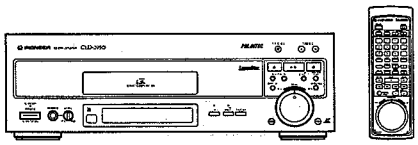
PIONEER®
The Art of Entertainment

Service Manual



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CD CDV LD PLAYER

CLD-2950

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

Type	Model	Power Requirement	Remarks
	CLD-2950		
WB	○	AC220—240V	
WEZ	○	AC220—240V	

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CHAPTER 1

1.1 SAFETY INFORMATION

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.



LASER
Kuva 1
Lasersateilyn varoitusmerkki

WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

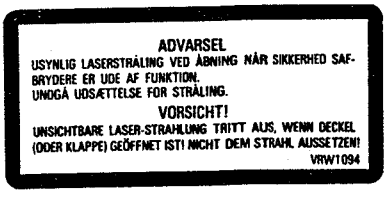
LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mW
WAVELENGTH: 780-785 nm



LASER
Picture 1
Warning sign for laser radiation

LABEL CHECK

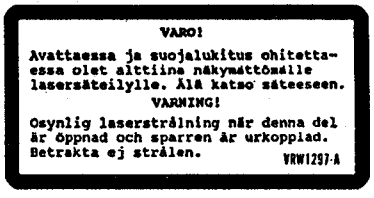
WEZ model



WB model

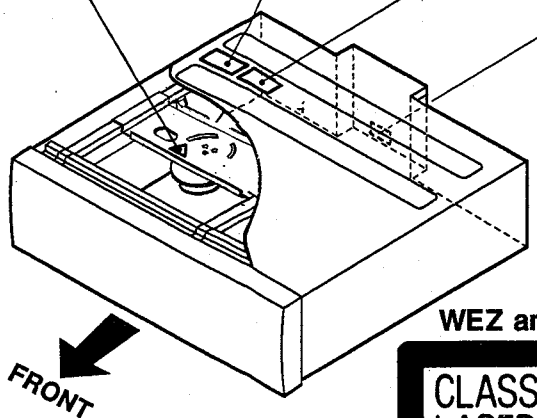


WEZ model



WEZ and WB models





WEZ and WB models

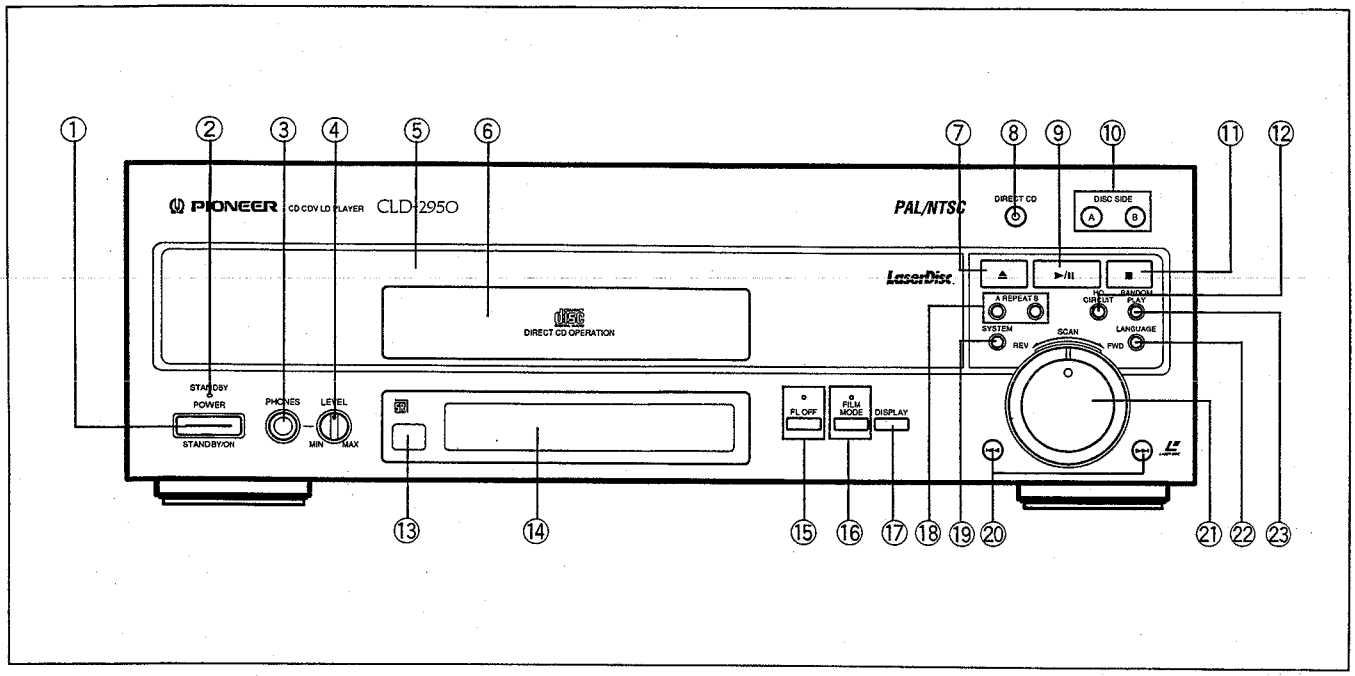


Additional Laser Caution

1. The ON/OFF statuses of the side-A/B detection switch (TURN switch on the MECHANISM assembly), slider-position detection switches (PARK 1, 2 and 3 on the MECHANISM assembly) and loading-status detection switches (SW 1, 2 and 3 on LOSB assembly) are detected by the microprocessor (IC101 in the MAIN assembly). To permit the laser diode to oscillate, it is required to set the side-A/B detection switch for side A (IC101 in the MAIN assembly, pin 44 XTURN A=L and pin 43 XTURN B=H) or the slider-position detection switch for the LD ACTIVE status (PARK 1:OFF, PARK 2: OFF, PARK3:OFF), and to set the loading-status detection switch for tilt neutral state (SW1: ON, SW2: OFF, SW3: ON). As long as these requirements are not satisfied, the laser diode will not oscillate. When the requirements are met in any way, the laser diode can oscillate. The laser diode oscillation will continue if pin 13 of IC801 is shorted to GND or the emitter and collector of Q834 are shorted each other (fault condition) in MAIN assembly.
   In the test mode *, the laser diode oscillates when the microprocessor detects a PLAY signal, or when the PLAY key is pressed (S104 ON in the FLKY assembly), with the above requirements satisfied.
2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to a Class 1 laser beam.

* Refer to page 1—14

1.2 PANEL FACILITIES



① **POWER STANDBY/ON switch**
Press to turn the power on and off.
② **STANDBY indicator**
③ **PHONES jack**
④ **PHONES LEVEL control**
Turn this control in the "MAX" direction to increase the output level from the PHONES jack. Turn this control in the "MIN" direction to decrease the output level from the PHONES jack.
⑤ **Disc table**
⑥ **CD disc table**
⑦ **Open/close (⏏) button**
⑧ **DIRECT CD button/indicator**
⑨ **Play/pause button (▶/II)**
⑩ **DISC SIDE A/B buttons**
⑪ **Stop button (■)**
⑫ **HQ CIRCUIT button**
⑬ **Remote sensor**
⑭ **Display window**
⑮ **FL OFF button/indicator**
⑯ **FILM MODE button/indicator**
⑰ **DISPLAY button**
⑱ **REPEAT A/B buttons**
⑲ **SYSTEM button**
⑳ **Skip buttons (|◀◀, ▶▶|)**
㉑ **SCAN control**
㉒ **LANGUAGE button**
㉓ **RANDOM PLAY button**

1.3 SPECIFICATIONS

1. General

System ..... LaserVision Disc system and Compact Disc digital audio system
Laser ..... Semiconductor laser wavelength 780 nm
Power requirements ..... AC 220 ~ 240 V, 50/60 Hz
Power consumption ..... 47 W
Weight ..... 8.2 kg
Dimensions ..... 420 (W) x 434 (D) x 140 (H) mm
Operating temperature ..... +5°C ~ +35°C
Operating humidity ..... 5% ~ 85%
(There should be no condensation of moisture.)

2. Disc

LaserVision Discs

PAL disc

*Maximum playing times
30 cm active play disc ..... 72 min/both sides
30 cm long play disc ..... 2 hours/both sides
20 cm active play disc ..... 28 min/both sides
14 min/one side
20 cm long play disc ..... 40 min/both sides
20 min/one side

Spindle motor speed
Active play disc ..... 1,500 rpm
Long play disc ..... 1,500 rpm (inner circumference) to 570 rpm (outer circumference)
(For a 30 cm disc)

NTSC disc

*Maximum playing times
30 cm standard play disc ..... 1 hour/both sides
30 cm extended play disc ..... 2 hours/both sides
20 cm standard play disc ..... 28 min/both sides
14 min/one side
20 cm extended play disc ..... 40 min/both sides
20 min/one side

Standard play disc ..... 1,800 rpm
Extended play disc ..... 1,800 rpm (inner circumference) to 600 rpm (outer circumference)
(For a 30 cm disc)

Compact Discs

DISC ..... Diameter: 12 cm, 8 cm, Thickness: 1.2 mm
Rotation direction (pickup side) ..... Counterclockwise
Linear speed ..... 1.2 ~ 1.4m/sec
*Maximum playing time ..... 74 min. 12 cm discs
20 min. 8 cm discs
(For stereo playback)

Compact Discs with Video

Disc ..... Diameter: 12 cm, Thickness: 1.2 mm
Rotation direction (pickup side) ..... Counterclockwise
Linear speed ..... Audio portion: 1.2 ~ 1.4m/sec
Video portion: 11 ~ 12m/sec
*Maximum playing time ..... Video portion: 5 min. (CLV)
Audio portion: 20 min. (Digital)

** Actual playback time differs for each disc.*

3. Video characteristics

Format ..... PAL/NTSC specifications
Video output
Level ..... 1 Vp-p nominal, sync. negative, terminated
Impedance ..... 75Ω unbalanced
Jack ..... RCA jack
S-Video output
Y (luminance) level ..... 1 Vp-p (75 Ω)
C (color) level ..... 286 mVp-p (75 Ω)
Jack ..... S-VIDEO jack

4. Audio characteristics

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

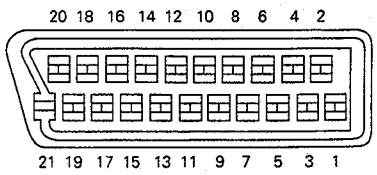
Digital Audio Characteristics

Frequency response	4 Hz - 20 kHz
SN ratio	115 dB (EIAJ)
Dynamic range	97 dB (EIAJ)
Total harmonic distortion	0.003 % (EIAJ)
Wow and flutter	Limit of measurement (EIAJ)

5. Other Terminals

Control input/output ..... Both miniature jacks
CD-DECK synchro ..... Miniature jack
Optical digital output ..... Optical digital jack
AV connector output ..... 21-pin connector
This connector provides the video and audio signals for connection to a colour video TV monitor (or TV set) which has a "AV CONNECTOR" terminal.

PIN assignment



PIN no.		
1	Audio 2/R out	17 GND
3	Audio 1/L out	19 Video out
4	GND	21 GND
8	Status	

6. Accessories

Remote control unit (CU-CLD097) 1
Size "AAA" (IEC R03) dry cell batteries 2
Euroconnector cable 1
Audio cord 1
Operating instructions 1
Warranty card 1

7. Functions

Remote control unit operations (CU-CLD097)

	Function	Active play Disc (CAV)	Long play Disc (CLV)	Compact Disc with Video	Compact Disc
Basic Functions	Two-side play	YES	YES	NO	NO
	Single-side play	YES	YES	YES	YES
	Pause	YES	YES	YES	YES
	Stop	YES	YES	YES	YES
Search	Fast forward (forward and reverse)	YES	YES	YES	YES
	Chapter/Track skip	YES	YES	YES	YES
	Direct chapter/Track number search	YES	YES	YES	YES
	Frame number search	YES	NO	NO	NO
	Time number search	NO	YES	YES	YES
	Absolute time search	NO	NO	NO	YES
Program	Chapter/Track program play	YES	YES	YES	YES
	Program correction	YES	YES	YES	YES
Repeat	Repeat between 2 points	YES	YES	YES	YES
	Memory repeat	YES	YES	YES	YES
	Chapter/Track repeat	YES	YES	YES	YES
	One-side repeat	YES	YES	YES	YES
	All-side repeat	YES	YES	NO	NO
	Program repeat	YES	YES	YES	YES
	Random repeat	YES*1	YES*1	YES	YES
	Program random repeat	YES	YES	YES	YES
Trick play	Still/Step	YES	NO	NO	NO
	Multi-speed (Forward/reverse 9-level variable)	YES	NO	NO	NO
Time display	Elapsed time display	NO	YES	YES	YES
	Absolute time display	YES*1	NO	NO	YES
	Remaining track time display	NO	NO	YES	YES
	Remaining total time display	YES*1	YES*1	YES	YES
	Total number of selections, total time display	YES*1	YES*1	YES	YES
Others	Compu program/Auto program edit	YES*1	YES*1	YES	YES
	Hi-Lite scan	NO	NO	YES*4	YES
	Intro scan	YES	YES	YES*5	NO
	Digital level control	YES*3	YES*3	YES	YES
	CX system ON/OFF	YES*2	YES*2	NO	NO
	Audio channel selection (Stereo, 1/L, 2/R)	YES	YES	YES	YES

*1 Only discs with TOC
*2 Valid for analog audio playing a disc with the CX mark.
*3 Can only be used with discs with digital audio tracks.
*4 Audio part only
*5 Video part only

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

PLAYER FUNCTIONS

- Display, Visual Calendar Display
- Intro Scan, Hi-Lite Scan, Direct CD, Digital Level Control, Random Playback, Program Random Playback and Compu Program/Auto Program Edit
- Digital Audio for LaserVision Discs
- Last Memory

1.4 IC INFORMATION

■ PD3273A (FLKY ASSY IC100)

● Mode control IC

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

● Pin function

No.	Pin name	I/O	Function
1	VCC	I	+5V
2	P90	O	NC (OPEN)
3	xS−CLOCK	I/O	Serial communication clock (Mechanism control, Chara. Gen.)
4	S−MTOF	I	Serial communication data input (Mechanism control)
5	S−FTOM	O	Serial communication data output (Mechanism control, Chara. Gen.)
6	xRESET OUT	O	Mother board reset output
7	xCS	O	Chara. Gen. (PD0175A) CS output (L:enable)
8	SYNC IN	I	CD deck synchro input
9	SYNC OUT	O	CD deck synchro output
10	AVCC	I	+5V
11	AN0		
12	AN1		
13	KIN0	I	Key data input
14	KIN1		
15	KIN2		
16	KIN3		
17	KIN4		
18	P07	I	GND
19	AVSS		
20	TEST		
21	X2	O	NC (OPEN)
22	X1	I	+5V
23	VSS	I	GND
24	OSC1	I	Main system clock oscillation (8MHz)
25	OSC2	O	
26	xRESET IN	I	CPU Reset (L : reset)
27	SHAKE	I	Mechanism control communication request
28	SEL IR	I	Remote control input
29	POWER ON	O	Mother board power supply swiching output
30	LED (THEATER)	O	LED output : theater indication
31	P16	I	GND
32	P47	O	NC (OPEN)
33	LED (FL-OFF)	O	LED output : FL OFF indication
34	LED (DRCTCD)	O	LED output : Direct CD indication
35	P44	O	NC (OPEN)
36	SHTLSCAN	O	Shuttle scan output
37	SEG K	O	Display segment output
38	SEG J		
39	SEG I		
40	KSCAN0/SEG H	O	Key scan output/Display segment output
41	KSCAN1/SEG G		
42	KSCAN2/SEG F		
43	KSCAN3/SEG E		
44	SEG D		
45	SEG C		
46	SEG B		
47	SEG A		
48	VDISP	I	−27V
49	P60	O	NC (OPEN)
50	P61		
51	G10	O	Display digit output
52	G9		
53	G8		
54	G7		
55	G6		
56	G5		
57	G4		
58	G3		
59	G2		
60	G1		
61	LED (STNBY)	O	LED output : Standby indication
62	MODEL	I	Switching of domestic/overseas models
63	DOGFOOD	O	Pulse output for watchdog timer
64	P77	O	NC (OPEN)

■ PD0194A (MAIN ASSY IC101)

● Mechanism control IC

● Pin function

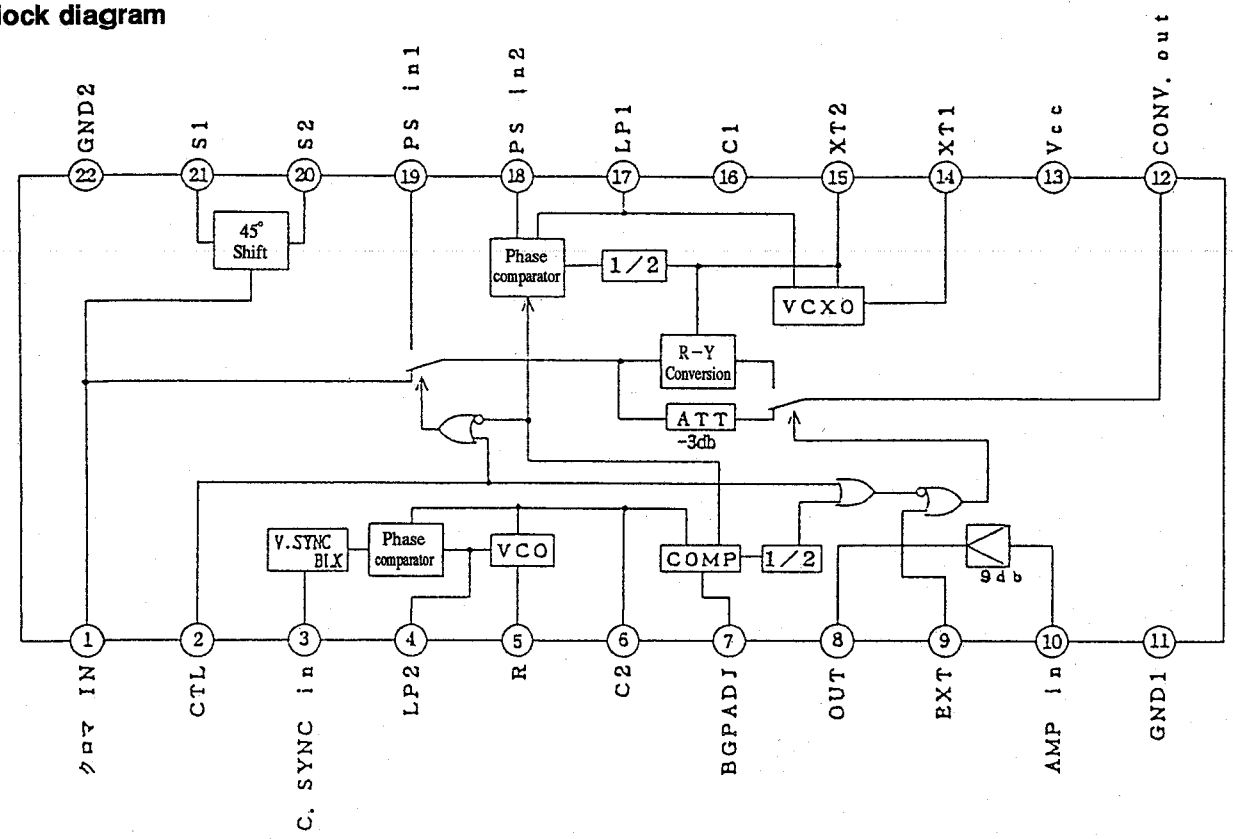
No.	Pin name	I/O	Function
1	VCC	I	Power connection pin Impresses 5V±10%.
2	XCD	O	LD/CD switching signal output pin. "L" = CD "H" = LD
3	RFCORR	O	RF collection switch signal output pin. "H" = gain up CD,CDV-A:Low Raise the gain with the CAV inner circuit, otherwise High.
4	GPWM	O	Duty pulse signal output terminal for spindle gain switching. CLV inner circuit : L Outer circuit : H
5	FBAL	O	Focus balance control H: TEMAX L: RFMAX
6	SLDERR	I A/D	Carries out A/D conversion of this signal and controlled input of the slider servo. Control the slider motor so that this signal becomes 2.5V.
7	SLDPOS	I A/D	Pick up position detection switch input pin. Divides the resistance of each switch and detects the reading position of the A/D input value.
8	TBALERR	I A/D	Tracking balance error signal input pin. Carries out A/D conversion of this signal and controlled input of the tracking offset.
9	TILTERR	I A/D	Carries out A/D conversion of this signal and controlled input of the tilt servo. Control the tilt motor so that this signal becomes 2.5V.
10	XFOK	I	Focus servo lock signal input pin. "L" = lock "H" = unlock Used for detecting focus servo locking.
11	FSEQ	I	Sub−code sync conformity detection signal input pin. "L" = Others "H" = Conformity
12	TBALDRV	O PWM	Carries out PWM output of the tracking offset, and is used for auto tracking offset. 910μsec cycles, 3 value control H, L, Z.
13	TLATCH	O	DAC & digital filter PD2026 serial control latch signal output terminal. Startup is latched.
14	TILTDRV	I/O	Load/tilt control output pin. 0, 5V−tray IN, OUT/tilt DOWN, UP 2.5V−STOP Carries out PWM output of the tilt drive, and is used for the tilt servo.
15	SQOUT	I	DSP reading command data input pin. SUBQ is read out.
16	COIN	O	DSP writing command data output pin.
17	CQCK	O	DSP reading/writing command clock output pin. Start−up reading.
18	SLD DRV	O PWM	Slider control signal output pin. 5V = FWD, 0V = REV, 2.5V = STOP 910μsec cycles, 3 value control H, L, Z.
19	SI1	I	Input pin for data from mode control IC.
20	SO1	O	Serial data output to mode control IC.
21	SCK1	I/O	Clock for serial communication with mode control IC. Is set to input mode at all times when not used for communication with the mode control IC.
22	TZC	I INT	Tracking error zero cross signal input pin. At the time of mix lamp detection, this signal is monitored during track count search.
23	WRQ	I	Sub−code Q reading OK signal input pin. "L" = NG "H" = OK This terminal becomes H when the sub−code Q data passes the CRC check.
24	RWC	O	DSP reading/writing command signal output pin. "L" = READ "H" = WRITE
25	SHAKE	I/O	Handshake signal pin for data communication with mode control IC. This terminal is used as a data line for both directions, and each microcomputer carries out input/output control.
26	XPBV	I	LD/CDV play vertical synchronous signal input pin. "L" = vertical synchronous
27	CNVss	I	GND grounding for A/D conversion.
28	XRESET	I	Reset signal input pin. "L" = reset "H" = reset cancel Controlled by mode control IC.
29	XIN	I	9MHz clock oscillation input pin.
30	XOUT	O	9MHz clock oscillation output pin.
31	N. C.	O	Not used. Since it is for only ϕ output, it cannot be used for anything else.
32	GND	I	GND grounding.
33	SW1	I	Switch input pin for loading/tilt position detection.

No.	Pin name	I/O	Function
34	SW2	I	Switch input pin for loading/tilt position detection.
35	SW3	I	Switch input pin for loading/tilt position detection.
36	XSLOCK	I	Spindle lock signal input pin. "H" = unlock "L" = lock
37	FG	I	Spindle motor FG signal input pin 24 outputs per rotation. Used after dividing by 3 in microcomputer.
38	DATA	I	Input pin for Phillips code decoder with built in mechanism controller.
39	PBH	I	Play H−SYNC input for Phillips code decoder.
40	XPBV	I	Play V−SYNC input for Phillips code decoder.
41	16:9	O	16:9 switching signal output pin. 16:9 "H" 4:3 (normal) "L"
42	VLOCK	I	Vertical synchronous lock detection signal input pin. "L" = phase is not correct "H" = phase is correct.
43	XTURNB	I	Switch input terminal for turn mechanism R Plate position detection. L : B-side H : A-side, Others
44	XTURNA	I	Switch input terminal for turn mechanism R Plate position detection. L : A-side H : B-side, Others
45	XPAL	O	PAL/NTSC signal output pin. L : PAL, H : NTSC
46	XPLAY	O	PLAY signal output terminal for PAL. L : PLAY H : NOT PLAY
47	JF/R	I/O	JUMP FWD signal output terminal for PAL. FWD jump : H REV jump : L Others : Z
48	SCK3	O	Serial 3 clock signal output pin.
49	XLATCH3	O	Serial 3 latch signal output pin for TBC.
50	SO3	O	Serial 3 data signal output pin. The serial signal is a common one, and the signals are distinguished with latch signals (XLAT3, TLAT).
51	DIRECT	O	CD direct video line power off signal output pin. Video PWOFF: H normal: L
52	XCLV	O	CAV/CLV switching signal output pin. "H" = CAV, "L" = CLV
53	VSQ	O	Switching signal output terminal for the video signal. H : squelch ON L : squelch OFF
54	SENA	O	Shift enable signal output terminal. H : H is picked and REFV is made closer to PBV. L : Normal
55	CLRSCN	O	Clear scan signal output terminal. H : During clear scanning. L : Others
56	T HOLD	I	Track jump accelerating/decelerating signal input pin. "H" = accelerating/decelerating "L" = Others
57	HQON	O	High quality circuit control signal output terminal. H : HQ circuit ON. L : HQ circuit OFF.
58	AMPDET	I	Spindle overcurrent detection signal input pin. "L" = overcurrent "H" = normal
59	SQ1	O	Analog sound switching signal output pin. 1/L "L" = squelch OFF "H" = squelch ON
60	SQ2	O	Analog sound switching signal output pin. 2/R "L" = squelch OFF "H" = squelch ON
61	XCX	O	Analog sound CX noise reduction switching signal output pin. "L" = CX ON "H" = CX OFF
62	MUTE	O	Audio line sound mute control signal output pin. "H" = MUTE "L" = MUTE CANCEL
63	ACCONT	I/O	Output terminal for signal increasing/reducing the spindle speed. H : Accelerator L : Brake Z : Others
64	XANA	O	Digital/analog audio switch signal output pin. "H" = digital "L" = analog

■ MM1130XD (PALB ASSY IC304)

● Chroma signal processing IC

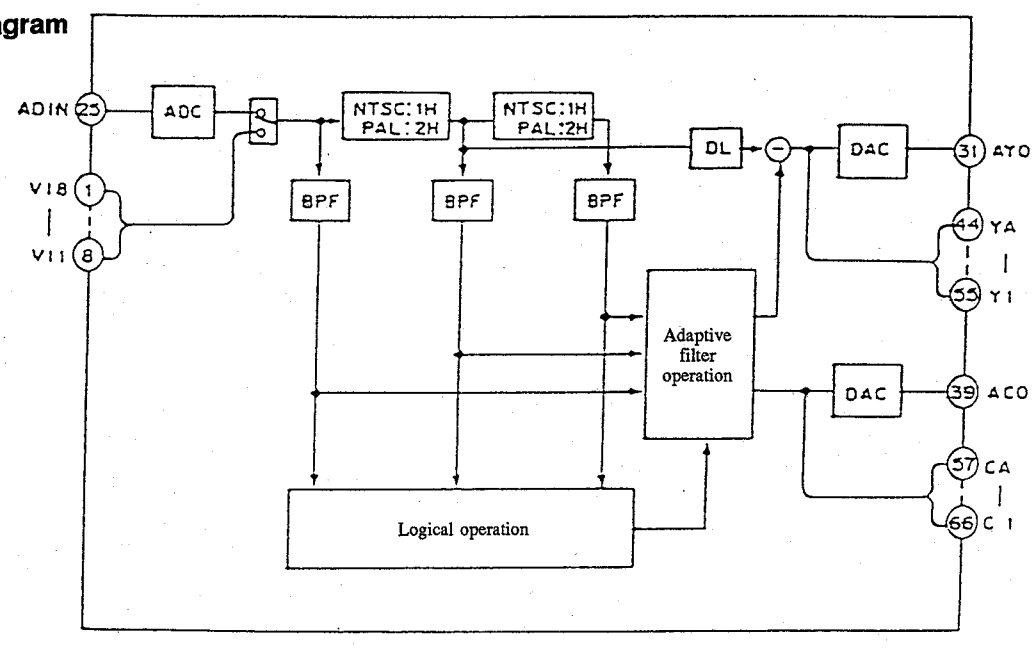
● Block diagram



■ CXD2024Q (YCNR ASSY IC801)

● 3 Line D-COMB filter

● Block diagram



• Pin function (CXD2024Q)

No.	Pin name	I/O	Function
1	VI8	I	Digital input (MSB). When not using, connect to DV_{SS} or DV_{DD}.
2	VI7	I	Digital input When not using, connect to DV_{SS} or DV_{DD}.
3	VI6		
4	VI5		
5	VI4		
6	VI3		
7	VI2		
8	VI1	I	Digital input (LSB). When not using, connect to DV_{SS} or DV_{DD}.
9	ADCO	I	H : Output the video signal obtained from the AD converter (input pin ADIN) as it is through the Y output terminals (YA−Y3) as 8-bit digital data with the 3.5 clock delay. L : Becomes normal mode.
10	INSL	I	Input switching. Switches the comb filter. H : Digital input L : Analog input
11	OCLK	I	Clock amplifier input. Cut the DC with the condenser when the level becomes higher than 0.8Vp−p and then input.
12	DV_{SS}	—	Digital ground
13	DV_{DD}	—	Digital Power supply (5V)
14	CLKO	O	Clock amplifier output
15	MCK	I	Clock input. Input the 4fsc clock that has been locked to the color burst. Normally, the ⑭pin clock amplifier is connected.
16	ADCK	I	Clock input for the AD converter. Input the same clock as for the clock input MCK. Normally, the ⑭pin clock amplifier is connected.
17	CLPI	I	Clamp pulse input for the AD converter. Clamps the signal voltage of the low area of the clamp pulse. When the clamp function is OFF, connect to DV_{DD}.
18	XCPON	I	H : The clamp function is turned OFF and only the normal AD converter function is active. L : The clamp function operates.
19	ADVS	—	Digital ground for the AD converter
20	ICP	I	Voltage integrated terminal for clamp control. Connect a condenser of 0.01μF. (When not using the clamp, connect to the ground.)
21	CRV	I	Clamp standard voltage input. Operates to make the standard voltage and clamp area input voltage the same. (When not using the clamp, connect to the ground.)
22	RB	O	Standard voltage (Bottom), Standard value (0.5V)
23	GR	—	Guard ring (connect to the analog ground.)
24	AAVS	—	Analog ground for the AD converter
25	ADIN	I	Comb filter analog input (AD converter input)
26	AAVD	—	Analog power supply for the AD converter (5V)
27	RT	O	Standard voltage (Top), Standard value (2.6V)
28	ADVD	—	Digital power supply for the AD converter (5V)
29	YV_{DD}	—	Power supply for the Y/AD converter (5V)
30	XAYO	O	AYO reverse electric current output terminal (Connect to the analog ground YV_{SS}.)
31	AYO	O	Analog brightness signal output (By connecting a resistor, the output can be obtained.)
32	YVG	O	Connect a condenser of 0.1μF.
33	YVRF	I	Sets the full scale value of the analog brightness signal.
34	YIRF	O	Connect the "16R" resistor which is 16 times for the "R" output resistor of the AYO terminal.
35	YV_{SS}	—	Analog ground for the Y/AD converter.
36	VB	O	Connect a condenser of 0.1μF.
37	CV_{DD}	—	Analog power supply for the C/AD converter (5V).
38	XACO	O	ACO reverse electric current output terminal (Connect to analog ground CV_{SS}.)
39	ACO	O	Analog chroma signal output (By connecting a resistor, the output can be obtained.)

