204,Q205,Q214	2SD2144S	C159,C552,C621,C809,C811		CCSQCH100D50
	Q962	2SK184	C163,C258,C259,C370,C414		CCSQCH101J50
	Q207,Q208,Q216,Q497,Q916	DTA124EK	C464,C798		CCSQCH101J50
	Q103,Q206,Q217,Q461	DTC124EK	C437		CCSQCH120J50
			C416,C814,C846,C848		CCSQCH121J50
			C232,C474,C594		CCSQCH150J50
			C161,C353,C810		CCSQCH151J50

CLD-V850, CLD-2730K

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
C352, C477, C597 C220, C452, C540, C542, C554 C579 C162, C417, C421, C544, C591 C812, C935	CCSQCH180J50 CCSQCH220J50 CCSQCH220J50 CCSQCH221J50 CCSQCH221J50	C496, C570 - C573, C577, C578 C581, C788, C807, C834, C835 C843, C872, C876, C894, C929 C937, C961, C962 C102, C151, C155, C196 - C198	CKSQYF103Z50 CKSQYF103Z50 CKSQYF103Z50 CKSQYF103Z50 CKSQYF104Z25		
C371, C418, C419, C433 C106, C107, C354, C435, C563 C813 C351, C598, C931 C260 - C263, C409, C415, C478	CCSQCH270J50 CCSQCH330J50 CCSQCH330J50 CCSQCH390J50 CCSQCH470J50	C215, C254, C284, C285, C305 C308, C309, C365, C366 C372, C373, C411, C413, C423 C425, C432, C441, C443, C446 C451, C453, C460, C461, C471	CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25		
C543, C580, C596, C963 C787 C476 C375, C430, C448, C449, C553 C561, C806	CCSQCH470J50 CCSQCH471J50 CCSQCH560J50 CCSQCH680J50 CCSQCH680J50	C481, C485, C492, C494, C495 C531 - C533, C539, C541, C551 C574, C575, C582, C589, C590 C592, C593, C612, C614, C641 C677, C678, C684, C685	CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25		
C374 C462, C463 C611, C613, C640 C871 C985	CCSQCH820J50 CCSQCH910J50 CEAL470M16 CEANP100M25 CEANP101M10	C695, C696, C802, C804 C831, C832, C840, C841 C873, C874, C892, C901, C915 C928, C932, C981 C921	CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF104Z25 CKSQYF223Z50		
C274, C275, C972 C227, C281, C926 C838 C986 C904	CEANP220M10 CEANP2R2M50 CEANP470M10 CEANPR47M50 CEAS010M50	C837, C930 C103, C214, C280, C465, C808 C815, C847, C875, C877 C911, C912, C924, C925, C964 C971, C983, C984	CKSQYF333Z25 CKSQYF473Z25 CKSQYF473Z25 CKSQYF473Z25 CKSQYF473Z25		
C228, C367, C676, C902 C225, C226, C256, C364, C440 C450, C534, C535, C585, C588 C493 C922	CEAS100M50 CEAS101M10 CEAS101M10 CEAS102M10 CEAS220M10	C934 C903, C909 VC901	CQMA122J50 CQMA222J50 VCM - 008		
C976 C101, C230, C252, C253 C270, C271, C363, C369, C410 C412, C422, C424, C431, C445 C470, C484, C491, C530, C538	CEAS220M25 CEAS470M10 CEAS470M10 CEAS470M10 CEAS470M10	RESISTORS			
C801, C803, C833, C836, C842 C844, C927, C933, C974, C975 C207, C255, C257, C279, C442 C845 C368, C913	CEAS470M10 CEAS470M10 CEAS471M10 CEAS47M50 CEASR47M50	R241, R242 (4R7, 1/6W) R192, R193, R440, R441 R534 R180 R212, R213, R220, R221 R839, R840 R163 R909 R492 R9014 R173, R174 R171, R172, R175, R178 R259 - R262 R459, R484 VR611 VR606 VR601 VR450 VR605 VR591, VR603 VR604, VR607, VR612	DCN1001 RD1/6PM220J RD1/6PM221J RD1/6PM333J RD1/6PM470J RD1/6PM470J RD1/6PM471J RD1/6PM473J RD1/6PM4R7J RD1/6PM682J RN1/10SE103D RN1/10SE333D RN1/10SE473D RN1/6PQ2002F VRTB6VS102 VRTB6VS153 VRTB6VS222 VRTB6VS332 VRTB6VS333 VRTB6VS472 VRTB6VS473		
C970 C967, C968 C987 C550 C893	CEHAQ010M50 CEHAQ100M50 CEHAQ220M50 CEJA221M6R3 CEJA470M10	Other Resistors			
C278, C282 C482, C483, C908, C910, C920 C923 C359, C360, C905 C479	CFTXA152J50 CFTYA104J50 CFTYA124J50 CFTYA224J50 CFTYA683J50	RS1/10S□□□□J			
C891, C914, C936, C969 C110, C907 C919 C361, C362 C355 - C358, C888	CKSQYB102K50 CKSQYB222K50 CKSQYB332K50 CKSQYB392K50 CKSQYB472K50	OTHERS			
C105, C122, C156 - C158, C160 C191, C213, C231, C234, C251 C286, C288, C426, C427, C454	CKSQYF103Z50 CKSQYF103Z50 CKSQYF103Z50	3P Cable holder 5P Cable holder 11P Cable holder 6P Jumper connector 2mm Pitch wafer	51048 - 0300 51048 - 0500 51048 - 1100 52147 - 0610 53064 - 1010		

CLD-V850, CLD-2730K

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
CN106	11P Top post	B11P-SHF-1AA	C501,C502		CKPUYY103N16
CN310,CN604	Connector post	B2B-PH-K-S			
CN104	Connector post	B3B-PH-K-S	RESISTORS		
CN125	3P Top post	B3P-SHF-1AA	R122		RN1/6PQ5101F
CN107,CN127,CN602	KR Connector	B4B-PH-K-S	VR101,VR501,VR502 (2K · B)		VCS1034
CN126	KR Connector	B4B-PH-K-R		Other Resistors	RD1/6PM□□□J
CN110	5P Top post	B5B-EH			
J9	2mm Pitch flat cable(5P)	D20PDD0515E	OTHERS		
J4	2mm Pitch flat cable(3P)	D20PDY0345G	CN105	FJ Connector(8P)	08R-FJ
J27	Connector	PF06PG-C15	CN101	6P Jumper connector	52147-0610
JA3,JA4	Remote control jack	RKN1004	CN102	9P Jumper connector	52147-0910
CN105	2mm Pitch jumper connector(6P)	SBRK06S-4	CN106	Board to board connector(10P)	9133S-10A
CN103	24P Connector(straight type)	SLEM24S-2	CN501	2mm Pitch bottom connector plug	BTMK08P
	PCB Binder	VEF1040		Remote sensor	GP1U78R
JA13	RF Jack	VKB1029	CN103	2mm Pitch jumper connector(11P)	SBRK11S
JA14	1P Pin jack	VKB1063	V101	FL Tube	VAW1034
JA6	4P Pin jack	VKB1065		Spacer	VEC1599
J8	HOUSING ASS'Y(2P)	VKP2008		FL Holder	VNF1078
	Screw terminal	VNE1841	X101	Ceramic resonator	VSS1031
	IC Heat sink(AL)	VNE1921			
	Earth plate	VNF-091			
	MOTHER	VNP1399	DIKB ASSY		
X550	Crystal resonator	VSS1026	SWITCHES AND RELAYS		
X101	Ceramic resonator	VSS1040	S301-S322		RSG1030
X201	Crystal resonator	VSS1057			
			OTHERS		
			CN302		04R-FJ
			CN301		1068-10C-PP
FRPB ASSY					
OTHERS	PC Board	VNP1481	ABKB ASSY		
			SWITCHES AND RELAYS		
FLKB ASSY			S401,S402		RSG1030
SEMICONDUCTORS			OTHERS		
IC501		NJM4558D	CN401		04P-FJ
IC101		PD3284A			
IC102		S-806D	PONB ASSY		
Q102		DTA144ES	SEMICONDUCTORS		
Q101,Q104-Q110		DTC114ES	Q201		DTC114ES
			D201		SEL6C10S
D101-D109,D118		1SS252	SWITCHES AND RELAYS		
D111,D112,D114		SEL6410E	S202,S203		RSG1030
D113,D115-D117		SEL6910A	S201		VSH1005
COILS AND FILTERS			CAPACITORS		
L102		LAU470J	C201		CKPUYY103N16
SWITCHES AND RELAYS			RESISTORS		
S101-S111		RSG1030	VR201 (2K · B)		VCS1034
CAPACITORS				Other Resistors	RD1/6PM□□□J
C114,C117		CCPUSL330J50	OTHERS		
C105		CEAL100M16	CN201		08P-FJ
C101		CEAL100M50	JACB ASSY		
C103,C113		CEAL101M6R3	SEMICONDUCTORS		
C110		CEJA101M6R3	IC601		NJM2068D
C503		CFTYA104J50			
C106,C109		CKPUYB102K50			
C504		CKPUYB271K50			
C104		CKPUYF223Z25			
C102,C107,C108,C112		CKPUYY103N16			

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
COILS AND FILTERS			CAPACITORS		
L601		LFA221J	C120,C152-C154		CCSQCHI01J50
CAPACITORS			C133		CCSQCHI81J50
C614,C615		CEJA101M10	C111,C115		CCSQCH680J50
C613,C616		CKCYF473Z50	C122		CEAL100M16
C611,C612		CKPUYB101K50	C101,C102		CEALNP010M50
C617		CKPUYB102K50	C105,C106		CEALNP100M16
C605,C610		CKPUYX122M16	C121,C125,C127,C134		CEJA100M16
C601,C602		CKPUYY103N16	C148,C149		CEJA101M10
RESISTORS			C141,C147		CEJA101M6R3
VR601	(0.5KB)	VCS1035,	C126		CEJA330M16
	Other Resistors	RD1/6PM□□□J	C112,C118		CEJA470M6R3
OTHERS			C128		CFTYA104J50
CN603	2mm Pitch bottom connector	BTMK08S-1S	C110,C114,C132		CFTYA223J50
JA604	Headphone jack(6.5MM)	RKN1002	C119		CFTYA473J50
JA602	Headphone jack(3.5MM)	RKN1006	C109,C113		CKSQYB332K50
CN602	KR Connector	S4B-PH-K-S	C131		CKSQYB472K50
JA601,JA603	Mic jack	VKN1147	C103,C104,C108,C116,C117		CKSQYF103Z50
	Snap plate	VNE1102	C123,C124,C129,C130,C140		CKSQYF103Z50
	Jack holder(FE)	VNE1932	C142-C146,C150,C151,C201		CKSQYF103Z50
KRAB ASSY			C202		VCH1039
OTHERS			RESISTORS		
	PC Board	VNP1480	All Resistors		RS1/10S□□□J
EXTC ASSY			OTHERS		
CAPACITORS			CN106	2mm Pitch bottom connector	52084-1010
C301,C302		CCSQCH331J50	CN105	6P Jumper connector	52147-0610
OTHERS			CN202	KR Connector	B4B-PH-K-S
J311	6P Cable holder	51048-0600	CN201	KR Connector	B4B-PH-K-R
JA301	2mm Pitch flat cable(4P)	D20PDY0406B	J904	Connector	PF04PG-D37
	2P Pin jack	VKB1031	CN101	2mm Pitch jumper connector(11P)	SBRK11S-4
	Screw terminal	VNE1841	PCB Binder		VEF1040
	PCB Holder(S)	VNE1952	GRPB ASSY		
KFCB ASSY			SEMICONDUCTORS		
SEMICONDUCTORS			IC2103		LC7870E-SP
IC201		BA10393F	IC2104		MB81464-12P
IC101,IC102,IC105,IC106		BA4560F	IC2205		MC14577CF
IC103		BU4053BCF	IC2053		PDC014A
IC107		MB81464-12P	IC2102,IC2201-IC2204		TC74HC4053AF
IC104		PM0005A	IC2107,IC2108		TC7S04F
Q202		2SA1037K	IC2106		TC7W08F
Q203		2SC1740S	Q2103,Q2151,Q2203		2SA1037K
Q102		2SD2144S	Q2101,Q2102,Q2201,Q2202		2SC2412K
Q201		DTA124EK	COILS AND FILTERS		
Q101		DTC124EK	L2001-L2003		LFA100K
D103-D106,D202		DA204K	CAPACITORS		
D201		DTZ10A/B	C2223,C2225		CCSQCH180J50
D107		DTZ4.7B/C	C2116,C2117		CCSQCH470J50
D203		DTZ6.2A/B	C2171,C2173		CCSQL101J50
COILS AND FILTERS			C2001-C2004,C2053,C2104,C2107		CEAL101M6R3
L102,L104		LFA100K	C2120,C2121,C2123,C2215,C2216		CEAL101M6R3
L103		LFA3R9J	C2108		CEAL330M10
			C2113,C2201		CEALNP010M50
			C2057,C2106,C2111		CKSQYF103Z50
			C2058,C2059,C2103,C2105,C2109		CKSQYF104Z50
			C2114,C2115,C2118,C2119		CKSQYF104Z50

CLD-V850, CLD-2730K

Mark No.	Description	Parts No.	Mark No.	Description	Parts No.
	C2211 - C2214, C2217, C2218 C2231, C2232	CKSQYF104Z50 CKSQYF104Z50		Q33 Q37, Q38 D28 D29 D23	DTC114ES DTC114TS MTZJ39B/C MTZJ7.5A RK46
RESISTORS	All Resistors	RS1/10S□□□J		D24 D21, D22 IC21	S2LA20 S3L20U UPC358C
OTHERS			COILS AND FILTERS		
CN2055	Connector post	B2B - PH - K		L20	VTL1008
CN2101	KR Connector	B4B - PH - K	RESISTORS		
CN2051	KR Connector	S6B - PH - K	R22 - R25 (47,1/6W) R56 (15,1/4W)		VCN1033 VCN1034
X2051	Ceramic resonator	VNE1841 VSS1014	R61 (4.7,1/2W)		VCN1035
RGBE ASSY			CNNB ASSY		
	Note: RGBE ASSY is a part of GRPB ASSY.		RESISTORS	All resistors	RD1/6PM□□□J
SEMICONDUCTORS					
IC3151		BA7230LS	OTHERS		
IC3152		TC74HC221AF	CN205 KR Connector		B3B - PH - K
Q3157, Q3158		2SC2458	CN203 24P Connector (straight type)		SLEM24S
Q3159		2SK30ATM	CN204 25P Side connector		VKN1139
COILS AND FILTERS			LOMB ASSY		
L3153		LFA100K	OTHERS	4P Cable holder	51048 - 0400
L3151, L3152		LFA122K			
CAPACITORS			LOSB ASSY		
C3157, C3158		CCSQCH220J50	SWITCHES AND RELAYS		
C3159, C3160		CCSQCH330J50	SI - S3		DSG1015
C3167		CCSQCH680J50			
C3166		CCSQCH820J50	FG ASSY		
C3184		CCSQSL102J50	SEMICONDUCTORS		
C3183		CCSQSL152J50	D1		GP1 S51V
C3151 - C3154, C3161 - C3164		CEAL010M50	OTHERS	J64 HOUSING ASSY (3P)	VKP2024
C3156, C3180		CEAL010M6R3			
C3165		CKSQYB473K25			
C3155, C3168, C3181, C3182		CKSQYF104Z50			
VC3151		VCM1006			
RESISTORS					
VR3153		VRTB6VSI02			
VR3151		VRTB6VSI03			
VR3152, VR3154		VRTB6VSI472			
Other Resistors		RS1/10S□□□J			
OTHERS					
X3151	Crystal resonator(3.58MHz)	PSS1012			
DL3151	Delay line	PTF1013			
POWER SUPPLY ASSY					
SEMICONDUCTORS					
Q27, Q30, Q32, Q34, Q36		2SA933S			
Q20, Q22		2SB1134			
Q24		2SB1331			
Q25, Q29, Q31		2SC1740S			
Q21, Q23		2SD1667			
Q26		2SD2007			
THYRISTOR		3P4J			
D25 - D27, D30, D31		AG01Z - VO			
Q35		DTA114ES			
Q28		DTA114TS			



Service Manual

ORDER NO.
RRZ1145

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CD CDV LD PLAYER

CLD-V850 CLD-2730K

CHAPTER 2

CONTENTS

CHAPTER 2

2.1 PACKING AND EXPLODED VIEWS ...	2-3
2.2 SCHEMATIC AND PCB CONNECTION DIAGRAMS.....	2-11
2.3 BLOCK DIAGRAM.....	2-45

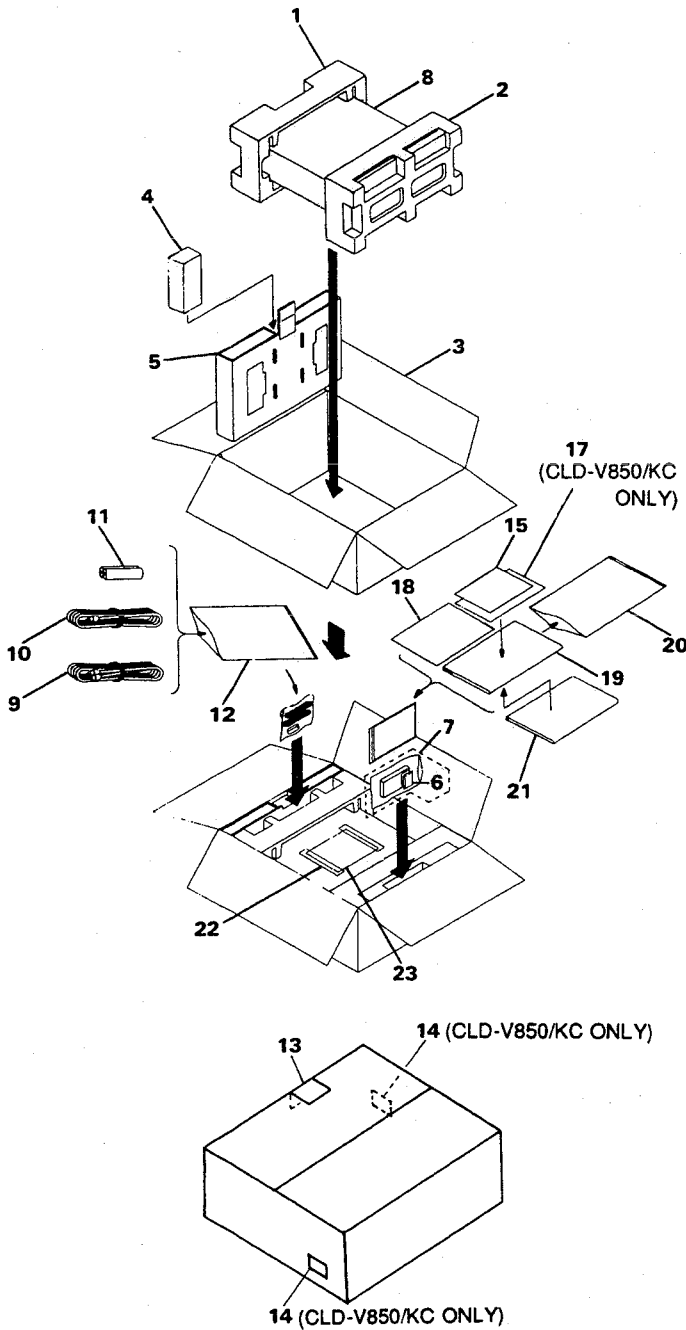
PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
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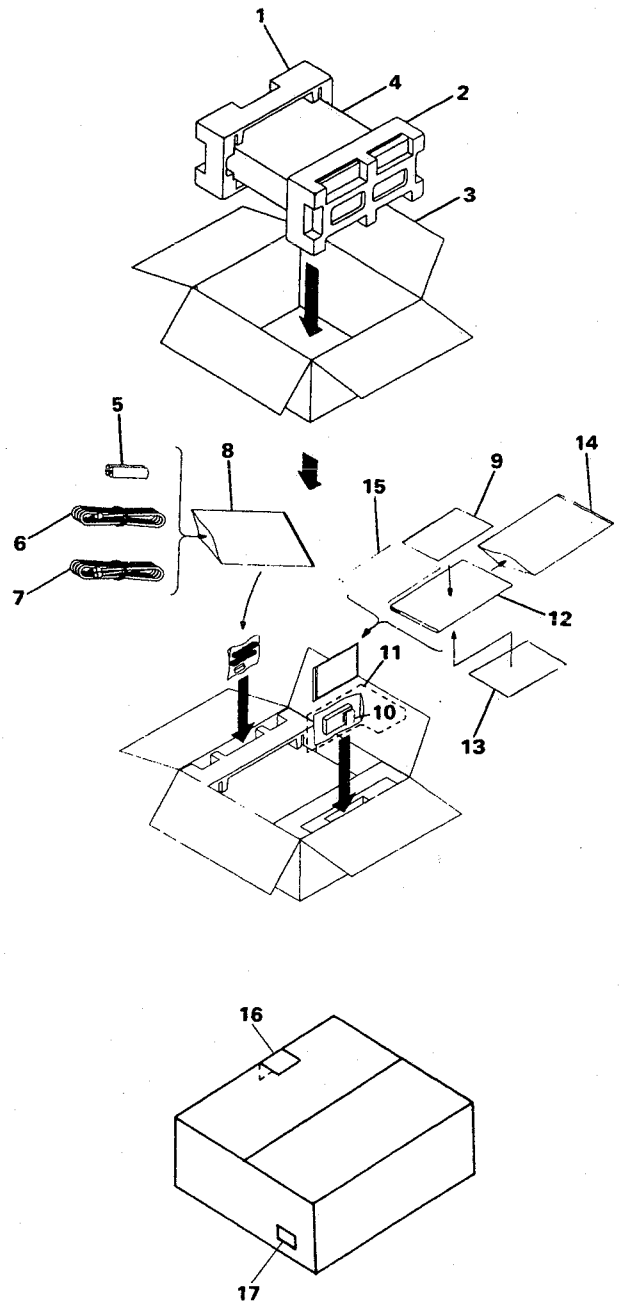
2.1 PACKING AND EXPLODED VIEWS

