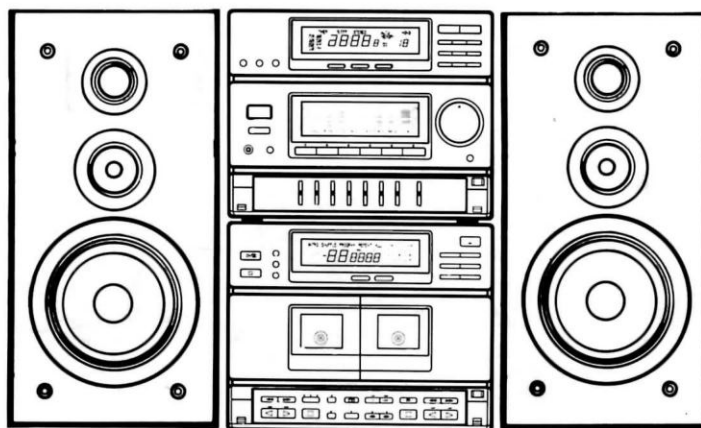


AKAI

SERVICE MANUAL MODEL : AC-MX110

MINI-MINI Hi-Fi COMPONENT SYSTEM



SPECIFICATION

GENERAL SECTION

Power Consumption	: 150W
Dimension	: 245(W) x 193(H) x 235(D)mm x 2EA
Weight	: 15.5kg
Power source	: See the label rating
Super Bass Control(100Hz):	+8dB
EQ Control	: ± 8 dB
Output Power(D.T:10%, at 1kHz):	25W

RADIO SECTION

LW BAND

Frequency Range	: 153kHz~281kHz
Usable Sensitivity	: 1000 μ V
Signal to Noise Ratio	: 35dB

AM(MW)BAND

Frequency Range	: 531kHz~1602kHz
Usable Sensitivity	: 600 μ V
Signal to Noise Ratio	: 40dB

FM BAND

Frequency Range	: 87.5MHz~108MHz
Usable Sensitivity	: 6 μ V

Signal to Noise Ratio	: 65dB
Total Harmonic Distortion	: 0.5%
Separation(STEREO)	: 30dB

TAPE SECTION(RECORD/PLAYBACK)

RECORD/PLAYBACK

Frequency Range(CrO ₂)	: 40Hz~13kHz
Signal to Noise Ratio	: 48dB
Separation	: 35dB
Total Harmonic Distortion	: 1.5%
Erasing Effect	: 65dB
Line Input	: 400mV
Wow & Flutter	: 0.15%

COMPACT DISC PLAYER SECTION

Frequency Range	: 20Hz~20kHz
Signal to Noise Ratio	: 80dB
Total Harmonic Distortion	: 0.15%
Channel Separation	: 60dB
D/A Conversion	: 16bits
Dynamic Range	: 96dB

* Design and specifications are subject to change upon improvement without prior notice.

* Frequency range in radio section can be a little different from the above in accordance with frequency step or region.

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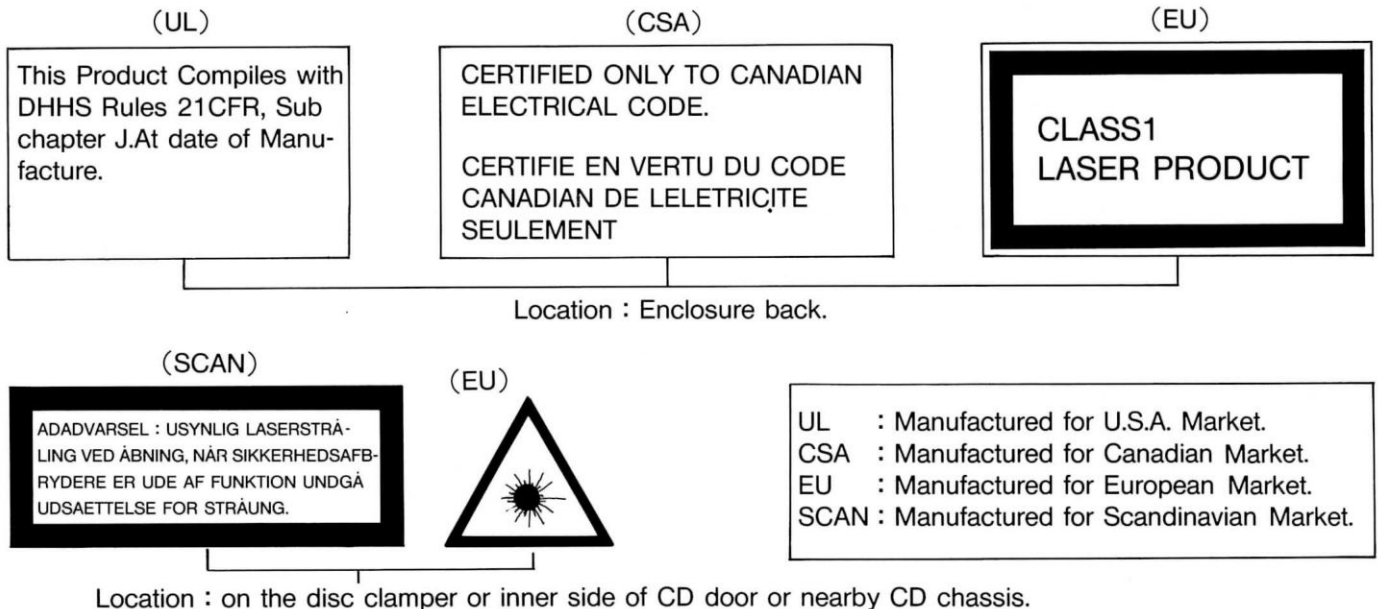
■ SAFETY PRECAUTION

1. CLASS 1 LASER PRODUCT

This compact disc player is classified as a CLASS 1 laser product.

2. LASER WARNING LABEL

The label shown below may be affixed or not according to country.



3. LASER BEAM WARNING

- ADVERSEL** — USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
- WARNING** — OSYNLIG LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.
- VARITUS** — LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ NÄKYMÄTÖNTÄ SILMILLE VAARALLISTA LASERSATEILYÄ.
- CAUTION** — INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

4. LASER DIODE SPECIFICATION (OPTICAL PICK-UP)

- Material : AlGaAs
- Wavelength : 760-800nm
- Emission duration : Continuous
- Laser Output : 0.2mW
 - * This output is the value measured at distance 1.6mm from the objective lens surface on the optical pick-up block.
- Classification : CLASS 1

5. WARNING FOR SERVICING

- WARNING** : When servicing, do not approach the LASER exit with the eye too closely. In case it is necessary to confirm LASER beam emission, be sure to observe from a distance of more than 30cm from the surface of the objective lens on the optical pick-up block.
- WARNING** : När underhållningsarbeten utförs, närma dig försiktigt och se inte på laserutstrålningen på för nära håll. I fall det är nödvändigt att betrygga laserstrålens utströmning. Var säker att kontrollera detta från ett avstånd av mer än 30cm (11.81 inch.) från den objektiva linsens yta på den optiska utsändningspunkten.
- ADVARSEL** : Når repareringsarbejdet udføres, naerm dig forsigtigt og se ikke på laserudstrålingen på for naer hånd.
I tilfaeldet at det er noedvaendigt at bestemme laserstrålens udstårling. Vaer sikker på kontrollere dette fra en afstand af mere end 30cm (11.81 inch.) fra den objektive linsens overflade på den optiske udsendningspunkt.
- VAROITUS** : Silmiä on varottava viemästä liian läbeie Laser-poistokanavaa huoion aikana. Jos on välttämätöntä varmistaa Laser-Säteen päästö, pysyttels sitä tarkasteltaessa vähintään 30cm etäiydellä optisen lu-kon objektiivinlissin pinnasta.

SERVICING NOTE

1. Prevent shock hazard by unplugging power supply cord before opening cabinet.
2. Avoid repairing under direct sunshine and heat which may cause cabinet, transistor and IC to be transformed or misoperate.
3. Use a soft cotton swab moistened with warm water or neutral cleaner when parts of unit need to be cleaned.
4. When replacing parts with safety features built in, be sure to use specified parts with same specs only.
5. Avoid repairing the set near TV or any other magnetic forces.
6. Disconnect the plug from wall socket during electric storm to reduce the risk of damage.
7. Be careful of electrostatic source when using control IC.
8. Be sure not to separate the pick-up from the unit.

HANDLING THE OPTICAL PICK-UP

The laser diode in the optical pick up may suffer electrostatic breakdown because of potential static electricity from clothing and your body.

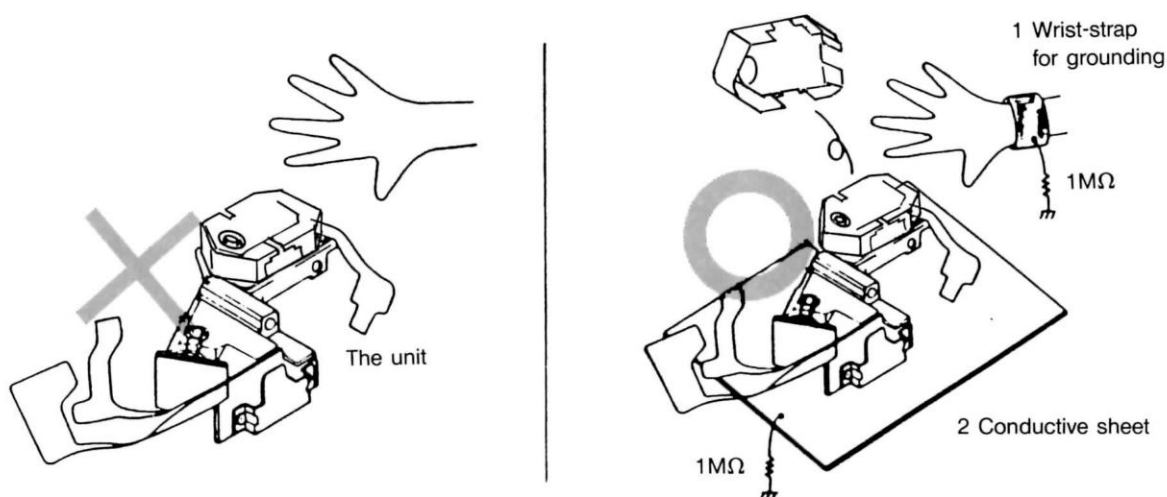
The following method is recommended.

1. Place a conductive sheet on the work bench (The black sheet used as wrapping for repair parts).
2. Place the set on the conductive sheet so that the chassis is grounded to the sheet.
3. Place your hands on the conductive sheet (This gives them the same ground as the sheet).
4. Remove the optical pick up block.
5. Perform work on top of the conductive sheet.

Be careful not to let your clothes or any other static sources to touch the unit.

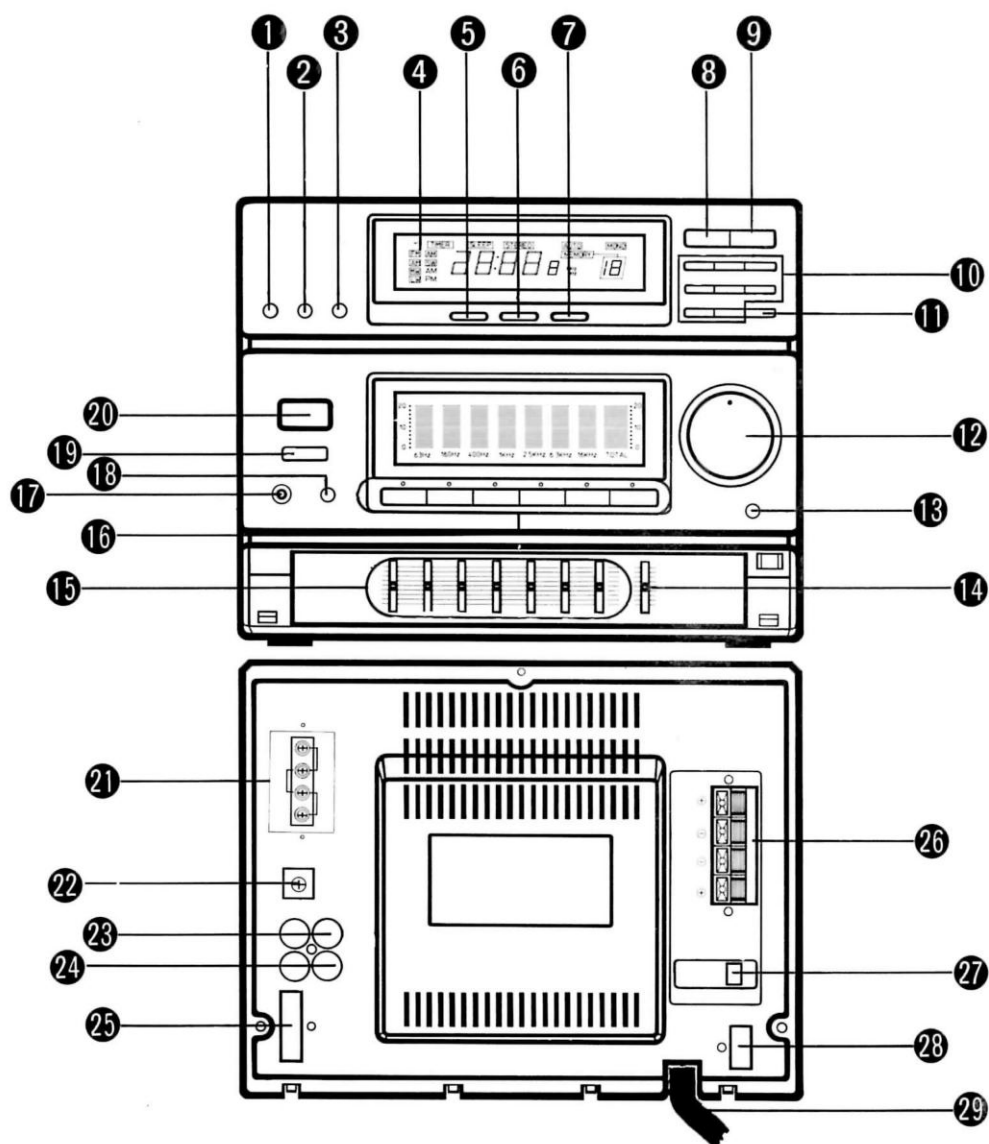
* Be sure to put on a wrist strap grounded to the sheet.

* Be sure to lay a conductive sheet made of copper etc. which is grounded to the table.



LOCATION OF CONTROLS

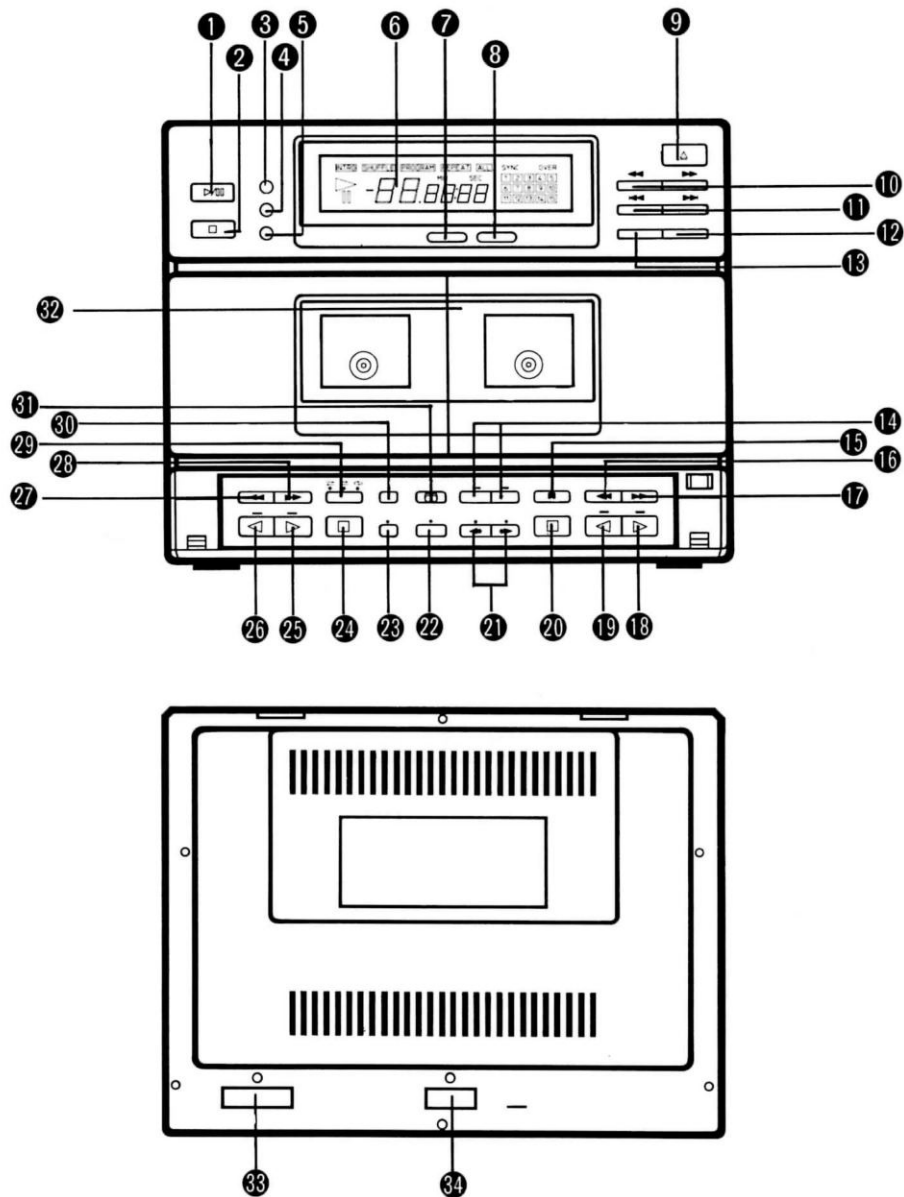
1. AMP & TUNER



1. CLOCK BUTTON
2. TIMER ON BUTTON
3. SLEEP BUTTON
4. DISPLAY
5. AUTOSCAN BUTTON
6. TUNING DOWN/HOUR BUTTON
7. TUNING UP/MINUTE BUTTON
8. MODE(STEREO/MONO)BUTTON
9. BAND BUTTON
10. PRESET STATION BUTTON
11. MEMORY BUTTON
12. VOLUME
13. SUPER BASS ON/OFF BUTTON
14. BALANCE
15. 7BAND GRAPHIC EQUALIZER

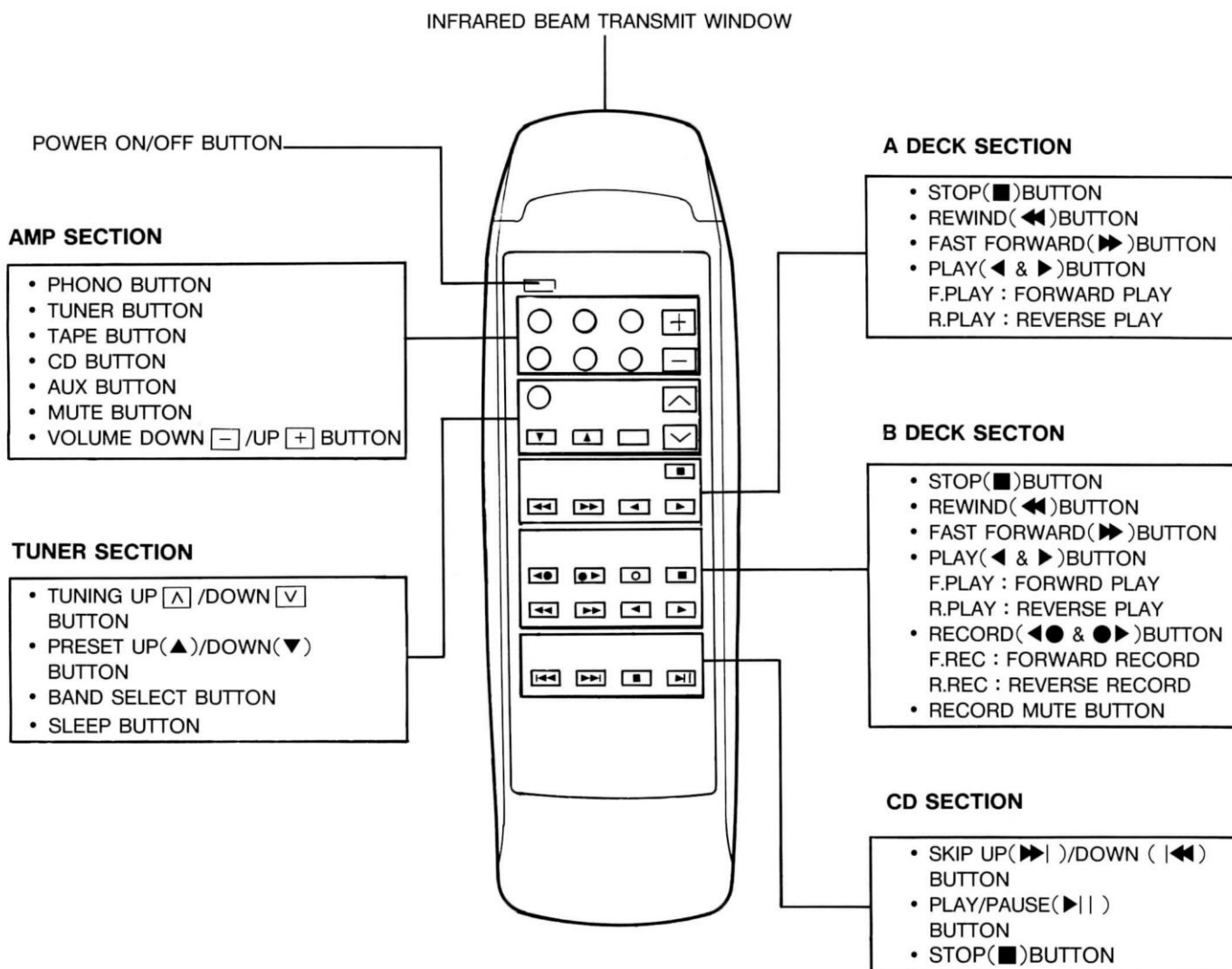
16. FUNCTION SELECTOR BUTTON
17. HEADPHONE JACK
18. SURROUND ON/OFF BUTTON
19. REMOTE SENSOR
20. POWER BUTTON
21. ANTENNA TERMINAL
22. TURNTABLE GROUND
23. PHONO INPUT JACK
24. AUX INPUT JACK
25. SIGNAL INPUT JACK
26. SPEAKER TERMINAL
27. VOLTAGE SELECTOR(OPTION)
28. DC POWER OUTPUT JACK
29. POWER CORD

2. CD & CASSETTE DECK

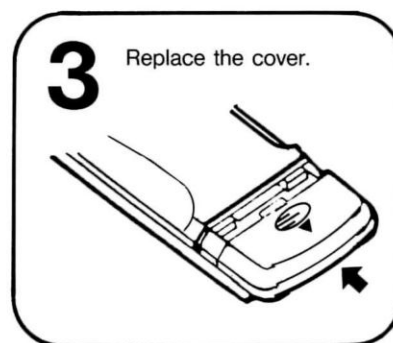
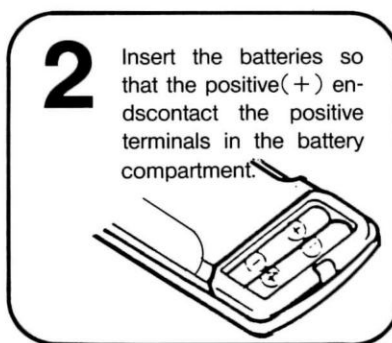
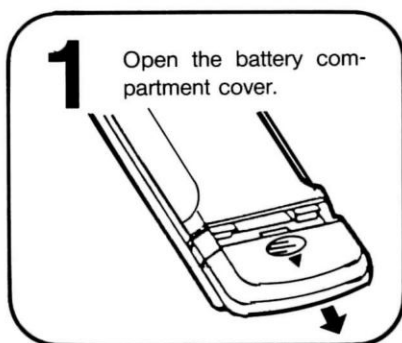


- | | |
|---------------------------------|--------------------------------|
| 1. PLAY/PAUSE BUTTON | 19. REVERSE PLAY BUTTON |
| 2. STOP BUTTON | 20. STOP BUTTON |
| 3. INTRO. SCAN BUTTON | 21. RECORD BUTTON |
| 4. CD SYNCHRO BUTTON | F.REC : FORWARD RECORD BUTTON |
| 5. DISPLAY BUTTON | R.REC : REVERSE RECORD BUTTON |
| 6. DISPLAY | 22. RECORD MUTE BUTTON |
| 7. REPEAT BUTTON | 23. 1 MUSIC REPEAT BUTTON |
| 8. SHUFFLE PLAY BUTTON | 24. STOP BUTTON |
| 9. OPEN/CLOSE BUTTON | 25. FORWARD PLAY BUTTON |
| 10. SEARCH(◀, ▶)BUTTON | 26. REVERSE PLAY BUTTON |
| 11. SKIP(◀◀, ▶▶)BUTTON | 27. REWIND BUTTON |
| 12. PROGRAM/CHECK BUTTON | 28. FAST FORWARD BUTTON |
| 13. +10 NUMERIC BUTTON | 29. AUTO REVERSE BUTTON |
| 14. DUBBING SPEED SELECT BUTTON | 30. LONG PLAY BUTTON |
| HI : HIGH SPEED DUBBING | 31. DOLBY NR ON/OFF SWITCH |
| NORMAL : NORMAL SPEED DUBBING | 32. A/B DECK PUSH EJECT BUTTON |
| 15. RECORD PAUSE BUTTON | 33. SIGNAL OUTPUT JACK |
| 16. REWIND BUTTON | 34. DC POWER INPUT JACK |
| 17. FAST FORWARD BUTTON | |
| 18. FORWARD PLAY BUTTON | |

3. REMOTE CONTROL



INSTALLING BATTERIES



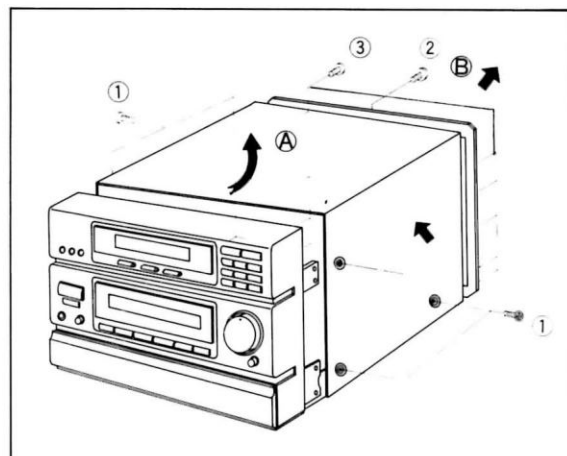
■ DISASSEMBLY INSTRUCTION

Disassemble the unit in the order given below.

1. AMP & TUNER SECTION

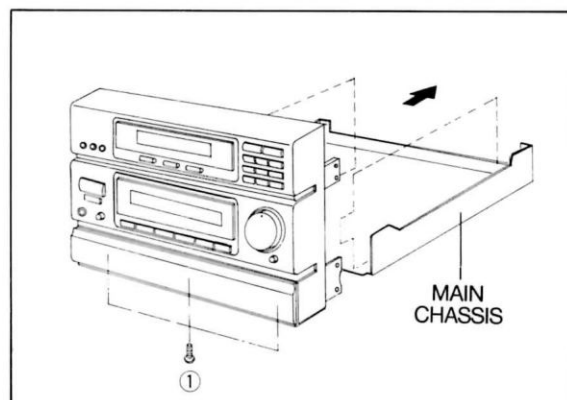
1) CABINET TOP & REAR

- (1) Release 7 screws(①, ②).
- (2) Remove CABINET TOP.(direction A)
- (3) Release 10 screws(③).
- (4) Remove CABINET REAR.(direction B).



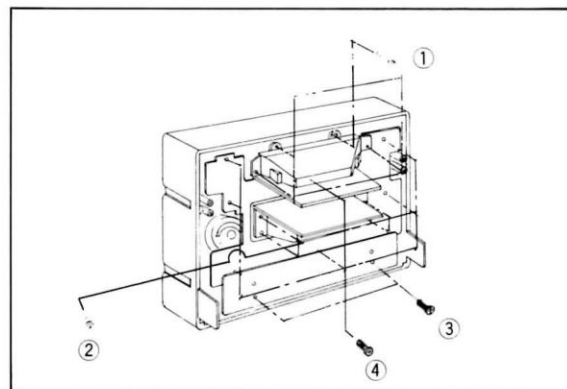
2) FRONT PANEL & MAIN CHASSIS

- (1) Release 3 screws(①).
- (2) Remove MAIN CHASSIS from FRONT PANEL.



3) TUNER CONTROL, EQUALIZER EQ LCD & TUNER LCD PCB

- (1) Release 4 screws(①).
- (2) Remove TUNER LCD PCB.
- (3) Release 4 screws(②).
- (4) Remove EQ LCD PCB.
- (5) Release 2 screws(③).
- (6) Remove EQ PCB.
- (7) Release 8 screws(④).
- (8) Remove TUNER CONTROL PCB and EQ PCB.

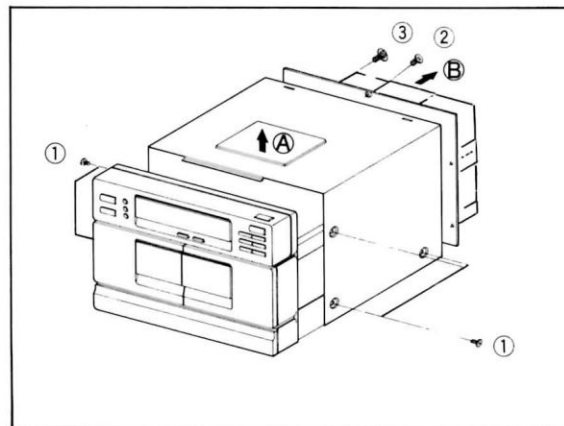


* Use phillips screw driver counter clockwise.

2. CD & CASSETTE DECK

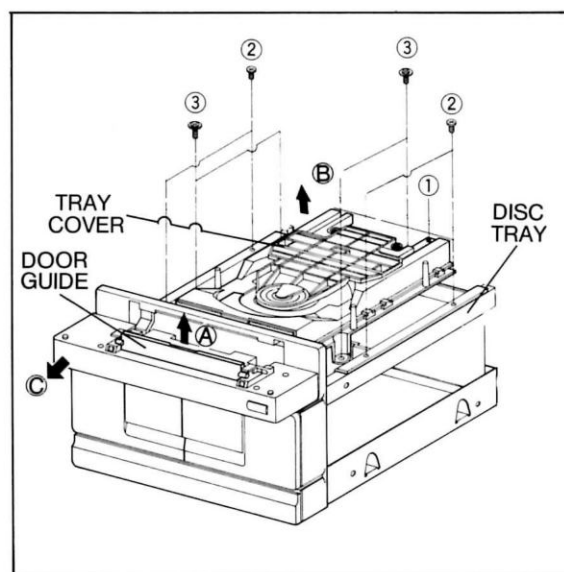
1) CABINET TOP & REAR

- (1) Release 7 screws (①, ②)
- (2) Remove CABINET TOP. (direction A)
- (3) Release 7 screws (③)
- (4) Remove CABINET REAR. (direction B)



2) CD MECHANISM

- (1) Press OPEN/CLOSE.
 - (2) Take DOOR GUIDE out. (direction A)
- [How to remove DISC TRAY]
- ① Power on : Release 1 screw (①) and pull out (direction C).
 - ② Power failure : Release 1 screw (①) lift TRAY COVER up (direction B) and pull out (direction C).
- (3) Press OPEN/CLOSE to close TRAY.
 - (4) Release 4 screws (②).
 - (5) Remove CD MECHANISM including CD PCB. (direction B).
 - (6) Release 4 screws (③).
 - (7) Remove CD PCB from CD MECHANISM.

