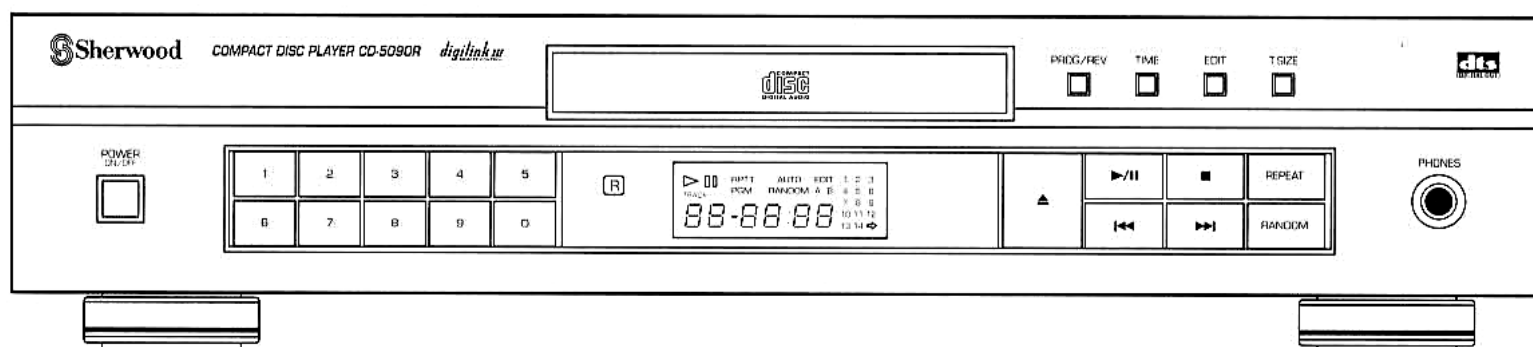


SERVICE MANUAL

CD-5090R/C/G COMPACT DISC PLAYER



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 **Sherwood**®

LASER BEAM SAFETY PRECAUTIONS

CLASS 1 LASER PRODUCT

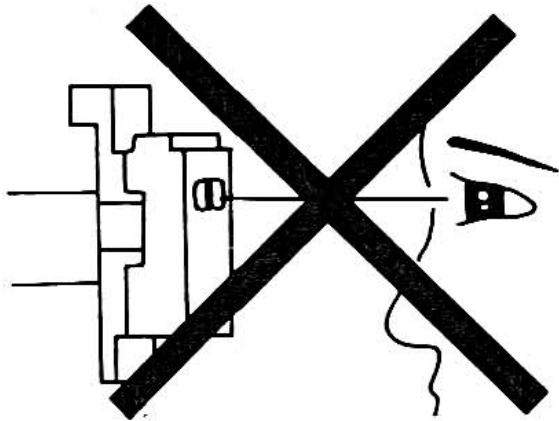
**CLASS 1
LASER PRODUCT**

CAUTION

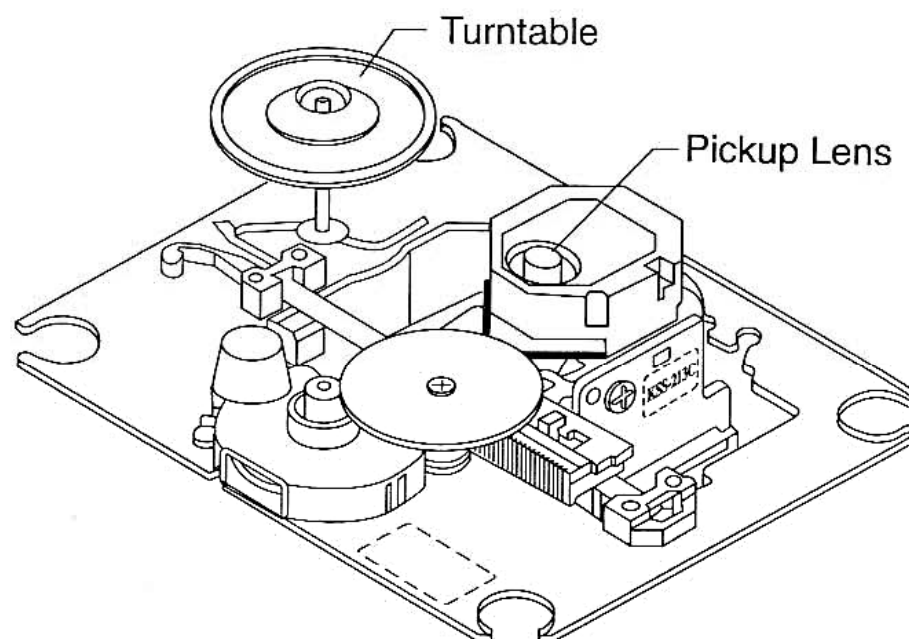
Invisible laser radiation when the unit is open. Do not stare into beam.

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

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



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



CAUTION:

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

SAFETY PRECAUTIONS



CAUTION

RISK OF ELECTRIC SHOCK.
DO NOT OPEN.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



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



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

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

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

WARNING

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

HANDLING LASER PICKUP

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

BEFORE REPAIRING THE COMPACT DISC PLAYER

Preparation

- Human Body Grounding:**
Many of the components used in this compact disc player, including the laser pickup, are sensitive to electrostatic discharge. Service personal should be grounded with an electrostatic armband (1 Mohm).
- Caution:**
Static charge on clothing does not escape through a body grounding wrist band. Be careful not to contact the pickup or electrical components with your clothing.
- Workbench and Tool Grounding:**
A properly-grounded electroconductive plate (1 Mohm) or metal sheet should be fitted to the workbench surface. Tools and instruments (such as soldering irons and scopes) should be grounded to prevent AC leakage.

Incorrect

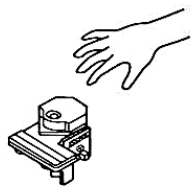


Fig. 1

Correct

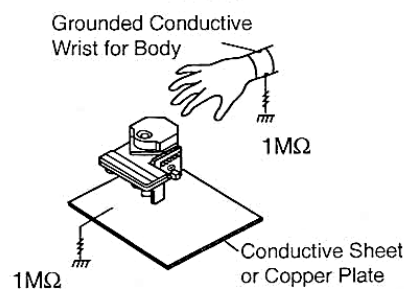


Fig. 2

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

LEAKAGE TEST

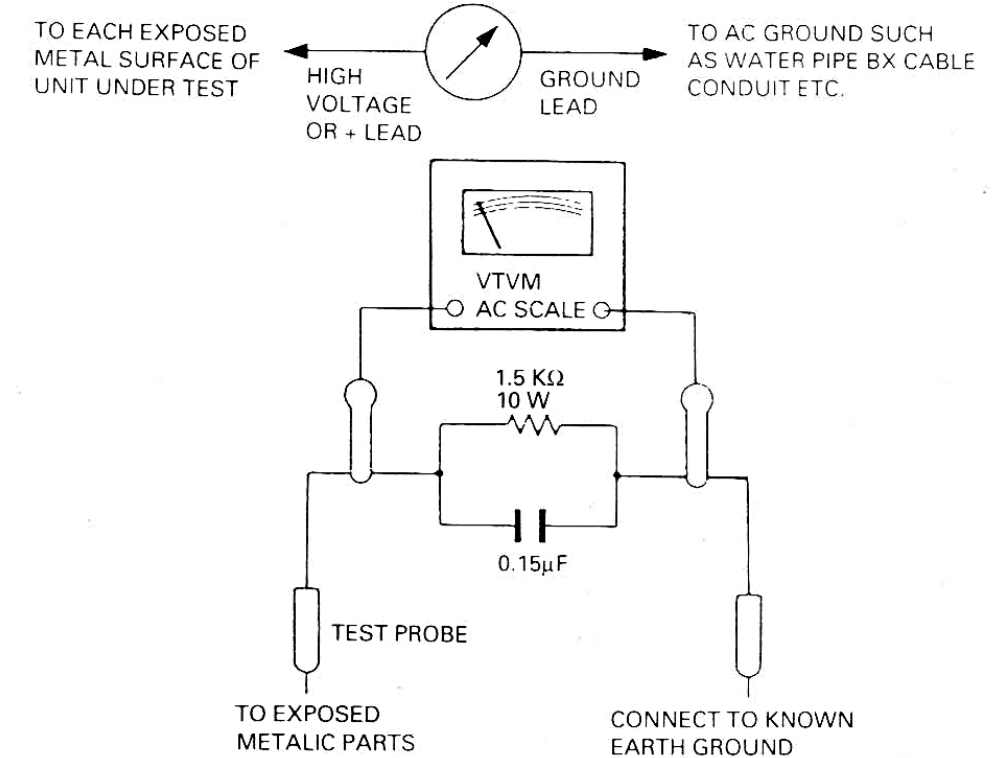
Before returning the unit to the user, perform the following safety checks:

- Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metallic parts in the unit.
- Be sure that any protective devices such as nonmetallic control knobs, insulating fishpapers, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc. which were removed for servicing are properly reinstalled.
- Be sure that no shock hazard exists; check for leakage current using Simpson Model 229 Leakage Tester, standard equipment item no. 21641, RCA model WT540A or use alternate method as follows: plug the power cord directly into a 220-volt AC receptacle (do not use an isolation transformer for this test).

Using two clip leads, connects a 1500 ohm, 10-watt resistor paralleled by a 0.15 μ F capacitor, in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit. Use a VTVM or VOM with 1000 ohms per volt, or higher sensitivity to measure the AC voltage drop across the resistor. (see diagram) Move the resistor connection to each exposed metal part having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor. (This test should be performed with the power switch in both the on and off positions.)

A reading of 0.35 volt RMS or more is excessive and indicates a potential shock hazard which must be corrected before returning the unit to the owner.

SIMPSON MODEL 229 ETC. FOR LEAKAGE TEST



SPECIFICATIONS

Measuring methods in conformity with EIAJ CP-307, CCIR 468-3

Measurements conditions, unless otherwise noted : Reference level

Reference frequency : 1kHz

Filter : A / 20 kHz / oct L.P.F

0dB = Sony CD3 YEDS 7 (Track NO 7)

Test disc : SONY CD3 YEDS 7, TEAC MCD-151A, TEAC MCD-111

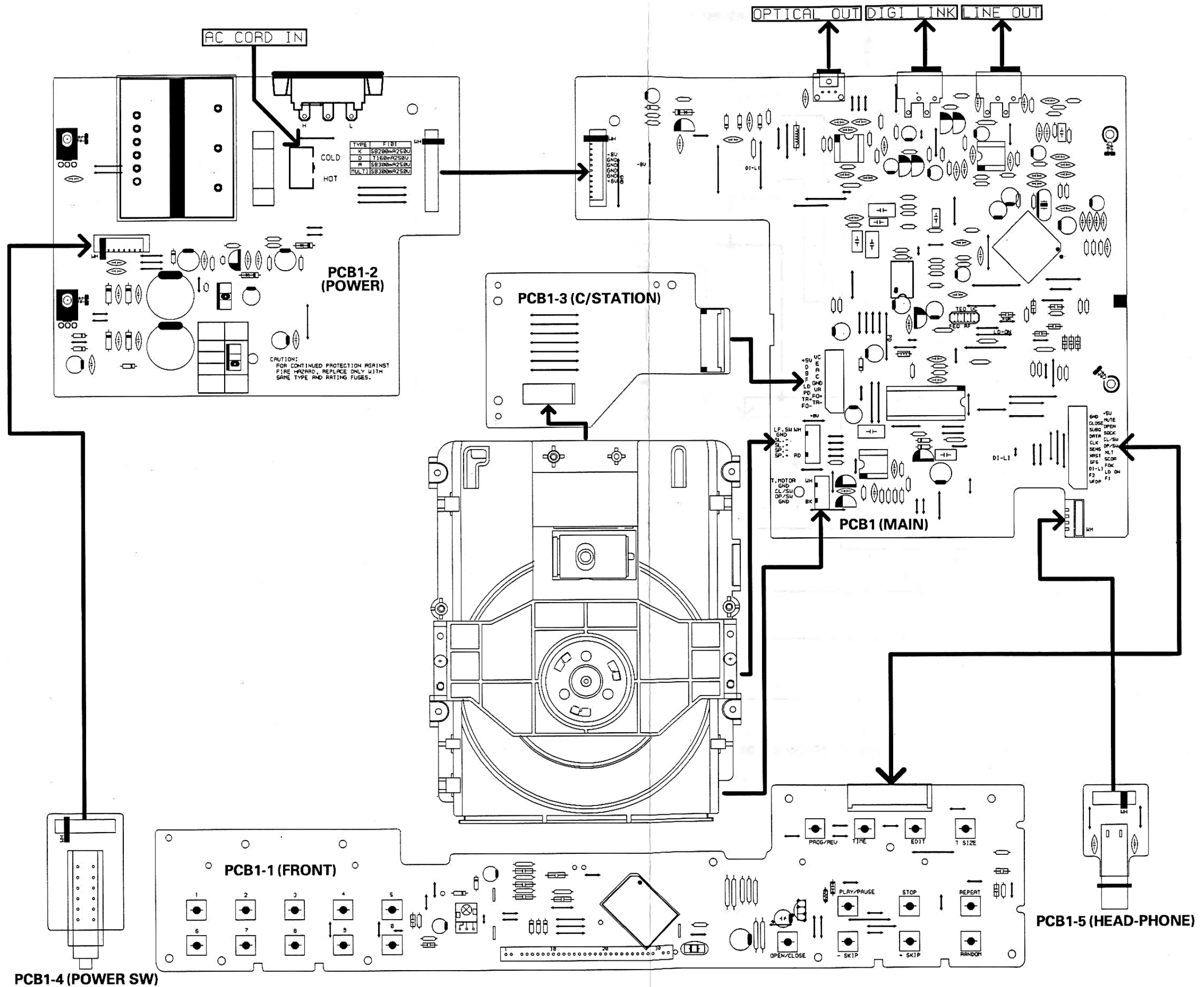
TEAC MCD-193, A-BEX TCD-721R, TEAC MCD-131

Power supply : D/G -> (230V/50Hz), K -> (220V/60Hz), PT -> (110/220V,50/60Hz)