2.1.1 PACKING

● For CLD-V850/KU AND CLD-V850/KC



● For CLD-2730K/RD



CLD-V850, CLD-2730K

2

1

3

2.1.2 EXTERIOR AND DISC TRAY SECTION

A

A

B

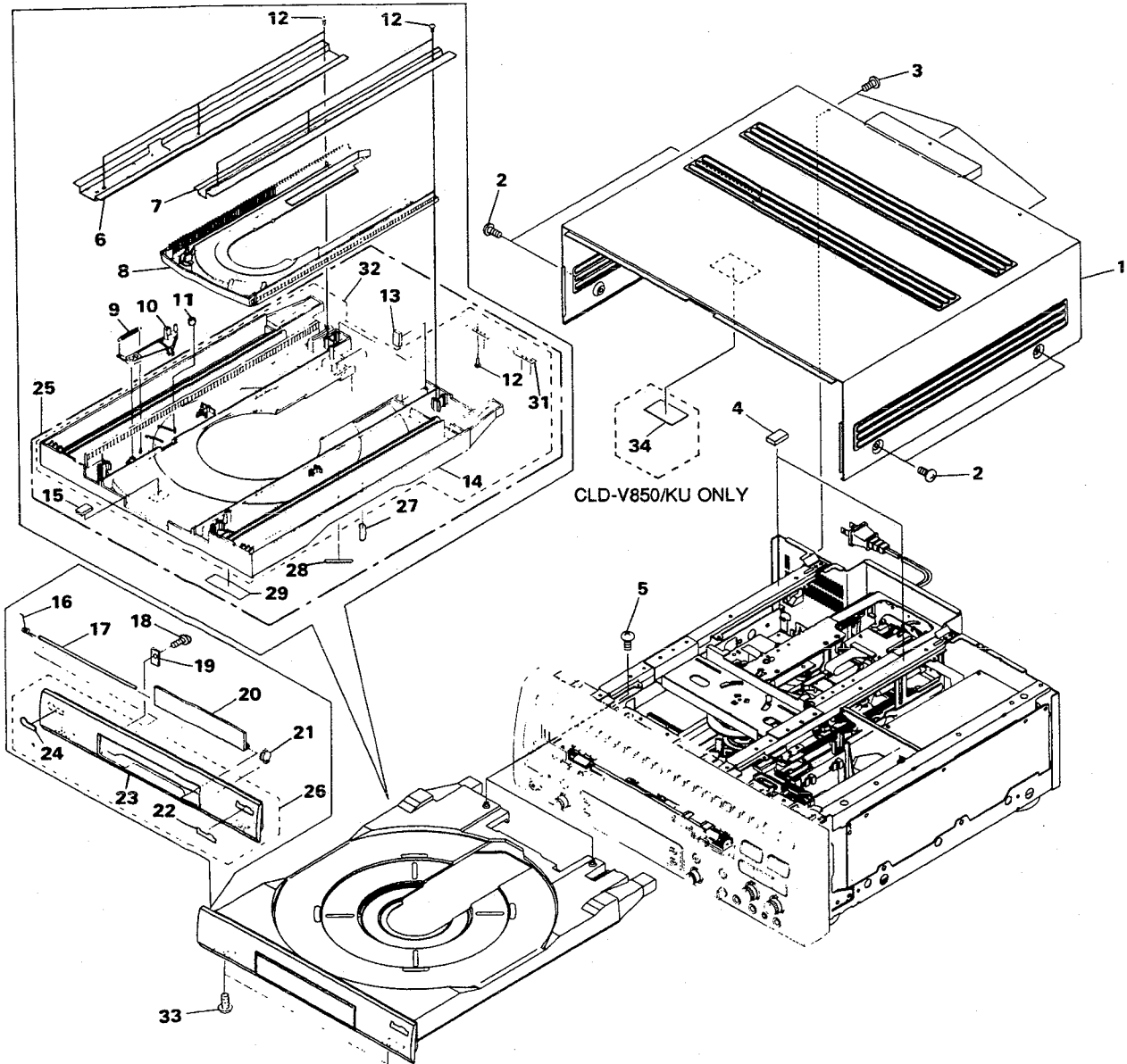
B

C

C

D

D



NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

2.1.3 TOP VIEW SECTION

A

A

except
CLD-2730K/RD

DISC CLAMPER SECTION (→P2-6)

B

B

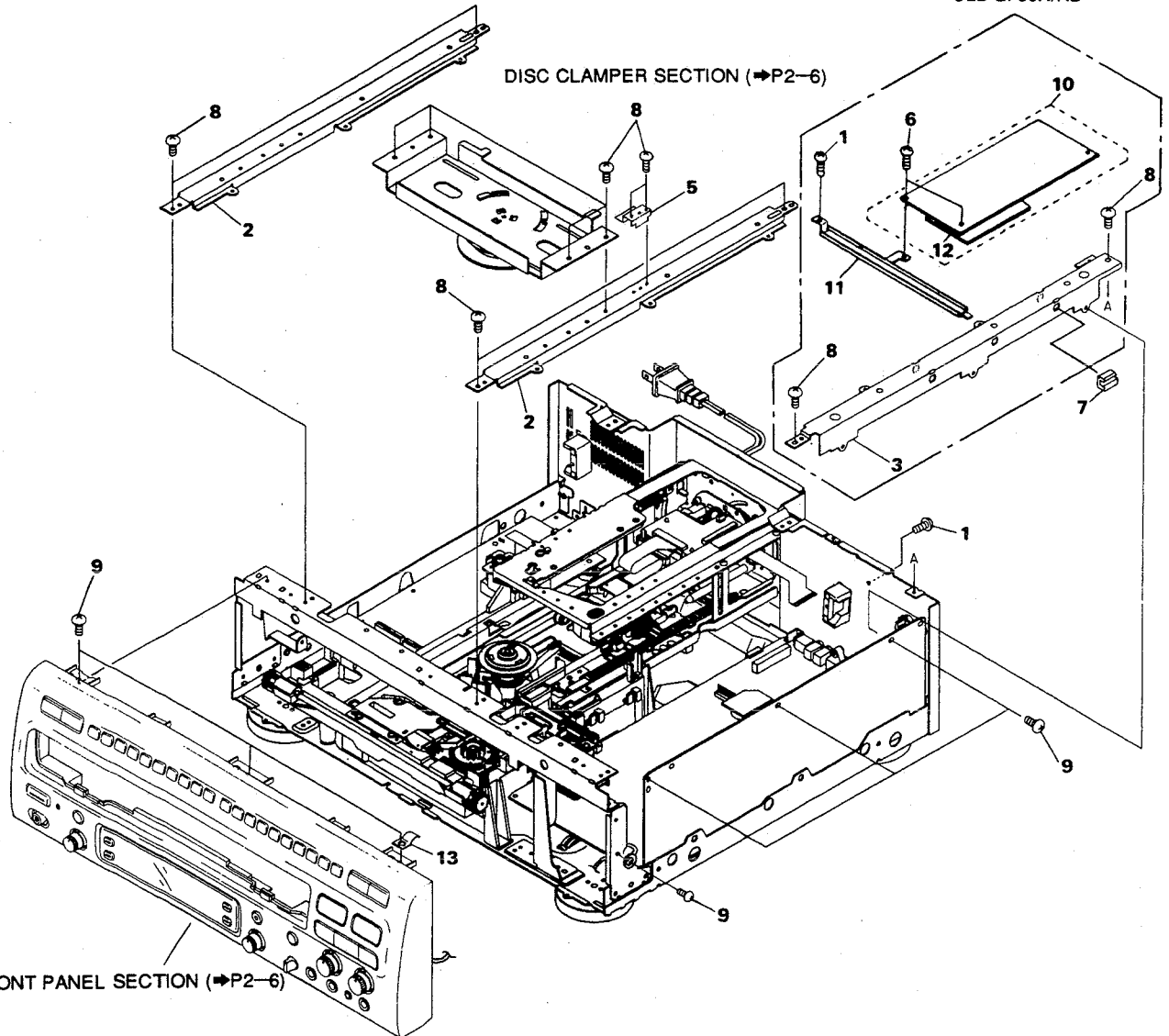
C

C

FRONT PANEL SECTION (→P2-6)

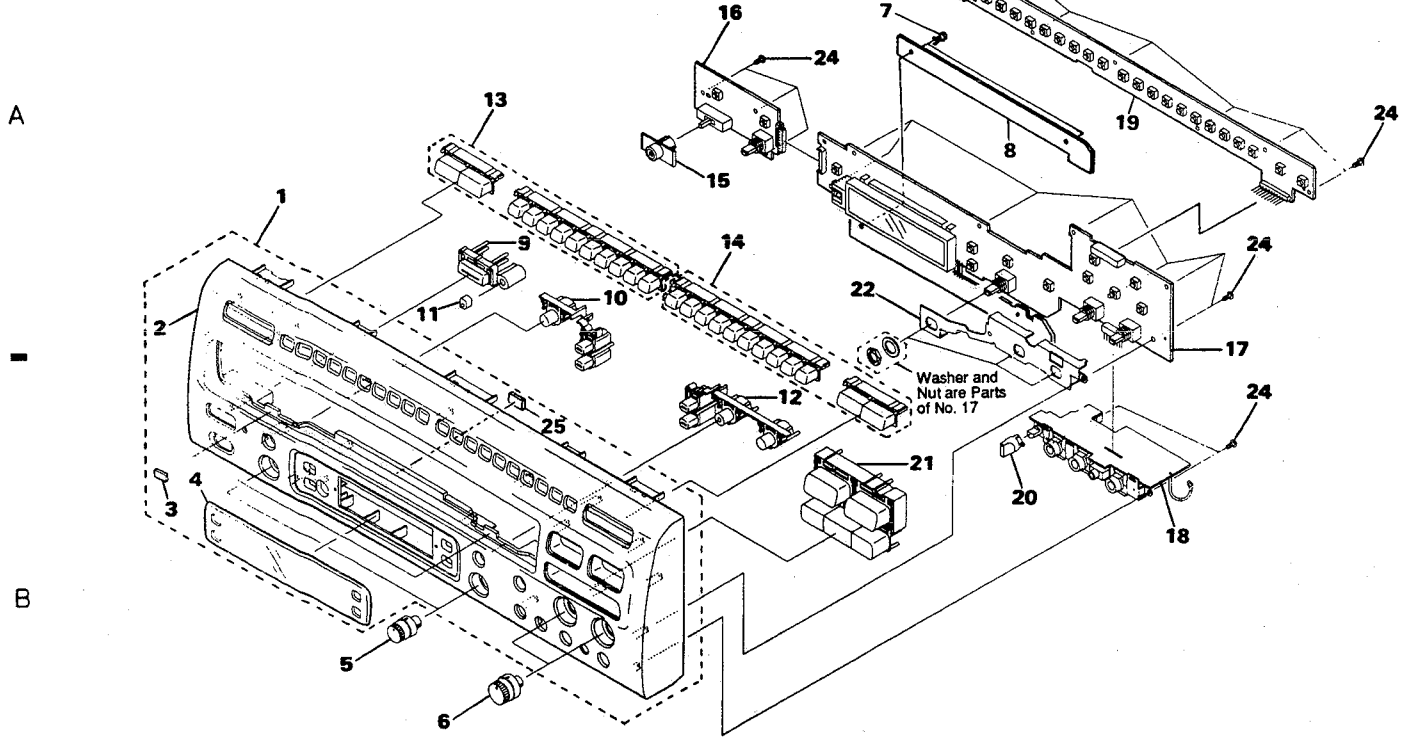
D

D

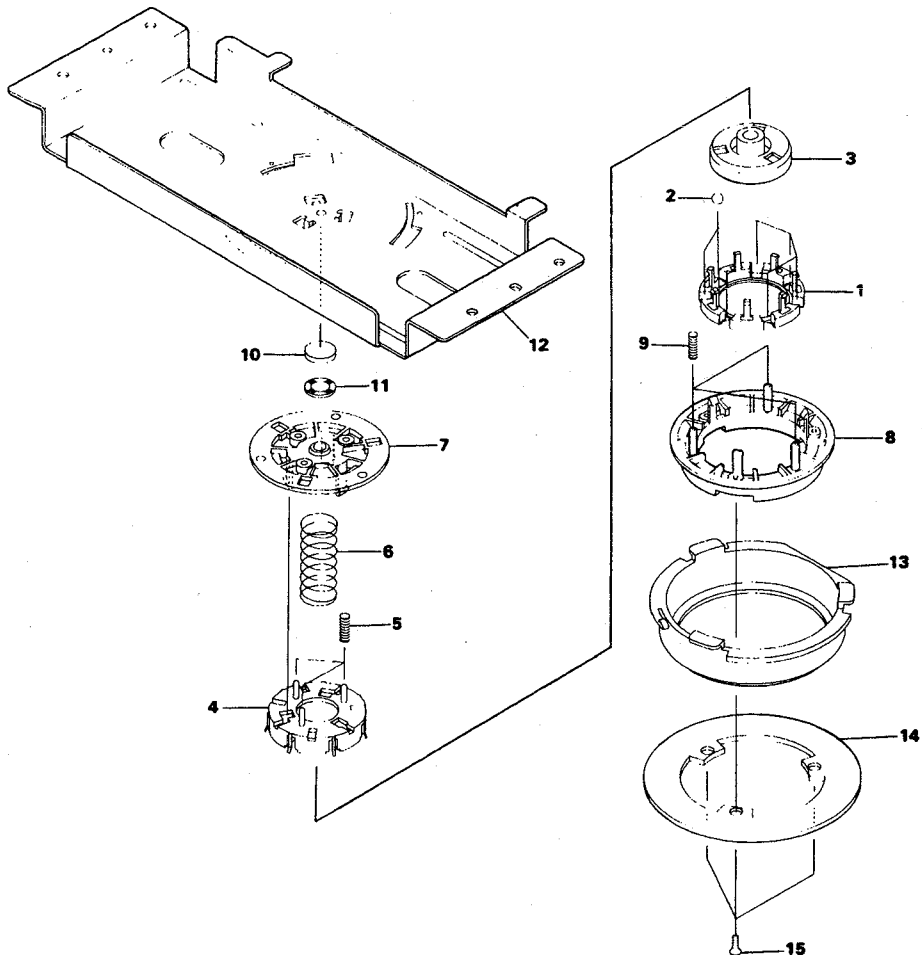


CLD-V850, CLD-2730K

2.1.4 FRONT PANEL SECTION



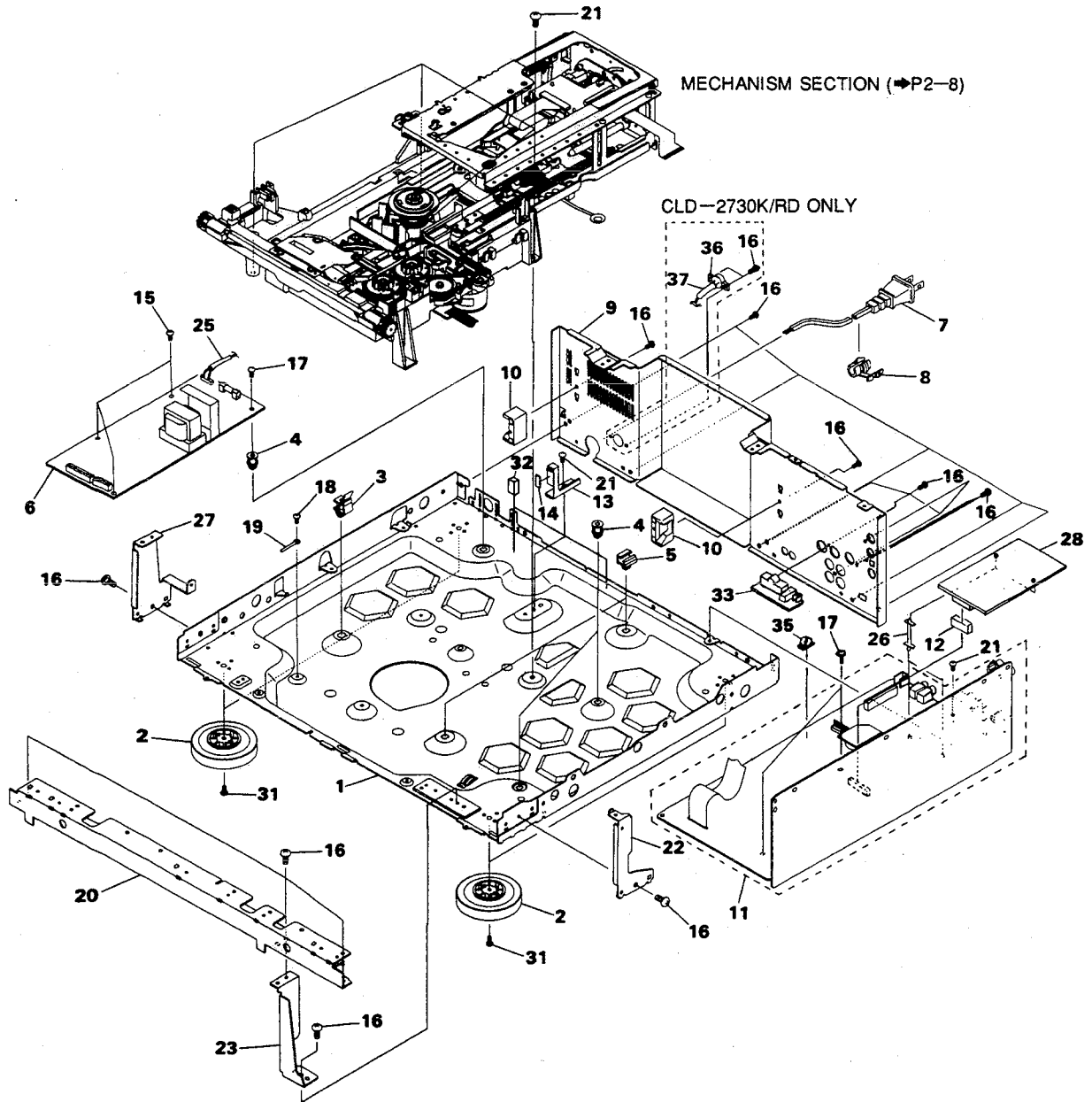
2.1.5 DISC CLAMPER SECTION



2.1.6 BOTTOM VIEW SECTION

A

A



MECHANISM SECTION (→P2-8)