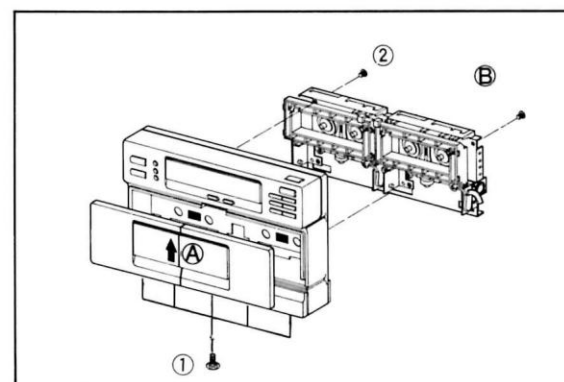


* TRAY removal.

- (1) Release screw (①).
- (2) Press OPEN/CLOSE.
- (3) Remove TRAY. (direction C)

3) CASSETTE DECK

- (1) Press PUSH EJECT.
- (2) Remove CASSETTE DOOR. (direction A)
- (3) Release 5 screws (①).
- (4) Release 4 screws (②).
- (5) Remove CASSETTE DECK. (direction B).



■ BASIC CIRCUIT OPERATION

1. TAPE SECTION

● LC66508-4296 (MICOM IC) : IC605

I : INPUT, O : OUTPUT

PIN No.	PIN NAME	INPUT	OUTPUT	OPERATION	ACTIVE	
		I	O		H	L
1	$\overline{\text{REC}}$		O	Rec, dubbing ; L		REC, DUBBING
2	DUB		O	Dubbing ; H	○	
3	$\overline{\text{H/SP}}$		O	Hi-speed dubbing : L	NOR SPEED ○	HI SPEED
4	A play		O	A deck play ; H		
5	CLK	I	O	Remote control operation port		
6	Data	I	O	Remote control operation port		
7	CE	I	O	Remote control operation port		
8	Power off	I		Power on ; H, Power off ; L	power on	power off
9~11	T, SENS FF/REW play	I		A deck operation input port		A DECK OPERATION
12~16	F, REC/R, REC. T.SENS FF/REW.PLAY	I		B deck operation input port		B DECK OPERATION
17~18	TSP, TSR(OPTION)	I		Timer sw play : B deck play Timer sw rec : B dcek REC.	PLAY REC	
19	REC mute		O	Rec-mute signal output	REC MUTE ON	REC MUTE OFF
20	Line mute		O	Line-mute signal output	LINE MUTE ON	LINE MUTE OFF
21	Repeat		O	1 music repeat indicator operation output		
22	Rec mute		O	Rec mute indicator operation output		
23~24	NOR/SPEED(option) HI/SPEED(option)		O	Nor-speed indicator operation output Hi-speed indicator operation output		LED OPTION
25	P1A ₀		O	A deck playback plunger operation port	PLY REC	
26	P2A ₀		O	A deck FF/REW plunger operation port	FF/REW	
27	P1B ₀		O	B deck playback plunger operation port	PLAY REC	
28	P2B ₀		O	B deck FF/REW plunger operation port	FF/REW	
29	$\overline{\text{INH}}$	I	O	Lcd control port		
30~31	Test, Vss			GND		
32~33	OSC1, OSC2			4 MHz OSC port		
34	$\overline{\text{RES}}$			Reset		
35~37	CE, CLK, Data			Lcd control		
38~45	REW, FF, R play, F Play(B deck) REW, FF, R play, F Play (A deck)		O	B deck operation display : output port(option) A deck operation display : output port(option)		

PIN No.	PIN NAME	INPUT	OUTPUT	OPERATION	ACTIVE	
		I	O		H	L
46-54, 56	Key matrix	I		Key matrix input	H	
55	Amps in	I		Amps blank signal input		
57	Quick reverse B	I		B deck leader signal input		
58	Quick reverse A	I		A deck leader signal input		
59	Auto stop B	I		B deck autostop signal input		
60	Auto stop A	I		A deck autostop signal input		
61	MAO		O	A deck motor operation signal output	MOTOR OPERATION	
62	MBO		O	B deck motor operation signal output	MOTOR OPERATION	
63	Amps out		O	Amps operation signal output		
64	VDD			VDD		

2. TUNER SECTION

● LC7230-8302 (MICOM IC) : IC901

I : INPUT, O : OUTPUT

PIN No.	PIN NAME	INPUT	OUTPUT	OPERATION	ACTIVE
		I	O		
1	X _{in}	I		Crystal oscillating port.(4.5MHz)	—
2	X _{out}		O	Crystal oscillating port.(4.5MHz)	—
2, 79	TEST 1,2	I		Connect to GND	—
3	REMOCON	I		Remote control input port, if it is open, it may cause Remote control to maloperate.	L
4	STEREO	I		Not in use.	L
7	CE2		O	Not in use.	L
8-10	FM,MW,LW,SW		O	Band power convert port.	L
				CD remote control signal port.	
11	VR UP		O	If volume up signals are input, it outputs high voltage.	H
12	VR DOWN		O	If volume down signals are input, it outputs high voltage.	H
13	MO/ST		O	Mono stereo selection port.	H
14	MUTE		O	Mute output port.	H
15~17	CE,DO,CLK		O	LC7821 control port(serial data line)	H, 
18	IF CNT		O	Not in use	H
19	NARROW		O	Not in use	H
20	POWER OUT		O	Power control port.	H
21	A MUTE		O	Audio mute port.	L
22	STB		O	DATA STROBO port of LC74HC375.	H
23~26	T7-T4		O	Transmit data to LC74HC375(TAPE, TUNER, AUX, PHONO)	H
27~30	T3-T0		O	Key scan output signal.	H
32~35	K3-K0	I		Key input signal.	H
5~6	K5, K4	I		Diode matrix input signal.	H
63~36	S1-S28		O	LCD Segment drive port.	
65, 64	COM 1,2		O	LCD Common drive port.	
67	HOLD	I		L-Back up mode.	L
69	SD	I		Broadcast receiving port.	L
70	HCTR	I		FM IF Signal input port.	—
71	LCTR	I		AM IF Signal input port.	—

PIN No.	PIN NAME	INPUT	OUTPUT	OPERATION	ACTIVE
		I	O		
72	SNS	I		Transmit data LC7821, 74HC375	H
74, 75	FM IN, AM IN	I		Input local OSC signal.	—
77, 78	EQ1, 2		O	Phase comparison output signal.	
66	INT	I		Remote control input port.	
31, 73	VDD				
76	VSS	I			
68	RES	I			

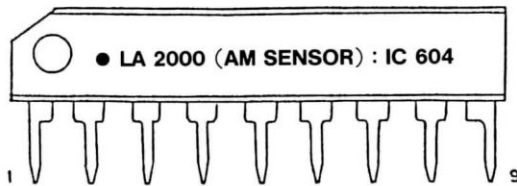
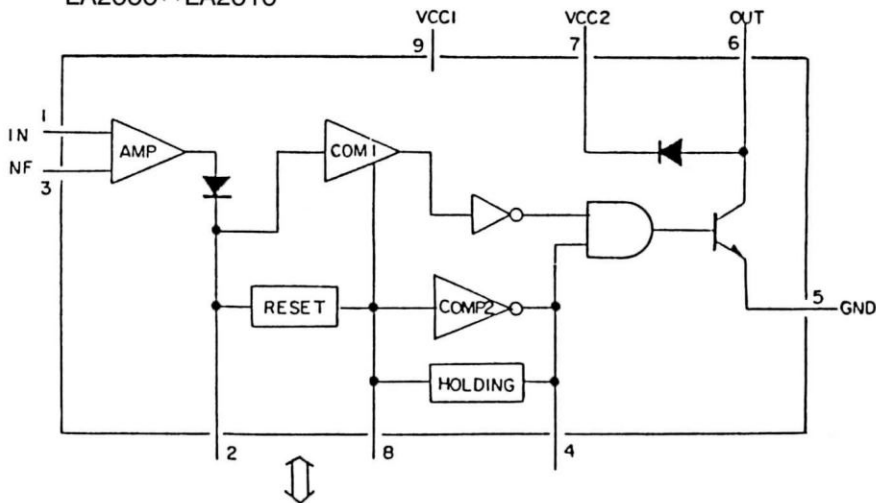
3. CD SECTION

1) CXD 1167Q (DSP IC) : IC3

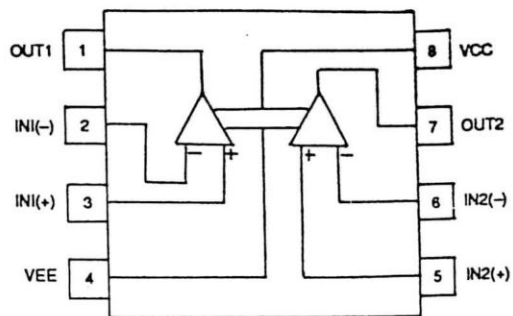
I : INPUT, O : OUTPUT

PIN No.	PIN NAME	I	O	OPERATION
1	FSW		O	Pin 1 output is switched constant when the output filter of the spindle motor is energized.
2	MON		O	ON/OFF control for spindle motor.
3	MDP		O	Spindle motor drive. Provides rough control during CLV-S mode and phase control during CLV-P mode.
4	MDS		O	Spindle motor drive. Controls speed during CLV-P mode.
5	EFM	I		EFM Signal from RF amplifier.
6	ASY		O	Controls slice level of EFM signal.
7	LOCK		O	The output of pin 7 reflects the status of the GFS signal which is sampled at WFCK/16. When GFS signal is at "H", the output of pin 7 also at "H", but when the signal has remained at "L" for at least 8 samples, the output of pin 7 is at "L".
8	VCOO		O	When VCO locks to EFM signal, the frequency becomes 8.6436MHz MHz.(17.2872MHz during double speed playback)
9	VCOI	I		VCO input.
10	TEST	I		(0V)
11	PDO		O	The output of Pin 11 provides the phase comparison of EFM signal and VCO/2.
12	V _{SS}			GND(0V)
13	CLK	I		Pin 13 provides the serial transmission clock from the CPU. Data is latched on the rising edge of the clock.
14	XLT	I		Pin 14 provides latch input from the CPU. 8-bit shift register data (serial data received from the CPU) is latched in each of the registers.
15	DATA	I		Serial data from the CPU.
16	XRST	I		System reset input. Reset at "L"
17	CNIN	I		Tracking pulse input.
18	SENS		O	Output reflecting internal condition as designated by address.
19	MUTG	I		Muting input. MUTG is at "L" when ATTM of internal register A is at "L" (normal condition). MUTG is at "H" when muting condition is set.
20	CRCF		O	Output the results of subcode Q CRC check.
21	EXCK	I		Clock input for subcode serial output.
22	SBSO		O	serial output of subcod.
23	SUBQ		O	Output of subcode Q.
24	SCOR		O	Output of subcode sync SO + S1
25	SOCK	I	O	Clock for reading subcode Q.
26	SQEX	I		Input for selecting SQCK.(See CPU interface paragraph)
27	DOTX		O	Digital output (WFCK is output when DO is off)
28	GFS		O	Indicates the frame sync lock status.
29	TEST	I		H or L is fixed. (Do not open.)
30	TEST	I		H or L is fixed. (Do not open.)
31	TEST	I		H or L is fixed. (Do not open.)
32	TEST	I		H or L is fixed. (Do not open.)

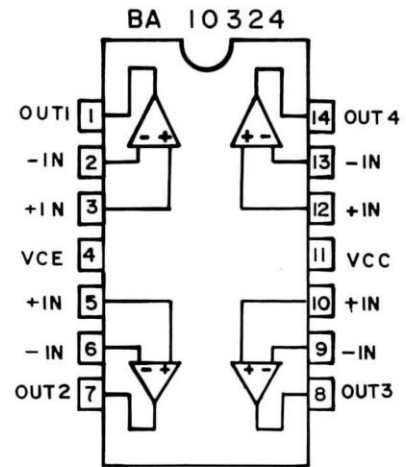
● LA 2000 (AMPS SENSOR) : IC604
LA2000↔LA2010



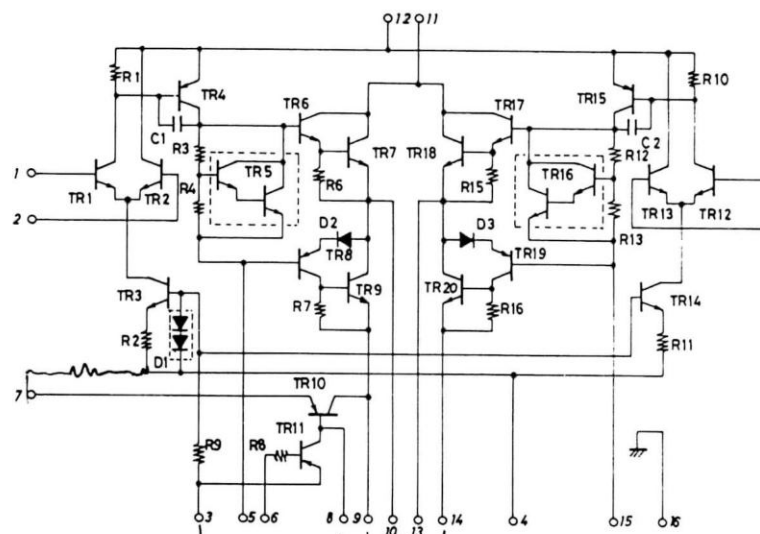
● BA 4558 (OP AMP) : IC 103, 105, IC 7, 8
* BA 4558↔MC 4558C



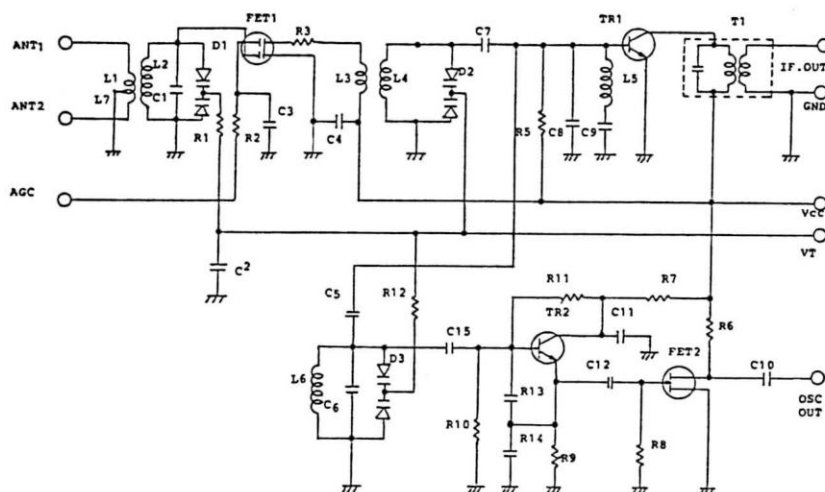
● BA10324(OP AMP) : IC301, 302
BA10324↔LM324/LA6324



● STK 4142V (POWER IC) : IC 801-1, 2



● F-3630V (FRONT END IC) : IC 101



PIN No.	PIN NAME	I	O	OPERATION
33	V _{DD}			Power supply (+5V)
34	TEST	I		H or L is fixed. (Do not open.)
50				
51	C4M		O	Divider output for crystal. f=4.2336MHz (8.4672MHz at double speed playback.)
52	V _{SS}			GND(0V)
53	XTAI	I		Input to crystal oscillator circuit. Depending on the mode the frequency is either f=8.4672 or 16.9344MHz. (16.9344MHz at double speed playback.)
54	XTAO		O	Output from crystal oscillator circuit. Depending on the mode the frequency is either f=8.4672 or 16.9344MHz (16.9344MHz at double speed playback.)
55	MD1	I		Mode selection input 1.
56	MD2	I		Mode selection input 2.
57	MD3	I		Mode selection input 3.
58	SLOB	I		Code switch input for audio data output. 2's complement output when at "L", offset binary output when at "H".
59	PSSL	I		Mode switch input for audio data output. Serial output when at "L", parallel output when at "H".
60	APTR		O	Control output for aperture compensation at "H" during R-ch.
61	APTL		O	Control output for aperture compensation at "H" during L-ch.
62	DA01		O	DA01(LSB of parallel audio data) is output when PSSL=at "H". C1F1 is output when PSSL=at "L"
63	DA02		O	DA02 is output when PSSL=at "H". C ₁ F ₂ is output when PSSL=at "L".
64	DA03		O	DA03 is output when PSSL=at "H". C ₂ F ₁ is output when PSSL=at "L".
65	DA04		O	DA04 is output when PSSL=at "H". C ₂ F ₂ is output when PSSL=at "L".
66	DA05		O	DA05 is output when PSSL=at "H". C ₂ F _L is output when PSSL=at "L".
67	DA06		O	DA06 is output when PSSL=at "H". C ₂ F ₀ is output when PSSL=at "L".
68	DA07		O	DA07 is output when PSSL=at "H". RFCK is output when PSSL=at "L".
69	DA08		O	DA08 is output when PSSL=at "H". WFCK is output when PSSL=at "L".
70	DA09		O	DA09 is output when PSSL=at "H". $\overline{PLCK}$ is output when PSSL=at "L".
71	DA10		O	DA10 is output when PSSL=at "H". UGFS is output when PSSL=at "L".
72	DA11		O	DA11 is output when PSSL=at "H". GTOPO is output when PSSL=at "L".
73	V _{DD}			Power supply (+5V)
74	DA12		O	DA12 is output when PSSL=at "H". RAOV is output when PSSL=at "L"
75	DA13		O	DA13 is output when PSSL=at "H". C4LR is output when PSSL=at "L".
76	DA14		O	DA14 is output when PSSL=at "H". BCLK is output when PSSL=at "L".
77	DA15		O	DA15 is output when PSSL=at "H". $\overline{BCLK}$ is output when PSSL=at "L".
78	DA16		O	DA16(MSB of parallel audio data) is output when PSSL=at "H". DATA is output when PSSL=at "L".
79	WDCK		O	Strobe signal output. Output is 176.4KHz when DF is on. (352.8kHz at double speed playback) Output is 88.2kHz when DF is off.(176.4kHz at double speed playback).
80	LRCK		O	Strobe signal output. Output is 88.2KHz when DF is on. (176.4kHz at double speed playback) Output is 44.1kHz when DF is off.(88.2kHz at double speed playback).

Note) C1F1 :] Monitor output reporting status of error correction for C1 decoder.
C1F2 :]
C2F1 :] Monitor output reporting status of error correction for C2 decoder.
C2F2 :]
C2FL : Output of correction status. C2FL is set to "H" when the C2 sequence presently being corrected becomes impossible to correct.
C2PO : Display output of the C2 pointer. It is synchronized with the audio data output.
RFCK : Read frame clock output. 7.35kHz of the crystal system. (14.7kHz at double speed playback)

WFCK : Write frame clock output. 7.35kHz when locked by the crystal system. (14.7kHz at double speed playback)

PLCK : Output VCO/2.f=4.3218MHz when locked by the EFM signal.(8.6436MHz at double speed playback)

UGFS : Output for unprotected frame sync patterns.

GTOP : Output for display of status of frame sync protection.

RAOV : Ooutpur for display of either RAM overflow or underflow for ± 4 frame jitter absorption.

C4LR : Strobe signal. 352.8kHz(705.6kHz at double speed playback) when DF is on, 176.4kHz (352.8kHz at double speed playback) when DF is off.

BCLK : Inverse output of bit clock.

BCLK : Bit clock. 4.2336MHz(8.4672MHz at double speed playback) when DF is on, 2.1168MHz(4.2336MHz at double speed playback) when DF is off.

DATA : Serial data output of audio signal.

2) KS56C 820 (CD MICOM IC) : IC4

PIN No.	PIN NAME	OPERATION
1	XLT	DATA latch signal output of DSP & ASP
2	DATA	DATA output of DSP & ASP
3~5	C ₀ ~C ₂	LCD display signal output
7/8	PLAS/VLCD	Power source (LCD display)
9/10	VLC1/VLC2	Power source (LCD display)
11	V _{SS}	GND
13	SCK	Clock output (to read SUBCODE)
15	SUBO	Input (to read SUBCODE)
17	SCOR	Latch signal input(to read SUBCODE)
18/19	K5/K4	Key input
20/21	GFS/SENS	Input(+5V) : to confirm servo status.
22	REC	OV
23	FOK	Input(+5V) : to confirm focus status.
24	XRST	Rest signal output(+5V) of DSP & ASP
25	EMPH	+5V output on de-emphasis status.
26	HOLD	+5V : μ -COM $\rightarrow$ operative, OV : μ -COM $\rightarrow$ inoperaative
27	MUTE	Mute on output(+5V) on stop and skip status
28~31	D ₀ ~D ₃	Scan output for key input.
32~35	K ₀ ~K ₃	Key input.
36	CK	Remote control clock input
37	K6	+5V
38	OPSW	CD door confirm switch
39	SLSW	CD pick up confirm switch
41/42	DATA/CE2	Remote control data input
44	RST	μ -COM reset (+5V)
46	V _{DD}	μ -COM power source
47/48	Xin/Xout	μ -COM clock (4MHz)
51~74	S ₀ ~S ₂₃	LCD display output port
78	NC	Scan output for key input
79	LDON	Laser on output(OV)
80	CLK	Clock output for data (ASP & DSP)

* NOTE

Pin 6, 12, 14, 16, 40, 43, 45, 49, 50, 75, 76, 77 : NOT IN USE

3) TRACKING ERROR AMP(CXA 1081 S)IC9

E I-V amplifier and F I-V amplifier are converted to voltage from the signal current of pin photodiode connected : E and F. The E and F I-V amplifiers output voltage is,

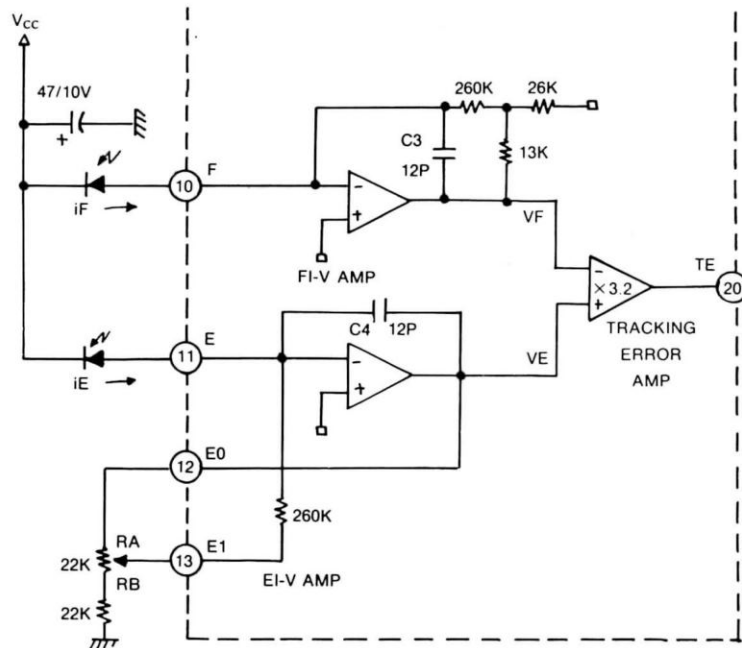
$$V_F = i_F \times 403 \text{ k}\Omega, \text{ and}$$

$$V_E = i_E \times 260 \text{ k}\Omega \times R_A / (R_B + 22\text{K}) + (R_A + 260\text{K})$$

The tracking error amplifier is the difference between the E I-V amplifier output and the F I-V amplifier output, this output is (E-F).

$$V_{TE} = (V_E - V_F) \times 3.2$$

$$= (i_E - i_F) \times 1290 \text{ k}\Omega$$



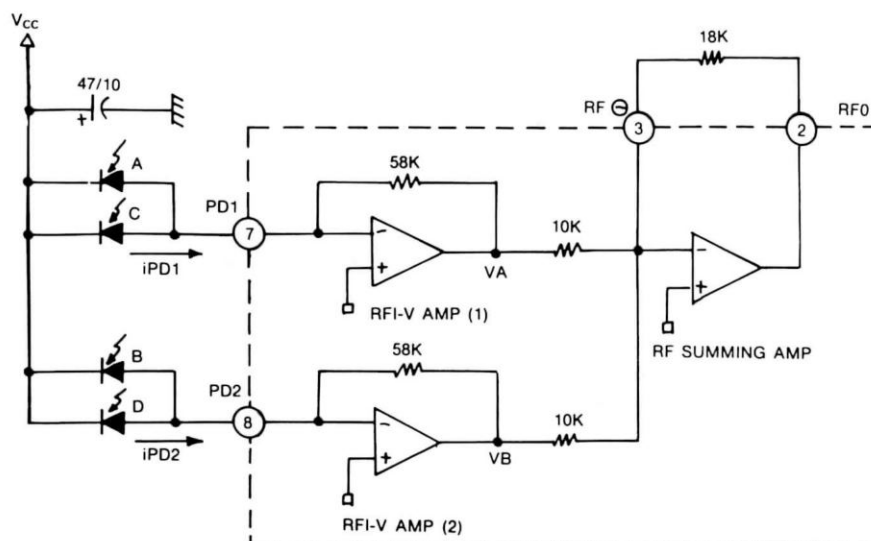
4) RF AMP(CXA 1081 S)IC9

RF I-V amplifiers(1) and(2) are converted to voltage from the signal current of pin photodiodes connected to PD1 and PD2 through the 58 kΩ equivalent resistance. Furthermore, it is added in the RF summing amplifier and (A+B+C+D) is output at RFO. At this pin(RFO), the eye pattern can be checked.

The RF amplifier output voltage(low-frequency) is

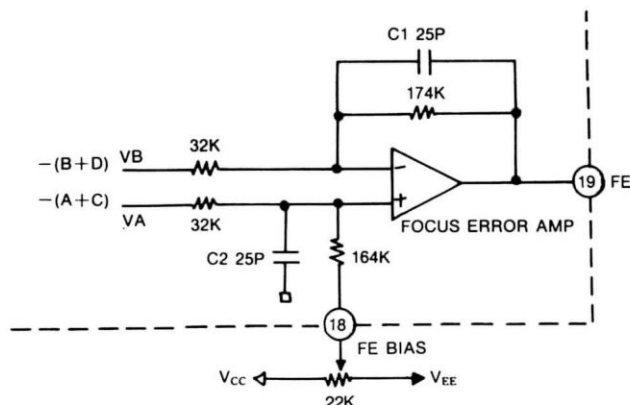
$$V_{RFO} = 2.2 \times (V_A + V_B)$$

$$= 127.6 \text{ k}\Omega \times (i_{PD1} + i_{PD2}). \text{ (at RFO)}$$



5) FOCUS ERROR AMP(CXA 1081S) : IC9

The Focus Error Amplifier is the difference between RF I-V amplifier (1) output(A+C) and RF I-V amplifier(2) output (B+D). The output becomes(A+C-B-D).



The FE amplifier output voltage (low-frequency) is

$$V_{FE} = 5.4 \times (V_A - V_B) \\ = (i_{PD2} - i_{PD1}) \times 315.4 \text{ k}\Omega$$

6) FOCUS SERVO SYSTEM(CXA 1082 BS) : IC5

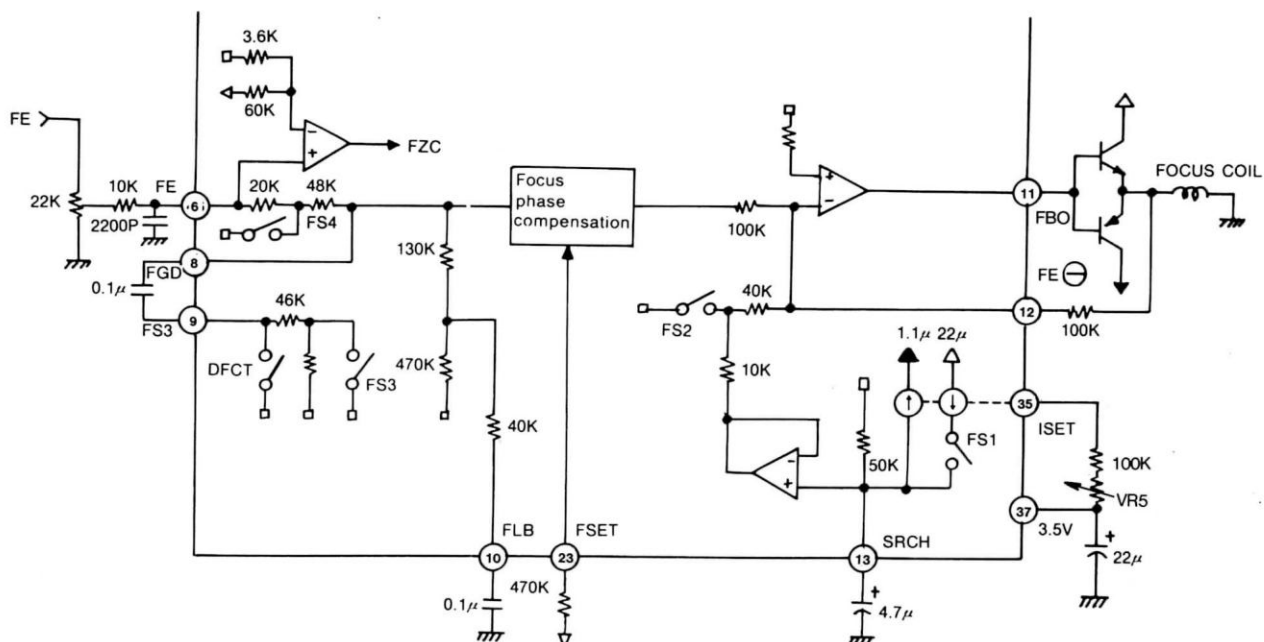
When FS3 is switched on, the high frequency gain can be reduced by forming a low frequency time constant through a capacitor connected across pins 8 and 9 and the internal resistor.

The capacitor across the pin 10 and GND has a time constant to raise the low frequency usually playback condition.

