

# SERVICE MANUAL

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COMPACT DISC STEREO  
SYSTEM

BASIC TAPE MECHANISM : 2ZM-1YR8N  
BASIC CD MECHANISM : DA11T3C

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This Service Manual is the "Revision Publishing" and replaces "Simple Manual"  
(S/M Code No. 09-003-340-0T1).

# SPECIFICATIONS

## MAIN UNIT

### FM tuner section

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	13.2 dBf
Antenna terminals	75 ohms (unbalanced)

### AM tuner section

Tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
Usable sensitivity	350 $\mu$ V/m
Antenna	Loop antenna

### Amplifier section

Power output	4 W + 4 W (4 ohms, T.H.D. 1%, 1 kHz) 5 W + 5 W (4 ohms, T.H.D. 10%, 1 kHz)
Input	AUX: 500 mV
Outputs	SPEAKERS: accept speakers of 4 ohms or more PHONES (stereo minijack): accepts headphones of 32 ohms or more

### Cassette deck section

Track format	4 tracks, 2 channels stereo
Frequency response	Normal tape: 50 Hz – 15000 Hz
Recording system	AC bias
Heads	Recording/playback $\times$ 1 Erase head $\times$ 1

### Compact disc player section

Laser	Semiconductor laser ( $\lambda = 780$ nm)
D-A converter	1 bit linear
Wow and flutter	Unmeasurable

### SPEAKER SYSTEM

Speakers	100 mm cone type
Impedance	4 ohms
Dimensions (W $\times$ H $\times$ D)	140 $\times$ 231.5 $\times$ 198 mm
Weight	1.1 kg

### GENERAL

Power requirements	120/220-240V AC, switchable 50/ 60 Hz
Power consumption	25 W
Dimensions of main unit (W $\times$ H $\times$ D)	160 $\times$ 231.5 $\times$ 197 mm
Weight of main unit	2.5 kg

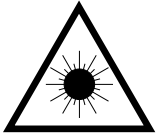
- Design and specifications are subject to change without notice.

## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when 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.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainituilla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylitävälle näkymättömälle lasersäteilylle.

### WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### ATTENTION

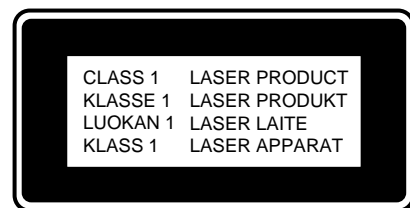
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL!

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.

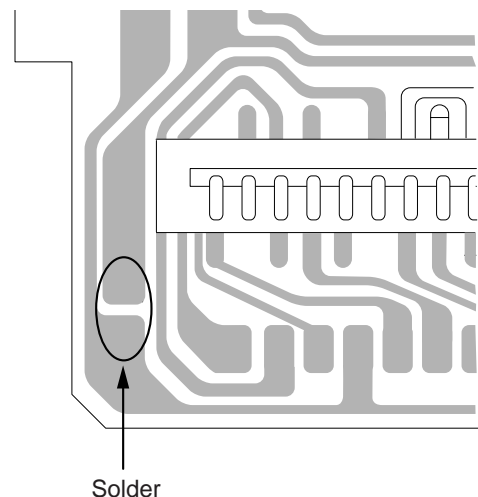


### Precaution to replace Optical block (SF-P101NR)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



# ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

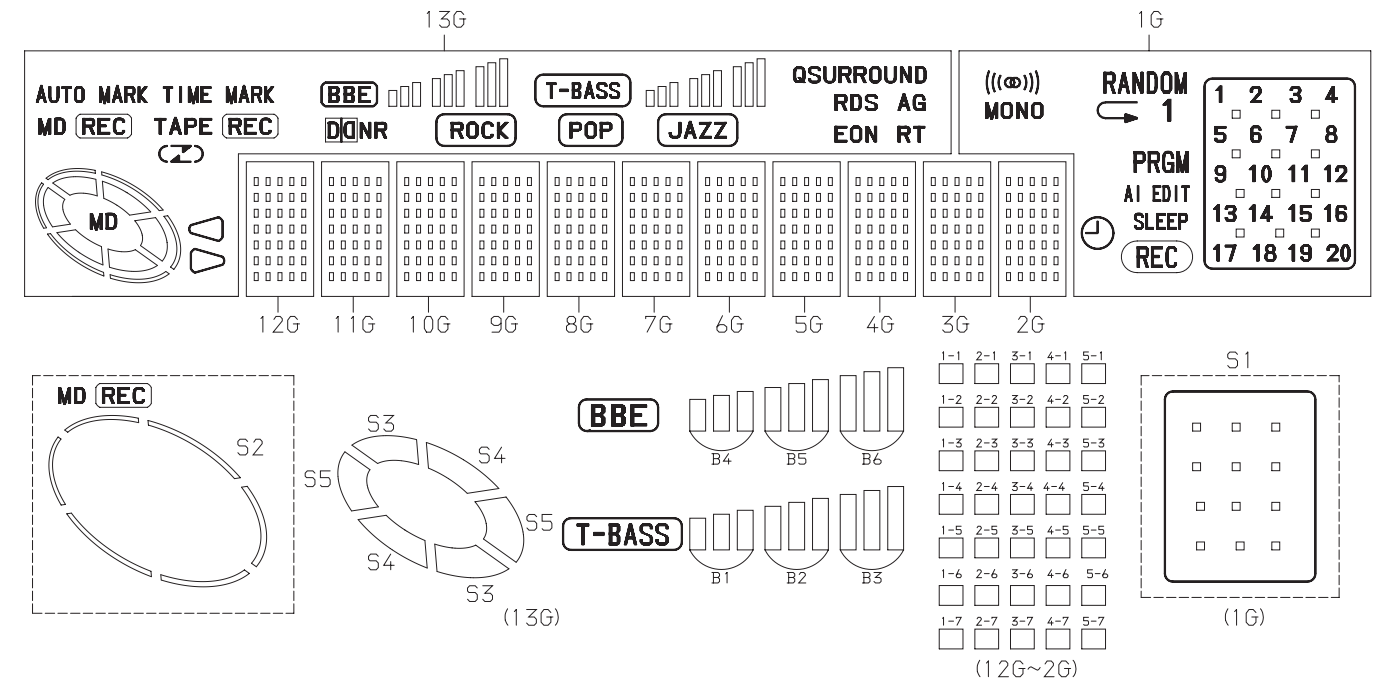
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
<b>IC</b>				C119	87-010-190-080		S CHIP F 0.01
	87-020-454-010	IC, DN6851		C120	87-010-401-080		CAP, ELECT 1-50V
	87-A20-734-010	IC, TDA2007A		C121	87-010-401-080		CAP, ELECT 1-50V
	87-A21-443-040	C-IC, M62495AFP		C122	87-010-213-080		C-CAP, S 0.015-50 B
	8A-CLA-620-010	IC, LC867240A-5P33		C123	87-010-196-080		CHIP CAPACITOR, 0.1-25
	87-A21-245-010	IC, RPM6938-V4		C124	87-010-402-080		CAP, ELECT 2.2-50V
	87-A21-145-040	C-IC, BA4560F-E2		C125	87-010-402-080		CAP, ELECT 2.2-50V
	87-A20-446-010	C-IC, LA9241ML		C126	87-010-408-080		CAP, ELECT 47-50V
	87-A20-459-010	C-IC, LC78622ED		C127	87-010-248-080		CAP, ELECT 220-10V
	87-A21-093-010	IC, LA6541D		C128	87-010-393-080		CAP, ELECT 100-35V
	87-070-127-110	IC, LC72131 D		C129	87-010-248-080		CAP, ELECT 220-10V
	87-A20-913-010	IC, LA1837NL		C130	87-010-393-080		CAP, ELECT 100-35V
<b>TRANSISTOR</b>				C131	87-010-393-080		CAP, ELECT 100-35V
	87-026-610-080	TR, KTC3198GR		C132	87-010-237-080		CAP, ELECT 1000-16V
	89-213-702-010	TR, 2SB1370 (1.8W)		C133	87-010-237-080		CAP, ELECT 1000-16V
	87-A30-185-010	TR, 2SD1381FQR		C136	87-010-197-080		CAP, CHIP 0.01 DM
	87-026-313-080	TR, DTC343TS		C137	87-010-197-080		CAP, CHIP 0.01 DM
	87-026-609-080	TR, KTA1266GR		C138	87-010-197-080		CAP, CHIP 0.01 DM
	87-026-218-080	TR, DTC144ES (0.2W)		C139	87-010-197-080		CAP, CHIP 0.01 DM
	87-026-237-080	CHIP-TR, DTC124XK		C143	87-010-401-080		CAP, ELECT 1-50V
	87-026-223-080	TR, DTC143TK		C144	87-010-401-080		CAP, ELECT 1-50V
	89-320-011-080	TR, 2SC2001 (15W)		C147	87-010-190-080		S CHIP F 0.01
	89-112-965-080	TR, 2SA1296 (0.75W)		C150	87-010-263-080		CAP, ELECT 100-10V
	89-109-521-080	TR, 2SA952 (0.6W)		C151	87-010-263-080		CAP, ELECT 100-10V
	87-A30-091-080	FET, 2S3460		C152	87-010-182-080		C-CAP, S 2200P-50 B
	87-A30-090-080	FET, 2SK2541		C153	87-010-166-080		C-CAP, S 100P-50 SL
	87-A30-151-080	TR, 2SA1993F		C154	87-010-545-080		CAP, ELECT 0.22-50V
	89-333-317-080	TR, 2SC3331 (0.5W)		C155	87-010-545-080		CAP, ELECT 0.22-50V
	87-026-291-080	TR, DTC124XS		C157	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-227-080	TR, 2SB1010Q		C158	87-010-545-080		CAP, ELECT 0.22-50V
	87-026-463-080	TR, 2SA933S (0.3W)		C159	87-010-545-080		CAP, ELECT 0.22-50V
	87-026-210-080	CHIP-TR, DTC144EK		C161	87-010-404-080		CAP, ELECT 4.7-50V
	87-026-239-080	TR, DTC114TK (0.2W)		C162	87-010-405-080		CAP, ELECT 10-50V
	87-A30-196-080	TR, 2SC4115SRS		C163	87-010-405-080		CAP, ELECT 10-50V
	89-327-143-080	TR, 2SC2714 (0.1W)		C164	87-010-405-080		CAP, ELECT 10-50V
	87-A30-072-080	C-TR, RT1P 144C		C165	87-010-405-080		CAP, ELECT 10-50V
<b>DIODE</b>				C166	87-010-404-080		CAP, ELECT 4.7-50V
	87-020-465-080	DIODE, 1SS133 (110MA)		C167	87-010-404-080		CAP, ELECT 4.7-50V
	87-A40-393-090	DIODE, 1N5402GW(F20)		C171	87-010-404-080		CAP, ELECT 4.7-50V
	87-070-334-080	ZENER, MTZJ10B		C172	87-010-408-080		CAP, ELECT 47-50V
	87-017-932-080	ZENER, MTJ6.2B		C173	87-010-405-080		CAP, ELECT 10-50V
	87-A40-347-080	ZENER, MTZJ2.2B		C175	87-010-237-080		CAP, ELECT 1000-16V
	87-070-136-080	ZENER, MTZJ5.1B		C300	87-010-986-080		C-CAP, S 820P-50 J CH
	87-020-027-080	CHIP-DIODE 1SS184		C301	87-010-198-080		CAP, CHIP 0.022
	87-027-825-080	ZENER, HZ9A3L		C302	87-010-986-080		C-CAP, S 820P-50 J CH
<b>MAIN C.B</b>				C303	87-010-180-080		C-CER 1500P
C101	87-010-190-080	S CHIP F 0.01		C304	87-010-180-080		C-CER 1500P
C102	87-010-190-080	S CHIP F 0.01		C305	87-010-263-080		CAP, ELECT 100-10V
C103	87-010-190-080	S CHIP F 0.01		C306	87-010-263-080		CAP, ELECT 100-10V
C104	87-010-404-080	CAP, ELECT 4.7-50V		C307	87-010-956-080		CHIP-CAP, S 0.068-25B
C105	87-010-403-080	CAP, ELECT 3.3-50V		C308	87-010-956-080		CHIP-CAP, S 0.068-25B
C106	87-010-192-080	C-CAP, S 0.022-50 F		C309	87-010-187-080		CAP CHIP S5600P
C107	87-010-192-080	C-CAP, S 0.022-50 F		C310	87-010-187-080		CAP CHIP S5600P
C108	87-010-192-080	C-CAP, S 0.022-50 F		C311	87-010-374-080		CAP, ELECT 47-10V
C109	87-010-192-080	C-CAP, S 0.022-50 F		C312	87-010-546-080		CAP, ELECT 0.33-50V
C110	87-010-190-080	S CHIP F 0.01		C313	87-010-546-080		CAP, ELECT 0.33-50V
C111	87-016-658-090	CAP, E 4700-35 SMG		C314	87-010-401-080		CAP, ELECT 1-50V
C112	87-012-140-080	CAP 470P		C315	87-010-401-080		CAP, ELECT 1-50V
C113	87-010-197-080	CAP, CHIP 0.01 DM		C316	87-010-182-080		C-CAP, S 2200P-50 B
C114	87-010-408-080	CAP, ELECT 47-50V		C317	87-010-182-080		C-CAP, S 2200P-50 B
C115	87-010-112-080	CAP, ELECT 100-16V		C318	87-010-188-080		CAP, CHIP 6800P
C116	87-010-101-080	CAP, ELECT 220-16		C319	87-010-188-080		CAP, CHIP 6800P
C118	87-010-263-080	CAP, ELECT 100-10V		C320	87-010-184-080		CHIP CAPACITOR 3300P(K)
				C321	87-010-184-080		CHIP CAPACITOR 3300P(K)
				C322	87-010-321-080		CHIP CAPACITOR, 82P(J)
				C323	87-010-321-080		CHIP CAPACITOR, 82P(J)
				C324	87-010-401-080		CAP, ELECT 1-50V
				C325	87-010-374-080		CAP, ELECT 47-10V
				C326	87-010-198-080		CAP, CHIP 0.022
				C327	87-010-183-080		C-CAP, S 2700P-50 B



REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CD C.B				C583	87-010-405-080		CAP, ELECT 10-50V
C500	87-016-459-040	CAP,E 470-10 SMG		C584	87-010-170-080		S CHIP SL 220P(K)
C502	87-016-459-040	CAP,E 470-10 SMG		C586	87-010-170-080		S CHIP SL 220P(K)
C503	87-016-459-040	CAP,E 470-10 SMG		C587	87-010-166-080		C-CAP,S 100P-50 SL
C505	87-010-196-080	CHIP CAPACITOR,0.1-25		C589	87-010-166-080		C-CAP,S 100P-50 SL
C507	87-010-196-080	CHIP CAPACITOR,0.1-25		C590	87-010-166-080		C-CAP,S 100P-50 SL
C510	87-010-197-080	CAP, CHIP 0.01 DM		C591	87-010-166-080		C-CAP,S 100P-50 SL
C513	87-010-196-080	CHIP CAPACITOR,0.1-25		C592	87-010-166-080		C-CAP,S 100P-50 SL
C514	87-010-196-080	CHIP CAPACITOR,0.1-25		C593	87-010-197-080		CAP, CHIP 0.01 DM
C515	87-012-157-080	C-CAP,S 330P-50 CH		C594	87-010-263-080		CAP, ELECT 100-10V
C516	87-010-545-080	CAP, ELECT 0.22-50V		C596	87-010-404-080		CAP, ELECT 4.7-50V
C525	87-010-176-080	C-CAP,S 680P-50 SL		C597	87-010-197-080		CAP, CHIP 0.01 DM
C528	87-012-156-080	C-CAP,S 220P-50 CH		C598	87-010-197-080		CAP, CHIP 0.01 DM
C529	87-010-545-080	CAP, ELECT 0.22-50V		C601	87-010-197-080		CAP, CHIP 0.01 DM
C530	87-012-140-080	CAP 470P		CN501	87-009-345-010		CONN,2P PH H
C531	87-010-374-080	CAP, ELECT 47-10V		CN510	87-009-034-010		CONN,6P PH V
C532	87-010-401-080	CAP, ELECT 1-50V		CN520	87-A60-248-010		CONN,16P H CFF1416
C533	87-010-184-080	CHIP CAPACITOR 3300P(K)		L501	87-005-647-080		COIL,10UH K LF5S
C535	87-010-145-080	C-CAP,S 1P-50 CH		L502	87-005-659-080		COIL,100UH K LF5.0S
C536	87-010-312-080	C-CAP,S 15P-50 CH		SFR501	87-A90-787-080		SFR,100K H HOKU
C537	87-010-166-080	C-CAP,S 100P-50 SL		X501	87-A70-046-010		VIB,XTAL 16.934MHZ
C538	87-010-196-080	CHIP CAPACITOR,0.1-25					
C539	87-010-404-080	CAP, ELECT 4.7-50V	LED C.B				
C540	87-010-196-080	CHIP CAPACITOR,0.1-25		D941	87-A40-365-080		LED,L-1154 SGD
C541	87-010-405-080	CAP, ELECT 10-50V		D942	87-A40-365-080		LED,L-1154 SGD
C542	87-010-369-080	C-CAP,S 0.033-25 K B		D943	87-A40-365-080		LED,L-1154 SGD
C545	87-010-197-080	CAP, CHIP 0.01 DM		D944	87-A40-365-080		LED,L-1154 SGD
C546	87-010-401-080	CAP, ELECT 1-50V		D945	87-A40-365-080		LED,L-1154 SGD
C546	87-010-374-080	CAP, ELECT 47-10V					
C547	87-010-263-080	CAP, ELECT 100-10V		D946	87-A40-365-080		LED,L-1154 SGD
C548	87-010-248-080	CAP, ELECT 220-10V		D947	87-A40-365-080		LED,L-1154 SGD
C549	87-010-198-080	CAP, CHIP 0.022		D948	87-A40-365-080		LED,L-1154 SGD
C550	87-010-248-080	CAP, ELECT 220-10V		D949	87-A40-365-080		LED,L-1154 SGD
C551	87-010-166-080	C-CAP,S 100P-50 SL					
C552	87-010-197-080	CAP, CHIP 0.01 DM	AC C.B				
C553	87-010-374-080	CAP, ELECT 47-10V		CNA101	8A-CLA-630-010		CONN ASSY,2P PT
C555	87-010-403-080	CAP, ELECT 3.3-50V		SW1	87-A90-178-010		SW SL1-1-2
C556	87-010-197-080	CAP, CHIP 0.01 DM		T1	87-A60-317-010		TERMINAL, 1P MSC
C557	87-010-197-080	CAP, CHIP 0.01 DM		T2	87-A60-317-010		TERMINAL, 1P MSC
C558	87-010-197-080	CAP, CHIP 0.01 DM					
C559	87-010-315-080	C-CAP,S 27P-50 CH	MOTOR C.B				
C560	87-010-263-080	CAP, ELECT 100-10V		M2	9X-262-576-910		MOTOR GEAR ASSY
C561	87-010-196-080	CHIP CAPACITOR,0.1-25		PIN3	91-564-722-110		CONNECTOR 6P
C562	87-010-196-080	CHIP CAPACITOR,0.1-25		SW1	91-572-085-120		LEAF SW
C563	87-012-156-080	C-CAP,S 220P-50 CH					
C565	87-010-263-080	CAP, ELECT 100-10V	DECK C.B				
C566	87-010-196-080	CHIP CAPACITOR,0.1-25		CN1	87-009-352-010		CONN,9P PH H
C568	87-010-197-080	CAP, CHIP 0.01 DM		SFR1	87-024-581-010		SFR,3.3K DIA6V K0A
C570	87-010-197-080	CAP, CHIP 0.01 DM		SOL2	82-ZM1-618-410		SOL ASSY,27K
C571	87-010-248-080	CAP, ELECT 220-10V		SW2	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C572	87-010-196-080	CHIP CAPACITOR,0.1-25		SW3	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C573	87-010-197-080	CAP, CHIP 0.01 DM					
C574	87-010-197-080	CAP, CHIP 0.01 DM		SW5	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C578	87-010-197-080	CAP, CHIP 0.01 DM		SW6	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C579	87-010-263-080	CAP, ELECT 100-10V					
C582	87-010-197-080	CAP, CHIP 0.01 DM	RELAY C.B				

- Regarding connectors, they are not stocked as they are not the initial order items.  
The connectors are available after they are supplied from connector manufacturers upon the order is received.

GRID ASSIGNMENT

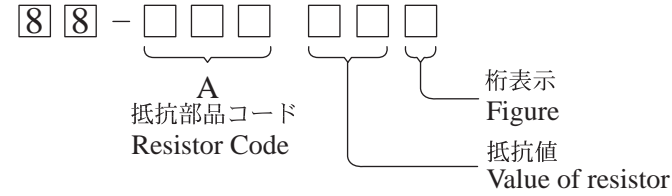


ANODE CONNECTION

	13G	12G~2G	1G		13G	12G~2G	1G
P1	JAZZ	1-1	1	P19	)	4-4	8
P2	POP	2-1	↶	P20	⚡	5-4	9
P3	ROCK	3-1	MONO	P21	⌒	1-5	10
P4	DO NR	4-1	RANDOM	P22	TAPE REC	2-5	11
P5	RT	5-1	((∞))	P23	S2	3-5	12
P6	EON	1-2	PRGM	P24	S3	4-5	13
P7	AG	2-2	AI	P25	S4	5-5	14
P8	RDS	3-2	EDIT	P26	S5	1-6	15
P9	B1	4-2	SLEEP	P27	MD	2-6	16
P10	B2	5-2	⌚	P28	TIME MARK	3-6	17
P11	B3	1-3	REC	P29	AUTO MARK	4-6	18
P12	T-BASS	2-3	(CALENDAR) 1	P30	QSURROUND	5-6	19
P13	B4	3-3	2	P31	-	1-7	20
P14	B5	4-3	3	P32	-	2-7	S1
P15	B6	5-3	4	P33	-	3-7	-
P16	BBE	1-4	5	P34	-	4-7	-
P17	⌒	2-4	6	P35	-	5-7	-
P18	⌒	3-4	7				

チップ抵抗部品コード/CHIP RESISTOR PART CODE

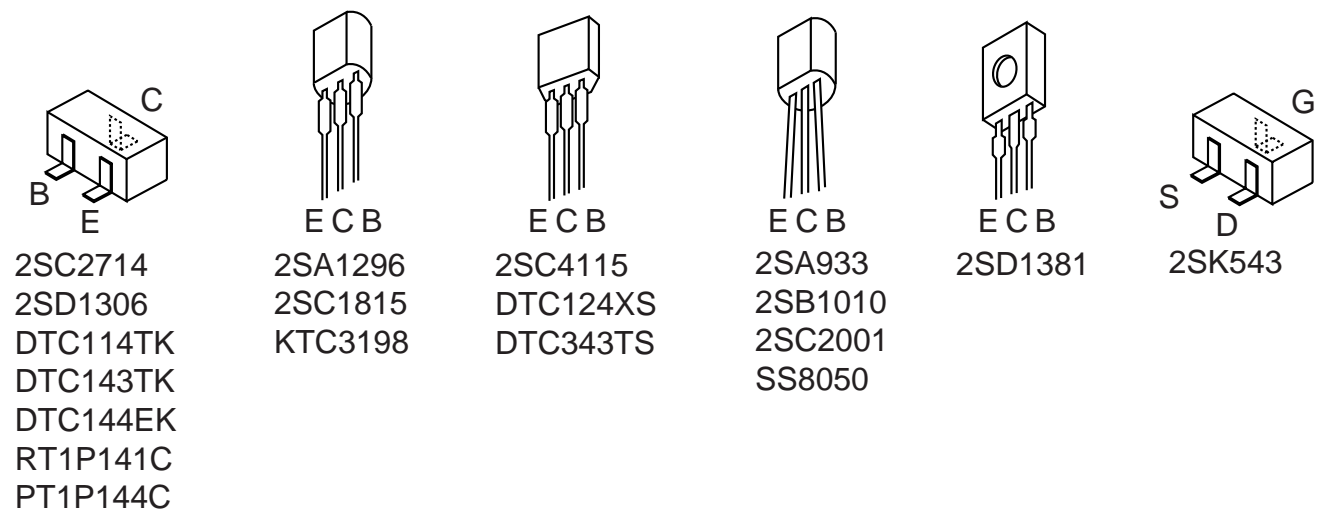
チップ抵抗部品コードの成り立ち  
Chip Resistor Part Coding



チップ抵抗  
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形/Form	L	W		t
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION

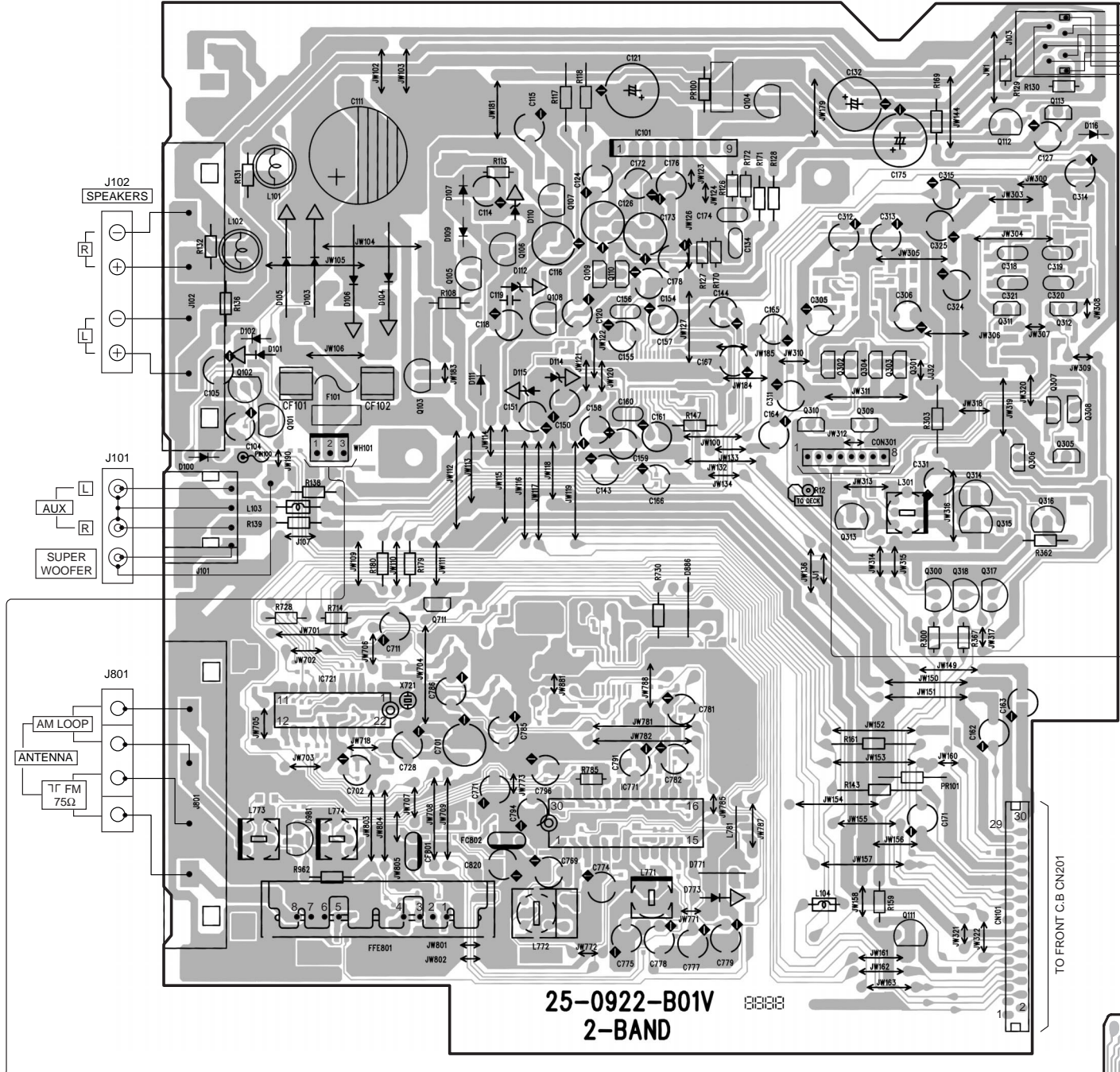


WIRING-1 (MAIN)