CLD-2730K/RD ONLY

B

B

C

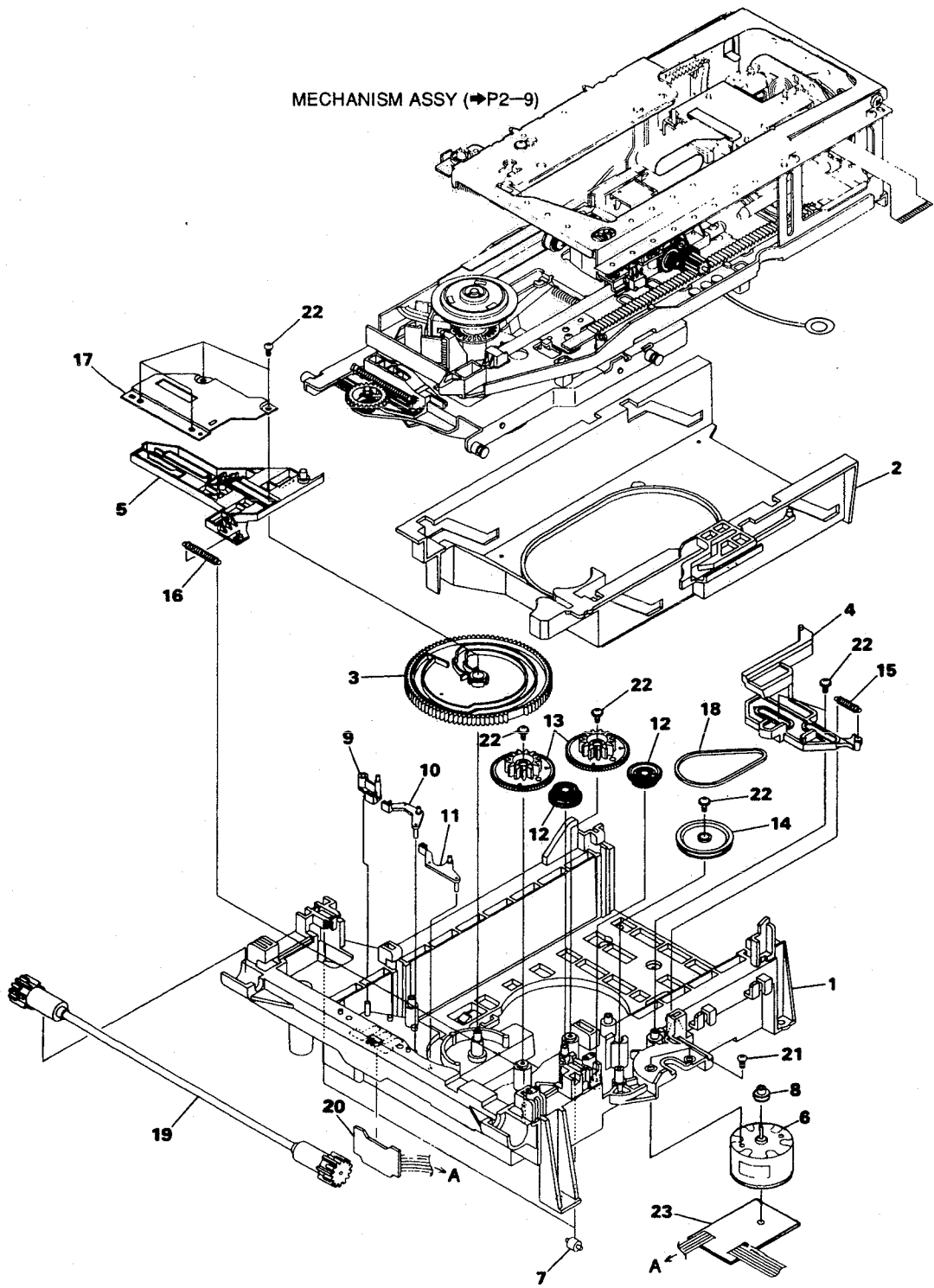
C

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D

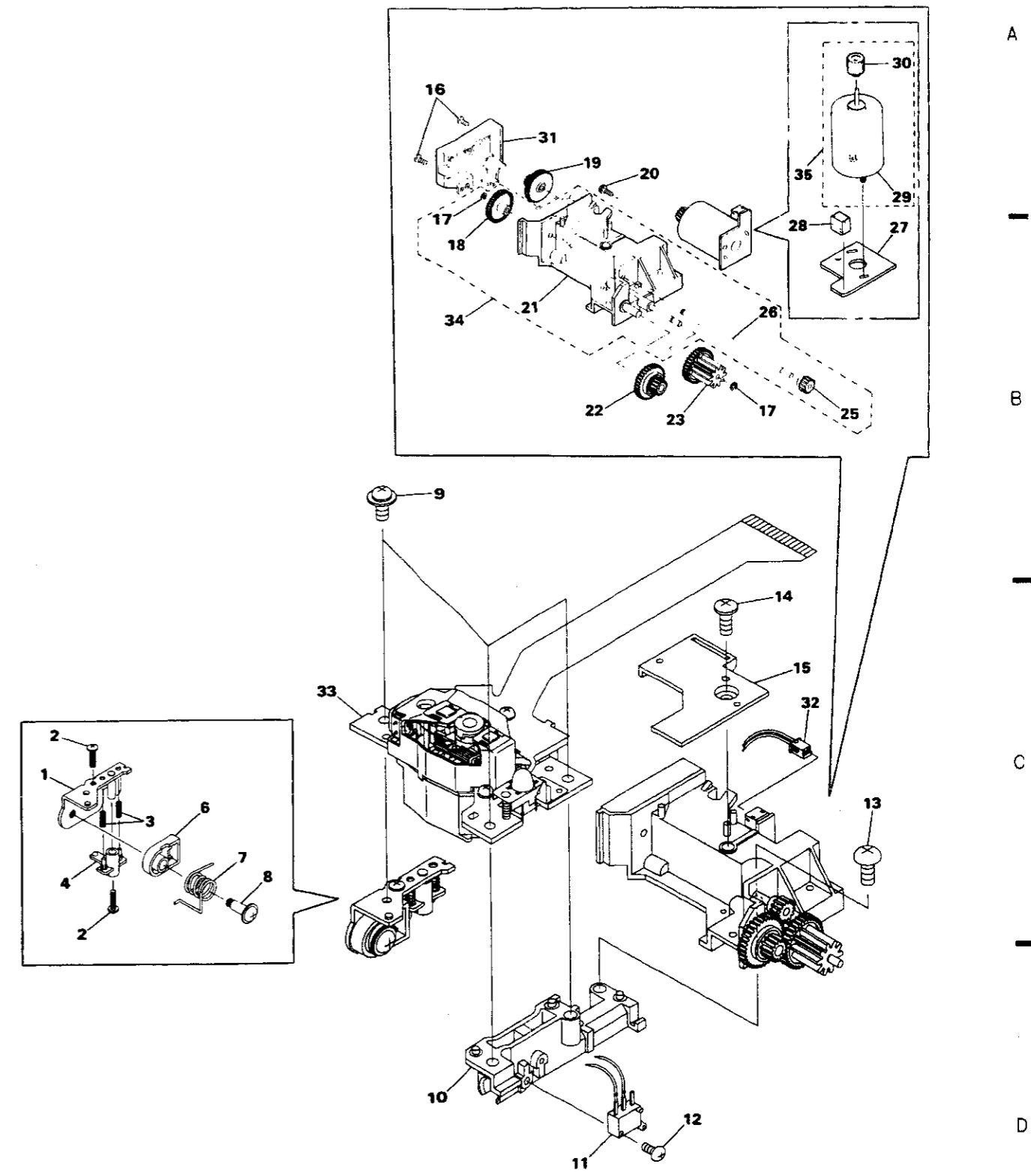
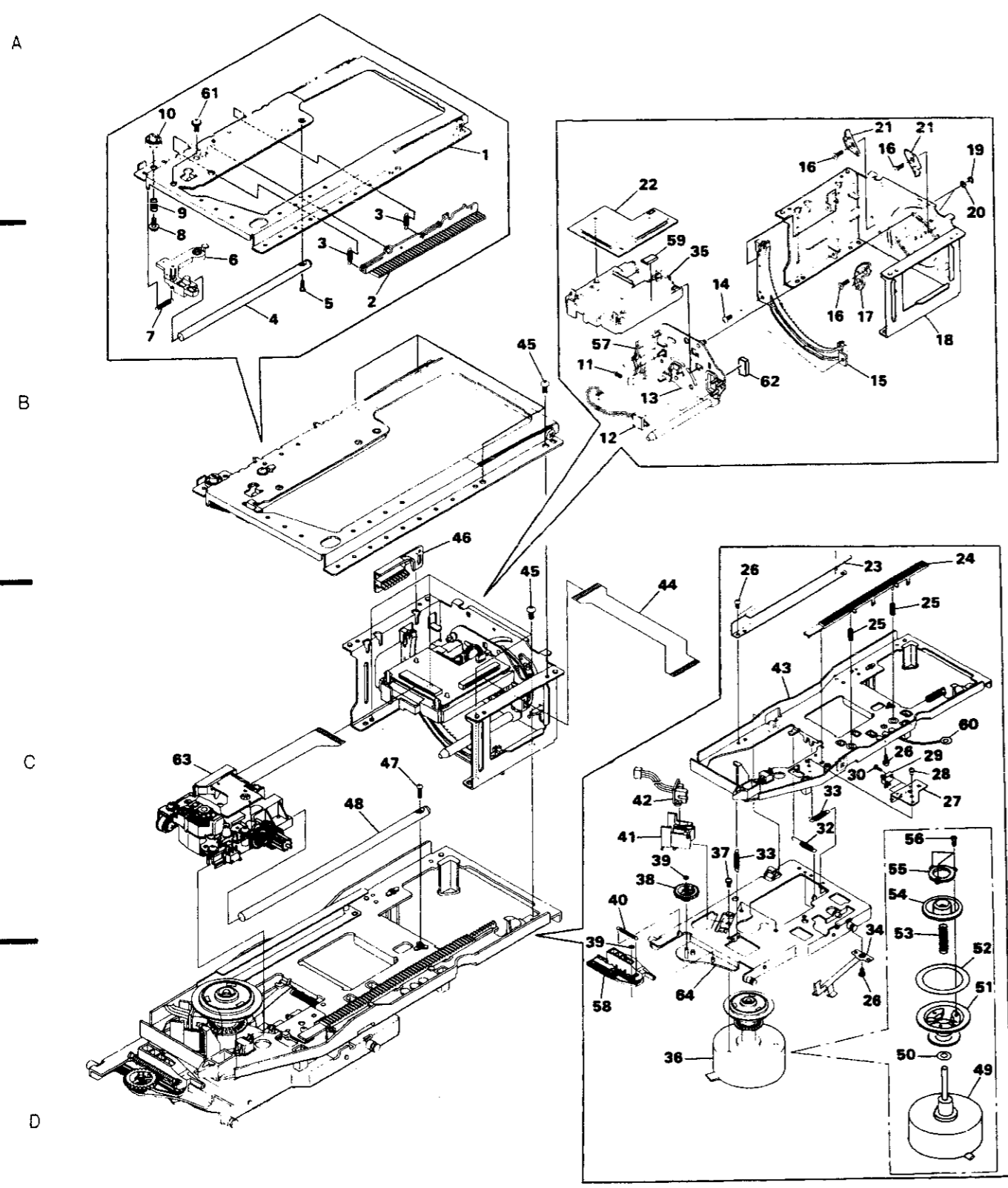
CLD-V850, CLD-2730K

2.1.7 MECHANISM SECTION



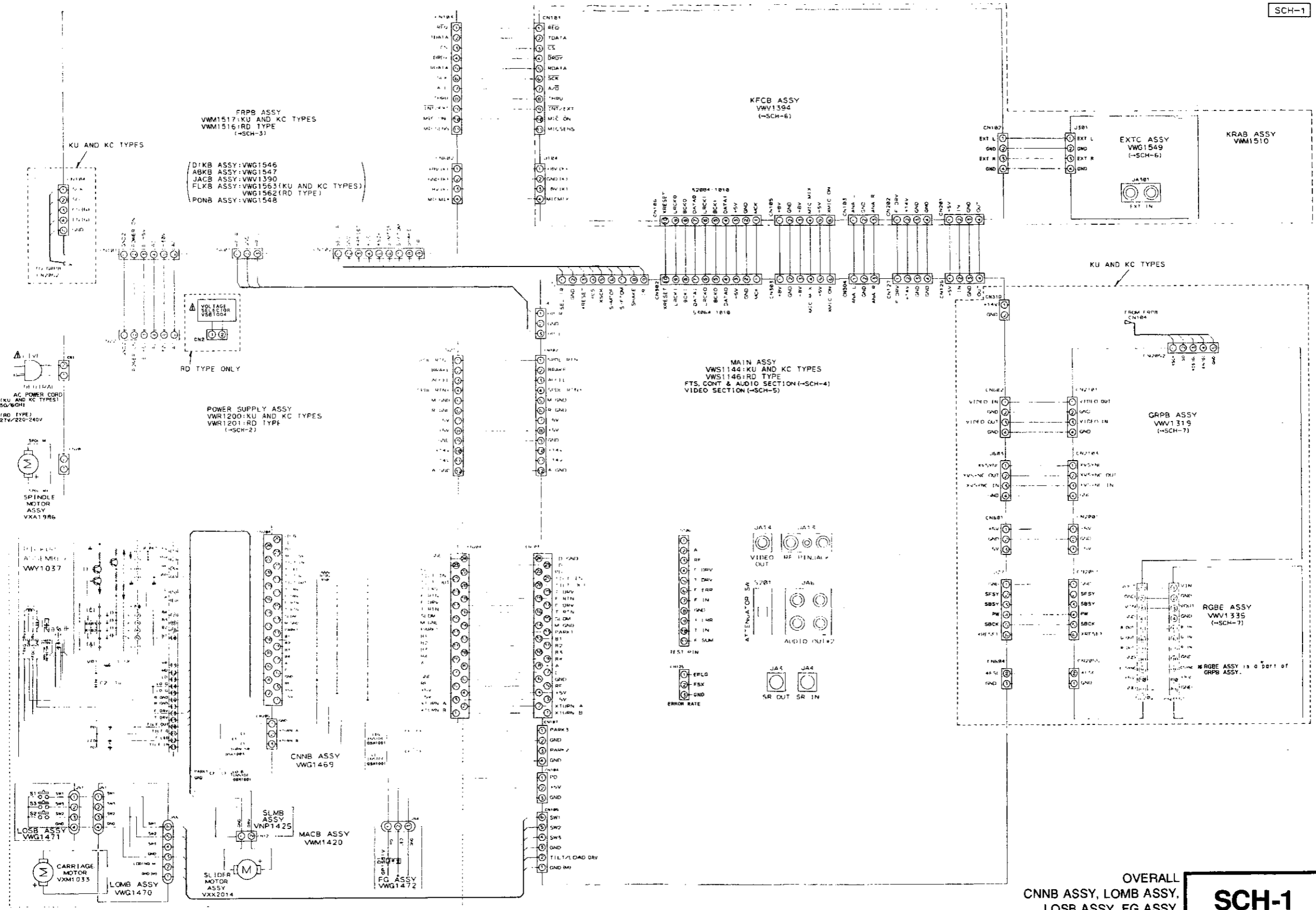
2.1.8 MECHANISM ASSY

2.1.9 CARRIAGE ASSY



2.2 SCHEMATIC AND PCB CONNECTION DIAGRAMS

2.2.1 OVERALL CONNECTIONS, CNNB, LOMB, LOSB, FG, PICKUP AND SLMB ASSY



SCH-1

A

B

C

D

OVERALL
CNNB ASSY, LOMB ASSY,
LOS B ASSY, FG ASSY,
PICKUP ASSY, SLMB ASSY

SCH-1

OVERALL
CNNB ASSY, LOMB ASSY,
LOS B ASSY, FG ASSY,
PICKUP ASSY, SLMB ASSY

SCH-1

NOTE FOR SCHEMATIC DIAGRAMS (Type 4A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. **RESISTORS:**
Unit: k: kΩ, M: MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.

4. **CAPACITORS:**
Unit: p: pF or μF unless otherwise noted.
Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
Rated voltage: 50V except for electrolytic capacitors.

5. **COILS:**
Unit: m: mH or μH unless otherwise noted.

6. **VOLTAGE AND CURRENT:**
□ or - V : DC voltage (V) in PLAY mode unless otherwise noted.
⊕ mA or - mA : DC current in PLAY mode unless otherwise noted.
Value in () is DC current in STOP mode.

7. **OTHERS:**
• ⊕ or ⊖ : Adjusting point.
• ⊕ : Measurement point.
• The Δ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. **SCH-□ ON THE SCHEMATIC DIAGRAM:**
• SCH-□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. **SWITCHES** (Underline indicates switch position):

FLKB ASSY	DIKB ASSY
S101 : SURROUND	S301 : 1
S102 : CHANNEL	S302 : 2
S103 : NATURAL	S303 : 3
S104 : ONE-TOUCH	S304 : 4
S105 : GRAPHICS	S305 : 5
S106 : b	S306 : 6
S107 : CHALLENGE	S307 : 7
S108 : #	S308 : 8
S109 : LD	S309 : 9
S110 : INTERRUPT	S310 : 10
S111 : CD	S311 : 11

PONB ASSY	S312 : 12
S201 : NORMAL/KARAOKE/AUX INPUT	S313 : 13
S202 : POWER	S314 : 14
S203 : AUDIO	S315 : 15
	S316 : 16
	S317 : 17

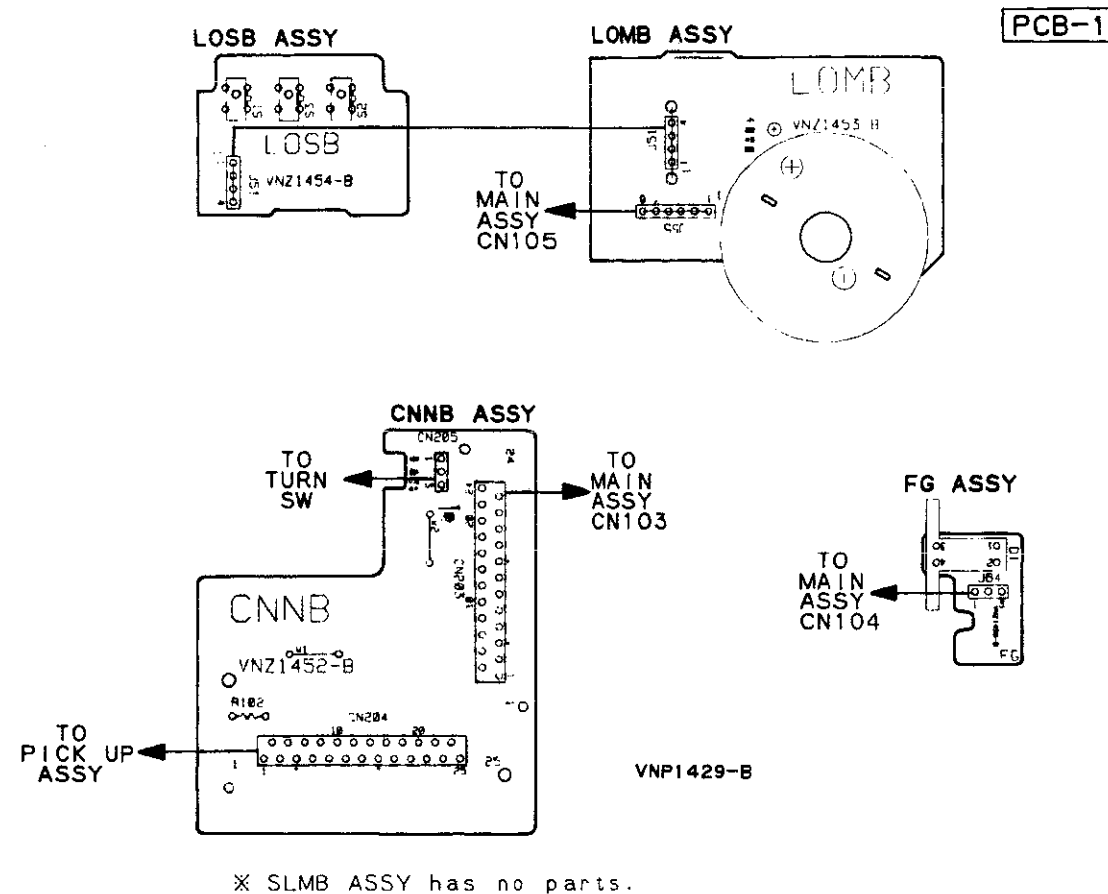
ABKB ASSY	S318 : 18
S401 : Side A	S319 : 19
S402 : Side B	S320 : 20
	S321 : STOP
	S322 : PLAY

NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

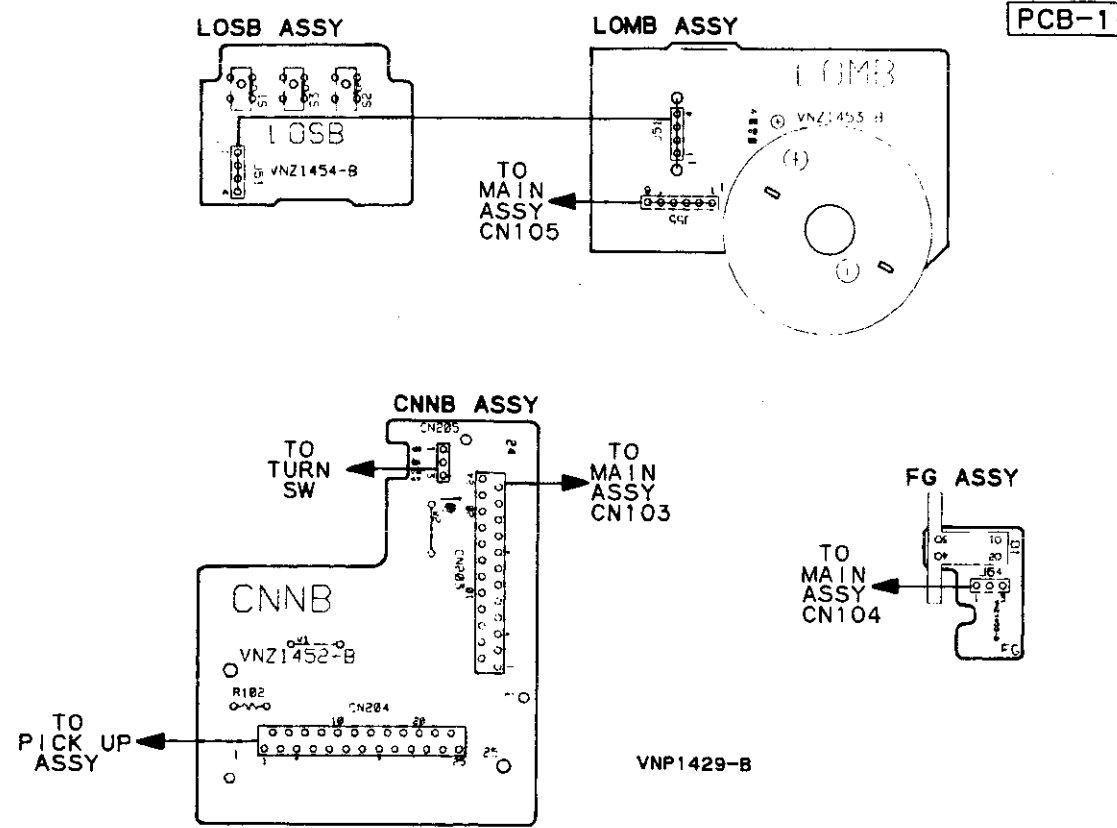
● This diagram is viewed from the mounted parts side.



use in the schematic
PCB and schematic

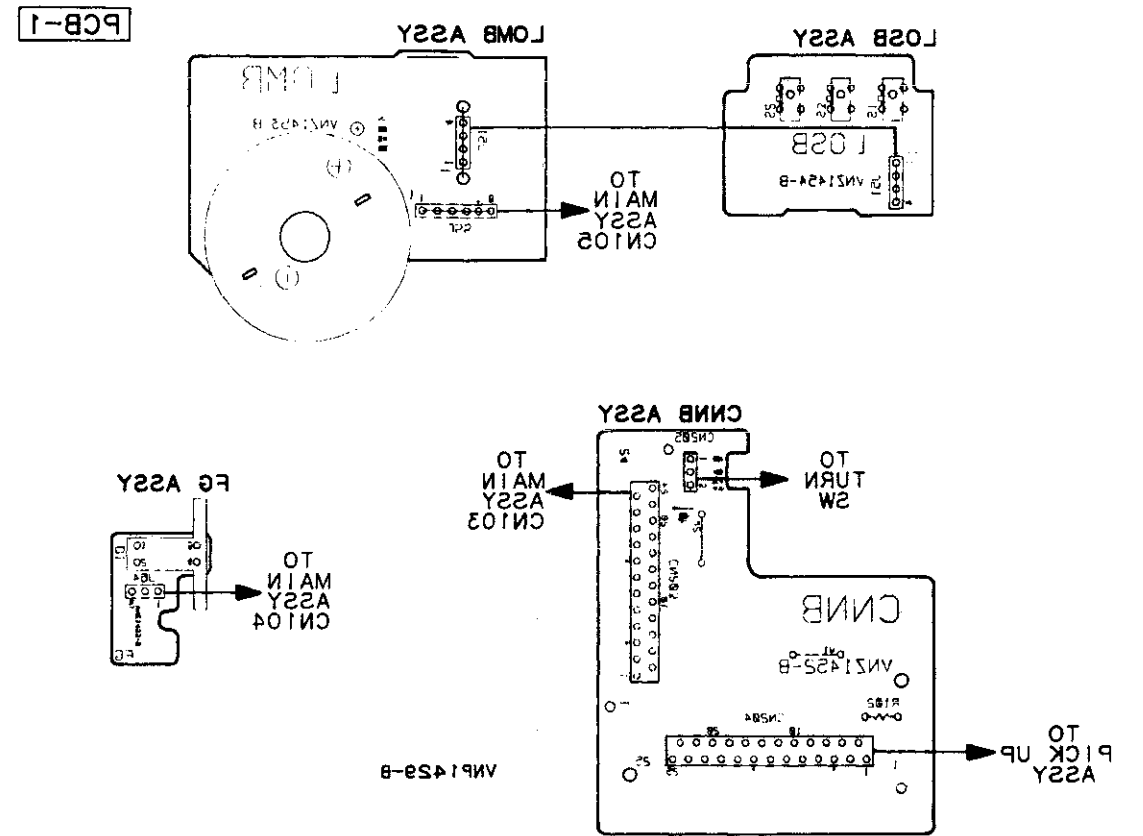
Symbol	Part Name
	Transistor
	Transistor with resistor
	Field effect transistor
	Resistor array
	3-terminal regulator

● This diagram is viewed from the mounted parts side.



* SLMB ASSY has no parts.

● This diagram is viewed from the foil side.



A

B

C

D

2.2.2 POWER SUPPLY ASSY

● Power assembly warnings

For this power assy, over current is detected by resistance and transistor. The $\pm 14V$ wiring is short by the thyristor and all output generation is stopped.

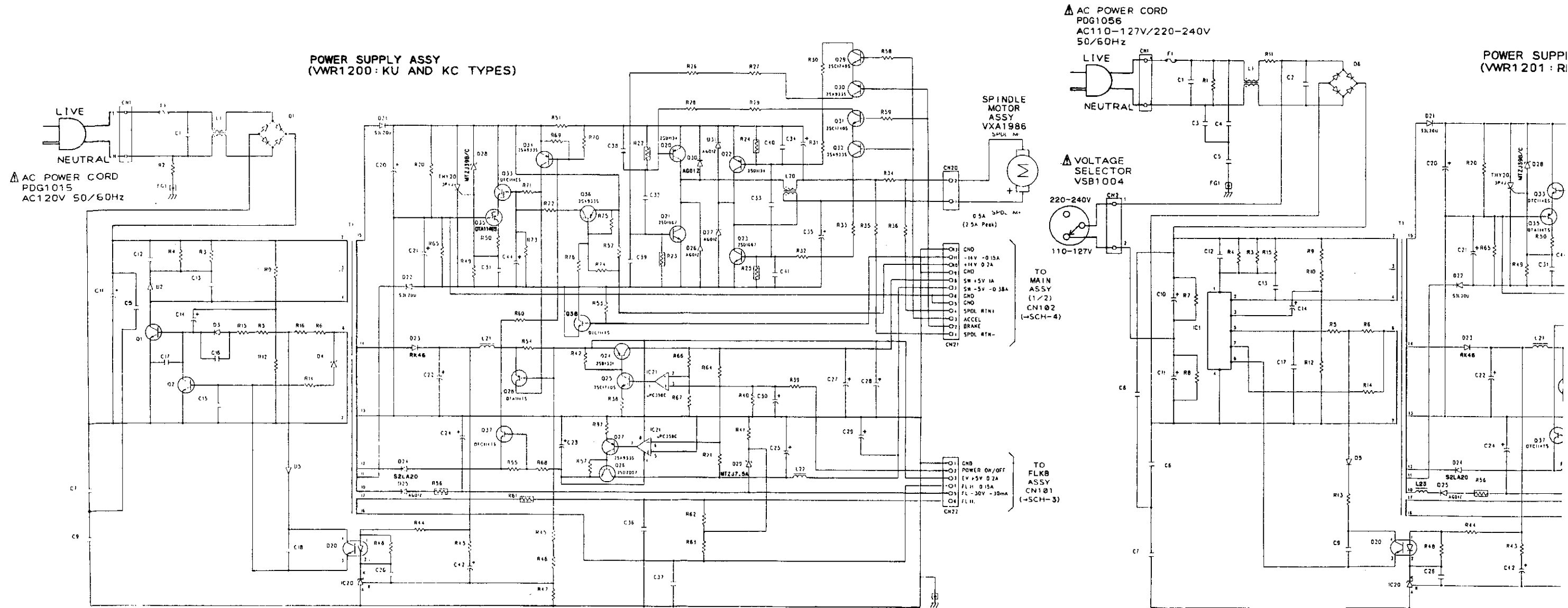
* When the circuit is short and the power goes OFF, unplug the unit and let it discharge for 10-30 seconds and then plug it again and turn on power.

* When output is stopped, a 120V charge remains for about one minute. Be careful not to touch anything.

—Detection circuit (reference)—

- For SPDL use +14V...Q34, R51
- +14V...Q36, R52
- 14V...Q38, R53
- +5V...Q28, R54
- 5V...Q37, R55
- thyristor...THY20

POWER SUPPLY ASSY (VWR1200: KU AND KC TYPES)



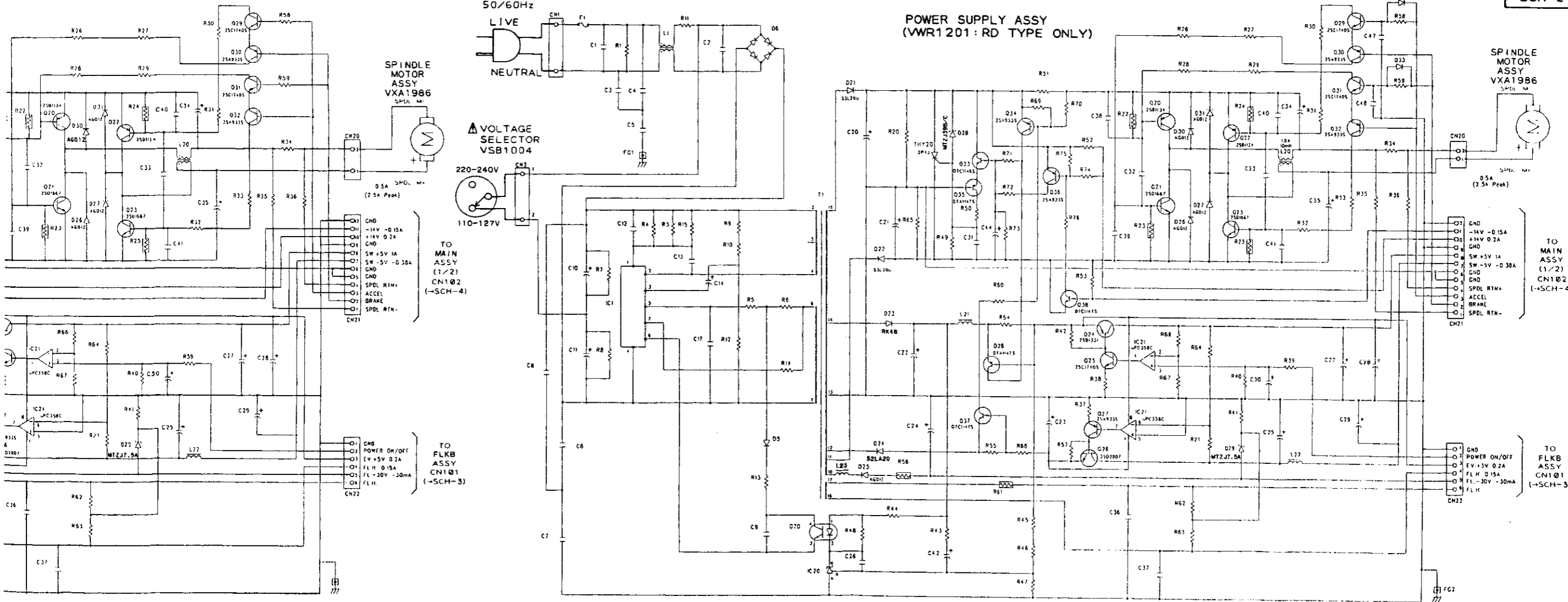
SCH-2 POWER SUPPLY ASSY

AC POWER CORD
 PDG1056
 AC110-127V/220-240V
 50/60HZ

VOLTAGE SELECTOR
 VSB1004

POWER SUPPLY ASSY
 (VWR1201: RD TYPE ONLY)

SCH-2



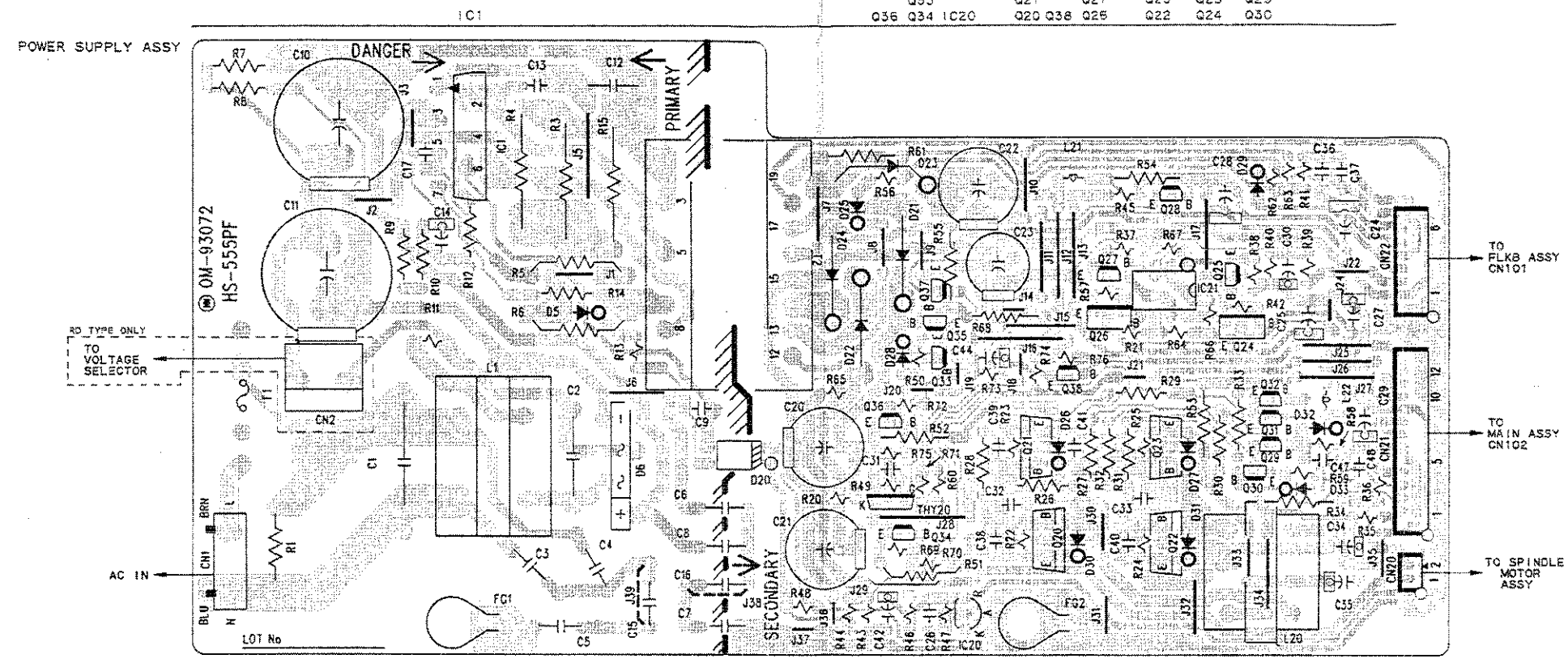
POWER SUPPLY ASSY

SCH-2

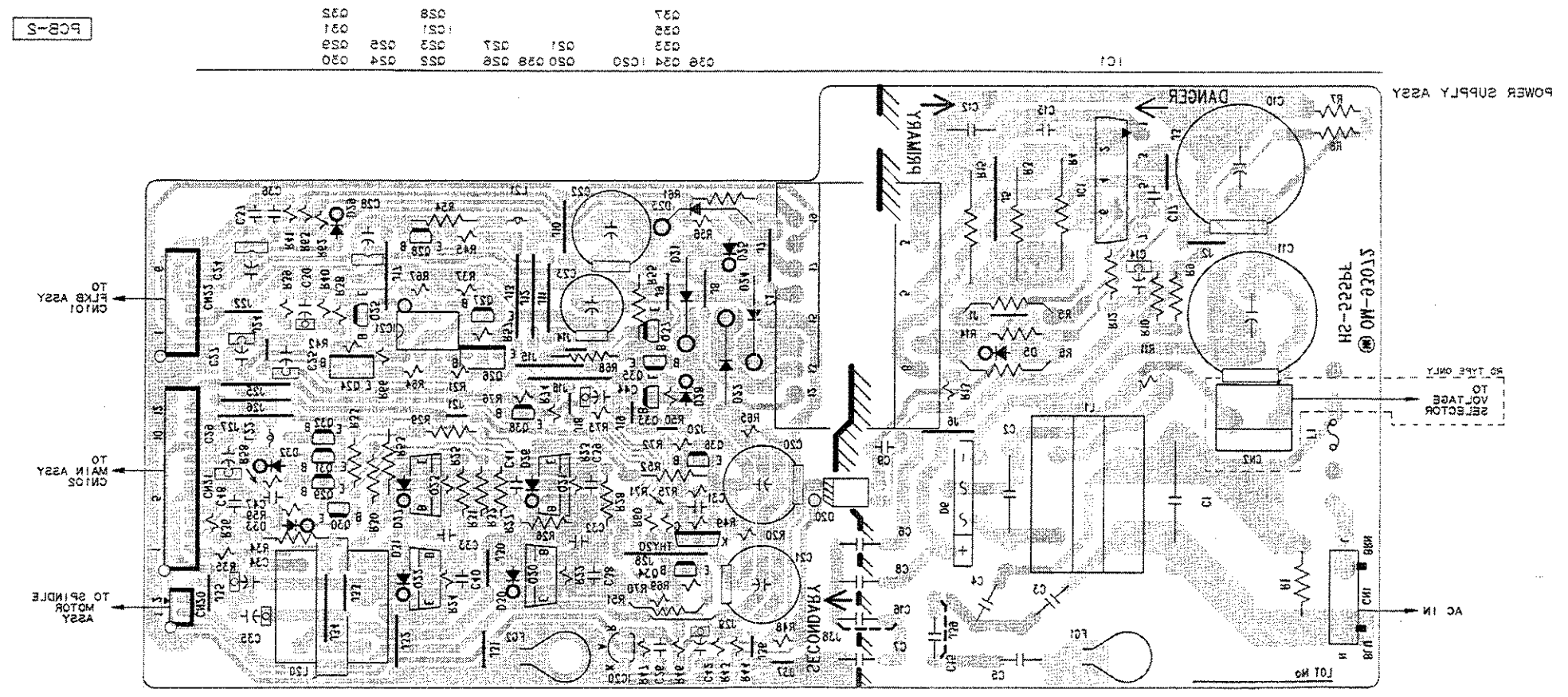
This diagram is viewed from the mounted parts side.