NO	DESCRIPTION	SIGNAL	INPUT	TRACK	UNIT	LIMIT L/R	NOMINAL L/R	
1	OUTPUT LEVEL	1KHz	0dB	7	V	2.0±0.4	2.0±0.2	
2	HEADPHONE OUTPUT LEVEL (Z=32ohm)	1KHz	0dB	3/7	Mv	360±100	360±50	
3	CHANNEL UNBALANCE	1KHz	0dB	7	dB	±0.4	±0.2	
4	FREQUENCY RESPONSE	20~20kHz	0dB	2~13	dB	±1	±0.5	
		20Hz	0dB	2	dB	±1	±0.5	
		20kHz	0dB	13	dB	±1.5	±0.5	
5	S/N RATIO UNWEIGHTED		0dB	23	dB	≥85	≥90	
	WEIGHTED (A)		0dB	23	dB	≥90	≥95	
6	TOTAL HARMONIC DISTORTION (A FILTER)	100Hz	0dB	4	%	≤0.08	≤0.025	
		1kHz	0dB	7	%	≤0.015	≤0.008	
		10KHz	0dB	10	%	≤0.08	≤0.025	
		20kHz	0dB	13	%	≤0.08	≤0.025	
7	CHANNEL SEPARATION (20KHz FILTER)	1kHz	0dB	30/34	dB	≥85	≥90	
		10KHz	0dB	31/35	dB	≥80	≥85	
8	DE-EMPHASIS ERROR	-0.37	1kHz	-0.37dB	39	dB	±0.4	±0.2
		-4.53	5kHz	-4.53dB	40	dB	±1.0	±0.5
		-9.04	16kHz	-9.04dB	41	dB	±1.5	±0.5
9	ACCESS TIME SHORT ACCESS				sec	6	2	
	LONG ACCESS				sec	12	5	
10	DISC DFECTS BLACK DOT			8~11	um	≥600	≥800	
	INTERRUPT			2~5	um	≥700	≥800	
	FINGERPRINT			17~19	um	ALL	ALL	
11	DYNAMIC RANGE (L.P.F)	1KHz	-60dB	20	dB	≥85	≥92	
12	LINEARITY (20kHz FILTER)	1KHz	-90dB	22	dB	≥80	≥85	
13	DISC DEVIATIONS VERTICAL				um	500	1000	
	RADIAL				um	140	210	
14	SCRATCH			2~4	um	600	800	

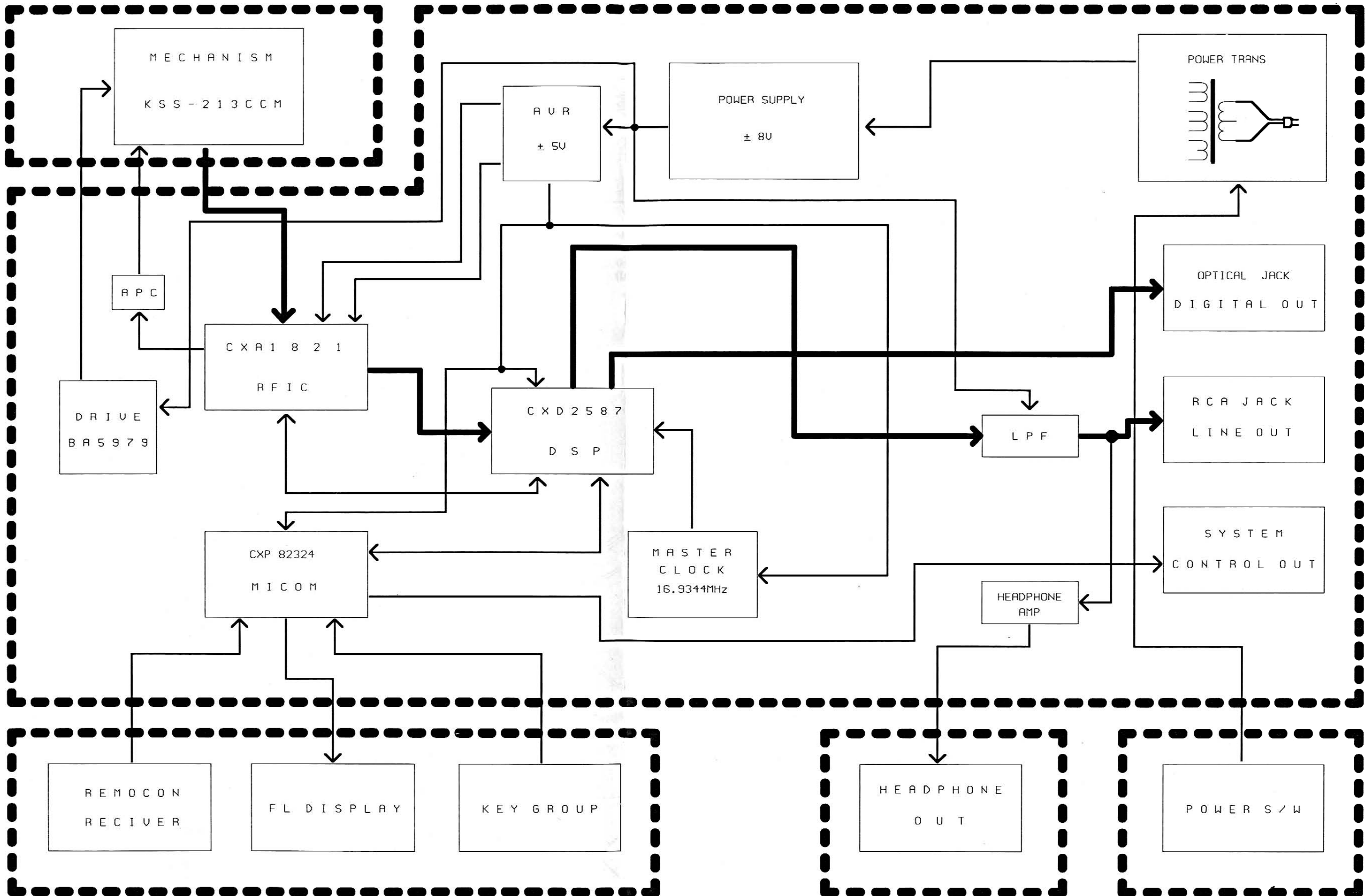
WIRING DIAGRAM

Model No. : CD-5090R/C/G



BLOCK DIAGRAM

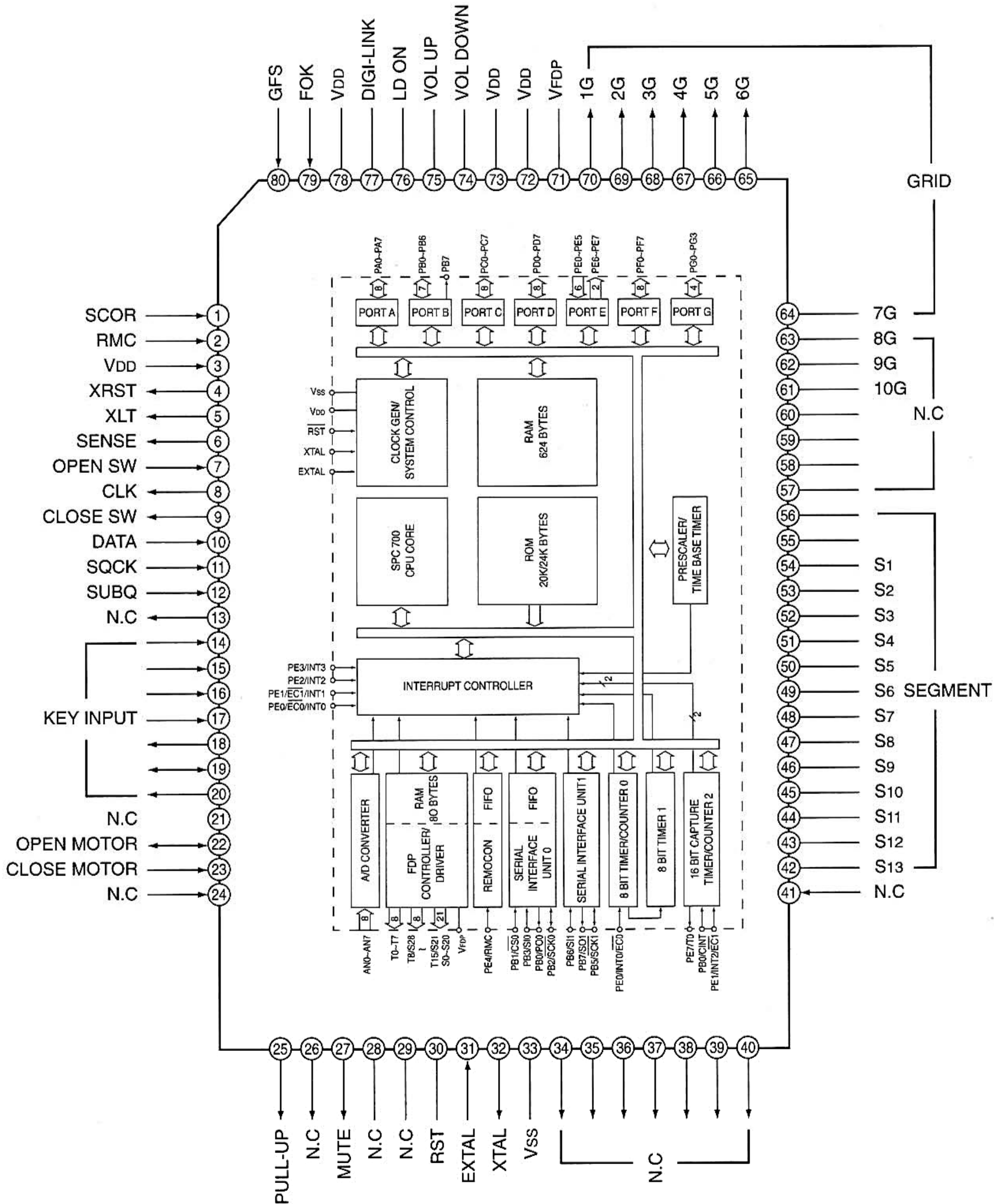
Model No. : CD-5090R/C/G



CIRCUIT DESCRIPTION

CXP82320 - 519Q : IC801

1-1. Pin Connection Diagram and Block Diagram



1-2. Input and Output Terminal Functions

PIN NO.	SYMBOL	DESCRIPTION
1	SCOR	Subcode-Q readout timing input from CXD2587Q.
2	RMC	Input for remocon data. (At "L", it is active.)
3	VDD	+5V power supply for CPU.
4	XRST	Output for resetting CXD2587Q.
5	XLT	Serial ratch data output to CXD2587Q.
6	SENSE	Sense signal output to pick-up unit.
7	OPEN SW	Input to detect that tray is open.
8	CLK	serial clock data output for CXD2587Q.
9	CLOSE SW	Input to detect that tray is closed.
10	DATA	Serial data output for CXD2587Q.
11	SQCK	Clock data output for subcode-Q readout to CXD2587Q.
12	SUBQ	Subcode-Q data input from CXD2587Q.
13	NC	Not used.
14-21	KEY INPUT	Data input for key scan.
22	OPEN MOTOR	Output for driving motor to open the tray. (At "H", it is active.)
23	CLOSE MOTOR	Output for driving motor to close the tray. (At "H", it is active.)
24	NC	Not used.
25	PULL-UP	Pull-up for CPU.
26	NC	Not used.
27	MUTE	Output for audio mute. (At "L", it is active.)
28-29	NC	Not used.
30	RST	Input for resetting for CPU (At "L", it is active.)
31	EXTAL	Input of 10.0MHz oscillator crystal.
32	XTAL	Output of 10.0MHz oscillator crystal.
33	VSS	GND.
34-41	NC	Not used.
42-54	SEGMENT	Segment signal output.
55-60	NC	Not used.
61-70	GRID	Grid signal output.
71	VFDP	-30V power supply for FL Display.
72	VDD	+5V power supply for CPU.
73	VDD	+5V power supply for CPU.
74	VOL DOWN	Volume down signal for volume motor.
75	VOL UP	Volume up signal for volume motor.
76	LD ON	LD-ON signal output for pick-up unit.
77	DIGI-LINK	Input for remocon data.
78	VDD	+5V power supply for CPU.
79	FOK	FOK data from CXD2587Q.
80	GFS	GFS signal input from CXD2587Q.

1-3. Focus error detecting operation

Fig. 3 shows the reflected laser beam from a disc is polarized 90° with the beam-splitter and sent to the cylindrical lens. The beam passed through this cylindrical lens is then sent to the four division photo diodes and focuses into an image whose shape varies with the distance between the disc and the objective lens. Such change in the beam shape causes the current flowing from the photo diodes to vary.

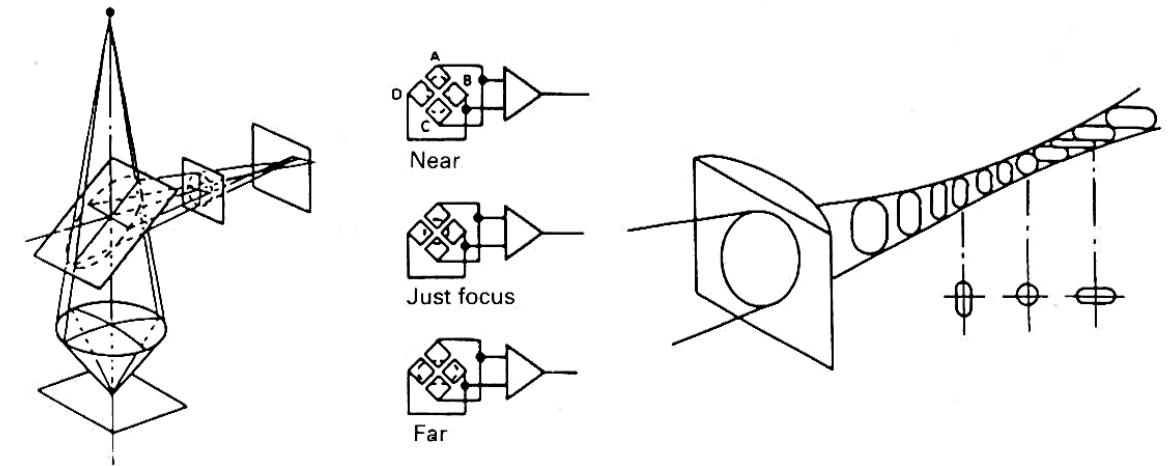


Fig. 3

1-4. Tracking error detection system

Fig. 4 shows the principle of the tracking error detection system which employs the three beam system.

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

Fig. 4 - A shows the on-track state. As both auxiliary beams 1 and 2 are slightly on the track in this state, the outputs of photo diodes E and F are equal and the tracking signal is 0(zero). When the track is shifted to the left (Fig. 4 - B), the auxiliary beam 1 is off the pit. This allows more light to be received by the photo diode E, resulting in positive (+) tracking signal output. On the other hand, when the track is shifted to the right (Fig. 4 - C), the amount of light received by the photo diode F increases, resulting in negative (-) tracking signal output. And these extreme signals are detected as tracking error signals.

