

SERVICE MANUAL

COMPACT DISC STEREO RADIO
CASSETTE RECORDER

BASIC TAPE MECHANISM : TN-21ZVC-2000
BASIC CD MECHANISM : DA11T3C

SPECIFICATIONS

Tuner section

Frequency range, antenna — FM: 87.5 - 108.0 MHz Rod antenna, AM: 530/531 - 1,710/1,602 kHz (10/9 kHz step) Ferrite bar antenna

Deck section

Track format — 4 tracks, 2 channels / Frequency range — Normal tape: 50 - 12,500 Hz (EIAJ) / Recording system — AC bias / Erasing system — Magnet erase / Heads — Recording/playback head (1), Erasure head (1)

CD player section

Disc — Compact disc / Scanning method — Non-contact optical scanner (semiconductor laser)

General

Speaker — 80 mm cone type (2) / Output — Headphones jack (stereo mini-jack) / Power output — 2.5 W + 2.5 W (EIAJ 7 ohms DC) / Power requirements — DC 12 V using eight size C (R14) batteries, AC 120 V, 60 Hz / Power consumption — 18 W
Dimensions (W × H × D) — 310 × 171 × 260 mm (12¹/₄ × 6³/₄ × 10¹/₄ in.)
Weight (excluding batteries) — 2.8 kg (6 lbs. 3 oz.)

- Design and specifications are subject to change without notice.

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".

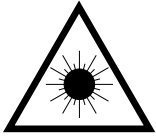
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	1	8A-CHB-903-010	IB,U(ESF)FM
△	2	87-A80-109-010	AC CORD,HK7281 BLK U
	3	8Z-CK4-962-010	RC UNIT,RC-ZAT04 (VS)

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 laserstråling, 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

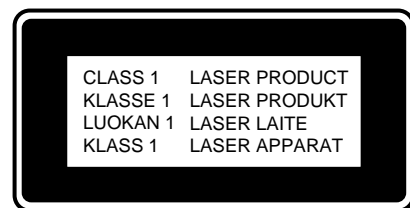
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.

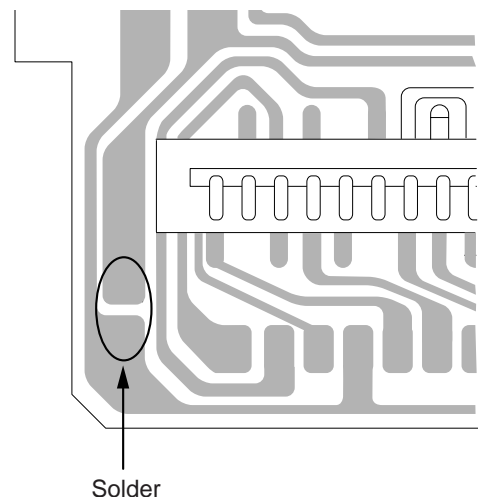


Precaution to replace Optical block (SF-P101NR)