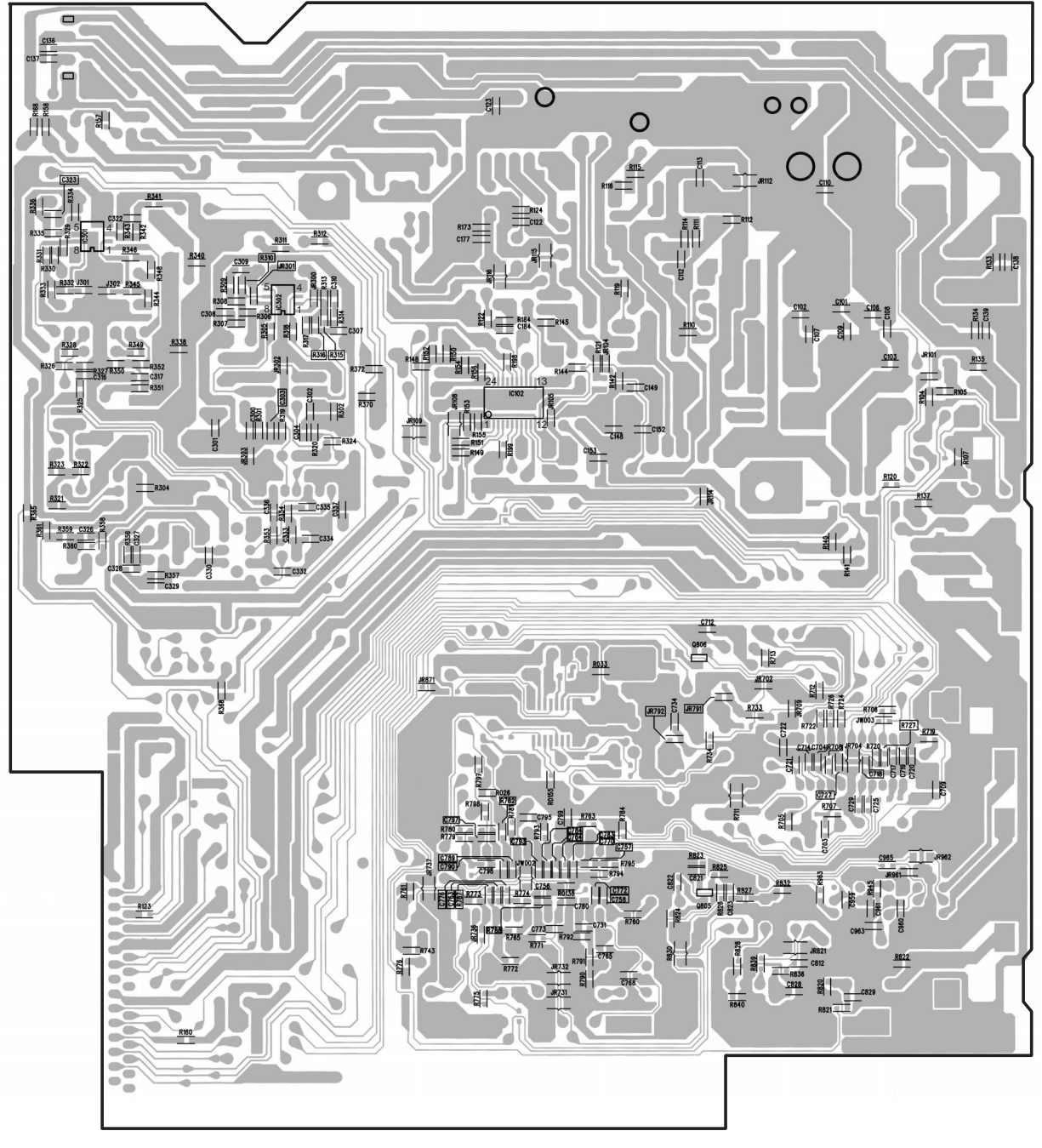
1 2 3 4 5 6 7 8 9 10 11 12 13 14

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K

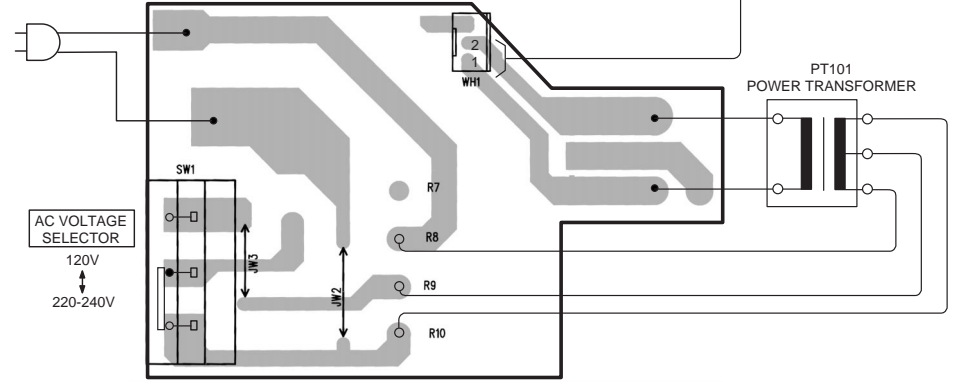
MAIN C.B (INSERTED PARTS)



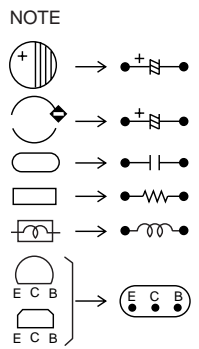
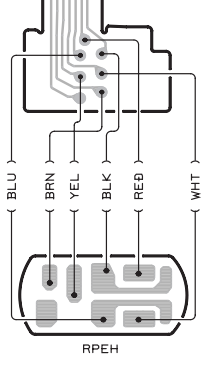
MAIN C.B (CHIP PARTS)



AC C.B (INSERTED PARTS)