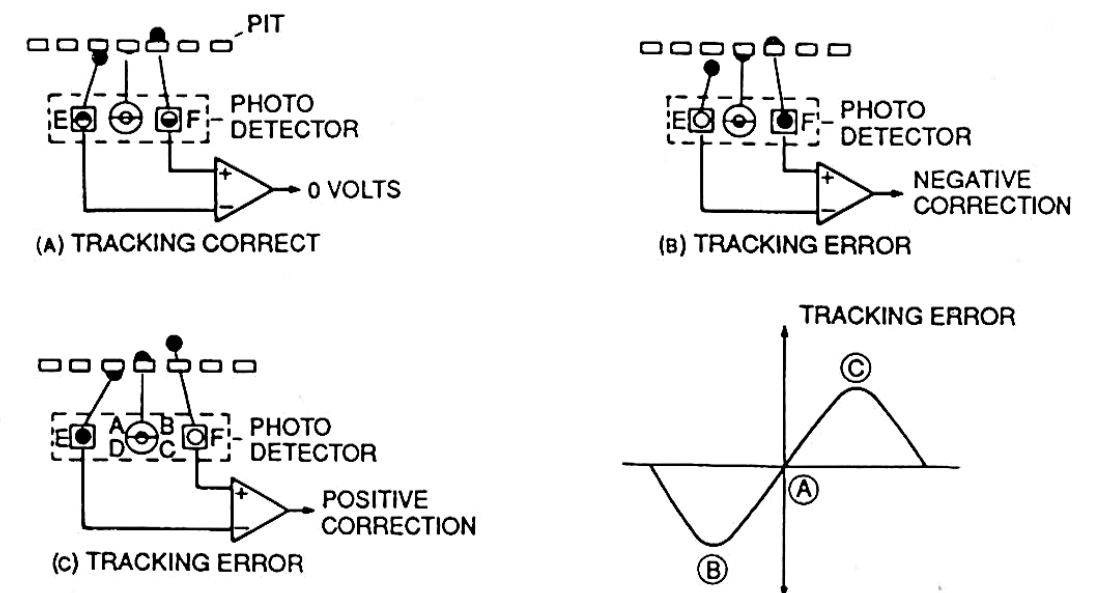


Fig. 4

PICKUP REPLACEMENT

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

1. Remove the CD mechanism assembly by referring to the "EXPLODED VIEW II" on page 24 (See Fig. 5).

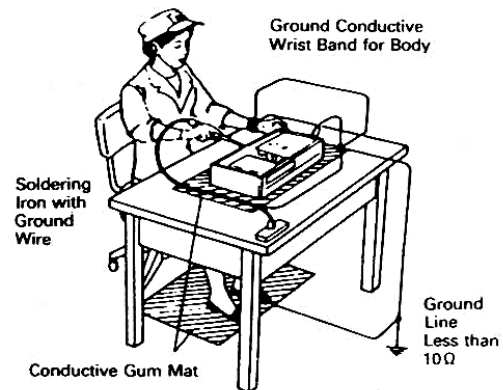


Fig. 5

2. Remove four screws S12 (See Fig. 6).

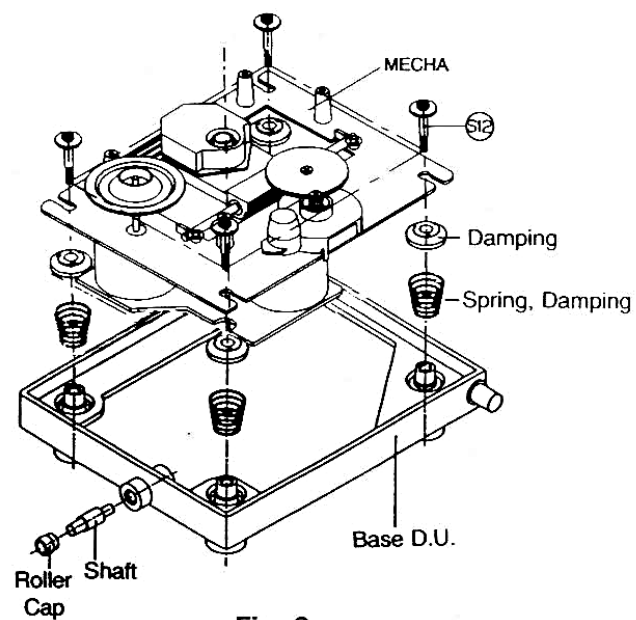


Fig. 6

3. Remove the gear A (See Fig. 7).
4. Pull out the slide shaft.

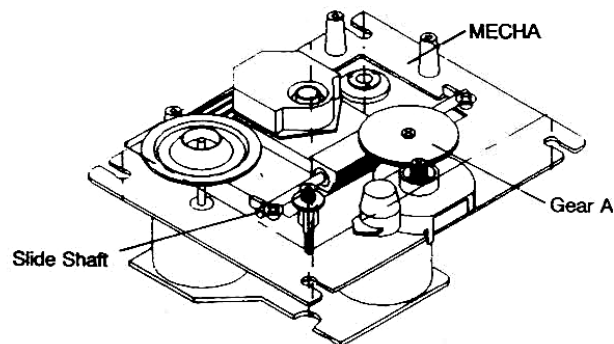


Fig. 7

5. Remove the pickup (See Fig. 8).

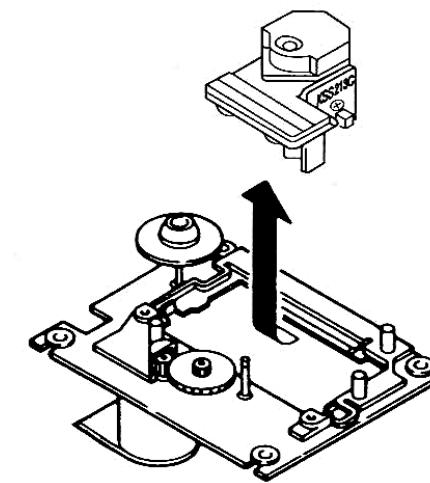


Fig. 8

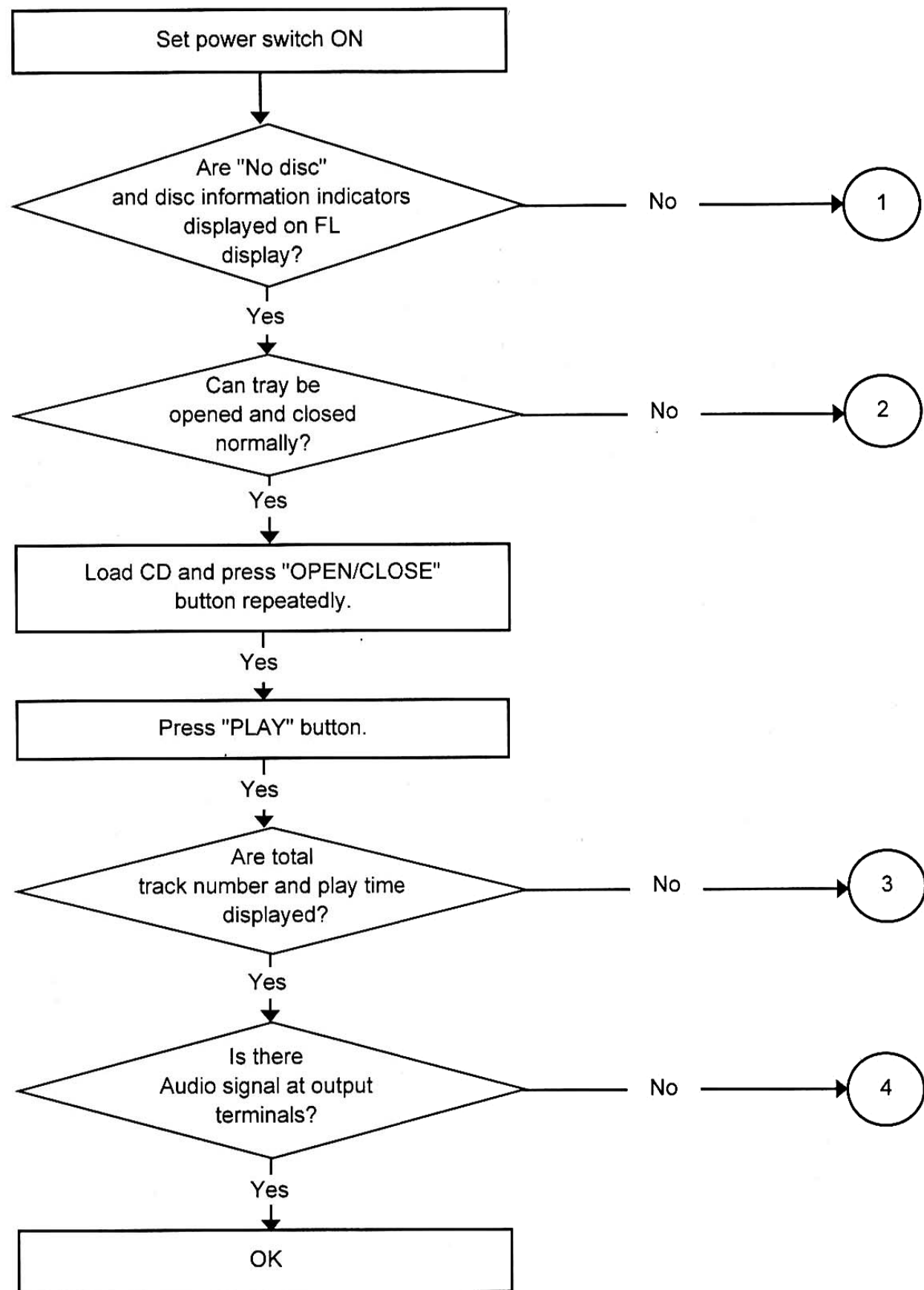
6. Refer to the "EXPLODED VIEW I" of the compact disc mechanism on page 23 for detailed illustrations.