Q37	Q28	Q32
Q36	IC21	Q31
Q35	Q21	Q27
Q34	Q20	Q38
IC20	Q26	Q23
	Q25	Q29
	Q22	Q24
		Q30

PCB-2



This diagram is viewed from the foil side.

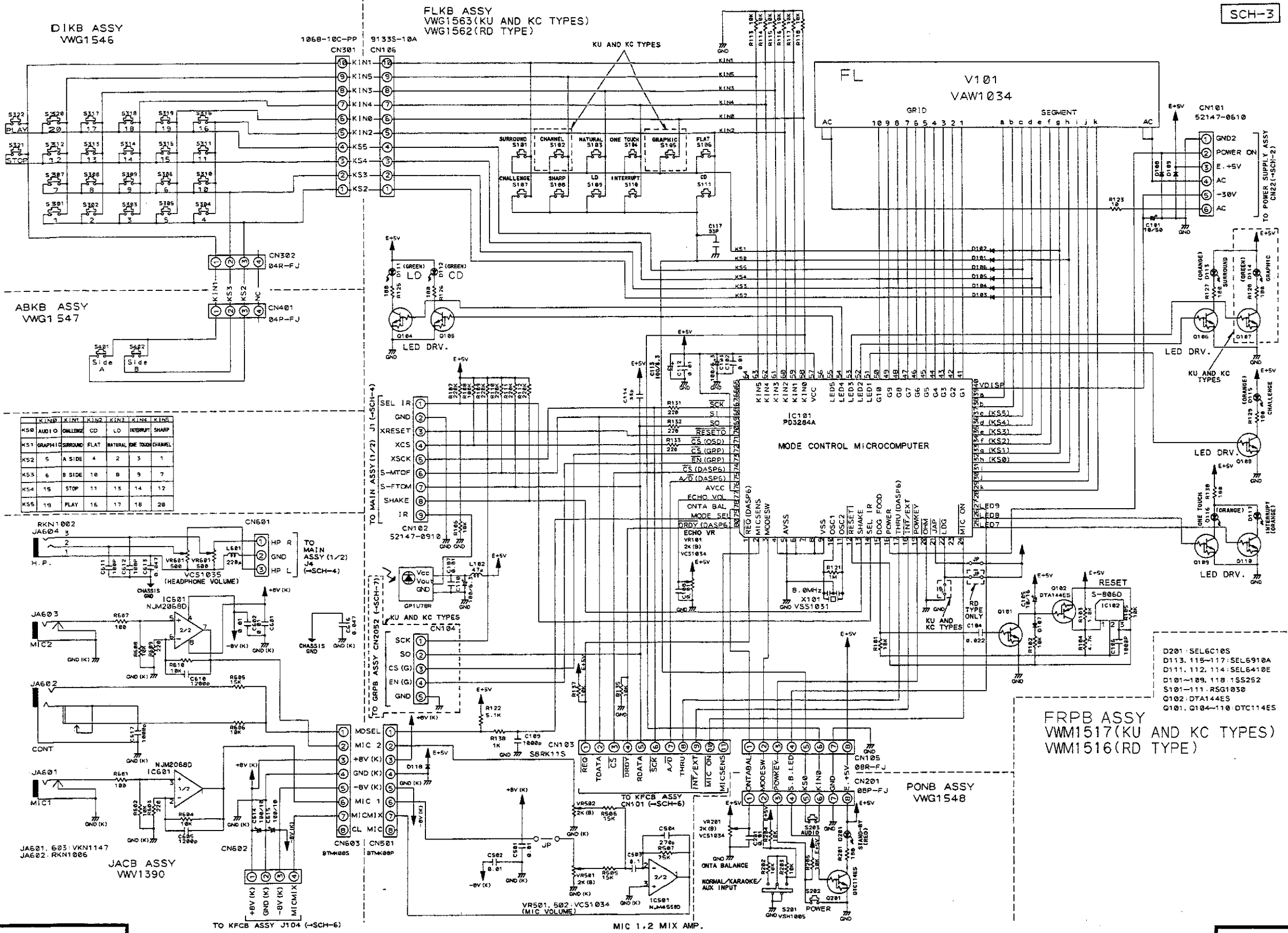


PCB-5

Q37	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
Q36	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
Q35	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
Q34	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
IC20	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30
	Q38	Q31	Q39	Q30	Q34	IC30	Q35	Q34	Q30

2.2.3 FLKB, PONB, DIKB, ABKB AND JACB ASSY

SCH-3



A

B

C

D

SCH-3

FLKB ASSY, PONB ASSY,
DIKB ASSY, ABKB ASSY,
JACB ASSY

FLKB ASSY, PONB ASSY,
DIKB ASSY, ABKB ASSY,
JACB ASSY

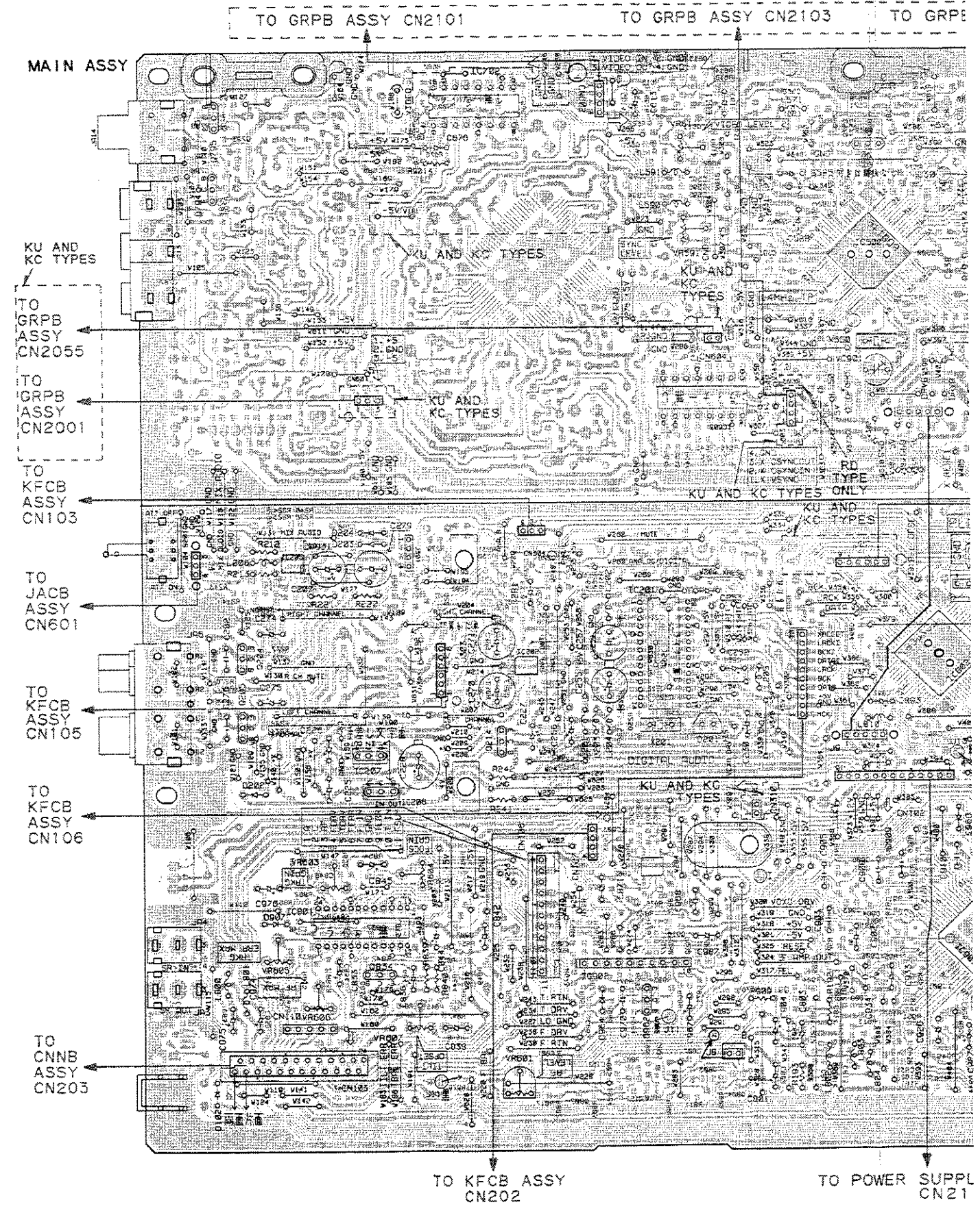
SCH-3

WAVEFORMS AND VOLTAGE FTS, CONT AND AUDIO SECTION

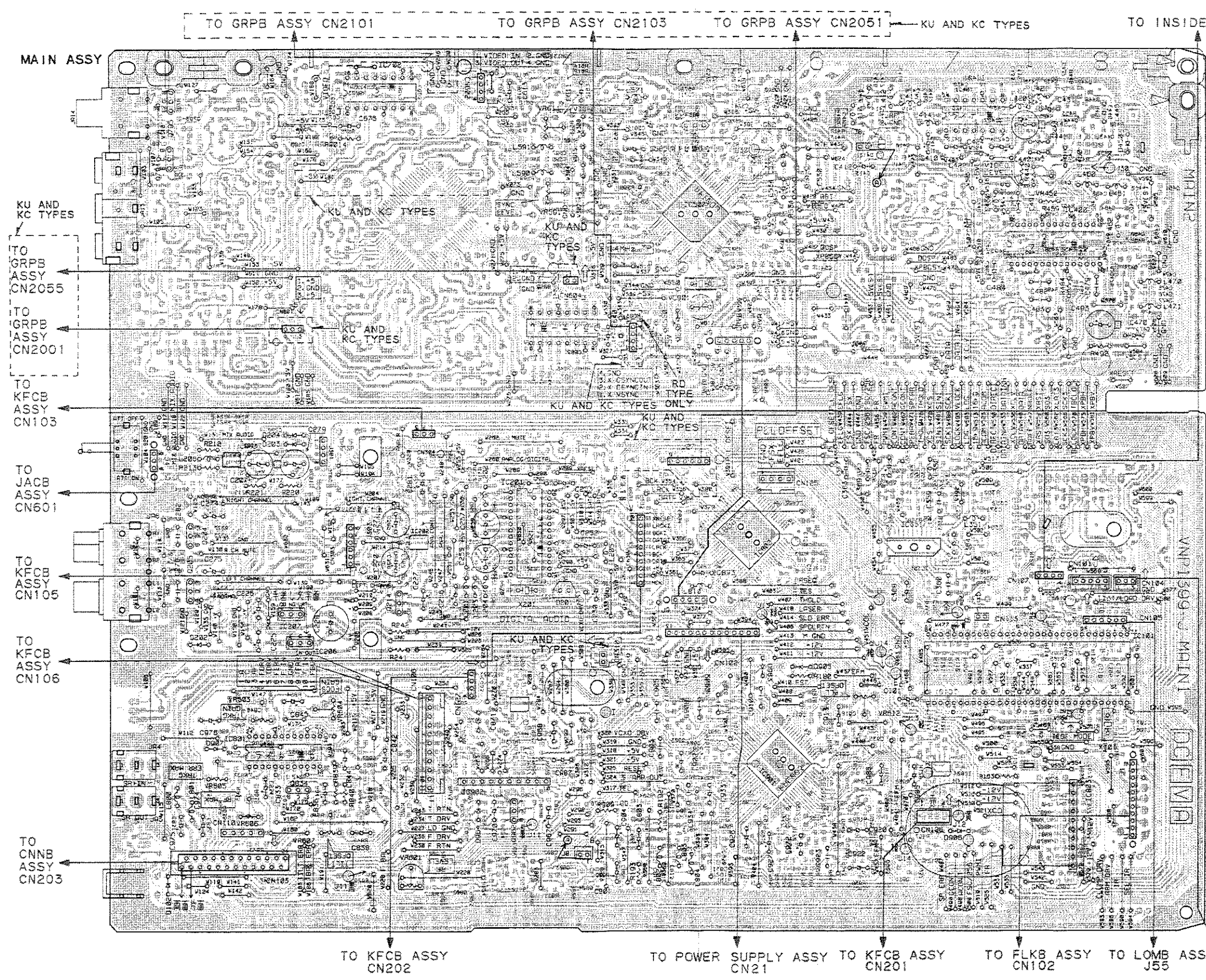
Note: No. in the table correspond to the pin number.

Measurement condition: In case when (D.audio) is written, at time when disc that has digital audio recording is played.

IC801(PAC002A)	IC802(LC78681E)	IC803(LA6510L)	IC901(PAC003A)	CN106	IC101 (PD0184C)
②, ③ 1mS/Div. 16mVp-p AC mode	② 0.1μS/Div. 4.3Vp-p AC mode(D.audio)	① 2mS/Div. 1.8Vp-p DC mode	② 0.2mS/Div. 74mVp-p DC mode	①, ② 5mS/Div. 65mVp-p DC mode	⑦ 1V/Div 5mS/Div #1.2V DC mode (Slr err)
⑦, ⑧ 1mS/Div. 67mVp-p DC mode	③③ 10μS/Div. 4.2Vp-p AC mode(D.audio)		⑦ 0.2mS/Div. 74mVp-p DC mode	③ 0.5mS/Div. 300mVp-p AC mode	
⑨ 5mS/Div. 0.1Vp-p DC mode	③⑤ 0.2μS/Div. 4.4Vp-p AC mode(D.audio)		①⑥ 0.2mS/Div. 0.61Vp-p DC mode	④ 5mS/Div. 15Vp-p DC mode	
	③⑥ 0.2μS/Div. 4.5Vp-p AC mode(D.audio)		④⑧ 50μS/Div. 6.2Vp-p DC mode	⑤ 5mS/Div. 5.8Vp-p DC mode	
	④③ 0.1μS/Div. 4.5Vp-p AC mode(D.audio)		⑤② 0.2μS/Div. 2.1Vp-p AC mode	⑥ 5mS/Div. 3.5Vp-p DC mode	
	⑤③ 0.1μS/Div. 2Vp-p AC mode(D.audio)		⑤⑦ 1mS/Div. 0.53Vp-p DC mode	⑨ 5mS/Div. 1.25Vp-p DC mode	
			⑤⑧ 0.2mS/Div. 0.32Vp-p DC mode	⑪ 10mS/Div. 1.7Vp-p DC mode	



• This diagram is viewed from the mounted parts side.



Component	Value	Section
VR611	8440 8180 1C702 0820 Q795 8180 1880 1C401 8870 1180 8440 4440 1580 0140 1820 Q794 1140	A
VR450	1840 7840	B
VR591	00201 0840 1C400 4740 8740	
VC901	1C603 0040	C
	8050 80501 5050 8050 7050 8150	
	1C201 7150 Q204 50801 18201 50501	
	Q205 Q214 5010 1C207 1050 1C206 8010 1C101	
	8080	
VR612	8080	D
VR603	4080 8080	
VR604	1C801 10201 40801 7080 8180 1C902 8880 Q834	E
VR605	1C803 7120 8180 Q962	
VR606	8080 8010 8080 1080 8180 8080 8080 1180 4080 8210 5080	

• This diagram is viewed from the foil side.

PCB-4

A

B

C

D

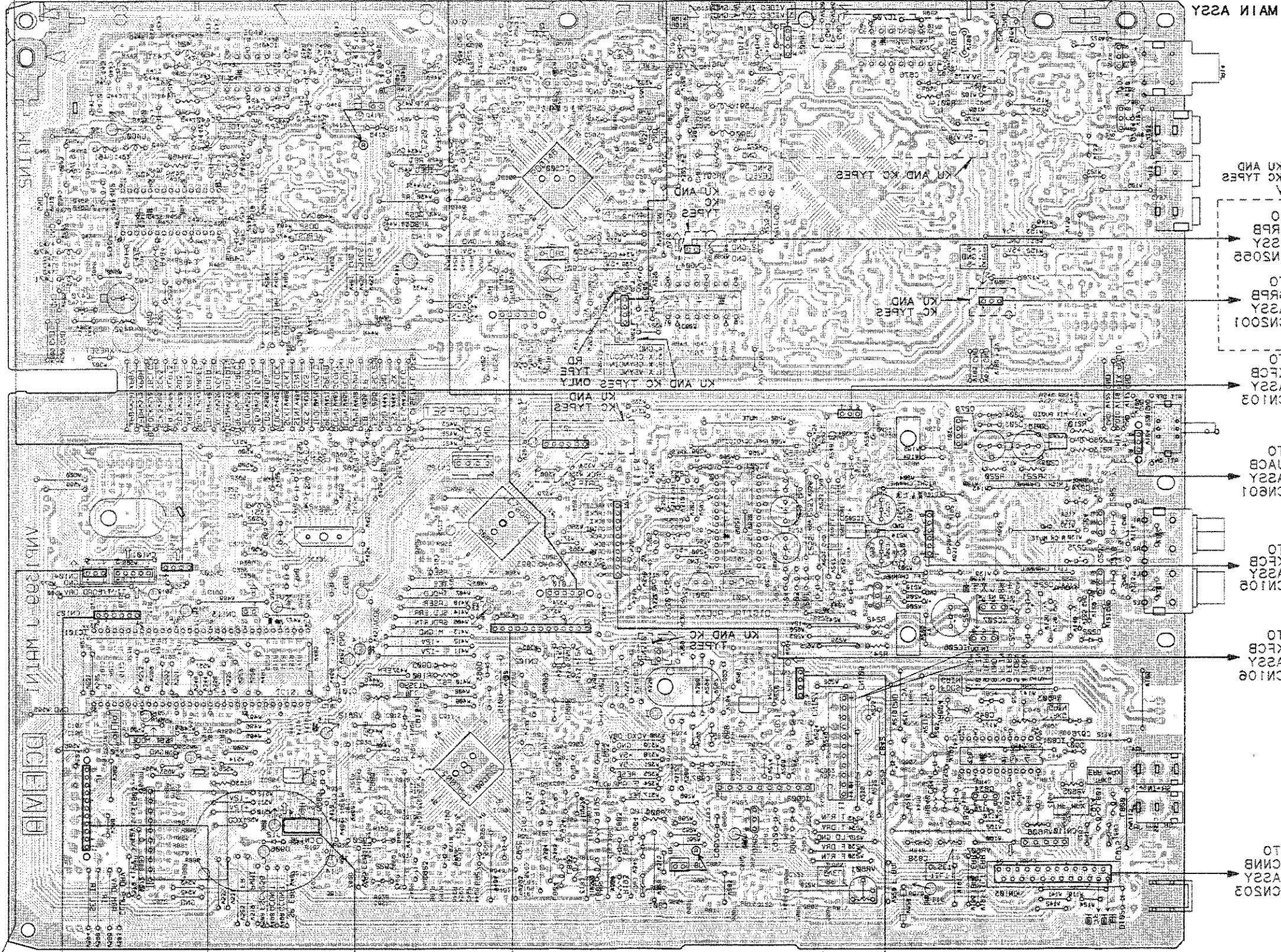
0613	0442
10705	0850
0789	2190
10401	1890
0790	1190
0621	0444
0443	0443
0591	0410
0794	1140
0497	1460
	10500
	0460
	10400
	0474
	0475
	10003
	10400
	0208
Q202	10205
	0206
	0207
	0216
Q217	10301
10302	0204
10202	10351
	0202
	0214
Q201	10507
10508	0310
10101	
	0905
Q903	0904
10901	10801
0916	0804
	10805
0834	
0913	10803
0985	
Q805	Q154
	0900
	0810
Q908	0912
0804	0911
Q802	0152