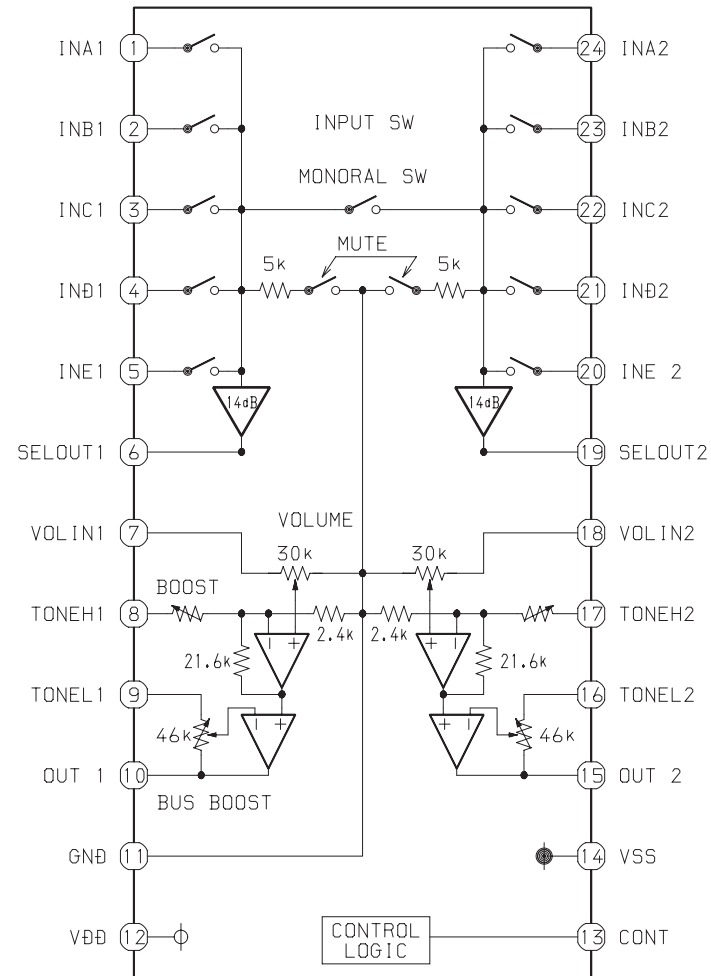


RELAY C.B

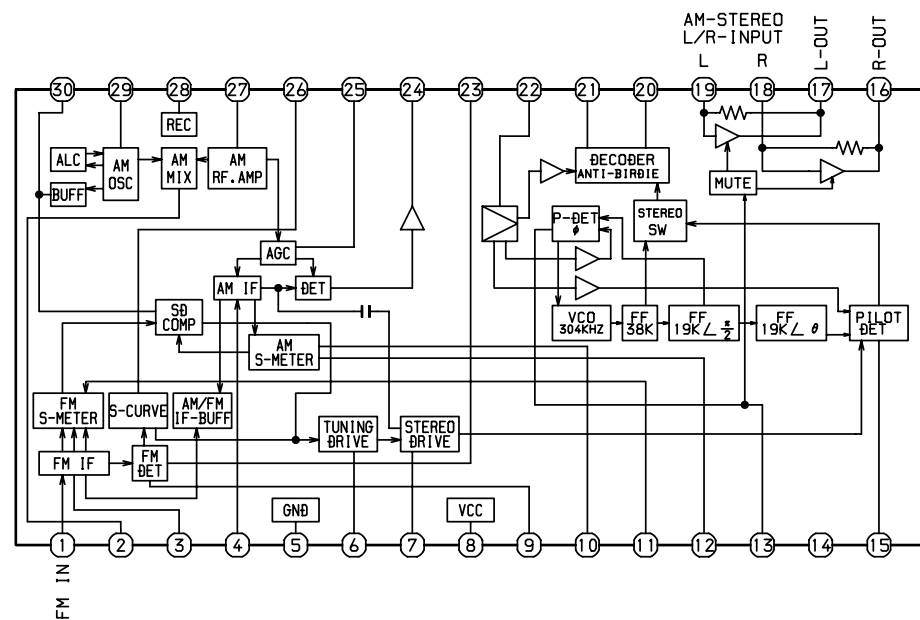




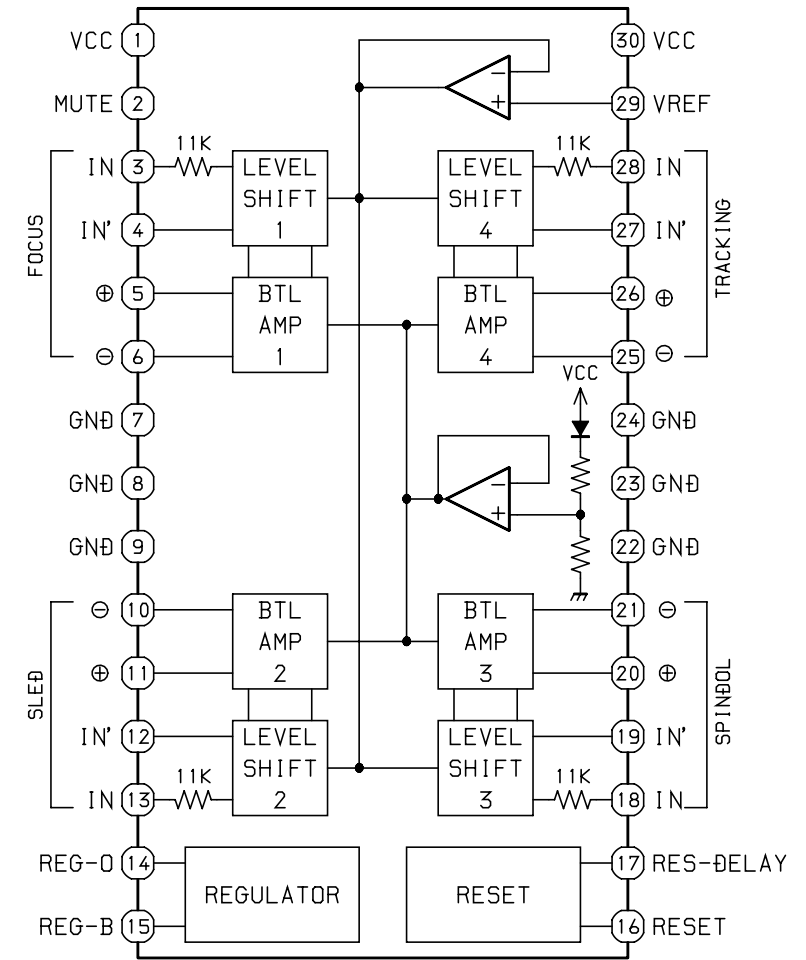
IC BLOCK DIAGRAM  
IC, M62495AFP



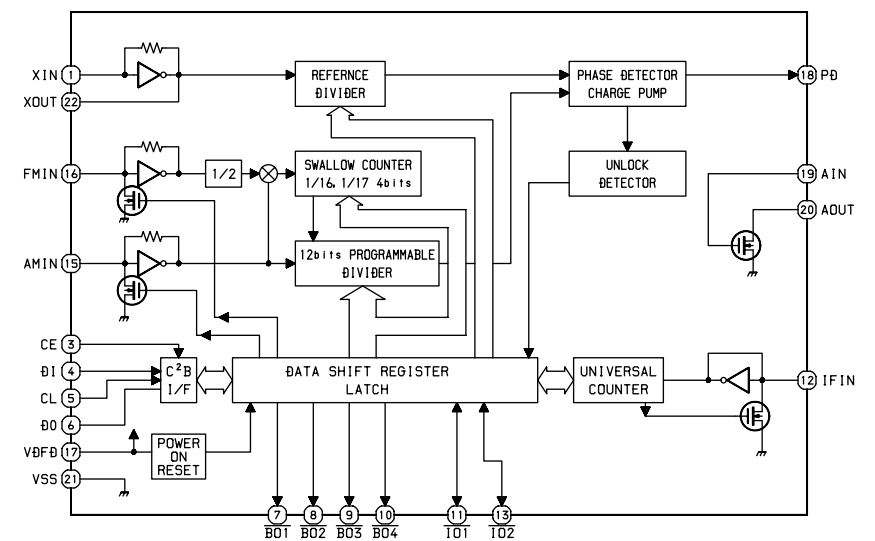
IC, LA1837NL



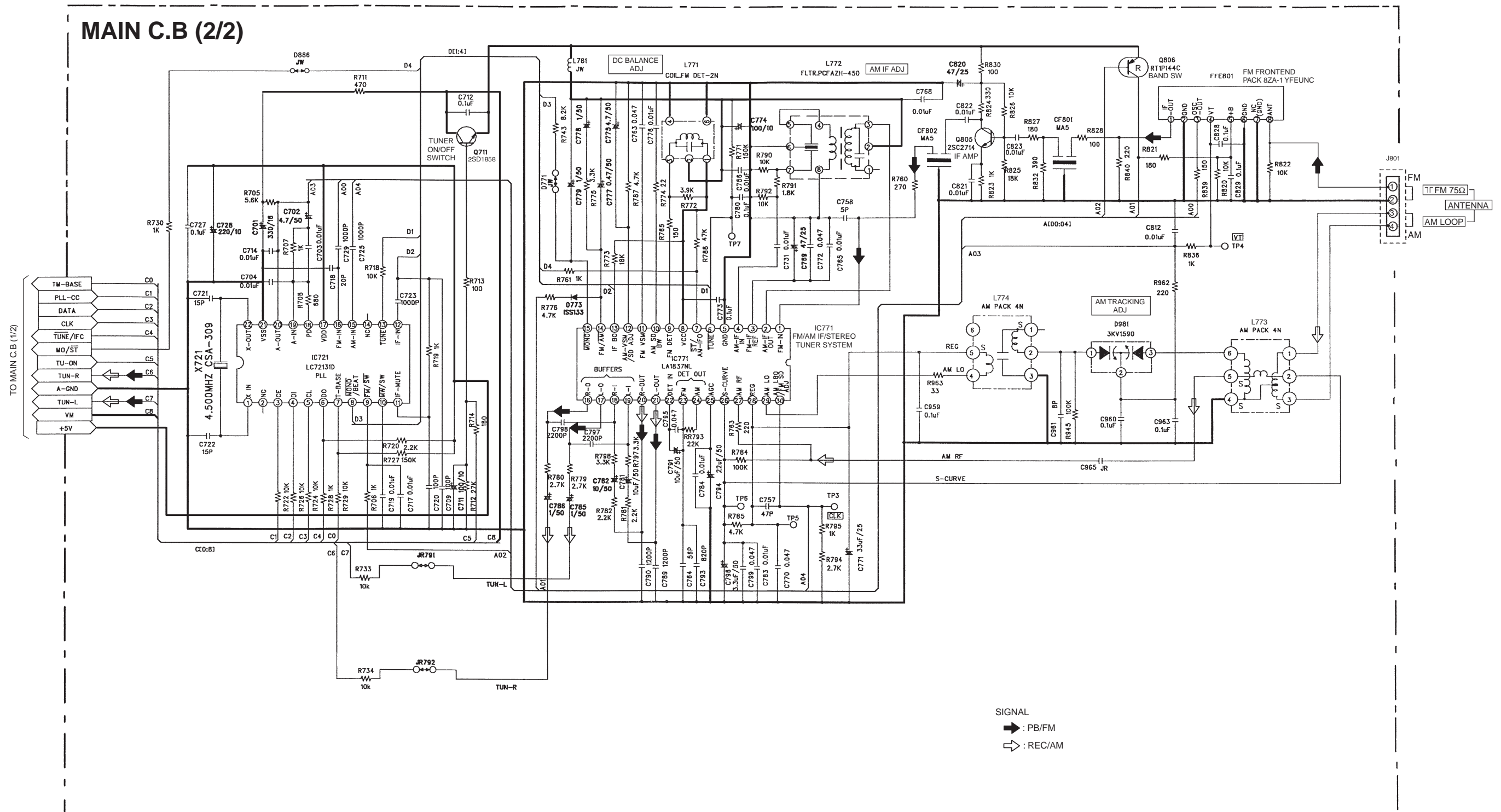
IC, LA6541D



IC, LC72131D

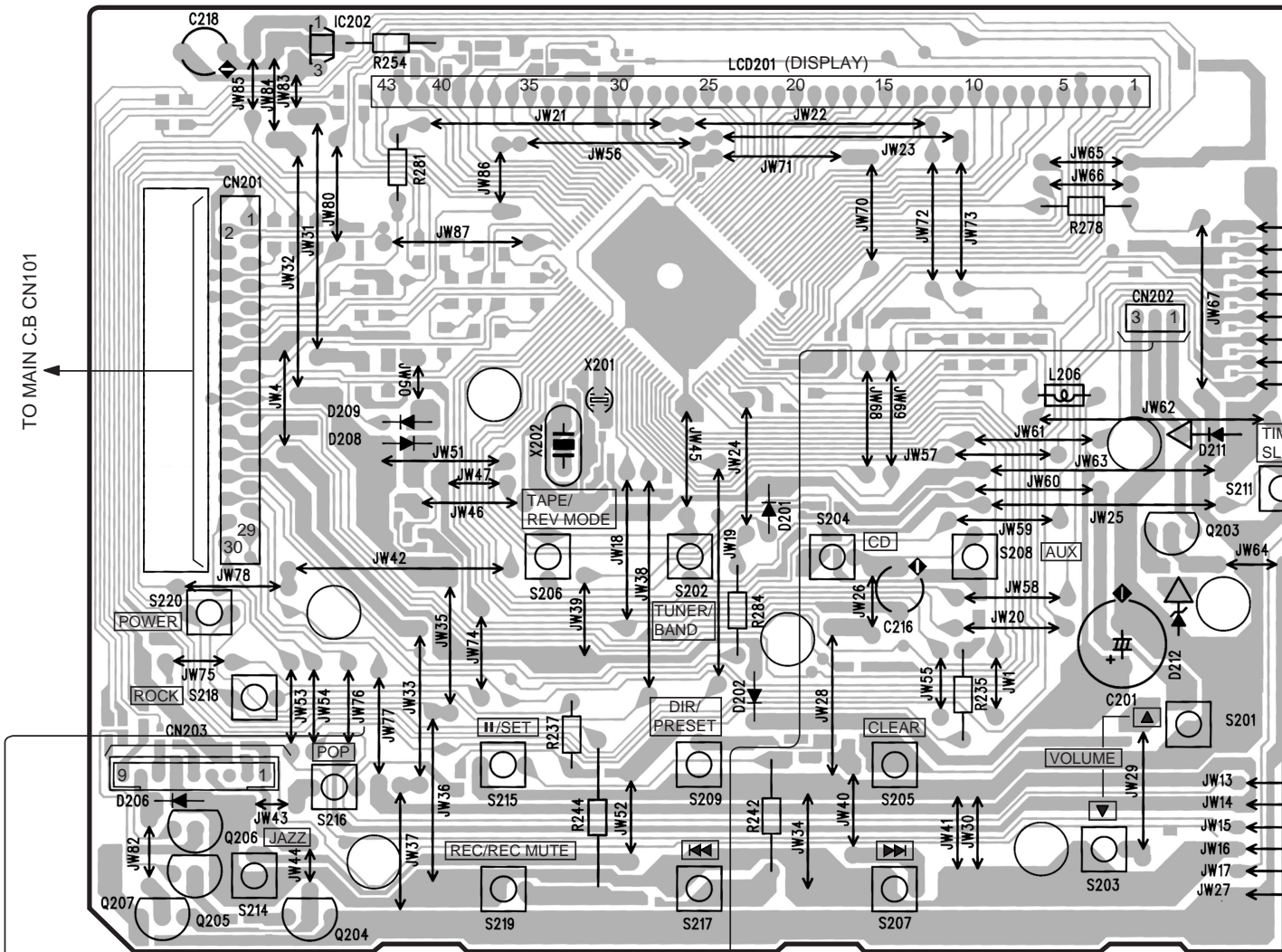




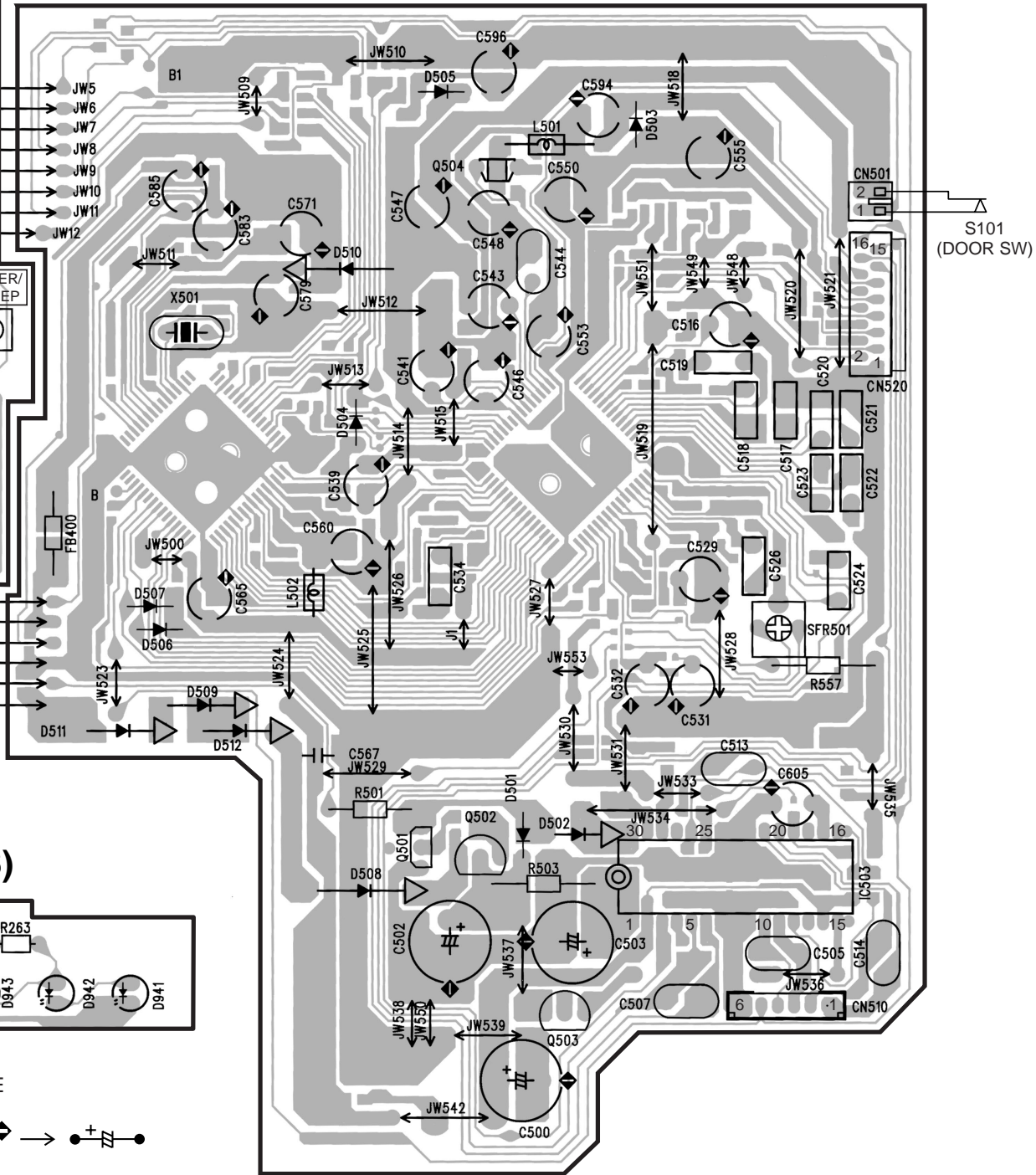


A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K

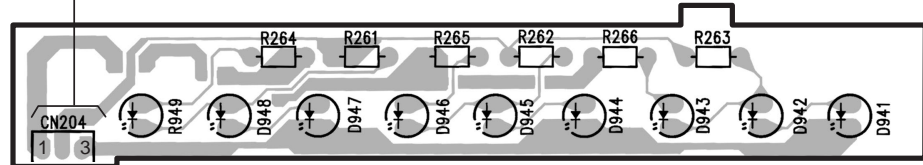
### FRONT C.B (INSERTED PARTS)



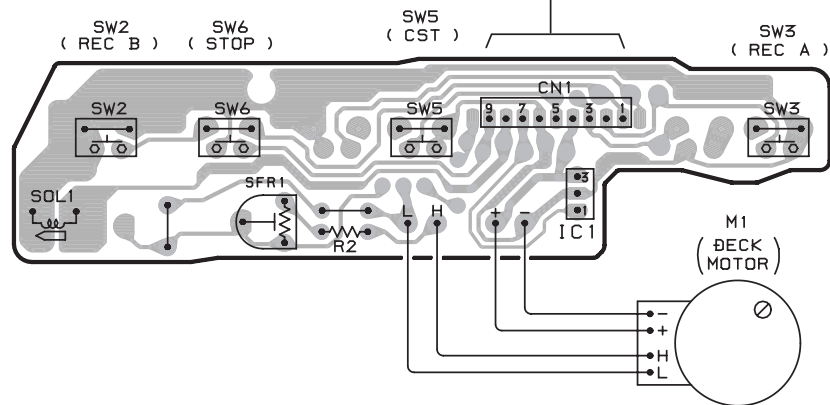
### CD C.B (INSERTED PARTS)



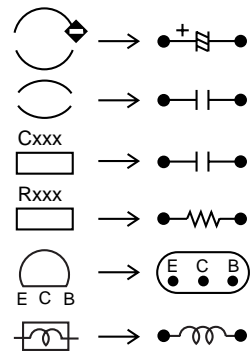
### LED C.B (INSERTED PARTS)