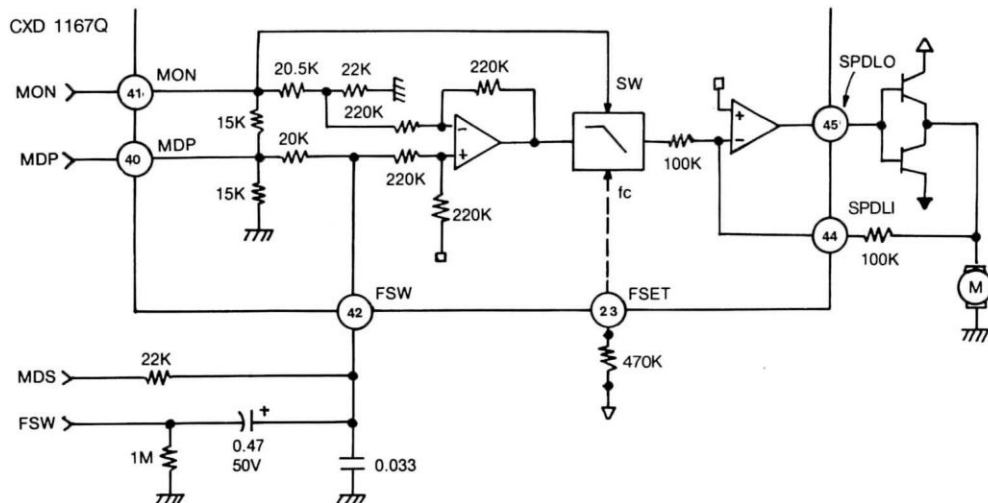
The peak frequency of the focus phase compensation is inversely proportional to the resistor connected to pin 23.

The focus search peak becomes about +1.1 Vp-p with the above constant. The peak is inversely proportional to the

resistor connected across the pins 35 and 37. However, when this resistor is varied, the peaks of track jump and sled kick also vary.



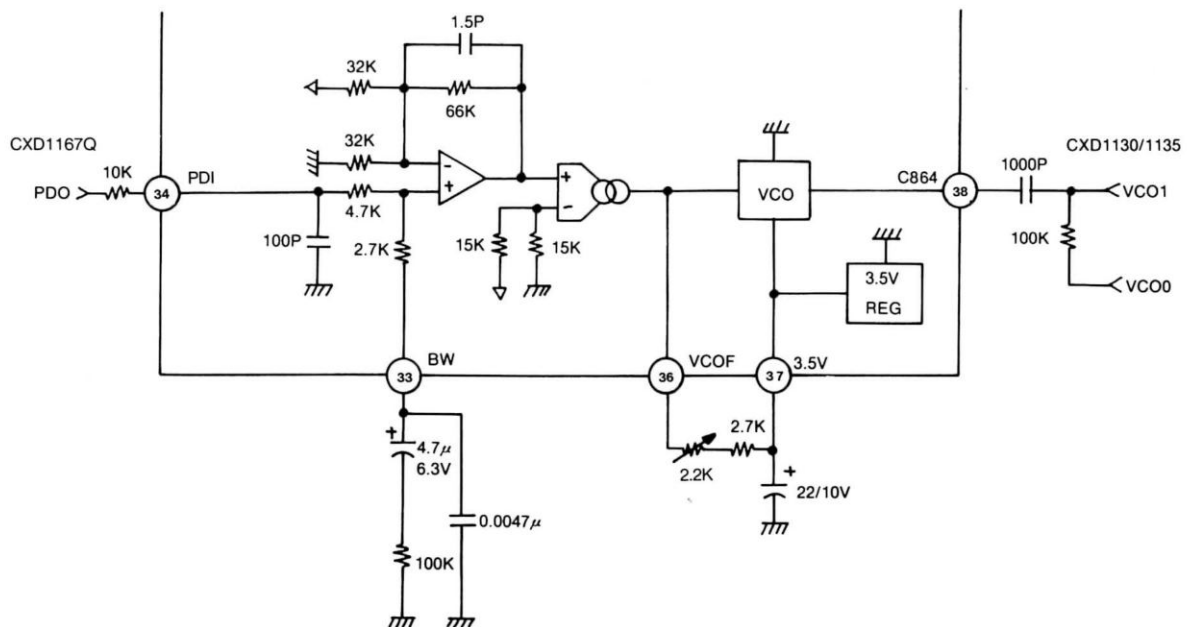
7) SPINDLE SERVO AND LPF(CXA 1082 BS) : IC5



The 200Hz LPF is formed with $0.033 \mu\text{F}$ and $20\text{k}\Omega$ connected to pin 42 and the secondary LPF is formed with the built-in LPF, and the carrier component of the CLV servo error signals MDS and MDP is eliminated.

In the CLV-S mode, FSW becomes low and the pin 42 LPF f_c lowers, strengthening the filter further. With the pin 23 resistor connected to V_{cc} , f_c does not vary with power supply voltage fluctuations.

8) VCO LOOP FILTER AND 8.64MHz VCO(CXA 1082 BS) : IC5

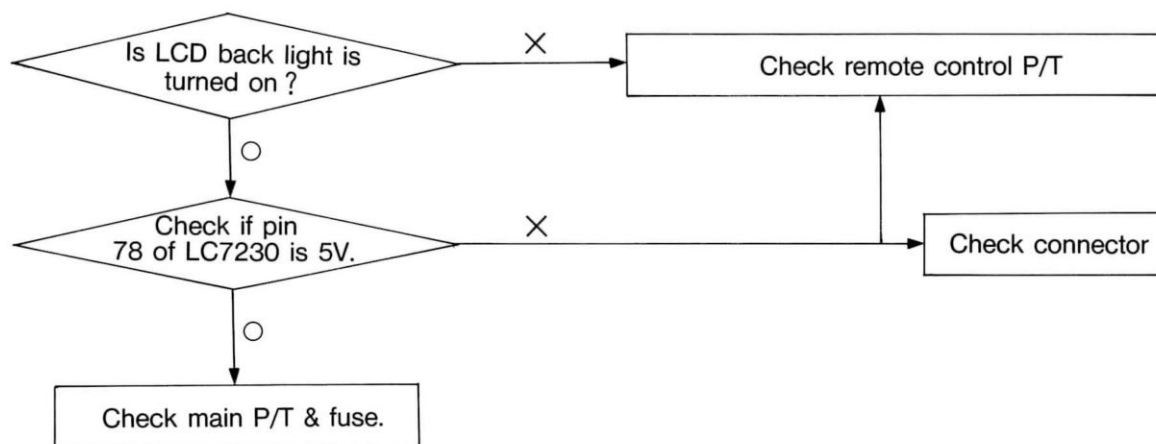


The phase compensation output PDO input from pin 34 has its PWM carrier component removed in the loop filter. Then, the V-I conversion is made and the self-running frequency setting current from pin 36 is added to control the VCO frequency. The VCO self-running frequency is almost inversely proportional to the resistor across pins 36 and 37. This resistor is set so that the PLL capture range center matches the 4.3218 MHz at pin 70 of the CXD 1167Q.

■ TROUBLE SHOOTING

1. MAIN AND TUNER SECTION

1) POWER SOURCE NOT SENSIBLE



2) LCD NOT OPERATING

- (1) Check if OSC frequency of LC7230 is 4.5MHz. (PIN No. : 80)
- (2) Check if pattern is open or soldering is misapplied.

3) FUNCTION KEY INOPERATIVE

- (1) Check contact and connection of CNFT connector(16 wires) : TUNER PCB↔FRONT PCB)
- (2) Check soldering of LC7230.

4) BAND CONVERSION INOPERATIVE

- (1) Check if Q111 operate. (FM : Q111 turn on)

5) FUNCTION CONVERSION INOPERATIVE

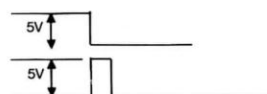
- (1) If FUNCTION LED doesn't operate;
Check soldering and connection of CNFT.
- (2) If FUNCTION LED is working but signal is not converted;
Check signal output at pin 15, 16, 17 of LC7230.



LC7821 won't operate until power supply reaches 5V.

- (3) If CD synchro is inoperative or deck CDP remote control is inoperative Check signal output LC7230 pin 7, 16, 17.

pin 7 : low active
pin 16, 17 : high active



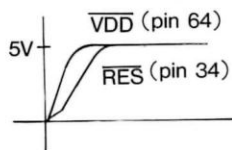
2. TAPE SECTION

1) DECK PROBLEM

CHECK POWER

- (1) Check power jack.
- (2) Check voltage of CNT 604.
Check CNT504 pin 3.
MOTOR +12V

CHECK μ -COM RESET (IC605)



CHECK μ -COM KEY MATRIX

- (1) Operation of playback deck key(play, stop, fast, forward, rewind)
pin 47 5V
- (2) Operation of record/palyback(play, stop, fast forward, rewind)
pin 48 5V

CHECK MOTOR OPERATION

Function	Q612,Q642	Q613,Q643
play back deck operation	Turn-on	—
record/playback deck operation		Turn-on

CHECK DECK CONNECTOR WIRE

- (1) Check playback connector wire.
(9 pin wire)
- (2) Check record/playback connector wire.
(11 pin wire)

2) HIGH SPEED PROBLEM

CHECK μ -COM & TR

	Function Pin	Hi-speed dubbing	Nor-speed dubbing
1	μ -COM pin3	low	high
2	Q601 L,R	Turn off	Turn on
3	Q614,Q645	Turn off	Turn on

3) RECORDING PROBLEM

CHECK μ -COM & TR

	Function Pin	recording
1	μ -COM pin 1	L
2	Q624	Turn off
3	Q604 L,R	Turn on
4	IC602 pin 12	L
5	Q605 L,R	Turn off
6	Q604 L,R	Turn on
7	Q606 L,R	Turn off
8	Q637, Q638, Q639, Q640	Turn on

4) DUBBING PROBLEM

CHECK μ -COM & TR

	Function Pin	dubbing
1	IC605(μ -COM) pin 2	high
2	IC602(CXA 1101) pin 13	high
3	IC601(BA3416) pin 18	high

3. CD SECTION

Be sure not to use a warped or dirt-build up disc in trouble shooting.

1) NO AUDIO OUTPUT

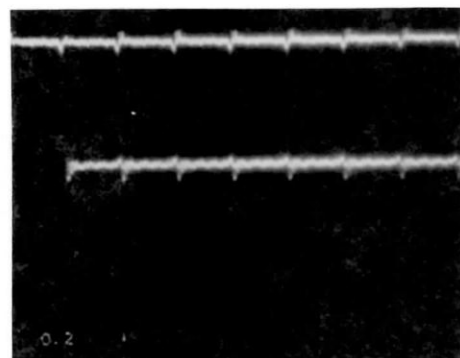
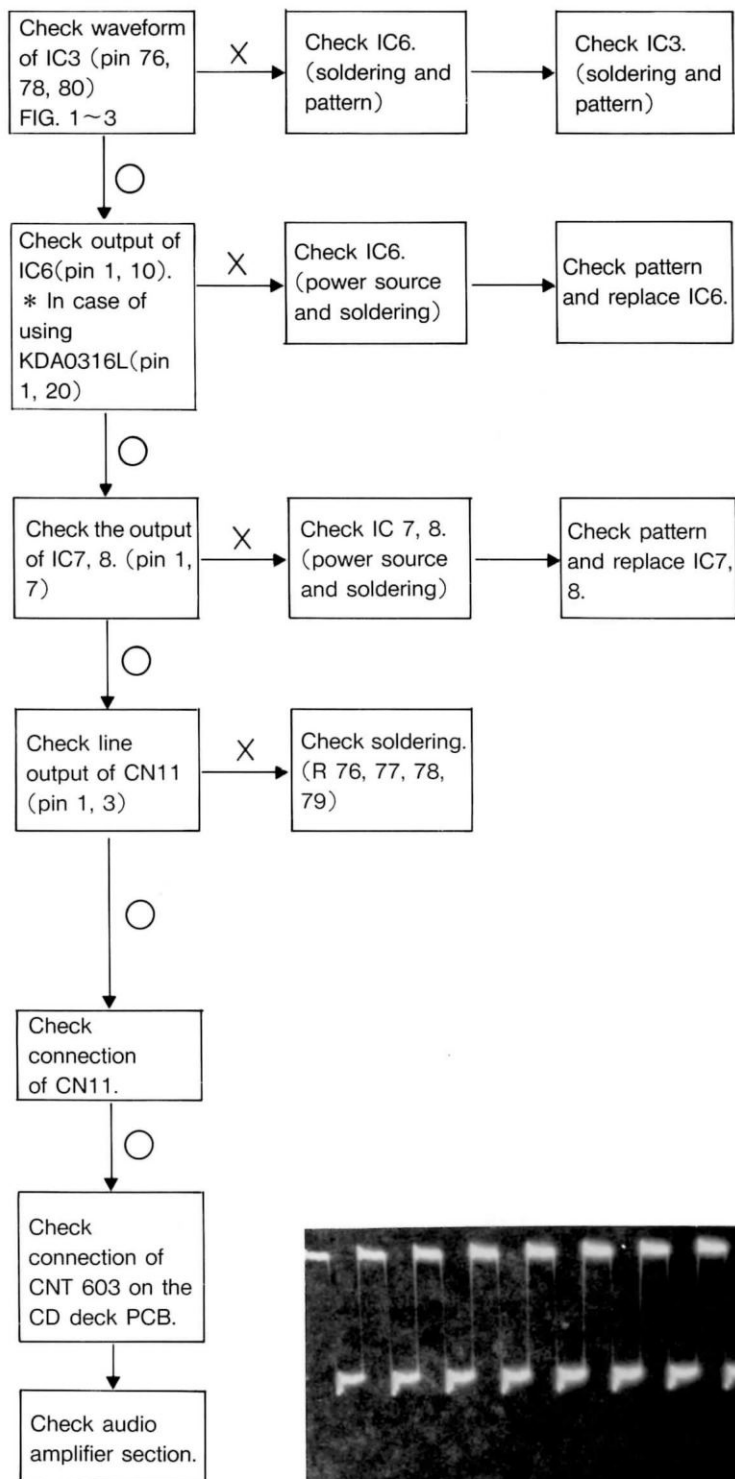


FIG. 2 PIN78

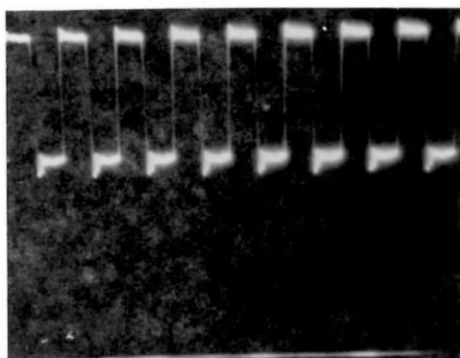


FIG.1 PIN76

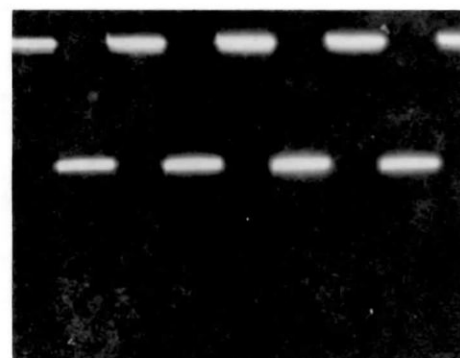
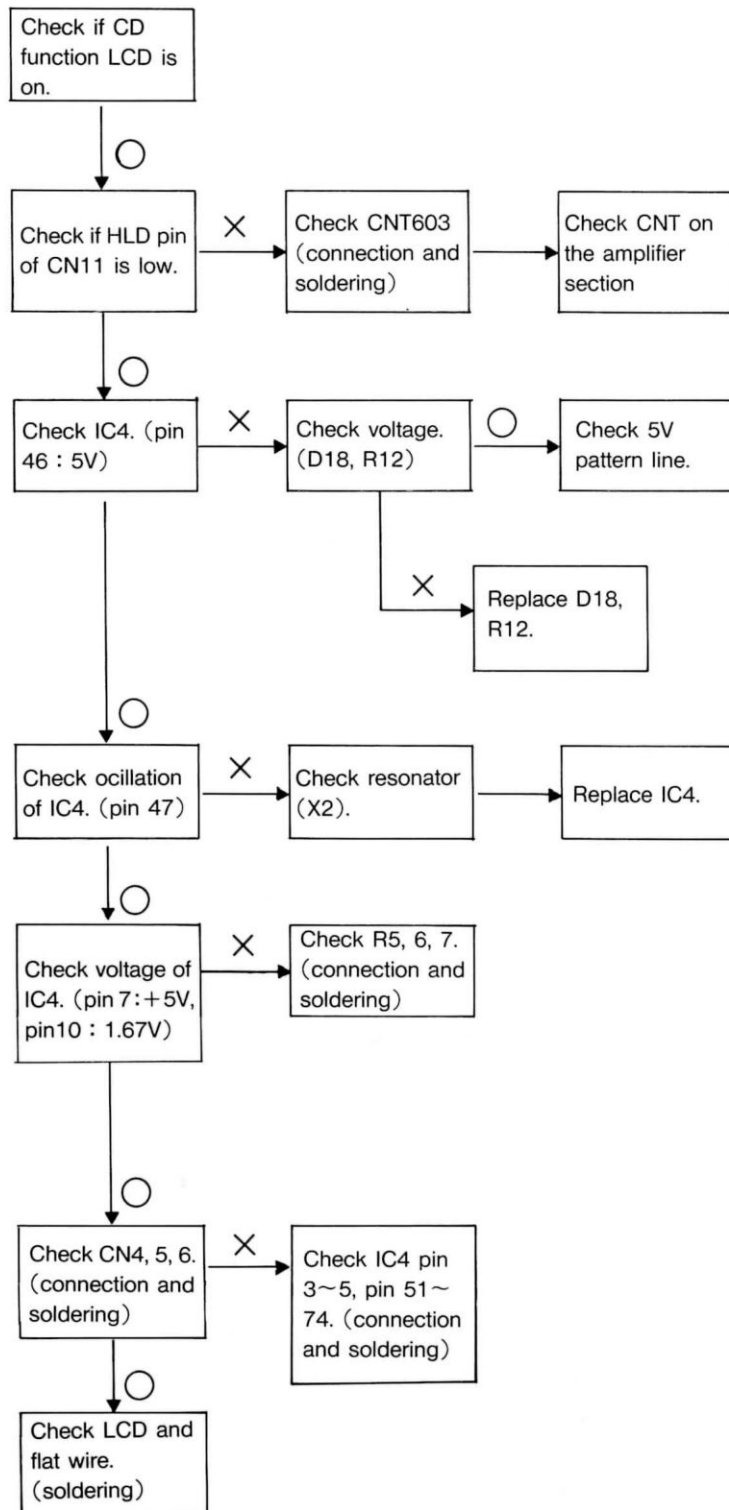


FIG.3 PIN80

* Oscilloscope probe setting 10 : 1.

2) DISPLAY NOT WORKING



3) DISC DOESN'T ROTATE

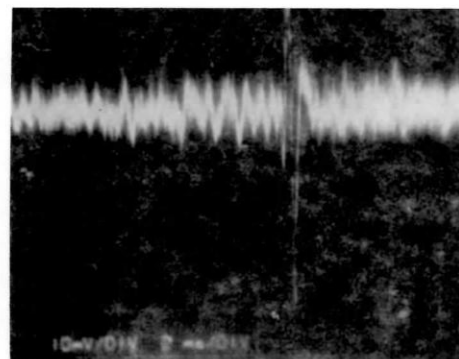
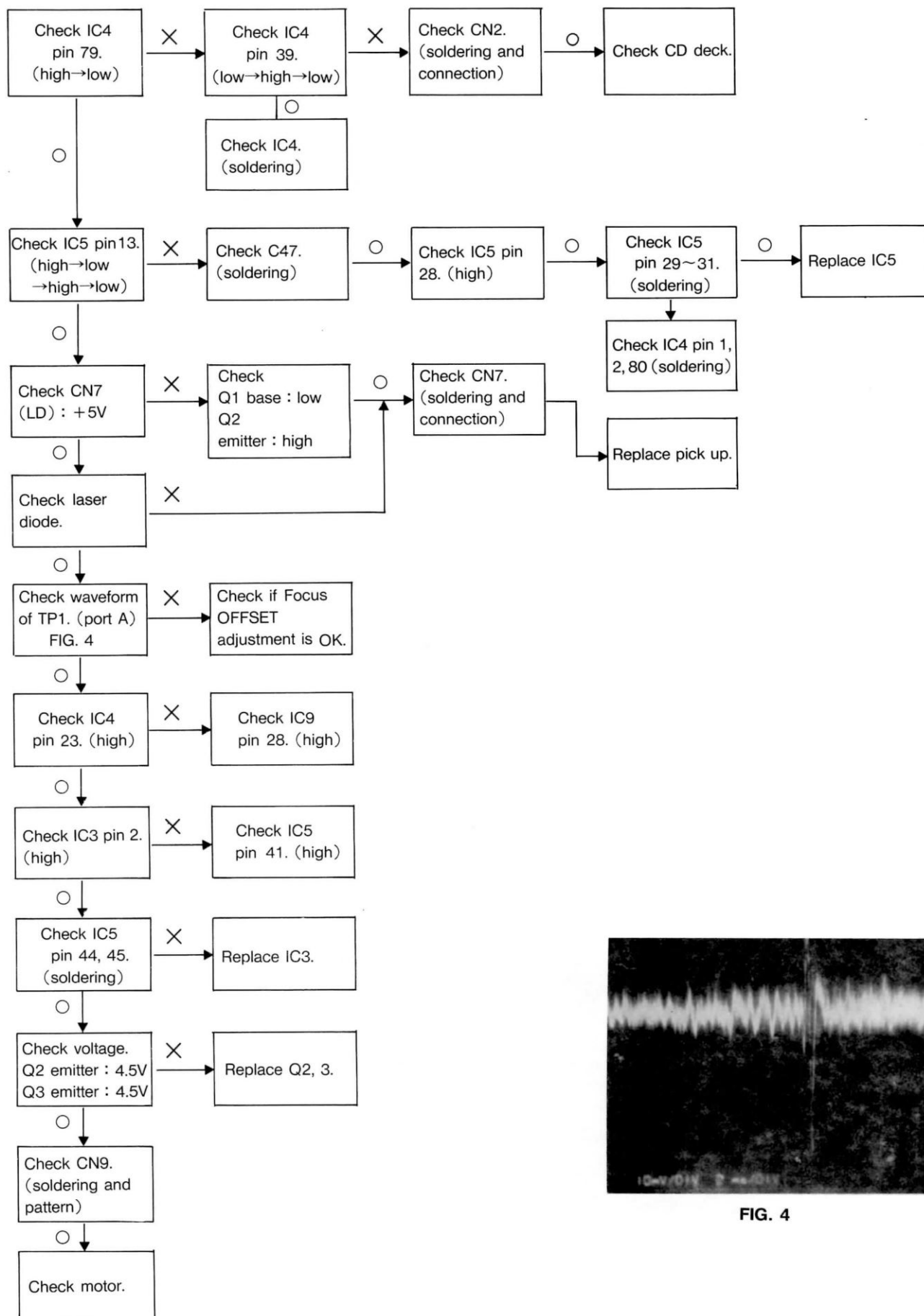


FIG. 4

4) LEAD IN INOPERATIVE

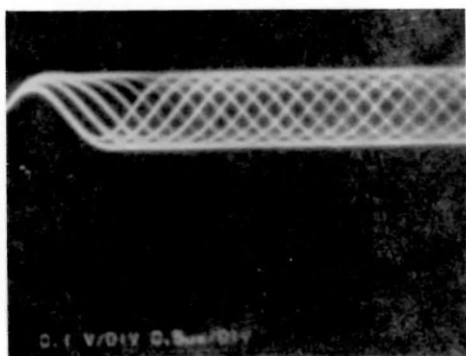
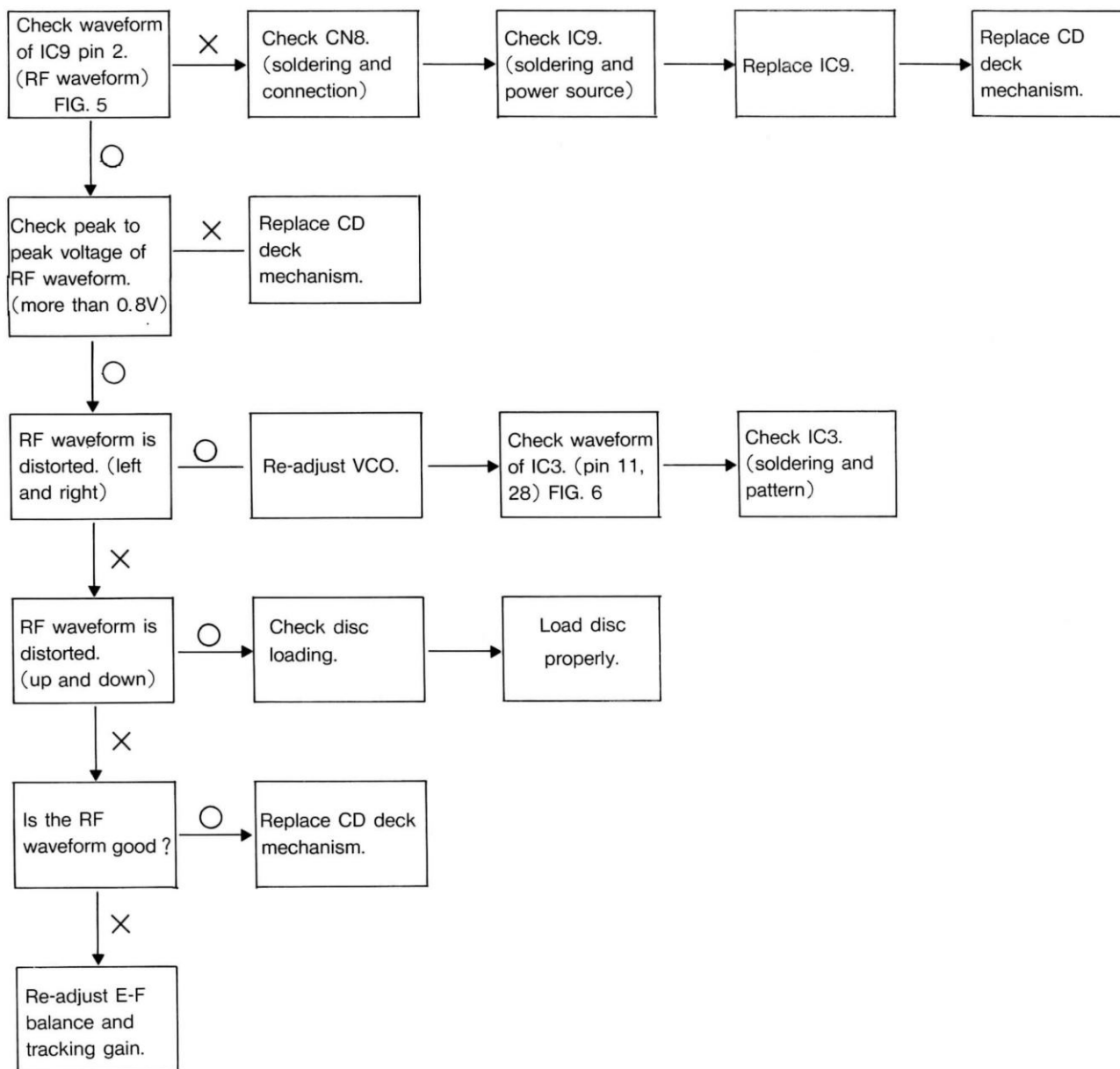


FIG. 5

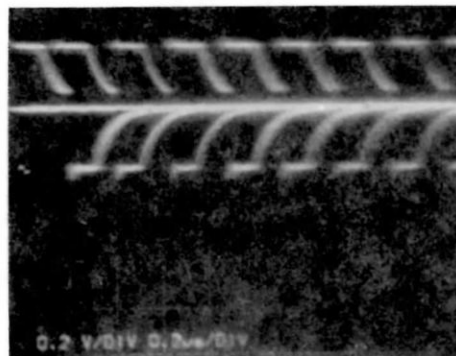


FIG. 6 PIN11

■ ADJUSTMENT

Adjustments to this unit have already been made during production procedure. Therefore, no adjustment is needed. If parts related to the adjustment are replaced, or readjustment is required, proceed with adjustments in the order given below.

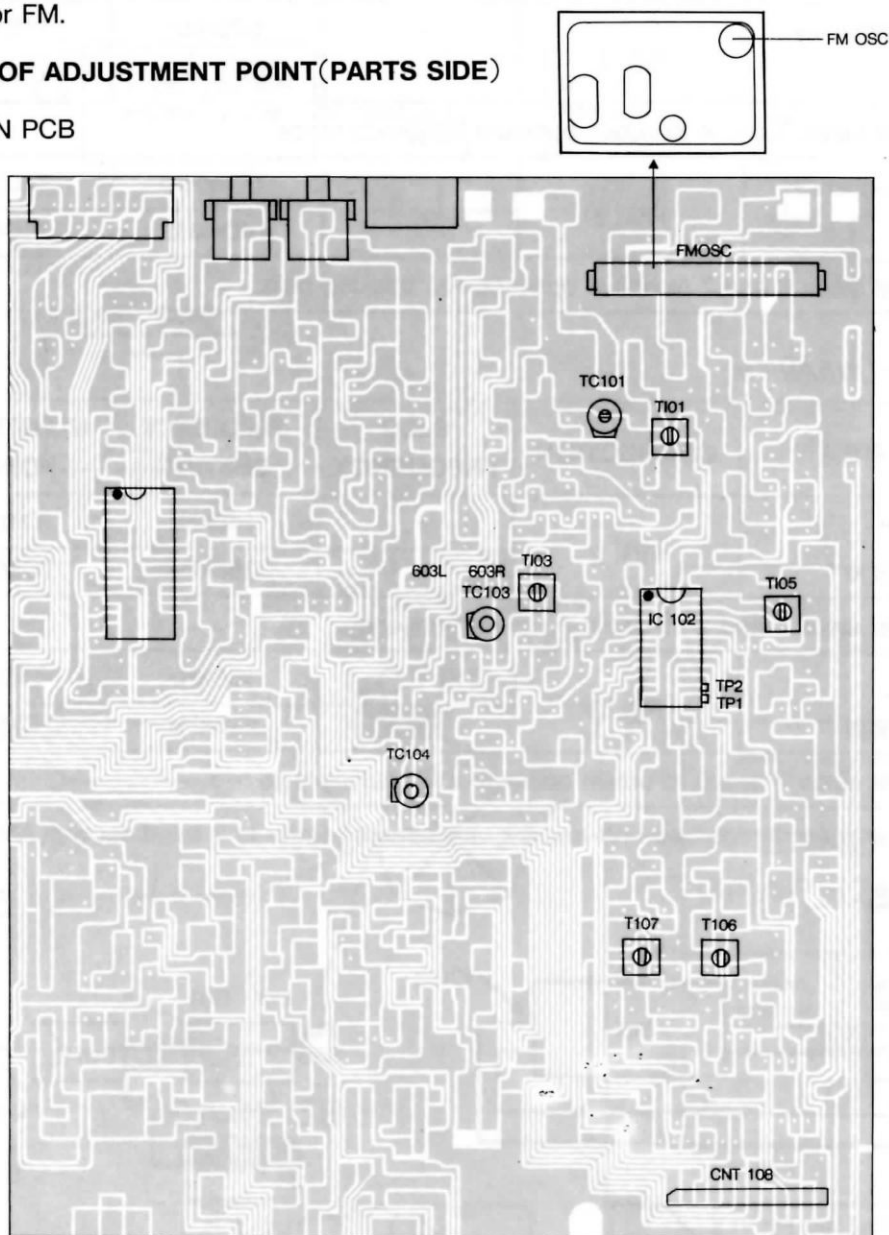
1. TUNER SECTION

1) IMPORTANTS

- (1) Set function and band switches to a band to be adjusted.
- (2) The equalizer, volume and balance should be turned to the mid position.
- (3) The standard modulation is the 30% with 400Hz signal for AM and is the 40kHz deviation with 1kHz signal for FM.