OPERATION CHECK

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

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

TROUBLESHOOTING



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

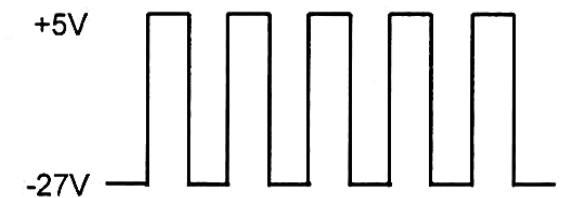
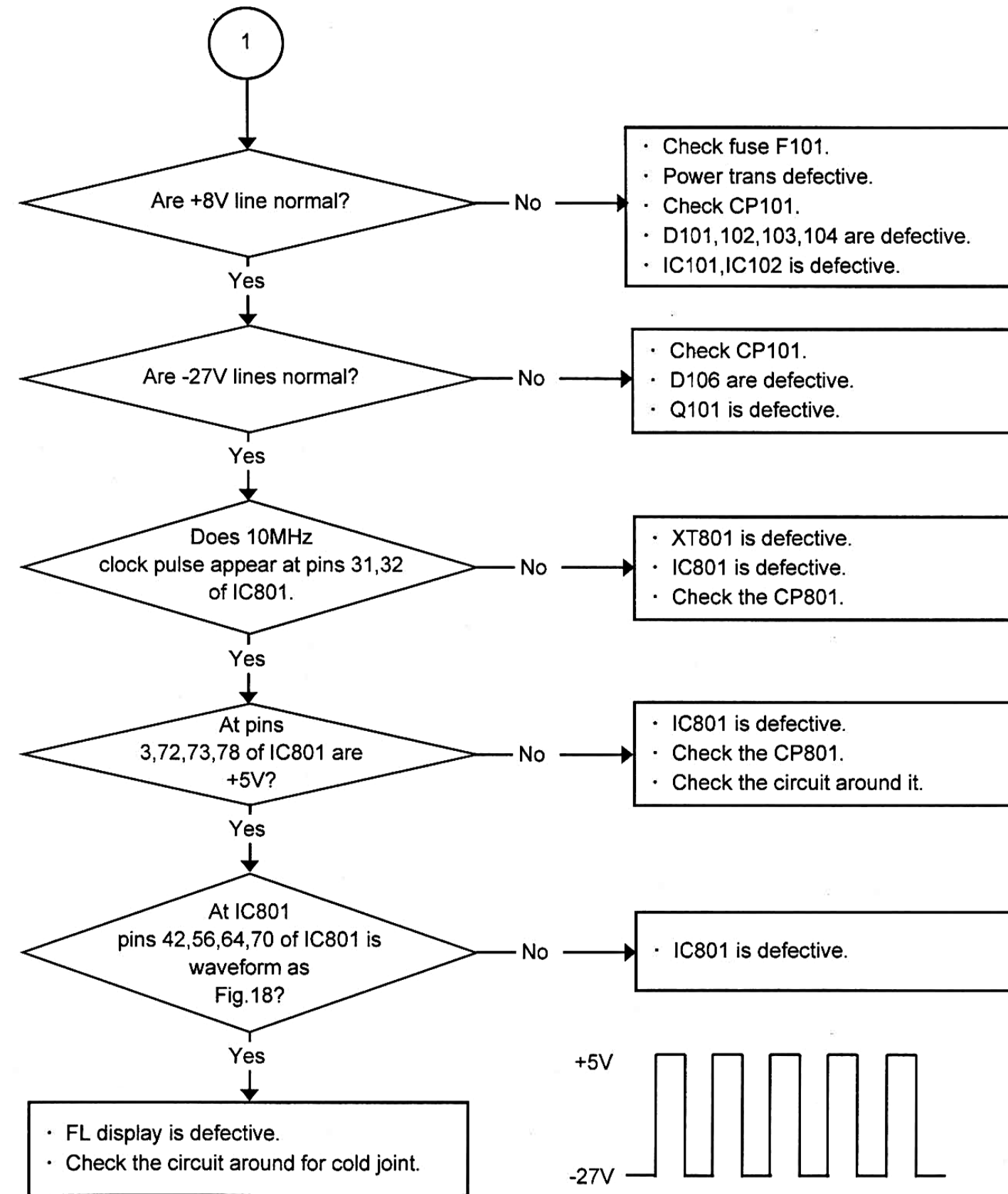
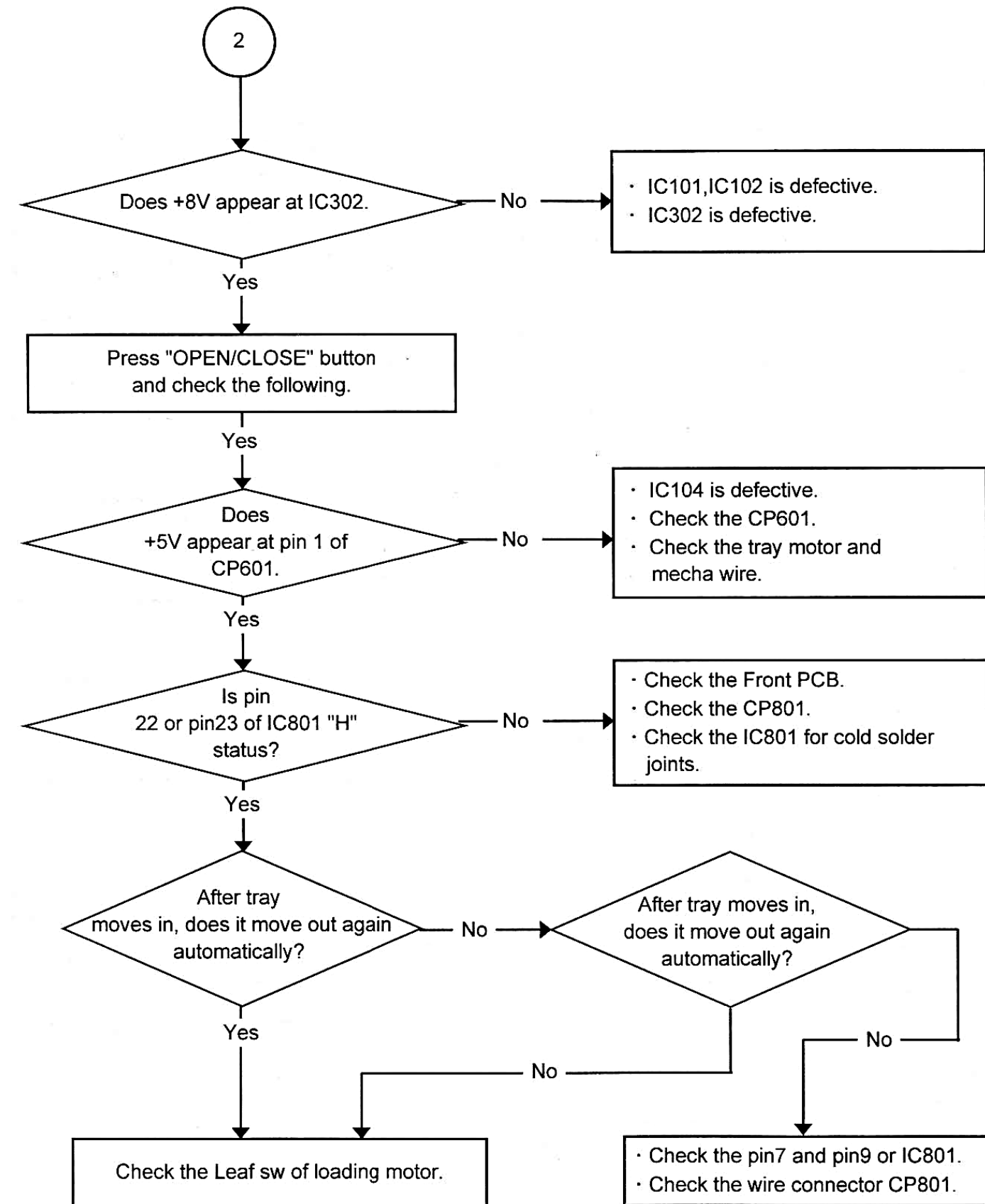
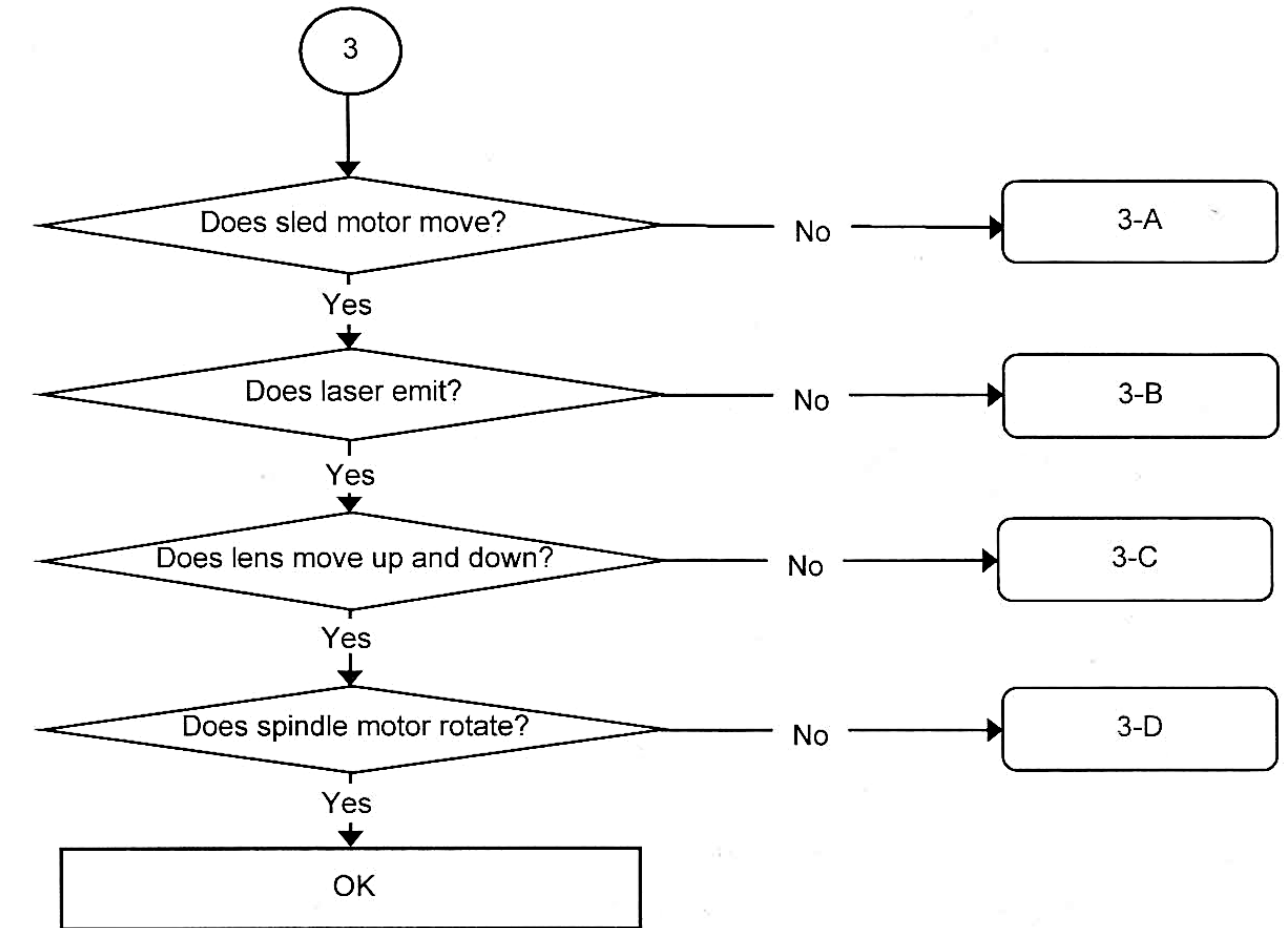


Fig. 18

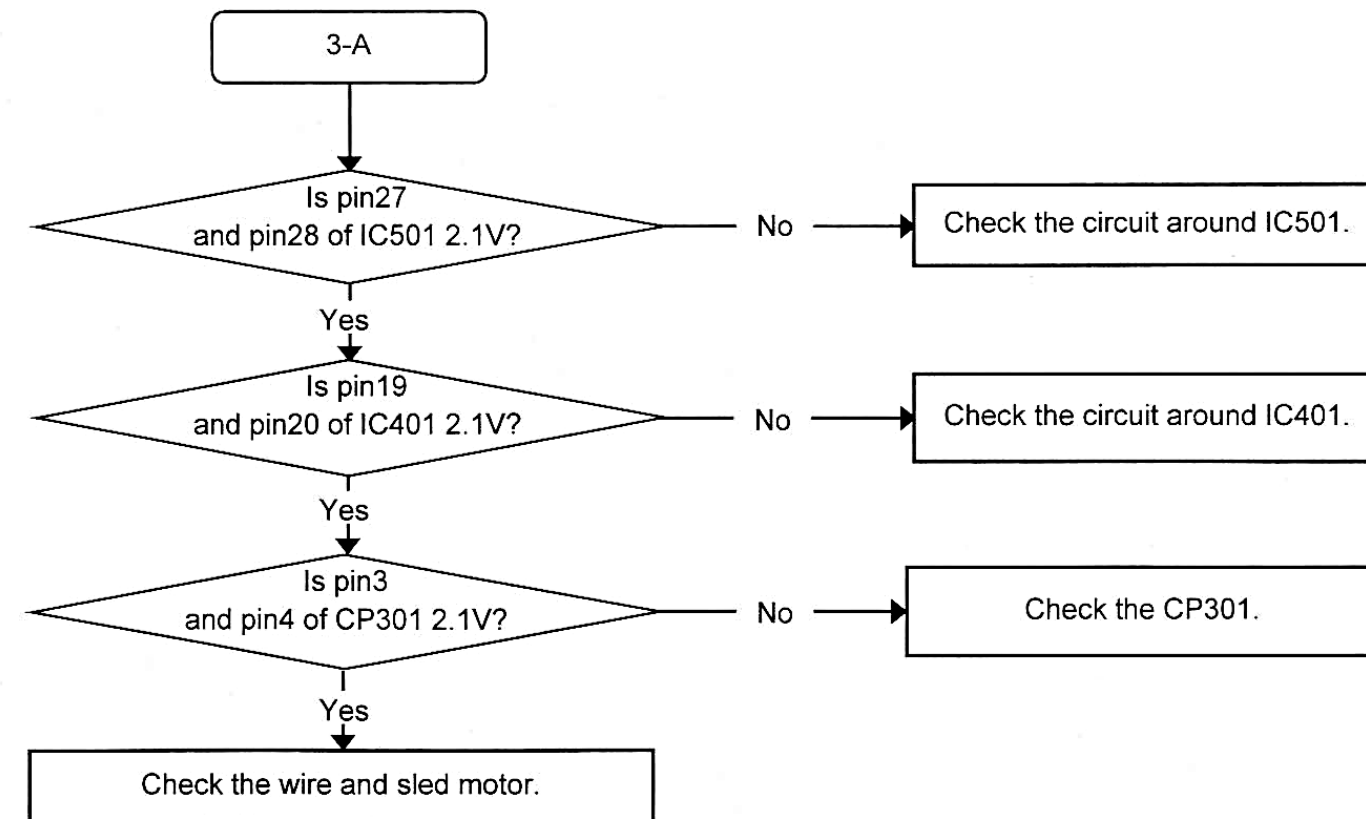
[Repair item 2] Tray cannot be opened and closed by pressing "OPEN/CLOSE" button.



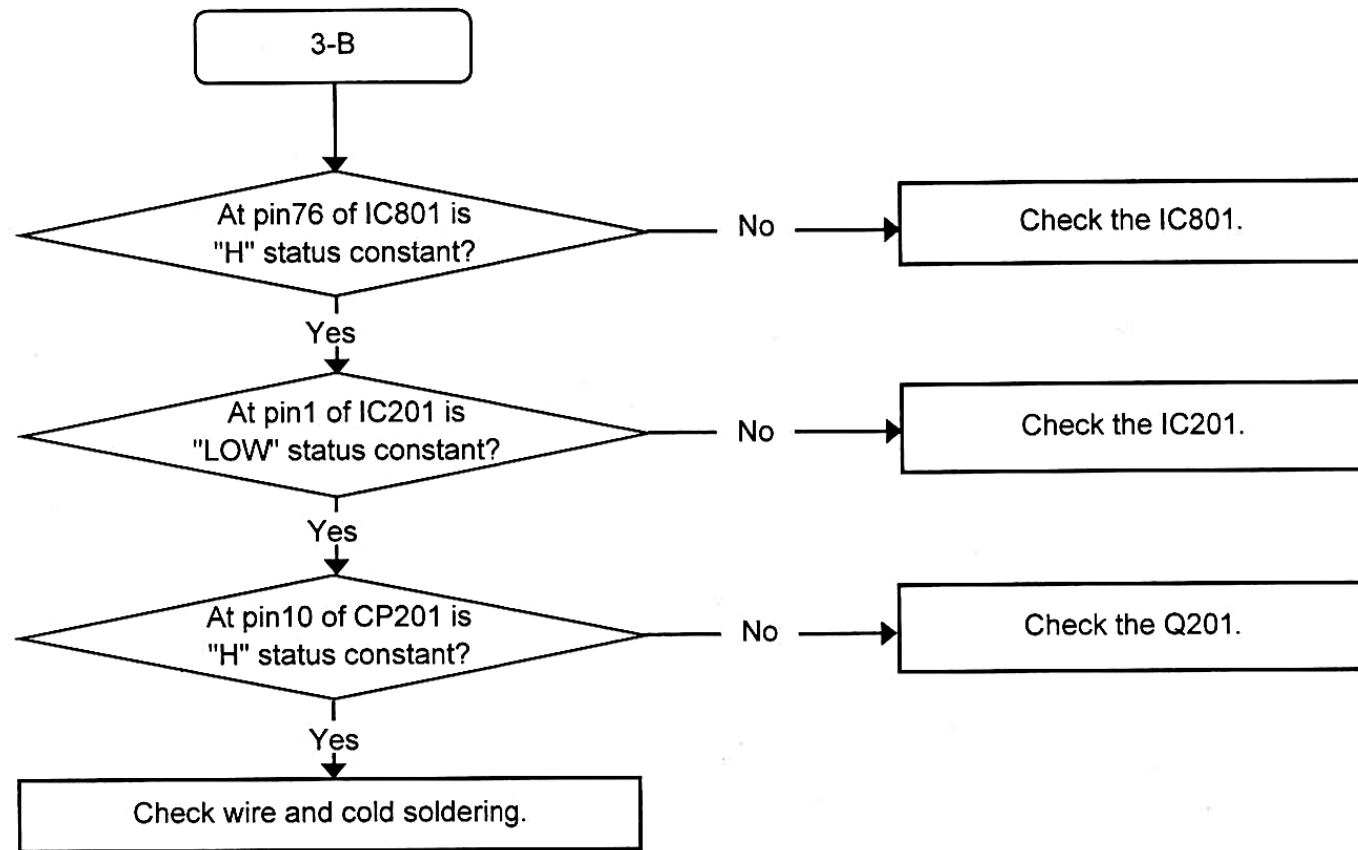
[Repair item 3] "0" is displayed of total playing time and track number.