No.	Pin name	I/O	Function
40	CVG	O	Connect a condenser of 0.1μF.
41	CVRF	I	Set the full scale value of the analog chroma signal.
42	CIRF	O	Connect the "16R" resistor which is 16 times for the "R" output resistor of the ACO terminal.
43	CV_{SS}	—	Ground for the C/DA converter
44	YA	O	Digital brightness signal output (MSB)
45	Y9	O	Digital brightness signal output
46	Y8		
47	Y7		
48	Y6		
49	Y5		
50	Y4		
51	Y3		
52	DV_{SS}	—	Digital ground
53	DV_{DD}	—	Digital power supply (5V)
54	Y2	O	Digital brightness signal output
55	Y1	O	Digital brightness signal output (LSB)
56	XYOE	I	Digital brightness signal output control H : High impedance L : Enable
57	CA	O	Digital chroma signal output (MSB)
58	C9	O	Digital chroma signal output
59	C8		
60	C7		
61	C6		
62	C5		
63	C4		
64	C3		
65	C2		
66	C1	O	Digital chroma signal output (LSB)
67	XCOE	I	Digital chroma signal output control H : High impedance L : Enable
68	APCN	I	Aperture correction H : Corrects F characteristic deterioration caused by aperture effects. Even in the through mode (TST ON) aperture correction is applied to the Y output. L : Standard mode
69	RATI	I	H : PAL L : NTSC
70	NTPL	I	H : PAL L : NTSC
71	TST	I	Y output through mode H : Outputs an composite video input signal from the Y output. At this time, there is a 1H (for NTSC and PAL it is 2 H) + 18 clock delay from the input (at digital input). A Y/C separated C signal is output from the C output. L : Y/C separation mode
72	DV_{SS}	—	Digital ground
73	DV_{DD}	—	Digital power supply (5V)
74	NPL	I	H : PAL L : NTSC
75	TEST	I	Test terminal: Make sure to fix "L".
76	TEST		
77	TEST		
78	TEST		
79	BPF	I	H : Fix to BPF separation. L : Standard mode
80	TEST	I	Test terminal: Make sure to fix "L".

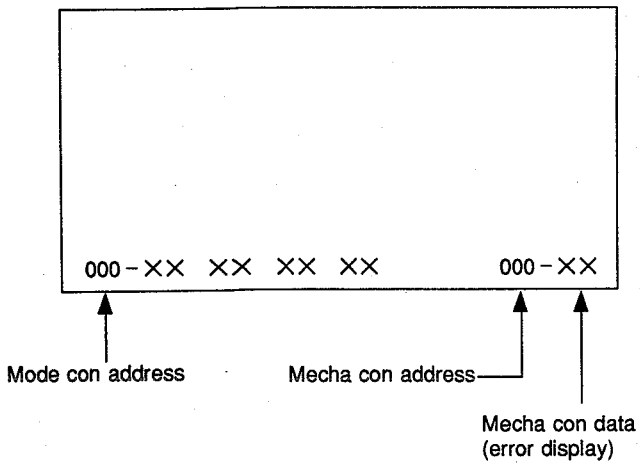
1.5 ERROR CODE TABLE

1) RAM DSP Functions

The interior RAM contents of the Mode Control Microcomputer (hereafter: mode con) and the Mechacontrol Microcomputer (hereafter: mecha con) can be output on a TV screen and error content can be determined. (RAM DSP function)

2) Starting RAM DSP Function

The screen shown below appears if the [ESC] and [DISPLAY] keys on the test mode remote control (GGF1067) are pressed in order.



Contents of mode con are displayed in 4byte units and contents of mecha con are displayed in 1byte units. In this condition, 1 is added to the display address if the TV/LDP key is pressed and 1 is subtracted if the CX key is pressed. Also, the mode con/mecha con address control switching is toggle displayed with the [DISPLAY] key.

Initial setting is set to 14C by pressing 3-digit display of mecha con address with [TV/LDP] key (or [CX] key). By doing so, error code appears as 2-digit mecha con data.

Explanation of information when analyzing the causes of CLD player errors.

Error	Contents	Conditions	Following Processes
00	no error	This is normal condition	
E0	undefined		
E1	undefined		
E2	undefined		
E3	undefined		
E4	spindle overcurrent detection error	When overcurrent to spindle motor is detected in play. When monitor starts and overcurrent port is "L" for 4 seconds after spindle of play or special play is slower than play for 5 seconds.	Spindle stops in free run. Play cannot be done. No recovery as long as set is not unplugged.
E5	FG abnormality error	① When frequency (5 seconds from spindle run) measured from FG is below 15 rpm when LD is started. ② When there is no 1/8 revolution even after 5 seconds have passed from acceleration finish when CD is started. ③ When frequency measured from FG is below 15 rpm even though CD: subcode/LD: Phillips code is readable or spindle is locked during play/search. In other cases, it is assumed that the above conditions appear in the FG sensor and an accurate frequency cannot be measured.	Spindle stops in free run. Free run is 90 sec. for LD and 15 sec. for CD/CDV. Play cannot be done after that. No recovery as long as set is not unplugged.
E6	partial short error	① When 1200 rpm cannot be reached even after a specific time (8 sec.) passes from spindle run when LD is started. ② When a specific frequency (416 rpm) cannot be reached even after 6 seconds pass from spindle acceleration finish when CD is started.	Spindle stops in free run. Normal operation resumes after that.
E7	undefined		
E8	undefined		
E9	undefined		
EA	undefined		
EB	undefined		
EC	undefined		
ED	undefined		

Error	Contents	Conditions	Following Processes
EE	undefined		
EF	undefined		
F0	undefined		
F1	picture stop detection	When Phillips code is decoded and picture stop is read.	Still (still at mecha con detection)
F2	undefined		
F3	segment play finish	When a designated address is reached.	Still or pause
F4	no TOC	When it is determined by sub code that there is no video TOC after lead address is read by LD.	Function or control of indication is carried out.
F5	tray push	When tray is pushed when in open position.	Target goes to TOC lead
F6	no PH code	When Phillips code cannot be read when LD is started even if slider is moved FWD or REV slowly for 5 seconds.	Search, special play, and function are not carried out. When starting, play is carried out without initial search.
	PRD	When program area sub done can be read, but TOC section subcode cannot be read when CD is started.	Treated as CD−R segment recording disc. After initial search, only play is possible. Scanning and search are not possible.
F7	laser active error	When play inhibit or professional use is read from user's code and data track is read from sub code by LD, laser active disc is determined and play is suppressed.	Indicates "LD−ROM" on screen and stops. Play cannot be carried out unless disc is opened.
F8	loading error	① When loading operation goes over time (approx. 10 sec.). ② When assist at disc sense entry ends and is not tilt neutral. ③ When assist at set up entry ends and is not tilt neutral.	Reverses in loading direction once. Even then, if the time limit has been passed, loading is stopped.
F9	slider error	When slide assist goes over time (track count search 20 sec. forced movement 10 sec.).	Power is on, but slider does not move at all. In this situation, push power key to immediately turn power off.
FA	misclamp error	① When NG results from misclamp during set up. (Track loss often) ② When focus is not clear at time of spindle lock waiting. ③ When the spindle is stopped once before CDV A←→V area change, but stop is not carried out within 1.6 seconds, it is determined that there are two discs on each other and clamp error is set.	Open (stops at B−side)
FB	spindle error	① When spindle is not locked within 60 seconds from spindle run start during set up. ② When CAV/CLV determination is not finished within 60 seconds from spindle lock. ③ When code cannot be read for 10 − 15 continuous seconds with LD or 7 − 10 continuous seconds with CD/CDV. ④ When FG does not enter for 4 seconds and when not in recover mode at time of CD set up. At this time, it is stopped at free run.	Stop
FC	focus error	① When ND at set up entry and FLAG is standing. ② When LD is out of focus when slider is moved to starting position during set up. In case of CD/CDV is NG even after three focus tries.	Open (stops at B−side)
FD	search error	① At search entry, LD is in sub code search or CD/CDV is in Phillips code search. ② When search does not end in determined time (CLV with TOC: 30 sec. others: 15 sec.) ③ In recover mode, spindle is locked, code is read and RCVCOUNT is 0.	Search is canceled and play carried out.
FE	TOC lead error	When TOC lead does not end within 15 seconds.	LD: no TOC CD: stop
FF	emergency	When recover mode is entered and return is read but cannot be carried out.	Stop

1.6 ADJUSTMENTS

1.6.1 TEST MODE

1) How to start test mode

With the MAIN ASSY test mode TP (W407) 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.

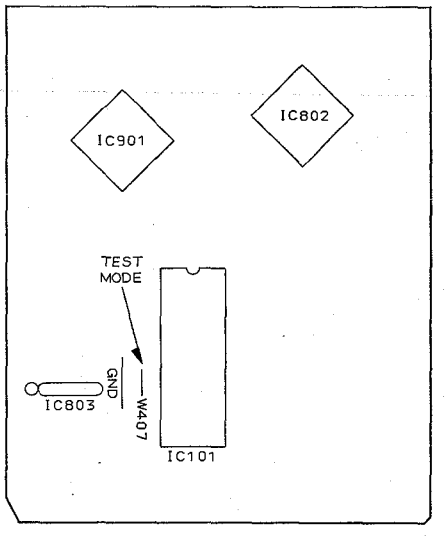
- When entering the test mode, the FL display and the LED will light until an operation is carried out with a key.
- When entering the test mode, the TV system will become that of NTSC.
- During the test mode, the background will be blue if an LD or a CDV is not playing (When NTSC and PAL), or black (in the case of quasi−PAL).
- The TV system is unconditionally toggled between the 3 systems of PAL → NTSC → quasi−PAL.

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	◀II/II▶ (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	II PAUSE	Still	
Play	■ STOP	Stop	
Stop	▲ OPEN	Open	
Play	+10 ⇩ 0 to 9 ⇩ ▶ PLAY	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

● 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.

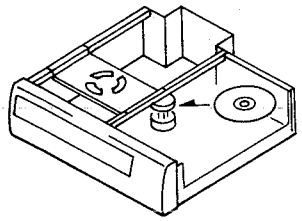


Fig. 2

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.

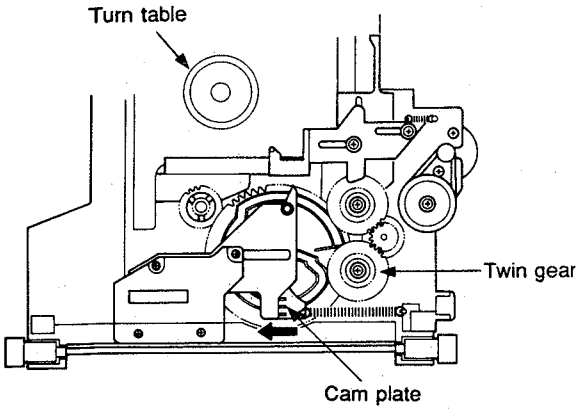
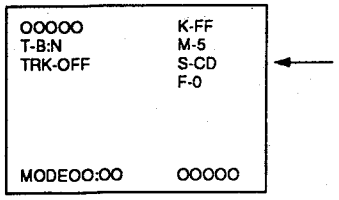


Fig. 3

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 playbacked.

· LD PLAYBACK

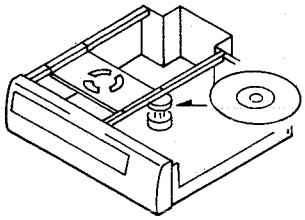


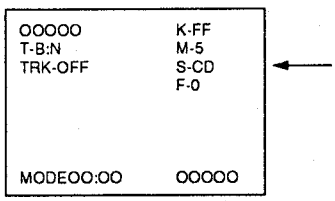
Fig. 5

① Press the PLAY (▶) key once.
(Twin gear starts to move.)

② 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.

③ Place the LD disc on the turn table and press the PLAY (▶) key once to clamp the disc.

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



TV screen display

Fig. 6

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

1.6.2 ADJUSTMENT PRECAUTIONS

• Equipment and jigs needed for adjustment

- CD test disc (STD−901 or STD−902)
- LD test disc (GGV1003 and GGV1007)
- 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

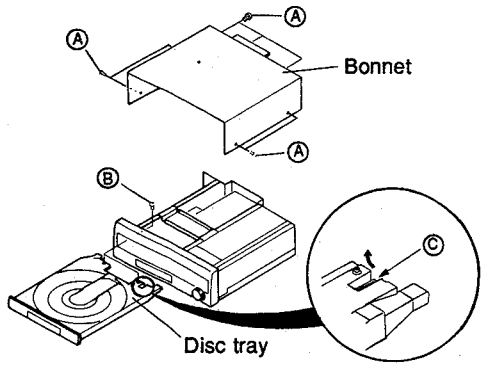


Fig. 1

1. Remove the 7 screws Ⓐ that stabilize the bonnet and take off the bonnet. (Fig. 1)
2. Remove the 2 tray stopper screws Ⓑ 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 Ⓒ to the left, pull out the tray unit. (Fig. 1)

• Disassembly order (When diagnosing the MAIN ASSY)

① Remove the tray, open PALB and YCNR assy, and fix it to the holder.

② Removes SCRB and AFMB assy.

③ Remove VDTB and MAIN assy, and stand MAIN up.
Put isolating material on top of the clamper, and then place the VDTB, PALB and YCNR assy on top.

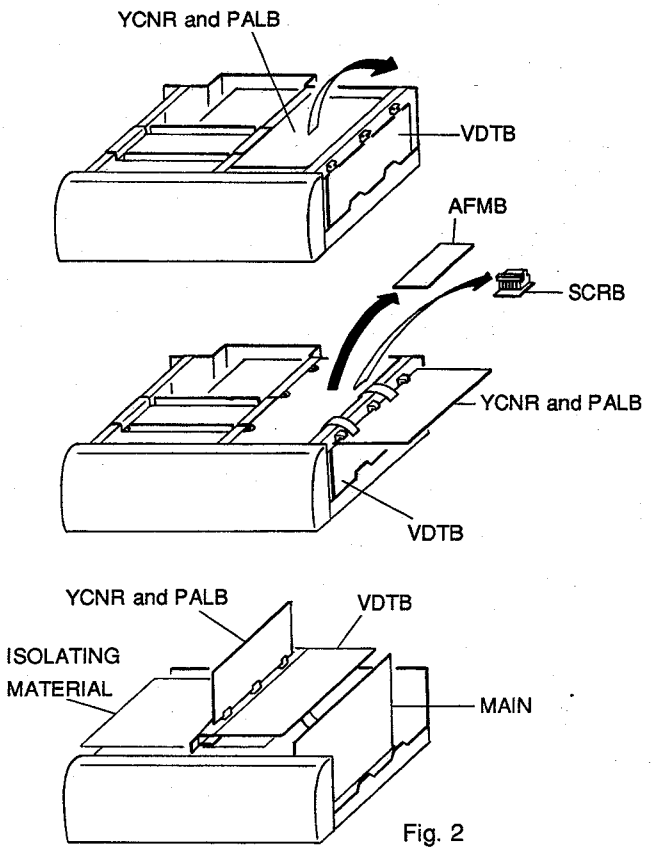
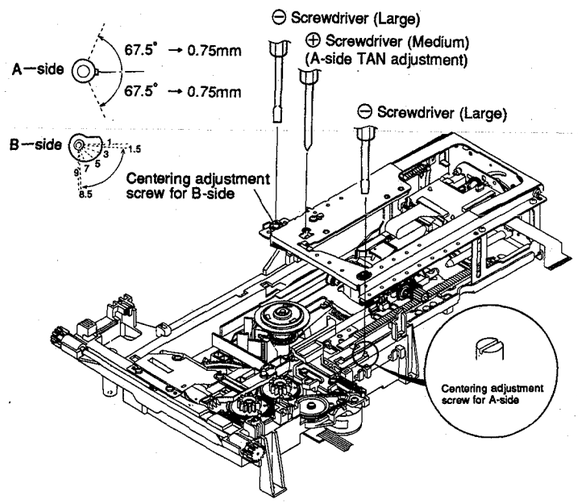


Fig. 2

● Before adjusting mechanism system

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

— Adjustment Range of Centering Adjustment Screw —



— Adjustment Range of TAN Adjustment Screw —

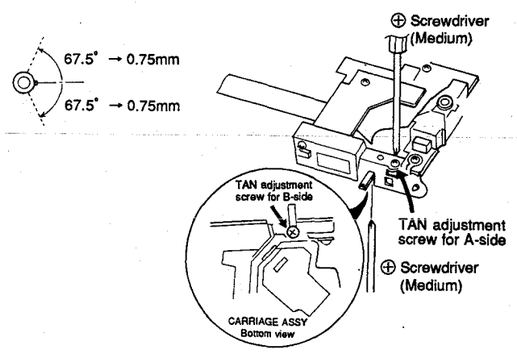


Fig. 4 Carriage Assy Adjustment

Fig. 3 Mechanism Assy Adjustment

● 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. 5)

● 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).

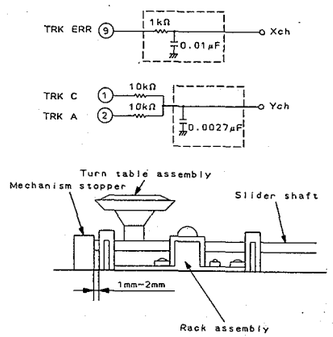


Fig.5

1.6.3 MAIN ASSY, VDTB ASSY, PALB ASSY AND YCNR ASSY ADJUSTMENT LOCATION

● MAIN ASSY

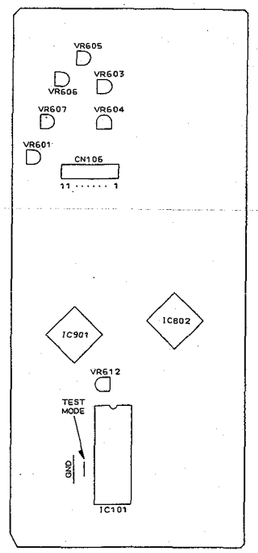


Fig. 1 Adjustment diagram of MAIN ASSY

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 : TRK Servo loop gain adjustment
VR601 : RF level adjustment
VR612 : PLL offset adjustment
(Order in adjustment)

● VDTB ASSY, PALB ASSY AND YCNR ASSY

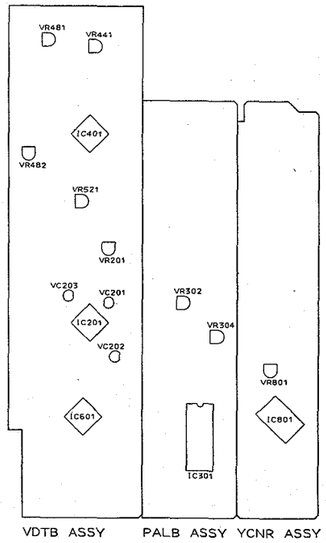
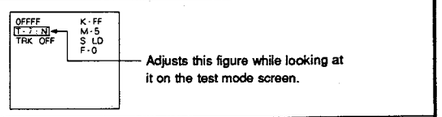
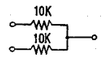
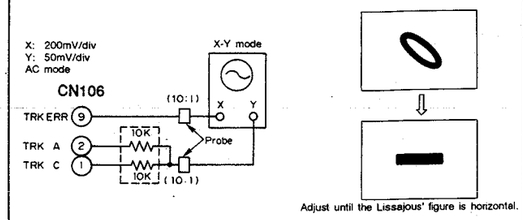
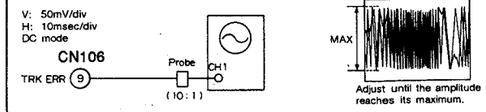
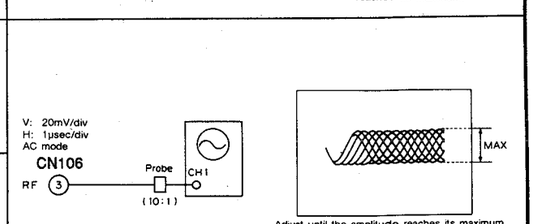
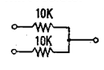
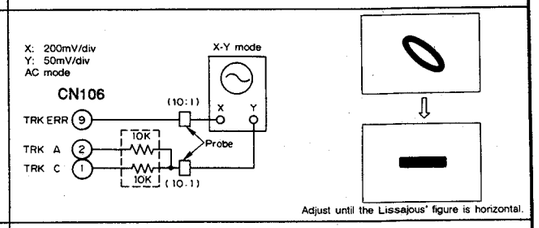
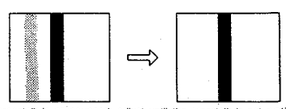
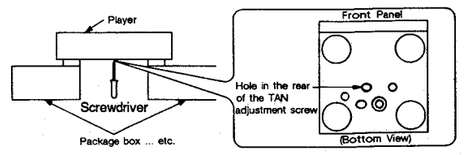


Fig. 2 Adjustment diagram of VDTB ASSY, PALB ASSY AND YCNR ASSY

VC202 : NTSC Reference clock adjustment
VC201 : PAL Reference clock 910fH adjustment
VC203 : PAL Reference clock adjustment
VR481 : VCO Center frequency adjustment
VR482 : Output video level adjustment
VR441 : 1H Delay video level adjustment
VR521 : VPS Error adjustment
VR801 : Y output level adjustment
VR304 : MOD Y— Signal level adjustment
VR302 : MOD C—Signal level adjustment
VR201 : PAL Inverting SC phase adjustment
(Order in adjustment)

1.6.4 MECHANICAL ADJUSTMENT

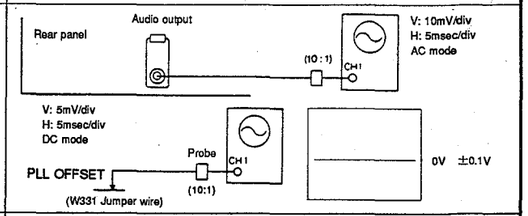
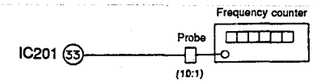
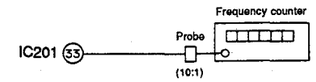
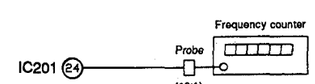
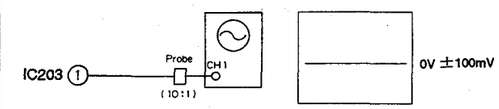
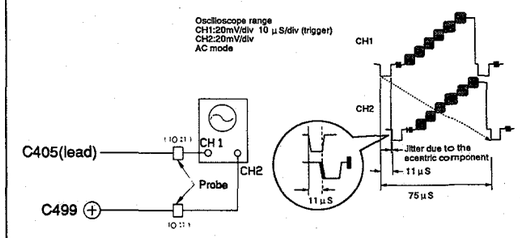
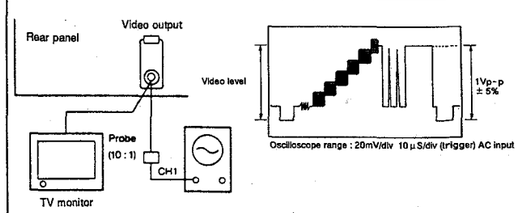
NOTE : All VRs and CNs (connectors) in the tables are parts of MAIN ASSY.

	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.	 Adjusts this figure while looking at it on the test mode screen.
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 : ⑨pin (TRK ERR) Y : ①+②pin (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.	 Adjust until the Lissajous' figure is horizontal.
3	FCS balance adjustment (1) TRK ERR MAX	VR605	· Oscilloscope · STD −901 or STD −902	CN106 ⑨pin (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.	 Adjust until the amplitude reaches its maximum.
4	FCS balance adjustment (2) RF LEVEL MAX	VR606	· Oscilloscope · STD −901 or STD −902	CN106 ③pin (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.	 Adjust until the amplitude 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 ③pin (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 : ⑨pin (TRK ERR) Y : ①+②pin (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.	 Adjust until the Lissajous' figure is horizontal.
7	Crosstalk check and tilt offset adjustment.	VR607	· TV monitor · GGV1003	Crosstalk check screen	· Test mode TRK servo ON Tilt servo ON · GGV1003still #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.	 If the crosstalk is pronounced, adjust 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).						