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
IC				C321	87-010-197-080		CAP, CHIP 0.01 DM
	87-A21-550-010	IC,TA2149N		C322	87-010-263-080		CAP, ELECT 100-10V
	87-A21-185-040	C-IC,LC72121M		C325	87-010-405-080		CAP, ELECT 10-50V
	87-A21-064-010	IC,LA4227		C401	87-010-403-080		CAP, ELECT 3.3-50V
	87-A21-520-040	C-IC,M61509FP		C402	87-010-197-080		CAP, CHIP 0.01 DM
	87-A20-446-010	C-IC,LA9241ML		C403	87-010-263-080		CAP, ELECT 100-10V
	87-A20-459-010	C-IC,LC78622ED		C404	87-010-248-080		CAP, ELECT 220-10V
	87-A21-093-010	IC,LA6541D		C405	87-010-197-080		CAP, CHIP 0.01 DM
	8A-CH4-661-010	C-IC,LC867132V-5P07		C406	87-010-374-080		CAP, ELECT 47-10V
	87-A20-650-010	IC,RPM6938-V11		C407	87-010-178-080		CHIP CAP 1000P
	87-A21-431-010	IC,BA4560N		C408	87-010-198-080		CAP, CHIP 0.022
TRANSISTOR				C409	87-010-248-080		CAP, ELECT 220-10V
	89-327-143-080	TR,2SC2714 (0.1W)		C410	87-010-263-080		CAP, ELECT 100-10V
	87-026-447-080	TR,2SC1740S R		C411	87-A11-177-080		C-CAP,S 0.15-16 K B
	89-111-624-080	TR,2SA1162Y		C412	87-010-401-080		CAP, ELECT 1-50V
	87-026-213-080	CHIP-TR,DTC114YK		C413	87-016-369-080		C-CAP,S 0.033-25 B K
	89-327-125-080	C-TR,2SC2712(GR)		C414	87-010-405-080		CAP, ELECT 10-50V
	89-320-011-080	TR,2SC2001 (15W)		C416	87-010-545-080		CAP, ELECT 0.22-50V
	89-112-965-080	TR,2SA1296 (0.75W)		C417	87-012-157-080		C-CAP,S 330P-50 CH
	87-026-463-080	TR,2SA933S (0.3W)		C418	87-010-213-080		C-CAP,S 0.015-50 B
	87-026-291-080	TR,DTC124XS		C419	87-A11-608-080		C-CAP,S 0.33-25 K B
	87-A30-226-010	TR,2SB1655E		C420	87-016-369-080		C-CAP,S 0.033-25 B K
	87-026-462-080	TR,2SC1740 S(RS 0.3W)		C421	87-A11-177-080		C-CAP,S 0.15-16 K B
	89-318-154-080	TR,2SC1815 (0.4W)		C422	87-010-184-080		CHIP CAPACITOR 3300P(K)
	89-109-332-380	TR,2SA933RS		C423	87-010-194-080		C-CAP,S 0.47-25V (Z)F
	89-113-187-080	TR,2SA1318TU		C424	87-A10-712-080		C-CAP,S 0.22-25V (Z)F
	87-026-239-080	TR,DTC114TK (0.2W)		C425	87-010-176-080		C-CAP,S 680P-50 SL
	87-026-210-080	C-TR, DTC144EK		C426	87-A11-608-080		C-CAP,S 0.33-25 K B
	87-026-464-080	TR,DTC114TS (0.3W)		C428	87-010-197-080		CAP, CHIP 0.01 DM
DIODE				C429	87-010-186-080		CAP,CHIP 4700P
	87-070-345-080	DIODE,IN4148		C430	87-012-156-080		C-CAP,S 220P-50 CH
	87-A40-616-070	VARI-CAP,SVC384(S/T)		C431	87-010-545-080		CAP, ELECT 0.22-50V
	87-A40-128-080	C-VARI-CAP,HVU202A		C432	87-010-374-080		CAP, ELECT 47-10V
	87-017-072-080	ZENER,HZS3B1		C433	87-010-401-080		CAP, ELECT 1-50V
	87-027-399-080	ZENER,HZ7A3L (200MA)		C434	87-010-184-080		CHIP CAPACITOR 3300P(K)