2) LOCATION OF ADJUSTMENT POINT(PARTS SIDE)

TUNER MAIN PCB



3) ADJUSTMENT PROCEDURE

(1) FM ADJUSTMENT

* S.S.G : STANDARD SIGNAL GENERATOR

STEP	ITEM	CONNECTION	S.S.G FREQUENCY	FREQUENCY SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	FM COVERAGE	FIG. 2 (CNT 108)	—	87.9MHz	FM OSC	1.4V
2	STEREO SEPERATION	FIG. 4	—	19kHz(1mV)	T106, 107	Minimum output

(2) AM ADJUSTMENT

① 2 BAND(AM/FM)

STEP	ITEM	CONNECTION	S.S.G FREQUENCY	FREQUENCY SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	Intermediate frequency(I.F)	FIG. 1	—	455kHz	T105	Maximum output FIG. 2
2	Repeat until no further improvement can be made.					
3	AM frequency	FIG. 2	—	522kHz	T101	1.4V
4	coverage		—	1611kHz	TC101	6V
5	Repeat steps 3 and 4 to obtain optimum frequency range.					
6	AM frequency	FIG. 3	—	594kHz	T103	Maximum output
7			—	1404kHz	T104	
8	Repeat steps 6 and 7 to obtain optimum AM tracking gain.					

② 3 BAND(LW/MW/FM)

STEP	ITEM	CONNECTION	S.S.G FREQUENCY	FREQUENCY SETTING	ADJUSTMENT POINT	RESULT & REMARK
1	LW	FIG. 2	—	146kHz	T102	1.4V
2	coverage		—	296kHz	TC102	8V
3	Repeat steps 1 and 2 to obtain optimum frequency.					
4	LW	FIG. 3	—	146kHz	T104	Maximum
5	coverage		—	290kHz	TC104	output
6	Repeat steps 4 and 5 to obtain optimum LW tracking gain.					

* MW frequency coverage and MW tracking adjustment : Refer to 2 band section(AM)

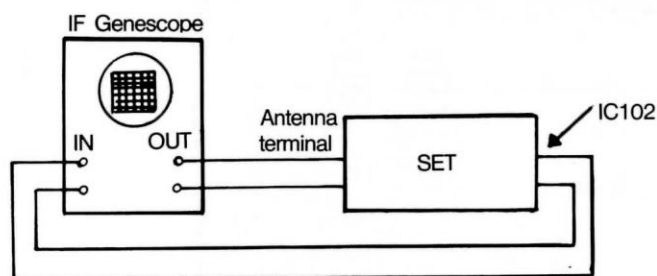


FIG. 1

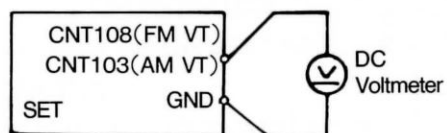


FIG. 2

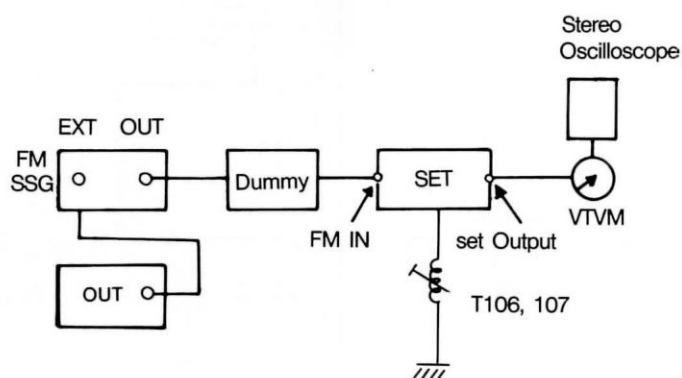


FIG. 4

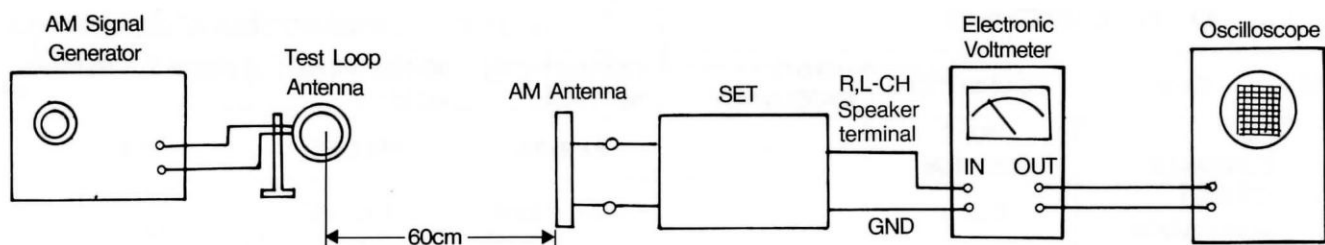


FIG. 3

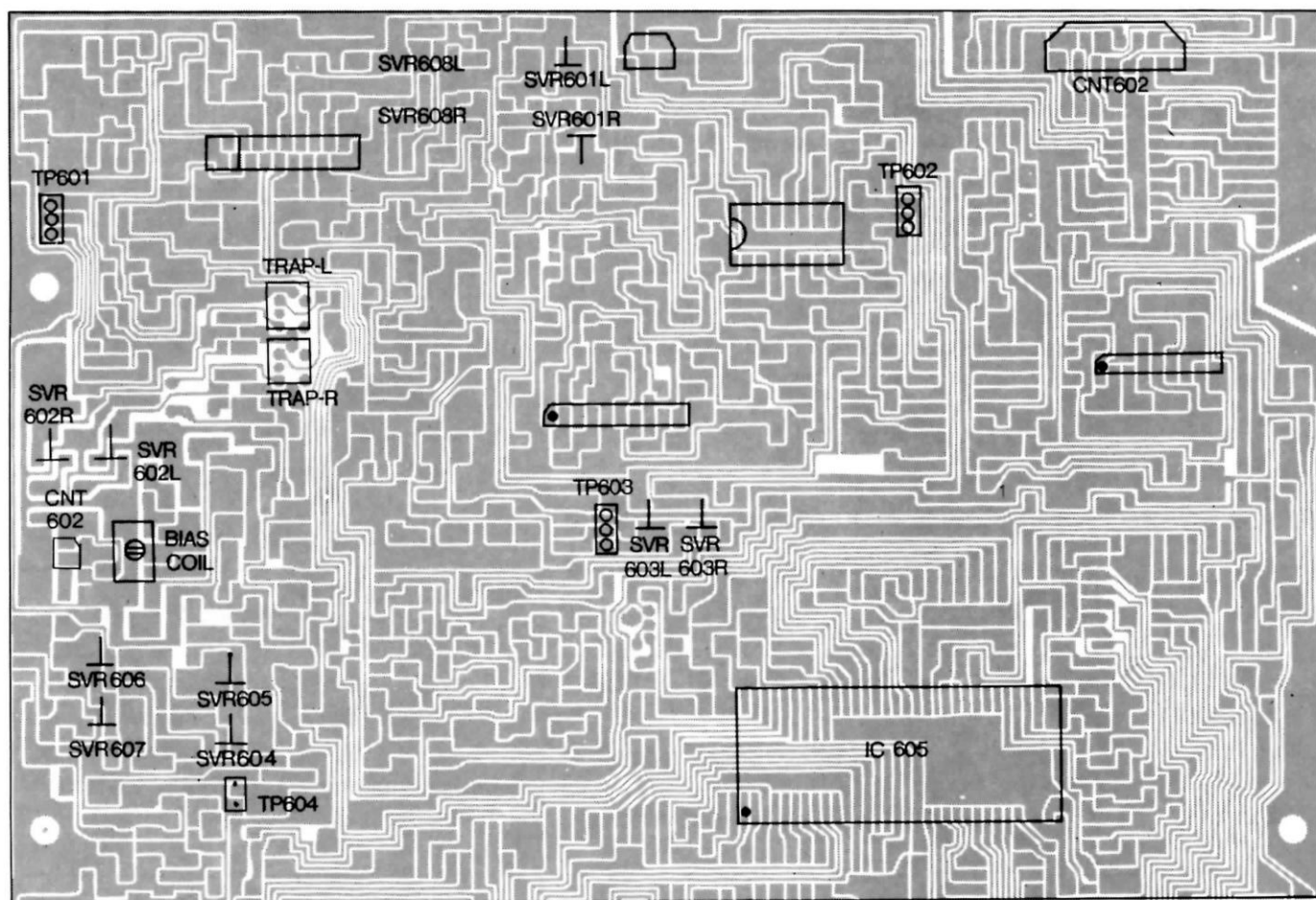
2. TAPE SECTION

1) MEASURING INSTRUMENTS REQUIRED

- | | |
|-----------------------|--|
| (1) Oscilloscope | (4) Test tape |
| (2) VTVM | ① MTT-111(or equivalent) : 3KHz signal is recorded.→Tape speed |
| (3) Frequency counter | ② MTT-5521(or equivalent) |
| | ③ MTT-114NA(or equivalent) : 12.5KHz signal is recorded.→Azimuth |
| | ④ MTT-150(or equivalent) : 200mwb/m is recorded by DOLBY level. |

2) LOCATION OF ADJUSTMENT POINT(PARTS SIDE)

DECK MAIN PCB

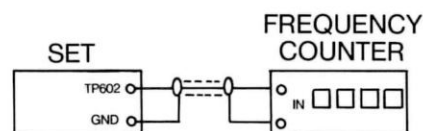


3) ADJUSTMENT PROCEDURE

(1) TAPE SPEED ADJUSTMENT

NOTE

- 1) Measuring tape i) MTT-111(or equivalent)
(tape in which 3KHz signal is recorded).
ii) MTT-5521(or equivalent)
- 2) Connection of measuring equipments(figure1)



〈FIG.1〉

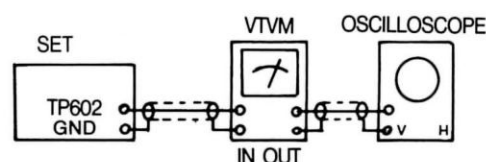
STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	Normal speed	FIG. 1 (L-CH : TP602) (R-CH : TP602)	1) DECK A (1) Insert MTT-111 tape. (2) Press play. 2) DECK B (1) Insert MTT-111 tape. (2) Press play.	1) DECK A : SVR 604 2) DECK B : SVR 603	3kHz± 1%

2	Hi-speed-	FIG. 1	1) DECK A : MTT-111 tape. 2) DECK B : MTT-5521 or blank tape. 3) Press Hi-speed dubbing button.	1) DECK A : SVR 605 2) DECK B : (1) Insert MTT-111 tape to DECK B (2) Short out TP604 (3) Adjust SVR602	6kHz± 1%
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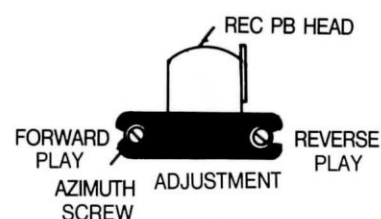
(2) RECORD AND PLAYBACK LEVEL ADJUSTMENT

NOTE

- 1) Before adjustment, clean playback/record (P/R) head.
- 2) Measuring tape i) MTT-114NA (or equivalent; 12.6KHz for AZIMUTH adjustment).
 ii) MTT-150 (or equivalent; tape (200nwb/m) recorded by dolbylevel
- 3) Dobly NR sw off
- 4) Connection of measuring equipments (figure 2).



〈FIG. 2〉



〈FIG. 3〉

① DECK A PLAYBACK DOLBY LEVEL ADJUSTMENT

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	DECK A AZIMUTH	FIG. 2	1) Insert MTT-114NA to DECK A. 2) Press forward play button (Press reverse play button)	1) Forward play : FIG.3(left screw) 2) Reverse play FIG.3(right screw)	Maximum output and same phase. (L, R channel) And then fix screw with regin lock.
2	PLAYBACK OUTPUT LEVEL	FIG. 2	1) Insert MTT-150 tape to DECK A.	1) L-CH:SVR608L R-CH:SVR608R	548mV± 1dB

* DECK B : AZIMUTH → same as DECK A

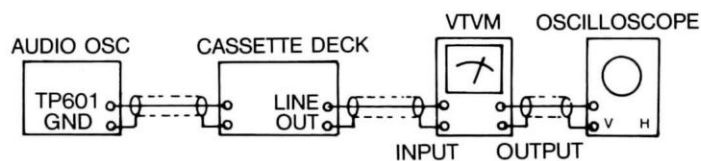
② DECK B PLAYBACK DOLBY LEVEL ADJUSTMENT

STEP	ITEM	CONNECTION	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	PLAYBACK OUTPUT LEVEL	FIG. 2	1) Insert MTT-150 tape to DECK B.	1) L-CH:SVR601L 2) R-CH:SVR601R	548mV± 5%

(3) RECORD ADJUSTMENT

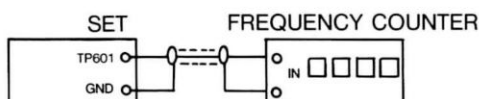
NOTE

- 1) Connect measuring equipments as figure(4).
- 2) Set DOLBY NR switch to off.
- 3) Connect TP4 and TP5 : when adjusting recording current.
- 4) Measuring tape i) MTT-5521 (or equivalent : for normal record)
ii) MTT-5561 (or equivalent : for CrO₂ record)



〈FIG. 4〉

STEP	ITEM	CONNECTION	INPUT SIGNAL	PREPARATION	ADJUSTMENT POINT	RESULT & REMARK
1	BIAS CURRENT	FIG. 4	400Hz, 580mV sine wave (to the Aux input jack on the rear panel)	1) Insert MTT-55 21 or blank tape to deck B. 2) Press record button.	1) L-CH : SVR602L 2) R-CH : SVR602R 3) CrO ₂ :	Nor : 4.5mV CrO ₂ : 5.8mV
2	BIAS OSCILLATION FREQUENCY	FIG. 5	400Hz, 580mV sine wave (to the Aux input jack on the rear panel)	1) Insert MTT-55 21 or blank tape to deck B. 2) Press record button.	Bias coil	105kHz
3	TRAP COIL	FIG. 4	400Hz, 580mV sine wave (to the Aux input jack on the rear panel)	1) Insert MTT-55 21 or blank tape to deck B. 2) Press record button.	1) L-CH : TRAP L 2) R-CH : TRAP R	Minimum output (V.T.V.M)



〈FIG. 5〉

(3) 3. CD SECTION

1) MEASURING INSTRUMENT

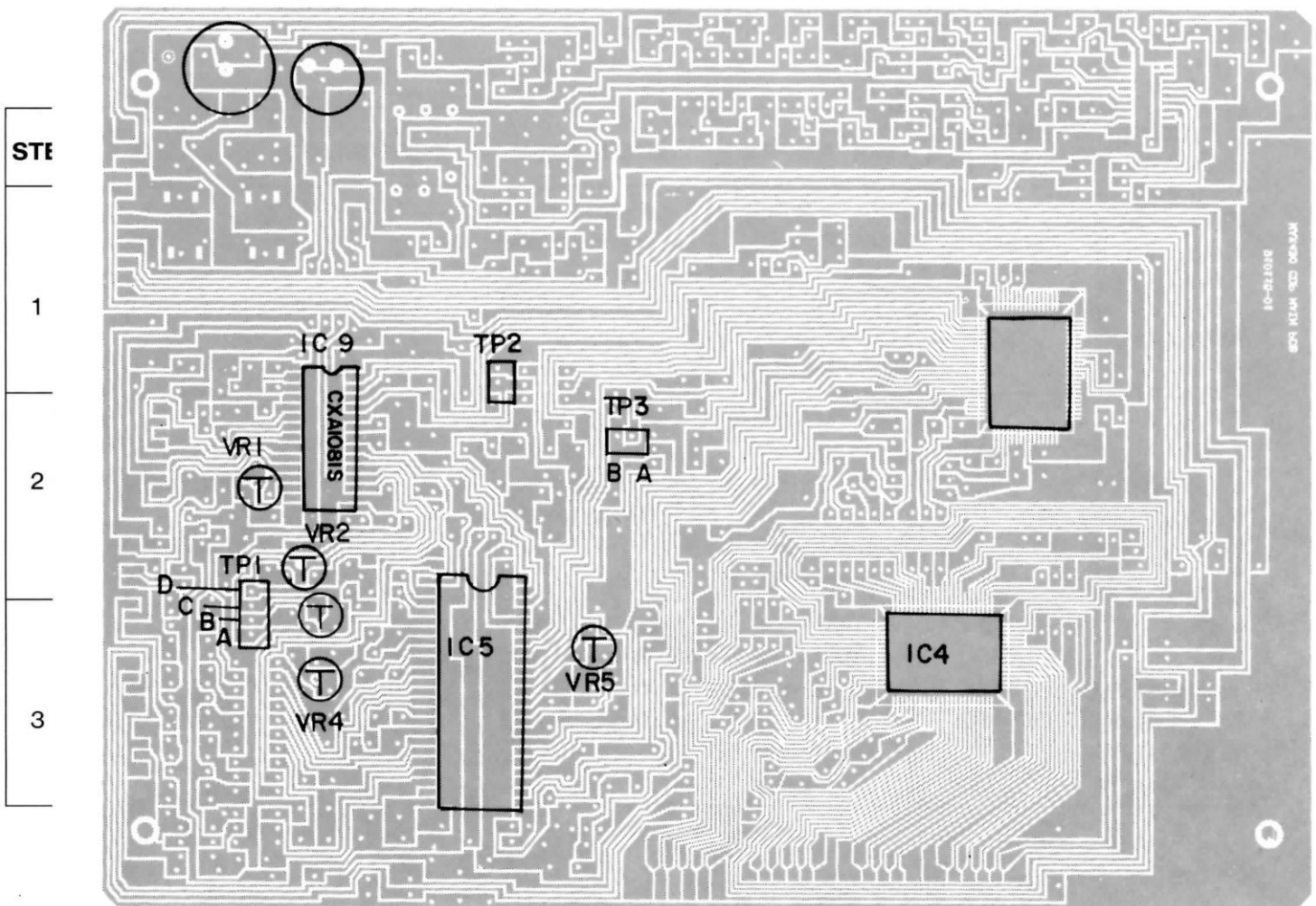
- (1) Oscilloscope (100MHz $\geq$ Frequency)
- (2) Probe(10 : 1)
- (3) Frequency counter

2) IMPORTANTS

- (1) Semi-Volume position can be a little different according to unit.
- (2) Be sure not to use a warped or dirt-build up disc in troubleshooting.
- (3) When adjusting Semi-Volume, use plastic screw driver.

3) LOCATION OF ADJUSTMENT POINT

CD MAIN PCB (PARTS SIDE)

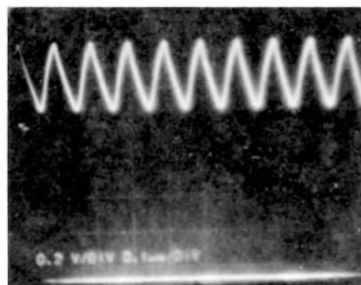


4) ADJUSTMENT PROCEDURE

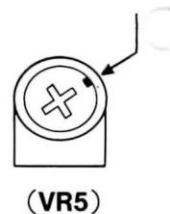
(1) VCO ADJUSTMENT

- ① Turn power on and load a disc.
- ② Frequency counter connection
(+) terminal; TP3-B
(-) terminal; TP3-A
- ③ Connect TP2-B to TP2-A.
- ④ Adjust VR5 so the frequency counter reads 8.65~8.67MHz. (Adjust in stop mode)
- ⑤ Disconnect TP2-B from TP2-A.

VCO



adjustment point

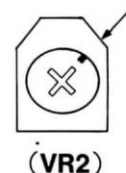
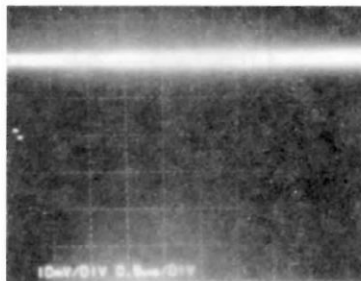


(2) FOCUS OFFSET ADJUSTMENT

- ① Turn power on and load a disc.
- ② Oscilloscope setting and connection

VOLT/DIV;10mV	{	(+) terminal; TP1-A
TIME/DIV;0.5μS		
- ③ Adjust VR2 so the waveform is as shown in picture. (Adjust in stop mode)

FOCUS OFFSET

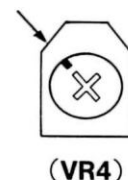
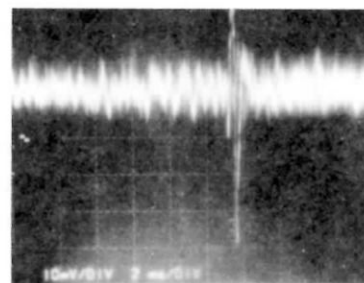


(3) FOCUS (FE) GAIN ADJUSTMENT

- ① Turn power on and load a disc.
- ② Press play.
- ③ Oscilloscope setting and connection

VOLT/DIV;10mV	{	(+) terminal; TP1-A
TIME/DIV;2mS		
- ④ Adjust VR4 so the peak to peak waveform is as shown in the picture.

FOCUS(FE) GAIN

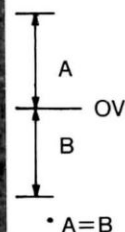
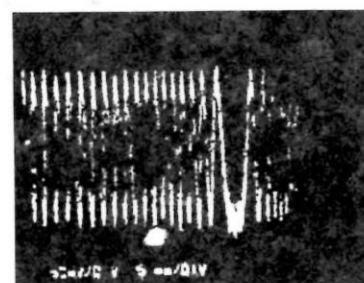


(4) E-F BALANCE ADJUSTMENT

- ① Turn power on and load a disc.
- ② Press play.
- ③ Connect D and B. (TP1).
- ④ Oscilloscope setting and connection

VOLT/DIV;0.5V	{	(+) terminal; TP1-C
TIME/DIV;10mS		
- ⑤ Adjust VR1 so the waveform is as shown in the picture.
- ⑥ Disconnect D from B.

E-F BALANCE(1 : 1 probe)

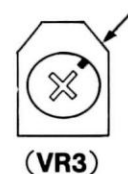
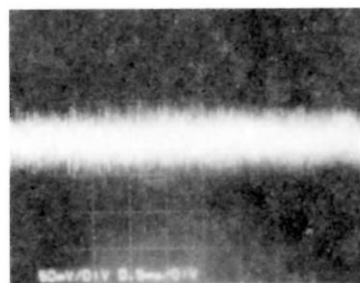


(5) TRACKING GAIN ADJUSTMENT

- ① Turn power on and load a disc.
- ② Press play.
- ③ Oscilloscope setting and connection

VOLT/DIV;0.5V	{	(+) terminal; TP1-C
TIME/DIV;0.5mS		
- ④ Adjust VR3 so the peak to peak waveform is as shown in the picture. (Adjust at the center of disc.)

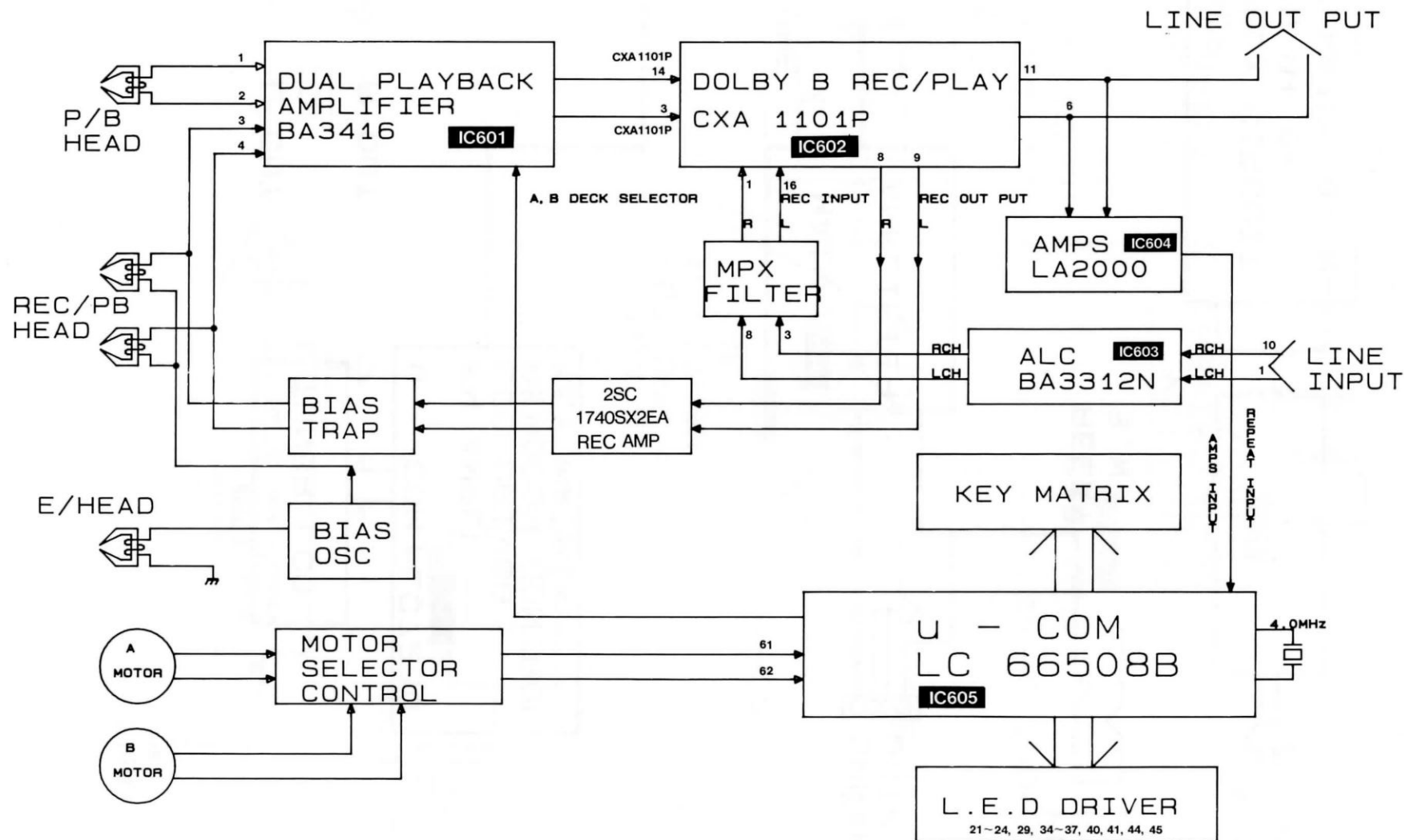
TRACKING GAIN



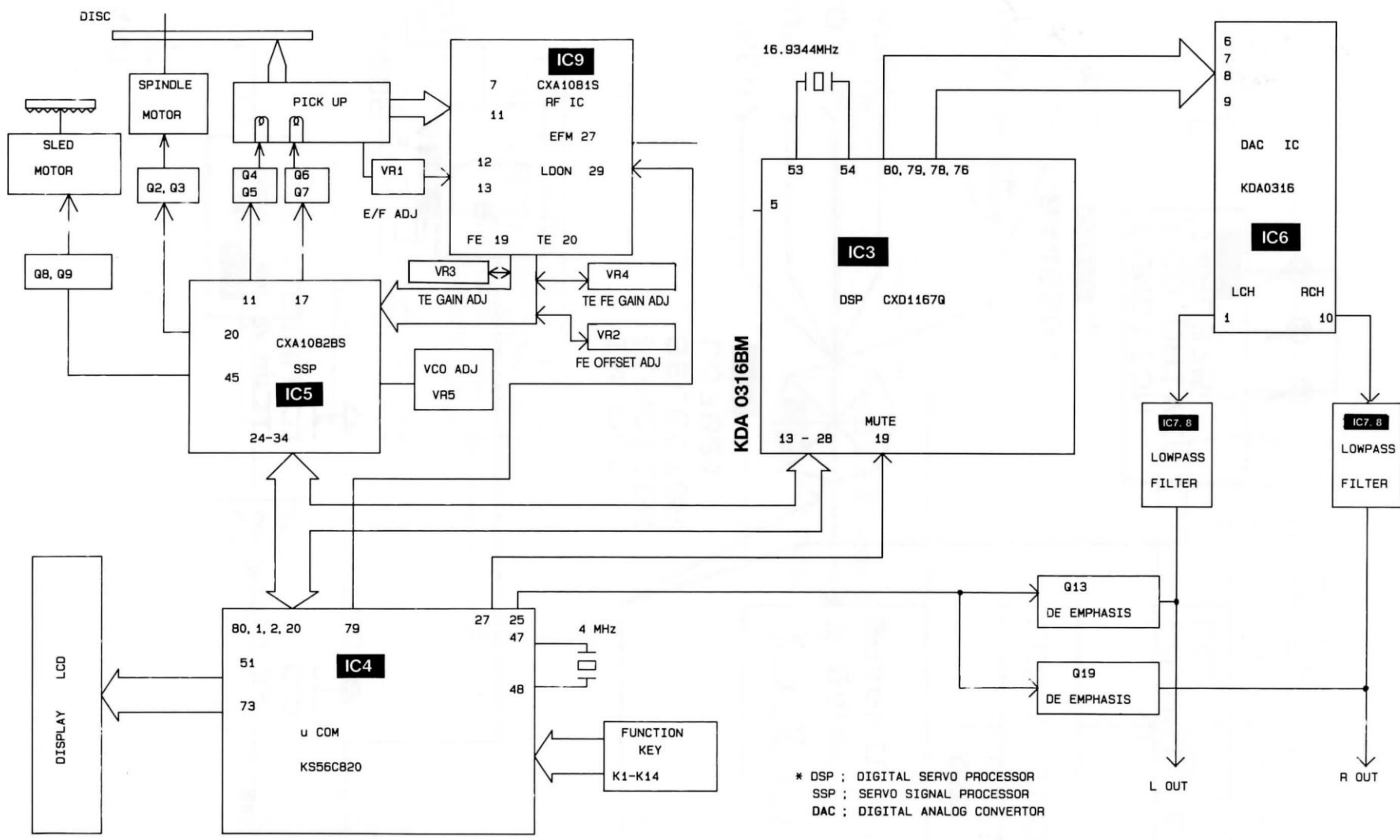
(* Oscilloscope probe setting 10 : 1)