TO INSIDE SW

KU AND KC TYPES

TO GRPB ASSY CNI103

TO GRPB ASSY CNI101



MAIN ASSY

KU AND KC TYPES

TO GRPB ASSY CNI103

TO GRPB ASSY CNI101

TO GRPB ASSY CNI101

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO JACB ASSY CNI101

TO JACB ASSY CNI101

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO KFCB ASSY CNI103

TO FG ASSY

TO FLKB ASSY

TO KFCB ASSY

TO POWER SUPPLY ASSY

TO KFCB ASSY

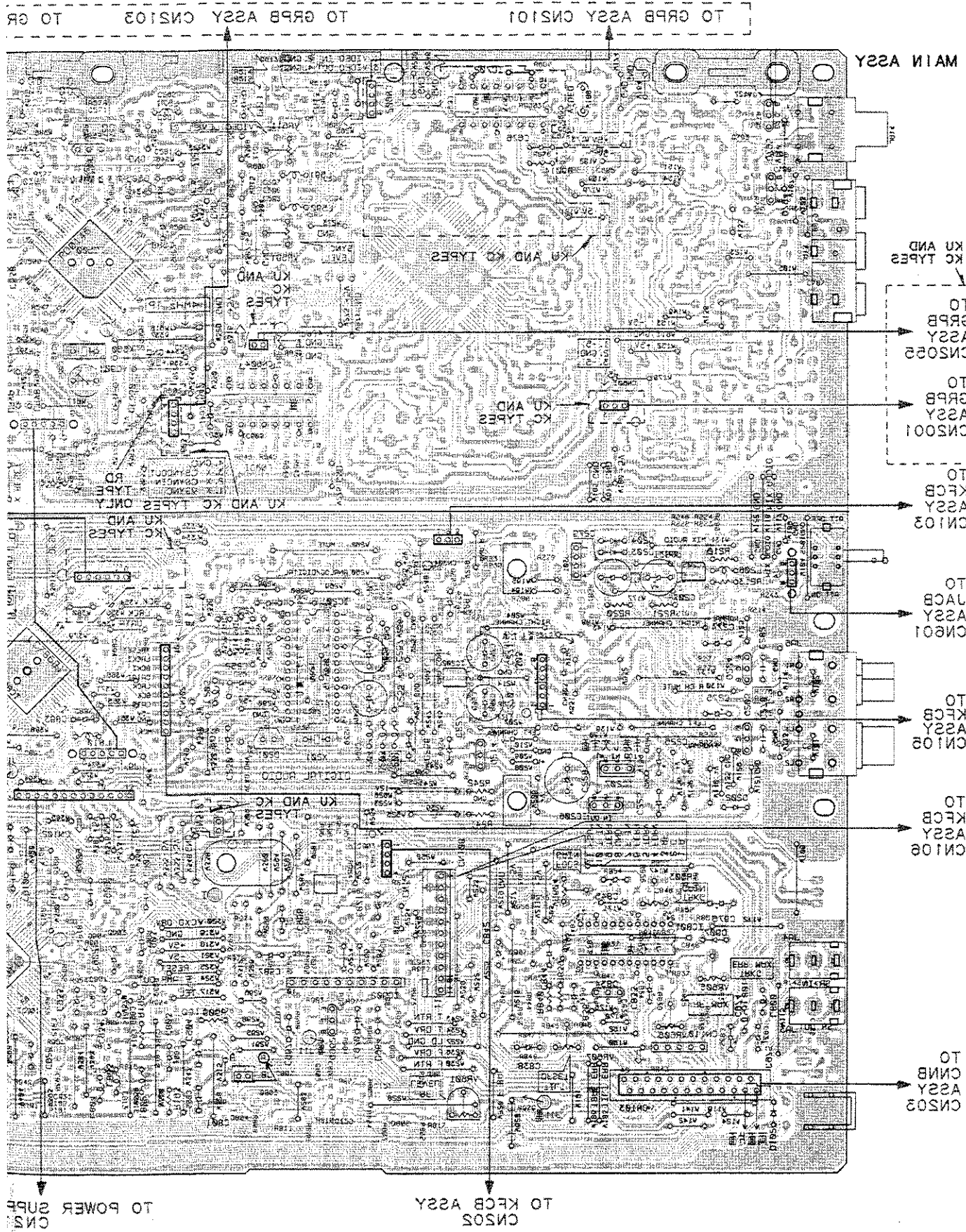
TO KFCB ASSY

TO KFCB ASSY

TO KFCB ASSY

TO CNB ASSY CNI103





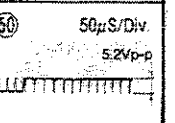
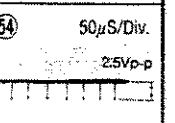
● This diagram is viewed from the foil side.



WAVEFORMS AND VOLTAGE VIDEO SECTION

Note: (No.) in the table correspond to the pin number.

Measurement condition: Where (Color bars) is written, at time when color bar screen of disc is being played. Where (Still) is written, at time of still.

IC400(PA0058A)	IC401(PA0023AD)	IC500(PD0146A)
(14) 20 μ S/Div. 0.9Vp-p  AC mode(Color bars)	(10) 20 μ S/Div. 0.24Vp-p  AC mode(Color bars)	(47) 20 μ S/Div. 1.7Vp-p  AC mode(Color bars)
(21) 20 μ S/Div. 0.9Vp-p  AC mode(Color bars)		(50) 50 μ S/Div. 5.2Vp-p  AC mode(Color bars Still)
		(54) 50 μ S/Div. 2.5Vp-p  AC mode(Color bars Still)

A

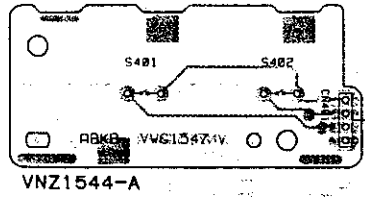
B

C

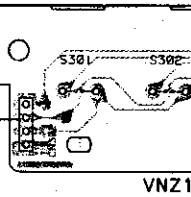
D

A

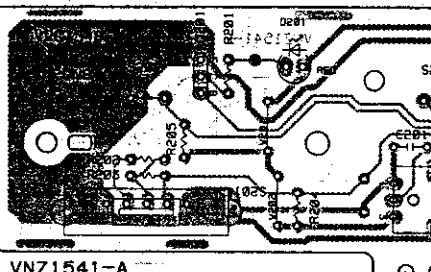
ABKB ASSY



DIKB ASSY

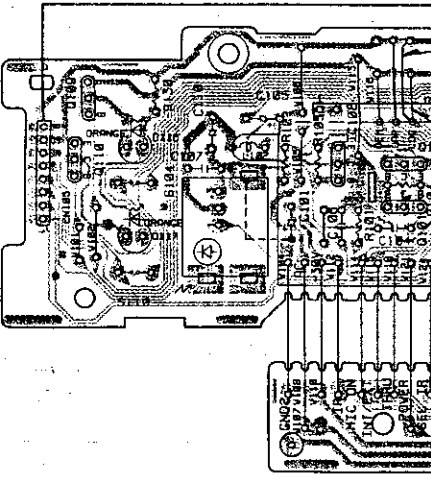


PONB ASSY



B

- IC501
- Q109
- Q105
- Q110
- Q104
- Q102
- Q106
- IC102
- Q108
- Q101
- IC101

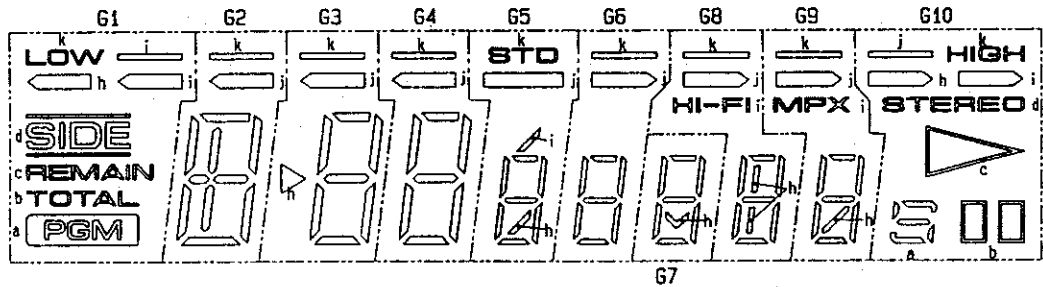


VNP1481-B

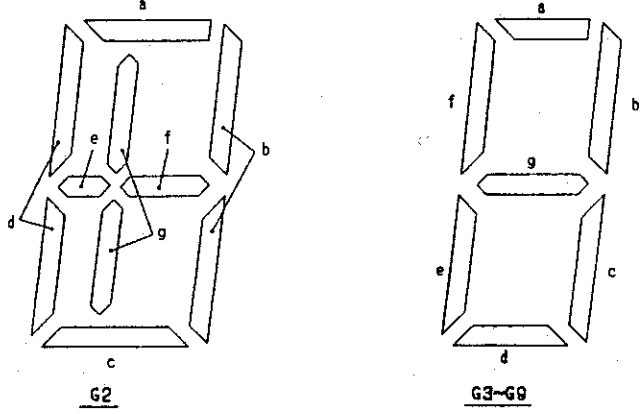
● FL INFORMATION (V101:VAW1034)

C

ANODE GRID ASSIGNMENT



D



E

	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
P1	PGM	a	a	a	a	a	a	a	a	5
P2	TOTAL	b	b	b	b	b	b	b	b	00
P3	REMAIN	c	c	c	c	c	c	c	c	△
P4	SIDE	d	d	d	d	d	d	d	d	STEREO
P5		e	e	e	e	e	e	e	e	
P6		f	f	f	f	f	f	f	f	
P7		g	g	g	g	g	g	g	g	
P8	(L)		△		(Lower)		∨		(L)	
P9	(R)				(Upper)			HI-FI	MPX	(R)
P10										
P11	LOW				STD					HIGH

F

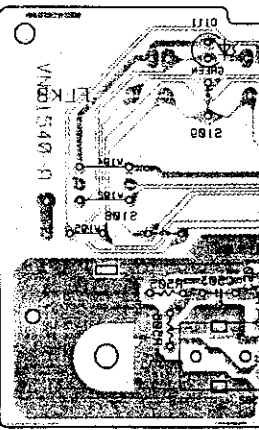
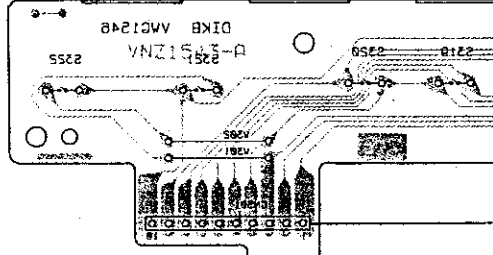
PIN ASSIGNMENT

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Assignment	F	F	NP	NL	NL	NL	NL	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2

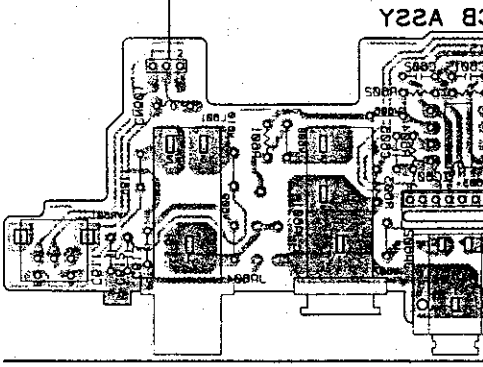
Pin No.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Assignment	P1	NL	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	NL	NL	NP	F	F

F:Filament G1-G10:Grid P1-P11:Anode NP:No pin NL:No lead

PCB-3



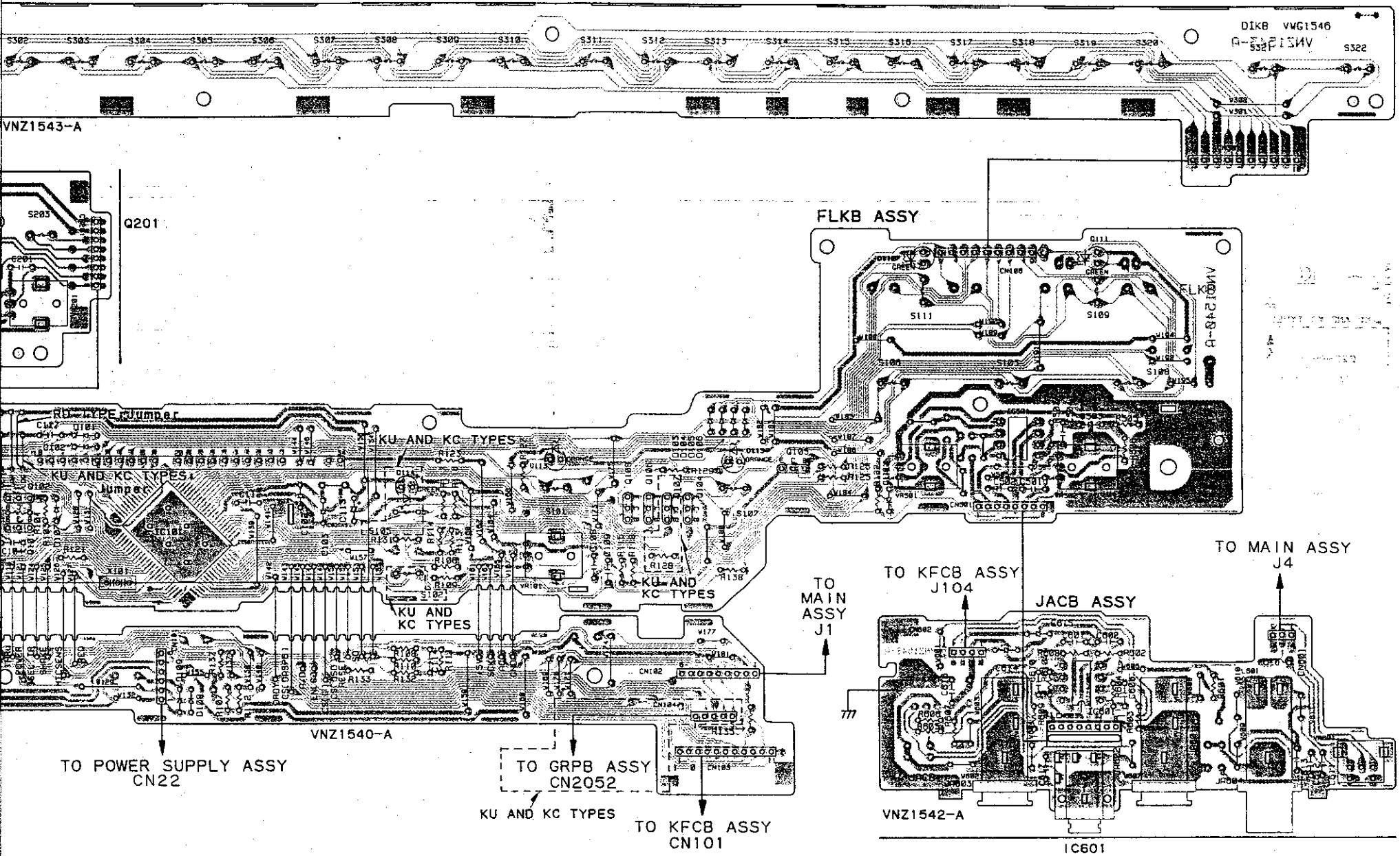
Y22A MIAM OT



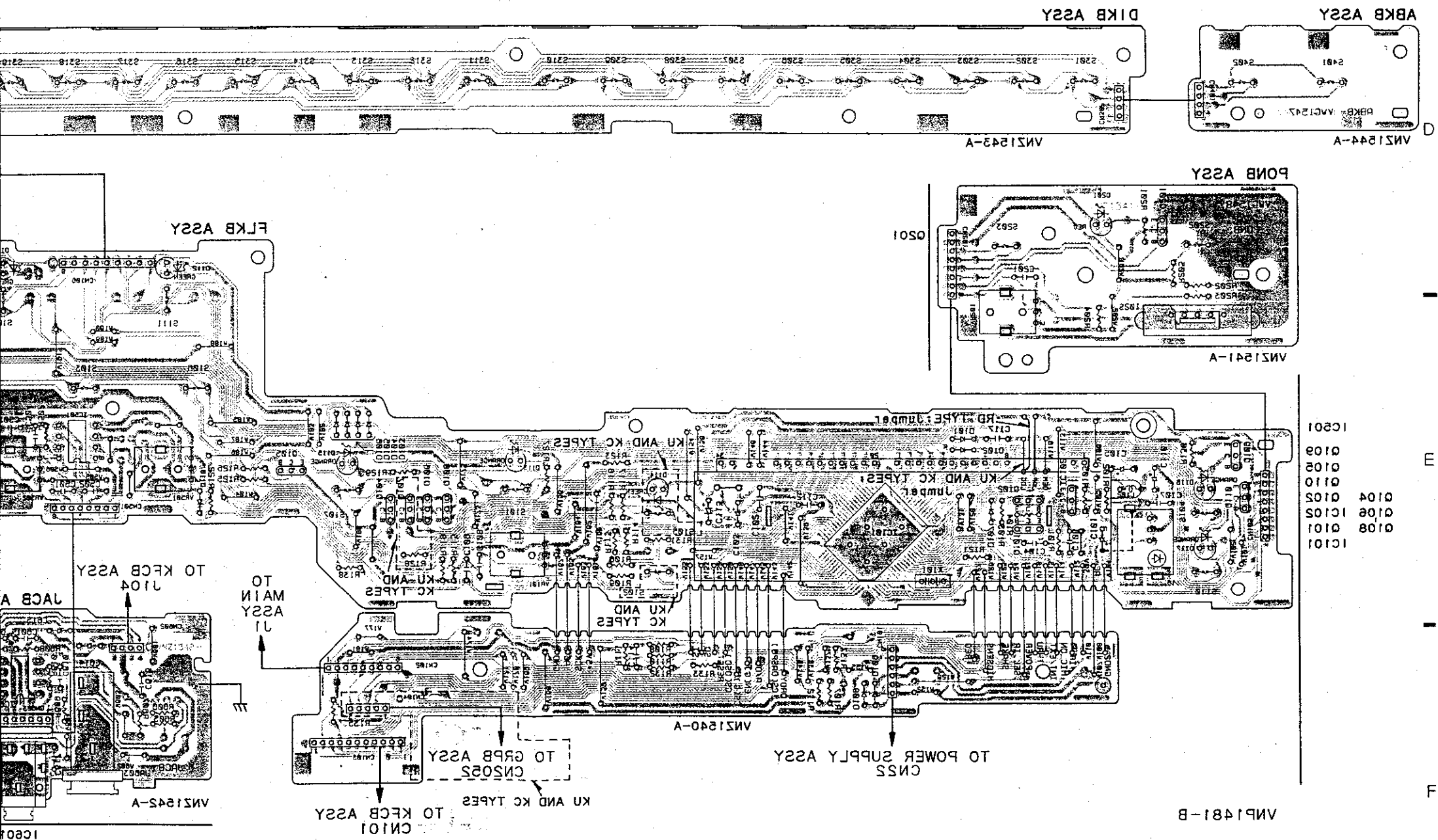
1030C

● This diagram is viewed from the mounted parts side.