	87-A40-648-080	ZENER,MTZJ8.2A		C435	87-010-197-080		CAP, CHIP 0.01 DM
	87-A40-234-080	ZENER,MTZJ5.6A		C436	87-010-374-080		CAP, ELECT 47-10V
	87-017-978-080	DIODE,IN4003		C437	87-010-404-080		CAP, ELECT 4.7-50V
	87-027-702-080	ZENER,HZ6C2L		C438	87-016-669-080		C-CAP,S 0.1-25 K B
	87-020-465-080	DIODE,LSS133 (110MA)		C439	87-010-178-080		CHIP CAP 1000P
	87-A40-465-010	DIODE,FR202		C440	87-010-145-080		C-CAP,S 1P-50 CH
MAIN C.B				C441	87-010-197-080		CAP, CHIP 0.01 DM
C30	87-010-260-080	CAP, ELECT 47-25V		C442	87-010-312-080		C-CAP,S 15P-50 CH
C251	87-010-401-080	CAP, ELECT 1-50V		C445	87-012-368-080		C-CAP,S 0.1-50 F
C261	87-010-402-080	CAP, ELECT 2.2-50V		C446	87-012-368-080		C-CAP,S 0.1-50 F
C262	87-010-402-080	CAP, ELECT 2.2-50V		C447	87-012-368-080		C-CAP,S 0.1-50 F
C263	87-010-178-080	CHIP CAP 1000P		C448	87-010-315-080		C-CAP,S 27P-50 CH
C264	87-010-178-080	CHIP CAP 1000P		C450	87-012-140-080		CAP 470P
C265	87-010-263-080	CAP, ELECT 100-10V		C451	87-012-156-080		C-CAP,S 220P-50 CH
C266	87-010-263-080	CAP, ELECT 100-10V		C455	87-010-247-080		CAP, ELECT 100-50V
C267	87-010-112-080	CAP, ELECT 100-16V		C457	87-010-312-080		C-CAP,S 15P-50 CH
C268	87-010-112-080	CAP, ELECT 100-16V		C458	87-010-312-080		C-CAP,S 15P-50 CH
C271	87-010-221-080	CAP, ELECT 470-10V		C459	87-010-263-080		CAP, ELECT 100-10V
C272	87-010-221-080	CAP, ELECT 470-10V		C460	87-015-819-080		CAPACITOR,0.01
C278	87-010-405-080	CAP, ELECT 10-50V		C461	87-010-197-080		CAP, CHIP 0.01 DM
C279	87-010-385-080	CAP, ELECT 220-25V		C462	87-010-248-080		CAP, ELECT 220-10V
C301	87-016-495-000	EL CAP 3300UF/25V		C463	87-010-197-080		CAP, CHIP 0.01 DM
C306	87-010-404-080	CAP, ELECT 4.7-50V		C465	87-010-404-080		CAP, ELECT 4.7-50V
C307	87-010-401-080	CAP, ELECT 1-50V		C466	87-012-368-080		C-CAP,S 0.1-50 F
C308	87-010-221-080	CAP, ELECT 470-10V		C467	87-010-263-080		CAP, ELECT 100-10V
C311	87-010-263-080	CAP, ELECT 100-10V		C469	87-012-154-080		C-CAP,S 150P-50 CH
C312	87-010-385-080	CAP, ELECT 220-25V		C470	87-010-544-080		CAP, ELECT 0.1-50V
				C471	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
				C472	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
				C473	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
				C474	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
				C475	87-010-197-080		CAP, CHIP 0.01 DM
				C476	87-010-236-080		CAP,E 1000-10 SME
				C477	87-010-197-080		CAP, CHIP 0.01 DM
				C478	87-010-263-080		CAP, ELECT 100-10V