■ BLOCK DIAGRAM

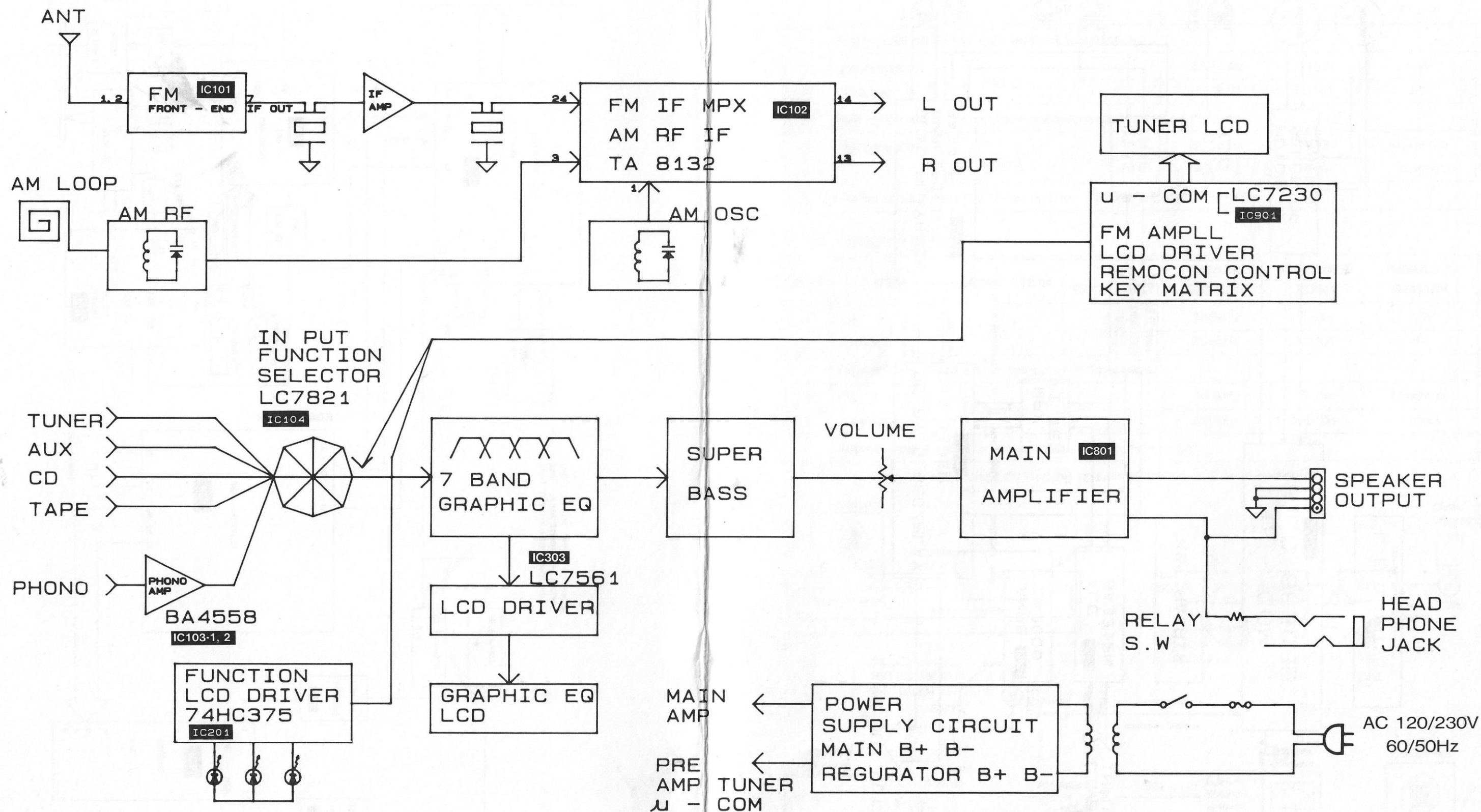
1. TAPE SECTION



2. CD SECTION



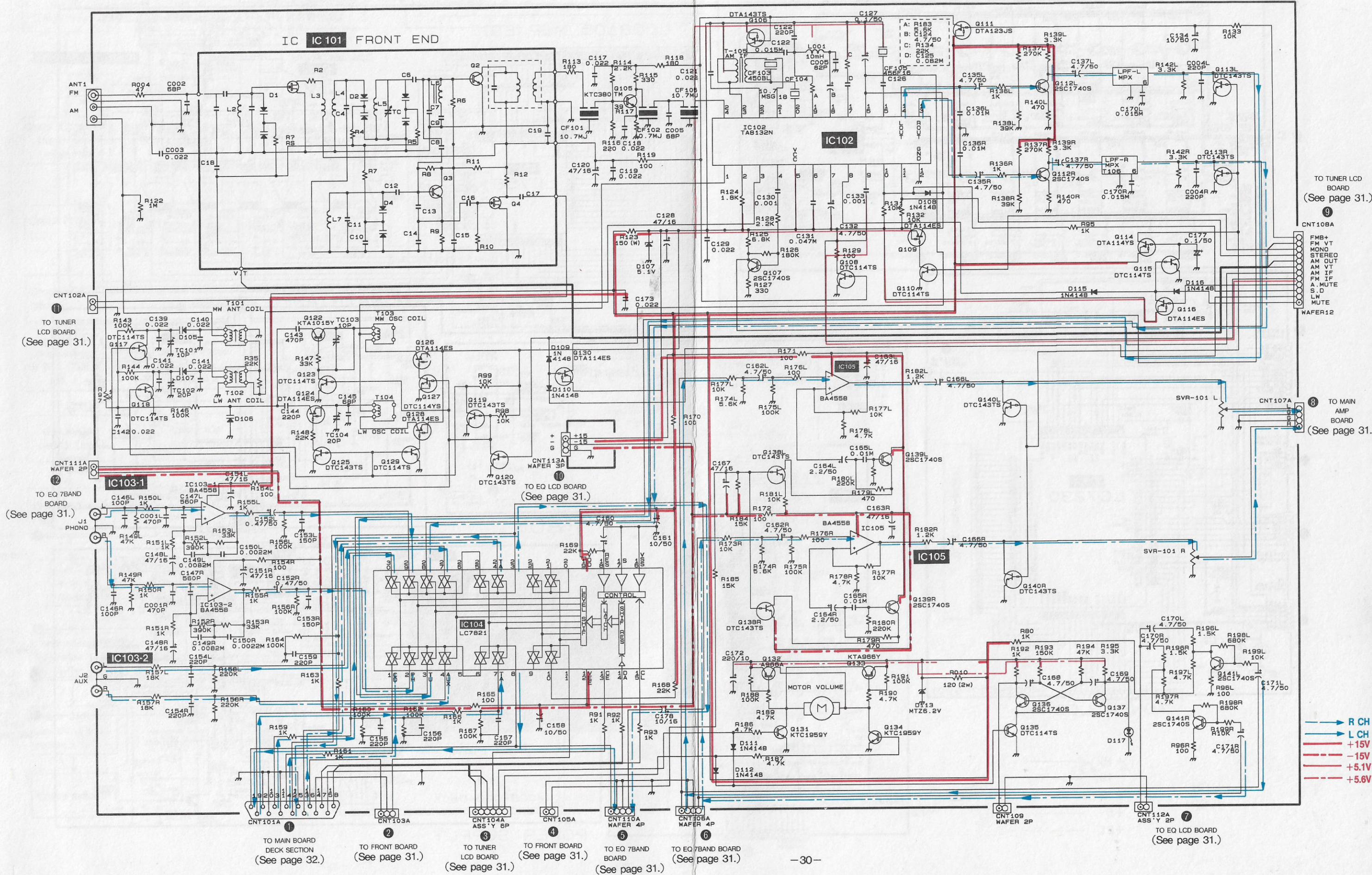
3. TUNER, MAIN SECTION

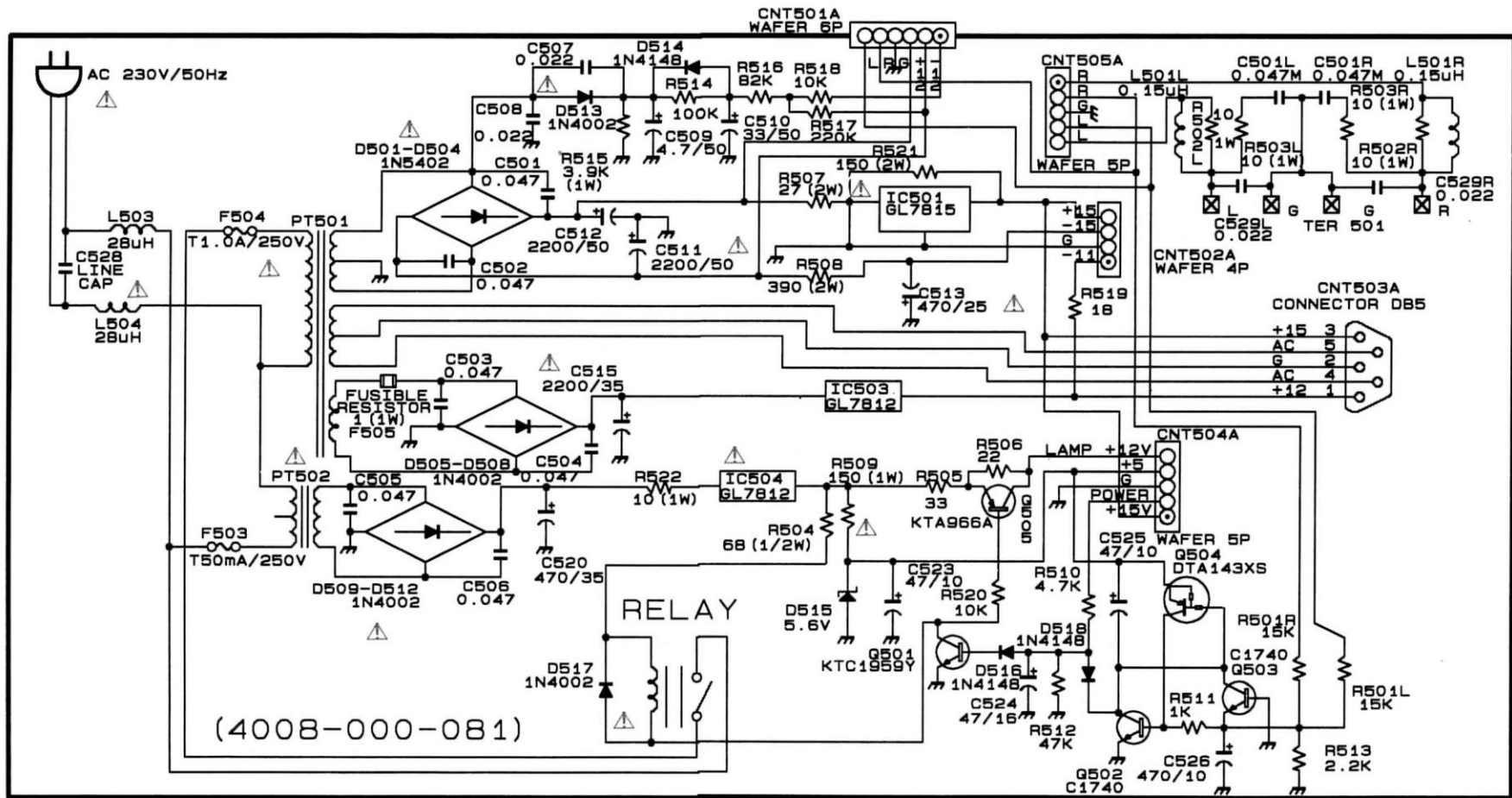


■ SCHEMATIC DIAGRAM

1. TUNER SECTION

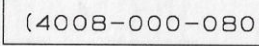
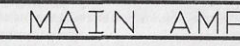
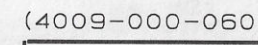
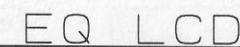
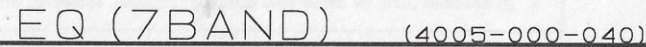
1. The unit of all resistors is Ω unless otherwise stated(K-K Ω , M-M Ω). All resistors are 1/4W or 1/8W unless otherwise stated.
2. The unit of all capacitors is μF unless otherwise stated(P-PF).
3. This schematic diagram is subject to change upon improvement without prior notice.
4. $\triangle$ indicates parts for circuit safe guarding purposes. Therefore, when replacing, be sure to use specified parts only.







- AC 110V/220V UNIT

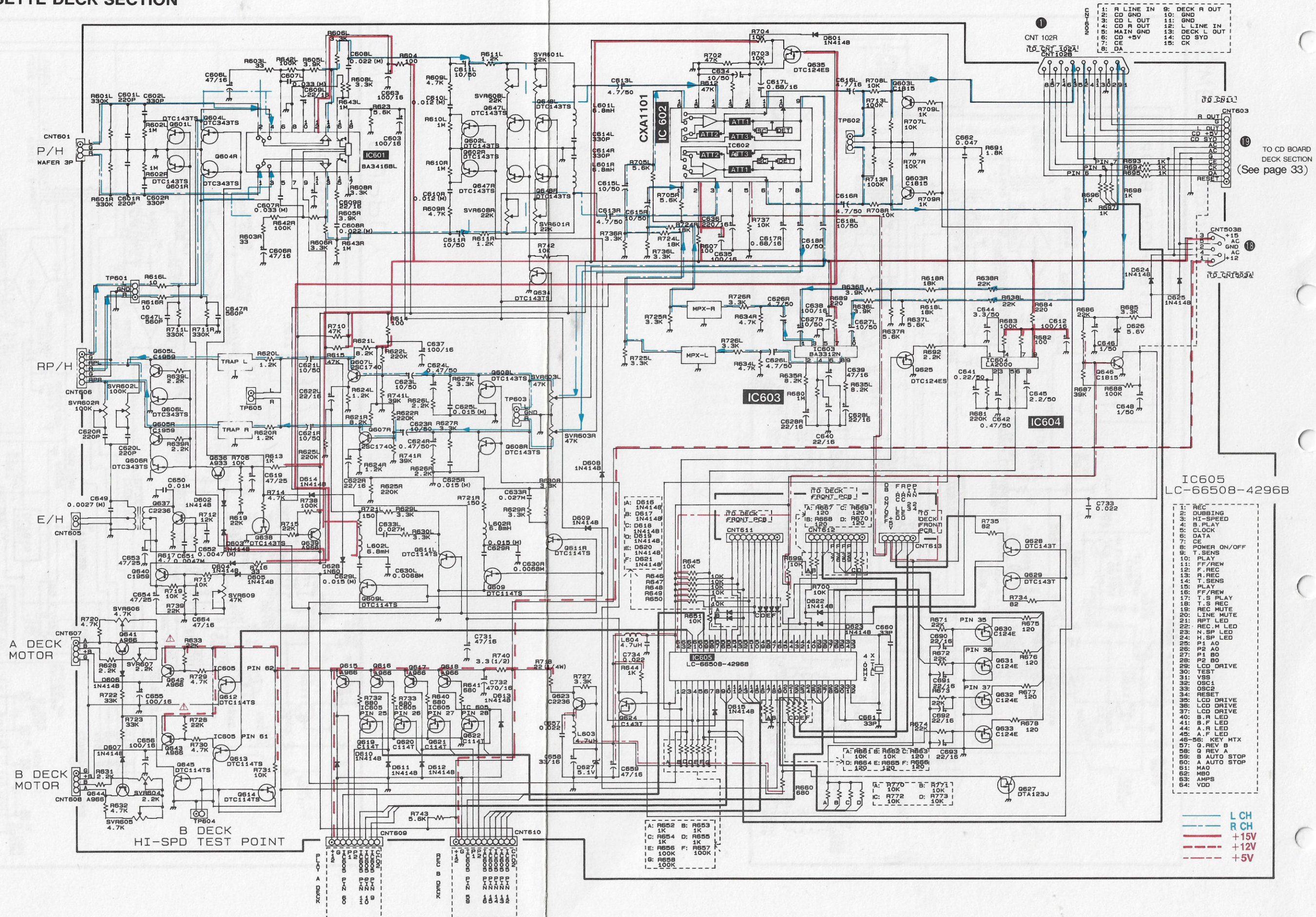


$+15$ _____
 -15 _____
 $+12$ _____
 $+5$ _____
 $+21$ _____

—31—

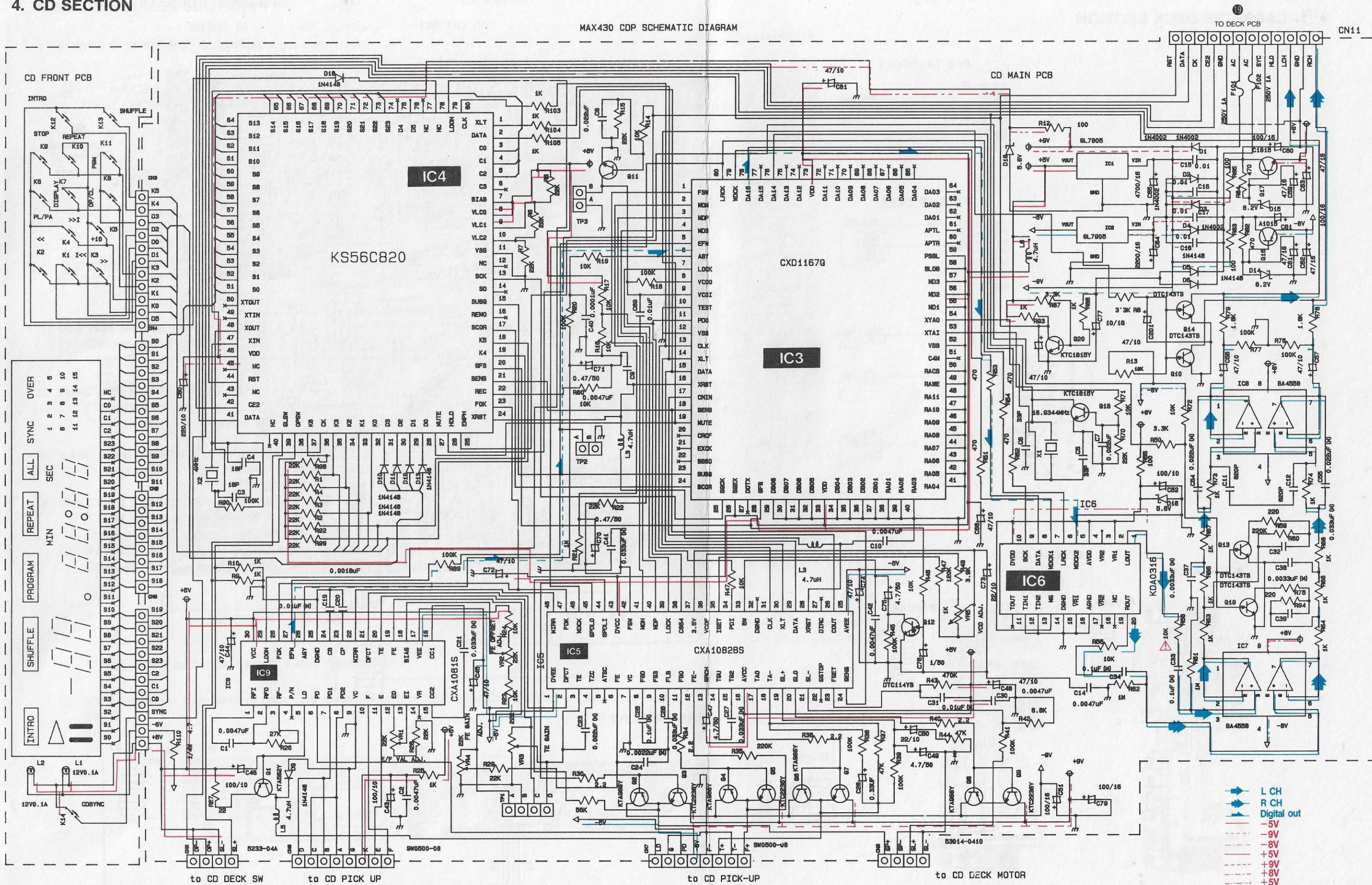
5 TO TUNER
LCD BOARD
(See page 31.)

3. CASSETTE DECK SECTION



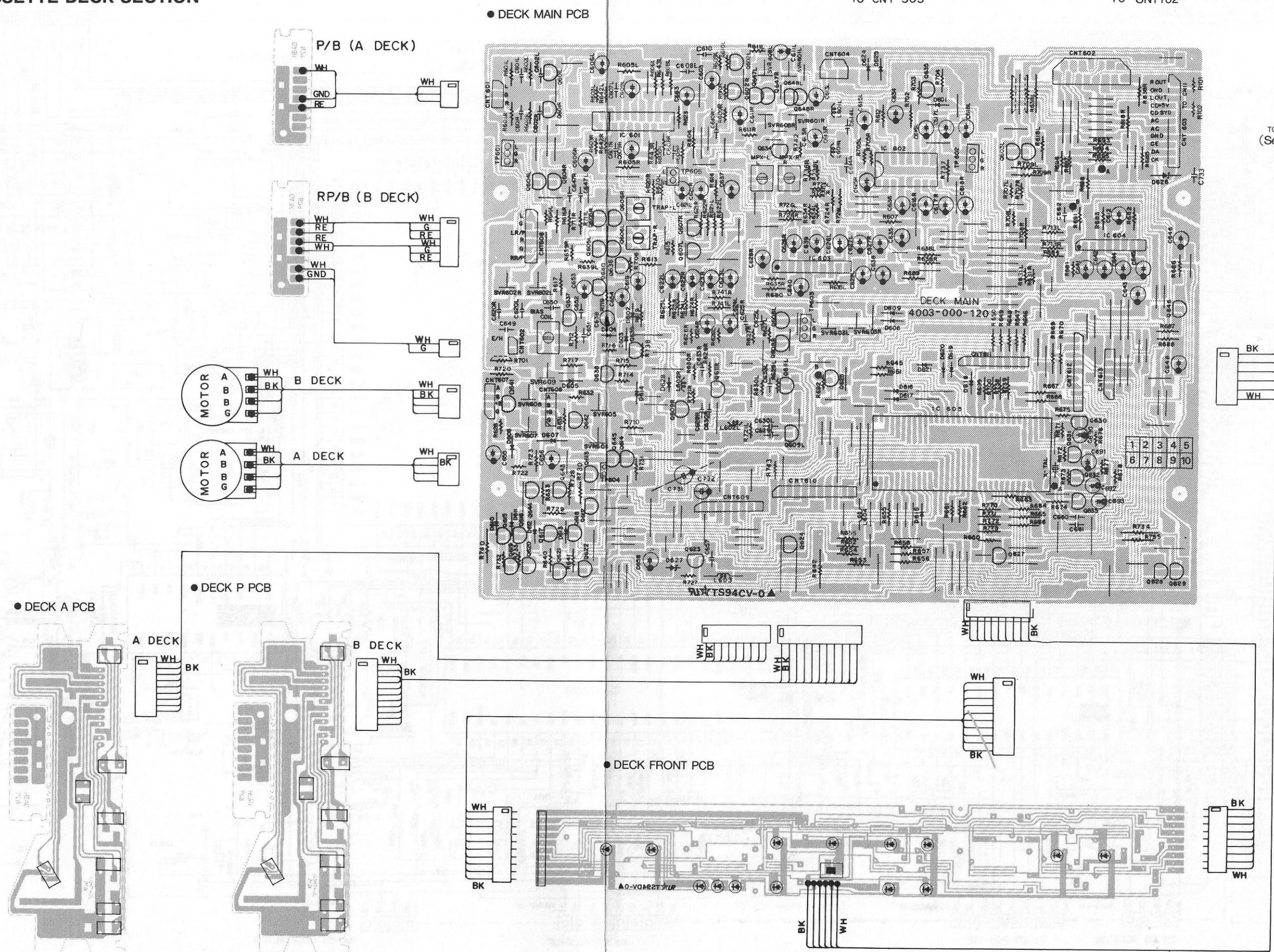
4. CD SECTION

MAX430 CDP SCHEMATIC DIAGRAM



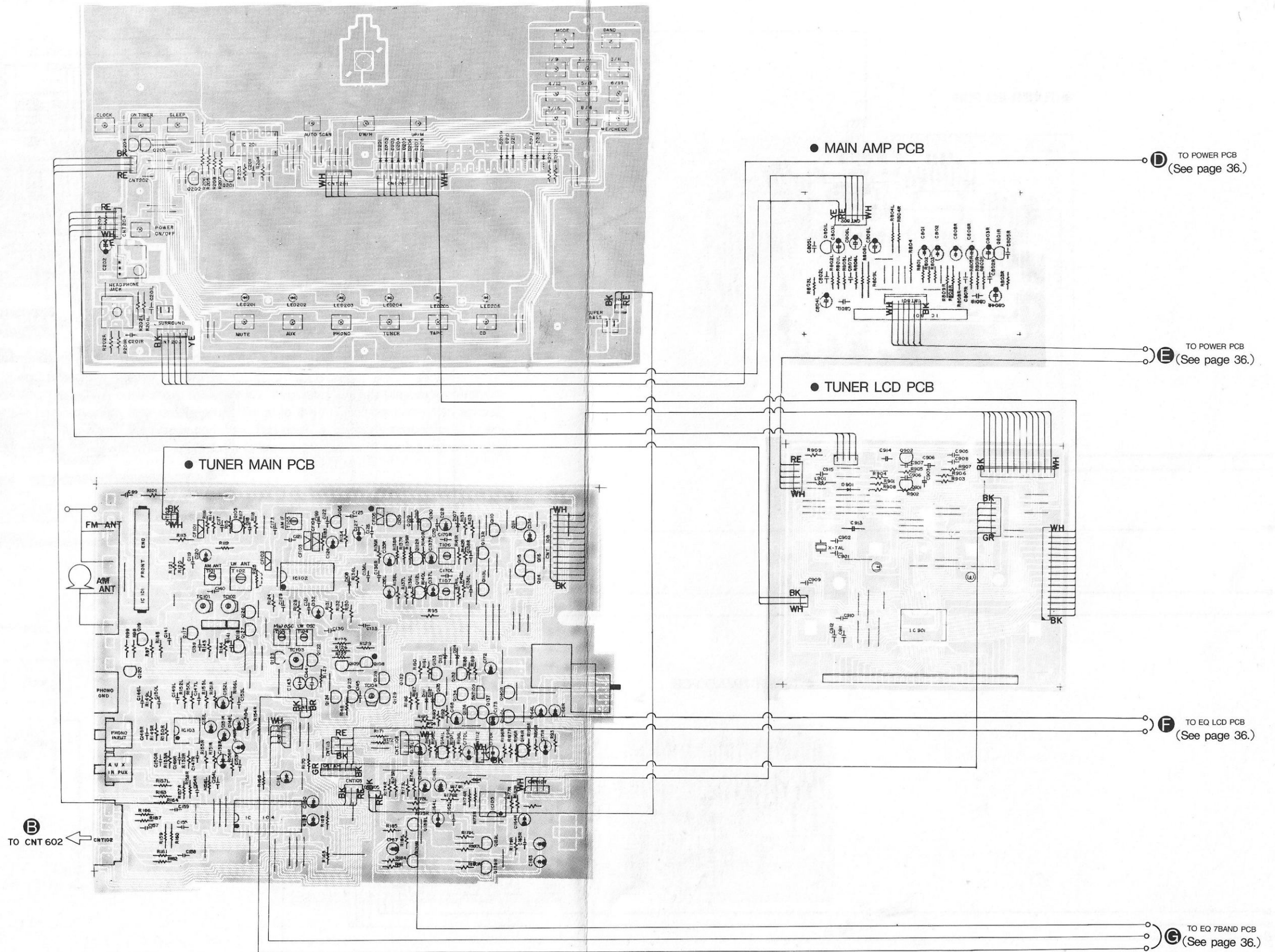
■ WIRING DIAGRAM(PARTS SIDE)

1. CASSETTE DECK SECTION



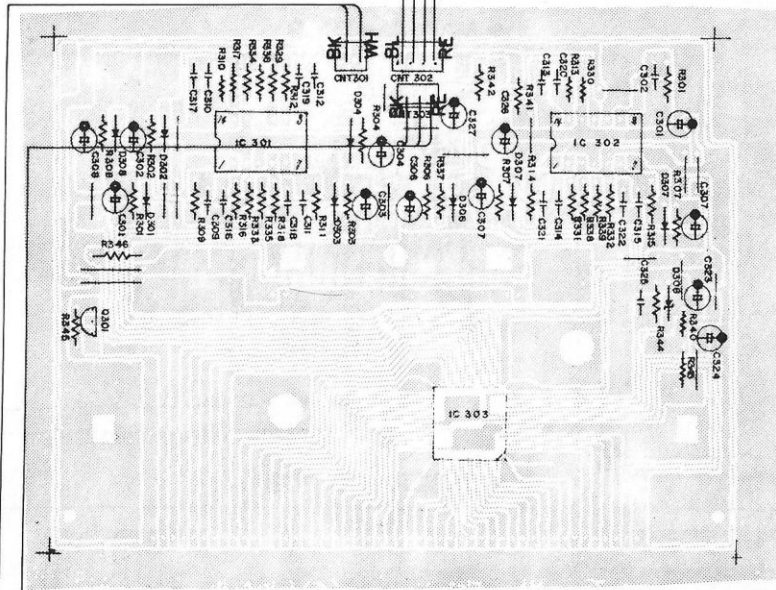
2. TUNER SECTION

- TUNER FRONT PCB

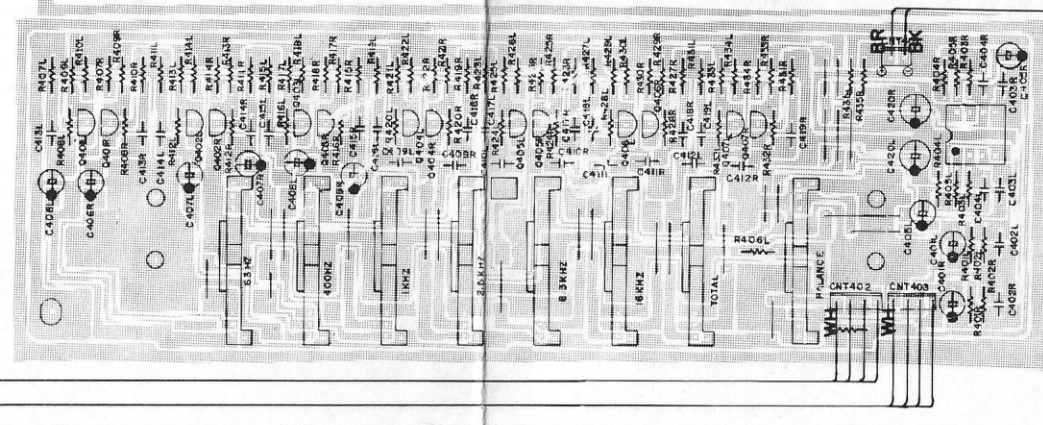


[TUNER SECTION]