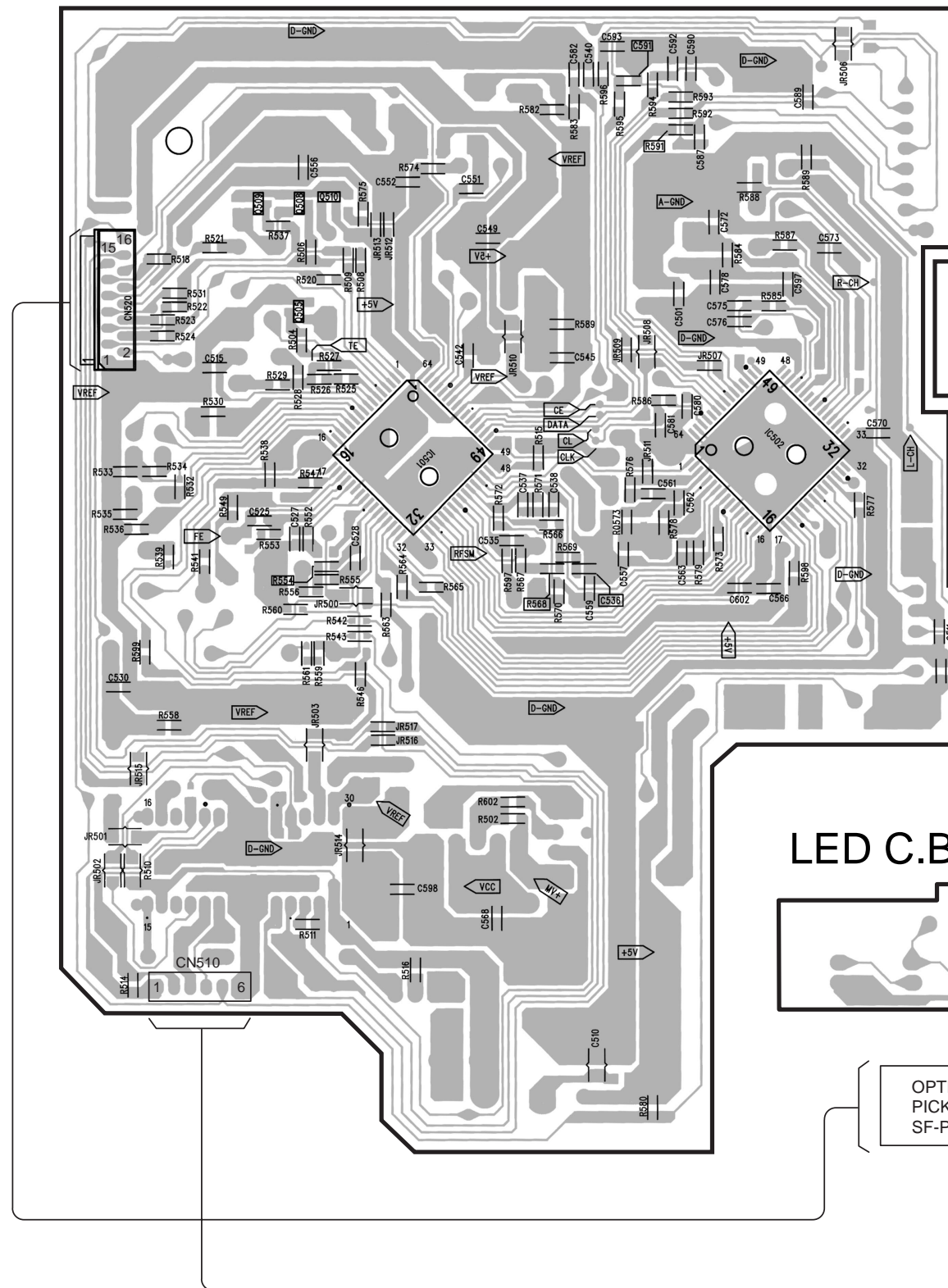
### DECK C.B



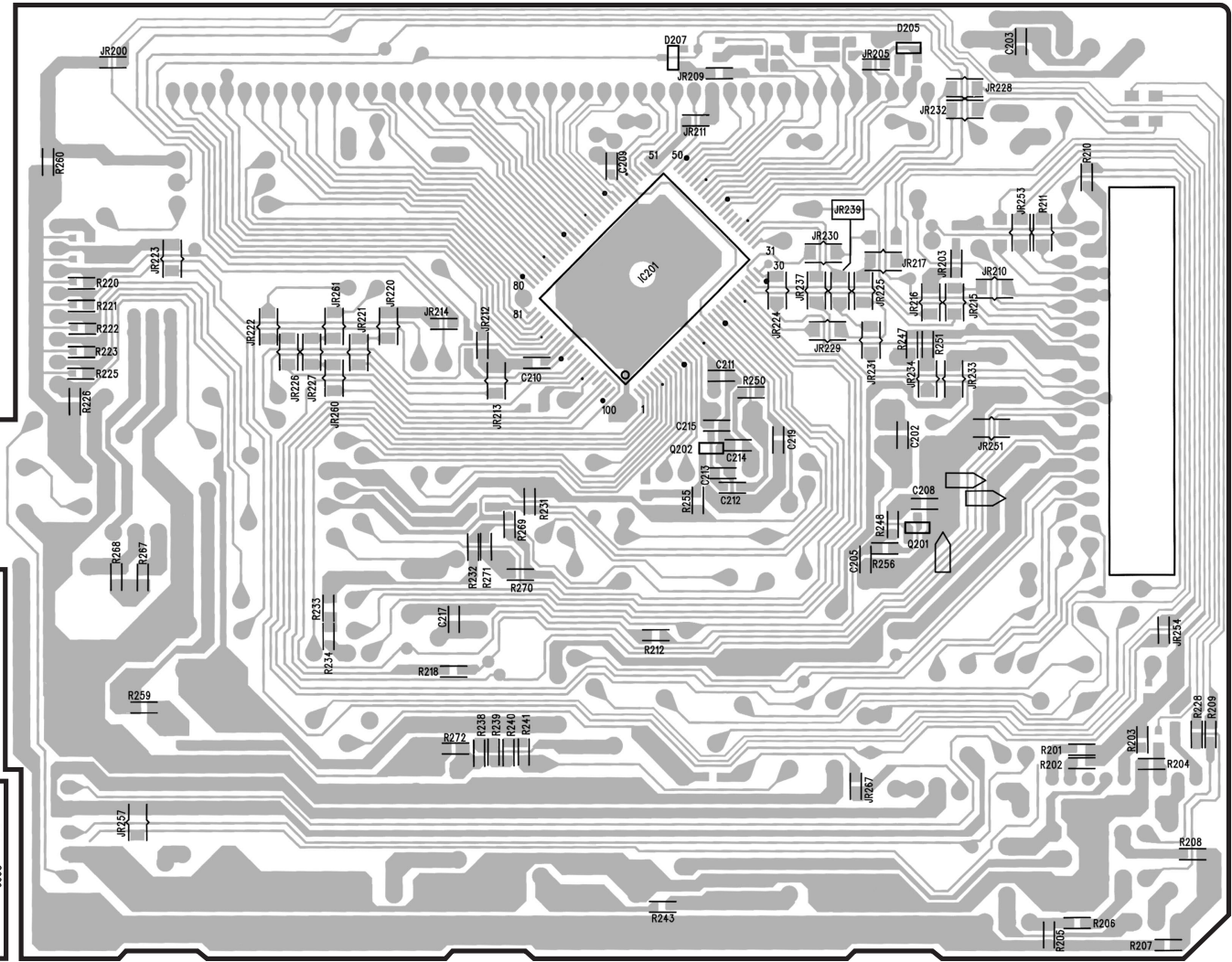
NOTE



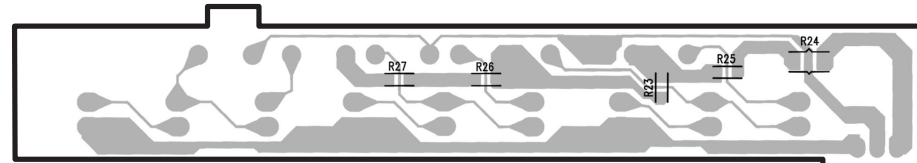
CD C.B (CHIP PARTS)



FRONT C.B (CHIP PARTS)

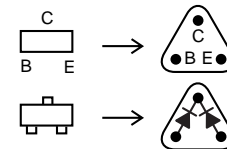


LED C.B (CHIP PARTS)

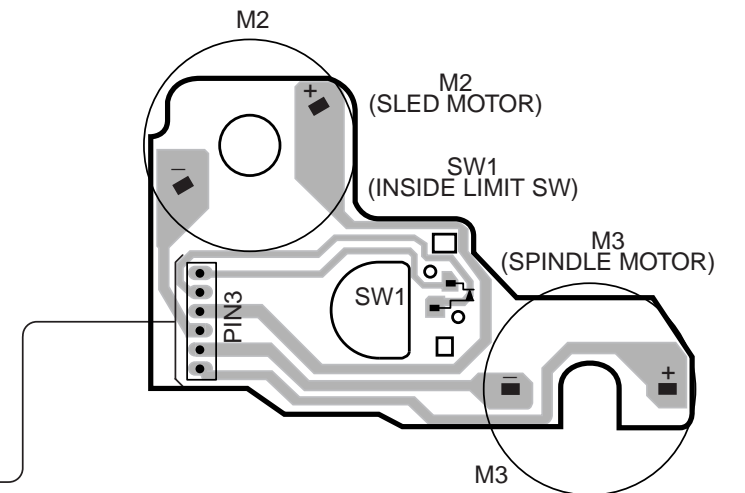


OPTICAL PICK UP SF-P101NR

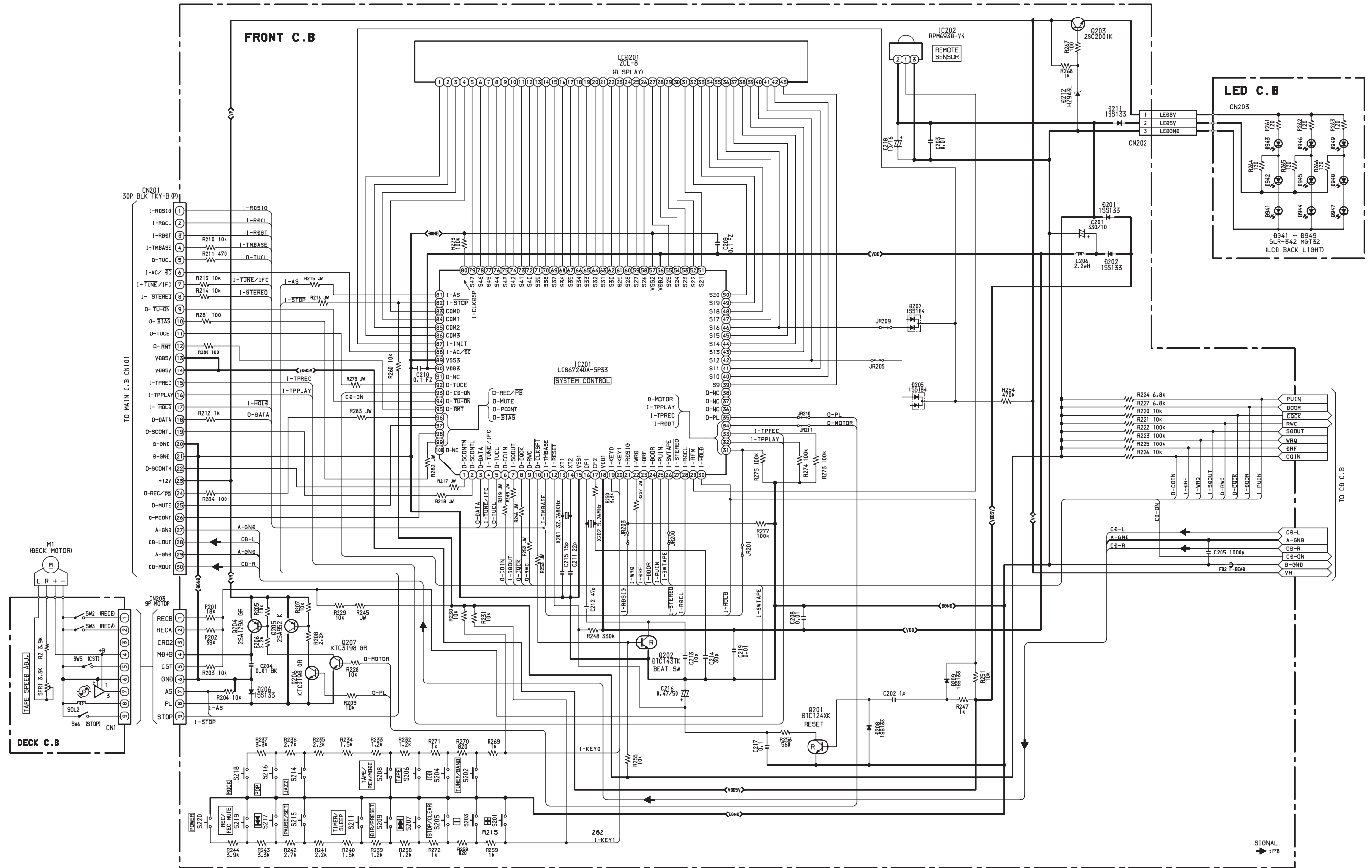
NOTE



MOTOR C.B



SCHEMATIC DIAGRAM-3 (FRONT)





VOLTAGE CHART

IC101 TDA2007A (V)

PIN	1	2	3	4	5	6	7	8	9
TU	1.4	0.7	10	0.74	1.4	GN	8.7	18.2	8.8
CD	1.4	0.7	10	0.72	1.4	GN	8.7	18.2	8.8

IC102 M62495AFP (V)

PIN	1	2	3	4	5	6	7	8	9	10	11	12
TU	2.4	2.4	2.4	2.39	NC	2.4	2.4	2.39	2.4	2.4	2.4	5.34
TAPE	2.4	2.4	2.4	2.38	NC	2.4	2.4	2.38	2.4	2.4	2.4	5.33
CD	2.4	2.4	2.4	2.35	NC	2.4	2.4	2.35	2.4	2.4	2.4	5.29
PIN	13	14	15	16	17	18	19	20	21	22	23	24
TU	2.5	GN	2.4	2.42	2.4	2.4	2.4	NC	2.4	2.4	2.4	2.4
TAPE	2.5	GN	2.4	2.4	2.4	2.4	2.4	NC	2.4	2.4	2.4	2.4
CD	2.5	GN	2.4	2.4	2.4	2.4	2.4	NC	2.4	2.4	2.4	2.4

IC301 BA4560 (V)

PIN	1	2	3	4	5	6	7	8
TAPE	4.2	4.5	4.2	GN	4.2	4.2	4.2	8.69
REC	4.2	4.2	4.1	GN	4.1	4.2	4.2	8.68

IC302 BA4560 (V)

PIN	1	2	3	4	5	6	7	8
TAPE	4.2	4.5	4.2	GN	4.2	4.2	4.2	8.69
REC	4.2	4.2	4.1	GN	4.1	4.2	4.2	8.68

IC721 LC72131D PLL (V)

PIN	1	2	3	4	5	6	7	8	9	10	11
FM	2.7	0	2.5	0.96	1	5.5	2	0	0.8	0	0
MW	2.7	0	0	0	0	5.5	2	0	9.1	0	0
LW	2.7	0	0	0	0	5.5	2	0	9.3	9.4	0
PIN	12	13	14	15	16	17	18	19	20	21	22
FM	0	9.1	NC	7.7	2.1	0	0	0	0	0	2.7
MW	0	9.2	NC	2.7	0	5.5	0.9	0.91	4.3	0	2.7
LW	0	9.3	NC	2.71	0	5.5	0.9	0.99	1.3	0	2.7

IC771 LA1837NL (V)

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
FM	3.6	9.1	3.6	3.56	GN	0	0	9.09	9.1	1.3	2.5	0	0.5	8	8
MW	3.6	9.3	3.5	3.54	GN	9.2	5.5	9.31	9.3	1.3	0	0	0.5	5	5.6
LW	3.6	9.4	3.6	3.54	GN	9.3	5.5	9.43	9.4	1.3	0	0.79	0.5	5.1	5.7
PIN	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
FM	4.3	4.3	4.3	4.29	3.4	3.4	2.8	3.54	0	0	3.6	3.6	3.6	3.6	2.2
MW	4.3	4.3	4.3	4.27	3.4	3.4	2.8	2.7	0.7	0.7	3.6	3.54	3.6	3.6	2
LW	4.3	4.3	4.3	4.28	3.4	3.4	2.8	2.58	0.9	0.8	3.6	3.54	3.6	3.6	2

FM FFE801 (V)

PIN	1	2	3	4	5	6	7	8
FM	0	GN	0	VT	7.1	GN	0	0
MW	0	GN	0	VT	0	GN	0	0

IC501 LA9241M CD (V)

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
dynamics	2.5	2.5	2.6	2.55	2.5	2.5	2.5	2.54	2.5	2.5	2.5	2.52	2.6	2.5	2.6
stafics	2.5	2.5	2.5	2.52	2.5	2.5	2.5	2.51	2.5	2.5	2.5	2.51	2.5	2.5	2.5
PIN	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
dynamics	2.6	2.5	2.5	2.54	2.6	2.5	GN	2.51	2.5	2.5	2.5	2.6	2.5	2.6	2.4
stafics	2.5	2.5	0	2.49	2.5	2.5	GN	0	0	2.5	2.5	2.51	2.5	2.5	2.3
PIN	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
dynamics	2.4	0	0	4.99	0	1.2	0	0	0	0	2.3	2.43	2.6	2.5	GN
stafics	2.3	0	0	4.94	4.8	0	0	4.92	0	0	1.6	2.4	2.6	2.5	GN
PIN	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
dynamics	2.5	2.6	NC	0	2.4	4.7	4.8	0	4.9	NC	5	2.53	2.5	2.3	2.4
stafics	2.5	2.5	NC	0	0	0	4.8	0	0	NC	0	2.51	2.5	1	1
PIN	61	62	63	64											
dynamics	2.2	3.6	0	0											
stafics	2.2	4.3	0	0											

IC502 LC78622E CD (V)

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
dynamics	0	0	1.5	0	2	4.9	0.3	0	2.7	2.6	0	0	0	0	0
stafics	0	0	0	0	2	4.9	0	0	2.5	2.6	0	0	0	4.9	0
PIN	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
dynamics	1.8	0	5	0	0	2.5	NC	4.19	0	0	NC	4.98	0	NC	NC
stafics	0	4.9	4.9	0	0	2.5	NC	4.95	0	0	NC	4.93	0	NC	NC
PIN	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
dynamics	2.5	0	0	NC	NC	4.9	2.1	0	0	2.1	4.9	NC	5	2	2.5
stafics	0	0	0	NC	NC	4.8	2.1	0	0	2.1	4.8	NC	5	2	2.2
PIN	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
dynamics	0	NC	NC	NC	NC	0	NC	0.75	0	0	4.8	4.6	5	NC	2
stafics	0	NC	NC	NC	NC	0	NC	0	0	0	4.8	4.77	5	NC	2
PIN	61	62	63	64											
dynamics	2.4	0	0	0											
stafics	235	0	0	0											

C503 LA6541 CD (V)

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
dynamics	9.9	5	2.5	2.52	4.6	4.5	GN	GN	GN	4.5	4.6	2.52	NC	5	9.3
stafics	10	5	2.5	2.51	4.7	4.7	GN	GN	GN	4.7	4.7	2.51	NC	5	9.5
PIN	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
dynamics	5	4.9	NC	2.53	4.9	4	GN	GN	GN	4.5	4.5	NC	2.5	2.5	9.8
stafics	4.9	4.8	NC	2.51	4.7	4.6	GN	GN	GN	4.7	4.7	NC	2.5	2.5	10



IC201 LC867240A-5P33 CPU (V)