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C12	87-010-197-080		CAP, CHIP 0.01 DM	HLD2	88-CD6-661-010		HLD2, BAR ANT.
C13	87-010-150-080		C-CAP,S 6P-50 CH	L2	87-A50-560-010		COIL, FM BPF(ACD)
C14	87-010-303-080		C-CAP,S 330P-50CH	L3	8A-CH4-670-010		BAR-ANT,MW 2B-ACH(COI)
C15	87-012-349-080		C-CAP,S 1000P-50 CH	L4	87-A50-420-010		COIL,MW OSC(SYN)
C16	87-010-374-080		CAP, ELECT 47-10V	L5	87-A50-566-010		COIL,FM RF EX(ACH)
C17	87-010-198-080		CAP, CHIP 0.022	L6	87-A50-568-010		COIL,FM OSC EX(ACH)
C18	87-015-835-080		C-CAP,0.047 D	L7	87-A91-308-010		FLTR,PCFAZH- 450T (TOK)
C19	87-010-263-080		CAP, ELECT 100-10V	L8	87-005-849-080		COIL,10UH(CECS)
C20	87-010-404-080		CAP, ELECT 4.7-50V	TC1	87-011-254-080		TRIMER,20P LAR
C21	87-010-197-080		CAP, CHIP 0.01 DM	X1	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
C22	87-010-197-080		CAP, CHIP 0.01 DM				
C23	87-010-197-080		CAP, CHIP 0.01 DM	HP C.B			
C25	87-016-460-080		C-CAP,S 0.22-16 B				
C26	87-018-131-080		CAP, CER 1000P-50V	CN203	87-049-469-010		CONN,4P V
C27	87-A11-067-080		C-CAP,S 1-10 K B	J251	87-009-216-010		JACK, DIA 3.5
C28	87-016-669-080		C-CAP,S 0.1-25 K B				
C29	87-016-669-080		C-CAP,S 0.1-25 K B	LED C.B			
C30	87-010-198-080		CAP, CHIP 0.022				
C31	87-010-198-080		CAP, CHIP 0.022	CN607	87-009-236-010		CONN 8P PH H
C33	87-A11-729-080		C-CAP,0.47-16V Y5V	LED605	88-CD6-630-010		LED,934ID RED
C34	87-A11-729-080		C-CAP,0.47-16V Y5V	LED606	88-CD6-630-010		LED,934ID RED
C35	87-015-819-080		CAPACITOR,0.01	LED611	88-CD6-631-010		LED,934GD GRN
C36	87-010-263-080		CAP, ELECT 100-10V	S608	8Z-CT6-636-010		SW,TACT EVQJAC04M
C37	87-010-197-080		CAP, CHIP 0.01 DM				
C38	87-010-374-080		CAP, ELECT 47-10V	S609	8Z-CT6-636-010		SW,TACT EVQJAC04M
C39	87-010-404-080		CAP, ELECT 4.7-50V	S610	8Z-CT6-636-010		SW,TACT EVQJAC04M
C40	87-010-197-080		CAP, CHIP 0.01 DM	S611	8Z-CT6-636-010		SW,TACT EVQJAC04M
C41	87-012-349-080		C-CAP,S 1000P-50 CH	S613	8Z-CT6-636-010		SW,TACT EVQJAC04M
C42	87-012-349-080		C-CAP,S 1000P-50 CH				
C43	87-012-349-080		C-CAP,S 1000P-50 CH	VOL C.B			
C44	87-010-311-080		CAP 12P	CN608	84-722-632-010		CONN,2P H
C45	87-010-312-080		C-CAP,S 15P-50 CH	S614	8Z-CT6-636-010		SW,TACT EVQJAC04M
C46	87-010-197-080		CAP, CHIP 0.01 DM	S615	8Z-CT6-636-010		SW,TACT EVQJAC04M
C47	87-010-197-080		CAP, CHIP 0.01 DM				
C48	87-010-197-080		CAP, CHIP 0.01 DM	PWR C.B			
C49	87-012-140-080		CAP 470P	C901	87-018-205-080		CAP, CERA-SOL 0.022
C50	87-010-197-080		CAP, CHIP 0.01 DM	C902	87-018-205-080		CAP, CERA-SOL 0.022
C71	87-010-197-080		CAP, CHIP 0.01 DM	C903	87-018-205-080		CAP, CERA-SOL 0.022
C72	87-010-263-080		CAP, ELECT 100-10V	C904	87-018-205-080		CAP, CERA-SOL 0.022
C73	87-010-197-080		CAP, CHIP 0.01 DM	CNA901	8A-CDB-621-010		CONN ASSY,3P POWER
C75	87-010-197-080		CAP, CHIP 0.01 DM	APR901	87-A90-092-080		PROTECTOR,2.5A 491
C91	87-010-197-080		CAP, CHIP 0.01 DM				
C92	87-010-197-080		CAP, CHIP 0.01 DM				
C93	87-010-197-080		CAP, CHIP 0.01 DM	MOTOR C.B			
CF1	87-A91-094-010		FLTR,CDA10.7 MG80A				
CF2	82-785-747-080		CF,MS2 GHY,R	M2	9X-262-576-910		MOTOR GEAR ASSY
CF3	82-785-747-080		CF,MS2 GHY,R	PIN3	91-564-722-110		CONNECTOR 6P
CN2	87-099-194-010		CONN,6P 6216V	SW1	91-572-085-120		LEAF SW
CN3	87-A60-110-010		CONN BASE 4P				
HLD1	88-CD6-661-010		HLD2, BAR ANT.	BATT 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.