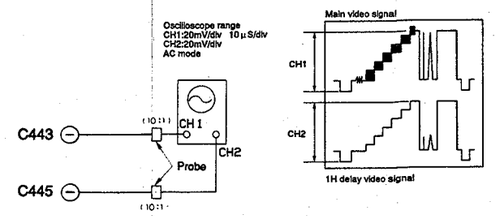
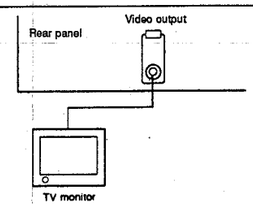
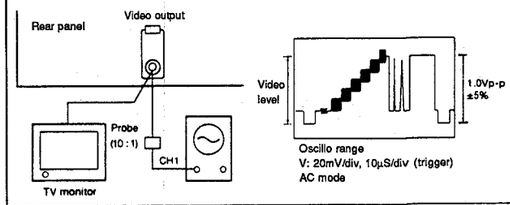
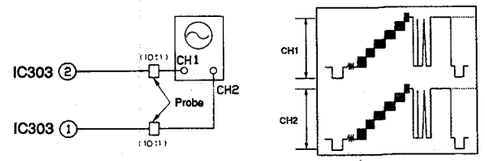
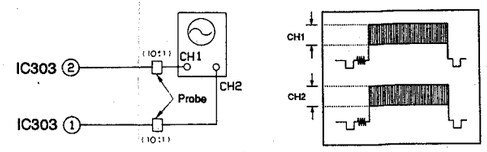
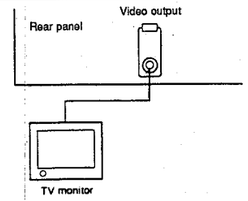
	Adjustment name	Adjustment point		Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
8	FCS Servo loop gain adjustment (Perform with either method A or B)	A	VR604	・Oscilloscope ・GGV1003 ・AF Oscillator ・Resistor (47kΩ)	CN106 X : ⑦pin FCS IN Y : ⑥pin FCS ERR	・Test mode TRK servo ON Tilt servo ON ・GGV1003 #15,000still	1. Xch : Connect to ⑦pin with 47kΩ Ych : Connect to ⑥pin 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.	X: 100mV/div Y: 5mV/div DC mode 2.1kHz/4Vp-p X-Y mode CN106 FCS IN ⑦ 47K (10:1) OSC Probe FCS ERR ⑥ (10:1)
		B	VR604	・Oscilloscope ・GGV1003 ・Clip etc. (Short GND—⑦pin)	CN106 X : — Y : ⑥pin FCS ERR ⑦pinGND (⑦, ⑧pin Short)	・Test mode ・Stop mode ・F—1	1. Ych : connect to ⑥pin. Drop ⑦pin 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.	X: 50mV/div Y: — X-Y mode CN106 FCS IN ⑦ Probe FCS ERR ⑥ (10:1) 2.6Vp-p ±0.1V
9	TRK Servo loop gain adjustment (Perform with either method A or B)	A	VR603	・Oscilloscope ・GGV1003 ・AF Oscillator ・Resistor (47kΩ)	CN106 X : ⑩pin TRK IN Y : ⑨pin TRK ERR	・Test mode TRK servo ON Tilt servo ON ・GGV1003 #15,000still	1. Xch : Connect to ⑩pin with 47kΩ Ych : Connect to ⑨pin 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.	X: 100mV/div Y: 5mV/div DC mode 3.6kHz/4Vp-p X-Y mode CN106 TRK IN ⑩ 47K (10:1) OSC Probe TRK ERR ⑨ (10:1)
		B	VR603	・Oscilloscope ・GGV1003	CN106 X : — Y : ⑨pin TRK ERR	・Test mode ・TRK servo ON Tilt servo ON ・F—1 ・GGV1003 #15,000still	1. Ych : connect to ⑨pin. 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.	X : — Y : 50mV/div X-Y mode Probe TRK ERR ⑨ (10:1) 1.6Vp-p ±0.1V
10	RF level adjustment	VR601		・Oscilloscope ・GGV1003	CN106 ③pin (RF)	・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.	V: 10mV/div H: 2msec/div AC mode CN106 RF ③ Probe CH1 (10:1) 300mVp-p ±50mV
11	Coarse centering adjustment for B—side play	Centering adjustment screw for B—side play		・Oscilloscope ・GGV1003 ・MIX resistor 10K 10K ・⊖ Screwdriver (Large)	CH1 : CN106—9 (TRKG ERR) CH2 : CN106—1and 2 (TRKG SUM) (X-Y mode)	・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.	X: 200mV/div Y: 50mV/div AC mode X-Y mode CN106 TRK ERR ⑨ (10:1) TRK A ② 10K TRK C ① 10K (10:1) Probe Adjust until the Lissajous' figure is horizontal.
12	Tangential direction angle adjustment for B—side play	TAN adjustment screw for B—side play		・Oscilloscope ・GGV1003 ・⊕ Screwdriver (Medium)	Video output terminal (TV monitor)	・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.	If the crosstalk is pronounced, adjust until the crosstalk is not noticeable.
13	Fine centering adjustment for B—side play	Centering adjustment screw for B—side play		・Oscilloscope ・GGV1003 ・MIX resistor 10K 10K ・⊖ Screwdriver (Large)	CH1 : CN106—9 (TRKG ERR) CH2 : CN106—1and 2 (TRKG SUM) (X-Y mode)	・Test mode #100still TRK servo ON/OFF Tilt servo ON	Perform fine adjustment again following same steps as in procedure (11) "Coarse centering adjustment."	X: 200mV/div Y: 50mV/div AC mode X-Y mode CN106 TRK ERR ⑨ (10:1) TRK A ② 10K TRK C ① 10K (10:1) Probe Adjust until the Lissajous' figure is horizontal.

1.6.5 ELECTRICAL ADJUSTMENT

ADJUSTMENT TABLE OF MAIN ASSY, VDTB ASSY, PALB ASSY AND YCNR ASSY

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
1	PLL offset adjustment	VR612 (MAIN ASSY)	· Oscilloscope · DC Volt meter · STD—901 or STD—902 (or LDD disc)	Digital sound terminal W331	· Test mode Tilt servo ON TRK servo ON/OFF · Digital sound play	With TRK Servo OFF, play digital sound and coarsely adjust VR612 so that sound is produced. Connect W331 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 ±0.1V.	
2	NTSC Reference clock adjustment	VC202 (VDTB ASSY)	· Frequency counter · GGV1003	IC201—33(TBC CLK)	· NTSC PLAY mode. Play the NTSC disc. or Select the NTSC mode with the SYSTEM button of the front panel. (Note1)	Adjust VC202 so that the 4fsc frequency becomes 14.31818MHz ±0.1kHz.	
3	PAL Reference clock 910fH adjustment	VC201 (VDTB ASSY)	· Frequency counter · GGV1007	IC201—33(TBC CLK)	· PAL PLAY mode. Play the PAL disc. or Select the PAL mode with the SYSTEM button of the front panel. (Note1)	Adjust VC201 so that the 910fH frequency becomes 14.21875MHz ±0.1kHz.	
4	PAL Reference clock adjustment	VC203 (VDTB ASSY)	· Frequency counter · GGV1007	IC201—24(OSD CLK)	· PAL PAUSE mode. Play the PAL disc and set to pause state. or Select the PAL mode with the SYSTEM button of the front panel. (Note1)	Adjust VC203 so that the 4fsc frequency becomes 17.734475MHz ±0.1kHz.	
5	PAL VCXO ERR Offset check	VC201 (VDTB ASSY)	· Oscilloscope · GGV1007	IC203—1	· Play the PAL disc.	Play the PAL disc and check that the voltage of VCXO ERR at IC203—1pin is 0V±100mV. If the specified voltage is not obtained, adjust VC201 so that the voltage becomes 0V ±100mV. Note : The adjustment of VC201 in this step should have priority over that in step 2.	
6	VCO Center frequency adjustment	VR481 (VDTB ASSY)	· Oscilloscope · GGV1007	CH1 : C405 lead wire CH2 : C499 + lead wire	· Normal mode GGV1007 #4,000 still	Adjust VR481 so that the center position of jitter of CH2 video signal is delayed to 75μS(1H + 11 μS) ±1.4μS as compared with CH1 video signal.	
7	Output video level adjustment	VR482 (VDTB ASSY)	· Oscilloscope · TV monitor · GGV1003	Video output terminal (75Ω termination or TV monitor connection)	· Normal mode · GGV1003 #19,900 still · HQ circuit OFF	Adjust VR482 so that the voltage between the sync tip and the white peak becomes 1.0Vp—p ±5%.	

Note1 : PAL mode → NTSC mode → MOD PAL mode → (Cyclic change)

	Adjustment name	Adjustment point	Measuring equipment and jigs	Measurement point	Player condition	Adjustment procedure	Waveform and connection diagram
8	1H Delay video level adjustment	VR441 (VDTB ASSY)	· Oscilloscope · GGV1003	CH1 : C443—(minus) lead wire CH2 : C445—(minus) lead wire	· Normal mode · GGV1003 #19,900 still	Adjust VR441 so that the level of the 1H delay video signal becomes the same as that of the main video signal.	
9	VPS Error adjustment	VR521 (VDTB ASSY)	· TV monitor · GGV1003	Video output terminal (TV monitor)	· Normal mode · GGV1003 #8,000 still	Color irregularity on the magenta screen is minimized.	
10	Y output level adjustment	VR801 (YCNR ASSY)	· TV monitor · Oscilloscope · GGV1003	Video output terminal (75Ω terminated) (NOTE2)	· Normal mode · GGV1003 #19,900still	Connect video output terminal and oscilloscope. (video output terminal is terminated with 75Ω) When stilled with GGV1003 #19,900 (composite), measure video signal and adjust VR801 until level from sync tip to 100% white becomes 1Vp—p ±5%.	
11	MOD Y— Signal level adjustment	VR304 (PALB ASSY)	· Oscilloscope · GGV1003	CH1 : IC303—2 (REFERENCE) CH2 : IC303—1	· Normal mode · GGV1003 #19,900 still · HQ circuit ON	Adjust VR304 so that the level of Y signal at IC303—1 pin between the sync tip and the white 100% becomes the same as that of the Y signal at IC303—2 pin.	
12	MOD C—Signal level adjustment	VR302 (PALB ASSY)	· Oscilloscope · GGV1003	CH1 : IC303—2 (REFERENCE) CH2 : IC303—1	· Normal mode · GGV1003 #8,000 still	Adjust VR302 so that the level of C signal at IC303—1 pin becomes the same as that of the C signal at IC303—2 pin.	
13	PAL Inverting SC phase adjustment	VR201 (VDTB ASSY)	· TV monitor · GGV1007	Video output terminal (TV monitor)	· Normal mode GGV1007 test disc #6,500 still	Adjust VR201 so that the color irregularity on the magenta screen is minimized at still.	

Note2 : It is possible to terminate video output terminal with 75Ω by connecting TV monitor.

1.7 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 ⚠ 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 −2950/WB and CLD −2950/WEZ.*

1.7.1 PACKING

(1) CONTRAST OF CLD − 2950/WB AND CLD − 2950/WEZ.

CLD − 2950/WB and CLD − 2950/WEZ have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.	
			CLD − 2950/WB	CLD − 2950/WEZ
NSP	1	Caution (UC)	VRR1020	Not used
	1	Caution (EW)	Not used	VRM1027
	4	Operating instructions (Dutch/Swedish/Spanish/Portuguese)	Not used	VRF1027
	5	Caution	Not used	VRR1009

(2) FOR CLD−2950/WB

Mark	No.	Description	Parts No.
	1	Caution (UC)	VRR1020
	2	·····	
	3	Operating instructions (English/French/German/Itarian)	VRE1021
	4	·····	
	5	·····	
NSP	6	Polyethylene bag	VHL−014
	7	Battery cover	VNK2431
	8	Remote control unit	VXX2030
NSP	9	Battery (R03, AAA)	VEM−022
	10	·····	
	11	Connection cord	VDE−055
NSP	12	Polyethylene bag	Z21−029
	13	Pad L	VHA1126
	14	Pad R	VHA1127
	15	Mirror mat	VHL1012
	16	Packing case	VHG1353
NSP	17	Warranty card	ARW−088
	18	·····	
	19	Caution label	VRM1044
	20	Euro scart cable(21P)	VDE1031
NSP	21	Polyethylene bag	Z21−029
	22	Cable case	VHG1200

1.7.2 EXTERIOR AND DISC TRAY

(1) CONTRAST OF CLD − 2950/WB AND CLD − 2950/WEZ.

CLD − 2950/WB and CLD − 2950/WEZ have the same construction except for the following :

Mark	No.	Symbol & Description	Part No.	
			CLD − 2950/WB	CLD − 2950/WEZ
	35	Caution label	PRW1018	VRW1094
	36	Caution label(HE)	Not used	VRW1297

(2) FOR CLD−2950/WB

Mark	No.	Description	Parts No.
	1	Bonnet S	VXX1932
	2	Screw	BCZ40P060FZK
	3	Screw	BBT30P060FCC
NSP	4	Damp cushion	VEC1602
	5	Screw	VBA1032
	6	Guide plate (R)	VNE1806
	7	Guide plate (L)	VNE1805
	8	CD tray	VNK2395
	9	Lock plate spring	VBH1188
	10	Lock plate	VNL1513
	11	Stop ring	VEB1091
	12	Screw	BPZ30P060FCU
NSP	13	Cushion	VEC1660
NSP	14	LD tray	VNK2394
NSP	15	Damp cushion	VEC1110
	16	Door spring	VBH1223
	17	Door shaft	VLL1441
	18	Screw	BPZ20P040FZK
	19	Door holder	VNE1905
	20	CD door	VNK2320
	21	Damper ASSY	VXA1999
NSP	22	Laser disc badge	VAM1029
NSP	23	Tray panel	VNK2319
	24	·····	
	25	Tray ASSY−S	VXX2035
	26	Tray panel ASSY−S	VXX1931
	27	Disc pad (L)	VEC1657
	28	Disc pad (C)	VEC1658
NSP	29	Carry label	VRW1289
	30	·····	
	31	T back	VNE1946
	32	LD tray ASSY	VXA2085
	33	Screw	BPZ30P080FCU
	34	Caution label(G)	VRW−329
	35	Caution label	PRW1018
	36	·····	

1.7.3 UPPER SECTION

Mark	No.	Description	Parts No.
	1	·····	
	2	Center angle	VNE1897
	3	PCB holder	VNE1895
	4	·····	
	5	Damper plate	VBK1045
NSP	6	P. plate holder	PNY−405
NSP	7	Wire clip (A)	VEC1355
NSP	8	YCNR ASSY	VWV1380
NSP	9	PALB ASSY	VWV1379
NSP	10	VDTB ASSY	VWS1130
	11	Screw	BBT30P080FCC
NSP	12	SCRB ASSY	VWV1381
	13	Screw	IBZ30P080FCC

1.7.4 FRONT PANEL SECTION

Mark	No.	Description	Parts No.
NSP	1	Front panel	VNK2691
	2	FL lens	VEC1630
	3	Sub panel	VNK2690
NSP	4	HEPB ASSY	VWV1368
NSP	5	Jack holder	VNE1609
	6	Snap plate	VNE1102
	7	Headphone knob	PAC1707
	8	L key (A)	VNK2360
	9	LED lens (B)	VNK2316
	10	Main key	VNK2365
	11	Skip key R	VNK2323
	12	Skip key L	VNK2322
	13	LED lens (O)	VNK1755
	14	L key (B)	VNK2361
	15	LED lens	PNW2019
	16	Power button	VNK2329
	17	FLKY ASSY	VWG1527
NSP	18	PONS ASSY	VWG1528
	19	Name plate	VAM1032
	20	Shuttle knob	VNK2321
NSP	21	Damp cushion	VEC1110
	22	Screw	BPZ26P060FCU
	23	Front panel ASSY−S	VXX2048
	24	Cushion (L)	VEC1331
	25	Screw	BPZ26P080FCU

1.7.5 DISC CLAMPER SECTION

Mark	No.	Description	Parts No.
	1	Ball holder	VNL1616
	2	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

1.7.6 BOTTOM SECTION

(1) CONTRAST OF CLD-2950/WB AND CLD-2950/WEZ.

CLD-2950/WB and CLD-2950/WEZ have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.	
			CLD-2950/WB	CLD-2950/WEZ
⚠	7	AC power cord	PDG1055	PDG1003
⚠	24	Fuse (T5A)	PEK1003	Not used

(2) FOR CLD-2950/WB

Mark	No.	Description	Parts No.
NSP	1	Base chassis	VNA1353
	2	Insulator ASSY	VXA1998
	3	Board spacer	VEC1623
	4	PCB spacer	PNY-404
NSP	5	PCB stay	VEC1174
	6	Power supply ASSY	VWR1216
⚠	7	AC power cord	PDG1055
	8	Cord stopper	CM-22B
	9	Rear panel	VNA1421
	10	Tray stopper	VNL1600
NSP	11	MAIN ASSY	VWX1205
NSP	12	AFMB ASSY	VWV1353
	13	Carriage stopper	VNE1919
NSP	14	Damp cushion	VEC1602
	15	Screw	BBZ30P080FMC
	16	Screw	BBT30P080FCC
	17	Screw	BPZ30P140FMC
	18	Screw	BBZ30P040FMC
NSP	19	Cord holder	Z09-061
	20	Front angle	VNE1894
	21	Screw	BBZ30P060FCC
	22	Side stay	VNE1896
NSP	23	Side stay (R)	VNE1810
⚠	24	Fuse (T5A)	PEK1003
	25	AC cord tube	VEC1651
	26	.....	
NSP	27	Side stay (L)	VNE1809
	28	.....	
	29	.....	
	30	.....	
	31	Screw	IBZ30P080FCC
NSP	32	HM spacer	VEB1215
	33	.....	
	34	Model label	VRW1404
NSP	35	Wire clamp (A)	VEC1217
NSP	36	Caution label(F)	VRW-328
NSP	37	PCB holder(B)	VNE1772
	38	PCB holder	VEC1624
	39	.....	
	40	.....	
	41	.....	

1.7.7 MECHANISM SECTION

Mark	No.	Description	Parts No.
	1	Mechanism base	VNK1990
	2	Clamp cam	VNL1621
	3	Cam gear	VNL1507
	4	CD plate	VNL1576
	5	Cam sand	VNL1511
NSP	6	Carriage motor	VXM1033
	7	Roller	VNL1042
	8	Motor pulley	PNW1643
	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
	16	CAS spring	VBH1190
	17	Shaft holder	VNE1817
	18	Rubber belt	VEB1184
	19	Synchro gear ASSY	VXA1822
NSP	20	LOSB ASSY	VWG1471
	21	Screw	BMZ26P040FMC
	22	Screw	Z39-019
NSP	23	LOMB ASSY	VWG1470

1.7.8 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	Lever 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	WA32D080D050
	21	Head lock	VNL1580
NSP	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	OSH1001
	30	Screw	PMZ20P060FMC
	31	.....	
	32	Thrust spring	VBH1235
	33	Tilt spring	VBH1218
	34	Key lock	VBK1044
	35	CB holder	VNL1618

Mark	No.	Description	Parts No.
⚠	36	Spindle 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	VNP1439
	45	Screw	ABZ30P060FMC
	46	TM guide	VNL1558
	47	Screw	PPZ20P080FMC
	48	CA shaft (lower)	VLL1447
NSP	49	Spindle motor	VXM1053
NSP	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
	56	Screw	CPZ20P060FMC
	57	Lock lever	VNL1562
	58	Tilt cam	VNL1559
	59	Spacer	VEB1020
NSP	60	Earth lead unit	VDA1455
	61	Screw	Z39−019
	62	Washer	WA32D080D025
	63	Carriage ASSY	VWT1116
	64	Motor base	VNE1889
NSP	65	Stop cushion	VEC1605
	66	Screw	CPZ26P080FMC
	67	Housing ASSY (3P)	VKP2011
	68	Housing ASSY (4P)	VKP2025
	69	Housing ASSY (2P)	VKP2020

1.7.9 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 (S)	VBA1016
	9	Screw	PBB26P080FMC
NSP	10	Shaft holder	VNT1042
	11	Limit SW	OSH1001
	12	Screw	PMZ20P060FMC
	13	Screw	BBZ26P060FZK
	14	Screw	BPZ26P060FMC
	15	Flexible holder	VNL1579
	16	Screw	PPZ20P060FZK
	17	Washer	WT17D034D050
NSP	18	Gear (C)	VNL1572

Mark	No.	Description	Parts No.
	19	Gear (B)	VNL1571
	20	Screw	PMA20P040FMC
NSP	21	Motor holder	VNL1584
	22	Gear (E)	VNL1574
	23	Gear (F)	VNL1575
	24	.....	
NSP	25	Gear (D)	VNL1573
NSP	26	Gear shaft	VLL1448
NSP	27	PCB board	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	VWY1040
	34	Motor holder ASSY−S	VXX2015
	35	Slider motor ASSY	VXX2014

1.8 PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ 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	→	*56×10¹* → *561*	.....	*RD1/8PM[5][6][1]J*
47kΩ	→	*47×10³* → *473*	.....	*RD1/4PS[4][7][3]J*
0.5Ω	→	*0R5*	.....	*RN2H[0][R][5]K*
1Ω	→	*010*	.....	*RS1P[0][1][0]K*

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

5.62kΩ	→	*562×10¹* → *5621*	.....	*RN1/4PC[5][6][2][1]F*

Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES			
NSP		FLKB ASSY	VWM1475
		├─ FLKY ASSY	VWG1527
NSP		├─ PONS ASSY	VWG1528
NSP		└─ HEPB ASSY	VWV1368
		MOTHER ASSY	VWM1460
NSP		├─ MAIN ASSY	VWX1205
NSP		└─ AFMB ASSY	VWV1353
		VTPB ASSY	VWM1456
NSP		├─ VDTB ASSY	VWS1130
NSP		├─ PALB ASSY	VWV1379
NSP		├─ YCNR ASSY	VWV1380
NSP		└─ SCRB ASSY	VWV1381
NSP		MACB ASSY	VWM1420
NSP		├─ CNNB ASSY	VWG1469
NSP		├─ LOMB ASSY	VWG1470
NSP		├─ LOSB ASSY	VWG1471
NSP		└─ FG ASSY	VWG1472
		POWER SUPPLY ASSY	VWR1216
FLKB ASSY			
OTHERS			
		PCB(FLKB)	VNP1419
FLKY ASSY			
SEMICONDUCTORS			
	IC100		PD3273A
	IC101		S−806D
	Q101		DTA144ES
	Q100		DTC114ES
	Q102,Q104,Q105,Q107		DTC124ES
	D103−D106		1SS252
	D100−D102		1SS254
	D107,D110		SEL3410ELC05
	D109		VEL1017
COILS AND FILTERS			
	L100,L101		LAU220J
SWITCHES AND RELAYS			
	S100−S102,S112−S116		RSG1030
	S103−S111		RSG1034
	S117		VSD1008
CAPACITORS			
	C101		CEAL100M16
	C104		CEAL101M6R3
	C105		CEAS221M6R3
	C106		CKPUYB101K50
	C102,C103,C108		CKPUYF223Z25
	C100,C107		CKPUYX472M16
RESISTORS			
	R101		RA5T103J
	R100		RA6S104J
		Other Resistors	RD1/6PM□□□J
OTHERS			
		4P Cable holder	51048−0400
		Remote sensor	GP1U78R
	V100	FL Tube	VAW1032
		Spacer	VEC1599
		FL Holder(FE)	VNF1082
	X100	Ceramic resonator	VSS1031
PONS ASSY			
SEMICONDUCTORS			
	D200		SLH34VCF04
SWITCHES AND RELAYS			
	S200		RSG1030
RESISTORS			
	R200		RD1/6PM151J
HEPB ASSY			
COILS AND FILTERS			
	F301−F303		VTH1016

Mark	No.	Description	Parts No.
CAPACITORS			
	C301,C302		CKPUYB102K50
	C300		CKPUYF223Z25
RESISTORS			
	VR300	(0.5KB)	VCS1015
OTHERS			
	CN300	3P Jumper connector(2MMP)	52151−0310
	JA300	Headphone jack	RKN1002
MAIN ASSY			
SEMICONDUCTORS			
	IC401		BA10393F
	IC202,IC205,IC402,IC903		BA4560F
	IC803		LA6510L
	IC802		LC78681E
	IC206		NJM78L08A
	IC501		NJM78L09A
	IC207		NJM79L08A
	IC801		PAC002A
	IC901		PAC003A
	IC101		PD0194A
	IC201		PD2026B
	IC902		TA8464K
	Q102,Q154,Q492,Q802,Q963		2SA1037K
	Q501		2SA933S
	Q834		2SB1237X
	Q493		2SC1740S
	Q201,Q202,Q801,Q805		2SC2412K
	Q903−Q905,Q907,Q913		2SC2412K
	Q152,Q803,Q804		2SC3802K
	Q204,Q205		2SD2144S
	Q962		2SK184
	Q203,Q207−Q213,Q491,Q916		DTA124EK
	Q103,Q104,Q206,Q502,Q503		DTC124EK
	D202,D501		11EQS06
	D101,D102,D205−D208,D401		1SS254
	D410,D492,D493,D502,D520		1SS254
	D905,D907,D963,D964		1SS254
	D201		FC54M
	D491		MTZJ10B
	D510,D511		MTZJ5.1B
	D494		MTZJ6.2A
COILS AND FILTERS			
	L206−L208		LAU010J
	L810		LAU101J
	L802−L804		LAU121J
	L201−L204,L800,L801		LAU220J
	L205		LAU820J
	F201		VTH1016
CAPACITORS			
	C159,C809,C811		CCSQCH100D50
	C108,C109,C120,C121		CCSQCH101J50
	C258,C259		CCSQCH101J50
	C814,C846,C848		CCSQCH121J50
	C232		CCSQCH150J50
	C161,C810		CCSQCH151J50
	C812		CCSQCH221J50
	C208,C209		CCSQCH271J50
	C106,C107,C813		CCSQCH330J50
	C931		CCSQCH390J50
	C260−C263,C963		CCSQCH470J50
	C806		CCSQCH680J50
	C871		CEALNP100M16
	C227,C281,C902,C926		CEALNP2R2M35
	C522		CEANP100M35
	C401		CEANP101M10
	C274,C275		CEANP220M10
	C838		CEANP470M10
	C904		CEAS010M50
	C225,C226,C256,C895		CEAS101M10
	C101,C230,C252,C253,C502		CEAS470M16
	C801,C803,C833,C836,C842		CEAS470M16
	C844,C927,C974,C975		CEAS470M16
	C207,C255,C257,C270,C271		CEAS471M10
	C279		CEAS471M10
	C913		CEASR47M50
	C970		CEHAQ010M50
	C967,C968		CEHAQ100M50
	C976,C987		CEHAQ220M50
	C228		CEJA100M35
	C893,C933		CEJA470M10
	C845		CEJA4R7M50
	C908,C910		CFTYA104J50
	C521		CFTYA124J50
	C905		CFTYA224J50
	C891,C914,C936,C969		CKSQYB102K50
	C110,C907		CKSQYB222K50
	C888		CKSQYB472K50
	C105,C122,C160,C213,C231		CKSQYF103Z50
	C234,C251,C286,C288		CKSQYF103Z50
	C402−C404,C410,C807		CKSQYF103Z50
	C834,C835,C843,C872,C876		CKSQYF103Z50
	C894,C929,C961,C962		CKSQYF103Z50
	C102,C151,C196−C198,C215		CKSQYF104Z25
	C254,C284,C285,C305		CKSQYF104Z25
	C308,C309,C501,C802,C804		CKSQYF104Z25
	C831,C832,C840,C841		CKSQYF104Z25
	C873,C874,C892,C896,C901		CKSQYF104Z25
	C915,C928,C932,C981		CKSQYF104Z25
	C405,C523		CKSQYF223Z50
	C837,C930		CKSQYF333Z25
	C103,C214,C808,C815,C847		CKSQYF473Z25
	C875,C877,C911,C912,C925		CKSQYF473Z25
	C964,C971,C983,C984		CKSQYF473Z25
	C210		CKSQYF473Z50
	C934		CQMA122J50
	C903,C909		CQMA222J50
	C278,C282		CQMA332J50
	C491		VCH1039

Mark	No.	Description	Parts No.
RESISTORS			
	R138		RD1/6PM183J
	R192,R193		RD1/6PM220J
	R180		RD1/6PM333J
	R212,R213,R220,R221		RD1/6PM470J
	R839,R840		RD1/6PM470J
	R163,R501		RD1/6PM471J
	R909		RD1/6PM473J
	R502		RD1/6PM563J
	R407,R408		RN1/10SE103D
	R406,R409		RN1/10SE333D
	R259−R262		RN1/10SE473D
	VR606		VRTB6VS153
	VR601		VRTB6VS222
	VR605		VRTB6VS333
	VR603		VRTB6VS472
	VR604,VR607,VR612		VRTB6VS473
		Other Resistors	RS1/10S□□□J
OTHERS			
		3P Cable holder	51048−0300
		5P Cable holder	51048−0500
		11P Cable holder	51048−1100
	CN106	11P Top post	B11P−SHF−1AA
	CN514	KR Connector	B2B−PH−K−S
	CN104	KR Connector	B3B−PH−K−S
	CN512	KR Connector	B3B−PH−K−E
	CN516	KR Connector	B3B−PH−K−R
	CN513	KR Connector	B3B−PH−K−Y
	CN107	KR Connector	B4B−PH−K−S
	CN110	5P Top post	B5B−EH
	CN504	KR Connector	B6B−PH−K−S
	J1	2mm Pitch flat cable(11P)	D20PDY1120G
	JA3,JA4	Remote control jack	RKN1004
	CN105	2mm Pitch jumper connector(6P)	SBRK06S−4
	CN103	24P Connector(straight type)	SLEM24S−2
	CN501	1.0mm Pitch FFC Connector	SLW28S−1C7
	JA8	Optical output jack	TOTX178
		PCB Binder	VEF1040
	JA6	2P Pin jack	VKB1031
		64P Shrink IC socket	VKH1004
	JA2	Mini jack	VKN1165
		Screw terminal	VNE1841
		IC Heat sink(AL)	VNE1921
		Earth plate	VNF−091
	X101	Ceramic resonator	VSS1040
	X201	Crystal resonator(16MHz)	VSS1057