PIN	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
TU	0	0	0	0	0	0	0.8	0	0	0	1.9	4.67	1.8	2.6	0
TAPE	0	0	0	0	0	0	0	0	0	2	1.9	4.6	1.6	2.7	0
CD	0	0	0	0	0	4.8	0	4.65	0	2	1.9	4.63	1.6	2.6	0
PIN	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
TU	2.2	2.3	4.8	4.91	4.9	2.4	0.8	0.96	4.9	0	4.9	0	0.6	4.9	5.3
TAPE	2.3	2.3	4.8	4.91	4.9	0	0.8	0.96	4.9	0.5	1.8	0	0	4.9	5.3
CD	2.2	2.3	4.8	4.88	4.9	0	0.8	0.91	4.9	1.9	2.4	0	0	4.9	5.3
PIN	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
TU	0.5	0	0	0	0	0	0	2.5	2.4	2.4	2.4	2.49	2.4	2.5	2.5
TAPE	0	0	0	4.73	0	0	0	2.46	2.5	2.4	2.4	2.46	2.4	2.4	2.4
CD	0	0	0	0	0	0	0	2.34	2.3	2.3	2.3	2.33	2.3	2.3	2.3
PIN	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
TU	2.4	2.5	2.5	2.49	2.5	2.5	2.5	2.5	2.5	2.4	4.8	0	2.4	2.4	2.4
TAPE	2.4	2.4	2.4	2.43	2.4	2.4	1.7	1.9	2.5	2.4	4.8	0	2.4	2.4	2.4
CD	2.3	2.3	2.3	2.32	2.4	2.5	2.3	2.33	2.3	2.3	4.8	0	2.3	2.3	2.3
PIN	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
TU	2.5	2.5	2.5	2.47	2.4	2.4	2.4	2.4	2.4	2.4	2.5	2.47	2.4	2.5	2.5
TAPE	2.5	2.4	2.4	2.43	2.4	2.4	2.5	2.42	2.4	2.4	2.4	2.43	2.4	2.5	2.5
CD	2.3	2.4	2.3	2.34	2.4	2.4	2.3	2.34	2.4	2.4	2.3	2.35	2.4	2.3	2.3
PIN	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
TU	2.5	2.5	2.5	2.48	0	0	4.9	2.48	2.5	2.5	2.5	2.94	5.3	0	4.8
TAPE	2.5	2.5	2.5	2.46	0	0	0	2.45	2.5	2.5	2.5	3.54	5.3	0	4.8
CD	2.4	2.4	2.4	2.36	0	0	4.8	2.4	2.4	2.4	2.4	2.05	5.3	0	4.8
PIN	91	92	93	94	95	96	97	98	99	100					
TU	0	0	0	0	0	0	0	0.98	4.8	0					
TAPE	0	0	0	4.75	0	0	0	0.99	4.7	0					
CD	0	0	4.7	4.72	0	0	0	1.12	4.7	0					

Q101	KTC3198GR			Q102	KTC3198GR			Q103	2SB1370			Q105	C3198GR		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
dynamics	0.7	0	0	dynamics	0	0	5.3	dynamics	12	19	18	dynamics	0.7	0	18
stafics(v)	0.7	0	0	stafics(v)	0	0	5.3	stafics(v)	12	19	28	stafics(v)	0.6	0	18

Q106	KTC3198GR			Q107	KTC3198GR			Q108	2SD1381F			Q104	2SB1370E		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
dynamics	0.7	GN	1	TAPE	12	11	12	TU (V)	6.2	5.6	16	dynamics	18	19	18
stafics(v)	0.7	GN	91	CD (V)	12	12	11	CD (V)	6.2	5.6	16	stafics(v)	18	19	18

Q112	KTA1266GR			Q113	DTC144ES			Q109	DTC343TS			Q110	DTC343TS		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
dynamics	17	18	18	dynamics	7.1	0	0	dynamics	0	0	0	dynamics	0	0	0
stafics(v)	17	18	18	stafics(v)	7.1	0	0	stafics(v)	1.4	0	0	stafics(v)	1.4	0	0

Q111	2SC1815Y			Q300	KTC3198GR			Q301	2SJ460			Q302	2SJ460		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
TU(V)	0	0	10	PB(V)	0	0	7.2	PB(V)	7	4	4.2	PB(V)	7	4.2	4
CD(V)	0.7	0	0	REC(V)	0.7	0	0	REC(V)	0	4.1	4.1	REC(V)	0	4.1	4.1

Q303	2SK2541			Q304	2SK2541			Q305	2SA1993F			Q306	DTC144ES		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
PB(V)	7	4.2	4.2	PB(V)	7	4.2	4.2	PB(V)	3.5	4.2	4.2	PB(V)	7.2	0	0
REC(V)	0	4.2	4.1	REC(V)	0	4.2	4.1	REC(V)	17	9.2	4.2	REC(V)	0	0	16

Q307	2SA1993F			Q308	2SA1993F			Q309	2SA1993			Q310	2SA1993F		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
PB(V)	3.6	4.2	4.2	PB(V)	3.6	4.2	4.2	PB(V)	7.2	4.2	4.2	PB(V)	7.2	4.2	4.2
REC(V)	17	4.5	9.2	REC(V)	17	4.5	9.2	REC(V)	4.2	3.6	4.2	REC(V)	4.2	3.6	4.2

Q311	2SA1993F			Q313	KTC1898GR			Q314	2SC3331T			Q315	2SC3331T		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
PB(V)	8.7	4.2	4.2	PB(V)	0.5	4.2	0	PB(V)	0	0	0	PB(V)	0	0	0
REC(V)	3.6	4.2	4.2	REC(V)	2.3	4.2	1.7	REC(V)	0.7	0.7	6.2	REC(V)	0.8	0.7	6.3

Q316	2SC3331T			Q317	KTC1898GR			Q318	KTC3198GR			Q204	2SA1296GR		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
PB(V)	0	0	11	PB(V)	0.7	0	0	PB(V)	0	0	8.7	PB(V)	11	12	12
REC(V)	7.4	6.6	8.5	REC(V)	0	0	7.5	REC(V)	0.7	0	0	REC(V)	11	12	12

Q205	2SA952K			Q206	KTC3198GR			Q207	KTC3198GR			Q201	DTC124XK		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
PB(V)	0	12	12	PB(V)	0	0	12	PB(V)	0.7	0	0	CD(V)	0	0	4.7
REC(V)	12	12	0	REC(V)	0	0	12	REC(V)	0.7	0	0	TU(V)	0	0	4.7

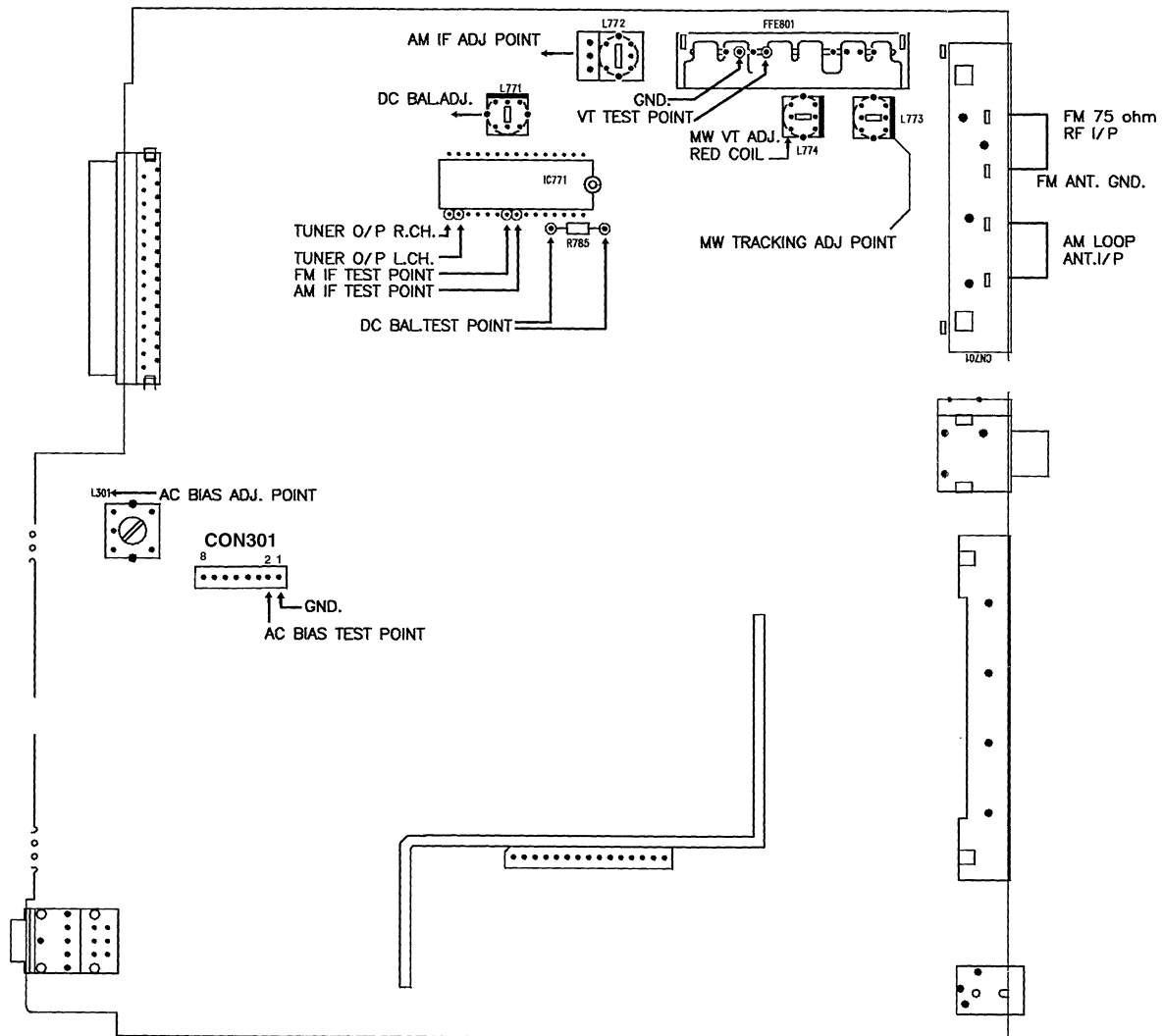
Q202	DTC143TK			Q203	2SC2001K			Q711	C4115			Q853	2SC3052		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
CD(V)	2	0	0	CD(V)	8.4	7.7	12	CD(V)	0	0	12				
TU(V)	0	0	0.5	TU(V)	8.4	7.7	12	TU(V)	9.8	9.1	12				

Q805	2SC2714			Q806	RTIP144C			Q501	DTC124XS			Q502	2SA1296GR		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
FM(V)	5.2	4.5	7.2	FM(V)	0.8	9.1	9	dynamics	4.5	0	0.2	dynamics	9.6	10	10
AM(V)	5.4	4.2	7.3	AM(V)	0	9.3	0	stafics(v)	4.5	0	0.2	stafics(v)	9.5	10	10

Q503	2SA1296GR			Q504	2SA933RS			Q505	DTC114TK			Q508	DTC144EK		
PIN	B	E	C	PIN	B	E	C	PIN	B	E	C	PIN	B	E	C
dynamics	9.8	10	5	dynamics	4.2	4.8	1.6	dynamics	0.1	2.5	2.5	dynamics	4.3	2.5	2.5
stafics(v)	9.7	10	5.2	stafics(v)	3.7	4.4	2.1	stafics(v)	0.1	2.5	2.5	stafics(v)	4.4	2.5	2.5

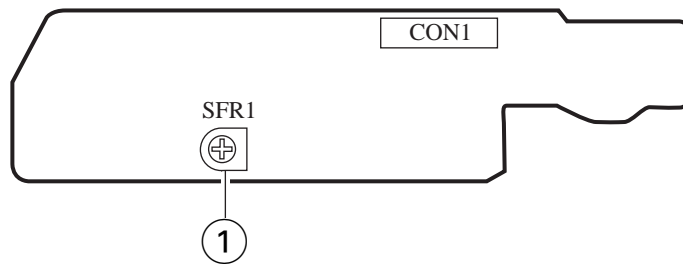
Q509	DTC144EK			Q510	DTC114TK		
PIN	B	E	C	PIN	B	E	C
dynamics	4.3	2.5	2.5	dynamics	0.1	0	4.3
stafics(v)	4.4	2.5	2.5	stafics(v)	0.1	0	4.4

# ELECTRICAL ADJUSTMENT

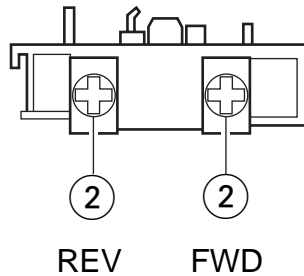


ADJUSTMENT ITEM	ADJ. POINT	TEST POINT	SET FREQ.	SETTING
MW VT ADJ.	L774	FFE801 4PIN TO GND.	1602KHz	6.8V $\pm$ 0.1V
MW VT CHECK	-	FFE801 4PIN TO GND.	531KHz	$\leq$ 2.0V
MW TRACKING ADJ.	L773	TUNER O/P L/R	603KHz	MAX. Output Sine Wave (Min. Dist.)
FM VT ADJ.	-	FFE801 4PIN TO GND.	108 MHz	$\leq$ 8V
FM VT CHECK	-	FFE801 4PIN TO GND.	87.5MHz	$\leq$ 2.5V
DC BAL. ADJ.	L771	Both Terminal OF R785	98 MHz	0 mv ( $\pm$ 20 mv )
FM IF CHECK	-	IC 771 PIN 22	10.7 MHz	-
AM IF ADJ.	L772	IC 771 PIN 24	450 KHz	-

## DECK C.B



## DECK R/P/E HEAD



### < DECK SECTION >

1. Tape Speed Adjustment
 

Settings:

  - Test tape: TTA-100
  - Test point: SP-OUT 2V
  - Adjustment location: SFR1

Method: Play back the test tape and adjust SFR1 for 3000Hz±5Hz (FWD) and FWD PLAY speed±45Hz (REV).
2. Head Azimuth Adjustment
 

Settings:

  - Test tape: TTA-300
  - Test point: SP-OUT 2V
  - Adjustment location: Head azimuth adjustment screw

Method: Play back the 8kHz signal of the test tape and adjust screw so that the output becomes maximum. Next, Perform on each FWD PLAY and REV PLAY mode.
3. PB Frequency Response Check
 

Settings:

  - Test tape: TTA-320
  - Test point: SP-OUT 2V

Method: Play back the 315Hz and 10kHz signals of the test tape and check that the 10kHz signal with respect to that of the 315Hz signal is 0dB±3dB.
4. REC/PB Frequency Response Check
 

Settings:

  - Test tape: TTA-602
  - Test point: SP-OUT 2V

Method: Input a-20VU signal to the AUX terminal. Record the 1kHz and 10kHz signals on the test tape and play back them. Check that the difference between the record level and the play back level at 1kHz and 10kHz signal is 0dB to ±3dB.