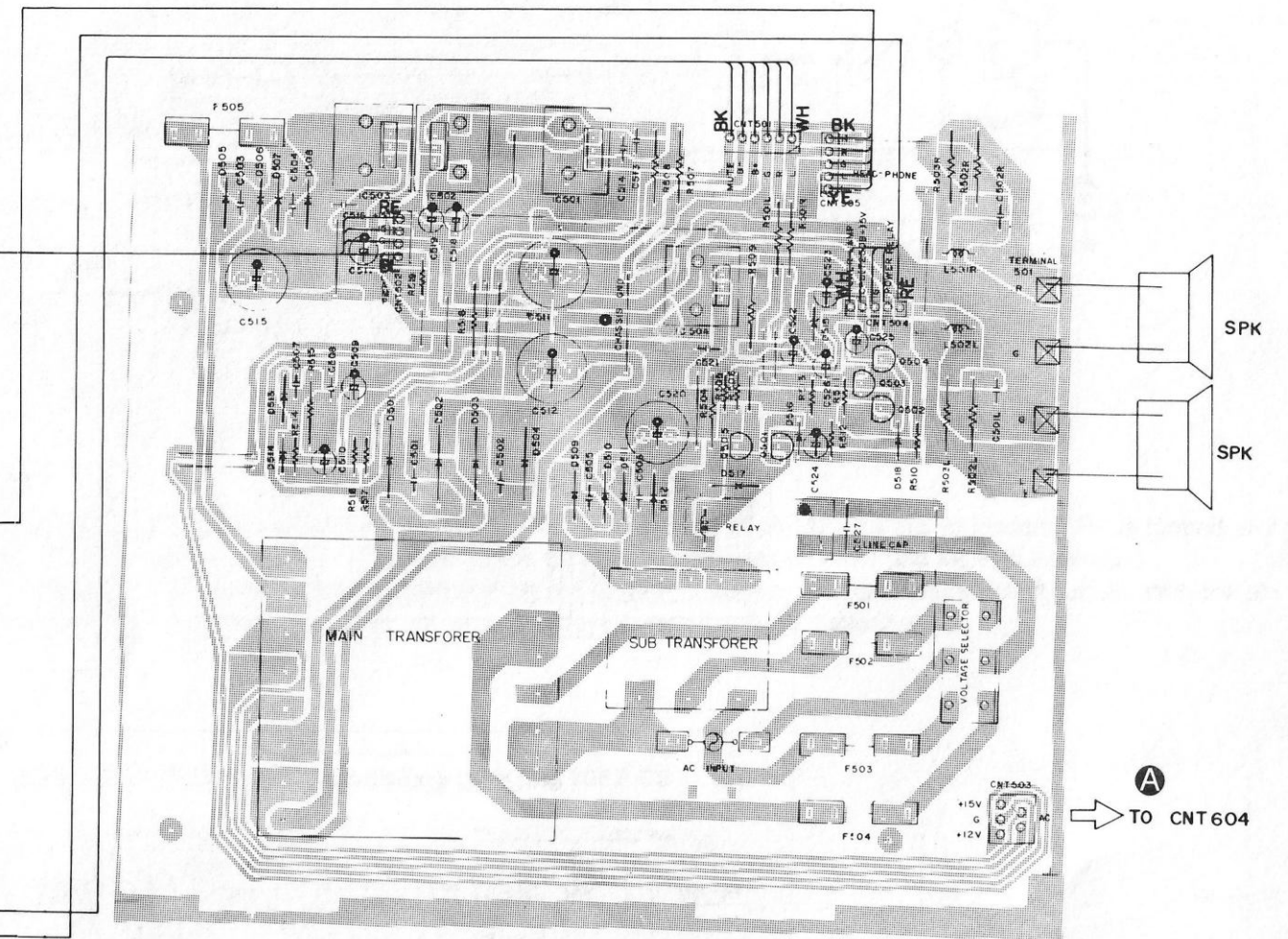
● TUNER EQ PCB

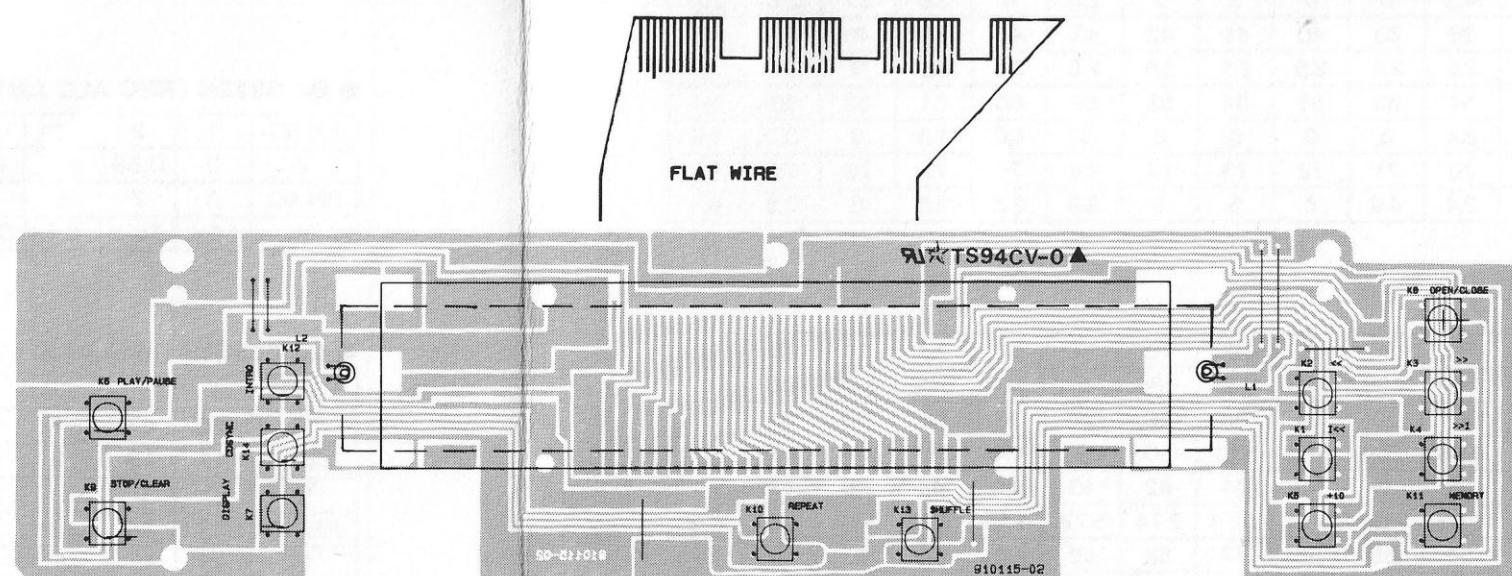
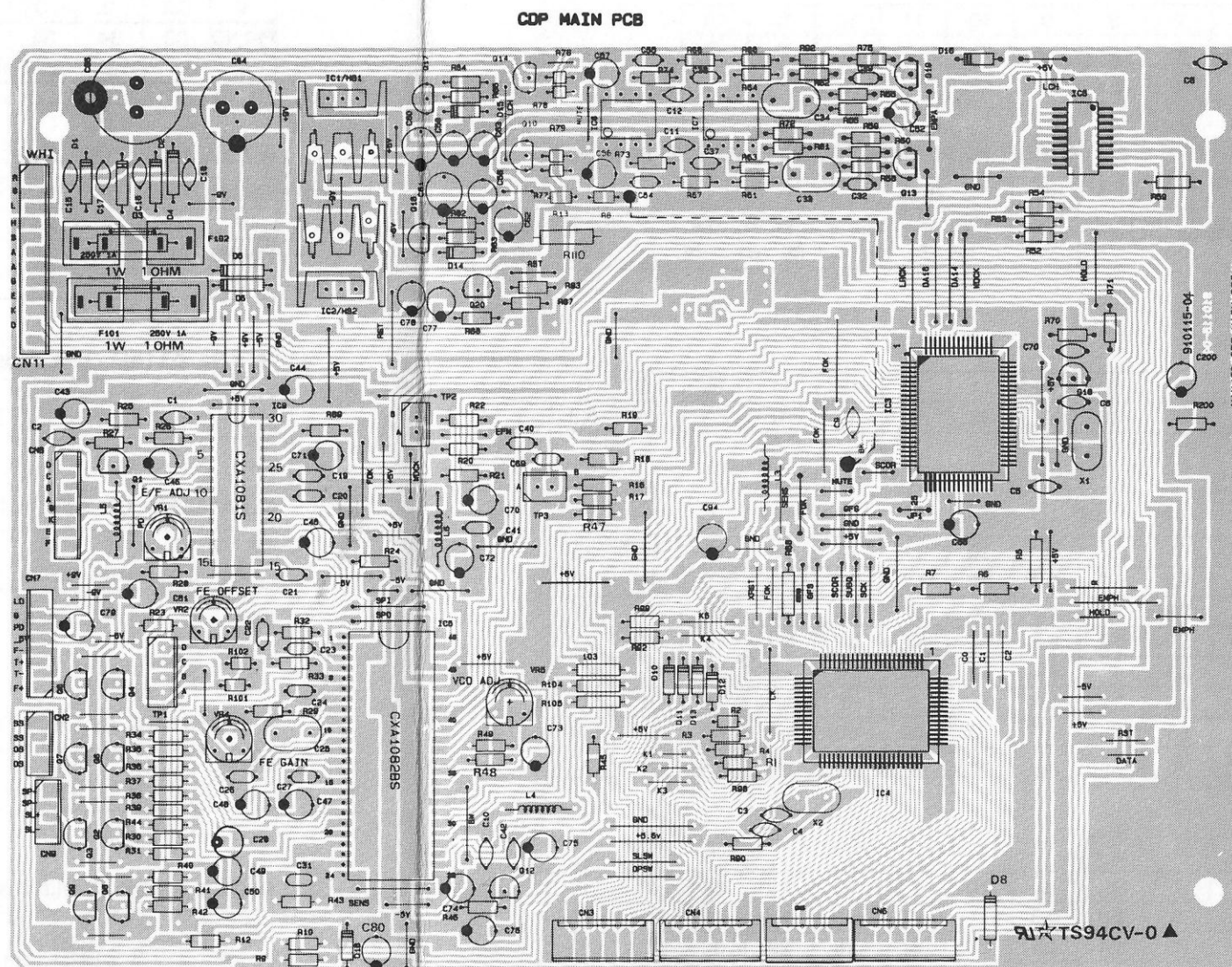


● TUNER 7BAND PCB



● POWER SUPPLY PCB





CDP FRONT PCB

■ IC & TR VOLTAGE CHART

● BA 10324 (OP AMP) : IC 301, 302

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14
V	0	0	0	15	0	0	0	0	0	0	-15	0	0	0

● BA 4558 (OP AMP) : IC 103, 105

PIN NO	1	2	3	4	5	6	7	8
V	0	0	0	-15	0	0	0	15

● REG IC(REGULATOR IC) : IC 501, 502, 503

IC	7815			7915			7812		
V	in	G	out	in	G	out	in	G	out
	35	0	15	35	0	-15	15	0	12

● STK 4142II (POWER IC) : IC 801-1, 2

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
V	-0.18	-0.18	0	0	1.4	5.1	-35	-36	-36	0	36	36	0	-37	1.3	0	0.2	0.2

● LC 7561 (LCD DRIVER IC) : IC 303

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	0
PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
V	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
V	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	0	0	0	0	0	0	0
PIN NO	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
V	0	0	CLK	5.2	CLK	CLK	0	12	0	0	0	5.2	5.2	5.2	5.2	5.2

● CXD 1167Q(DSP) : IC3

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	0	0	0	0	2.3	2.5	0	2.4	2.3	0	3.2	0	4.7	4.8	4.3	4.9
PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
V	0	4.5	5.5	0.4	1.3	4.5	0	0	5	5	2.5	0	2.6	2.7	2.6	2.2
PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
V	5	2.3	0.9	4	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0	0	0
PIN NO	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
V	0	0	2.5	0	2.3	2.4	5	0	5	0	0	1.3	1.3	0	3.7	1.9
PIN NO	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
V	1.9	1.9	5	2.5	2.5	2.4	4.9	5	5	5	2.5	2.5	2.5	0	2.5	2.5

● KS 56C 820(μ-COM) : IC4

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	5.69	0.04	2.49	2.49	2.49	2.49	4.98	4.98	3.32	1.66	0	0.03	5.62	5.73	0.8	0
PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
V	0.08	5.43	5.43	4.98	0.13	1.36	5.38	5.66	5.61	-0.03	0	0.4	5.67	5.64	5.62	5.40
PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
V	5.40	5.40	5.40	5.73	5.24	0.03	0.04	5.74	5.74	5.74	5.73	4.45	-0.02	5.76	2.92	2.98
PIN NO	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
V	2.24	3.09	2.46	2.47	2.46	2.47	2.47	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46
PIN NO	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
V	2.46	2.46	2.46	2.45	2.46	2.46	2.45	2.45	2.45	2.45	5.68	5.68	5.68	0.33	0.03	5.66

● CXA 1082BS (SSP) : IC5

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	-5.05	-4.33	0	0	0	0.05	0	0.03	0	0.01	1.35	0	0.6	0	0	4.99
PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
V	0.2	0	0.03	1.15	0.03	0	-4.08	0.15	-5.05	0.09	4.94	5.66	0.05	5.47	5.47	0
PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
V	2.51	2.51	2.22	2.30	3.51	2.24	4.97	2.61	0	0	4.98	0	1.1	2.48	5.37	0

● CXA 1081S (RF AMP) : IC9

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
V	0	0	2.4	0	4.5	0	0	0	0	12.8	0	0	0	0	-1
PIN NO	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
V	1.2	-5	0.4	0.5	0	-4.2	0	-3.5	0	0	2.5	0	0.2	4.9	5

● KDA 0316N (D/A CONVERTOR IC) : IC6

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
V	2	4.8	0	4.8	4.8	4.8	4.8	4.8	4.8	4.8	0	0	0	4.8	0	0	0	0	0	2

● BA 4558 (OP AMP) : IC7,8

PIN NO	1	2	3	4	5	6	7	8
V	0.06	0.06	0.06	-7.24	0.06	0	0.06	7.16

● GL 7805 ; GL 7905 (REGULATOR IC) : IC1,2

	IC1(GL 7805)	IC2(GL 7905)
IN	10.5	-11.6
G	0	0
OUT	5.01	-5.05

● BA 3416BL (V : VOLTAGE IC) : IC 601

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
V	0	0	0	0	0.6	0.6	0	0	4.7	14	1.9	14.5	6.2	6.3	0	0	0	2.7

● CXA 1101P (DOLBY IC) : IC 602

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	7.5	14.6	7.4	7.4	0	7.5	0.4	7.5	7.5	0.4	7.5	10.6	1.2	7.4	0	0

● BA 3312N (REC ALC AMP) : IC 603

PIN NO	1	2	3	4	5
V	0	0.58	6.8	0.9	0
PIN NO	6	7	8	9	10
V	14.1	14.1	6.6	0.58	0

● LA 2000 (AM SENSOR) : IC 604

PIN NO	1	2	3	4	5
V	2.0	0	2.0	12.6	0
PIN NO	6	7	8	9	
V	0	12.7	0	12.7	

● LC 66508B (MICOM IC) : IC 605

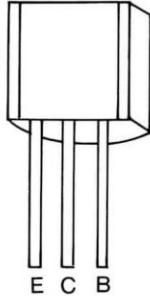
PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
V	4.0	4.7	2.7	3.3	4.68	4.68	4.68	4.49	0	4.7	0	4.7	4.7	4.7	4.7	4.7
PIN NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
V	0	0	4.4	2.2	4.7	4.7	4.7	4.7	0	0	0	0	0	0	0	2.0
PIN NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
V	4.7	4.7	4.7	4.7	4.7	4.7	0	4.7	4.7	4.7	0	0	3.6	3.6	4.2	4.7

IC & TR INTERNAL DIAGRAM

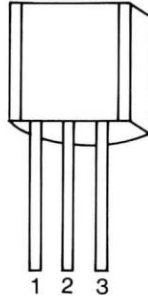
1. MAIN SECTION

● TR

KTC 1959Y
KTA 562
KTA 966Y
KTC 2236Y
DTA 143
DTA 114
DTA 123JS
KTC 380TM
DTC 114
2 SC 1740S
2 SA 933S



● 2 SK 583(FET);Q901, 902.

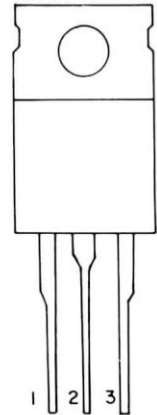


1. DRAIN
2. SOURCE
3. GATE

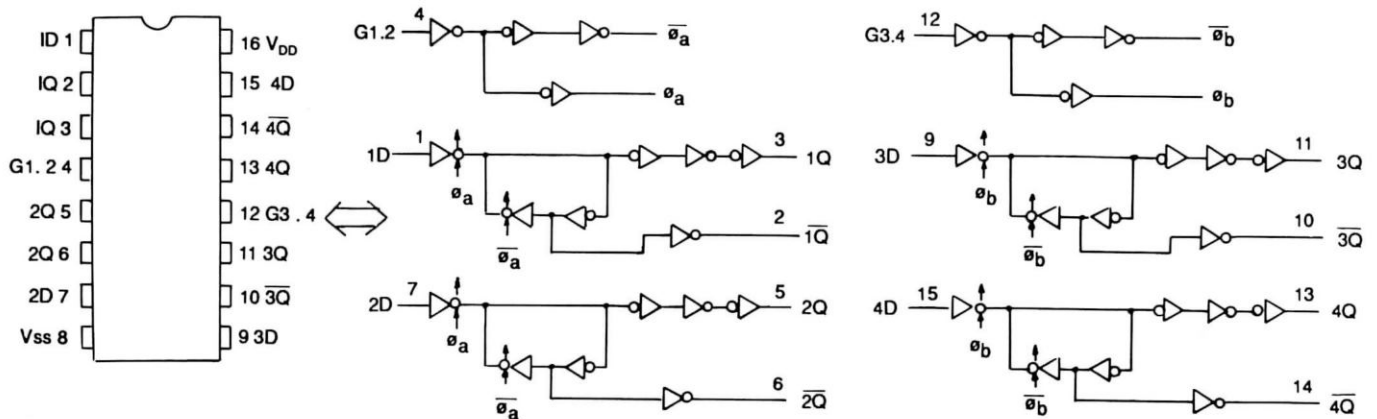
● GL 7812(REGULATOR IC) : IC 502, 503 ● GL 7815(REGULATOR IC) : IC 501

* GL 7812→MC7812C
* GL 7815→MC78M15

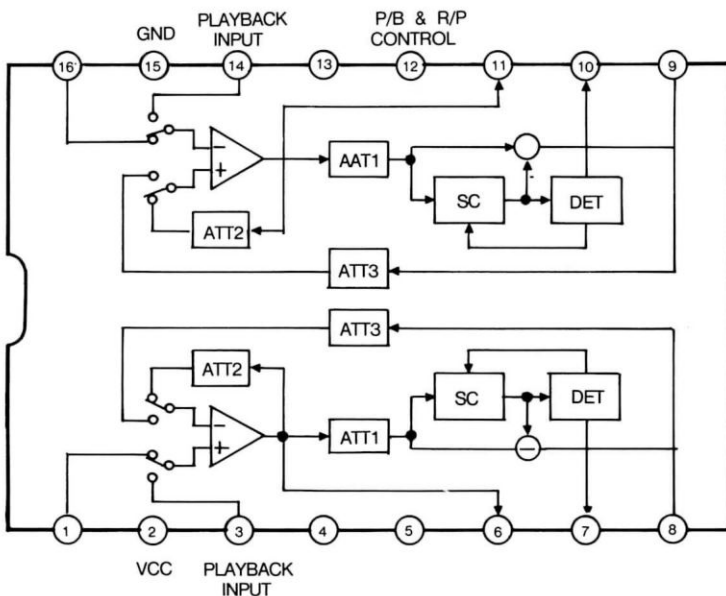
1. IN
2. GND
3. OUT



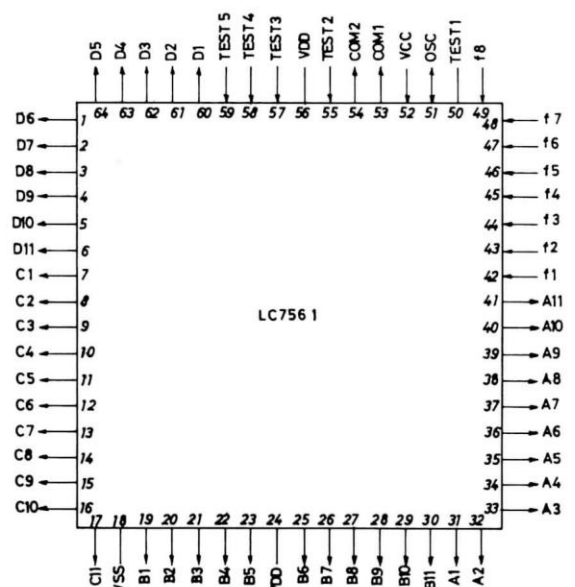
● LC 74HC 375/TC 74HC 375(FUNCTION LED S/W) : IC 201



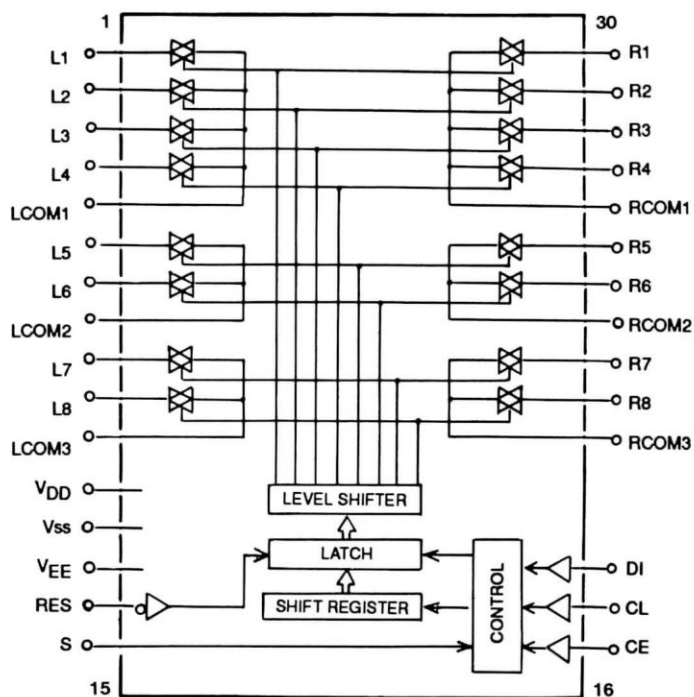
● CXA 1101P(DOLBY IC);IC 602



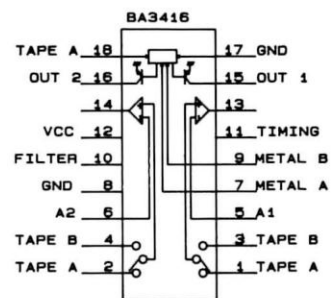
● LC 7561(LCD DRIVER IC) : IC303



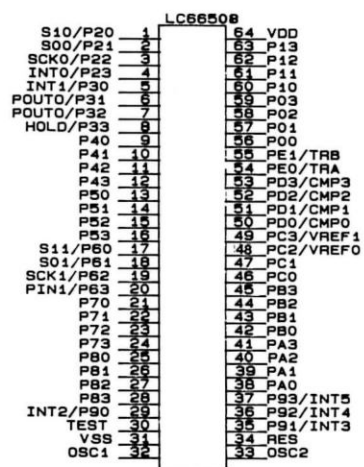
● LC 7821(FUNCTION S/W IC) : IC 104



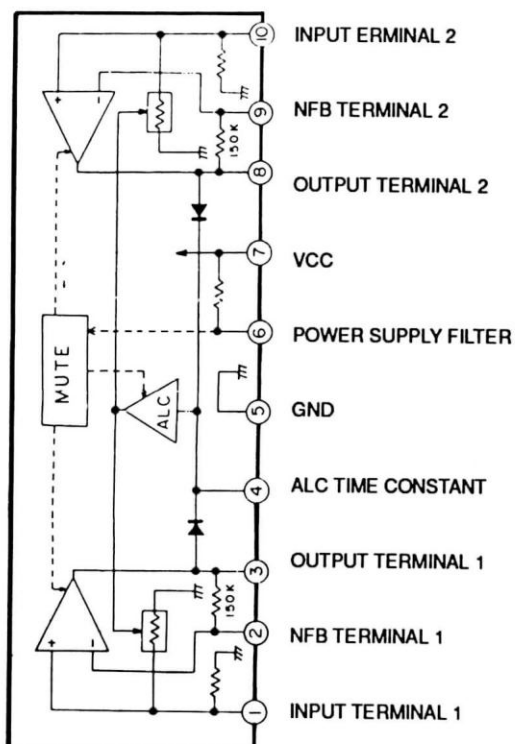
● BA 3416(PLAY BACK AMP) : IC 601



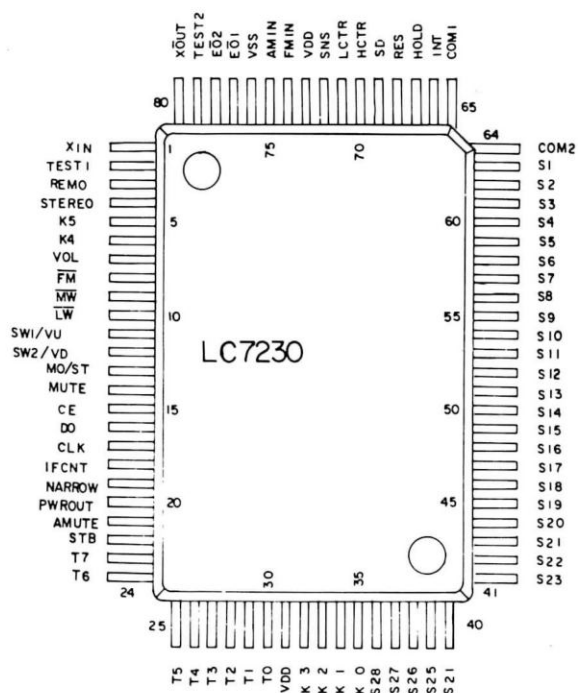
● LC 66508(MICOM IC) : IC 605



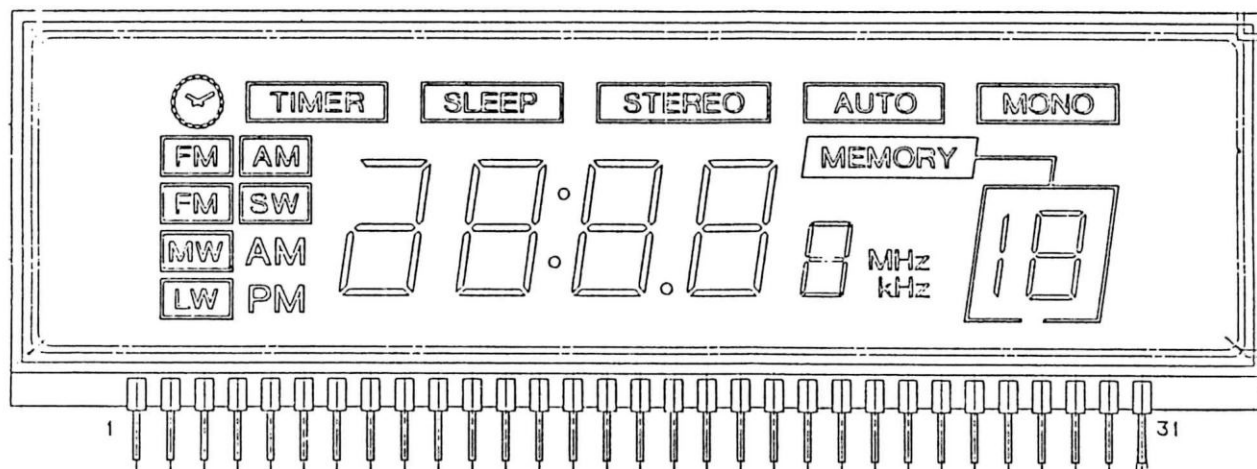
● BA3312N(REC ALC AMP) : IC603



● LC 7230(PLL IC) : IC 901

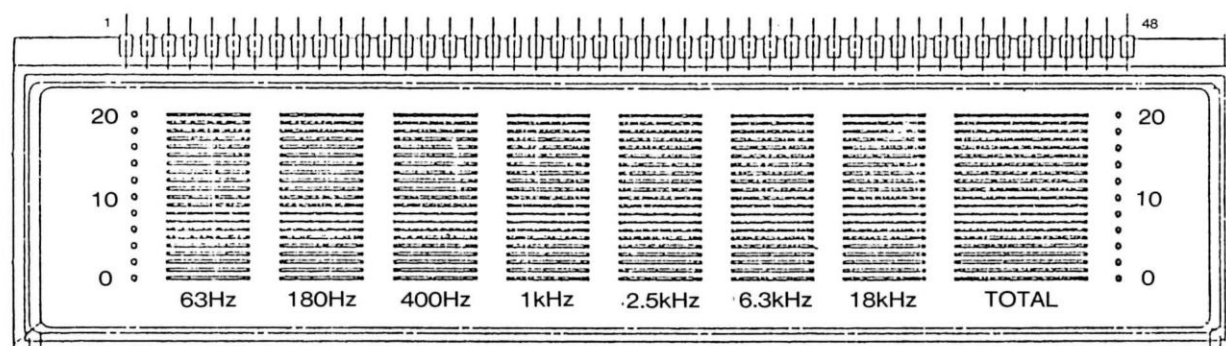


● TUNER LCD



NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
COM1	COM	—	AM	MW	SW	STEREO	PM	MEMORY BER	MONO	1b	1c	2f	2e	2d	2a	3f
COM2	—	COM	FM	FM	LW	AM	—	AUTO	—	ladcg	COL	2b	2g	2c	—	3b
NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
COM1	3e	3d	3a	4f	4e	4d	4a	5g	5be	KHz	ⓧ TIMER	7f	7e	7d	7a	
COM2	3g	3c	—	4b	4g	4c	—	5acdf	—	MHz DP	k6	7b	7g	7c	SLEEP	

● EQ LCD

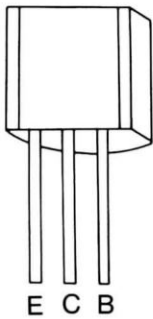


NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
COM1	COM	—	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	C11	C10	C9	
COM2		COM	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	B1	D11	D10	D9	
NO	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
COM1	C8	C7	C6	C5	C4	C3	C2	C1	E11	E10	E9	E8	E7	E6	E5	E4	
COM2	D8	D7	D6	D5	D4	D3	D2	D1	F11	F10	F9	F8	F7	F6	F5	F4	
NO	33	34	35	36	37	38	39	40	41	42	43	44	45	46	NO.	47	48
COM1	E3	E2	E1	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1	COM3	* 1	COM
COM2	F3	F2	F1	H11	H10	H9	H8	H7	H6	H5	H4	H3	H2	H1			