AFMB ASSY

SEMICONDUCTORS

IC700		HA12127ANT
Q704−Q707		2SA1037K
Q709,Q713		2SK184
Q702,Q703		DTA124EK
Q708,Q710−Q712		DTC124EK
D700−D706,D708		1SS254

Mark	No.	Description	Parts No.
COILS AND FILTERS			
	L701		LAU181J
	L700		LAU220J
	F701		VTF1035
	F702		VTF1036
CAPACITORS			
	C701,C722,C760		CCSQCH101J50
	C718		CCSQCH150J50
	C702		CCSQCH151J50
	C704,C750		CCSQCH180J50
	C717		CCSQCH220J50
	C714,C715,C724,C748,C749		CCSQCH221J50
	C761		CCSQCH221J50
	C705		CCSQCH270J50
	C706		CCSQCH330J50
	C700		CCSQCH390J50
	C751		CCSQCH430J50
	C719,C753		CCSQCH561J50
	C709		CCSQCH680J50
	C703		CCSQCH820J50
	C723,C725,C745,C777		CEANP100M35
	C716,C752,C755		CEANP220M10
	C713		CEANP470M10
	C712,C729,C732,C746,C765		CEAS101M10
	C747		CEAS470M16
	C730		CEAS4R7M50
	C728		CEASR47M50
	C762		CEHAQ100M50
	C754		CFTYA104J50
	C710		CFTYA153J50
	C727,C764		CFTYA473J50
	C711,C731,C733,C756		CKSQYB102K50
	C707,C708,C778,C779		CKSQYF103Z50
	C721,C759		CQMA152J50
	C720,C758		CQMA472J50
	C726,C763		CQMA752J50
RESISTORS			
		All Resistors	RS1/10S□□□J
OTHERS			
	CN704	KR Connector	B2B−PH−K−S
	CN702	KR Connector	B3B−PH−K−E
	CN703	KR Connector	B3B−PH−K−Y

VDTB ASSY

SEMICONDUCTORS

IC203,IC602	BA4560F
IC403	CXL1009P
IC405,IC406	ICP−N5
IC404	PA0017−P
IC401	PA5013A
IC201	PD3239A
IC402	PM0001
IC601	PM3002
IC207	TC4W53F
IC202	TC7SU04F

Mark	No.	Description	Parts No.
	Q204,Q207,Q406,Q407,Q411		2SA1037K
	Q456,Q496,Q502,Q511,Q611		2SA1037K
	Q615,Q627,Q703,Q704		2SA1037K
	Q401		2SB1237X
	Q431		2SC1740S
	Q202,Q203,Q205,Q206		2SC2412K
	Q208－Q210,Q404,Q408		2SC2412K
	Q497－Q501,Q601 －Q605,Q608		2SC2412K
	Q614,Q619,Q620,Q626		2SC2412K
	Q700－Q702		2SC2412K
	Q409		2SC3802K
	Q402		2SD1858X
	Q201,Q403,Q405,Q606,Q609		DTA124EK
	Q621－Q623		DTA124EK
	Q607,Q610,Q612,Q613		DTC124EK
	Q624,Q625		DTC124EK
	D401,D601,D602,D609,D610		1SS254
	D201		DAN202K
	D203		SVC201SPA
COILS AND FILTERS			
	L203,L204,L208,L412－L415		LAU120J
	L521		LAU120J
	L206,L207		LAU121J
	L430		LAU150J
	L497		LAU151J
	L201,L202,L209		LAU1R2J
	L496,L701		LAU220J
	L702		LAU270J
	L525		LAU330J
	L523		LAU390J
	L432		LAU430J
	L433		LAU470J
	L522		LAU560J
	L411,L431		LAU680J
	L458		LFA221J
	L457,L524		LFA561J
	F201		VTF1051
CAPACITORS			
	C203,C431,C438,C441		CCSQCH050C50
	C207,C231,C241,C415,C417		CCSQCH100D50
	C500,C532,C774		CCSQCH100D50
	C212,C238,C419,C461,C496		CCSQCH101J50
	C430		CCSQCH120J50
	C456		CCSQCH121J50
	C439,C440,C516,C520		CCSQCH150J50
	C509,C550,C771,C772		CCSQCH151J50
	C409,C423,C424,C485,C529		CCSQCH180J50
	C612,C633		CCSQCH180J50
	C410,C437		CCSQCH220J50
	C236		CCSQCH221J50
	C204,C208,C416,C495,C510		CCSQCH270J50
	C775,C779		CCSQCH270J50
	C402,C463,C507,C508		CCSQCH271J50
	C206,C240,C462		CCSQCH330J50
	C211,C433,C524,C528		CCSQCH390J50
	C406		CCSQCH391J50
	C205,C239,C455		CCSQCH470J50
	C549,C778		CCSQCH560J50
	C237		CCSQCH680J50
	C411,C412,C498,C609		CCSQCH820J50
	C536		CCSQCH910J50
	C401,C530		CEANP100M25
	C551,C613,C620		CEANP220M10
	C405,C630		CEANP2R2M50
	C537		CEAS010M50
	C522		CEAS100M50
	C472,C473,C477		CEAS3R3M50
	C213,C434,C445,C452,C499		CEAS470M16
	C484		CEJA100M16
	C201,C220－C222,C227,C428		CEJA470M6R3
	C457,C474,C489,C490		CEJA470M6R3
	C501,C502,C512,C521,C525		CEJA470M6R3
	C533,C622,C624,C643,C647		CEJA470M6R3
	C675,C676		CEJA470M6R3
	C619		CEJANP100M10
	C443,C628		CEJANP4R7M16
	C223		CEJANPR47M50
	C446,C618		CFTYA103J50
	C514,C617		CFTYA104J50
	C224		CFTYA223J50
	C471,C603		CFTYA224J50
	C610		CFTYA563J50
	C515,C517		CFTYA683J50
	C202,C209,C214－C217		CKSQYF103Z50
	C225,C226,C230,C232,C233		CKSQYF103Z50
	C242,C414,C418,C421,C422		CKSQYF103Z50
	C425,C426,C458－C460		CKSQYF103Z50
	C475,C476,C486,C535,C602		CKSQYF103Z50
	C604,C615,C616,C621,C644		CKSQYF103Z50
	C776,C777,C780,C781,C783		CKSQYF103Z50
	C403,C404,C427,C429,C435		CKSQYF104Z25
	C442,C479－C481,C483		CKSQYF104Z25
	C503－C506,C511,C513,C526		CKSQYF104Z25
	C531		CKSQYF104Z25
	C407,C408,C466,C467		CKSQYF473Z25
	C487,C488,C527,C601,C629		CKSQYF473Z25
	C219,C605－C607		CQMA102J50
	C608		CQMA152J50
	C627		CQMA222J50
	C444,C611		CQMA272J50
	C614		CQMA332J50
	C218,C626		CQMA472J50
	VC201		PCM1001
	VC202		VCM－008
	VC203		VCM1005
RESISTORS			
	R550	(10,1/6W)	DCN1002
	R496		RD1/6PM101J
	R406		RD1/6PM224J
	R403		RD1/6PM271J
	R431		RD1/6PM510J
	R512,R519,R520		RD1/6PM680J
	R612,R613		RN1/10SE103D
	R771		RN1/10SE202D
	R231,R475,R521		RN1/10SE562D
	R438		RN1/6PQ1803F

Mark	No.	Description	Parts No.
	R511		RN1/6PQ2002F
	R415,R416		RN1/6PQ3002F
	R434		RN1/6PQ5101F
	VR201		VRTB6VS222
	VR441		VRTB6VS223
	VR481,VR482,VR521		VRTB6VS472
		Other Resistors	RS1/10S□□□J
OTHERS			
		5P Cable holder	51048−0500
		7P Cable holder	51048−0700
		12P Cable holder	51048−1200
	CN603	1.0mm Pitch FFC Connector	SLW28S−1C7
		PCB Binder	VEF1040
	JA14	1P Pin jack	VKB1063
	JA11	4P Mini DIN socket	VKN1072
		Screw terminal	VNE1841
	X202	Crystal resonator(14.32MHz)	VSS1029
	X203	Crystal resonator(17.73MHz)	VSS1059
	X201	Crystal resonator(14.32MHz)	VSS1060

PALB ASSY

SEMICONDUCTORS

	IC303	BU4053BCF
	IC301	M50552−132SP
	IC304	MM1130XD
	IC302	TA7320P
	Q303,Q310,Q314,Q319,Q363	2SA1037K
	Q315,Q316,Q361,Q365	2SC1740S
	Q302,Q308,Q309,Q311	2SC2412K
	Q321,Q322,Q352,Q353	2SC2412K
	Q355,Q356,Q359,Q360,Q953	2SC2412K
	Q301,Q304,Q307,Q312,Q313	DTA124EK
	Q317,Q320,Q351	DTA124EK
	Q305,Q306,Q318	DTC124EK
	D301	DAN202K
	D302	DAP202K

COILS AND FILTERS

	L302,L303,L355	LAU120J
	L304	LAU220J
	L301	LAU270J
	F303	VTF1034

CAPACITORS

	C312	CCSQCH050C50
	C315	CCSQCH070D50
	C356,C364,C392	CCSQCH101J50
	C327	CCSQCH151J50
	C365	CCSQCH181J50
	C316	CCSQCH200J50
	C368	CCSQCH220J50
	C311,C317	CCSQCH270J50
	C306,C307,C310,C325	CCSQCH330J50
	C326	CCSQCH390J50
	C352	CCSQSL391J50
	C304	CCSQSL561J50
	C367,C384	CEANP220M10
	C383	CEANP470M10
	C313	CEAS010M50
	C341,C354,C358,C362	CEAS470M16
	C309	CEJA100M16
	C303	CEJA3R3M50
	C319,C323,C336,C339,C360	CEJA470M6R3
	C373,C375,C380−C382,C386	CEJA470M6R3
	C388,C390	CEJA470M6R3
	C314	CFTYA223J50
	C301,C305,C308,C318	CKSQYF103Z50
	C320−C322,C324,C328,C329	CKSQYF103Z50
	C335,C351,C353,C355,C357	CKSQYF103Z50
	C359,C361,C363,C366,C369	CKSQYF103Z50
	C374,C376,C385,C395,C396	CKSQYF103Z50
	C334,C340,C342,C389,C391	CKSQYF104Z25
	C302	CQMA392J50

RESISTORS

	R339,R387	RD1/6PM101J
	R355,R361	RD1/6PM470J
	R306,R307	RD1/6PM751J
	R316	RN1/10SE562D
	R323	RN1/6PQ2401F
	VR304	VRTB6VS222
	VR302	VRTB6VS471
		Other Resistors RS1/10S□□□J

OTHERS

	3P Cable holder	51048−0300
	4P Cable holder	51048−0400
	7P Cable holder	51048−0700
	12P Cable holder	51048−1200
CN302	KR Connector	B3B−PH−K−R
CN303	KR Connector	B6B−PH−K−S
CN301	3P Side post	BS3P−SHF−1AA
X301	Crystal resonator(8.87MHz)	VSS1062

YCNR ASSY

SEMICONDUCTORS

	IC803	BU4053BCF
	IC801	CXD2024Q
	IC804	TA7302P
	Q804,Q807,Q809,Q811,Q814	2SA1037K
	Q821,Q822,Q827−Q829	2SA1037K
	Q837,Q838	2SA1037K
	Q825	2SA933S
	Q802,Q803,Q806,Q808,Q810	2SC2412K
	Q815−Q817,Q820,Q823,Q824	2SC2412K
	Q830,Q831,Q836,Q839	2SC2412K
	Q840	DTA124EK
	Q801	DTC124EK

COILS AND FILTERS

	L801,L802,L805−L808	LAU150J
	L803,L804,L810	LAU220J
	L809	LAU470J

CAPACITORS

	C809,C839,C846,C853	CCSQCH060D50
	C897,C916	CCSQCH120J50
	C864	CCSQCH180J50
	C810,C811,C840,C841	CCSQCH220J50
	C847,C848,C854,C855	CCSQCH220J50

Mark	No.	Description	Parts No.
	C892,C898		CCSQCH390J50
	C813,C843,C850,C857,C872		CCSQCH470J50
	C812,C842,C849,C856,C873		CCSQCH560J50
	C805		CCSQSL102J50
	C814		CEAS010M50
	C871		CEJA100M16
	C806,C815,C816,C818,C820		CEJA470M6R3
	C823,C825,C831,C835,C874		CEJA470M6R3
	C876,C880,C885,C887,C893		CEJA470M6R3
	C896,C906,C907,C909		CEJA470M6R3
	C911－C913		CEJA470M6R3
	C808,C826,C865,C867,C868		CKSQYF103Z50
	C890,C891,C905		CKSQYF103Z50
	C807,C817,C819,C821,C822		CKSQYF104Z25
	C824,C827－C830,C832－C834		CKSQYF104Z25
	C836－C838,C844,C845		CKSQYF104Z25
	C851,C852,C866,C869,C870		CKSQYF104Z25
	C875,C877,C879,C881		CKSQYF104Z25
	C883,C884,C886,C888		CKSQYF104Z25
	C894,C895,C900,C908,C910		CKSQYF104Z25
	C915		CKSQYF104Z25
RESISTORS			
	R915		RD1/6PM103J
	R814,R816		RD1/6PM271J
	R822		RD1/6PM681J
	R901		RN1/10SE182D
	R879,R885		RN1/10SE202D
	R818,R820,R886		RN1/10SE222D
	R864,R902		RN1/10SE562D
	VR801		VRTB6VS472
		Other Resistors	RS1/10S□□□J
OTHERS			
		3P Cable holder	51048－0300
		4P Cable holder	51048－0400
	J801	2mm Pitch flat cable(3P)	D20PDD0310E
	DL801,DL802	Filter	VTN1001

SCRB ASSY

SEMICONDUCTORS

	IC107		LA7955
	Q111,Q112		2SC1740S
	Q113		DTC124EK
	D101,D102		MTZJ12B

CAPACITORS

	C137,C141,C145,C149		CCSQCH101J50
	C139,C143,C147,C151		CCSQCH221J50
	C133,C134,C138,C140,C142		CEAS100M50
	C144,C146,C148,C150,C152		CEAS100M50
	C159,C160		CEAS100M50
	C155		CEAS470M16
	C153,C154		CEAS471M10
	C131,C162,C163		CEJA100M16
	C132,C157,C161		CKSQYF103Z50
	C158		CKSQYF473Z25

RESISTORS

⚠	R169,R170 (47,1/6W)		DCN1003
	R160,R164		RD1/6PM471J
	R140,R141,R159,R163		RD1/6PM750J
		Other Resistors	RS1/10S□□□J

OTHERS

	JA101	RGB Connector	VKB1056
		Earth plate(FE)	VNF1081

MACB ASSY

OTHERS

		PCB(MACB)	VNP1429

CNNB ASSY

RESISTORS

	R102		RD1/6PM391J

OTHERS

	CN205	KR Connector(3P	B3B－PH－K
	CN203	24P Connector(straight type)	SLEM24S－2
	CN204	25P FFC Connector(side)	SLEM25R－2

LOMB ASSY

OTHERS

		4P Cable holder	51048－0400

LOSB ASSY

SWITCHES AND RELAYS

	S1－S3		DSG1015

FG ASSY

SEMICONDUCTORS

	D1	Photo interruptor	GP1S51V

OTHERS

	J64	HOUSING ASS'Y(3P)	VKP2024

POWER SUPPLY ASSY

OTHERS

	Q27,Q30,Q32,Q34,Q36		2SA933S
	Q20,Q22		2SB1134
	Q24		2SB1331
	Q25,Q29,Q31		2SC1740S
	Q21,Q23		2SD1667
	Q26		2SD2395
		Thyristor	3P4J
	D25－D27,D30,D31		AG01Z－VO
	Q35		DTA114ES
	Q28		DTA114TS
	Q33		DTC114ES
	Q37,Q38		DTC114TS
	D28		MTZJ39B/C
	D29		MTZJ7.5A
	D23		RK46
	D21,D22,D24		S3L20U
	IC21		UPC358C
	R22－R25	(47,1/6W)	VCN1033
	R56	(15,1/4W)	VCN1034
	R61	(2.7,1/2W)	VCN1037
	L20		VTL1008

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Service Manual

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CD CDV LD PLAYER

CLD-2950

CHAPTER 2

CONTENTS

CHAPTER 2

2.1 PACKING AND EXPLODED VIEWS ··· 2-3
2.2 SCHEMATIC AND PCB CONNECTION DIAGRAMS ····· 2-13
2.3 BLOCK DIAGRAMS ····· 2-53

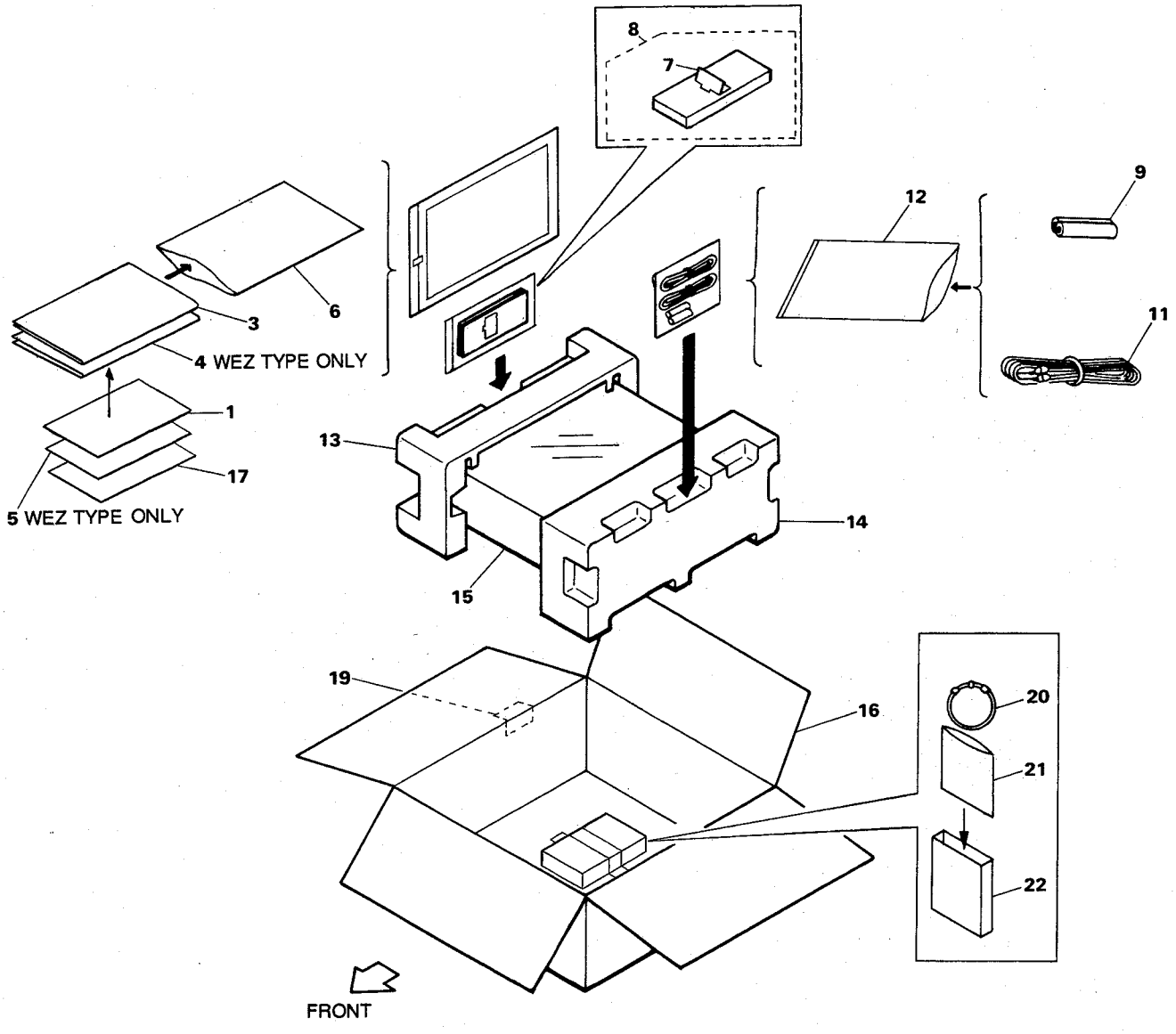
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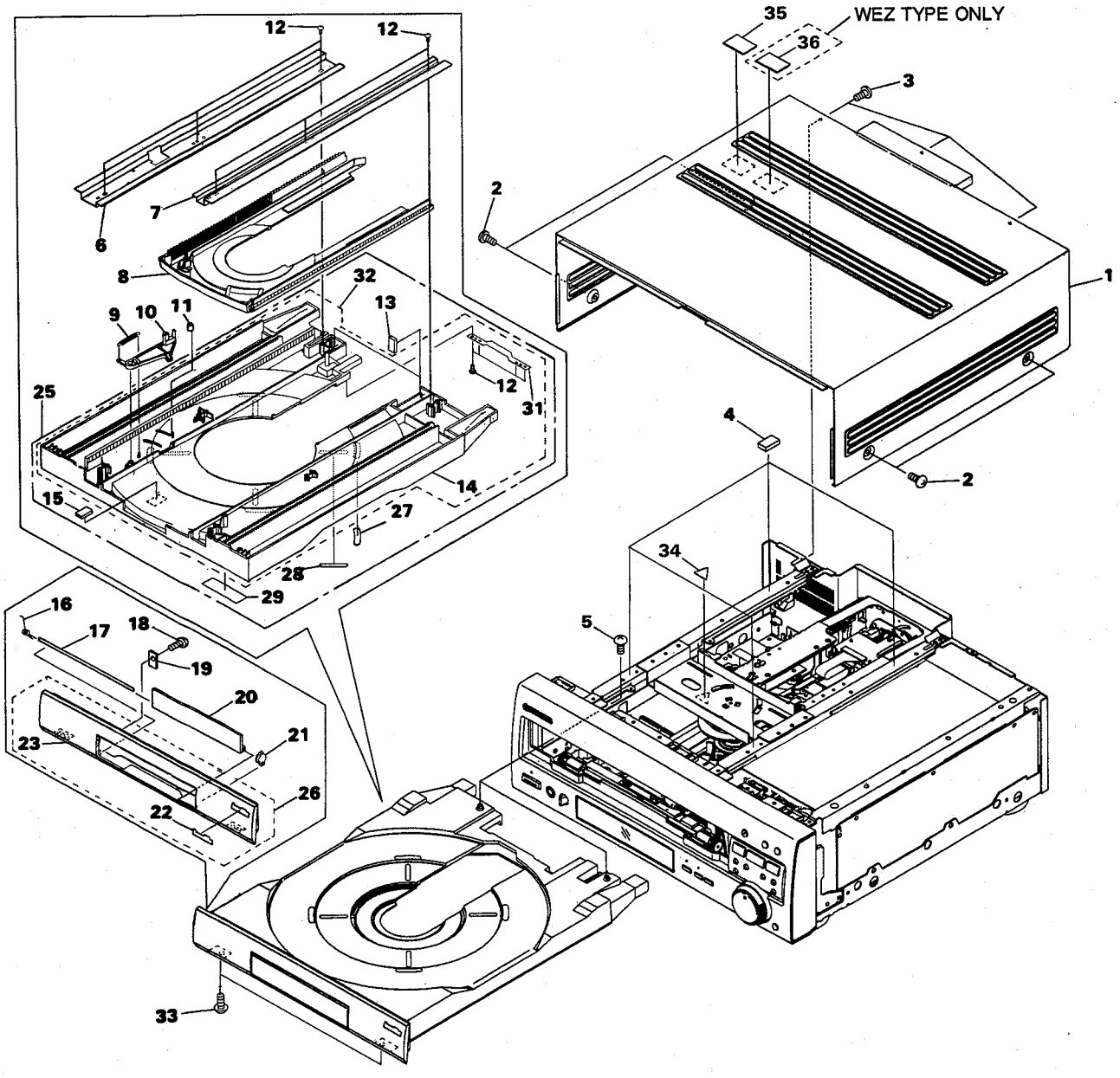
T-FFM JUNE 1994 Printed in Japan

2.1 PACKING AND EXPLODED VIEWS

2.1.1 PACKING

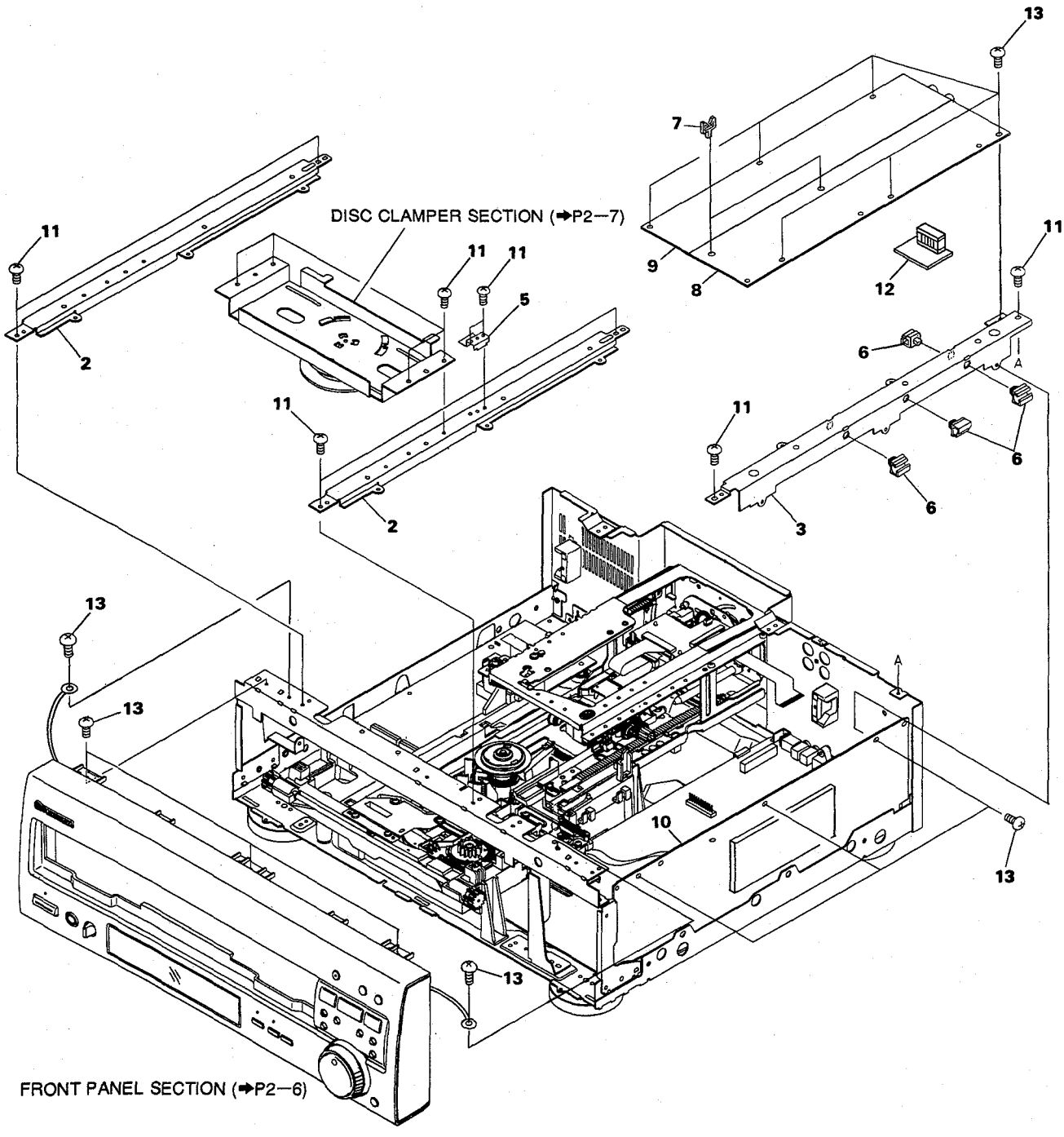


2.1.2 EXTERIOR AND DISC TRAY

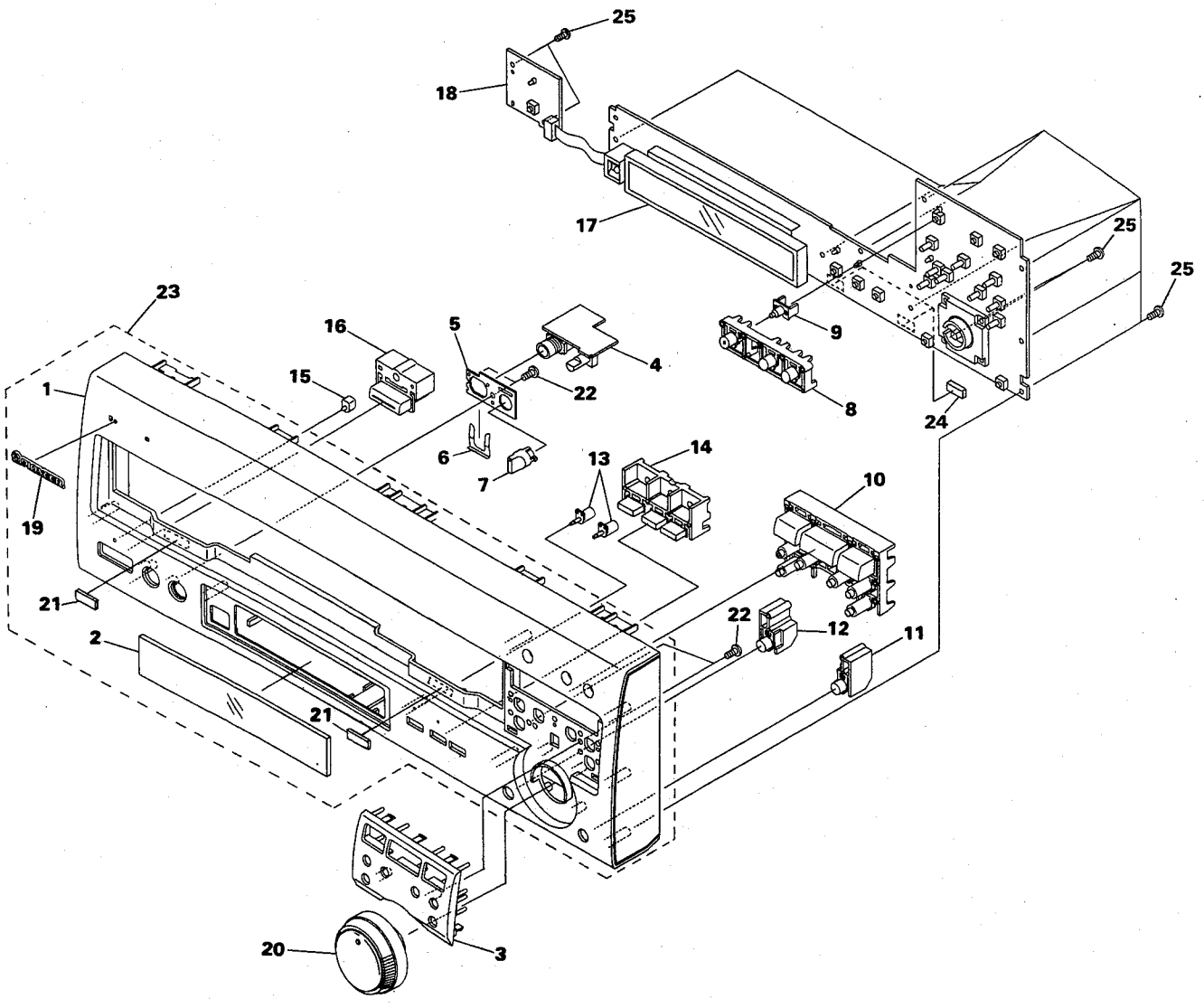


NOTE : Screws adjacent to ▼ mark on product are used for disassembly.