LCD DISPLAY
LCD, HLC7107ACH-11

○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

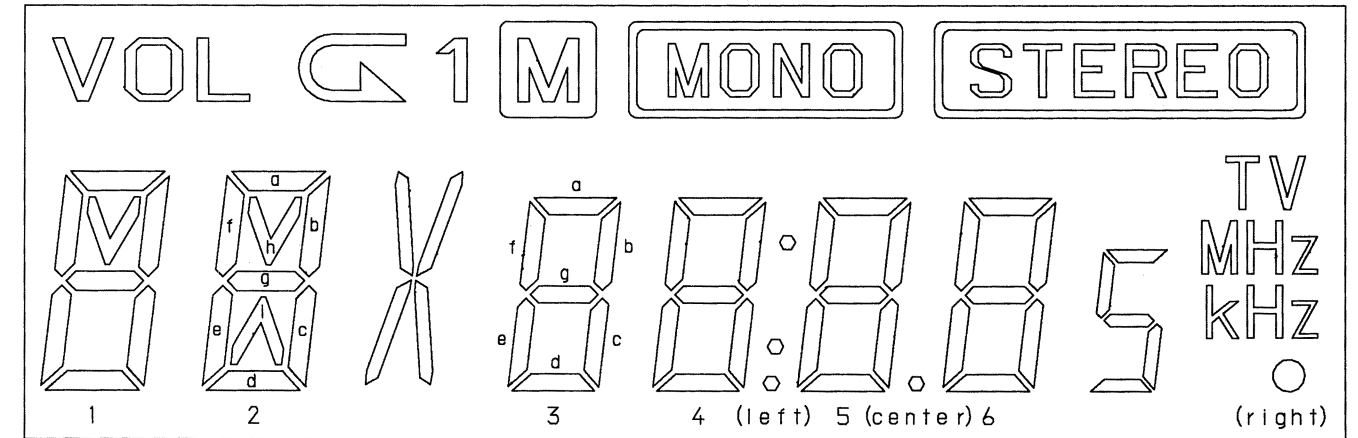


A
抵抗部品コード
Resistor Code

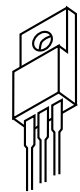
桁表示
Figure
抵抗値
Value of resistor

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



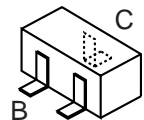
ECB

2SB1655E



ECB

DTC114TS



E

2SA1162Y
2SC2712
2SC2714
DTC114TK
DTC114YK
DTC144EK



ECB

2SA933RS
2SC1740S R
DTC124XS



ECB

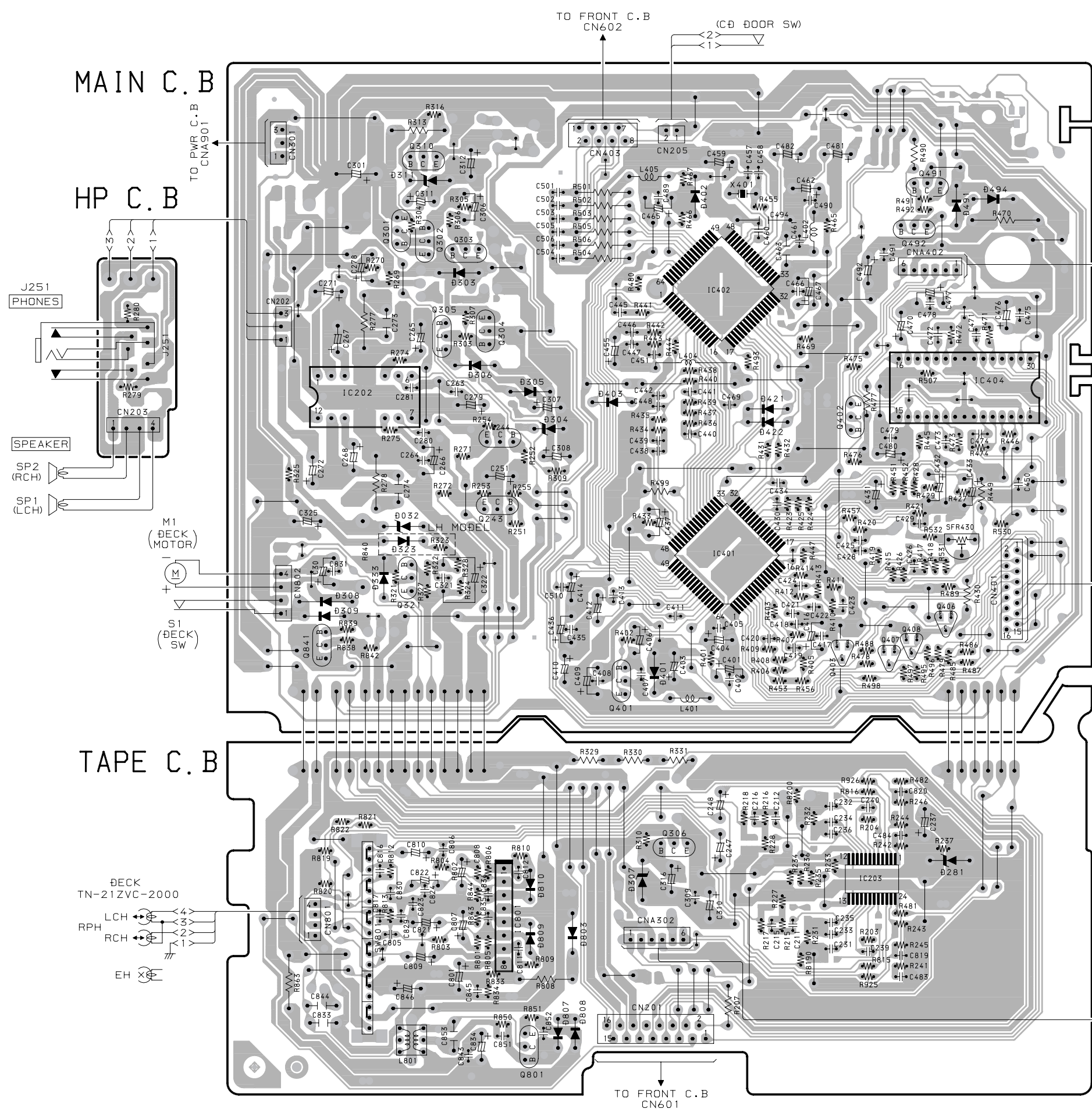
2SA933S
2SA1296
2SA1318TU
2SC1740 S
2SC1815
2SC2001