PCB-3



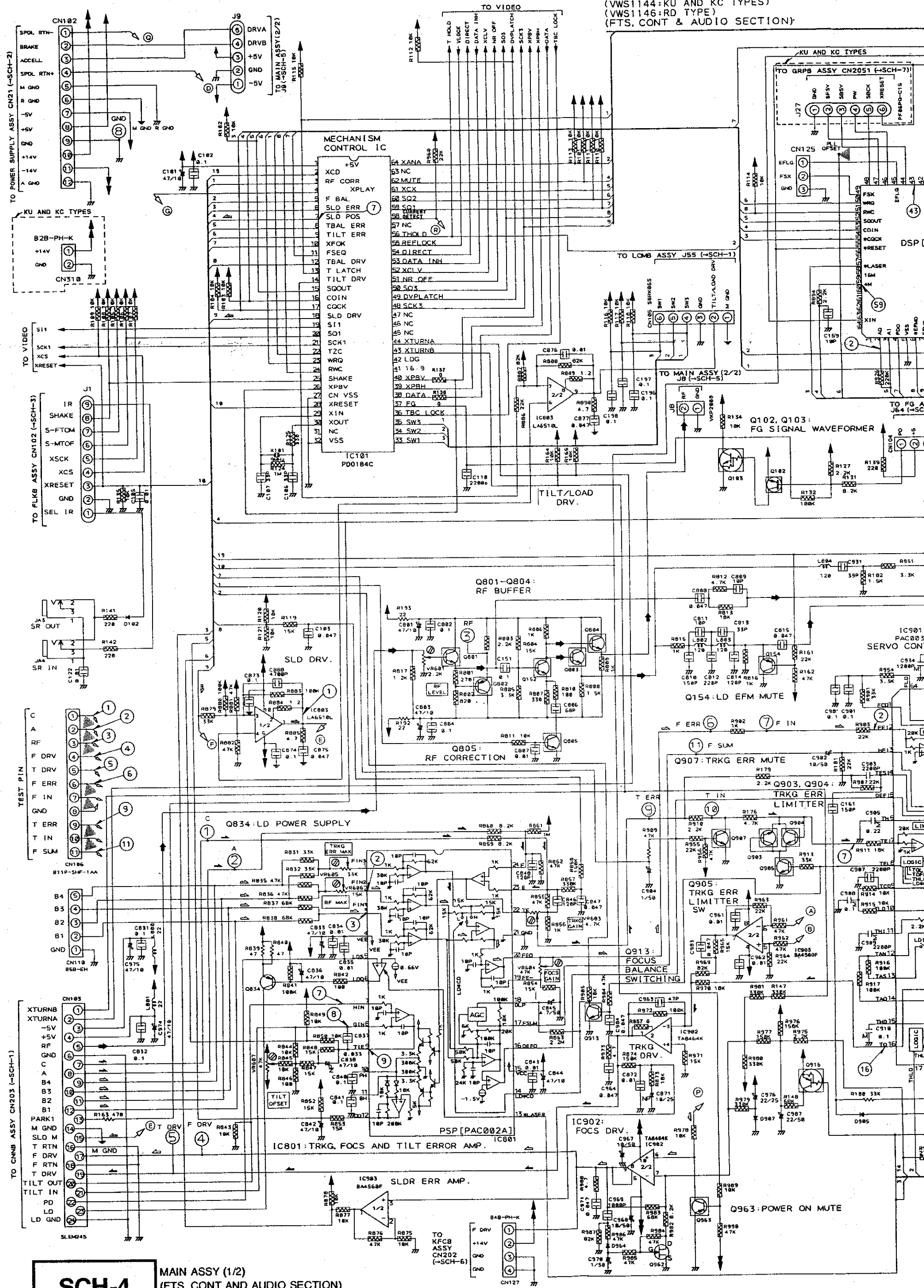
● This diagram is viewed from the foil side.



2.2.4 MAIN ASSY (1/2) (FTS, CONT AND AUDIO SECTION)

MAIN ASSY(1/2)
(VWS1144:KU AND KC TYPES)
(VWS1146:RD TYPE)
(FTS, CONT & AUDIO SECTION)

A
B
C
D
E
F



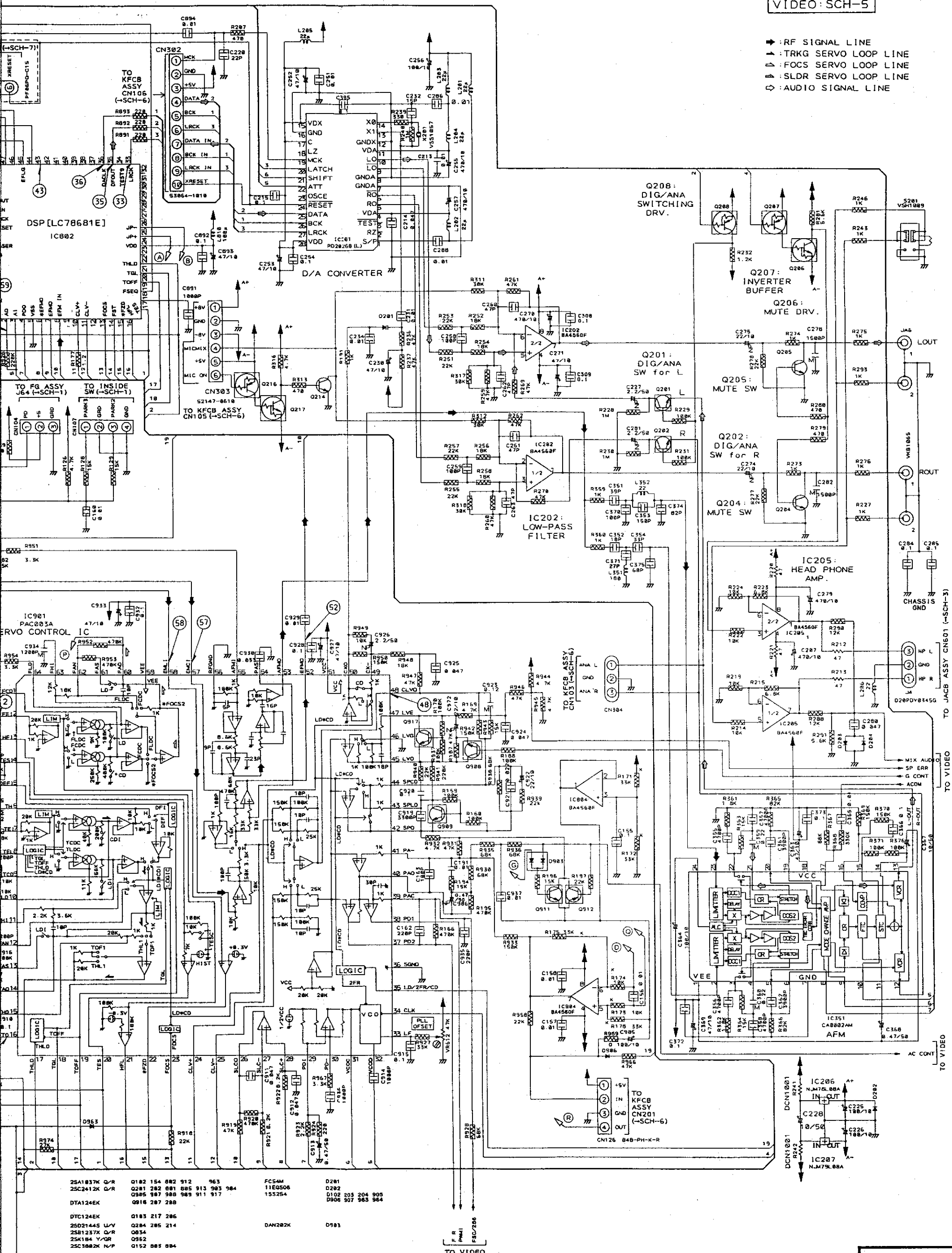
SCH-4 MAIN ASSY (1/2)
(FTS, CONT AND AUDIO SECTION)

Note: Indicates connection destination of schematic diagrams.

SCH-4

VIDEO: SCH-5

- ▶ RF SIGNAL LINE
- ▶ TRKG SERVO LOOP LINE
- ▶ FOCUS SERVO LOOP LINE
- ▶ SLDR SERVO LOOP LINE
- ◁ AUDIO SIGNAL LINE



MAIN ASSY (1/2)
(FTS, CONT AND AUDIO SECTION)

SCH-4

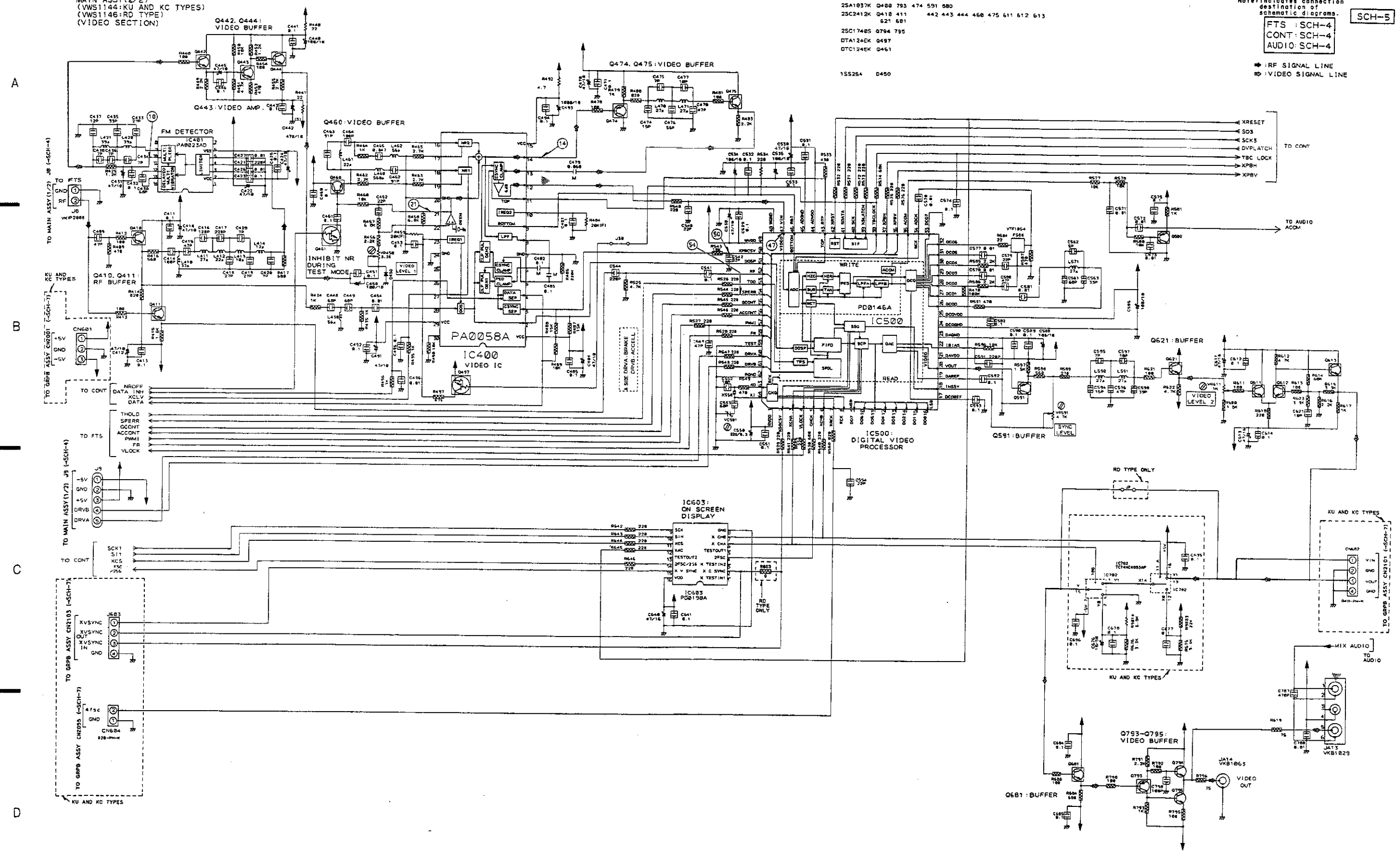
25A1837K Q/R	Q182 154 882 912	963	FCS4M	D281
25C2412K D/R	Q281 282 881 885 913 983 984		11E0508	D282
	Q985 987 988 989 911 917		155254	D102 205 204 905
DTA124EK	Q816 287 288			D906 907 963 964
DTC124EK	Q183 217 286		DAN282K	D983
25D21445 L/Y	Q284 285 214			
25B1237K Q/R	Q854			
25K184 Y/Q	Q852			
25C3882K N/P	Q152 885 884			

2.2.5 MAIN ASSY (2/2) (VIDEO SECTION)

MAIN ASSY(2/2)
(VWS1144:KU AND KC TYPES)
(VWS1146:RD TYPE)
(VIDEO SECTION)

Note: Indicates connection
destination of
schematic diagrams.
FTS :SCH-4
CONT :SCH-4
AUDIO :SCH-4
RF SIGNAL LINE
VIDEO SIGNAL LINE

- 25A1037K Q400 793 474 591 580
- 25C2412K Q410 411 442 443 444 460 475 611 612 613 621 681
- 25C1740S Q794 795
- DTA124EK Q497
- DTC124EK Q461
- 15S254 D450

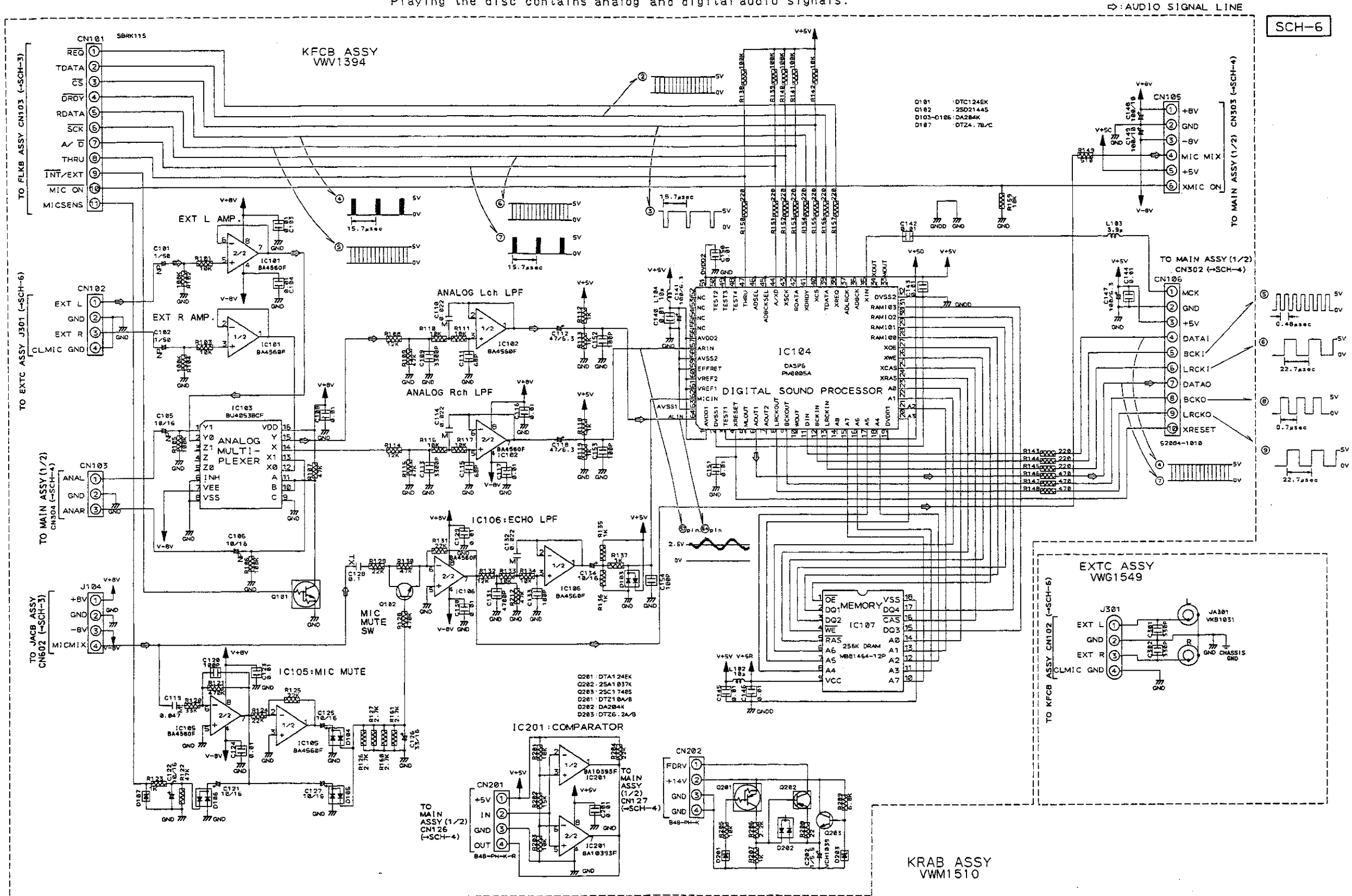


SCH-5 MAIN ASSY (2/2) (VIDEO SECTION)

MAIN ASSY (2/2) (VIDEO SECTION) SCH-5

2.2.6 KFCB AND EXTC ASSY

NOTE: Measuring condition of voltages and waveforms in the schematic diagram is follows:
 Karaoke mode
 Playing the disc contains analog and digital audio signals.



SCH-6

A

B

C

D

SCH-6 KFCB ASSY EXTC ASSY

KFCB ASSY EXTC ASSY SCH-6

● This diagram is viewed from the mounted parts side.

● This diagram is viewed from the foil side.