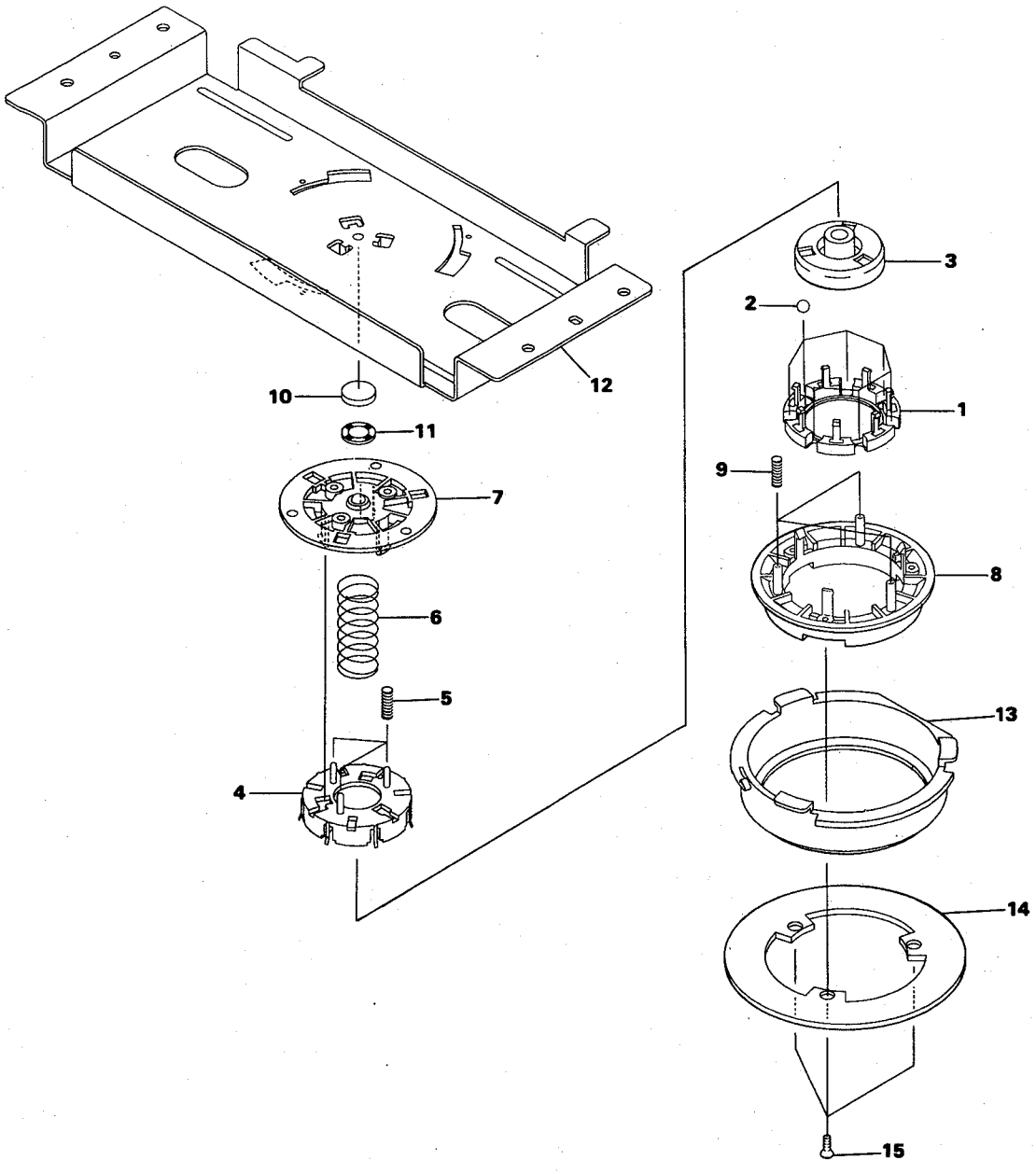
2.1.3 UPPER SECTION



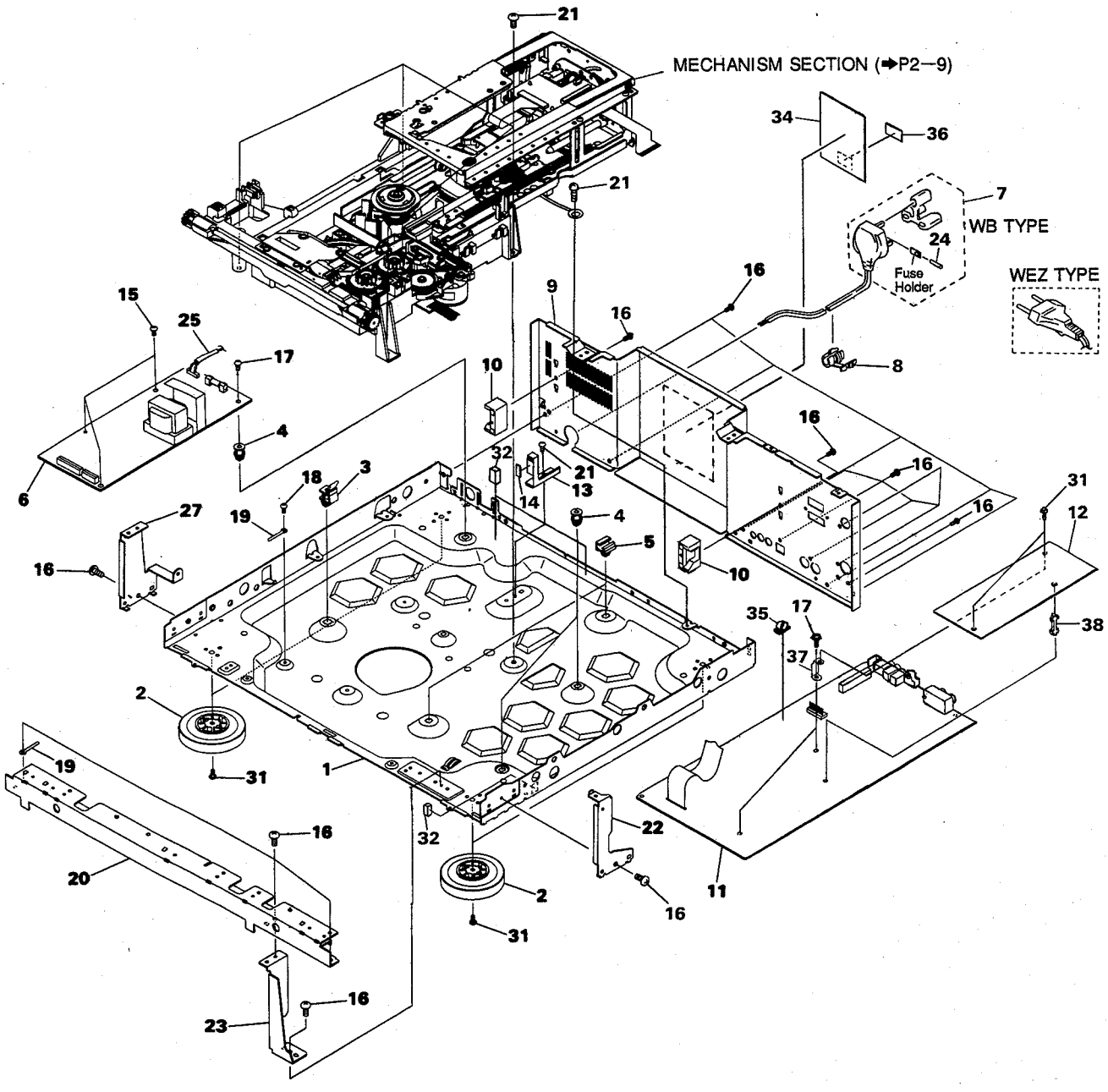
2.1.4 FRONT PANEL SECTION



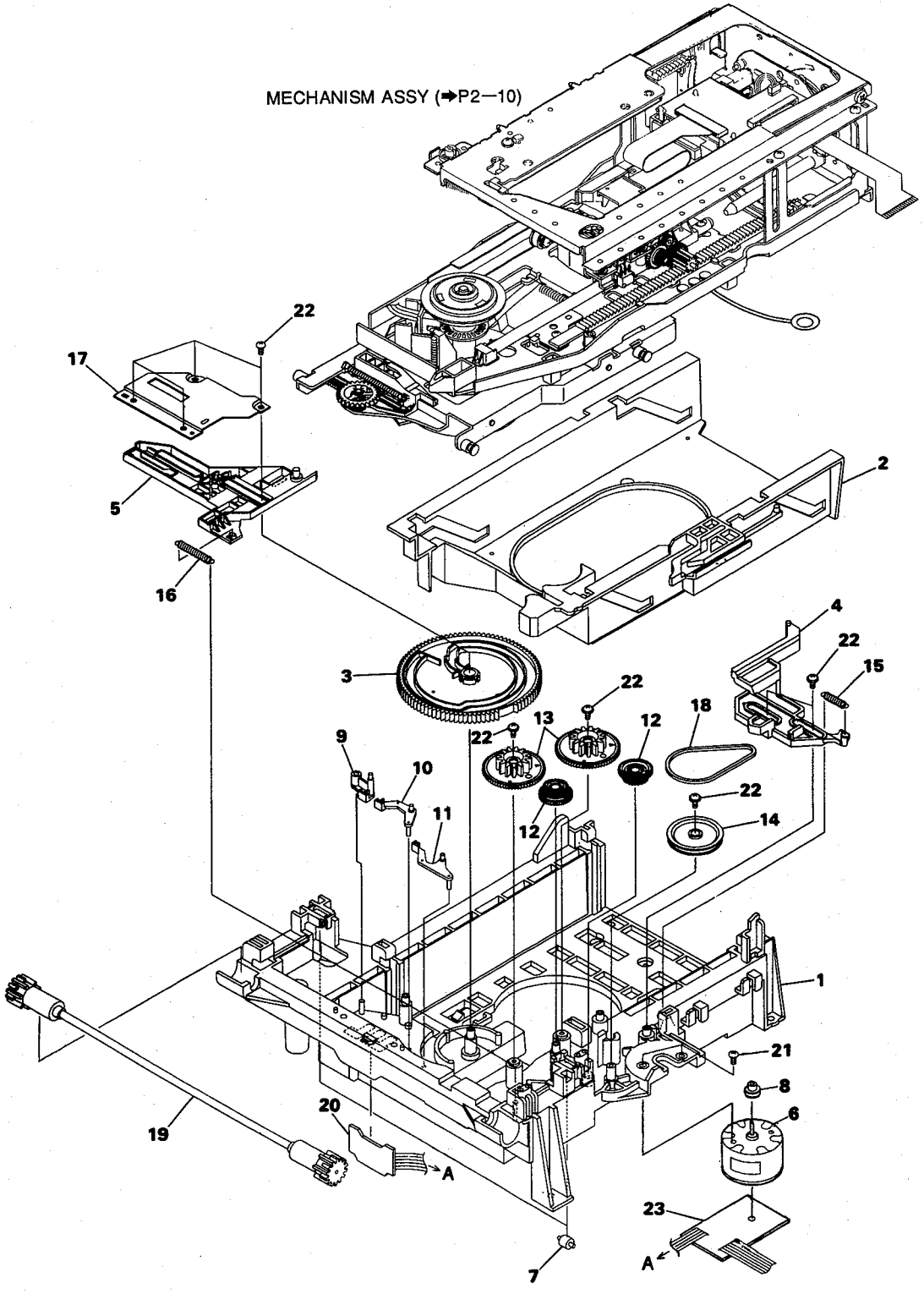
2.1.5 DISC CLAMPER SECTION



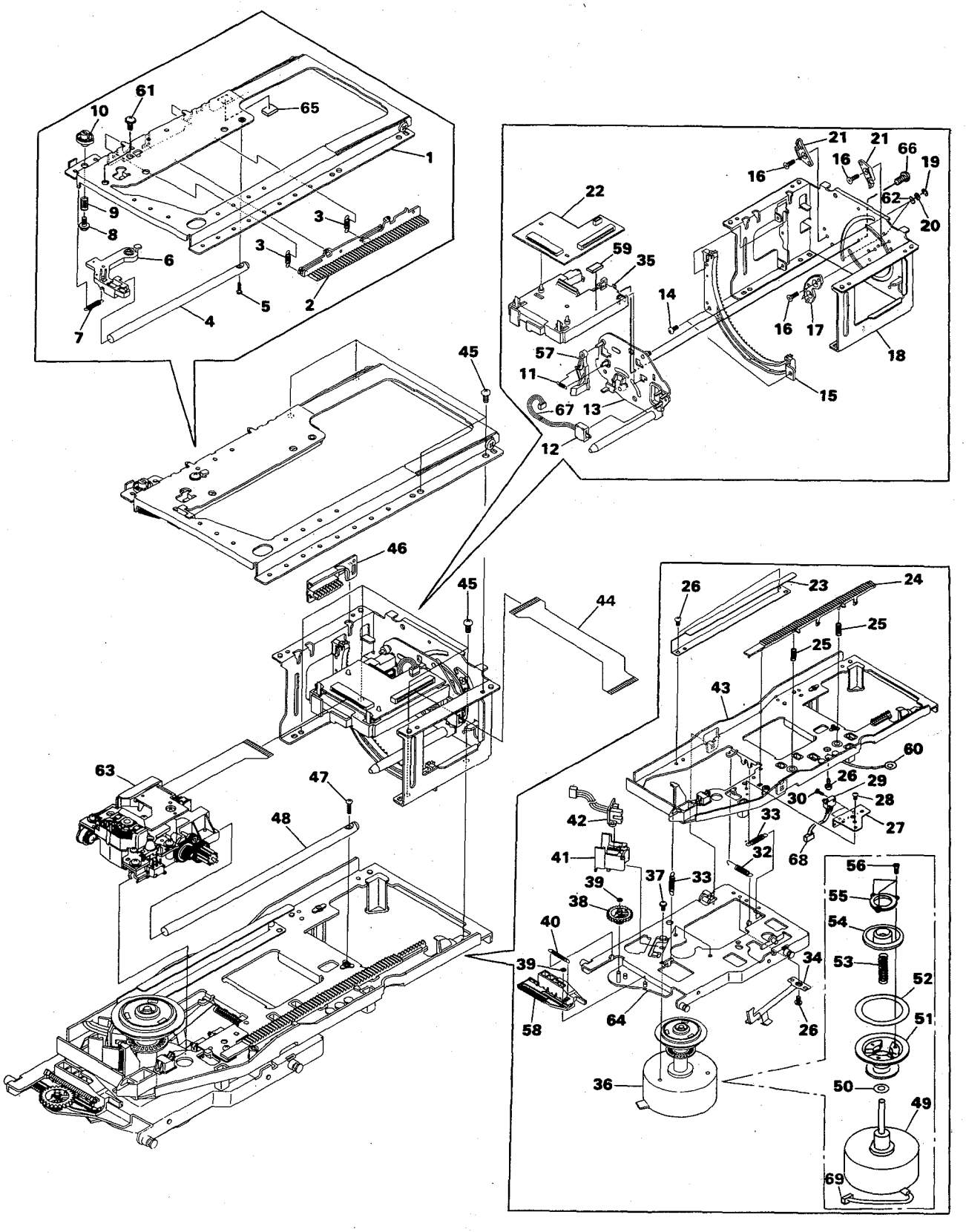
2.1.6 BOTTOM SECTION



2.1.7 MECHANISM SECTION



2.1.8 MECHANISM ASSY



● This diagram is viewed from the mounted parts side.

PCB-2

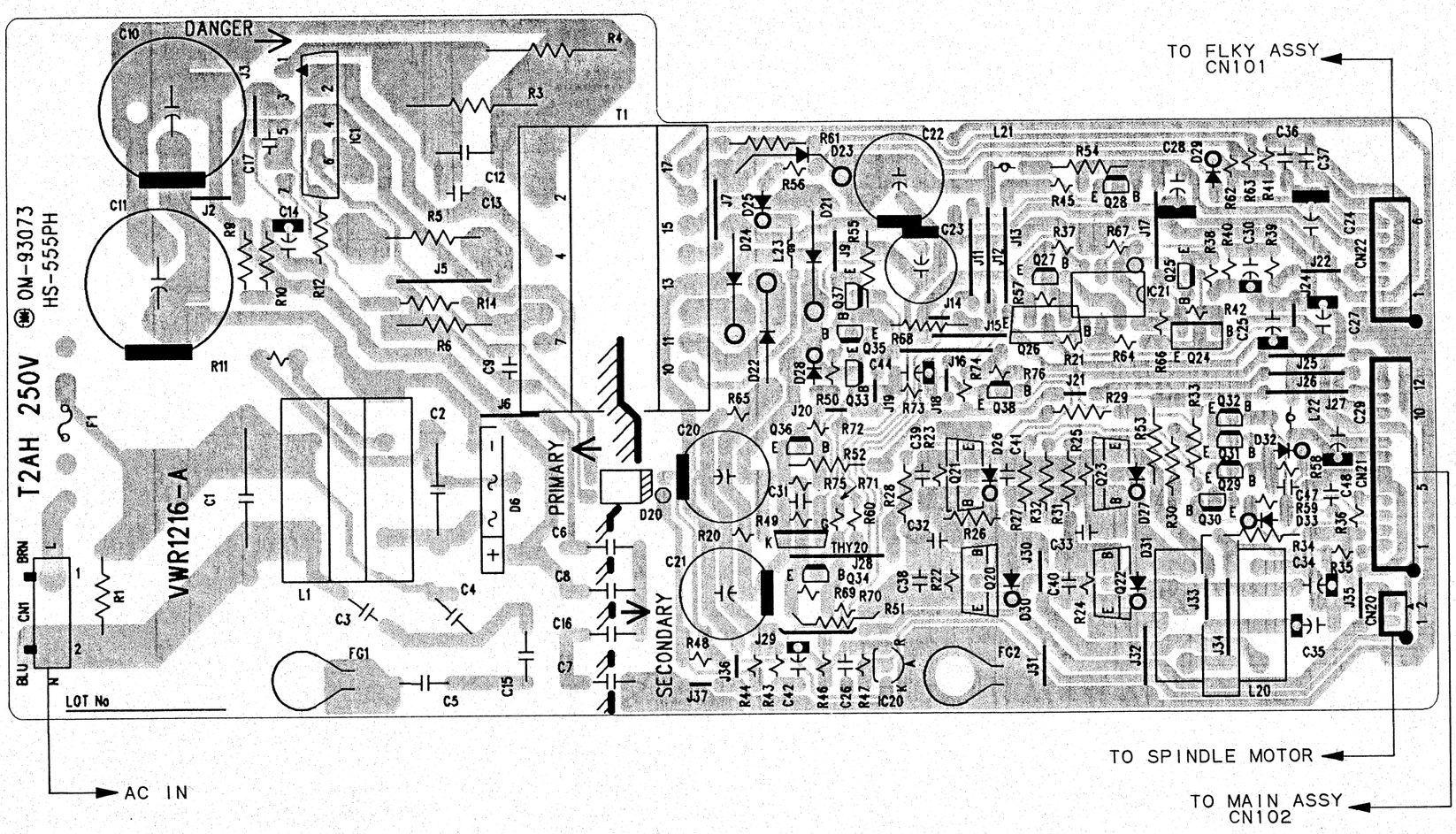
POWER SUPPLY ASSY

IC1

Q37
Q36 Q35
Q34 Q33

Q38
Q21 Q27
Q20 Q26

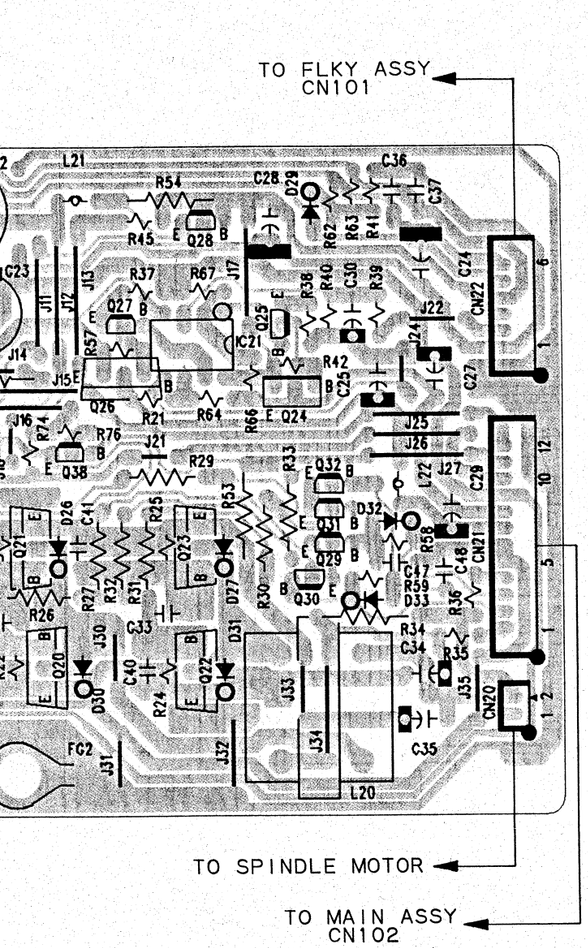
IC21
Q28 Q25 Q32
Q23 Q24 Q31
Q22 Q30 Q29



e.

PCB-2

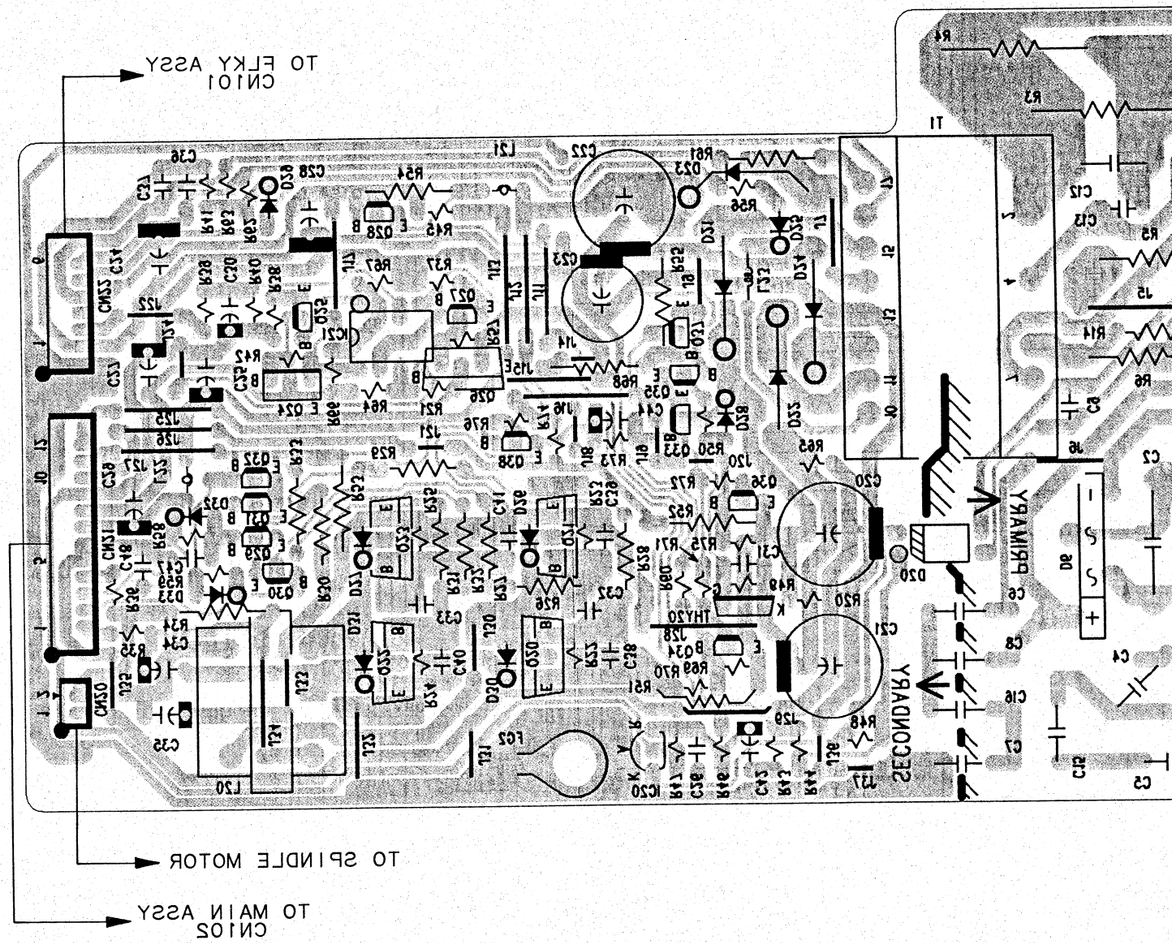
IC21
Q38 Q28 Q25 Q32
Q21 Q27 Q23 Q24 Q31
Q20 Q26 Q22 Q30 Q29

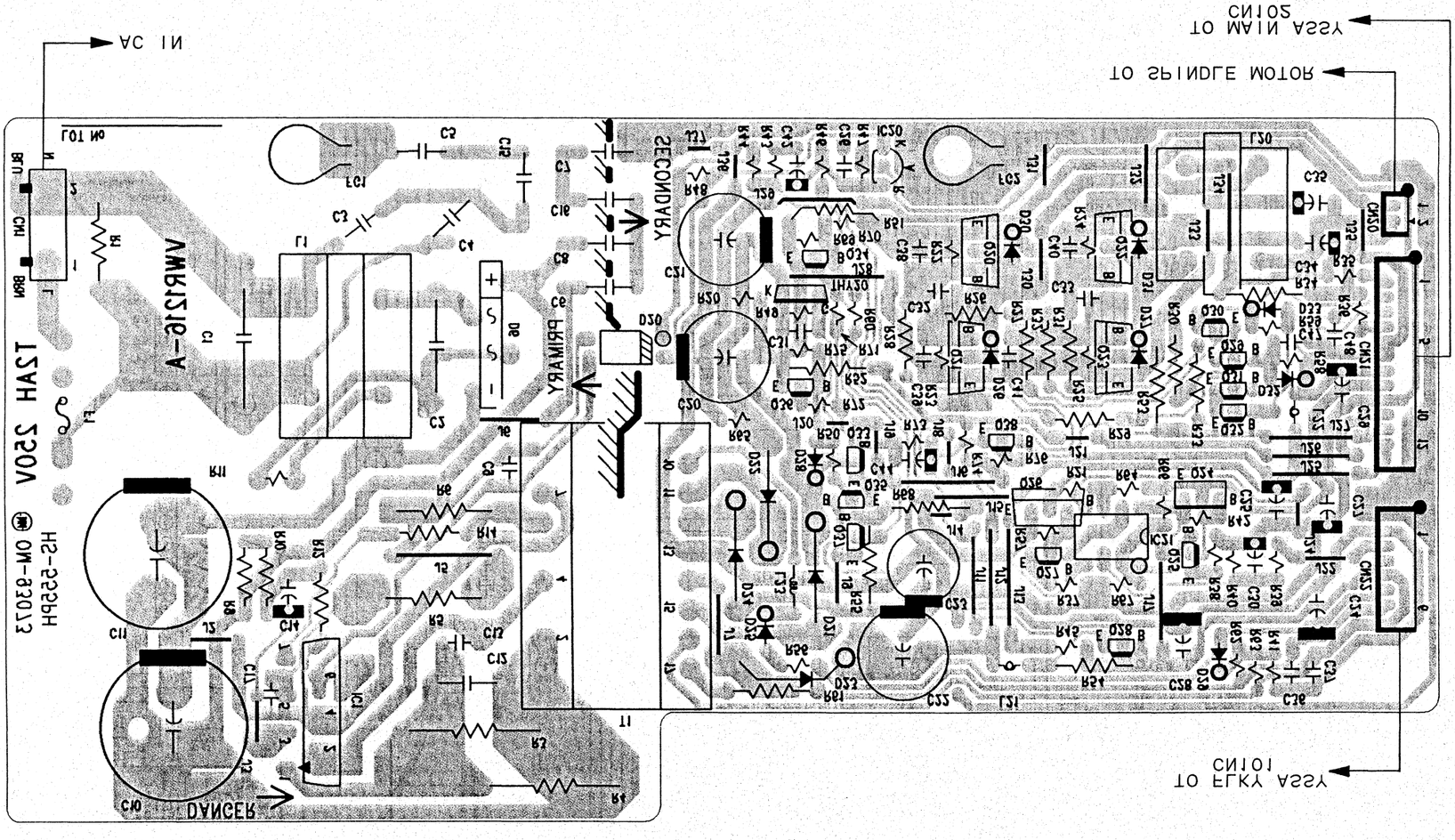


● This diagram is viewed from the foil side.