## PRACTICAL SERVICE FIGURE

### < TUNER SECTION >

#### < FM SECTION >

IHF Sensitivity:	15dB±5dB (at 90.0MHz)
(THD 3%)	14dB±5dB (at 98.0/106.0MHz)
Signal to noise ratio:	More than 60dB
(Input 54dB)	(at 98.0MHz)
Distortion:	Less than 1.2%
(Input 54dB)	(at 98.0MHz)
Auto stop level:	25±10dB (at 98.0MHz)
Stereo separation:	More than 20dB (at 98.0MHz)
Intermediate frequency:	10.75MHz

#### < AM (MW) SECTION >

Sensitivity:	46±5dB (at 600kHz)
(S/N 10dB)	44±5dB (at 1000kHz)
	42±5dB (at 1400kHz)
Signal to noise ratio:	More than 33dB
(Input 74dB)	(at 999kHz)
Distortion:	Less than 3.0%
(Input 74dB)	(at 999kHz)
Auto stop level:	50+10/-15dB (at 1000kHz)
Intermediate frequency:	450kHz

### < DECK SECTION >

Tape speed:	3000Hz±45%
Wow & flutter:	Less than 0.14%
	(W.R.M.S)
Pinch roller pressure:	270-330g
Take-up torque:	30-55g-cm (FWD, REV)
FF & REW torque:	75-180g-cm
Back tension:	2-7g-cm (FWD, REV)
Distortion:	Less than 3.0%
	(REC/PB, 0VU)
Noise level:	Less than 80mV
	(PB, REC/PB,
	FILTER DIN AUDIO)
Erasing ratio:	More than 55dB
	(at 125Hz, +10VU)
Test tape:	TTA-100
	TTA-602 (NORMAL)

IC DESCRIPTION  
IC, LC867240A-5P33

Pin No.	Pin Name	I/O	Description
1	O-SCONTM	O	M62439SP control. open drain output.
2	O-SCONTL	O	
3	O-DATA	O	Tuner control. CMOS output.
4	I-TUNE/IFC	I	Tuner control.
5	O-TUCL	O	Tuner control. CMOS output.
6	O-COIN	O	CD control. open drain output.
7	I-SQOUT	I	CD control.
8	O-CQCK	O	CD control. open drain output.
9	O-RWC	O	
10	O-CLKSFT	O	Clock shift output. "L" during shift. open drain output.
11	I-TMBASE	I	8 Hz time base input.
12	I-RESET	I	Reset input.
13	XT1	I	Input pin.
14	XT2	O	Output pin for 32.768kHz crystal oscillation.
15	VSS1	—	GND.
16, 17	CF1, CF2	I/O	Main clock input/output 5.76 MHz.
18	VDD1	—	+5V.
19	I-KEY0	I	KEY0 A/D input.
20	I-KEY1	I	KEY1 A/D input.
21	I-RDSIG	I	RDS signal level input. (A/D input)
22	I-WRQ	I	CD control.
23	I-DRF	I	
24	I-DOOR	I	CD door SW detection SW input. "L" at CLOSE.
25	I-PUIN	I	CD pick-up detection SW input. "L" at ON.
26	I-SWTAPE	I	Tape detection SW input. (A/D input)
27	I-STEREO	I	Monaural/stereo indication selector input. "L" at stereo.
28	I-RDCL	I	RDS clock input.
29	I-REM	I	Remote control input. (fall-down edge interrupt input)
30	I-HOLD	I	Hold mode detection. "L" at hold mode.
31	I-RDDT	I	RDS data input.
32	I-TPREC	I	Tape REC detection input. "H" at REC.
33	I-TPPLAY	I	Tape PLAY detection input. "H" at PLAY.
34	O-MOTOR	O	Mechanism deck motor ON/OFF output. "H" at ON. CMOS output.
35	O-PL	O	Mechanism deck plunger solenoid ON/OFF output. "H" at ON. CMOS output .
36-38	O-NC	O	Not used.
39-55	S9-S25	O	LCD SEG terminal Initial setting output. (S10 to S16)
56	VDD2	—	+5V.
57	VSS2	—	GND.
58-79	S26-S47	O	LCD SEG terminal .
80	I-CLKDSP	I	Watch indication select input "L": 12H. "H": 24H.
81	I-AS	I	Auto stop. counter input .

Pin No.	Pin Name	I/O	Description
82	I-STOP	I	Tape stop input.
83-86	COM0-COM3	O	LCD common output.
87	I-INIT	I	Initial setting input.
88	I-AC/DC	O	Beat selector output. "H" during selection. CMOS output .
89	VSS3	—	GND.
90	VDD3	—	5V.
91	O-NC	O	Not used.
92	O-TUCE	O	Tuner chip enable output. CMOS output .
93	O-CD-ON	O	"H" output during CD function. CMOS output.
94	O-TU-ON	O	"H" output during TU function. Open drain output.
95	O-RMT	O	REC mute output. "H" during mute. Open drain output.
96	O-REC/PB	O	REC/PB select output. "H" during PB. Open drain output.
97	O-MUTE	O	Mute output. "H" during mute. Open drain output.
98	O-PCONT	O	Power control output. "H" at ON. CMOS output.
99	O-BIAS	O	REC bias ON/OFF output. "H" at ON. Open drain output.
100	O-NC	O	Not used.

## IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE-	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES "Track Error Sense" comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD-	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD-	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD- and FA- pins.
19	FA-	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE-	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	SP	—	Single ended output of the CV+ and CV- pin input signal.
24	SPI	O	Spindle amp input.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP-	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL-, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP-, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.



Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	“High Frequency Level” is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV-, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS-	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	“Slice Level Control” is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	“Tracking Balance Control” EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	“Detect RF” RF level detector output.
55	FSS	I	“Focus Search Select” focus search mode ( $\pm$ search/+ search) select pin.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

# IC, LC78622E

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PDO output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLV-	O	Disc motor control output. Three level output is possible using command.	
14	V/P	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP-	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and the sync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24-28	SL+ - PUIN	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{CQCK}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{RES}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{CS}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

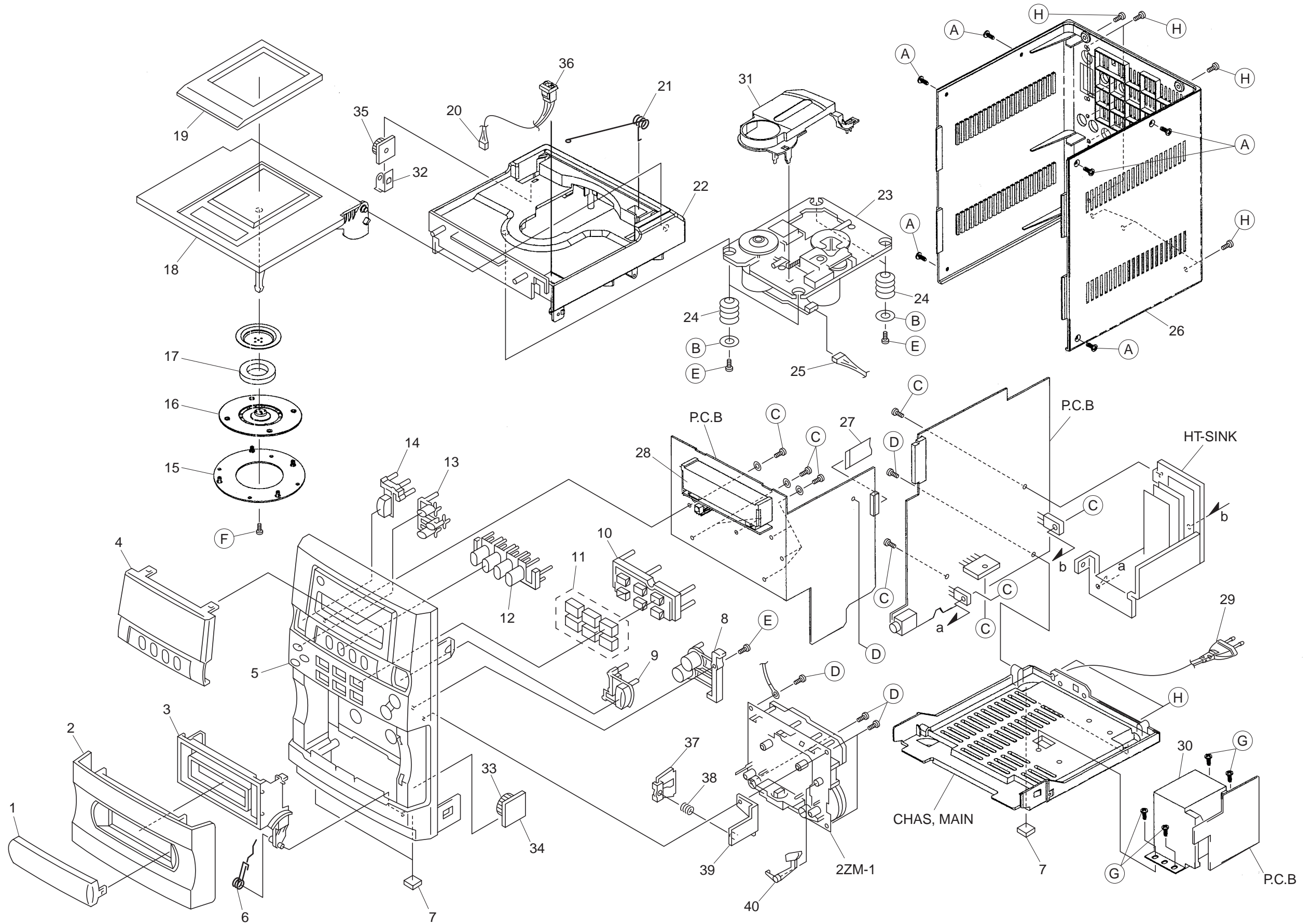
# MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
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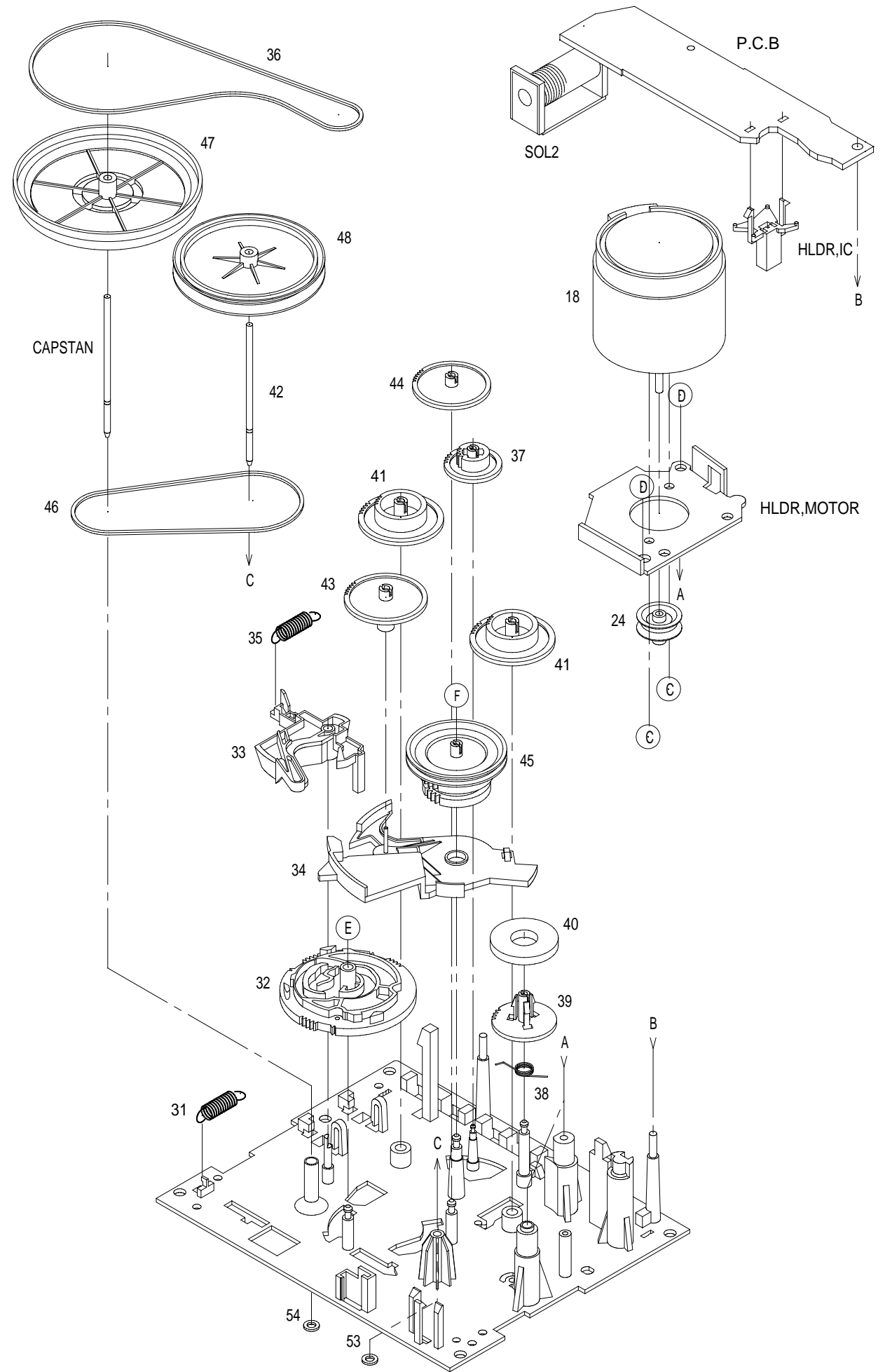
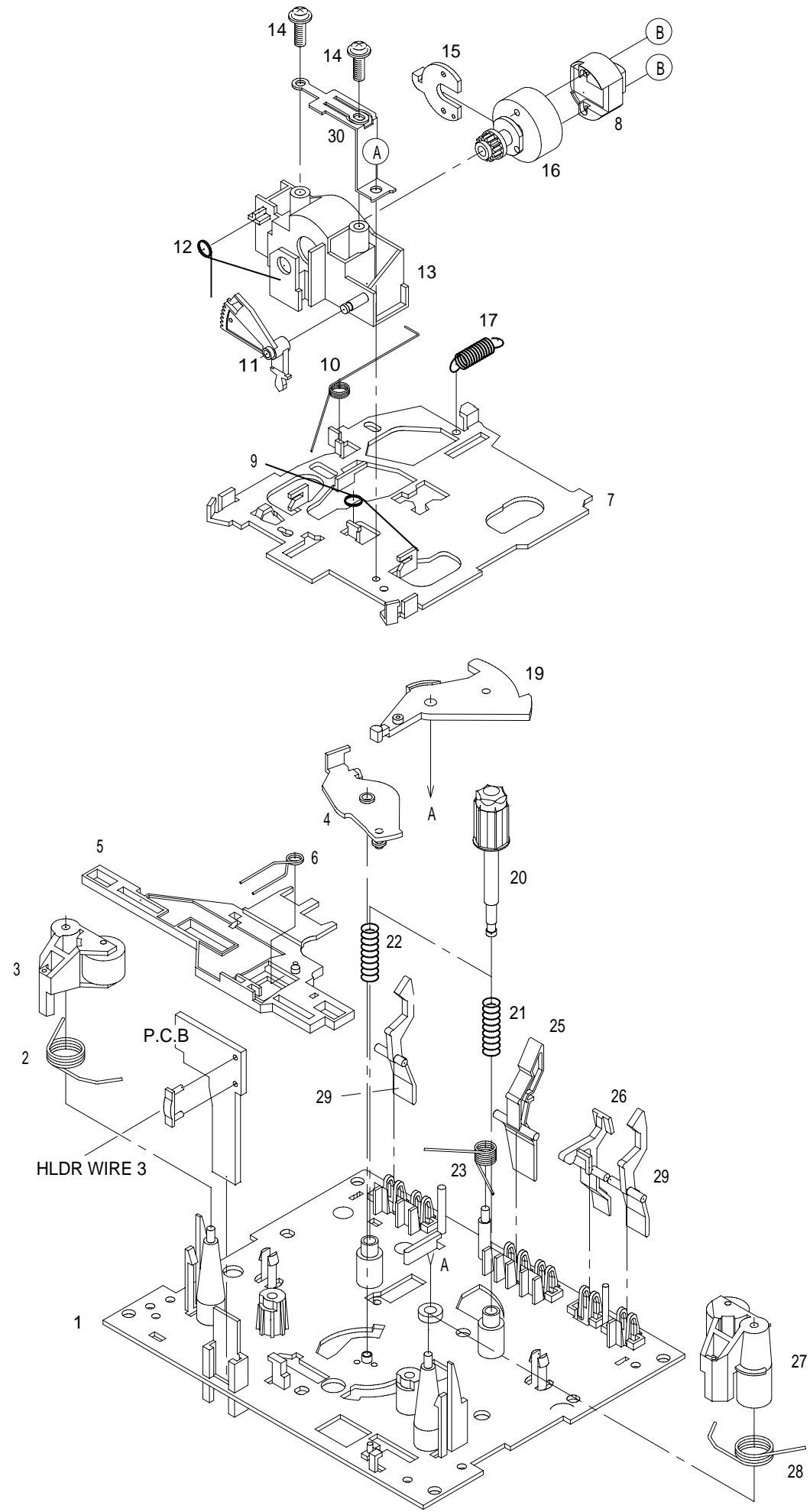
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CLA-007-010		WINDOW, CASS	26	8A-CLA-030-010		CABI, REAR H
2	8A-CLL-001-010		LID, CASS	27	8Z-CL8-682-010		FF-CABLE, 16P 1.0 180MM
3	8A-CLA-006-010		BOX, CASS	28	8Z-CL8-201-010		GUIDE, LCD
4	8A-CLA-004-010		WINDOW, DISP	29	87-A80-083-010		AC CORD, HC BLK
5	8A-CLA-001-010		CABI, FRONT	30	8A-CLL-620-010		PT, H ACL-L
6	8Z-CL8-209-010		SPR-T, CASS	31	8Z-CDB-169-010		PANEL, CD SANYO
7	8Z-CL8-204-010		CUSH, FOOT	32	8Z-CL8-214-010		DMPR, HLDR BE
8	8A-CLA-010-010		KEY, VOL	33	84-CD5-215-010		GEAR
9	8A-CLA-013-010		KEY, TIMER /SLEEP	34	84-CD5-216-010		BRACKET
10	8A-CLA-008-010		KEY, CONT	35	86-NFZ-231-010		DMPR, 70
11	8A-CLA-009-010		KEY, CONT CAP SET	36	87-064-108-110		HLDR, NC LUTCH
12	8A-CLA-015-010		KEY, FUNC	37	82-NF5-229-010		PLATE, LOCK
13	8A-CLA-011-010		KEY, GEQ	38	82-NF5-228-010		SPR-C, LOCK
14	8A-CLA-012-010		KEY, POWER	39	88-CL5-202-010		HLDR, CASS LOCKE R
15	8Z-CDB-170-010		BASE, CHUCK	40	88-CL5-203-010		LEVER, CASS LOCKE R
16	88-CD9-211-210		RING, CHUCK	A	87-B10-239-010		QT2+3-8 W/O CR
17	87-036-368-010		MAGNET	B	8Z-CL8-220-010		W, 30-0856-01-01-01
18	8A-CLA-002-010		LID, CD	C	87-067-579-010		TAPPING SCREW, BVT2+3-8
19	8A-CLA-014-010		WINDOW, CD	D	87-067-703-010		TAPPING SCREW, BVT2+3-10
20	8Z-CL8-683-010		CONN ASSY, 2P CD DOOR	E	87-342-074-010		UT2+2.6-8
21	8Z-CL8-205-010		SPR-T, CD	F	87-571-033-410		TAPPING SCREW, VIT+2-4
22	8A-CLA-003-010		CHAS, CD	G	87-761-097-410		VFT2+3-10 GLD
23	M8-ZZK-E90-070		DALIT3C	H	87-B10-230-010		BVT2+3-10 W/O SLOT SILVER CR
24	88-CT6-206-010		CUSHION, CD				
25	8Z-CL8-681-010		CONN ASSY, 6P CD MOTOR				

## COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange		



TAPE MECHANISM EXPLODED VIEW 1/1

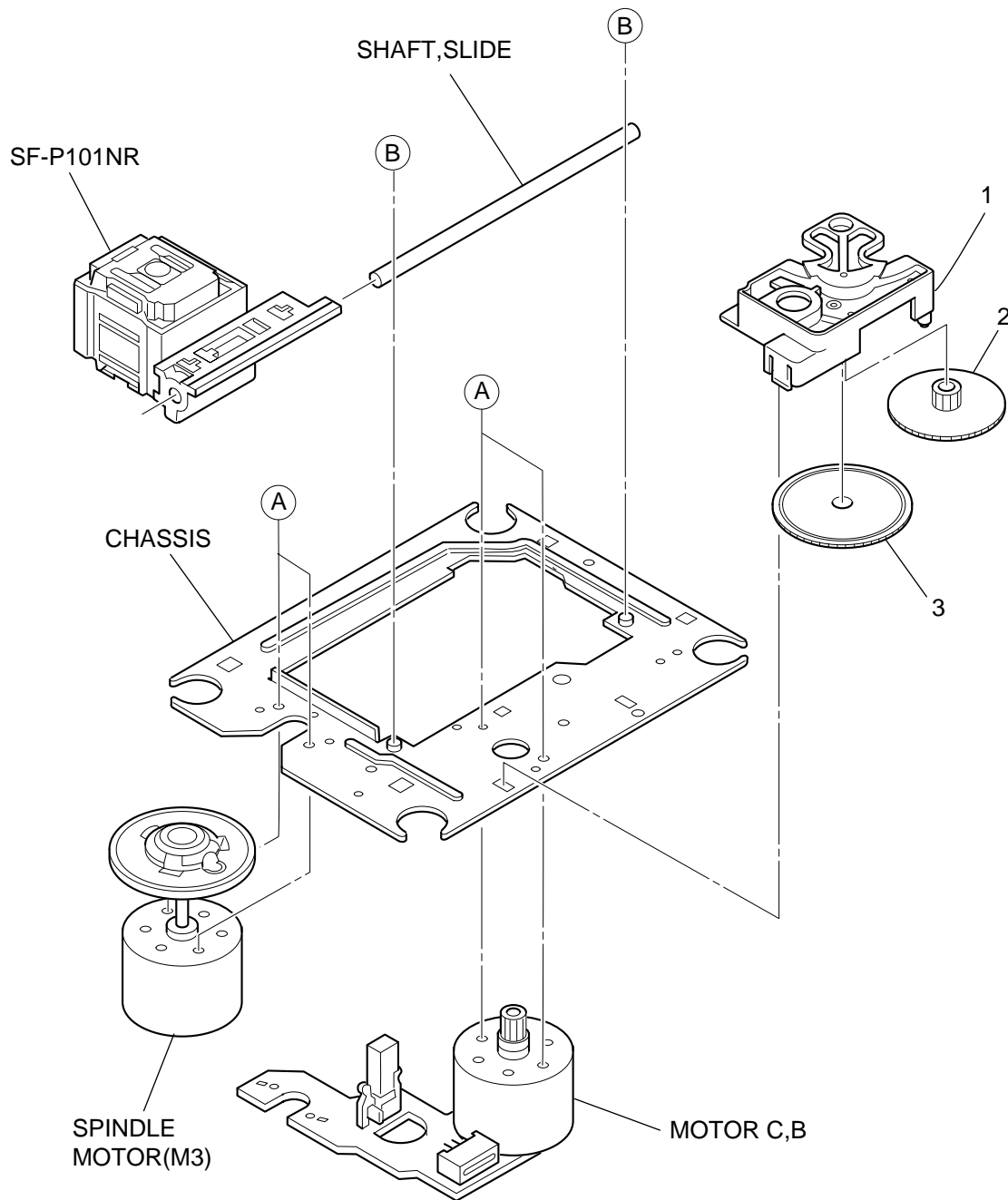


# TAPE MECHANISM PARTS LIST 1/1

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REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-327-310		CHAS ASSY,RM	31	82-ZM1-255-310		SPR-E,LVR DIR
2	82-ZM1-258-210		SPR-T,PINCH L	32	82-ZM1-221-310		GEAR,CAM(*)
3	82-ZM1-341-210		LVR ASSY,PINCH L2	33	82-ZM1-227-310		LVR,TRIG
4	82-ZM1-295-310		PLATE ASSY LINK	34	82-ZM1-224-410		LVR,FR
5	82-ZM1-266-310		LVR,DIR	35	82-ZM1-305-210		SPR-E,TRIG 2
6	82-ZM1-214-010		SPR-T,DIR	36	82-ZM1-340-010		BELT,SBU MAIN2
7	82-ZM1-206-910		CHAS,HEAD	37	82-ZM1-223-010		GEAR,PLAY
8	87-046-399-110		HEAD,PPH YK56R-BS411	38	82-ZM1-322-010		SPR-T,FR 60
9	82-ZM1-269-210		SPR-T,BRG	39	82-ZM1-220-210		GEAR,IDLER
10	82-ZM3-323-110		SPR-T,LINK 3	40	82-ZM3-616-010		RING MAGNET 4
11	82-ZM1-210-110		GEAR,H T	41	82-ZM1-216-410		GEAR,REEL
12	82-ZM1-213-010		SPR-T,HEAD	42	82-ZM1-236-010		CAPSTAN,2-41.5
13	82-ZM1-207-910		GUIDE,TAPE	43	82-ZM1-225-210		GEAR,FR
14	82-ZM1-283-310		S-SCREW,AZIMUTH	44	82-ZM1-226-010		GEAR,REW
15	82-ZM1-314-110		PLATE,HEAD	45	82-ZM3-333-310		SLIP DISK ASSY 2
16	82-ZM1-208-310		HLDR,HEAD	46	82-ZM1-338-110		BELT,FR 4
17	82-ZM1-218-010		SPR-E,HB	47	82-ZM1-349-110		FLY-WHL,R W
18	87-045-347-010		MOT,SHU2L 70	48	82-ZM1-348-110		FLY-WHL,L W
19	82-ZM1-222-210		LVR,PLAY	A	82-ZM1-315-010		S-SCREW GUIDE TAPE
20	82-ZM1-217-410		REEL TABLE	B	80-ZM6-207-010		V+1.6-7
21	82-ZM1-244-510		SPR-C,BT	C	87-251-070-410		U+2.6-3
22	82-ZM1-285-410		SPR-C,BT L	D	87-741-073-410		UT2+2.6-6 GLD
23	82-ZM1-257-010		SPR-T,CAS	E	87-B10-008-010		W-P,2.08-8-0.4-SLIP
24	82-ZM1-247-110		PULLEY,MOTOR				
25	82-ZM1-242-010		LVR,CAS				
26	82-ZM1-243-010		LVR,STOP				
27	82-ZM1-344-210		LVR ASSY,PINCH R2				
28	82-ZM1-259-210		SPR-T,PINCH R				
29	82-ZM1-240-110		LVR,REC(*)				
30	82-ZM1-298-010		SPR-P EARTH				

# CD MECHANISM EXPLODED VIEW 1/1



## CD MECHANISM PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S2-121-A28-400		COVER GEAR
2	S2-511-A21-000		GEAR MIDDLE
3	S2-511-A21-100		GEAR, DRIVE
A	S1-PN2-03R-05E		SCR PAN PCS 2-3
B	87-261-073-410		SCR S-TPG FLT 2.6-6
ALL	M8-ZZK-E90-070		DA11T3C



## SPEAKER PARTS LIST 1/1

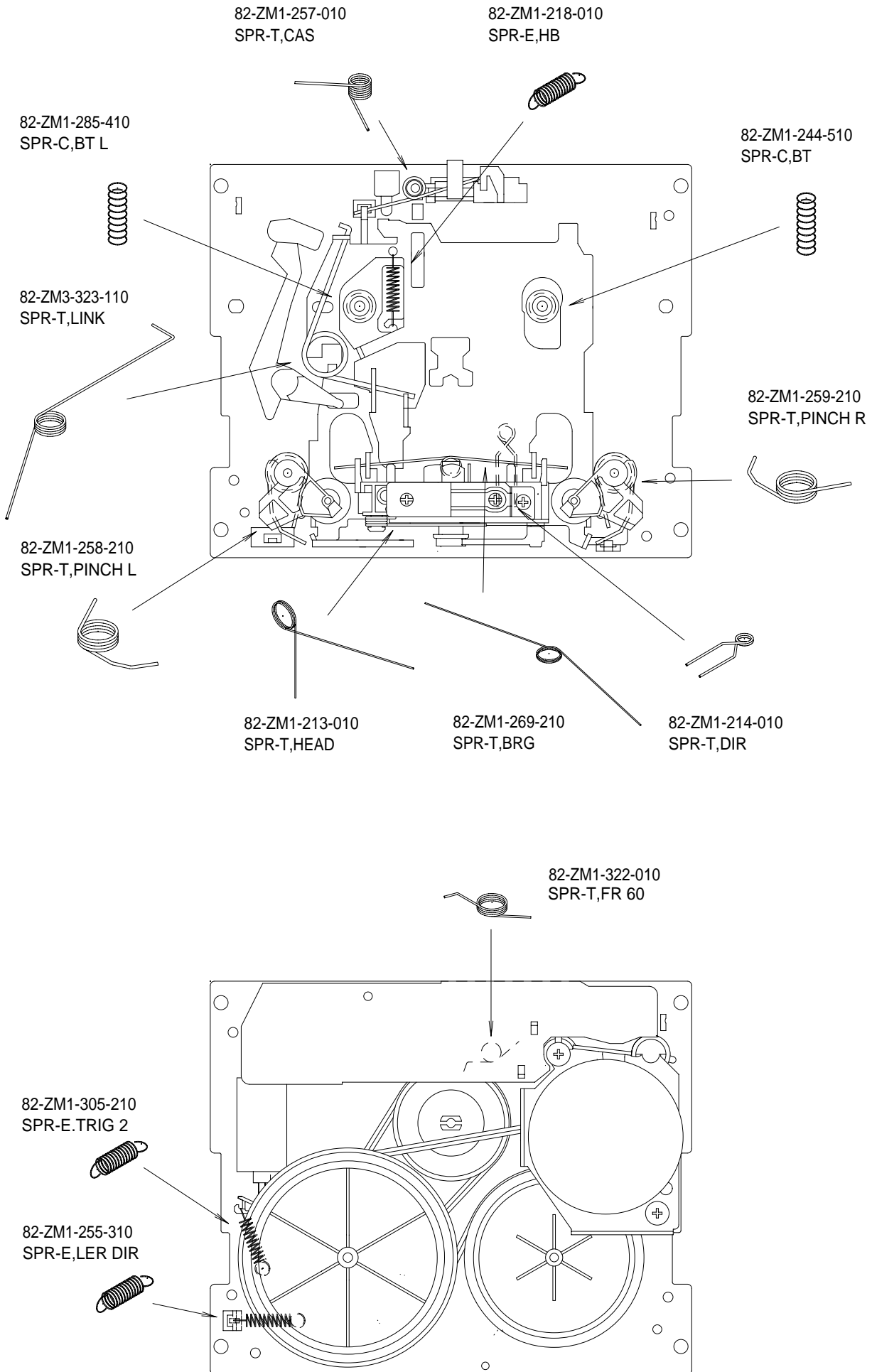
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CLL-600-010		SPKR, 40HM 5W ACL-L
2	8A-CLA-017-010		CABI, FR SPKR
3	8A-CLA-022-010		CLOTH, SPKR
4	8A-CLA-019-010		FRAME, SPKR
5	86-CL9-214-010		HLDR, CORD(SPKR)
6	8Z-CL8-695-110		CORD, SPKR BLK

- The speakers that are supplied with the following models, are dedicated speakers for their respective models. Speakers of LCX-337 and those of LCX-357 have completely the same outside appearance but have no compatibility each other. Therefore, be careful not make mistake when using the speakers of the following models.

LCX-357	Speaker wire color is gray. <b>8Z-CL8-694-110</b>
LCX-337	Speaker wire color is black. <b>8A-CL8-695-110</b>

# SPRING APPLICATION POSITION



## ACCESSORIES/PACKAGE LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。  
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CLL-902-010		IB,LH(ESP)B
2	87-A90-030-010		ANT,LOOP AM-NC C
3	87-043-115-010		ANT,FEEDER FM
4	8A-CLB-961-010		RC UNIT,RC-AAT11

アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)  
**AIWA CO.,LTD.** 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111