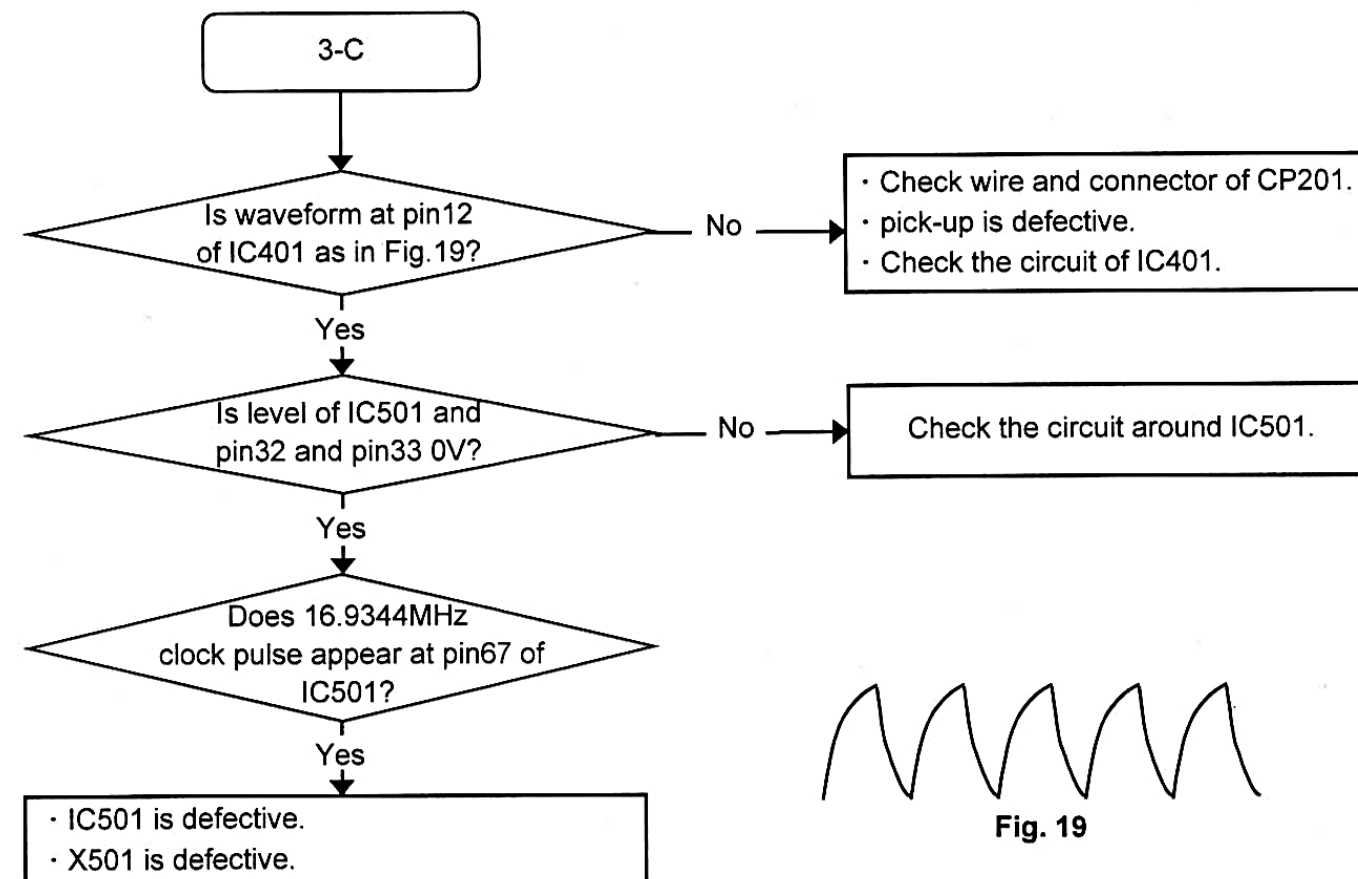
[Repair item 3-A] Sled motor does not move.



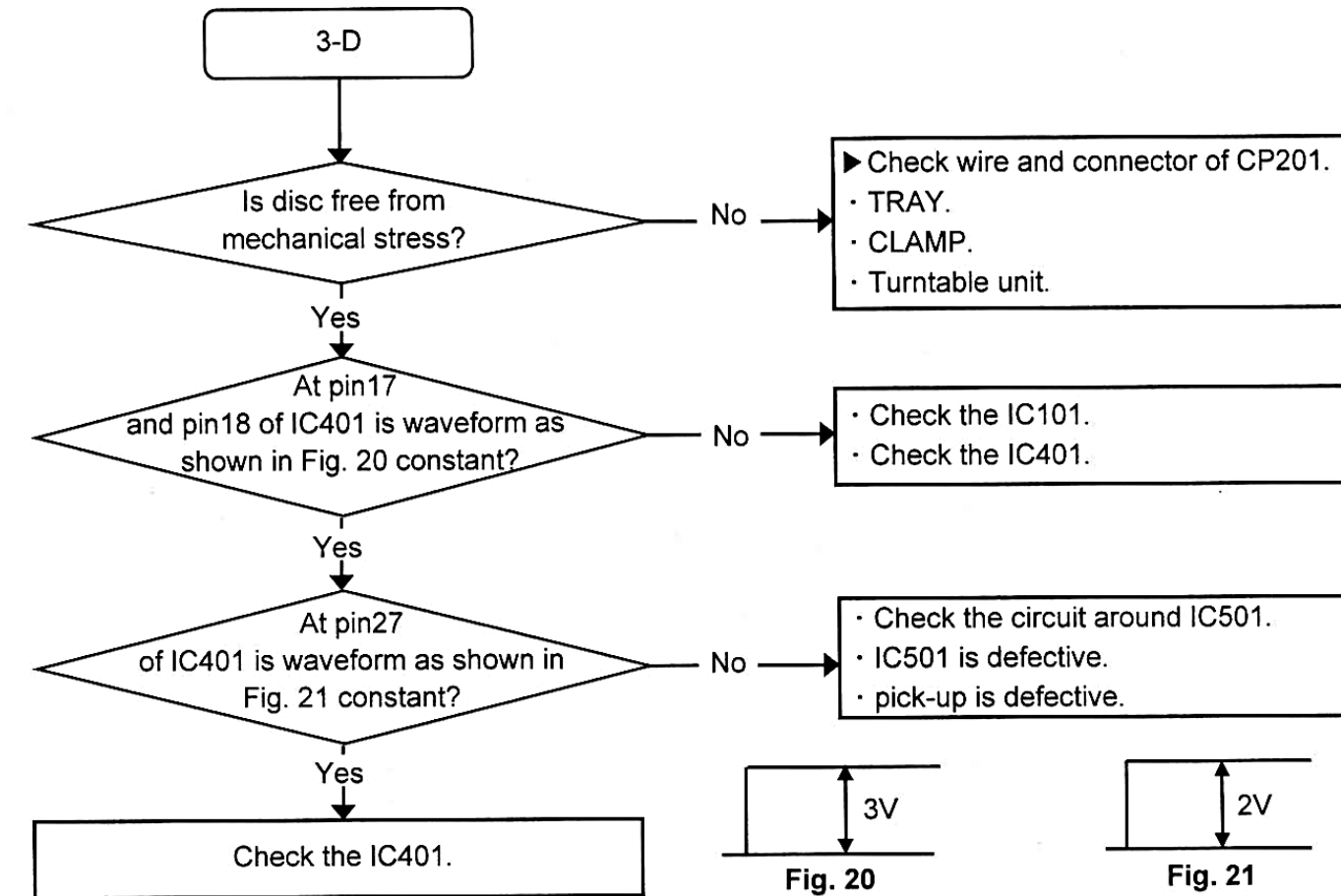
[Repair item 3-B] Laser does not emit.



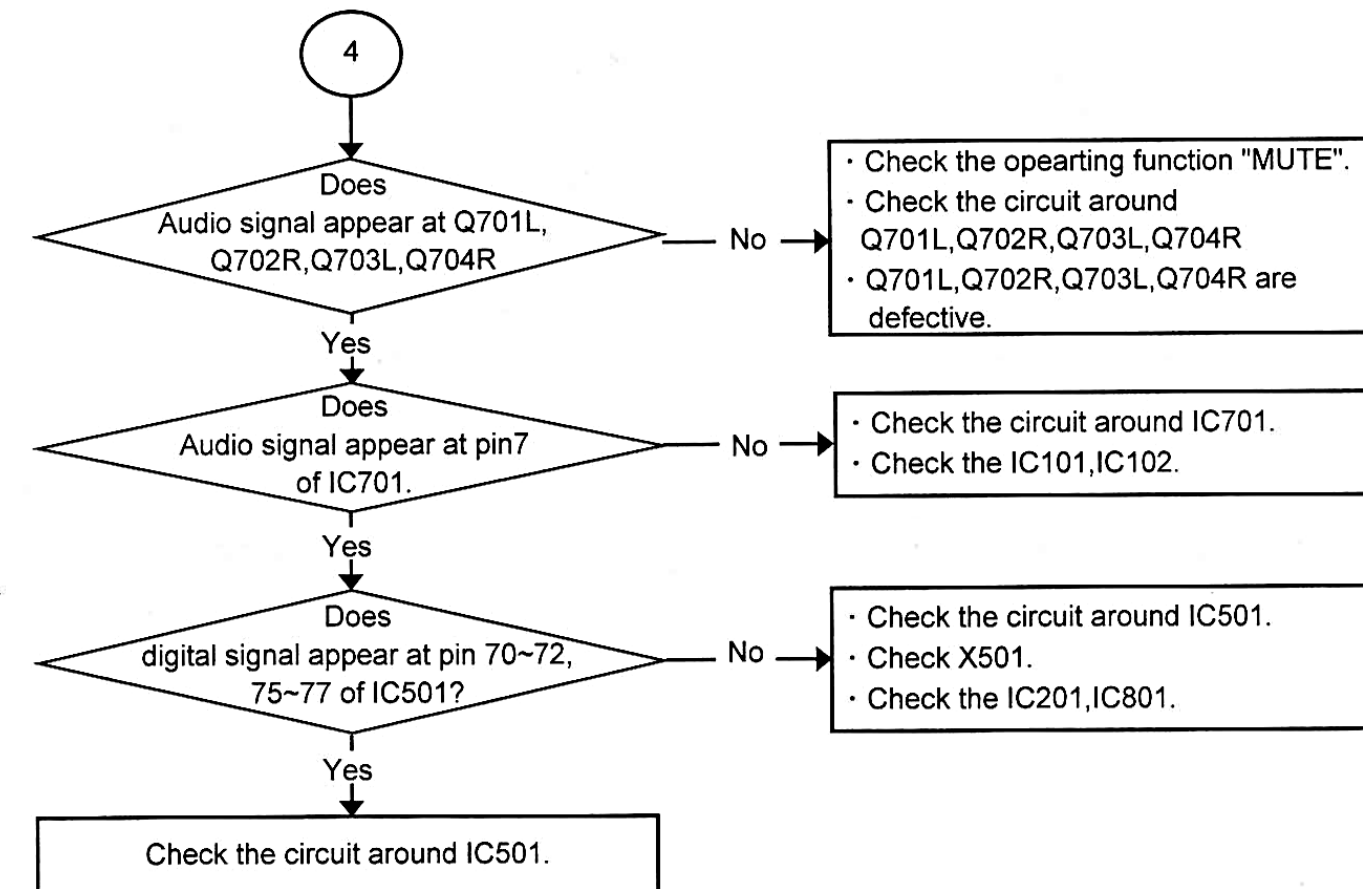
[Repair item 3-C] Object lens of pick-up unit does not move up and down.



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



[Repair item 4] No sound signal.



MECHANICAL PARTS LIST

Model No. : CD-5090R/C/G

★ Parts without Parts No are not supplied.

Parts without version mentioned are common ones.

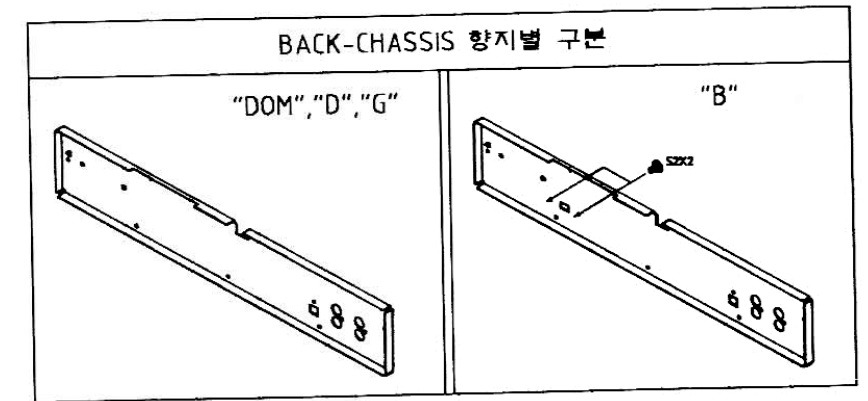
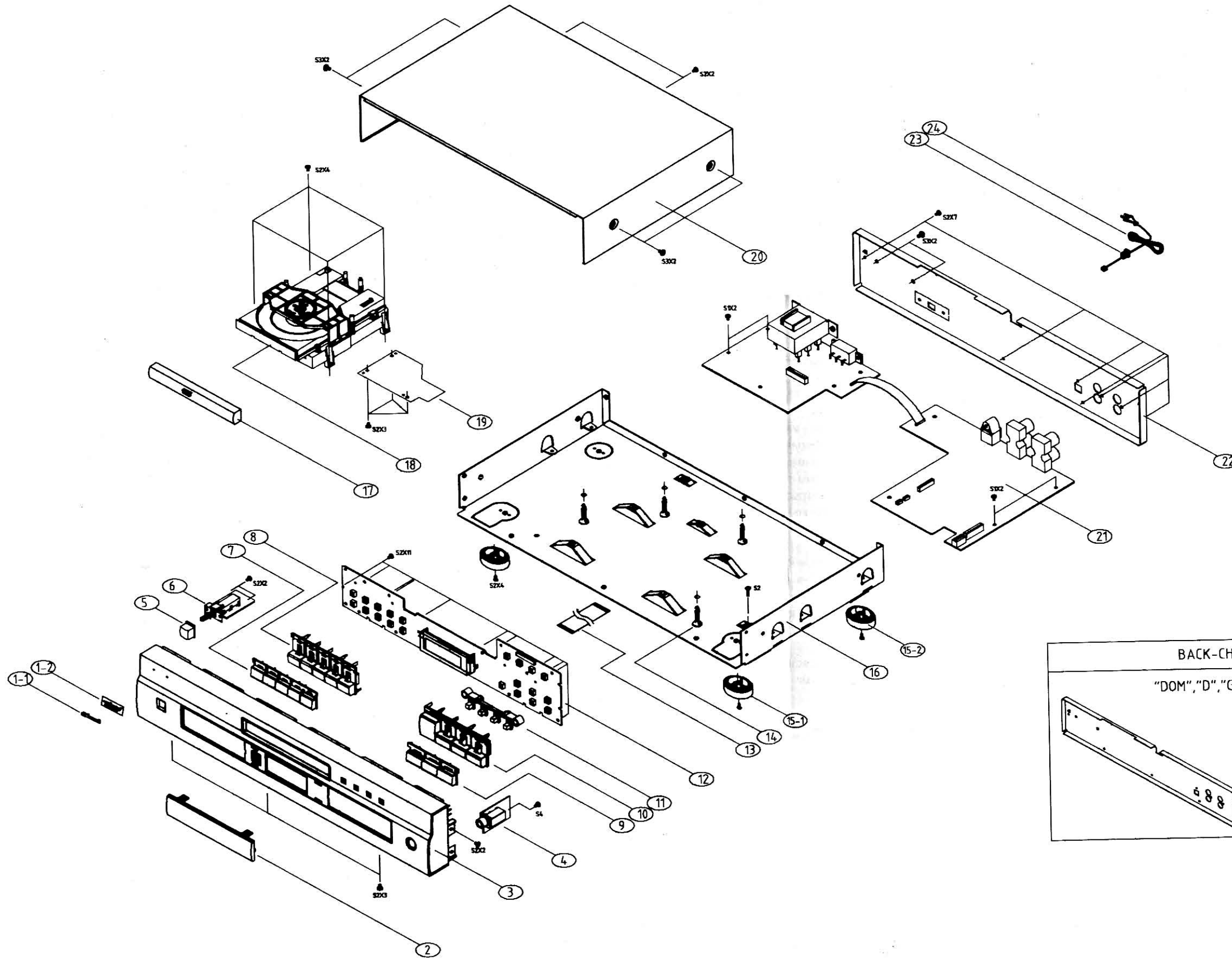
NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
PACKAGE				
	WARRANTY CARD	1	5727041570012	K
	WARRANTY CARD	1	5727041620020	D/G
	WARRANTY CARD	1	5727041650010	PT
	GIFT BOX, 525*333*160	1	6000020360010	K
	CARTON BOX	1	6017042680010	K
	CARTON BOX	1	6017042680020	D/G/PT
	CUSHION,SNOW	1	6230020574010	
	FILM SOFT PE,690*1000	1	6320040022011	
	POLY BAG,330*240*0.05	1	6330040062010	
ACCESSORIES				
	INSTRUCTION MANUAL	1	5707047100010	K
	INSTRUCTION MANUAL	1	5707047100020	G
	INSTRUCTION MANUAL	1	5707047100020	D
	INSTRUCTION MANUAL	1	5707047100030	PT
	REMOCON,INKEL	1	8300040660040	K
	REMOCON,SHERWOOD	1	8300040660050	PT
	BATTERY, DRY (1.5V)	1	G670011R50000	K/PT
	CORD RCA 2P	1	L063040400000	
	CORD RCA 1P(W:800)	1	L063040780000	
	ADAPTER, 220V->110V (15A/250V)	1	L109283004100	PT
CABINET & CHASSIS				
1-1	BADGE, SHERWOOD	1	5637040371010	D/PT
1-2	BADGE	1	5637040501010	K
	BADGE, SHERWOOD EUROPE	1	5637210031010	G
2	WINDOW DISPLAY	1	5077020633010	
3	FRONT PANEL	1	3067021221020	
4	HEAD PHONE ASS'Y	1		
5	BUTTON, POWER	1	5090200091010	
6	POWER SW ASS'Y	1		
7	BUTTON, "5" KEY	1	5097021801010	
8	BUTTON, "0" KEY	1	5097021811010	

NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
9	BUTTON, "REPEAT" KEY	1	5097021831010	
10	BUTTON, "RANDOM" KEY	1	5097021821010	
11	BUTTON, "4" KEY	1	5090021791010	
12	FRONT PCB ASS'Y	1		
13	CABLE, FLAT CARD (220MM*22P)	4	L301201220010	
14	FASTENER, BUTTON SUPPORT	2	4420010223010	
15-1	FOOT H/S	2	4007041011010	D/G/PT
15-1	FOOT AL	2	4007041031010	K
15-2	FOOT PL	2	4000040201010	
16	MAIN CHASSIS	1	3200044216020	
17	COVER TRAY	1	4317020631010	
18	MECHA ASS'Y, KSM213CCM	1	8038040000230	
19	C/STATION PCB ASS'Y	1		
20	TOP CABINET	1	3000041216040	
21	MAIN PCB ASS'Y	1		
22	CHASSIS BACK	1	3207020826010	K
	CHASSIS BACK	1	3207020826020	PT
	CHASSIS BACK	1	3207020826030	D/G
23	STOPPER CORD	1	4380040162010	
24	CORD ASS'Y	1	L061000810000	K
	CORD ASS'Y	1	L068040011010	D/G/PT
SCREWS				
S1	SCREW,+2S 3*8 YLBH	4	B020030081B10	
S2	SCREW,+2S 3*8 BK/BH	39	B020030083B10	
S3	SCREW,+2S 4*8 BK/BH	6	B020940083B10	
S4	SCREW,+2S 3*8 Pi12 BK/WRH	1	1500001456010	

☞ D/G -> EU (230V/50Hz), K -> KOREA (220V/60Hz), PT -> ASIA (110/220V,50/60Hz)

EXPLODED VIEW

Model No. : CD-5090R/C/G



ELECTRICAL PARTS LIST

Model No. : CD-5090R/C/G

★ Parts without Parts No are not supplied.

Parts without version mentioned are common ones.

NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
PCB1	ASSEMBLY P.C.BOARD MAIN		7025HD9802020	D
PCB1	ASSEMBLY P.C.BOARD MAIN		7025HD9802090	G
PCB1	ASSEMBLY P.C.BOARD MAIN		7025HD9802010	K
PCB1	ASSEMBLY P.C.BOARD MAIN		7025HD9802030	PT
CAPACITORS				
C201	ELECT GE 85C	47 uF	25V M 1	D040470084070
C203	ELECT GE 85C	100 uF	10V M 1	D040101082070
C204	CERAMIC HIK DISC	0.001 uF	50V K 1	D004102277050
C205	ELECT GE 85C	100 uF	10V M 1	D040101082070
C207	CERAMIC T.C DISC	15 pF	50V J 1	D000150067050
C210	ELECT GE 85C	1 uF	50V M 1	D040010087080
C302	CERAMIC HIK DISC	0.01 uF	50V Z 1	D004103097060
C306	CERAMIC HIK DISC	0.01 uF	50V Z 1	D004103097060
C307	CERAMIC HIK DISC	0.001 uF	50V K 1	D004102277050
C308/C309	ELECT GE 85C	47 uF	25V M 2	D040470084070
C310	ELECT GE 85C	100 uF	10V M 1	D040101082070
C311	ELECT GE 85C	47 uF	25V M 1	D040470084070
C400	ELECT GE 85C	100 uF	10V M 1	D040101082070
C401	ELECT GE 85C	470 uF	6.3V M 1	D040471081060
C402	FILM POLYESTER	0.01 uF	100V J 1	D02010306C060
C421/C422	CERAMIC HIK DISC	100 pF	50V K 2	D004101277050
C423	FILM POLYESTER	0.033 uF	100V J 1	D02033306C060
C501	CERAMIC HIK DISC	470 pF	50V K 1	D004471277050
C502	ELECT GE 85C	3.3 uF	50V M 1	D0403R3087050
C503	CERAMIC HIK DISC	470 pF	50V K 1	D004471277050
C505	ELECT GE 85C	470 uF	6.3V M 1	D040471081060
C517	FILM POLYESTER	0.0015 uF	100V J 1	D02015206C060
C518	FILM POLYESTER	0.047 uF	100V J 1	D02047306C060
C519	FILM POLYESTER	0.0033 uF	100V J 1	D02033206C060
C520	CERAMIC HIK DISC	330 pF	50V K 1	D004331277050
C521	FILM POLYESTER	0.1 uF	100V J 1	D02010406C060
C522/C523	CERAMIC T.C DISC	27 pF	50V J 2	D000270167050
C525/C526	ELECT GE 85C	100 uF	10V M 2	D040101082070
C532	FILM POLYESTER	0.01 uF	100V J 1	D02010306C060
C551	CERAMIC T.C DISC	47 pF	50V J 1	D000470167050
C560	CERAMIC HIK DISC	0.001 uF	50V K 1	D004102277050
C601	CERAMIC HIK AXIAL	0.1 uF	50V Z 1	D005104597530
C602-C605	CERAMIC HIK AXIAL	100 pF	50V K 4	D005101177520
C606	CERAMIC HIK AXIAL	0.1 uF	50V Z 1	D005104597530
C607	CERAMIC T.C AXIAL	10 pF	50V J 1	D001100067520
C608	CERAMIC HIK AXIAL	100 pF	50V K 1	D005101177520
C701L	CERAMIC HIK DISC	560 pF	50V K 1	D004561277050
C702R	CERAMIC HIK DISC	560 pF	50V K 1	D004561277050
C703L	CERAMIC HIK DISC	680 pF	50V K 1	D004681277050
C704R	CERAMIC HIK DISC	680 pF	50V K 1	D004681277050
C705L	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C706R	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C707L	CERAMIC HIK DISC	560 pF	50V K 1	D004561277050
C708R	CERAMIC HIK DISC	560 pF	50V K 1	D004561277050
C709L	ELECT GE 85C	10 uF	50V M 1	D040100087070
C710R	ELECT GE 85C	10 uF	50V M 1	D040100087070
C713L	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C714R	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C715L	ELECT GE 85C	22 uF	16V M 1	D040220083070
C716R	ELECT GE 85C	22 uF	16V M 1	D040220083070

NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
C717L	CERAMIC HIK DISC	0.001 uF	50V K 1	D004102277050
C718R	CERAMIC HIK DISC	0.001 uF	50V K 1	D004102277050
C720R	FILM POLYESTER	0.0022 uF	100V J 1	D02022206C060
C721	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C721L	FILM POLYESTER	0.0022 uF	100V J 1	D02022206C060
C722R	CERAMIC HIK DISC	560 pF	50V K 1	D004561277050
C723	CERAMIC HIK DISC	0.01 uF	50V Z 1	D004103097060
C751L	ELECT GE 85C	2.2 uF	50V M 1	D0402R2087250
C752R	ELECT GE 85C	2.2 uF	50V M 1	D0402R2087250
C753L	CERAMIC HIK DISC	560 pF	50V K 1	D004561277050
C754R	CERAMIC HIK DISC	560 pF	50V K 1	D004561277050
C755L	CERAMIC HIK DISC	470 pF	50V K 1	D004471277050
C756R	CERAMIC HIK DISC	470 pF	50V K 1	D004471277050
C757L	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C758R	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C759	CERAMIC HIK DISC	100 pF	50V K 1	D004101277050
C760	CERAMIC HIK DISC	0.01 uF	50V Z 1	D004103097060
C791	CERAMIC HIK DISC	0.01 uF	50V Z 1	D004103097060
C792/C793	ELECT GE 85C	1 uF	50V M 2	D040010087080
C851	CERAMIC T.C DISC	33 pF	50V J 1	D000330167060
C852	CERAMIC SEMI DISC	0.1 uF	50V Z 1	D006104597050
C854	CERAMIC SEMI DISC	0.1 uF	50V Z 1	D006104597050
CONNECTORS				
CP105	CN.WIRE TRAP 2.0MM (12P)	1	L141521471210	
CP201	CN.FPC 1.25MM (16P)	1	L131837001600	
CP301	CN.WAFER 2.0MM (6P)	1	L101220060000	
CP302	CN.WAFER 2.0MM (5P)	1	L101220050000	
CP601	CN.FPC 1.25MM (22P)	1	L131837002200	
CP751	CN.WIRE TRAP 2.0MM (4P)	1	L141521470410	
DIODES				
D201	1SS133T,SWITCHING	1	K000013300520	
D401/D402	1SS133T,SWITCHING	2	K000013300520	
D701/D702	1SS133T,SWITCHING	2	K000013300520	
D791	1SS133T,SWITCHING	1	K000013300520	
D851-D853	1SS133T,SWITCHING	3	K000013300520	
INTEGRATED CIRCUITS				
IC201	CXA1821M,RF AMP	1	J030182100010	
IC302	NJM4558DD,OP	1	J121455800020	
IC401	BA5979S,DRIVER	1	J127597900020	
IC501	CXD2587Q,DSP	1	J031258700020	
IC701	NJM4558DD,OP	1	J121458000010	
IC751	NJM4558DD,OP	1	J121458000010	
COILS				
L201	INDUCTOR COIL,10uH	1	D330100700520	
L851	INDUCTOR COIL,1.0uH	1	D3301R0001020	
TRANSISTORS				
Q201	KTA1270Y,PNP	1	J5001270Y0050	
Q301	KTA1273Y,PNP	1	J5001273Y0050	
Q302	KTC3205Y,NPN	1	J5023205Y0020	
Q401	KTA1273Y,PNP	1	J5001273Y0050	
Q701L	2SC2878,NPN	1	J502287800000	
Q702R	2SC2878,NPN	1	J502287800000	

NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
Q703L	2SC2878,NPN	1	J502287800000	
Q704R	2SC2878,NPN	1	J502287800000	
Q791/Q792	DTC124ES,NPN	2	J6020124E0010	
RESISTORS				
R200	CARBON FILM	4.7 ohm 1/5W J	1	C0004R706P520
R205/R206	CARBON FILM	150 kohm 1/5W J	2	C00001546P520
R207	CARBON FILM	10 ohm 1/5W J	1	C00001006P520
R208	CARBON FILM	27 kohm 1/5W J	1	C00002736P520
R209	CARBON FILM	15 kohm 1/5W J	1	C00001536P520
R215	CARBON FILM	22 kohm 1/5W J	1	C00002236P520
R216	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R306/R307	CARBON FILM	10 kohm 1/5W J	2	C00001036P520
R308	CARBON FILM	75 kohm 1/5W J	1	C00007536P520
R309	CARBON FILM	82 kohm 1/5W J	1	C00008236P520
R310/R311	CARBON FILM	75 kohm 1/5W J	2	C00007536P520
R312	CARBON FILM	47 ohm 1/5W J	1	C00004706P520
R313	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R314	CARBON FILM	6.8 kohm 1/5W J	1	C00006826P520
R401	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R402	CARBON FILM	2.2 ohm 1/5W J	1	C0002R206P520
R404	CARBON FILM	4.7 kohm 1/5W J	1	C00004726P520
R421	CARBON FILM	100 kohm 1/5W J	1	C00001046P520
R422	CARBON FILM	160 kohm 1/5W J	1	C00001646P520
R500	CARBON FILM	150 ohm 1/5W J	1	C00001516P520
R501	CARBON FILM	15 kohm 1/5W J	1	C00001536P520
R502	CARBON FILM	100 kohm 1/5W J	1	C00001046P520
R503	CARBON FILM	15 kohm 1/5W J	1	C00001536P520
R505	CARBON FILM	47 ohm 1/5W J	1	C00004706P520
R518	CARBON FILM	390 ohm 1/5W J	1	C00003916P520
R519/R520	CARBON FILM	3.3 kohm 1/5W J	2	C00003326P520
R521	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R522	CARBON FILM	100 kohm 1/5W J	1	C00001046P520
R523	CARBON FILM	33 kohm 1/5W J	1	C00003336P520
R524/R525	CARBON FILM	1 Mohm 1/5W J	2	C00001056P520
R532	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R551	CARBON FILM	5.6 ohm 1/5W J	1	C0005R606P520
R591	CARBON FILM	6.8 kohm 1/5W J	1	C00006836P520
R601	CARBON FILM	470 ohm 1/5W J	1	C00004716P520
R602	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R603	CARBON FILM	1 kohm 1/5W J	1	C00001026P520
R604	CARBON FILM	15 kohm 1/5W J	1	C00001536P520
R605	CARBON FILM	1 kohm 1/5W J	1	C00001026P520
R606/R607	CARBON FILM	3.3 kohm 1/5W J	2	C00003326P520
R700	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R701L	CARBON FILM	12 kohm 1/5W J	1	C00001236P520
R702R	CARBON FILM	12 kohm 1/5W J	1	C00001236P520
R703L	CARBON FILM	12 kohm 1/5W J	1	C00001236P520
R704R	CARBON FILM	12 kohm 1/5W J	1	C00001236P520
R705L	CARBON FILM	12 kohm 1/5W J	1	C00001236P520
R706R	CARBON FILM	12 kohm 1/5W J	1	C00001236P520
R707L	CARBON FILM	100 kohm 1/5W J	1	C00001046P520
R708R	CARBON FILM	100 kohm 1/5W J	1	C00001046P520
R709L	CARBON FILM	470 ohm 1/5W J	1	C00004716P520
R710R	CARBON FILM	470 ohm 1/5W J	1	C00004716P520
R711L	CARBON FILM	2.7 kohm 1/5W J	1	C00002726P520
R712R	CARBON FILM	2.7 kohm 1/5W J	1	C00002726P520