PCB-S

IC21
Q38 Q28 Q25 Q32
Q21 Q27 Q23 Q24 Q31
Q20 Q26 Q22 Q30 Q29





● This diagram is viewed from the foil side.

PCB-5

POWER SUPPLY ASSY

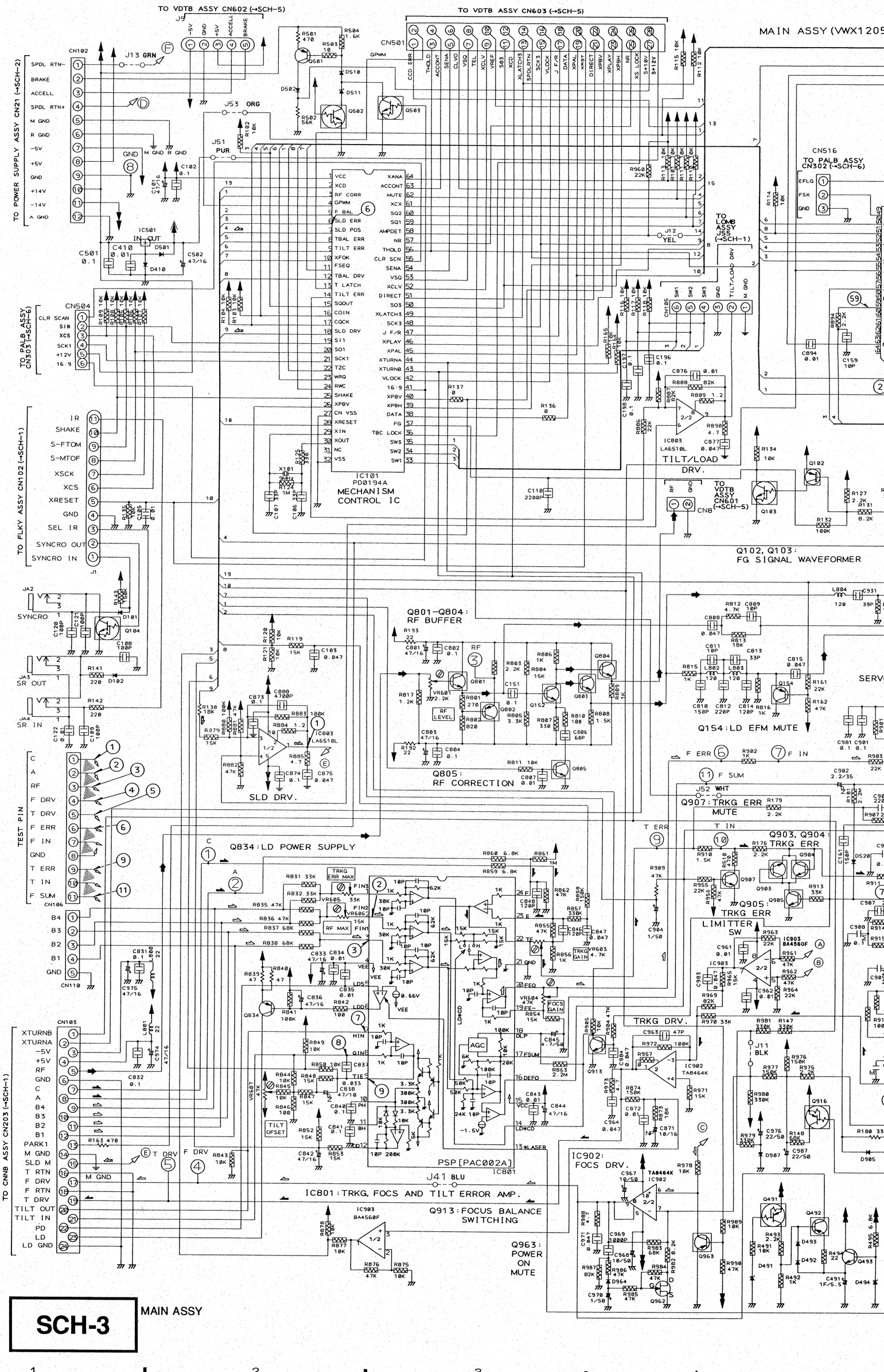
IC1

Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59
Q60	Q61	Q62	Q63	Q64	Q65	Q66	Q67
Q68							

IC51

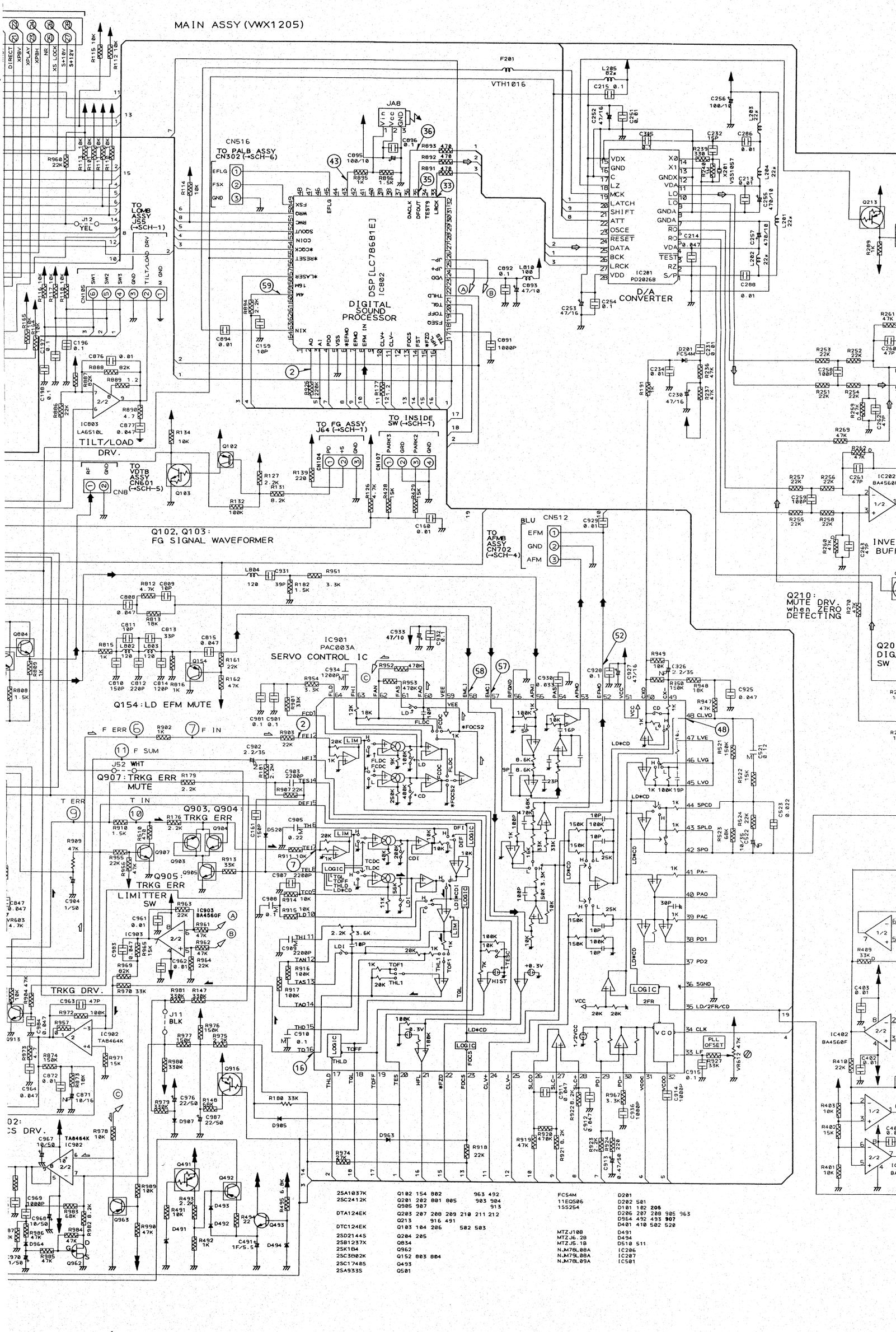
Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57
Q58							

2.2.3 MAIN ASSEMBLY

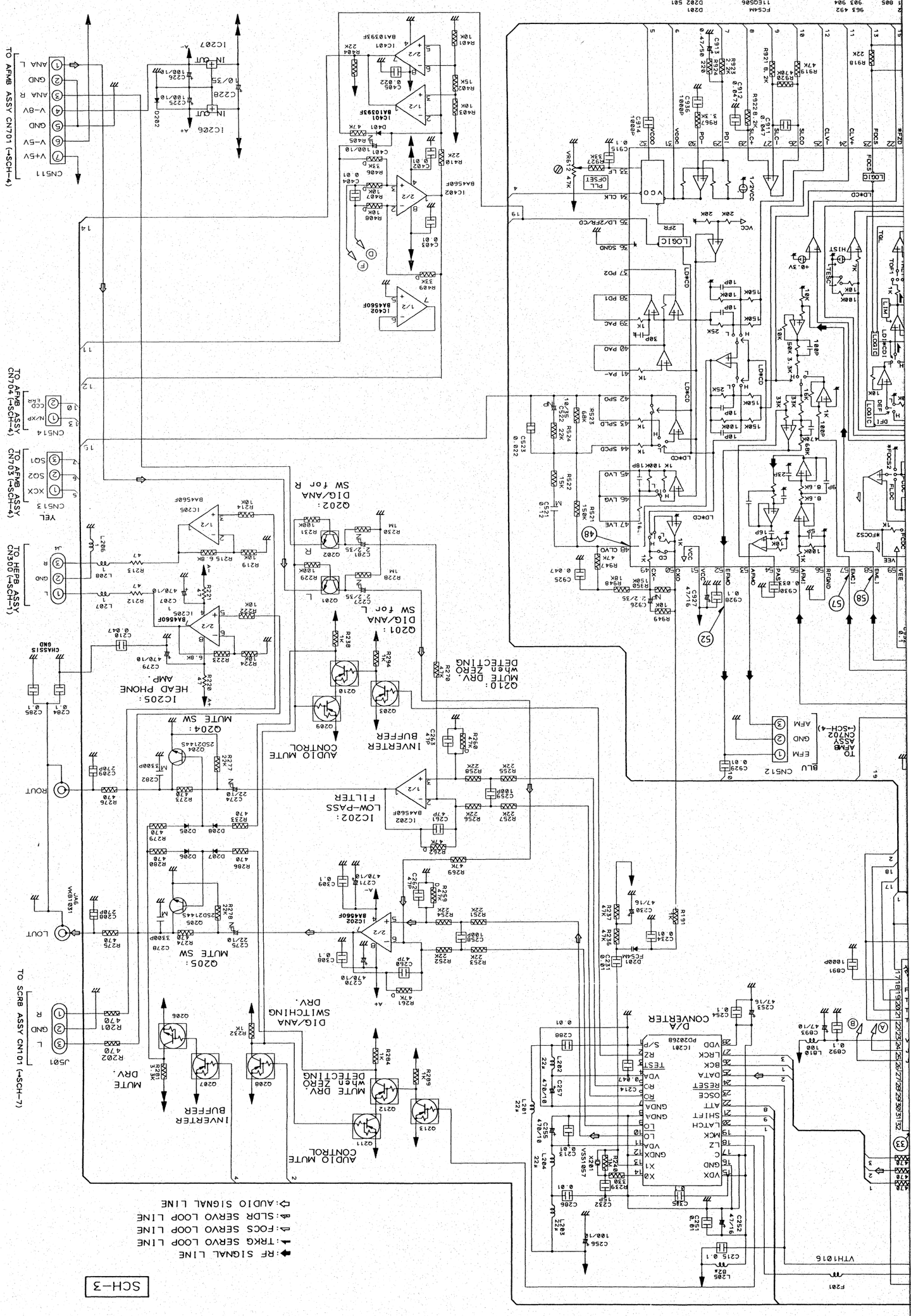


SCH-3 MAIN ASSY

MAIN ASSY (VWX1205)



MAIN ASSY



⇨:AUDIO SIGNAL LINE
⇦:SLDR SERVO LOOP LINE
⇦:FOCS SERVO LOOP LINE
⇦:TRKG SERVO LOOP LINE
⇦:RF SIGNAL LINE

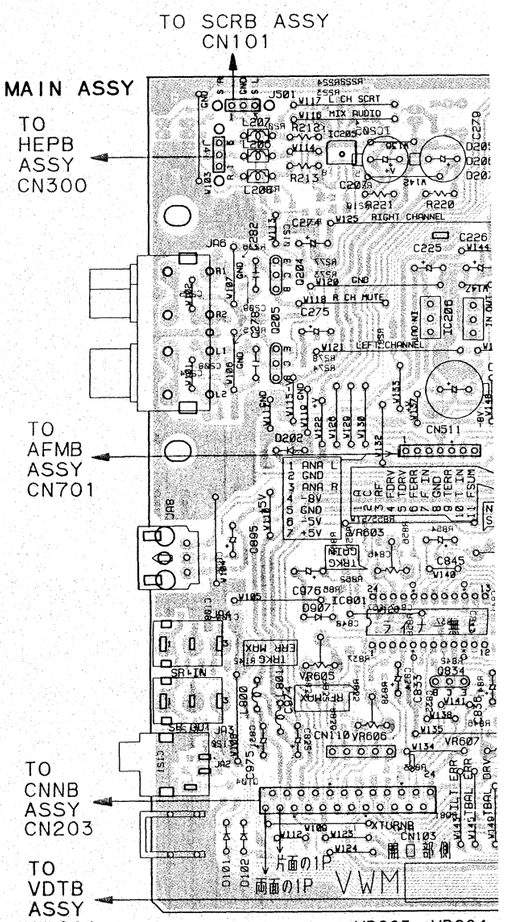
SCH-3

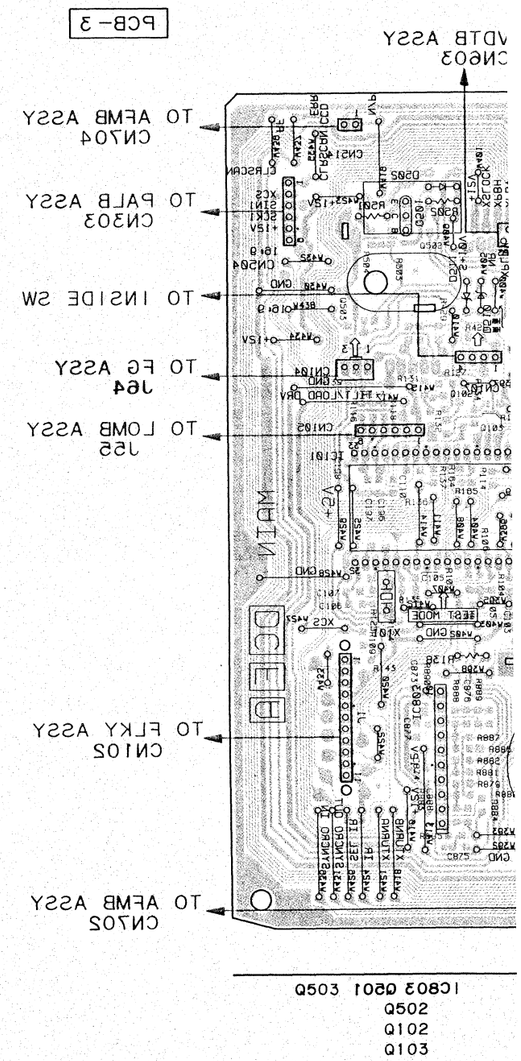
MAIN ASSEMBLY

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 (PD0194A)
②, ③ 1mS/Div. 16mVp-p	② 0.1μS/Div. 4.3Vp-p	① 2mS/Div. 1.8Vp-p	② 0.2mS/Div. 74mVp-p	①, ② 5mS/Div. 65mVp-p	⑥ 1V/Div 5mS/Div approx. 1.8V
AC mode	AC mode(D.audio)	DC mode	DC mode	DC mode	DC mode (Sldr err)
⑦, ⑧ 1mS/Div. 67mVp-p	㉝ 10μS/Div. 4.2Vp-p		⑦ 0.2mS/Div. 74mVp-p	③ 0.5mS/Div. 300mVp-p	
DC mode	AC mode(D.audio)		DC mode	AC mode	
⑨ 5mS/Div. 0.1Vp-p	㉟ 0.2μS/Div. 4.4Vp-p		⑯ 0.2mS/Div. 0.61Vp-p	④ 5mS/Div. 15Vp-p	
DC mode	AC mode(D.audio)		DC mode	DC mode	
	㊱ 0.2μS/Div. 4.5Vp-p		㊽ 50μS/Div. 6.2Vp-p	⑤ 5mS/Div. 5.8Vp-p	
	AC mode(D.audio)		DC mode	DC mode	
	㊸ 0.1μS/Div. 4.5Vp-p		㊷ 0.2μS/Div. 2.1Vp-p	⑥ 5mS/Div. 3.5Vp-p	
	AC mode(D.audio)		AC mode	DC mode	
	㊾ 0.1μS/Div. 2Vp-p		㊼ 1mS/Div. 0.53Vp-p	⑨ 5mS/Div. 1.25Vp-p	
	AC mode(D.audio)		DC mode	DC mode	
			㊽ 0.2mS/Div. 0.32Vp-p	⑪ 10mS/Div. 1.7Vp-p	
			DC mode	DC mode	





● This diagram is viewed from the mounted parts side.

PCB-3

TO POWER SUPPLY ASSY CN21

TO VDTB ASSY CN602

TO PALB ASSY CN302

TO AFMB ASSY CN703

TO VDTB ASSY CN603

TO AFMB ASSY CN704

TO PALB ASSY CN303

TO INSIDE SW

TO FG ASSY J64

TO LOMB ASSY J55

TO FLKY ASSY CN102

TO AFMB ASSY CN702

VNP1462-B
VNZ1528-B

VR604
VR607

VR601

VR612

IC206 IC207 Q834 Q501 IC902 IC201 Q962 Q963 Q964 Q213 Q912 Q913 Q803 Q804 Q963 Q203 Q213 Q805 Q916 Q209 IC903 Q152 IC801 IC802 IC803 IC804 Q801 Q802 Q208 Q202 Q201 IC202 Q206 Q207 Q907 IC205 IC101 Q493 Q491 Q492 IC401 IC902 IC901 Q903 Q904 Q905 Q154 Q501 Q502 Q503 Q504 Q505 Q506 Q507 Q508 Q509 Q510 Q511 Q512 Q513 Q514 Q515 Q516 Q517 Q518 Q519 Q520 Q521 Q522 Q523 Q524 Q525 Q526 Q527 Q528 Q529 Q530 Q531 Q532 Q533 Q534 Q535 Q536 Q537 Q538 Q539 Q540 Q541 Q542 Q543 Q544 Q545 Q546 Q547 Q548 Q549 Q550 Q551 Q552 Q553 Q554 Q555 Q556 Q557 Q558 Q559 Q560 Q561 Q562 Q563 Q564 Q565 Q566 Q567 Q568 Q569 Q570 Q571 Q572 Q573 Q574 Q575 Q576 Q577 Q578 Q579 Q580 Q581 Q582 Q583 Q584 Q585 Q586 Q587 Q588 Q589 Q590 Q591 Q592 Q593 Q594 Q595 Q596 Q597 Q598 Q599 Q600 Q601 Q602 Q603 Q604 Q605 Q606 Q607 Q608 Q609 Q610 Q611 Q612 Q613 Q614 Q615 Q616 Q617 Q618 Q619 Q620 Q621 Q622 Q623 Q624 Q625 Q626 Q627 Q628 Q629 Q630 Q631 Q632 Q633 Q634 Q635 Q636 Q637 Q638 Q639 Q640 Q641 Q642 Q643 Q644 Q645 Q646 Q647 Q648 Q649 Q650 Q651 Q652 Q653 Q654 Q655 Q656 Q657 Q658 Q659 Q660 Q661 Q662 Q663 Q664 Q665 Q666 Q667 Q668 Q669 Q670 Q671 Q672 Q673 Q674 Q675 Q676 Q677 Q678 Q679 Q680 Q681 Q682 Q683 Q684 Q685 Q686 Q687 Q688 Q689 Q690 Q691 Q692 Q693 Q694 Q695 Q696 Q697 Q698 Q699 Q700 Q701 Q702 Q703 Q704 Q705 Q706 Q707 Q708 Q709 Q710 Q711 Q712 Q713 Q714 Q715 Q716 Q717 Q718 Q719 Q720 Q721 Q722 Q723 Q724 Q725 Q726 Q727 Q728 Q729 Q730 Q731 Q732 Q733 Q734 Q735 Q736 Q737 Q738 Q739 Q740 Q741 Q742 Q743 Q744 Q745 Q746 Q747 Q748 Q749 Q750 Q751 Q752 Q753 Q754 Q755 Q756 Q757 Q758 Q759 Q760 Q761 Q762 Q763 Q764 Q765 Q766 Q767 Q768 Q769 Q770 Q771 Q772 Q773 Q774 Q775 Q776 Q777 Q778 Q779 Q780 Q781 Q782 Q783 Q784 Q785 Q786 Q787 Q788 Q789 Q790 Q791 Q792 Q793 Q794 Q795 Q796 Q797 Q798 Q799 Q800 Q801 Q802 Q803 Q804 Q805 Q806 Q807 Q808 Q809 Q810 Q811 Q812 Q813 Q814 Q815 Q816 Q817 Q818 Q819 Q820 Q821 Q822 Q823 Q824 Q825 Q826 Q827 Q828 Q829 Q830 Q831 Q832 Q833 Q834 Q835 Q836 Q837 Q838 Q839 Q840 Q841 Q842 Q843 Q844 Q845 Q846 Q847 Q848 Q849 Q850 Q851 Q852 Q853 Q854 Q855 Q856 Q857 Q858 Q859 Q860 Q861 Q862 Q863 Q864 Q865 Q866 Q867 Q868 Q869 Q870 Q871 Q872 Q873 Q874 Q875 Q876 Q877 Q878 Q879 Q880 Q881 Q882 Q883 Q884 Q885 Q886 Q887 Q888 Q889 Q890 Q891 Q892 Q893 Q894 Q895 Q896 Q897 Q898 Q899 Q900 Q901 Q902 Q903 Q904 Q905 Q906 Q907 Q908 Q909 Q910 Q911 Q912 Q913 Q914 Q915 Q916 Q917 Q918 Q919 Q920 Q921 Q922 Q923 Q924 Q925 Q926 Q927 Q928 Q929 Q930 Q931 Q932 Q933 Q934 Q935 Q936 Q937 Q938 Q939 Q940 Q941 Q942 Q943 Q944 Q945 Q946 Q947 Q948 Q949 Q950 Q951 Q952 Q953 Q954 Q955 Q956 Q957 Q958 Q959 Q960 Q961 Q962 Q963 Q964 Q965 Q966 Q967 Q968 Q969 Q970 Q971 Q972 Q973 Q974 Q975 Q976 Q977 Q978 Q979 Q980 Q981 Q982 Q983 Q984 Q985 Q986 Q987 Q988 Q989 Q990 Q991 Q992 Q993 Q994 Q995 Q996 Q997 Q998 Q999

● This diagram is viewed from the foil side.