NO.	COM. 1	COM. 2	COM. 3
1	2b	2c	2d
2	1b	1c	1d
3	1a	1f	1e
4	1h	1g	VOL
5	2a	2f	2e
6	2h	2g	2i
7	3f	3e	G
8	3a	3g	3d
9	3b	3c	1
10	4f	4e	M
11	4a	4g	4d
12	4b	4c	X
13	•	• (left)	MONO
14	5f	5e	• (right)
15	5a	5g	5d
16	5b	5c	• (center)
17	6f	6e	STEREO
18	6a	6g	6d
19	6b	6c	5
20	TV	MHz	kHz
21	COM. 1		
22		COM. 2	
23			COM. 3

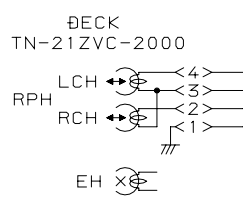
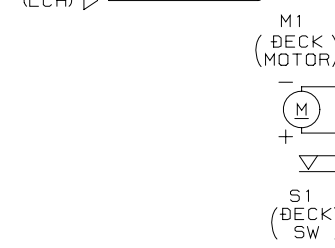
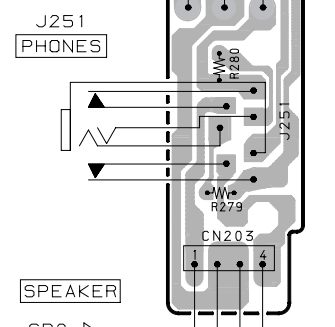
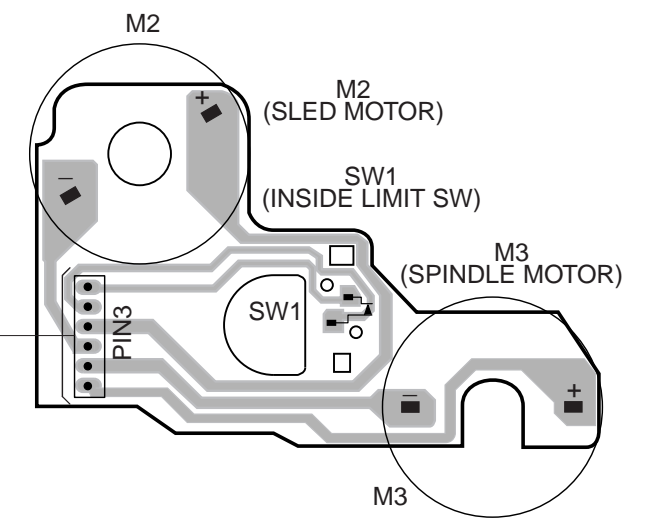
WIRING-1 (MAIN/TAPE)