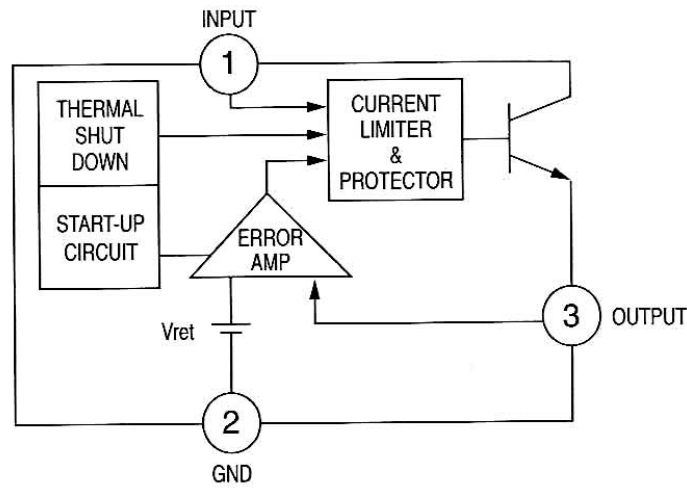
NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
R713L	CARBON FILM	2.7 kohm 1/5W J	1	C00002726P520
R714R	CARBON FILM	2.7 kohm 1/5W J	1	C00002726P520
R715L	CARBON FILM	68 ohm 1/5W J	1	C00006806P520
R716R	CARBON FILM	68 ohm 1/5W J	1	C00006806P520
R717L	CARBON FILM	100 kohm 1/5W J	1	C00001046P520
R718R	CARBON FILM	100 kohm 1/5W J	1	C00001046P520
R719L	CARBON FILM	330 ohm 1/5W J	1	C00003316P520
R720R	CARBON FILM	330 ohm 1/5W J	1	C00003316P520
R721L	CARBON FILM	330 ohm 1/5W J	1	C00003316P520
R722R	CARBON FILM	330 ohm 1/5W J	1	C00003316P520
R723L	CARBON FILM	100 ohm 1/5W J	1	C00001016P520
R724R	CARBON FILM	100 ohm 1/5W J	1	C00001016P520
R751L	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R752R	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R753L	CARBON FILM	2.4 kohm 1/5W J	1	C00002426P520
R754R	CARBON FILM	2.4 kohm 1/5W J	1	C00002426P520
R755L	CARBON FILM	47 ohm 1/5W J	1	C00004706P520
R756R	CARBON FILM	47 ohm 1/5W J	1	C00004706P520
R757L	CARBON FILM	56 ohm 1/5W J	1	C00005606P520
R758R	CARBON FILM	56 ohm 1/5W J	1	C00005606P520
R791	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R792	CARBON FILM	33 kohm 1/5W J	1	C00003336P520
R793	CARBON FILM	2.2 kohm 1/5W J	1	C00002226P520
R851	CARBON FILM	22 kohm 1/5W J	1	C00002236P520
R852	CARBON FILM	220 kohm 1/5W J	1	C00002246P520
ZENER DIODES				
ZD301	MTZJ4.3B,ZENER		1	K06004R344520
ZD791	MTZJ8.2B,ZENER		1	K06008R244520
MISCELLANEOUS				
BD501	COIL,BFS2550A0F1(52MM)		1	D320255000520
G601	TERMINAL GND		1	3790040876010
G701	TERMINAL GND		1	3790040876010
J201-J214	CN,WIRE 1P		14	L045084006040
J216-J252	CN,WIRE 1P		37	L045084006040
JK701	TER,RCA 2PIN		1	G601020130020
JK851	TER,RCA (DIGI-LINK)		1	G608040190010
JK852	OPTICAL MODULE,GP1F32T		1	E100132000010
X501	CRYSTAL,16.9344MHZ		1	E80016R934440
PCB1-1 ASSEMBLY P.C.BOARD FRONT				
CAPACITORS				
C800	CERAMIC HIK AXIAL	0.1 uF 50V Z	1	D005104597530
C801	CERAMIC HIK AXIAL	470 pF 50V K	1	D005471277520
C802	ELECT GE 85C	100 uF 10V M	1	D040101082050
C803	ELECT GE 85C	1 uF 50V M	1	D040010087070
C804	CERAMIC HIK AXIAL	0.01 uF 16V M	1	D005103773530
C805	ELECT GE 85C	47 uF 16V M	1	D040470083070
C807-C813	CERAMIC HIK AXIAL	100 pF 50V K	7	D005101177520
C814	CERAMIC HIK AXIAL	0.047 uF 50V Z	1	D005473597520
CONNECTOR				
CP801	CN.FPC 1.25MM (22P)		1	L131837002210
DIODES				
D801-D803	1SS133T,SWITCHING		3	K000013300520

NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
INTEGRATED CIRCUITS				
IC801	CXP82320-519Q,CPU		1	J020823205190
IC802	KIA7042P,RESET		1	J125704200010
RESISTORS				
R802/R803	CARBON FILM	10 kohm 1/5W J	2	C00001036P520
R804	CARBON FILM	22 ohm 1/5W J	1	C00002206P520
R805-R811	CARBON FILM	10 kohm 1/5W J	7	C00001036P520
R812-R818	CARBON FILM	1 kohm 1/5W J	7	C00001026P520
MISCELLANEOUS				
FL801	DISPLAY,SVA-07SM04		1	K530070400010
G802	RING,TER WIRE 130MM		1	8410131240010
J801-J806	CN,WIRE 1P		6	L045084006040
J808-J813	CN,WIRE 1P		6	L045084006040
J815/J816	CN,WIRE 1P		2	L045084006040
J818-J829	CN,WIRE 1P		12	L045084006040
J831-J837	CN,WIRE 1P		7	L045084006040
RM801	REMOCON MODULE,PIC26043H2		1	E940260430010
S801-S821	TACT SW,SKHV10920A		21	G180000270010
XT801	RESONATOR,CST10.0MTW		1	E830100000050
	HOLDER,FLT		1	4320020651010
PCB1-2 ASSEMBLY P.C.BOARD POWER				
CAPACITORS				
C100-C106	CERAMIC HIK DISC	0.047 uF 50V Z	7	D004473597050
C107	ELECT GE 85C	1000 uF 25V M	1	D040102084030
C108	ELECT GE 85C	2200 uF 25V M	1	D040222084030
C114	ELECT GE 85C	100 uF 50V M	1	D040101087060
C115	CERAMIC HIK DISC	0.047 uF 50V Z	1	D004473597050
C116	ELECT GE 85C	100 uF 50V M	1	D040101087060
C117/C118	CERAMIC HIK DISC	0.01 uF 50V Z	2	D004103097060
C119	ELECT GE 85C	1 uF 50V M	1	D040010087080
C120	CERAMIC HIK DISC	0.01 uF 50V Z	1	D004103097060
C121	ELECT GE 85C	47 uF 25V M	1	D040470084070
C122	ELECT GE 85C	100 uF 10V M	1	D040101082070
C123	CERAMIC HIK DISC	0.047 uF 50V Z	1	D004473597050
CONNECTORS				
CP101	CN.WAFER 7.92MM (2P)		1	L108039602010
CP102	CN.WIRE TRAP 2.0MM (8P)		1	L141521470810
CP104	WIRE,FLAT 2877 2.0MM (12P)		1	L321141122610
DIODES				
D101-D104	1N4004A,RECTIFIER		4	K040400400520
D106-D109	1SS133T,SWITCHING		4	K000013300520
FUSES				
F101	FUSE CLIP		1	G645000050010 K/PT
F101	FUSE,250V-S200MA		1	G650201251150 K
F101	FUSE,250V-T315MA		1	G650311251160 PT
INTEGRATE CIRCUITS				
IC101	KIA7808P,REGULATOR		1	J126780800110
IC102	NJM7908FA,REGULATOR		1	J126790800020
TRANSISTOR				

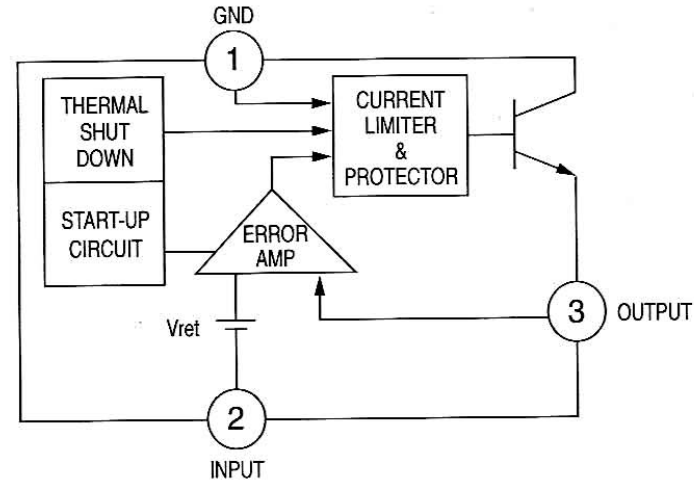
NO.	DESCRIPTION	Q'TY	PARTS NO.	VER.
Q101	KTA1273Y,PNP		1	J5001273Y0050
RESISTORS				
R100	METAL FILM	1 ohm 1/4W J	1	C060001063050
R101	CARBON FILM	10 kohm 1/5W J	1	C00001036P520
R102	CARBON FILM	2.7 kohm 1/5W J	1	C00002726P520
R103/R104	CARBON FILM	10 kohm 1/5W J	2	C00001036P520
R105/R106	CARBON FILM	100 ohm 1/5W J	2	C00001016P520
R107	METAL FILM	1 ohm 1/4W J	1	C060001063050
SL101	SLIDE SW,RAS-1201		1	G060040550010 PT
ZENER DIODES				
ZD101	MTZJ27B,ZENER		1	K06027R044520
ZD102	MTZJ3.9B,ZENER		1	K06003R944520
MISCELLANEOUS				
G101/G102	TERMINAL GND		2	3790040876010
HT101	HEAT SINK		1	2120020238030
J1	CN,WIRE 1P		1	L045084006040 D/G/K
J101	CN,WIRE 1P		1	L045084006040
J103	CN,WIRE 1P		1	L045084006040
J105-J108	CN,WIRE 1P		4	L045084006040 D/G/K
J105-J118	CN,WIRE 1P		14	L045084006040 PT
J110-J118	CN,WIRE 1P		9	L045084006040 D/G/K
J2	CN,WIRE 1P		1	L045084006040 D/G
PT101	POWER TRANS, 110V/220V, 50/60Hz		1	8200480043030
	SCREW,+3S 3*8 B-TYPE		1	B020030081B10
PCB1-3 ASSEMBLY P.C.BOARD C/STATION				
CP202	CN.FPC 1.0MM (16P)		1	L130620001600
CP203	CN.FPC 1.25MM (16P)		1	L131837001610
J301-J307	CN,WIRE 1P		7	L045084006040
PCB1-4 ASSEMBLY P.C.BOARD POWER SW				
C151/C152	ELCET BP 85C	2.2 uF 50V M	2	D0422R2087200
GP103	WIRE,FLAT 2877 2.0MM (8P)		1	L321161082610
SW101	PUSH SW,PN-BL097H		1	G000097000000
PCB1-5 ASSEMBLY P.C.BOARD HEAD-PHONE				
BD701/BD702	COIL,BFS2550A0F1(52MM)		2	D320255000520
CP752	WIRE,FLAT 2877 2.0MM (4P)		1	L321151042610
G751	CN,WIRE 1P		1	L046221010580
JK751	JACK,D6.5		1	G402038040020
MAIN PCB ASS'Y (PCB1) INCLUDES THE FOLLOWING BOARDS				
① THE ASS'Y PCB FRONT (PCB1-1).				
② THE ASS'Y PCB POWER (PCB1-2).				
③ THE ASS'Y PCB C/STATION (PCB1-3).				
④ THE ASS'Y PCB POWER SW (PCB1-4).				
⑤ THE ASS'Y PCB HEAD-PHONE (PCB1-5).				
D/G -> EU (230V/50Hz), K -> KOREA (220V/60Hz), PT -> ASIA (110/220V,50/60Hz)				