TO SCRB ASSY CN101

TO POWER SUPPLY ASSY CN21

TO VDTB ASSY CN602

TO PALB ASSY CN302

TO AFMB ASSY CN703

TO VDTB ASSY CN603

MAIN ASSY

TO HEPB ASSY CN300

TO AFMB ASSY CN701

TO CNNB ASSY CN203

TO VDTB ASSY CN601

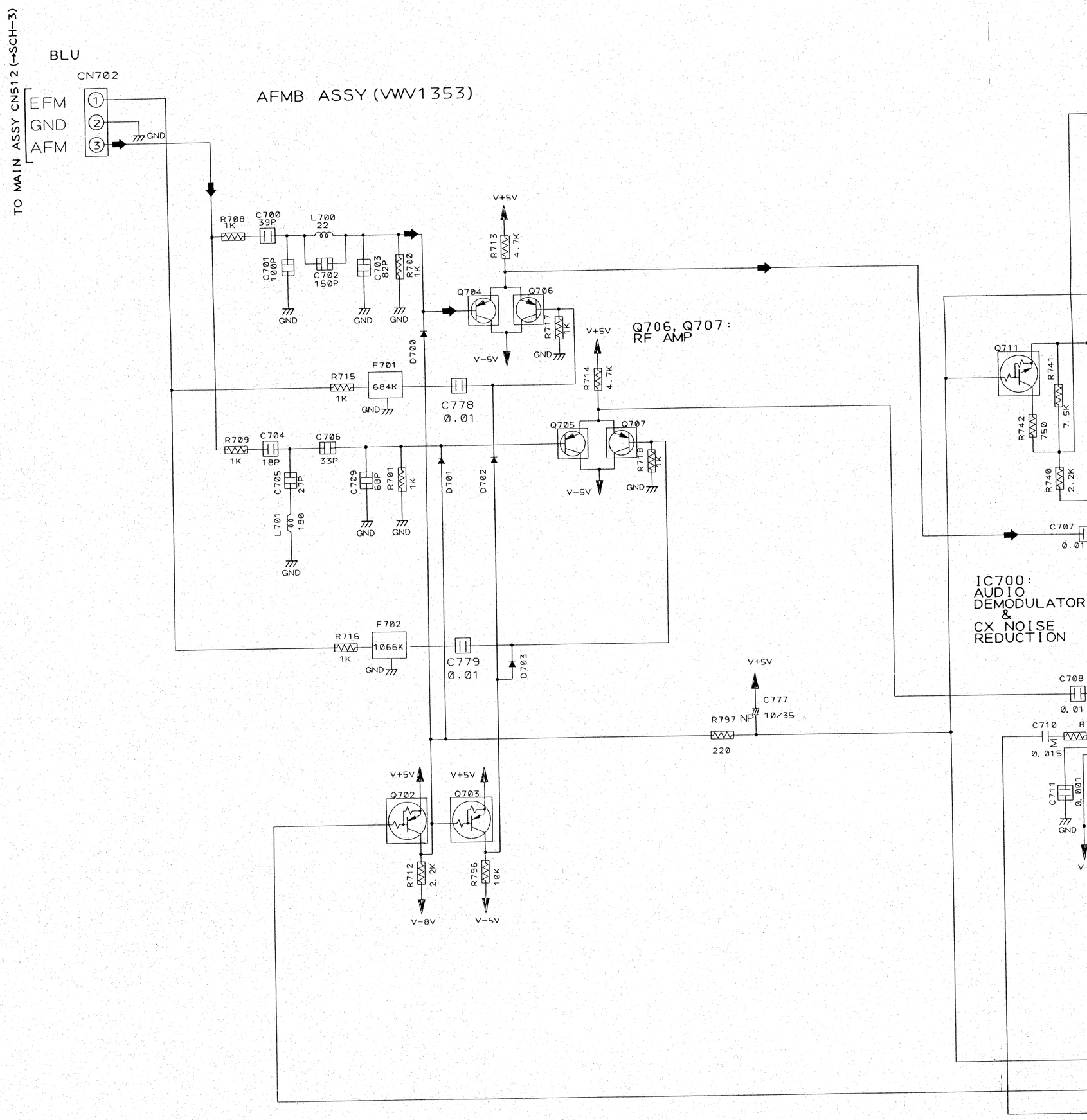
VNP1462-B
VNZ1528-B

VR601

VR604
VR607
VR605
VR606

IC804 IC502 Q102 Q103 IC401 IC402 Q493 Q491 Q492 IC802 IC901 Q903 Q904 Q905 Q154 Q913 Q803 Q804 Q963 Q203 Q213 Q805 Q916 IC501 Q805 Q209 IC903 Q152 IC902 Q802 Q208 Q202 Q201 IC202 Q206 Q207 Q907 IC205 IC101 Q494 Q495 Q496 Q497 Q498 Q499 Q500 Q501 Q502 Q503 Q504 Q505 Q506 Q507 Q508 Q509 Q510 Q511 Q512 Q513 Q514 Q515 Q516 Q517 Q518 Q519 Q520 Q521 Q522 Q523 Q524 Q525 Q526 Q527 Q528 Q529 Q530 Q531 Q532 Q533 Q534 Q535 Q536 Q537 Q538 Q539 Q540 Q541 Q542 Q543 Q544 Q545 Q546 Q547 Q548 Q549 Q550 Q551 Q552 Q553 Q554 Q555 Q556 Q557 Q558 Q559 Q560 Q561 Q562 Q563 Q564 Q565 Q566 Q567 Q568 Q569 Q570 Q571 Q572 Q573 Q574 Q575 Q576 Q577 Q578 Q579 Q580 Q581 Q582 Q583 Q584 Q585 Q586 Q587 Q588 Q589 Q590 Q591 Q592 Q593 Q594 Q595 Q596 Q597 Q598 Q599 Q600 Q601 Q602 Q603 Q604 Q605 Q606 Q607 Q608 Q609 Q610 Q611 Q612 Q613 Q614 Q615 Q616 Q617 Q618 Q619 Q620 Q621 Q622 Q623 Q624 Q625 Q626 Q627 Q628 Q629 Q630 Q631 Q632 Q633 Q634 Q635 Q636 Q637 Q638 Q639 Q640 Q641 Q642 Q643 Q644 Q645 Q646 Q647 Q648 Q649 Q650 Q651 Q652 Q653 Q654 Q655 Q656 Q657 Q658 Q659 Q660 Q661 Q662 Q663 Q664 Q665 Q666 Q667 Q668 Q669 Q670 Q671 Q672 Q673 Q674 Q675 Q676 Q677 Q678 Q679 Q680 Q681 Q682 Q683 Q684 Q685 Q686 Q687 Q688 Q689 Q690 Q691 Q692 Q693 Q694 Q695 Q696 Q697 Q698 Q699 Q700 Q701 Q702 Q703 Q704 Q705 Q706 Q707 Q708 Q709 Q710 Q711 Q712 Q713 Q714 Q715 Q716 Q717 Q718 Q719 Q720 Q721 Q722 Q723 Q724 Q725 Q726 Q727 Q728 Q729 Q730 Q731 Q732 Q733 Q734 Q735 Q736 Q737 Q738 Q739 Q740 Q741 Q742 Q743 Q744 Q745 Q746 Q747 Q748 Q749 Q750 Q751 Q752 Q753 Q754 Q755 Q756 Q757 Q758 Q759 Q760 Q761 Q762 Q763 Q764 Q765 Q766 Q767 Q768 Q769 Q770 Q771 Q772 Q773 Q774 Q775 Q776 Q777 Q778 Q779 Q780 Q781 Q782 Q783 Q784 Q785 Q786 Q787 Q788 Q789 Q790 Q791 Q792 Q793 Q794 Q795 Q796 Q797 Q798 Q799 Q800 Q801 Q802 Q803 Q804 Q805 Q806 Q807 Q808 Q809 Q810 Q811 Q812 Q813 Q814 Q815 Q816 Q817 Q818 Q819 Q820 Q821 Q822 Q823 Q824 Q825 Q826 Q827 Q828 Q829 Q830 Q831 Q832 Q833 Q834 Q835 Q836 Q837 Q838 Q839 Q840 Q841 Q842 Q843 Q844 Q845 Q846 Q847 Q848 Q849 Q850 Q851 Q852 Q853 Q854 Q855 Q856 Q857 Q858 Q859 Q860 Q861 Q862 Q863 Q864 Q865 Q866 Q867 Q868 Q869 Q870 Q871 Q872 Q873 Q874 Q875 Q876 Q877 Q878 Q879 Q880 Q881 Q882 Q883 Q884 Q885 Q886 Q887 Q888 Q889 Q890 Q891 Q892 Q893 Q894 Q895 Q896 Q897 Q898 Q899 Q900 Q901 Q902 Q903 Q904 Q905 Q906 Q907 Q908 Q909 Q910 Q911 Q912 Q913 Q914 Q915 Q916 Q917 Q918 Q919 Q920 Q921 Q922 Q923 Q924 Q925 Q926 Q927 Q928 Q929 Q930 Q931 Q932 Q933 Q934 Q935 Q936 Q937 Q938 Q939 Q940 Q941 Q942 Q943 Q944 Q945 Q946 Q947 Q948 Q949 Q950 Q951 Q952 Q953 Q954 Q955 Q956 Q957 Q958 Q959 Q960 Q961 Q962 Q963 Q964 Q965 Q966 Q967 Q968 Q969 Q970 Q971 Q972 Q973 Q974 Q975 Q976 Q977 Q978 Q979 Q980 Q981 Q982 Q983 Q984 Q985 Q986 Q987 Q988 Q989 Q990 Q991 Q992 Q993 Q994 Q995 Q996 Q997 Q998 Q999

2.2.4 AFMB ASSEMBLY



SCH-4 AFMB ASSY

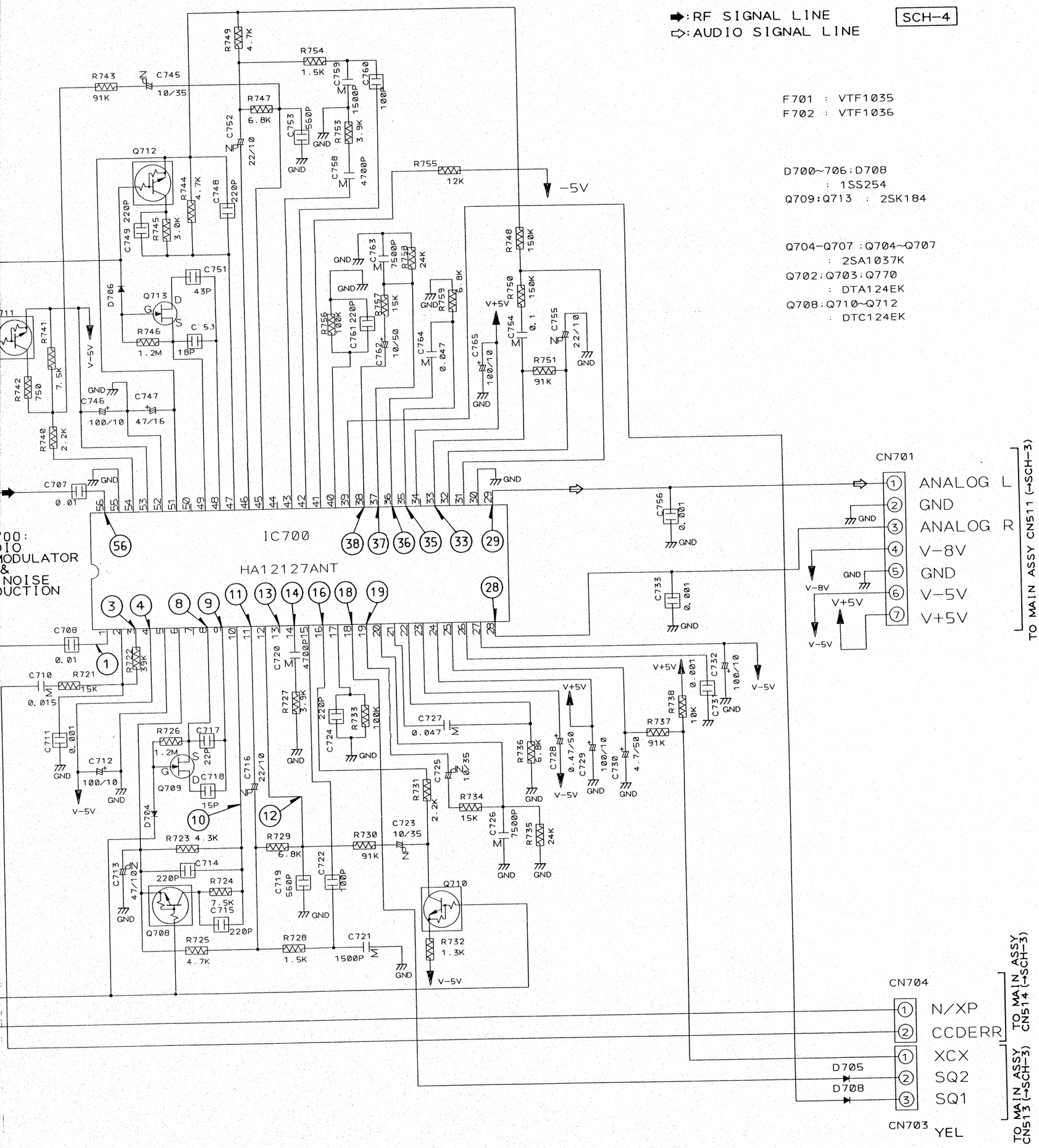
➡: RF SIGNAL LINE
⇨: AUDIO SIGNAL LINE

SCH-4

F701 : VTF1035
F702 : VTF1036

D700~706;D708
: 1SS254
Q709;Q713 : 2SK184

Q704-Q707 ;Q704~Q707
: 2SA1037K
Q702;Q703;Q770
: DTA124EK
Q708;Q710~Q712
: DTC124EK



AFMB ASSY

SCH-4

AFMB ASSEMBLY

• IC700(HA12127ANT) Note : (No.) in the table correspond to the pin No.

① 150mVp-p	⑩ 0.6Vp-p	⑯	㉝ 0.15Vp-p	㊺ 150mVp-p
③ 100mVp-p CCD ERROR	⑪ 0.7Vp-p	⑱	㉟ 1mS 1Vp-p	
④	⑫ 0.4Vp-p	⑲ 100mVp-p	㊱ 1mS 1Vp-p	
⑧ 2Vp-p	⑬ 1.0Vp-p	㉘ 1mS 1.5Vp-p	㊲ 1mS 0.6Vp-p	
⑨ 2Vp-p	⑭ 1.0Vp-p	㉙ 1mS 1.5Vp-p	㊳ 100mVp-p	

TO MAIN ASSY CN511

PCB-4

TO MAIN ASSY CN514

TO MAIN ASSY CN512

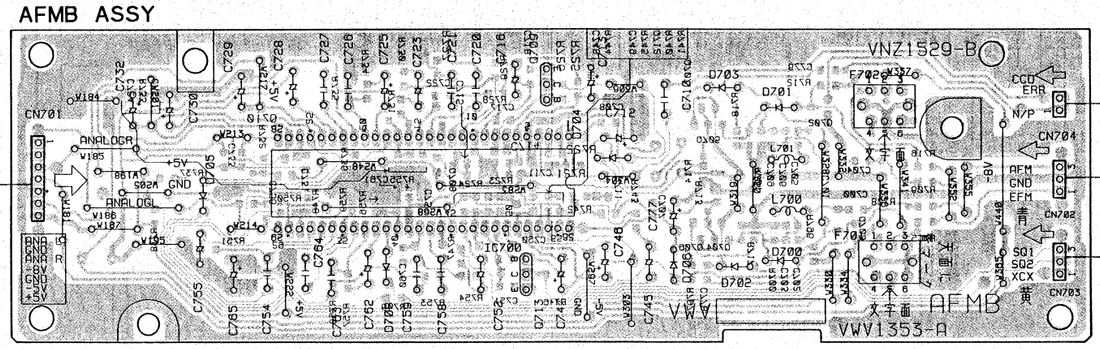
TO MAIN ASSY CN513

VNP1462-B

● This diagram is viewed from the mounted parts side.

AFMB ASSY

PCB-4



TO MAIN ASSY CN511

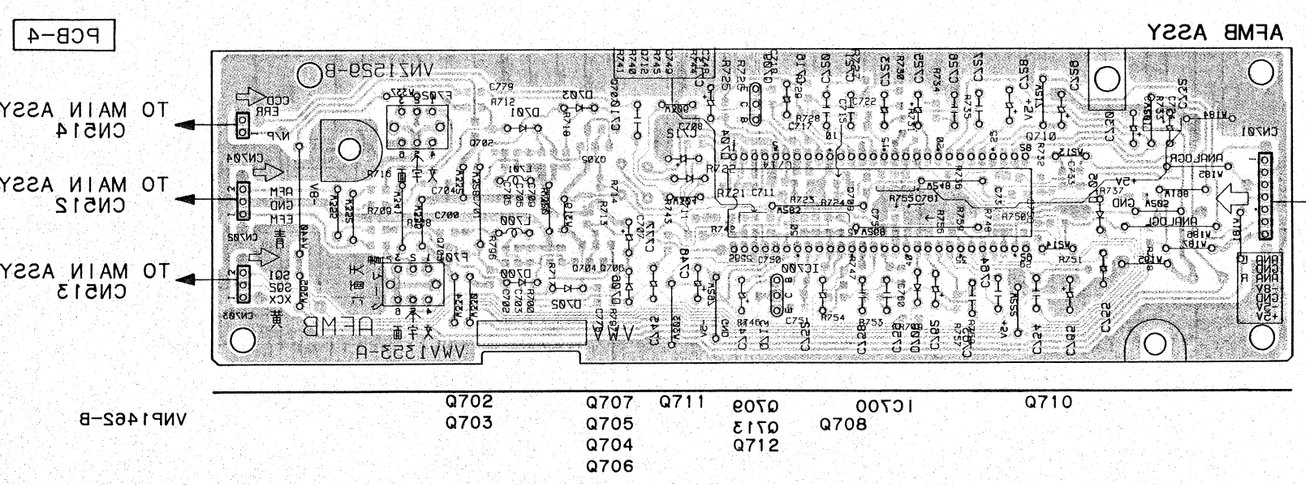
TO MAIN ASSY CN514

TO MAIN ASSY CN512

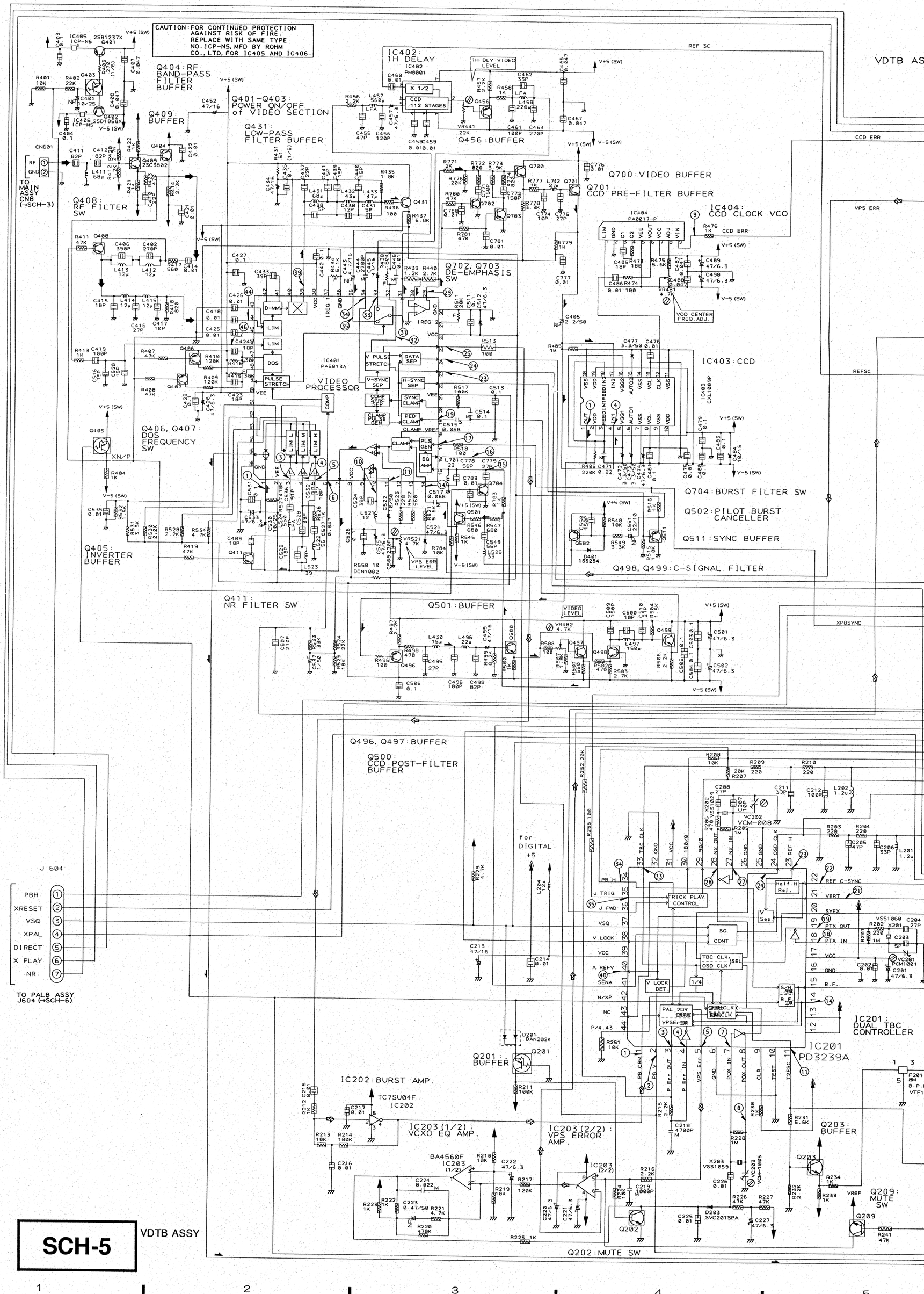
TO MAIN ASSY CN513

VNP1462-B

● This diagram is viewed from the foil side.



2.2.5 VDTB ASSEMBLY



SCH-5 VDTB ASSY

DTA124EK Q201 403 405 606 609 621 622 623
2SC2412K Q202 203 205 206 208 209 210 404 408 497 498
Q499 500 501 601 602 603 604 605 608 614 619
Q620 626 700 701 702
2SA1037K Q204 207 406 407 411 456 496 502 511 611 615 627 703 704
2SB1237X Q401
2SD1858X Q402
2SC3802K Q409
2SC1740S Q431
DTC124EK Q607 610 612 613 624 625

➡: RF SIGNAL LINE
—: VIDEO SIGNAL LINE
⇨: SPINDLE SERVO LOOP LINE

SCH-5

VDTB ASSY (VWS1130)

Q602: TBC GAIN SWITCHING

Q603, Q604: TRAPEZOIDE WAVEFORMER

Q601, Q605, Q606: TBC ERROE DETECTOR

IC602(1/2): REFERENCE VOLTAGE BUFFER

IC602(2/2): CCD ERROR AMP.

Q608: BUFFER

Q625: MUTE SW

Q607: INVERTER BUFFER

Q626, Q627: SPDL LOOP SW

Q609: INVERTER BUFFER

Q612: CD SPINDLE LOOP SW

Q614, Q615: LD SPINDLE LOOP SW

Q619, Q620: LIMITER

Q611: LOOP GAIN SW

IC601 PM3002 TBC SERVO

LOGIC BLOCK
SYNC SIGNAL GEN
REF H GEN
REF SC GEN
PBH TIMING GEN
LOCK DETECTOR

PFC

SPINDLE DRIVE LOGIC

SERIAL-PARALEL DECORDER

CN 602
-5V
GND
+5V
ACCELL
BRAKE
TO MAIN ASSY J9 (~SCH-3)

CN603
CCD ERR
GPWM
THOLD
ACCONT
SENA
CLVO
VSQ
TEL
XCLV
VREF
SO3
XCD
XLAT3
SPDLRTN
SCK3
VLOCK
J F/R
DATA
XPAL
XRESET
DIRECT
XPBV
XPLAY
XPBH
NR
XSLOCK
S+10V
S+12V
TO MAIN ASSY CN501 (~SCH-3)

Q624: MUTE SW

Q610: INVERTER BUFFER

Q613: INVERTER BUFFER

Q622, Q623: BUFFER

Q621: BUFFER

J 603
+5V
-5V
GND
VKILL
T2FSC
B.F
SYEX
VERT
REF CSYNC
OSD CLK
90/0
4FSC
TO PALB ASSY J603 (~SCH-6)

Q204: PHASE EQUALIZER

Q206: BUFFER

Q207: PHASE EQUALIZER

Q205: BUFFER

Q210: BUFFER

Q208: LOW-PASS FILTER BUFFER

IC207: CONVERT CLOCK SW

IC 207 TC4W53F

F201 6M B.P.F VTF1051

VC201 PCM1001

X201 VSS1060

TO SCRB ASSY CN102 (~SCH-7)
J 601
S+10V
+12V
S VIDEO
+5V
GND

J 602
Y
GND
C
GND
VIDEO OUT
GND
VIDEO
TO PALB ASSY J602 (~SCH-6)

JA11

JA14

Q209: MUTE SW

VDTB ASSY SCH-5

VDTB ASSEMBLY

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

IC401 (PA5013A)

① H:20μs/div, 2.0V, 0V, DC mode	⑮ H:20μs/div, 300mVp-p, AC mode	㉛ H:20μs/div, 1Vp-p, AC mode
③ H:20μs/div, 0V, -2.32V, DC mode	⑯ H:20μs/div, 2.5V, 0V, DC mode	㉜ 4Vp-p, 20mS
④ H:20μs/div, 0V, -1.14V, DC mode	⑰ H:20μs/div, 4.95V, 0V, 64μS, DC mode	㉝ H:20μs/div, 400mVp-p, AC mode
⑤ H:20μs/div, 0V, -1.14V, DC mode	⑲ H:20μs/div, 1.5Vp-p, 64μS, AC mode	㉞ 2.5Vp-p, 20mS
⑥ H:5ms/div, 5.05V, 0V, 20mS, DC mode	㉓ 5Vp-p, 64μS	㉟ H:20μs/div, 1Vp-p, AC mode
⑩ H:20μs/div, 0V, -1.62V, DC mode	㉔ 4Vp-p, 20mS	㊴ H:20μs/div, 3.12V, 0V, DC mode
⑪ H:2ms/div, 0V, -2.8V, DC mode	㉕ 5Vp-p, 20mS	㊹ 600mVp-p, Range H:2mS/div
⑭ H:20μs/div, 0.525V, 0V, DC mode	㉙ H:20μs/div, 2.5Vp-p, AC mode	㊻ 500mVp-p, Range H:2mS/div

IC403 (CXL1009P)

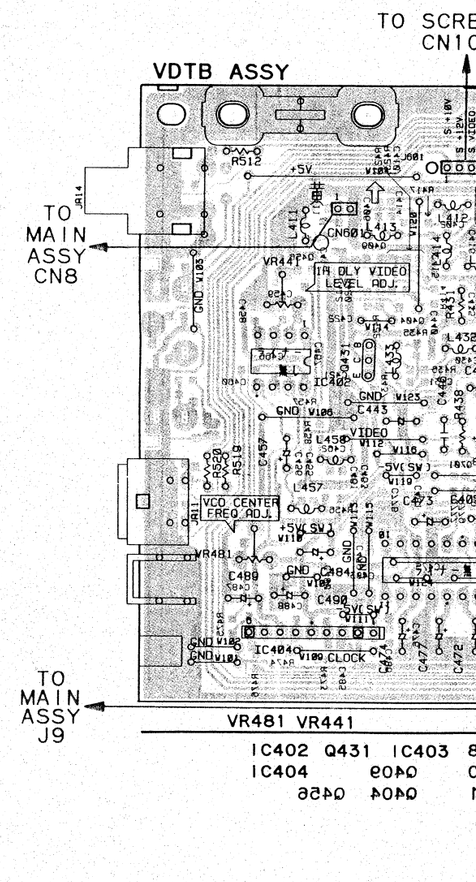
① H:20μs/div, 0V, DC mode, -2.25V
④ H:20μs/div, 1.8V, 0V, DC mode

IC404 (PA0017-P)

⑨ approx. 300mVp-p

IC601 (PM3002)

㉔ 5Vp-p	㉕ 3Vp-p
㉜ H:20mS/div, 5Vp-p, DC mode, 0V	㊶ 5Vp-p, 22.5μS
㊷ 5Vp-p, 20ms, 0V	㊸ 5Vp-p
㊺ 5Vp-p	㊺ 5Vp-p



IC201 (PD3239A)

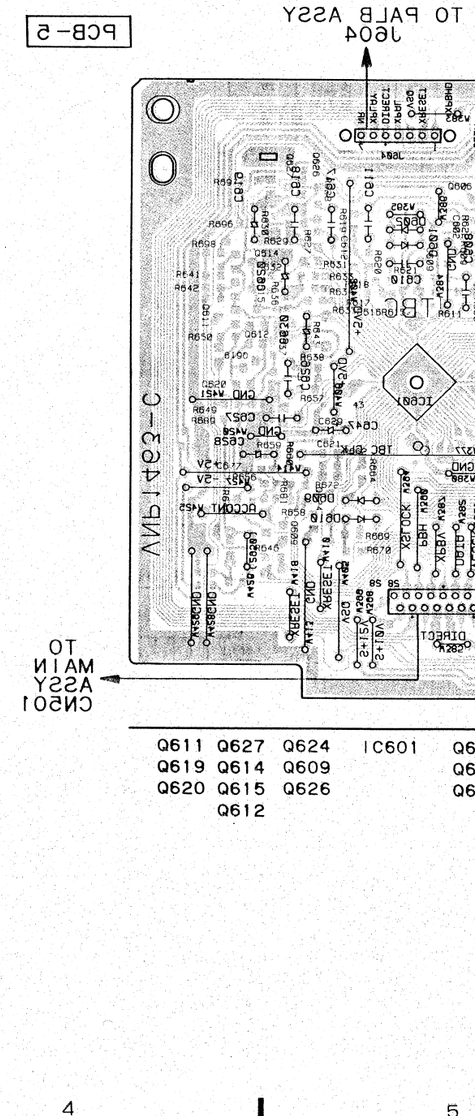
① 4.8Vp-p, 65μS	⑭ 64μS, 5.0Vp-p	㉘ 70nS, 4.24Vp-p
② 5.0Vp-p, 20mS	⑱ 70nS, 4.24Vp-p	㉝ 70nS, 5.0V
③ 20mS, 5.0Vp-p	⑲ 70nS, 4.24Vp-p	㉞ 58μS, 5.0Vp-p
④ 20mS, 5.0Vp-p	㉑ 5.0Vp-p, 20mS	㉟ 5.0Vp-p, 64μS
⑤ 4.9Vp-p, 64μS	㉒ 5.0Vp-p, 64μS	㊵ 20mS, 5.0Vp-p
⑦ 55nS, 4.9Vp-p	㉓ 5.0Vp-p, 64μS	
⑧ 56nS, 3.76Vp-p	㉔ 57nS, 5.0V	
⑪ 110nS, 5.0V	㉗ 70nS, 3.9Vp-p	

Note : These waveforms and voltage are in the PAL DISC playback.