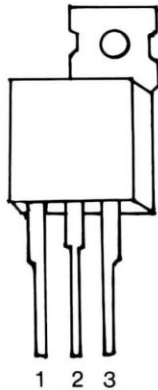
2. CD SECTION

● TR

KTA 562Y
KTA 966Y
KTC 2236Y
KTC 1815Y
DTC 143TS

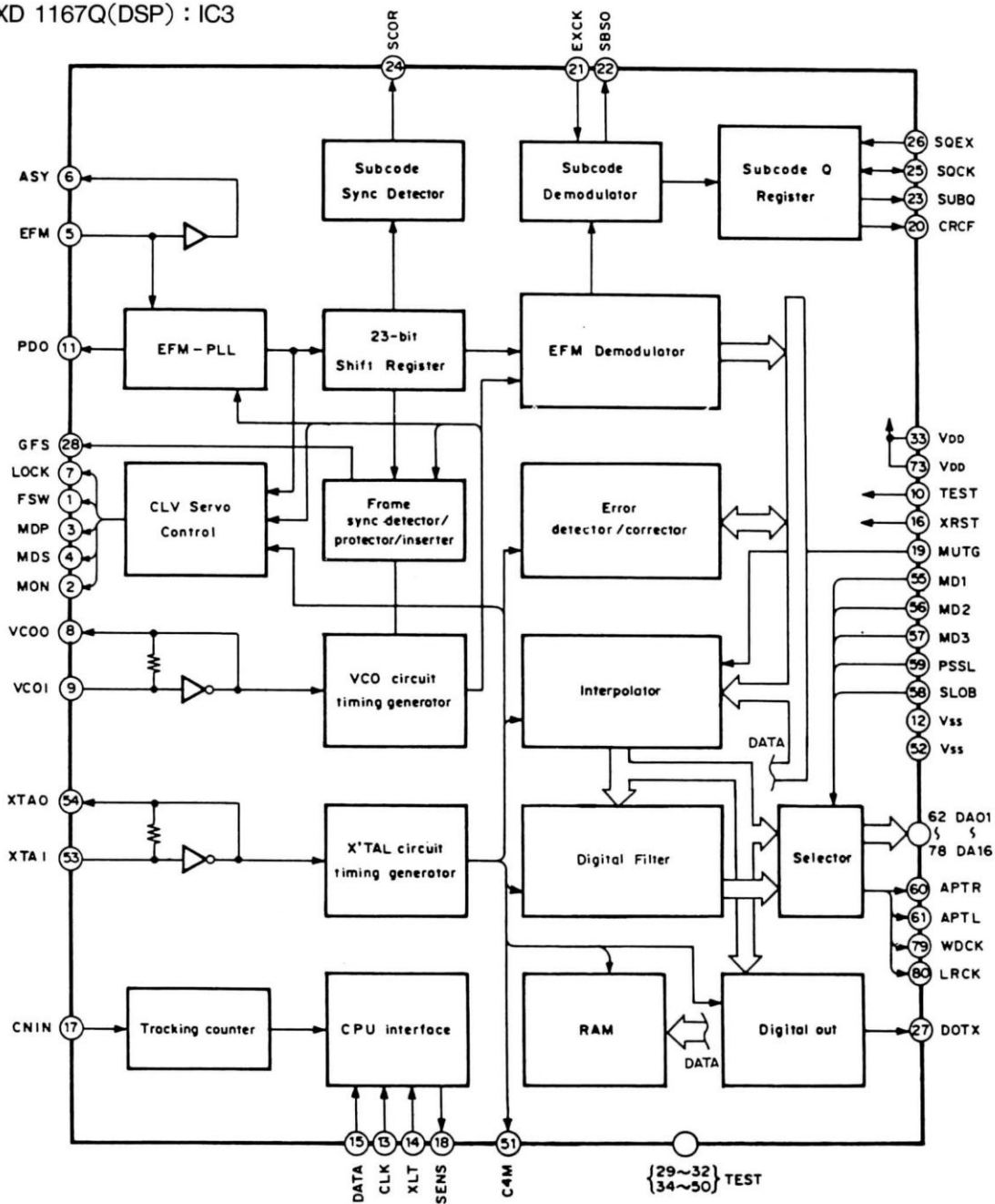


● GL 7905/MC7905C(REGULATOR IC) : IC2 GL 7805/MC7805C(REGULATOR IC) : IC1

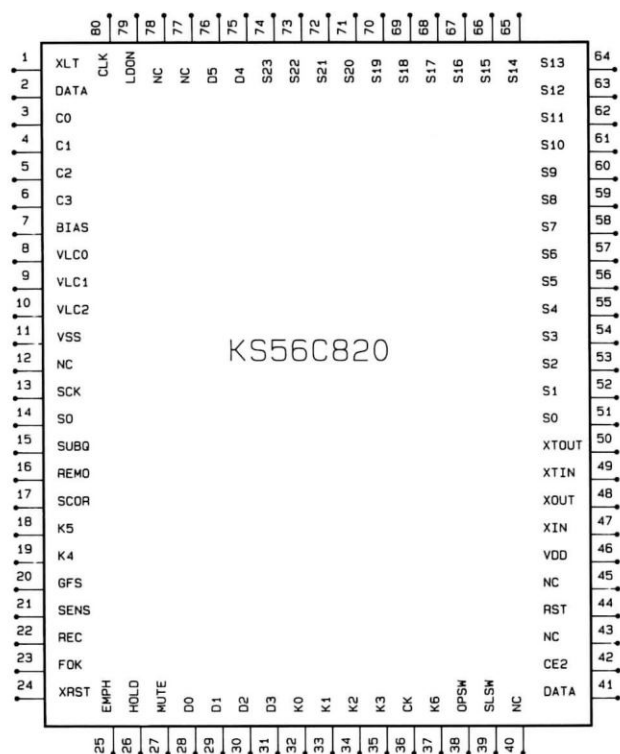


PIN	1	2	3
IC			
GL 7905	GND	IN	OUT
GL 7805	IN	GND	OUT

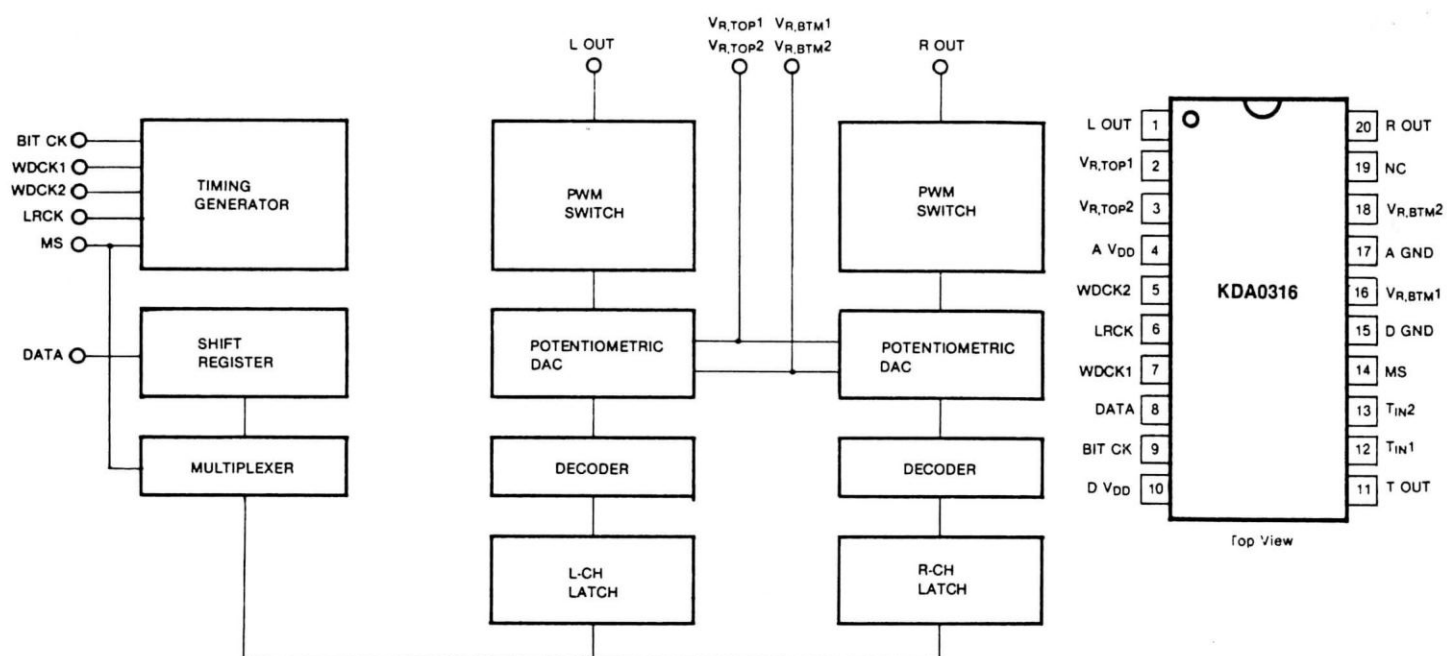
● CXD 1167Q(DSP) : IC3



● KS 56C 820(μ-COM) : IC4

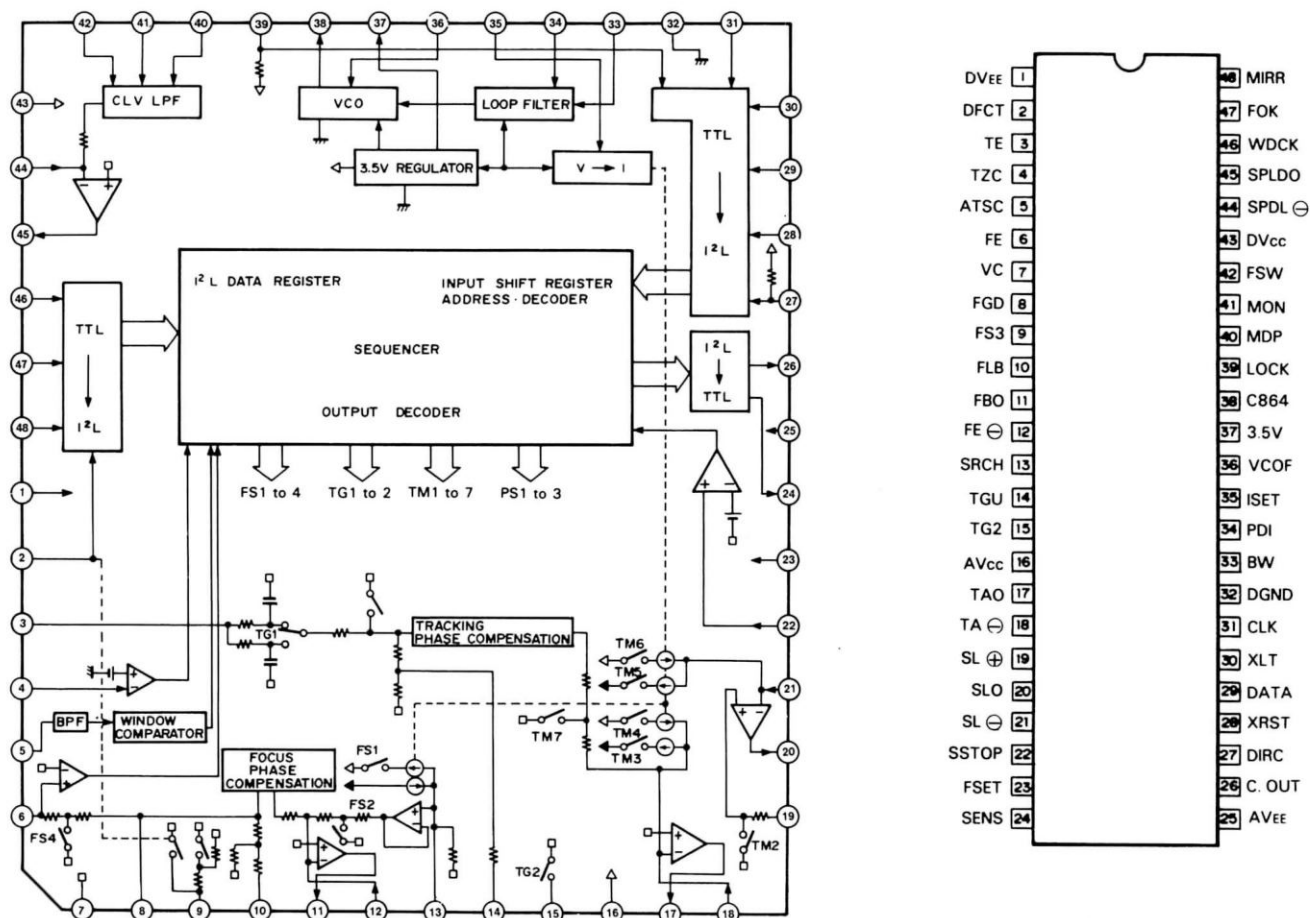


● KDA 0316 N (D/A CONVERTOR IC) : IC6

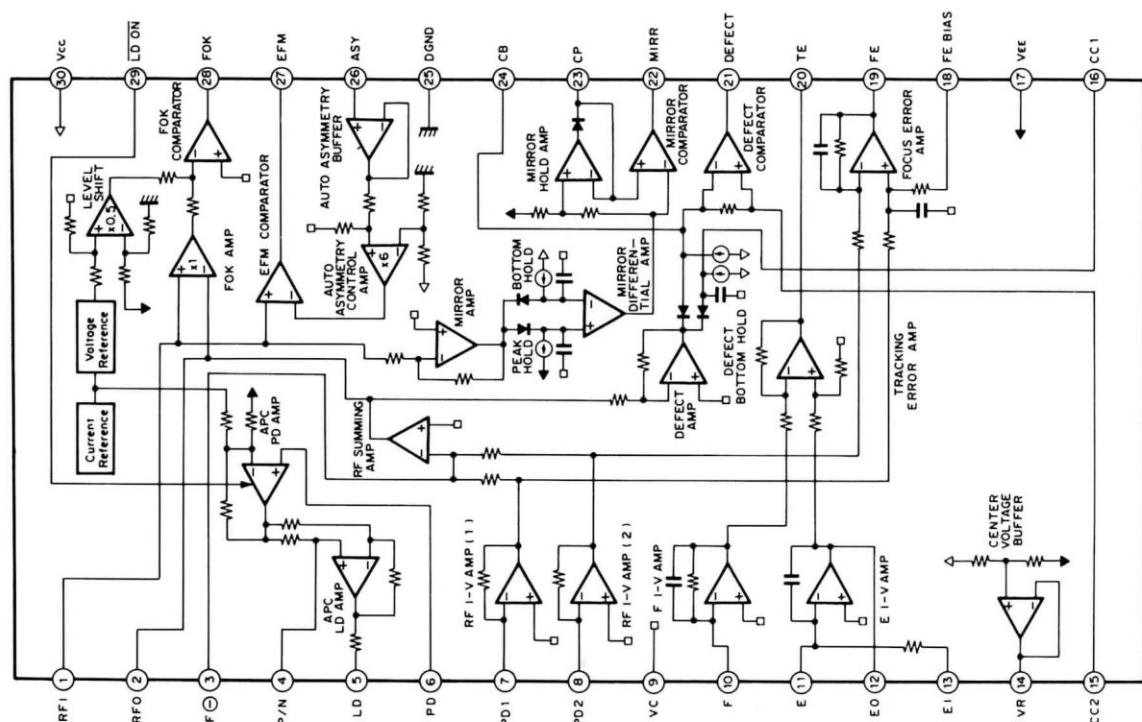


● BA 4558/MC4558C(OP AMP) : IC 7.8 ➡ see the main parts.

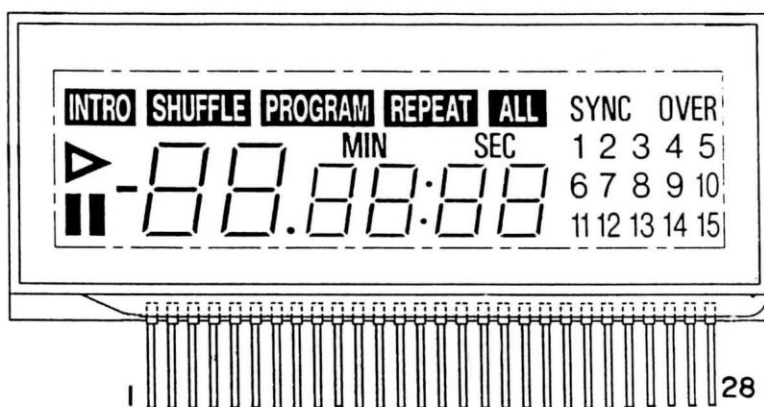
● CXA 1082 BS(SERVO SIGNAL PROCESSOR IC) : IC5



● CXA 1081S(RF AMP) : IC9



● CD LCD(LCD1)

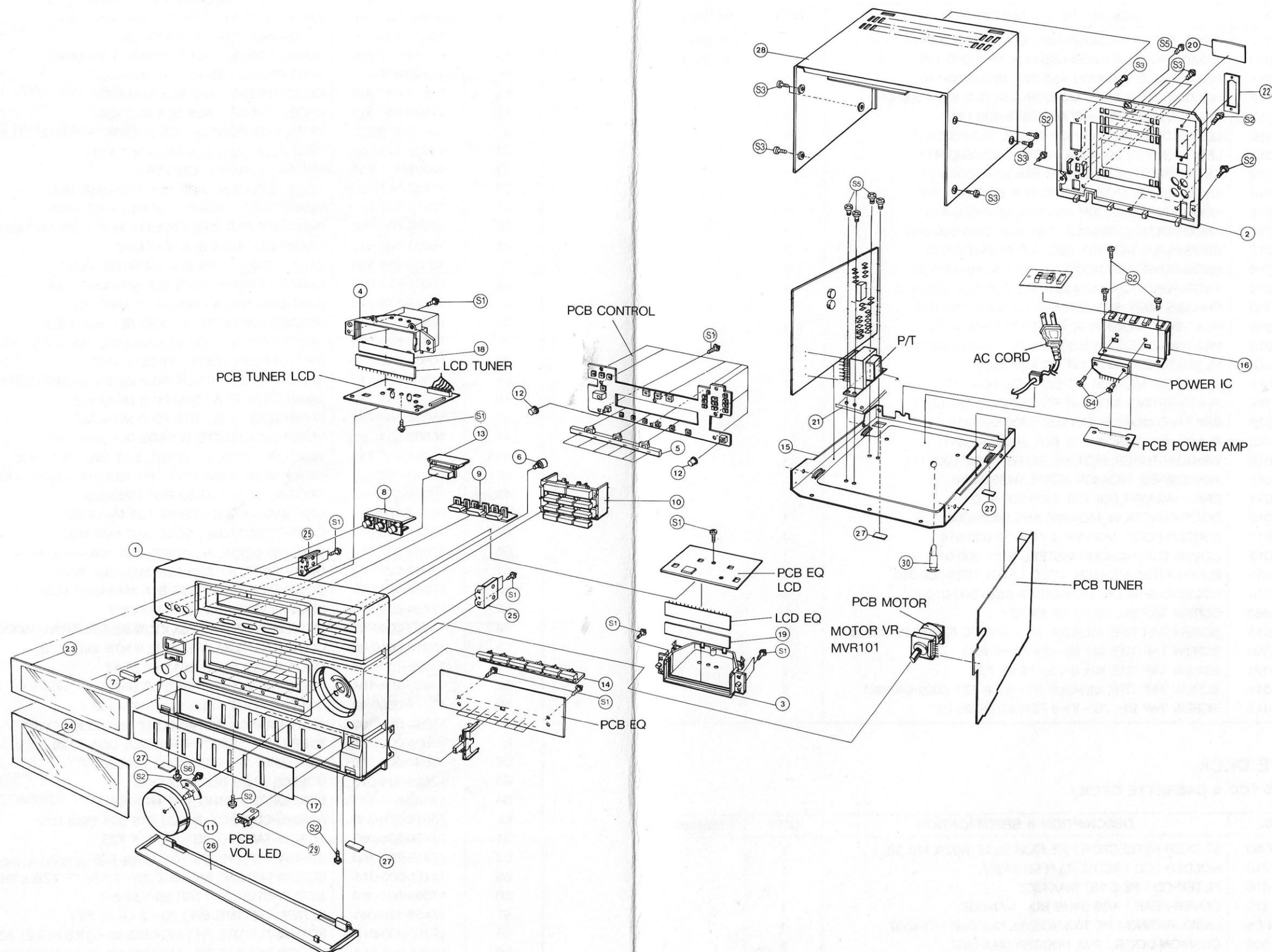


No.	COM.1	COM.2	COM.3	No.	COM.1	COM.2	COM.3
1	COM.1			15	4a	4g	4d
2		COM.2		16	:	4b	4c
3			COM.3	17	ALL	5f	5e
4	INTRO	▷		18	5a	5g	5c
5	—	1f	1e	19	SEC	5b	5c
6	1a	1g	2d	20	SYNC	6f	6e
7		1b	1c	21	6a	6g	6d
8	SHUFFLE	2f	2e	22	OVER	6b	6c
9	2a	2g	2d	23	1	6	11
10	.	2b	2c	24	2	7	12
11	PROGRAM	3f	3e	25	3	8	13
12	3a	3g	3d	26	4	9	14
13	MIN	3b	3c	27	5	10	15
14	REPEAT	4f	4e	28	NC		

EXPLODED VIEW & PARTS LIST

1. AMP & TUNER SECTION

● EXPLODED VIEW



● MECHANICAL PARTS (AMP & TUNER)

NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
1	IJU16-000-011	PANEL-FRONT; MQ430R HIPS BLK 048501000111	1	OPTIONAL
2	IJU16-400-020	COVER-REAR; MQ430R ABS BLK 6001-000-110	1	OPTIONAL
3	IJU16-400-011	HOLDER-LCD; MQ430R ABS BLK 8523-000-110	1	
4	IJU16-400-012	HOLDER-LCD,TUNER; MQ430R ABS BLK 8523-000-210	1	
5	IJU16-400-013	HOLDER-LCD; MQ430R ABS 6515-000-110	1	
6	IJU18-000-016	LENS-INDICATOR; MQ430R ACRYL 8555-000-510	6	
7	IJU18-000-017	LENS-SENSOR; MQ430R ACRYL 048505000411	1	
8	IJU17-600-013	KNOB-TIMER; MQ430R ABS BLK 8545-000-210	1	
9	IJU17-600-014	KNOB-TUNER; MQ430R ABS BLK 8545-000-310	1	
10	IJU17-600-015	KNOB-BAND; MQ430R ABS BLK 8545-000-410	1	
11	IJU17-600-016	KNOB-VOLUME; MQ430R ABS BLK 8545-000-510	1	
12	IJU17-600-017	KNOB-PUSH; MQ430R ABS BLK 8545-000-610	2	
13	IJU17-600-018	KNOB-POWER; MQ430R ABS BLK 8545-000-710	1	
14	IJU17-600-019	KNOB-FUNCTION; MQ430R ABS BLK 8545-000-810	1	
15	IJU16-100-010	CHASSIS-MAIN; MQ430R EGI 1.0T 6122-600-010	1	
16	IJU15-600-010	HEAT-SINK; MQ430R AL SHEET 7523-000-010	1	
17	IJU17-800-010	INLAY-MASK, EQ; MQ430R PC 0.5T 048535000311	1	
18	IJU18-000-013	FILTER-TUNER; MQ430R PC 1.0T 8535-000-110	1	
19	IJU18-000-011	FILTER-EQ; MQ430R PC 1.0T 8535-000-210	1	
20	IJU18-000-014	PLATE-RATING; MQ430R PC 0.5T 048535000011	1	
21	IJU16-600-010	BRKT-P/T; MQ430R EGI 0.8T 6505-000-310	1	
22	IJU16-800-013	PLATE ANT; MQ430R PE BLK 048535000111	1	
23	IJU17-600-010	WINDOW-TUNER; MQ430R ACRYL 048555000211	1	
24	IJU17-600-011	WINDOW-EQ; MQ430R ACRYL 048555000311	1	
25	IJU16-600-011	BRKT; MQ430R EGI 1.0T 6505-000-210	2	
26	IJU17-600-012	DOOR-FUNCTION; MQ430R ABS 048563000112	1	
27	IJU16-800-011	RUBBER-FOOT; MQ430R EVA 6715-000-010	4	
28	IJU16-400-019	COVER-TOP; MQ430R V/STEEL 6121-000-010	1	
29	IJU17-600-031	PUSH-LATCH; MQ430R KIFCO LA701 7325-000-010	1	
30	IJU16-800-014	LOCKING-SPACER; MQ430R PA 6525-200-010	1	
S1	17458-130-081	SCREW TAP BH; 2S-3×8 FE FZY	24	
S2	IJU17-000-010	SCREW TAP TITE; MQ430R 3S-3×6 FE FZB 8019-630-061	13	
S3	17458-230-103	SCREW TAP TITE BH; 2S-3×10 FE FZB	7	
S4	17458-130-121	SCREW TAP TITE BH; B-3×12 FE FZY	2	
S5	IJU17-000-011	SCREW TAP TITE; MQ430R 3S-4×6 FZY 8009-640-061	6	
S6	IJU17-000-012	SCREW TAP BH; 2S-2×6 FZN 8109-220-061	1	

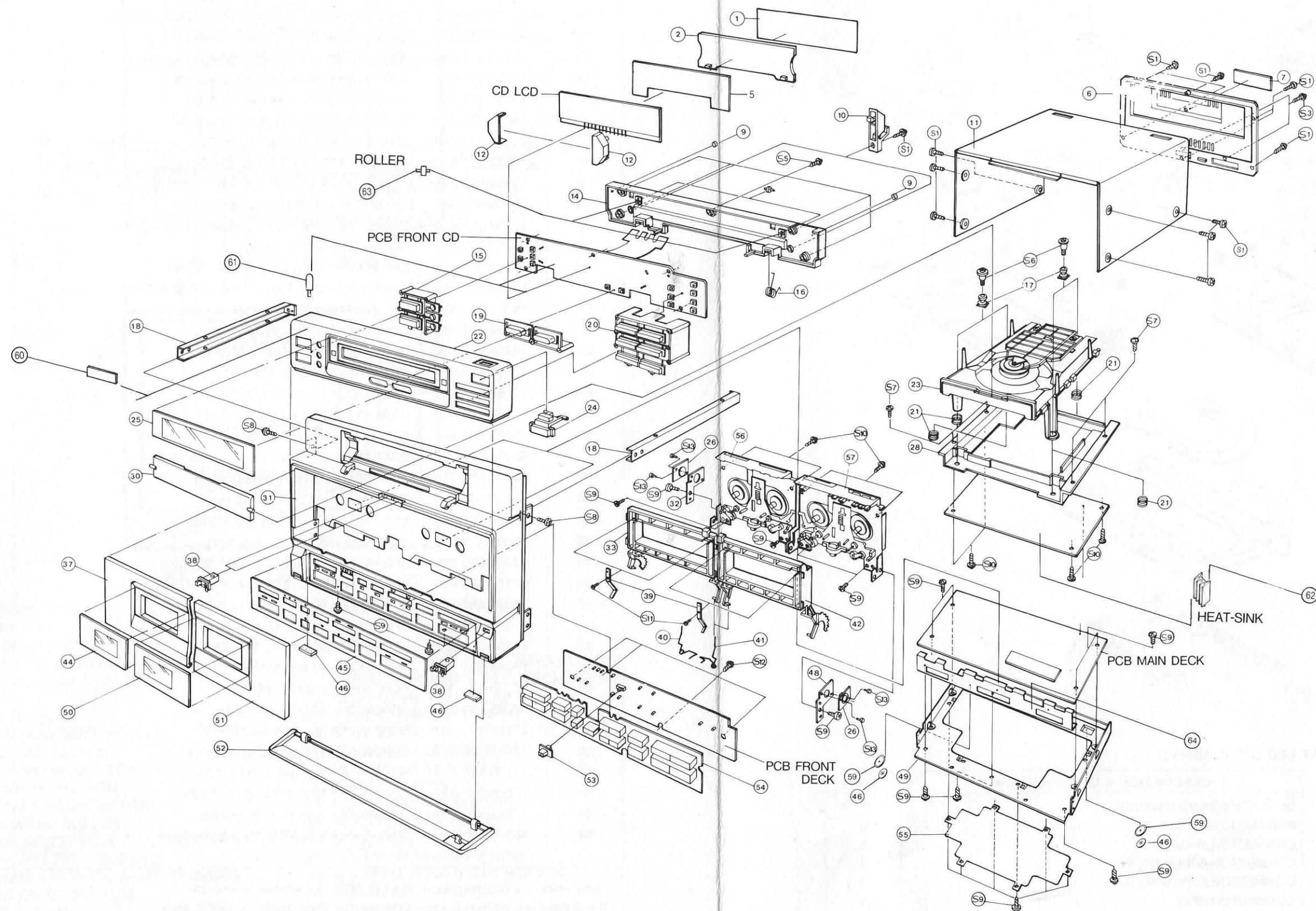
2. CD & CASSETTE DECK

● MECHANICAL PARTS (CD & CASSETTE DECK)

NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
1	14504-0027-00	STICKER-REFLECTOR : PE FILM T0.12 W22/L115 SIL	1	
2	16603-511-710	HOLDER-LCD : ACRYL CLR MAX430Z	1	
5	17654-567-410	FILTER-CD : PE 0.15T MAX430Z	1	
6	16031-503-210	COVER-REAR : ABS 94HB BLK, MQ430Z	1	
7	14524-0004-05	LABEL-RATING : PE T0.3 W29.6/L79.6 BLK MQ-430Z	1	
9	16174-504-500	CUSHION-DOOR : EVA RUBBER MAX430Z	2	
10	17624-638-910	GUIDE-DOOR : ACETAL BLK MAX430Z	2	
11	16131-501-210	CABINET-TOP : VCM0.8T MAX430Z	1	
12	13314-0011-00	CAP-LAMP : SECC T0.3 SIL MAX430Z	2	