PCB-5

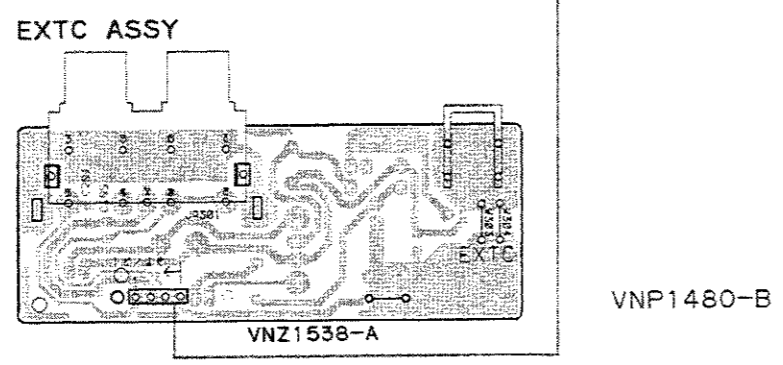
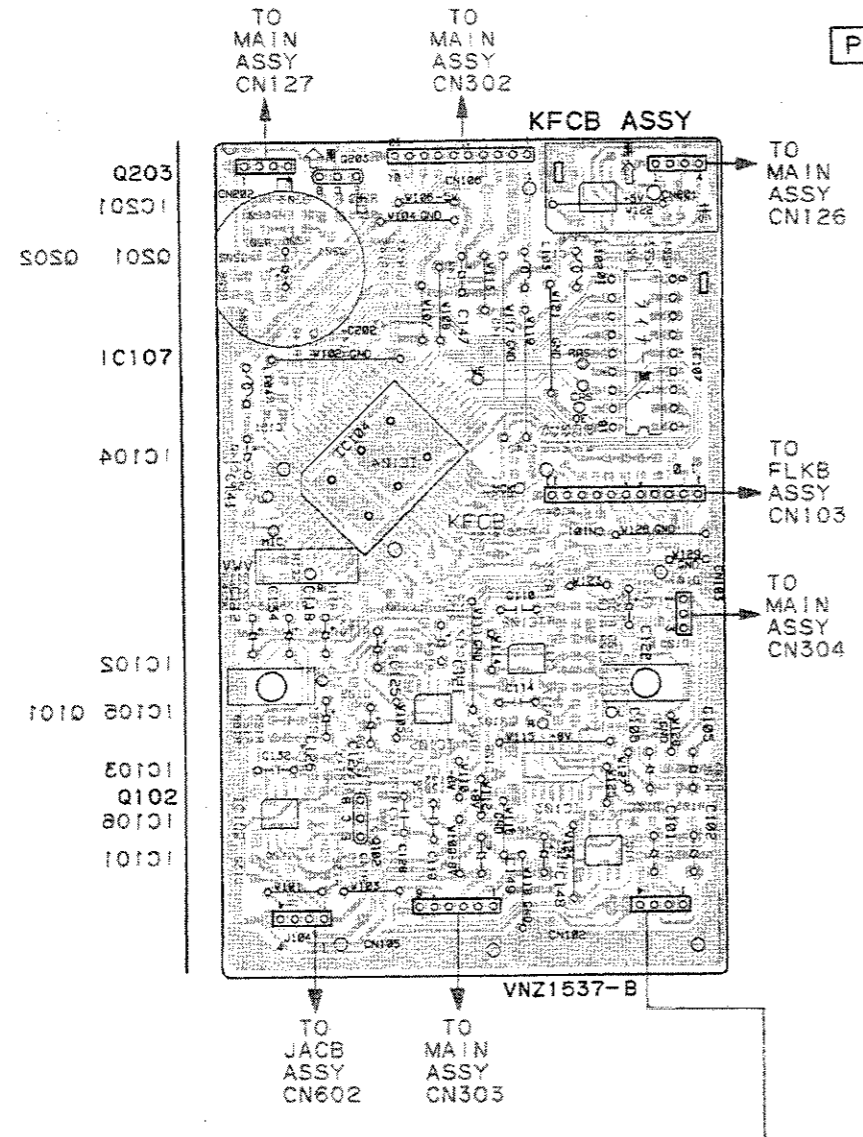
PCB-2

A

B

C

D

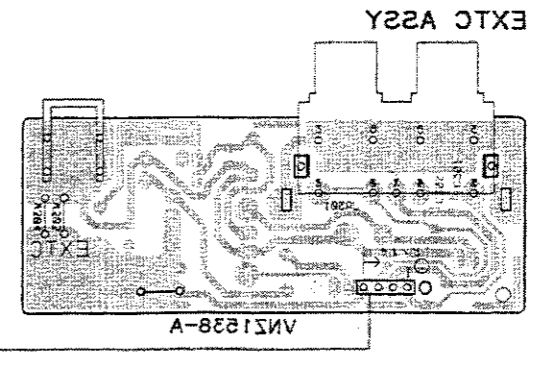
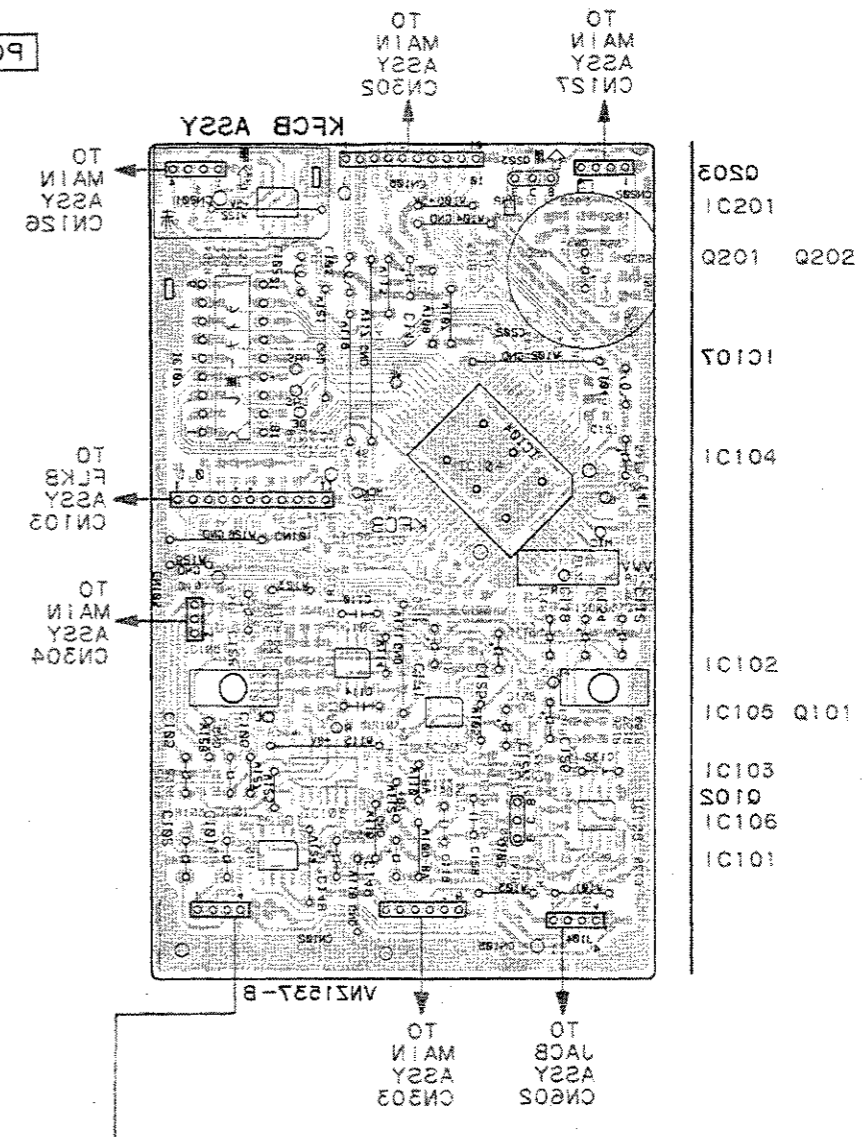


A

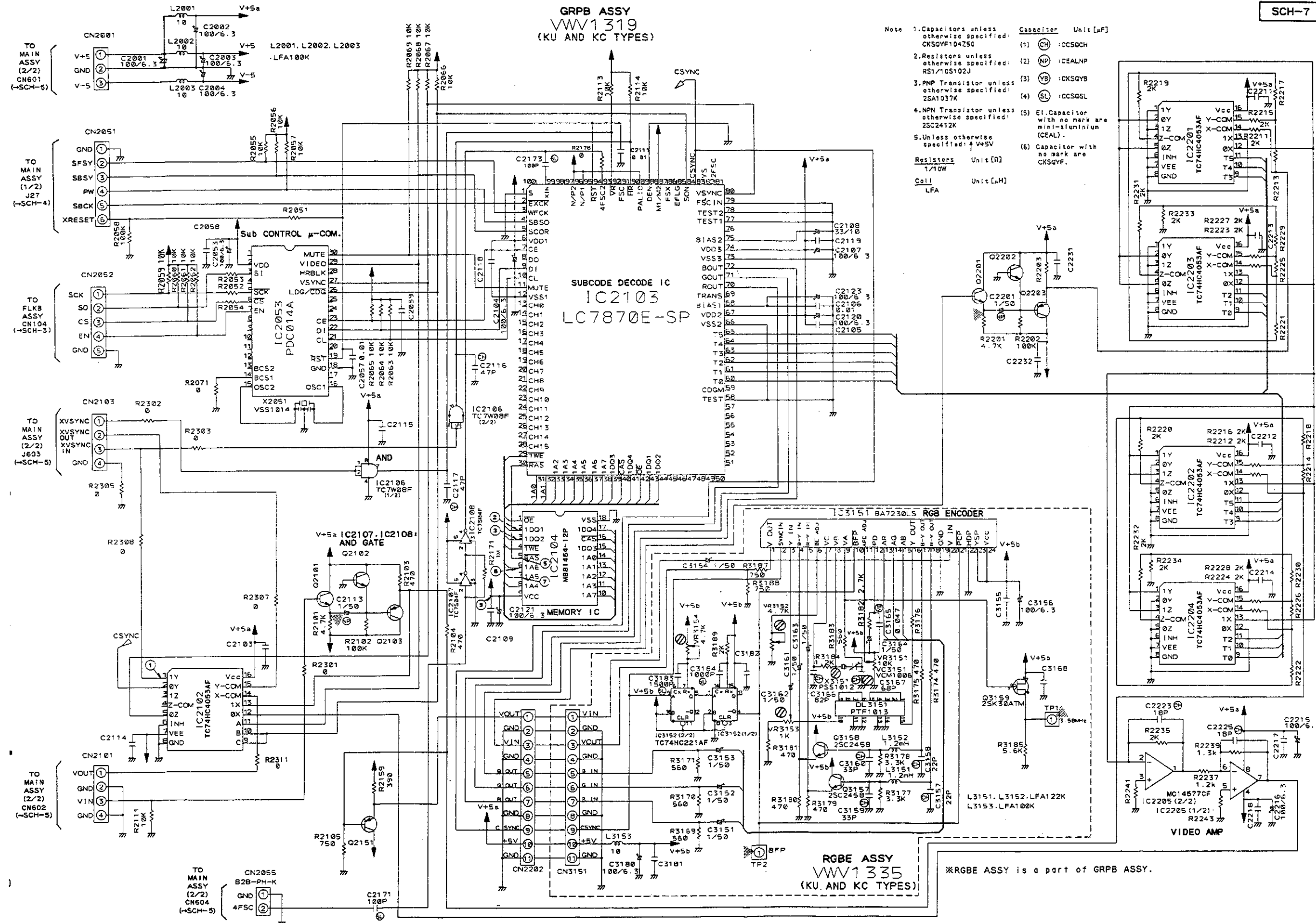
B

C

D



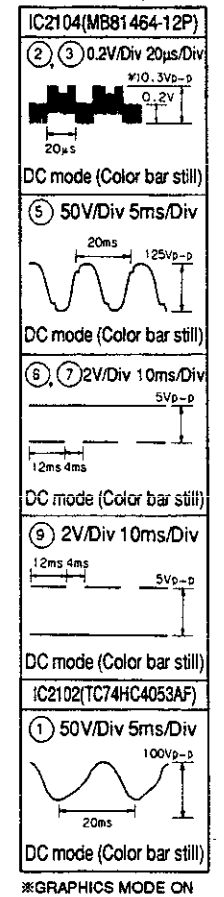
2.2.7 GRPB AND RGBE ASSY



- Note
1. Capacitors unless otherwise specified: CKSQVF104Z50
 2. Resistors unless otherwise specified: RS1710S102J
 3. PNP Transistor unless otherwise specified: 2SA1037K
 4. NPN Transistor unless otherwise specified: 2SC2412K
 5. Unless otherwise specified: V+5V
- | Capacitor | Unit [μF] |
|-----------|--|
| (1) CH | CCSOCH |
| (2) NP | CEALNP |
| (3) YB | CKSQYB |
| (4) SL | CCSQSL |
| (5) E1 | Capacitor with no mark are mini-aluminum (CEAL). |
| (6) | Capacitor with no mark are CKSQVF. |
- | Resistors | Unit [Ω] |
|-----------|----------|
| LFA | 1/10W |
- | Coil | Unit [mH] |
|------|-----------|
| LFA | |

SCH-7

Note: (No.) in the table correspond to the pin number.



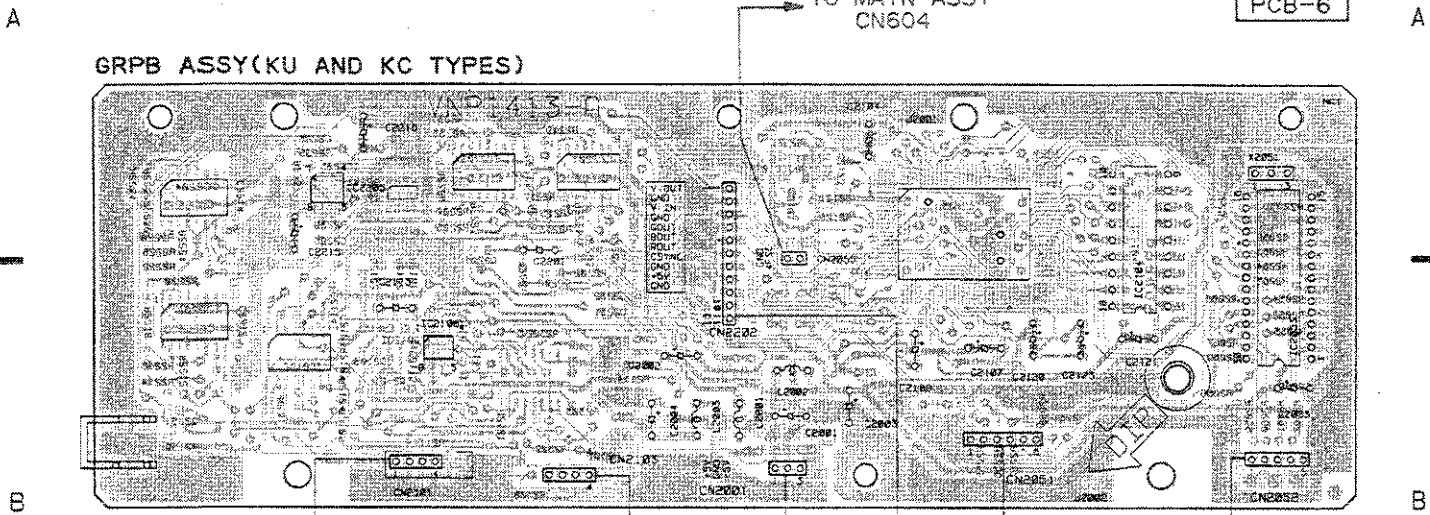
A
B
C
D

※RGBE ASSY is a part of GRPB ASSY.

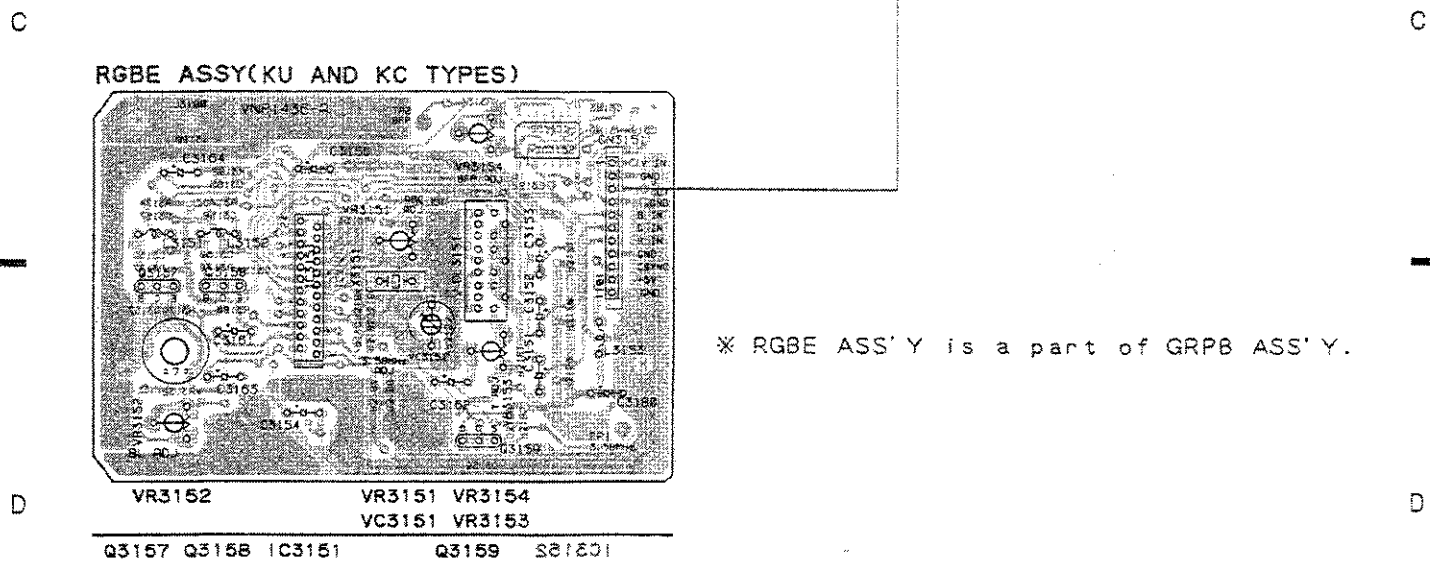
SCH-7 GRPB ASSY RGBE ASSY

GRPB ASSY RGBE ASSY SCH-7

- This diagram is viewed from the pink colored foil side.
- This PCB is double sided.

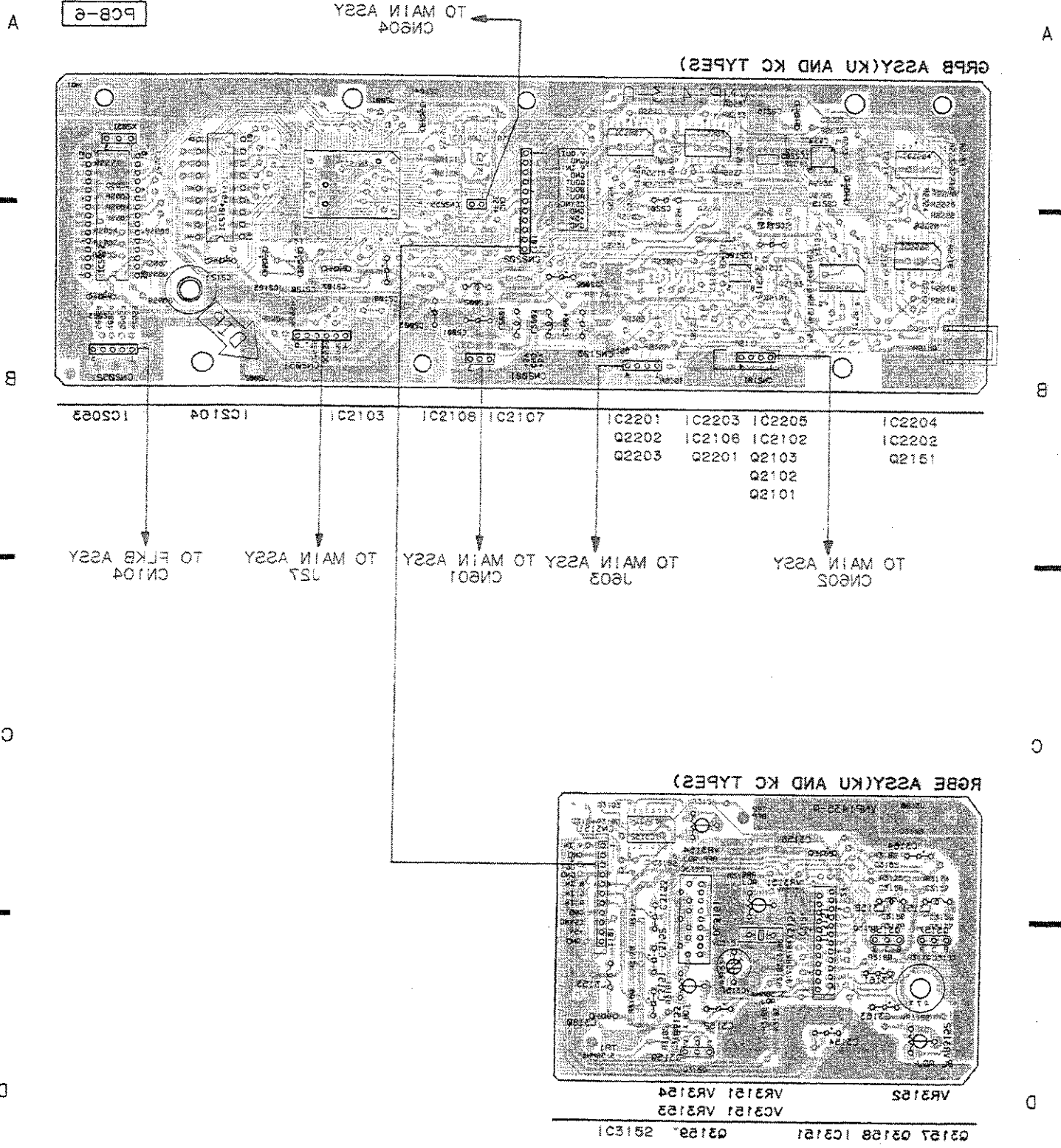


40SS01 30SS01 101S0	80SS01 301S01 101S0	80SS01 601S01 101S0	10SS01 30SS01 101S0	101S01 101S01	101S01 101S01	501S01 101S01	IC2104	IC2053
TO MAIN ASSY CN602	TO MAIN ASSY J603	TO MAIN ASSY CN601	TO MAIN ASSY J27	TO FLKB ASSY CN104				



* RGBE ASS'Y is a part of GRPB ASS'Y.

- This diagram is viewed from the gray colored foil side.
- This PCB is double sided.



2.3 BLOCK DIAGRAM