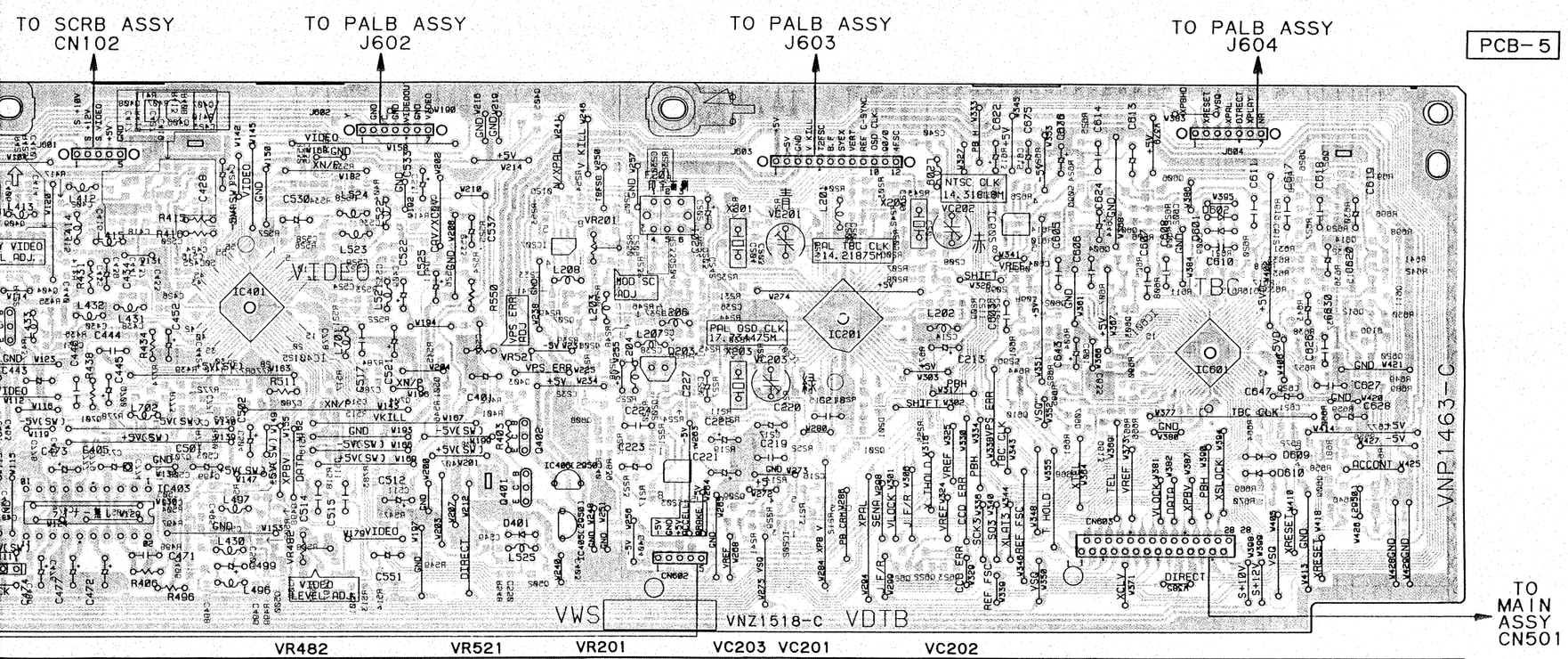
● IC201 (PD3239A)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	*	12	5.0	23	*	34	*
2	*	13	5.0	24	*	35	*
3	*	14	*	25	0	36	5.0
4	*	15	5.0	26	0	37	5.0
5	*	16	0	27	*	38	5.0
6	0	17	5.0	28	*	39	5.0
7	*	18	*	29	5.0	40	*
8	*	19	*	30	5.0	41	0
9	5.0	20	5.0	31	5.0	42	0
10	0	21	*	32	0	43	5.0
11	*	22	*	33	*	44	5.0

* : Refer to waveforms



● This diagram is viewed from the mounted parts side.



| | | |

2.2.6 PALB AND YCNR ASSEMBLIES

PALB ASSY (VWV1379)

YCNR ASSY (VWV1380)

IC301: CHARACTER GENERATOR

IC301 M50552-132SP

Q305: GRAY-BACK SW when CLEAR-SCAN

Q306: MUTE SW

Q303: PHILIPS CODE SUPPRESSOR

Q304: MOD PAL SW

Q307: INVERTER BUFFER

Q310: PHASE EQUALIZER

Q311: BUFFER

Q317, Q318: INVERTER BUFFER

Q319, Q320: Y/C SEPARATE SW

IC302: C-SIGNAL FREQUENCY CONVERTER

IC302 TA7320P

Q355: BUFFER

Q351: BUFFER

Q352, Q353: MULTIPLEXER CONTROL SW

Q321: BUFFER

IC801: 3 LINE DIGITAL COMB FILTER

IC801 CXD2024Q

Q801: INVERTER BUFFER

Q802–Q804: SYNC-TIP CLAMP

Q807: C-SIGNAL (NTSC) LOW-PASS FILTER BUFFER

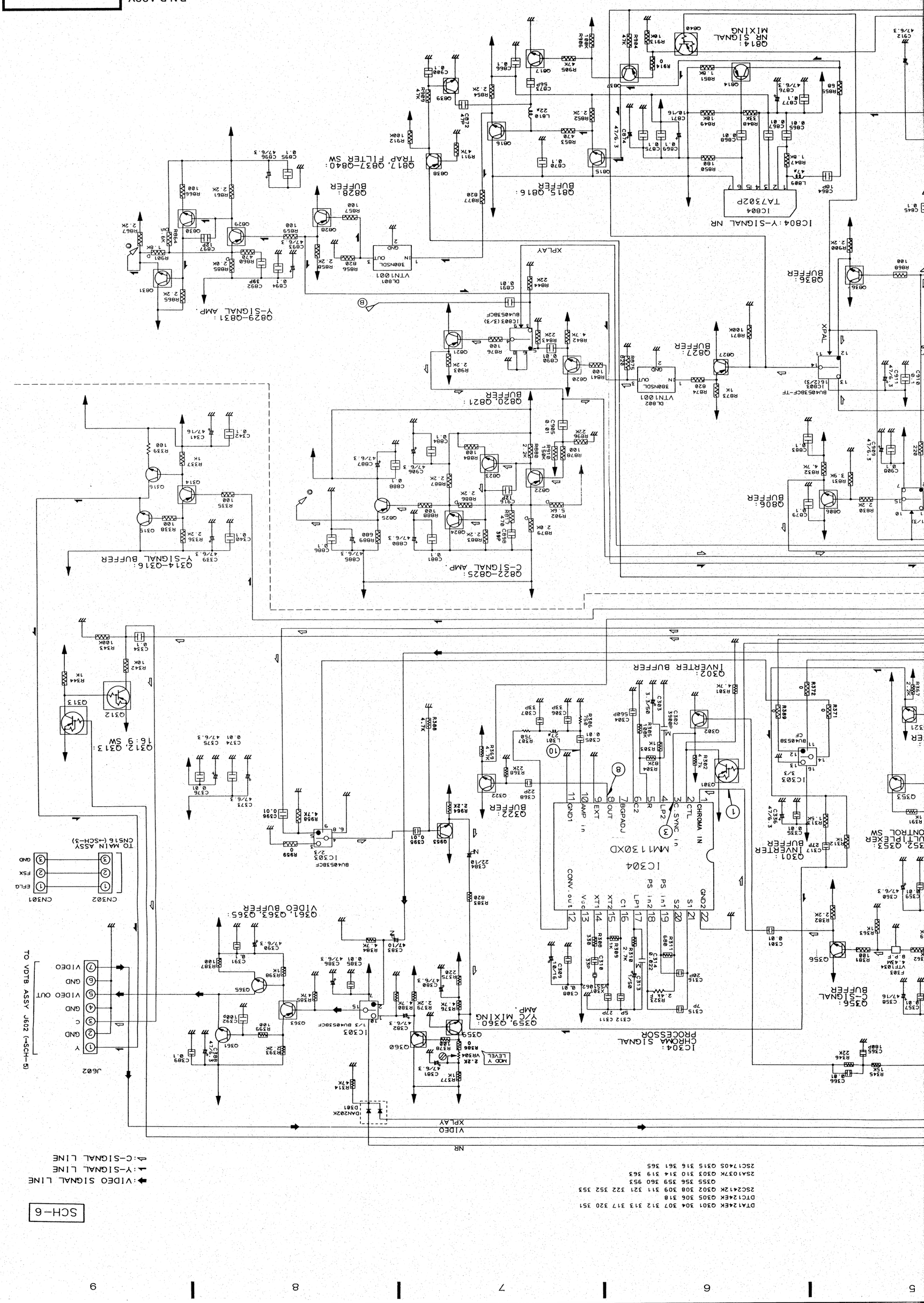
Q808: BUFFER

Q809: C-SIGNAL (PAL) LOW-PASS FILTER BUFFER

Q810, Q811: Y-SIGNAL LOW-PASS FILTER BUFFER

DTC124EK Q801
DTA124EK Q840
2SC2412K Q802 803 806 808 810
Q815 816 817 820 823
Q824 830 831 836 839
2SA1037K Q804 807 809 811 814
Q821 822 827 828 829
Q837 838
2SA933S Q825

SCH-6 PALB ASSY, YCNR ASSY



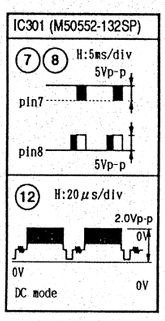
⬅:VIDEO SIGNAL LINE
➡:Y-SIGNAL LINE
⇦:C-SIGNAL LINE

SCH-6

DTA124EK Q301 304 307 312 313 317 320 351
DTC124EK Q305 306 318
2SC2412K Q302 308 309 311 321 322 352 353
2SA1037K Q303 310 314 319 363
0355 356 359 360 953
2SC1740S Q315 316 361 365
2SC1740S Q315 316 361 365

PALB AND YCNR ASSEMBLIES

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

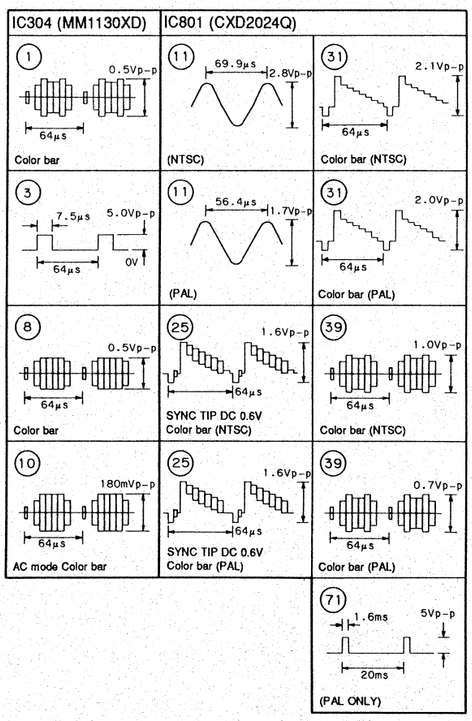


[PALB ASSY]

Note : These waveforms and voltage are in the play mode.

● IC301 (M50552-132SP)

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	–	17	0.8	25	–
2	5	10	5	18	–	26	–
3	5	11	0	19	0	27	–
4	2.4	12	1.1	20	0	28	2.3
5	2.4	13	1.1	21	–	29	2.3
6	–	14	–	22	–	30	–
7	5	15	1.8	23	–	31	–
8	0.4	16	0.6	24	–	32	–



[PALB ASSY]

Note: These waveforms and voltage are in the play mode.

● IC304 (MM1130XD)

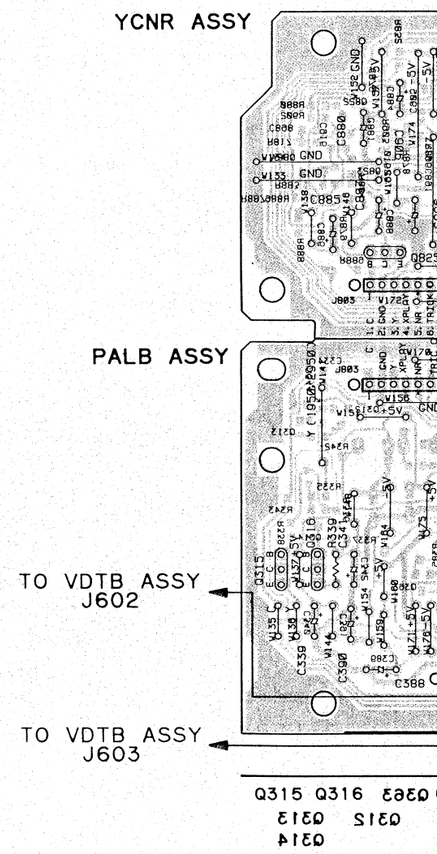
Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	3.2	7	1.8	13	5.0	19	3.3
2	–	8	2.9	14	3.0	20	3.3
3	–	9	0	15	3.7	21	3.3
4	2.0	10	2.6	16	3.7	22	0
5	2.1	11	0	17	2.6		
6	1.9	12	2.6	18	3.3		

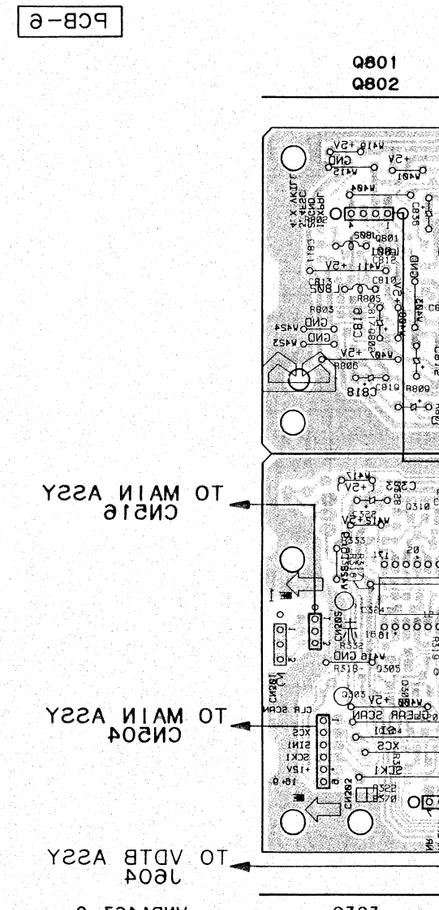
[YCNR ASSY]

Note: These waveforms and voltage are in the play mode.

● IC801 (CXD2024Q)

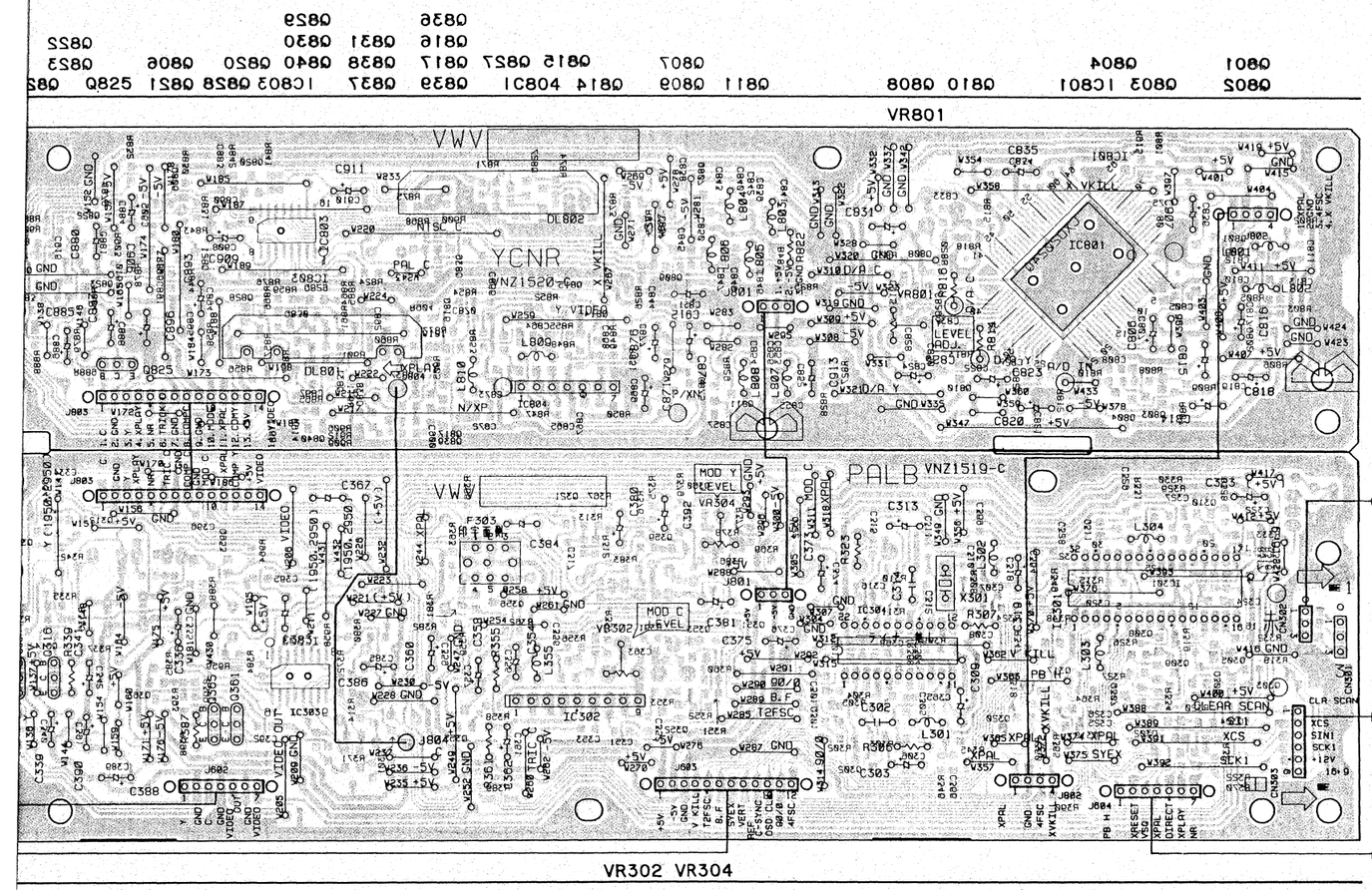
Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]	Pin No.	Voltage [V]
1	0	21	0	41	2.6	61	0
2	0	22	0.5	42	2.6	62	0
3	0	23	0	43	0	63	0
4	0	24	0	44	0	64	0
5	0	25	–	45	0	65	0
6	0	26	5	46	0	66	0
7	0	27	2.6	47	0	67	5
8	0	28	5	48	0	68	5
9	0	29	5	49	0	69	–
10	0	30	0	50	0	70	–
11	2.3	31	–	51	0	71	–
12	0	32	3.4	52	0	72	0
13	5	33	2.6	53	5	73	5
14	2.4	34	2.6	54	0	74	–
15	2.4	35	0	55	0	75	0
16	2.5	36	1.1	56	5	76	0
17	5	37	5	57	0	77	0
18	5	38	0	58	0	78	0
19	0	39	1.3	59	0	79	0
20	0	40	3.4	60	0	80	0



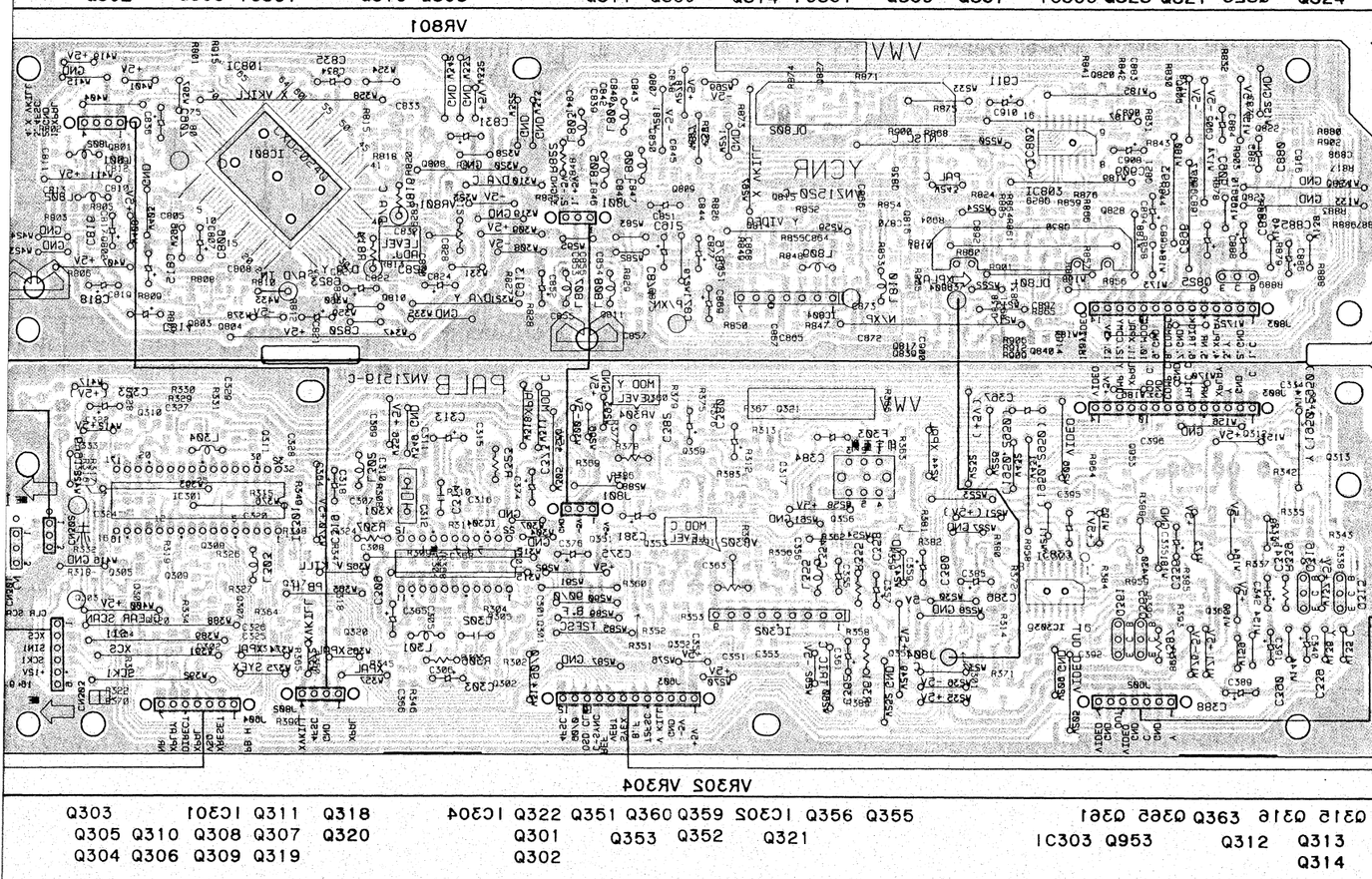


● This diagram is viewed from the mounted parts side.

PCB-6



● This diagram is viewed from the foil side.

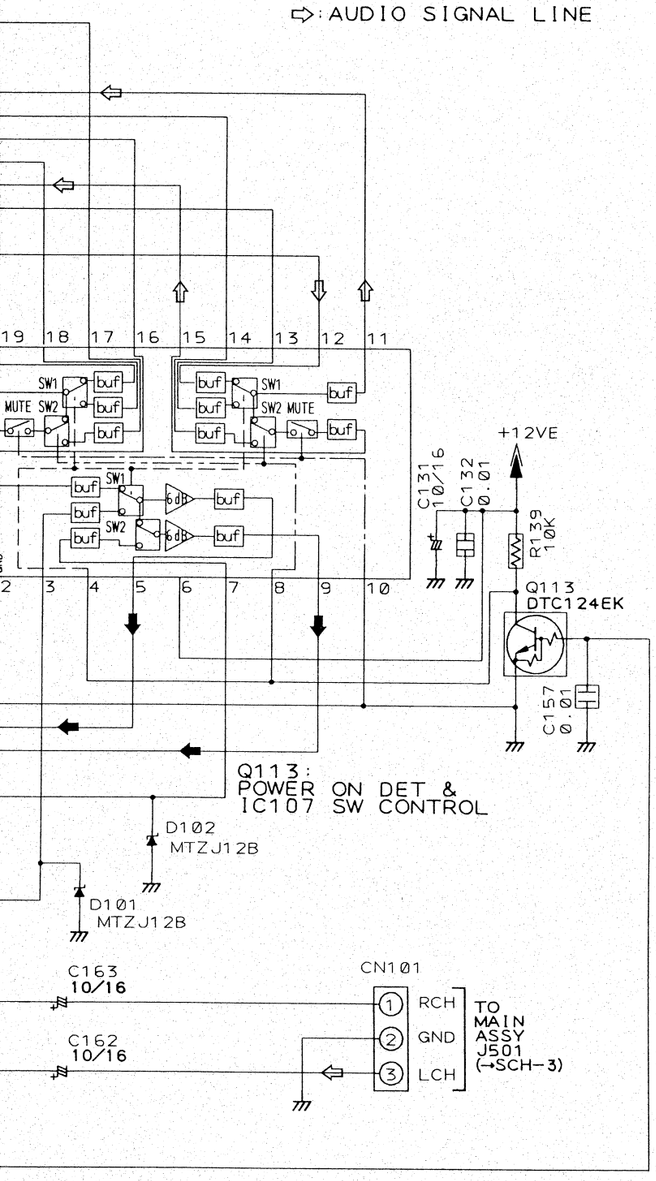


2.2.7 SCRB ASSEMBLY

SCH-7 SCRB ASSY

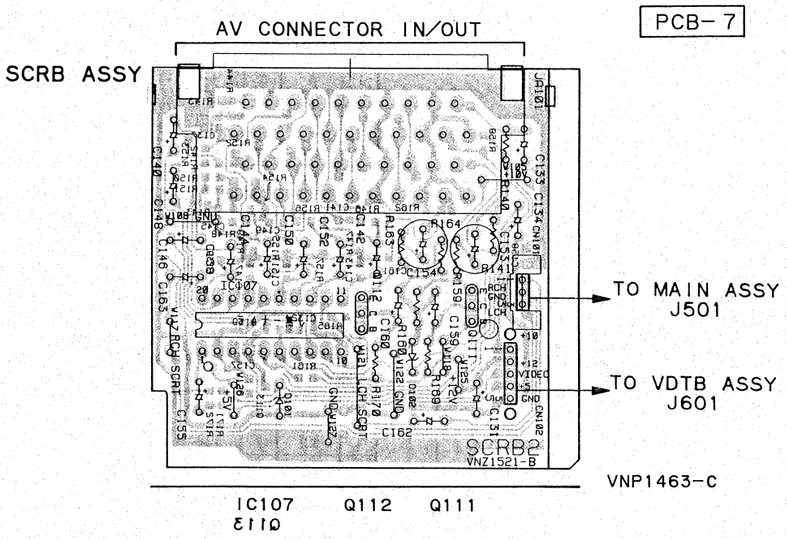
SCH-7

➡: VIDEO SIGNAL LINE
⇨: AUDIO SIGNAL LINE

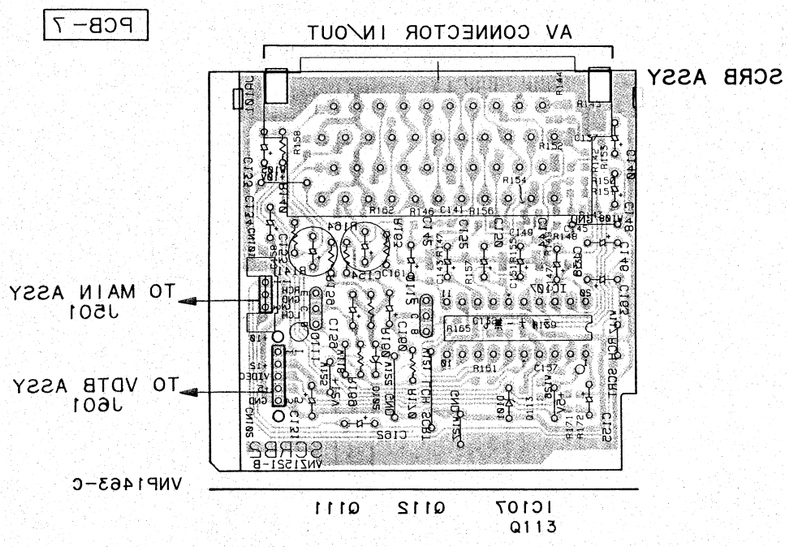


● This diagram is viewed from the mounted parts side.

PCB-7



● This diagram is viewed from the foil side.



SCRB ASSY **SCH-7**