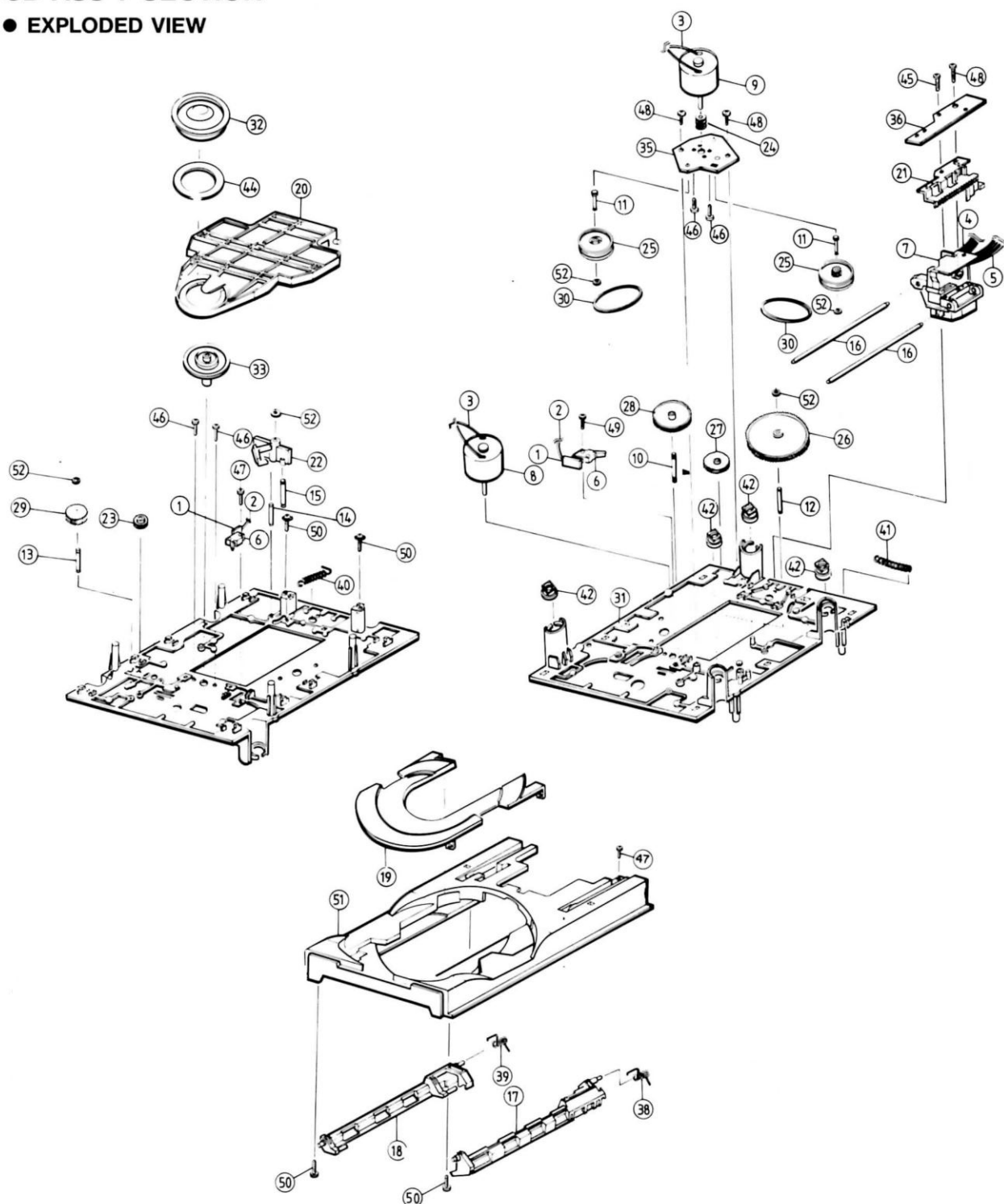
NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
14	16032-504-610	COVER-CD PANEL : HIPS BLK MAX430Z CIP	1	
15	17623-587-620	KNOB-CD PLAY : ABS BLK MAX430Z AKAI	1	
16	16674-568-310	CD-SPRING : SUS PI0.8 MQ430Z	1	
17	16804-517-830	RUBBER-DECK : BUTYL RUBBER MAX430Z	4	
18	16623-617-810	BRKT-FRAME : SBHG 1.0T MAX430Z	2	
19	17624-638-710	KNOB-REPEAT : ABS BLK MAX430Z	1	
20	17623-587-510	KNOB-CD SKIP : ABS BLK MAX430Z	1	
21	16674-570-330	SPRING-CD FOOT, A : CS STS304 PI0.6 D12, L17.5 6.5/180	3	
22	16002-518-930	PANEL-CD : ABS BLK MAX430Z AKAI	1	
23	14929-421-010	DECK-CD(DRAW) : CMS-55/A	1	
24	17623-587-720	KNOB-CD OPEN : ABS BLK MAX430Z AKAI	1	
25	17654-567-320	WINDOW CD : ACRYL 2.0T MAX430Z AKAI	1	
26	12664-0001-00	DAMPER-GEAR SMA : ACETAL BLK 110G MAX430Z	2	
28	16021-506-010	FRAME-CD : HIPS BLK MAX430Z	1	
30	16033-506-530	COVER TRAY : ABS BLK MAX430Z AKAI	1	
31	16001-613-830	CABINET-FRONT : HIPS BLK MAX430Z AKAI	1	
32	16624-578-110	BRKT-DAMPER, A : SBHG1.0T MAX430Z	1	
33	16602-504-010	HOLDER-CASSETTE, A : ABS BLK MAX430Z	1	
37	17643-529-750	DOOR-CASS, A : ABS BLK MAX430Z AKAI	1	
38	16604-538-210	SWITCH-PUSH LOOK : KIFCO LA701	3	
39	16604-528-110	SPRING-TAPE : PS SUS TO.3 W3.8/233 MAX430Z	4	
40	16674-568-210	SPRING-DOOR, A : STS PI1.0 MAX430Z	1	
41	16674-568-220	SPRING-DOOR, B : STS PI1.0 MAX430Z	1	
42	16602-504-020	HOLDER-CASSETTE, B : ABS BLK MAX430Z	1	
44	17654-567-250	WINDOW-DOOR, A : ACRYL 2.0T MAX430Z AKAI	1	
45	14013-0002-00	INLAY DECK, FUNCTION : PC T0.5 TRP EMOSSING TRP	1	
46	13004-0002-00	FOOT-REBBER : IIR 60 BLK MAX430Z	4	
48	16624-578-120	BRKT-DAMPER, B : SBHG 1.0T MAX430Z	1	
49	16121-505-010	CABINET-BOTTOM : SECC 0.8T MAX430Z	1	
50	17654-567-260	WINDOW-DOOR, B : ACRYL 2.0T MAX430Z AKAI	1	
51	17643-529-760	DOOR-CASS, B : ABS BLK MAX430Z AKAI	1	
52	17643-529-630	DOOR-FUNCTION : ABS BLK MAX430Z AKAI	1	
53	17624-638-810	KNOB-SLIDE : ABS BLK MAX430Z	1	
54	14083-0044-01	BUTTON-CONTROL : SILICON RUBBER GRY MAX430Z AKAI	1	
55	13313-0010-00	COVER-BOTTOM : SECC T0.8 NTR MAX430Z	1	
56	14929-104-105	DECK AUDIO : ADR 1911 FR PLAY	1	
57	14929-104-104	DECK AUDIO : ADR 1910 FR REC	1	
59	13324-0006-00	HOLDER-FOOT : ABS BLK MAX430Z	4	
60	14013-0001-02	INLAY-BRAND : SIL MAX430Z AKAI BLK COATING	1	
61	10804-0001-00	TUBE-LAMP : SILICON RUBBER OD4 T0.25 L2	1	
62	15684-507-610	HEAT-SINK : AL EXTR WHT 30M, MQ6T	1	
63	17624-639-010	ROLLER : ABS BLK MAX430Z	2	
64	16623-617-710	BRKT-DECK : SBHG 1.0T MAX430Z	1	
65	16674-570-340	SPRING-CD FOOT, B : CS STS 304 PI0.6 D12	1	
S1	17458-230-083	SCREW TAP BH ; 2S-3×8 FF FZB	15	
S3	17458-230-103	SCREW TAP BH ; 2S-3×10 FF FZB	2	
S5	IJU17-000-014	SCREW-TAP BH ; MQ430Z 2S-3×14 FF FZB 8109-430-143	5	
S6	17094-504-310	SCREW-STUD(B) ; TAP 2S-3×8	4	
S7	17458-130-081	SCREW TAP TITE BH ; 2S-3×8 FF FZY	4	
S8	IJU17-000-015	SCREW-TAP TITE FH ; MQ430Z 3S-3×6 FF FZY 8029-630-061	2	
S9	IJU17-000-016	SCREW-TAP TITE BH ; MQ430Z 3S-3×6 FF FZY 8019-630-061	21	
S10	17158-530-069	SCREW-TAP BH ; MQ430Z 2S-3×6 FF FZY	10	
S11	IJU17-000-017	SCREW-TAP BH ; MQ430Z 2S-2×6 FF FZN 8109-220-061	4	
S12	17458-230-083	SCREW TAP BH ; MQ430Z 2S-3×8 FF FZB	4	
S13	IJU17-000-018	SCREW-MBH ; MQ430Z 3S-2×6 FF FZN 8009-120-051	4	

● EXPLODED VIEW (CD & CASSETTE DECK)



3. CD ASS'Y SECTION

● EXPLODED VIEW



● MECHANICAL PARTS LIST (CD DECK ASS'Y)

NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	
	14929-421-010	DECK-CD(DRAW); CMS-55/A	1	
1	13014-582-500	PCB-MICRO SW; IVO	2	
2	13029-041-130	CONNECTOR;4PIN(SW)	1	
3	13029-041-230	CONNECTOR;4PIN(MOTOR)	1	
4	13052-901-040	CONNECTOR;8PIN(SHIELD)	1	
5	13079-618-125	CONNECTOR;8PIN	1	
6	13579-901-010	MICRO-S/W; SSCTL1217A	2	

NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
7	14239-101-110	SAMSUNG OPTICAL HEAD; SOH89T1	1	
8	14769-057-240	MOTOR-SPINDLE; RF-310T(SHAFT 18.9)	1	
9	14769-057-250	MOTOR-FEED; RF-310T(SHAFT 10.9)	1	
10	15104-531-010	SHAFT-GEAR(C); SUM24L(SERRATION)SCM7550	1	
11	15104-531-110	SHAFT-GEAR(D); SUM24L SCM7550L	2	
12	15104-531-210	SHAFT-GEAR(A); SUM24L SCM7550	1	
13	15104-531-220	SHAFT-GEAR(B); SUM24L SCM7550L	1	
14	15104-531-310	SHAFT-LEVER(A); SUM24L CM7550	1	
15	15104-531-410	SHAFT-LEVER(B); SUM24L SCM7550	1	
16	15104-531-510	SHAFT-PU; SUS 420JS SCM7550	2	
17	15252-501-110	LEVER-LIFTER(R); P.B.T G15% SCM7550	1	
18	15252-501-210	LEVER-LIFTER(L); P.B.T G15% SCM7550	1	
19	15252-501-310	LIFTER-DISC; ABS BLK SCM7550	1	
20	15252-501-410	COVER-DISC; P.B.T G15% SCM7550	1	
21	15253-503-310	GUIDE-PU; P.O.M SCM7550	1	
22	15253-503-410	LEVER-MAIN; P.O.M SCM7550	1	
23	15254-509-110	GEAR-DOOR SLIDING(A); P.A NTR SCM7550	1	
24	15254-513-610	GEAR-MOTOR; P.O.M SCM7550	1	
25	15254-513-710	GEAR-PU(A); P.O.M SCM7550	2	
26	15254-513-810	GEAR-PU(B); P.O.M SCM7550	1	
27	15254-513-910	GEAR-PU(C); P.O.M SCM7550	1	
28	15254-514-010	GEAR-DOOR(A); P.O.M SCM7550	1	
29	15254-514-310	GEAR-DOOR(C); P.O.M SCM7550	1	
30	15274-501-520	BELT-MOTOR; NEOPLENE 1.2T SCM7550	2	
31	16021-504-710	BRKT MAIN(M); E.G T1.6+POM SCM7550	1	
32	16604-538-310	PLATE CHUCK; P.O.M SCM7550	1	
33	16604-538-410	TURN-TABLE; P.C G20% SCM7550	1	
35	16624-571-410	BRKT-MOTOR; E.G 1.2T SCM7550	1	
36	16624-571-910	BRKT-P/U; SECC 1.0T SCM7550	1	
38	16674-560-510	SPRING-LIFTER R; STSW #27 SCM7550	1	
39	16674-560-610	SPRING-LIFTER L; STSW #27 SCM7550	1	
40	16674-560-710	SPRING-COVER; STSW #27 SCM7550	1	
41	16674-560-810	SPRING-LEVER; STSW #27 SCM7550	1	
42	16804-517-820	RUBBER-DECK; BUTYL SCM7550	4	
44	16844-520-210	SHEET-CHUCK; HYMERON T0.5 SCM7550	1	
45	17008-120-063	SCREW-PH; +M2×6 FE FZW	1	
46	17098-120-032	SCREW-BH; +M2×3 FE FZW	4	
47	17108-520-063	SCREW-TAP PH; 2S-2×6 FE FZB	1	
48	17148-526-081	SCREW-TAP, RH; 2S-2.6×8 FE FZY	3	
49	17158-220-103	SCREW-TAP, BH; 2-2×10 FE FZB	2	
50	17558-230-081	SCREW-TAP TITE SPEC; S-3×8 FZY	4	
51	17641-500-810	DOOR-DISC; ABS BLK SCM-7550	1	
52	18314-500-810	RING-O; POLY SLIDER PI1.2 SCM7550	5	

- Parts which are not discribed in the CD DECK list are not serviceable.
If you need any other parts except those described, apply CD DECK ass'y.

● EXPLODED VIEW

DECK B (RECORD/PLAYBACK) :



This diagram shows an exploded view of a mechanical assembly. The components are labeled with circled numbers: 77 (a small pin or screw at the bottom), 97 (a vertical support or bracket), 101 (a group of four vertical rectangular components), 102 (a small rectangular component), 103 (a small rectangular component), 104 (a long horizontal rectangular component), and 106 (a horizontal plate or base). Dashed lines indicate the assembly path and alignment of the parts.

● CASSETTE DECK ASS'Y

LOCATION NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	
10	10000-609-001	PLATE-FLY WHEEL(R); ADR1910 FR 11143-00600BA	1	
11	10000-609-002	PLATE-FLY WHEEL(L); ADR1910 FR 11143-00610BA	1	
18	10000-609-003	SPRING-PLATE; ADR1910 FR 51299-02506XC	1	
19	10000-609-004	GEAR-FWD; ADR1910 FR 11128-00520AA	2	
20	10000-609-005	ARM CAM LOCK P; ADR1910 FR 11102-00780AA	1	
22	10000-609-006	ARM RINCH(F); ADR1910 FR 11102-00790AA	1	
23	10000-609-007	ARM RINCH(R); ADR1910 FR 11102-00800AA	1	
24	10000-609-008	GEAR-CAM(P); ADR1910 FR 11128-00530AA	1	
25	10000-609-009	GEAR-CAM(RF); ADR1910 FR 11128-00540AA	1	
27	10000-609-010	ARM-RF; ADR1910 FR 11102-00820AA	1	
36	10000-609-011	CHIP-REEL; ADR1910 FR 11110-00100AA	2	
39	10000-609-012	PULLEY-MOTOR; ADR1910 FR 11145-00520AA	1	
98	10000-609-015	SOLENOID; ADR1910 FR 79840-00002AA	2	
99	10000-609-016	MOTOR); ADR1910 FR 71650-12010AA	1	
100	10000-609-022	HEAD(PB); ADR1910 FR 5148-0713DA HADKH2524A 71486-93013ZA	1	DECK A
100	10000-609-017	HEAD(RP); ADR1910 FR HADKH5571A 71486-9408ZA	1	DECK B
101	10000-609-018	SWITCH; ADR1910 FR 70022-02042 DA	2	
102	10000-609-019	SWITCH; ADR1910 FR 70022-02041 CA	1	
103	10000-609-020	SWITCH; ADR1910 FR 70022-02040 DA	1	
117	10000-609-021	BELT; ADR1910 FR 51428-07013 DA	1	

■ ELECTRICAL PARTS LIST

△ indicates parts for circuit safeguarding purposes.
There fore, when replacing, be sure to use specified parts only.

LOCATION NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
R123	11048-477-151	R-METAL OXIDE; RSIT 150-J MINI TYPE	1	△
C143	11509-452-120	C-POLYSTYRENE; CQ09S 50V 470-J	1	
D101, 103, 106	12169-301-290	DIODE SW; ISS53/IN4148, CT;6PF	5	
D107	12169-404-780	DIODE-ZENER; 500MW UZ-5.1 BSB TAPING	1	
TC101, 103	11829-512-030	C-TRIMMER;TZ03R 20PF	2	
IC104	12109-401-270	IC-FUNCTION; LC 7821	1	
IC102	12119-101-370	IC-IF + MPX; TA8132N	1	
IC103, IC105	12119-401-170	IC-OP AMP; MC 4558C	2	BA4558
CF101,102,106	14529-301-750	FILTER-CERAMIC; SFE 10.7MJ(or HS3G)	3	
CF105	14529-301-920	CERAMIC-RESONATOR; CSB456FBL16	1	

LOCATION NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
CF103	14529-302-070	FILTER-CERAMIC; BFU 450C-4N	1	
CF104	14529-601-040	CERAMIC-FILTER; CDA 10.7MG18-A	1	
IC603	12119-102-050	IC-EQ; BA3312N	1	
IC602	12109-323-790	IC-DOLBY B; CXA1101	1	
IC601	12119-102-240	IC-PRE AMP; BA3416BL	1	
IC604	12119-201-610	IC-AMPS; LA2010	1	LA2000
D601~D625	12169-301-290	DIODE-SW; ISS53/IN4148, CT : 6PF	25	
A627	12169-404-780	DIODE-ZENER;500MW UZ-5.1BSB TAPING	1	
A626	12169-404-790	DIODE-ZENER;500MW UZ-5.6BSB TAPING	1	
R718	11048-477-220	R-METAL OXIDE; RSIT 22-J MINI TYPE	1	△
L605	12619-053-911	COIL-CAN; AE 4.7MH 252kHz BLK	1	
L601L,R, L602L,R	12 619-057-417	COIL-CAN;AE 6.8MH 252kHz BLK	4	
SVR604, 606	11249-112-010	SEMI-VR; RH0615C100 222 (2.2KB)	2	
SVR605, 607	11249-112-140	SEMI-VR; RH0615C100 472 (4.7KB)	2	
SVR601L, R	11249-112-030	SEMI-VR; RH0615C100 223 (22KB)	2	
SVR601, SVR603L,R	11249-112-040	SEMI-VR; RH0615C100 473 (47KB)	3	
SVR602L, R	11249-112-190	SEMI-VR; RH0615C100 104 (100KB)	2	
RCD	12309-104-430	LED LAMP; SLV-31 VC3	10	
GREEN	12309-104-410	LED LAMP; SLV-31 MC3	2	
RESONATOR	14534-504-043	CERAMIC-RESONATOR; CSA4.00MG-TF01S	1	
IC901	12109-401-280	IC PLL; LC7230-8302	1	
LCD	12339-101-080	LCD DTS;8138 MJP	1	
D901	12169-301-290	DIODE-SW;ISS53/IN4148, CT : 6PF	1	
X-TAL	14539-003-010	CRYSTAL-UNIT; HC18-U4.5MHz	1	
IC303	12109-310-830	IC-LCD DRIVER; LC7561A	1	
IC301, 302	12119-202-270	IC-QUAD OP AMP; LM324/LA 6324	2	BA10324
LCD(EQ)	12339-101-110	LCD-EQ; 8105MJPI SANYO MAX430	1	
D309	12169-404-790	DIODE-ZENER; 500MW UZ-5.6BSB TAPING	1	
D301~308	12169-301-290	DIODE-SW; ISS53/IN4148, CT : 6PF	8	
IC201	12109-401-900	IC-HCT; LC74HC 375/TC74HC 375AP	1	
SW(2P)	13559-901-100	SWITCH-TACT; SKHVE 029A	3	
SW(4P)	13529-301-140	SW-TACT; JIP 1230AH 4P-5MM 110G	21	
REMOCON	12199-101-070	REMOCON, EYE; SB×1610-02	1	
D202~D206	12309-104-410	LED LAMP; SLV-31MC3	5	
D201	12309-104-430	LED LAMP; SLV-31VC3	1	
D201~D213	12169-301-290	DIODE SW; ISS53/IN4148, CT : 6PF	14	
R808L,R~R810L,R	11018-377-225	R-CARBON; RD 0.5T 2.2M-J	6	
IC501	12109-401-650	IC; MC78M15	1	△
IC502, 503	12109-401-690	IC-REG; MC7812C	2	△
D515	12169-404-790	DIODE-ZENER; 500MW UZ-5.6BSB TAPING	1	
D505~513	12169-201-090	DIODE-RECTIFIER;IN4002, TAPE	11	△
D517				
D520				

LOCATION NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
D514, 516, 518	12169-301-290	DIODE-SW;ISS53/IN4148 CT : 6PF	3	
D519	12169-403-920	DIODE-ZN; IW13.8-15.6V UZP-15B	1	△
R504	11018-277-680	R-CARBON; RD1/4T 68-J	1	
R509	11048-477-151	R-METAL OXIDE; RSIT 150-J MINI TYPE	1	△
R502L,R, R503L,R	11048-477-100	R-METAL OXIDE; RSIT 10-J MINI TYPE	4	△
R508	11048-477-391	R-METAL OXIDE : RS1T 390J MINI TYPE	1	
F505	11058-477-109	R-FUSIBLE; RFIT 1-J	1	△
F501	14709-241-220	FUSE; T250V 1.25V EUR SLOW	1	△
F502	14709-241-420	FUSE; T250V 80MA 20EUR	1	△
F503	14709-241-430	FUSE; T250V 50MA 20EUR	1	△
F504	14709-441-262	FUSE; T250V 2.5A EUR	1	
FUSE	13164-550-010	CLIP FUSE; FC 51E	8	
VOLTAGE	13599-801-060	VOLTAGE SELECTOR; SDJL-001-S (110/220V)	1	△
C528	11429-211-472	C-SEMI CONDUCTIVE; DD404 SR472M 25	1	
TERMINAL	13303-500-710	TERMINAL-SPEAKER; AU8-2051	1	
D1,2,3,4	12169-201-090	DIODE-RECTIFIER; IN4002, TAPE	4	
D5,6,8,10,11,12,13	12169-301-290	DIODE-SW; ISS53/IN4148, CT : 6PF	7	△
D16,18	12169-404-790	DIODE-ZENER; 500MW UZ-5.6BSB TAPING	2	
D14,15	12169-404-830	DIODE-ZENER; 500MW UZ-8.2BSB TAPING	2	
D17	12169-404-770	DIODE-ZENER; 500MW UZ-3.6BSA TAPING	1	
IC7, 8	12119-401-170	IC OP AMP; MC4558C	2	BA4558
IC1	12119-601-770	IC-REGULATOR; MC 7805	1	GL7805△
IC2	12119-601-780	IC-REGULATOR; MC7905C	1	GL7905△
L3,4,5,6	12619-053-911	CCIL CAN; AE 4.7MH 252kHz BLK	4	
VR5	11249-112-010	SEMI-VR; RH0615C100 222 (2.2 KB)	1	
VR1,2,4	11249-112-030	SEMI-VR; RH0615C 223 (22KB)	3	
C64	11609-153-222	C-ELECTROLYTIC; SMS 16V 2200M(12.5×25)	1	△
C65	11609-103-472	C-ELECTROLYTIC; CEO4W 16V 4700M	1	△
×1	14539-501-070	CRYSTAL; HC-18/U, 16.934MHz	1	
×2	14539-501-040	CRYSTAL; HC-18/U, 4.0MHz	1	
F101, 102	11058-477-109	R-FUSIBLE; RF1T-1J	2	
FUSE	13164-550-010	CLIP FUSE; FC 51E	4	
K1~K14	13529-301140	SW-TACT; JTP 1230AH 4P-5MM 110G	14	
Q102,105,110,112	A4060-0016	TR; DTA 114TS 2033-016-000	4	
Q107	A4060-0023	TR; DTA 123JS 2033-016-000	1	
Q101	IJU12-100-012	TR; KTC 380TM 2004-006-000	1	
Q106	IJU12-100-013	TR; DTC 115TS 2007-016-000	1	
Q104,109L,R, 111, 119, 122L,R, 124L,R	A4060-0017	TR; DTC 143TS 2037-016-000	9	
115, 117	A4050-0045	TR; KTA 966A 2002-106-001	2	
Q116, 118	A4050-0042	TR; KTC 1959Y 2004-006-000	2	
Q114	A4060-0019	TR; DTA 114YS 2033-016-002	1	
D111	12309-110-110	LED; KLR 206E 2331-001-002	1	

LOCATION NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMARK
T106, 107	IJU14-500-010	L.P.F; 19kHz 2653-193-000	2	
T105	IJU12-600-010	COIL-AM IF; 7MC-K5050N-KR2624-200-000	1	
IC101	IJU12-100-026	IC FRONT END; F-3630V	1	OPTIONAL
D104	IJU12-100-029	DIODE-VARICAP; KV1236Z3	1	
Q604L/R,Q606L/R	A4060-0018	TR; DTC-343TS 2037-116-001	4	
Q630~633,635	A4060-0020	TR; DTC-124ES 2037-116-003	5	
Q603L/R,Q646	I2139-307-180	TR; KTC-1815Y 2036-106-000	3	
Q605L/R,Q640	A4050-0042	TR; KTC-1959YY 2036-106-001	3	
Q623,Q637	A4050-0041	TR; KTC-2236A 2006-106-000	2	
Q615~618, Q639	A4050-0045	TR; KTA-966A 2002-106-001	9	
Q641~644				
BIAS COIL	12619-580-011	COIL OSC; K5156YHC 2638-600-000	1	
TRIP L.R	12619-990-080	COIL TRAP; K5156Z 2668-600-000	4	
DOLBY S/W	13519-100-010	SW; ESD-11V 220	1	
LAMP901, 902	IJU12-000-010	LAMP-PILOT; 12V 60mA 2521-060-020	2	
IC401-1	IJU12-000-027	IC; BA5448 2162-016-000	1	
SW201,202	IJU13-500-011	SW PUSH; JTP-2271 620-361-100	2	
IC801-1,2	IJU12-100-028	IC-POWER; STK4142 2173-317-000	1	
RELAY	IJU12-300-010	RELAY; HRCR313 5520-003-300	1	△
IC3	A4012-0051	IC DSP; CXD 1167Q 2150-221-000	1	
IC4	12109-303-690	IC-MICOM; KS56C820-06	1	
IC5	A4012-0049	IC SSP; CXA 1082BS 2151-021-000	1	
IC6	12109-401-500	IC-DAC : LC7881M	1	OPTIONAL
IC6	12109-303-150	IC-DAC; KDA0316DL BULK/TAPPING 2153-421-001	1	OPTIONAL
IC9	A4012-0050	IC RF; CXA 1081S 2152-021-000	1	
L501~504	IJU12-100-030	DIODE; RECT IN5402; 2051-106-001	4	△
L501L,R	IJU12-600-013	COIL; 0.15μH 2641-151-000	2	
R515	IJU11-000-010	R-METAL; 1P 3.9K 3029-392-576	1	△
R505	IJU11-000-011	R-METAL; 3P 33-J	1	△
X	IJU13-000-010	AC CORD; 3A 250V 4300-003-000	1	
Q1	A4050-0043	TR; KTA562Y 2202-106-000	1	
LCD1	12339-102-240	LCD CDP ; HLC 8001-014310 MAX430	1	
L1, 2	IJU12-000-010	LAMP PILOT; 12V 100mA 2521-100-121	2	
IC605	12109-401-230	IC-MICOM; LC66508-4578 CD	1	
102E(T102)	1JU12-600-014	COIL LW ANTENNA; 2608-400-000	1	LW BAND
T104	1JU12-600-015	COIL LW OSC; 2638-400-000	1	LW BAND
T102, 104	11829-512-030	C-TRIMMER; TZ03R 20PF	2	LW BAND
KV1235, Z3	1JU12-100-035	DIODE-VARICAP; 2080-104-000	1	LW BAND
D110	12169-301-290	DIODE-SW; ISS53/IN4148, CT : 6PF	1	LW BAND
Q119,120,125	A4060-0017	TR; DTC 143TS 2037-016-000	3	LW BAND
Q117,118,123, 129	A4060-0016	TR; C114TS 2007-016-000	4	LW BAND
Q127	A4060-0019	TR; DTA 114YE 2033-016-002	1	LW BAND

LOCATION NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMA
C108	11407-017-680	C-CERAMIC; CC45T SL 50 68-J	1	LW BA
C141	11417-344-223	C-CERAMIC, HK; CK45T F 50V 9022M-Z	1	LW BA
C144	1JU11-500-010	C-STYROL; 220P 3601-227-330	1	LW BA
R96, 99	11018-877-103	C-CARBON; RN 1/8T 10K-J	2	LW BA
R147	11018-877-333	C-CARBON; RN 1/8T 33K-J	1	LW BA
R148, 89	11018-877-223	C-CARBON; RN 1/8T 22K-J	2	LW BA
R144	11018-877-104	C-CARBON; RN 1/8T 100K-J	1	LW BA
Q127	1JU12-100-041	TR ; DTC 114YS 2037-018-000	1	LW BA
	1JU12-200-011	LED 56YC3(yellow) 2032-001-000	10	

[GENERAL SECTION]

● AC 230V UNIT

LOCATION NO.	CODE NO.	DESCRIPTION & SPECIFICATION	Q'TY	REMA
PT501	1JU12-800-013	TRANS-POWER MAIN; MM430 74x42 PIN TYPE	1	△
PT502	1JU12-800-015	TRANS-POWER SUB; MM430 41x15 PIN TYPE	1	△
POWER CORD	1JU13-000-013	POWER CORD; MM430 4305-102-001	1	△
F 503	1JU14-900-012	FUSE; 50mA(250V) 5500-203-004	1	△
F 504	1JU14-900-013	FUSE; 1.25A(250V) 5500-203-021	1	△
F 505	1JU11-000-012	FUSIBLE RESISTOR; 1ohm(1W) 3049-108-576	1	△
RELAY	1JU14-300-010	RELAY ; HRCR313 5520-003-300	1	△
F506, 7, 8	1JU14-900-018	FUSE T2.5A/250V 5500-303-525	3	

■ ABBREVIATION LIST

AC	: Alternating Current	Max	: Maximum
Addr	: Address	MHz	: Megahertz
ADJ.	: Adjustment	min	: Minimum
AGC	: Automatic Gain Control	MOD	: Modulation
ALC	: Automatic Level Control	MPX	: Multiplex
AM	: Amplitude Modulation	MW	: Medium Wave
AMP	: Amplifier		
AMPS	: Automatic Music Program Search	NF	: Negative Feedback
AMT.	: Antenna	OP AMP	: Operational Amplifier
ASSY	: Assembly	OSC	: Oscillator
AMPS			
BAL	: Balance		
BK	: Black	PB	: Playback
BLU	: Blue	PCB	: Printed Circuit Board
BPF	: Band Pass Filter	PLL	: Phase Lock Loop
BRKT	: Bracket	P/T	: Power Transformer
CF	: Ceramic Filter	R	: Right
ch, CH	: Channel	RAM	: Random Access Memory
cm	: centimeter	REC	: Record
COM	: COMnon	RE	: Red
CON MIC	: Condenser Microphone	REG	: Regulator
		REW	: Rewind
D	: Depth	RF	: Radio Frequency
D/A Convertor	: Digital/Analog Convertor	ROM	: Read Only Memory
db	: deciBel	R/P	: Record/Play
DC	: Direct Current		
DEC	: Decoder	sec	: Second
DET	: Detector	SSG	: Standard Signal Generator
DEV	: Deviation	SSP	: Stereo Signal Processor
DSP	: Digital Signal Processor	ST	: Stereo
DTS	: Digital Tuning System	ST/EJT	: Stop ject
		SW	: Switch, short wave
EA	: Each	TP	: Test Point
E-HEAD	: Erase Head	TR	: Transistor
EQ	: Equalizer	TRANS	: Transformer
FF	: Fast Forward		
F/F	: Flip Flop	V	: Volt
Fig	: Figure	VIO	: Violet
FM	: Frequency Modulation	VCO	: Voltage Controlled Oscillator
FREQ.	: Frequency	VOL	: Volume
GND	: Ground	Vpp	: Voltage peak to peak
GRN	: Green	VR	: Volume
GRY	: Gray	Vref	: Reference Voltage
		V/SEL	: Voltage Selector
H	: Height, High	VTVM	: Vacuum Tube Volt Meter
Hz	: Hertz	VVC	: Voltage Variable Capacitance
IC	: Integrated Circuit	W	: Watt, Weight
IF	: Intermediate Frequency	WH	: White
IFT	: Intermediate Frequency Transformer		
I/O	: Input/Output	X	: Crystal
KHz	: Killohertz	YEL	: Yellow
Kg	: Killogram		
L	: Left, low		
LCD	: Liquide Crystal Display		
LED	: Light Emitting Diode		
LPF	: Low Pass Filter		
LW	: Long Wave		