IC'S FUNCTIONAL BLOCK DIAGRAM

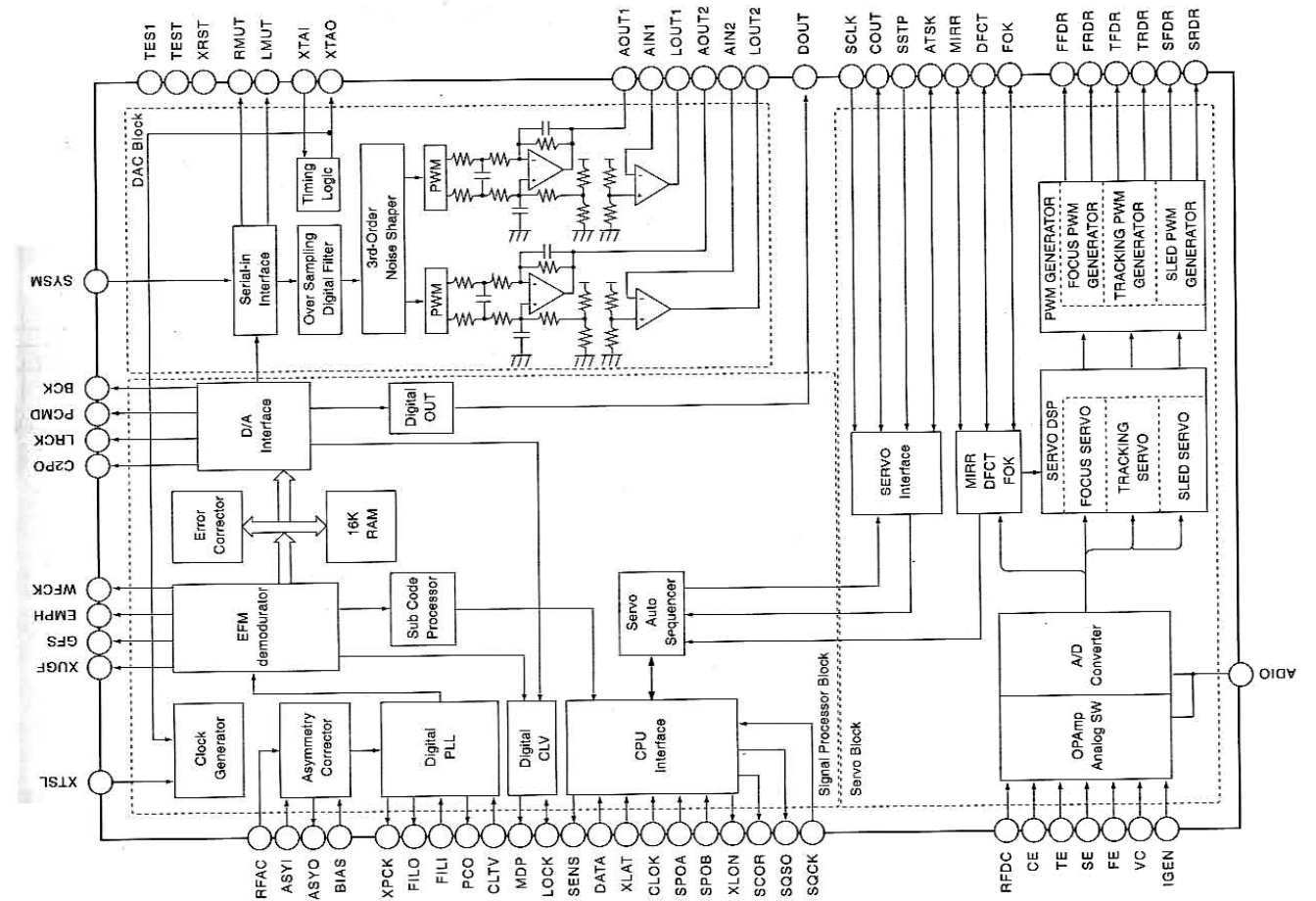
KIA7808P : IC101



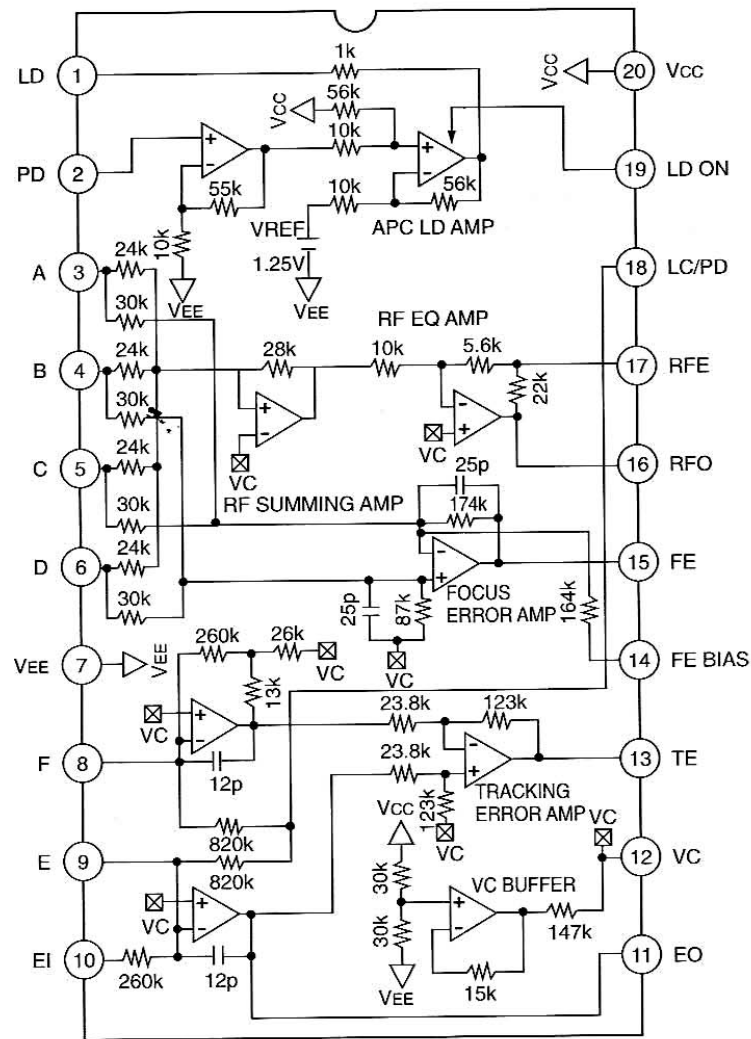
NJM7908 : IC102



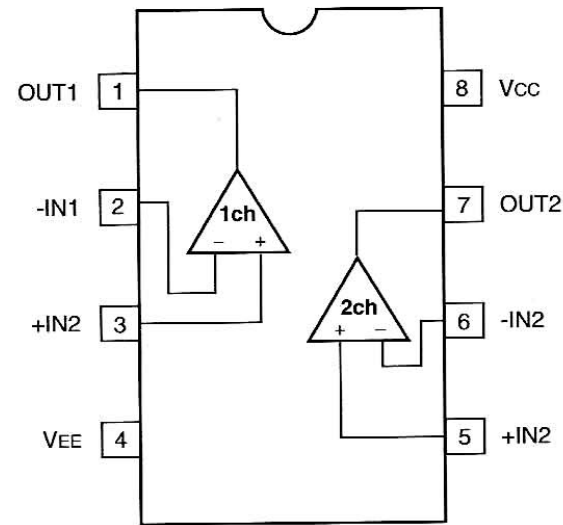
CXD2587Q : IC501



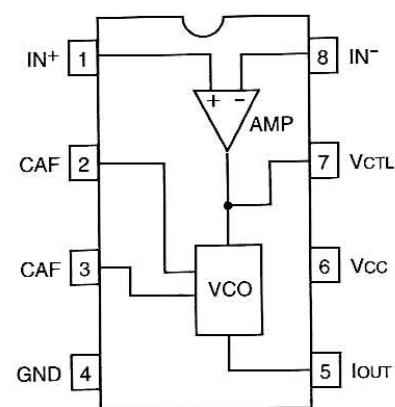
CXA1821M : IC201



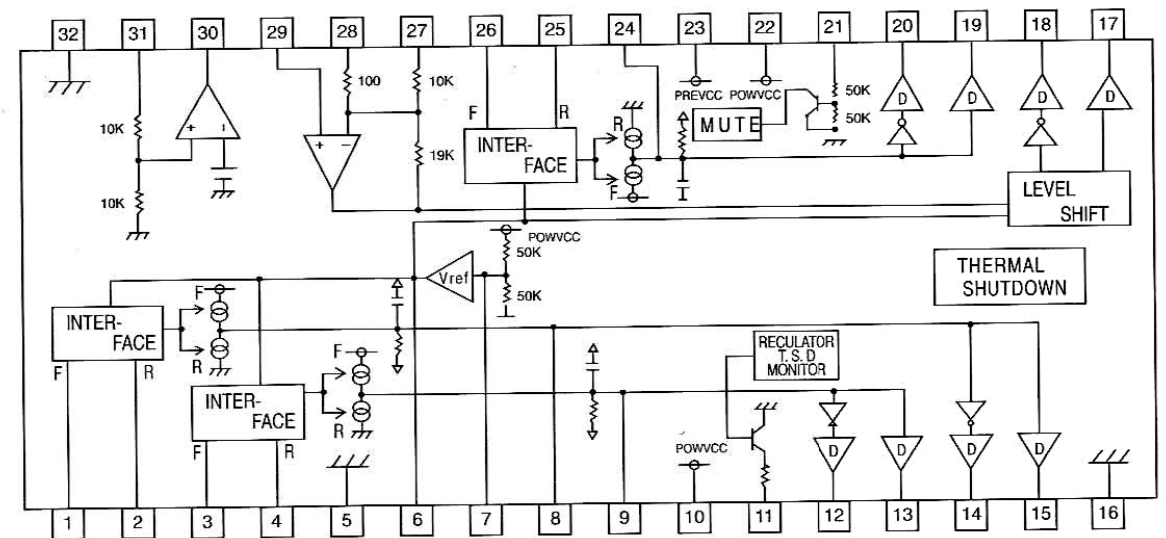
NJM4558DD : IC302, IC701, IC751



KIA7042 : IC802

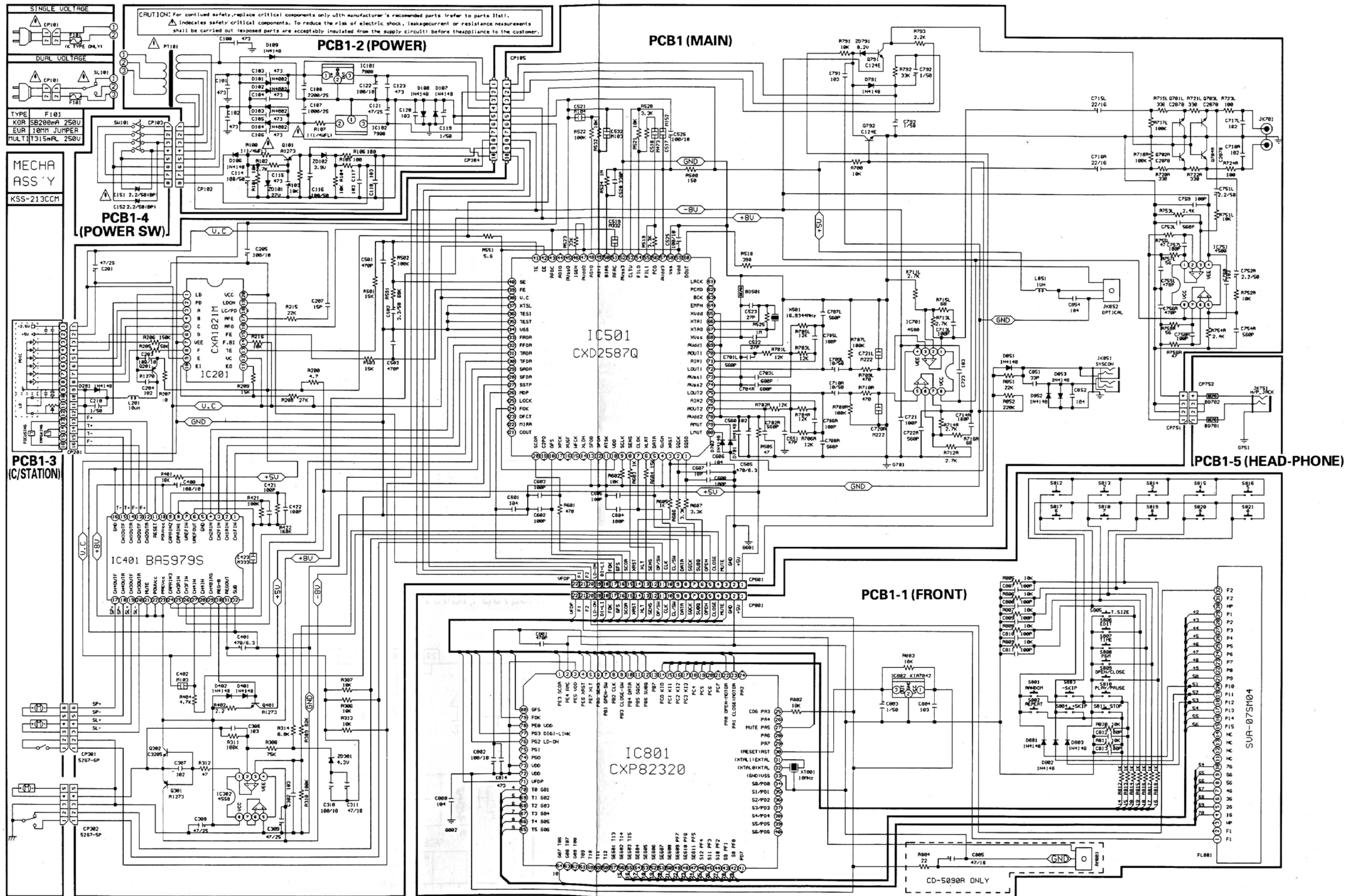


BA5979S : IC401

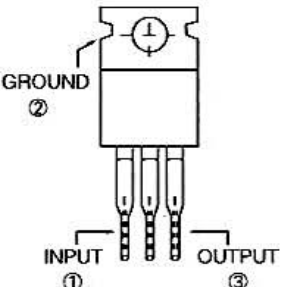
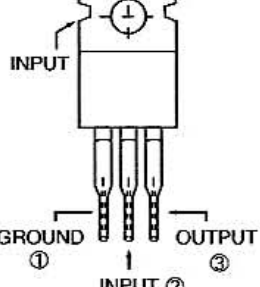
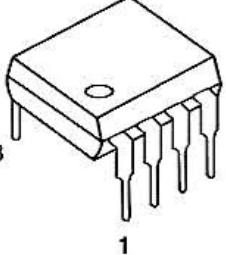
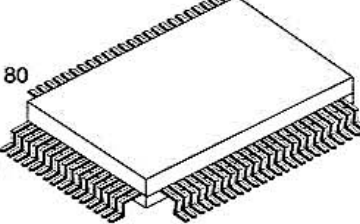
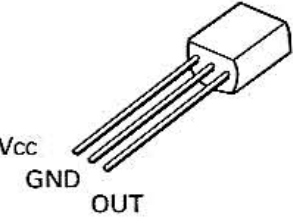
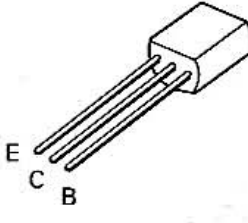
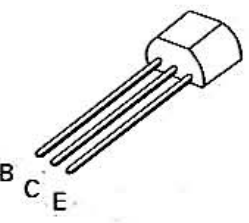
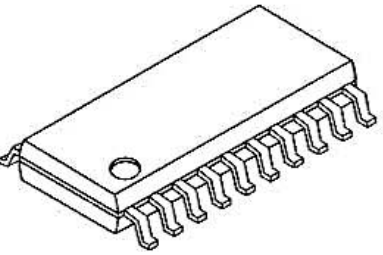
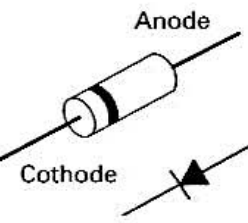
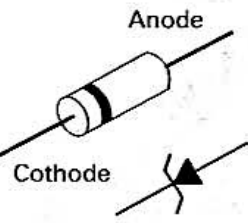


SCHEMATIC DIAGRAM

Model No. : CD-5090R/C/G



TRANSISTORS LEAD IDENTIFICATION

<p>KIA78XX</p> 	<p>NJM79XX</p> 	<p>NJM4558DD</p> 	<p>CXP82320 CXD2587</p> 
<p>KIA7042</p> 	<p>KTA1270 2SC2878</p> 	<p>DTC124E</p> 	<p>CXA1821M</p> 
<p>1SS133T IN4004</p> 	<p>ZENER</p> 	<p>A1273 C3205</p> 