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

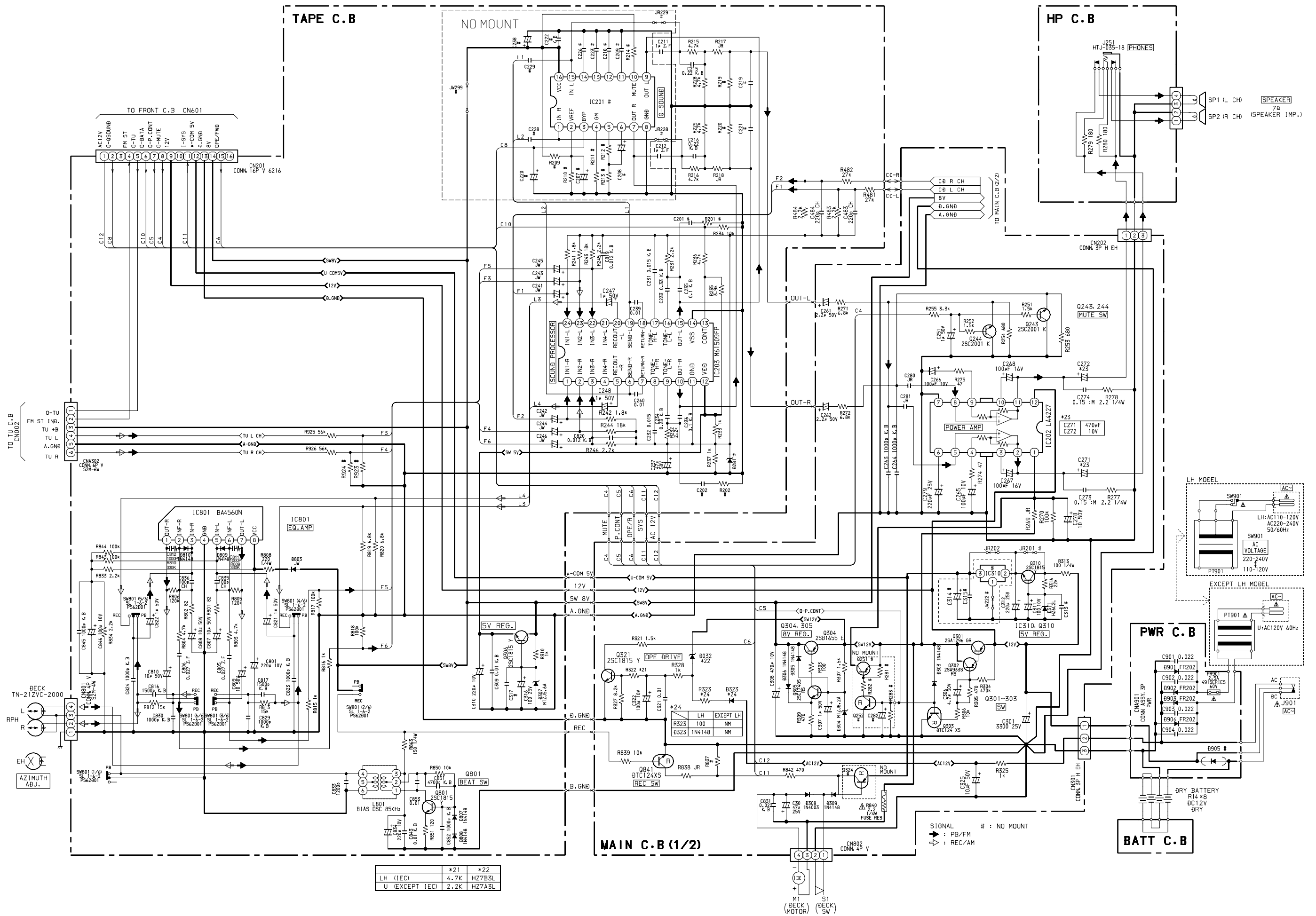
A
B
C
D
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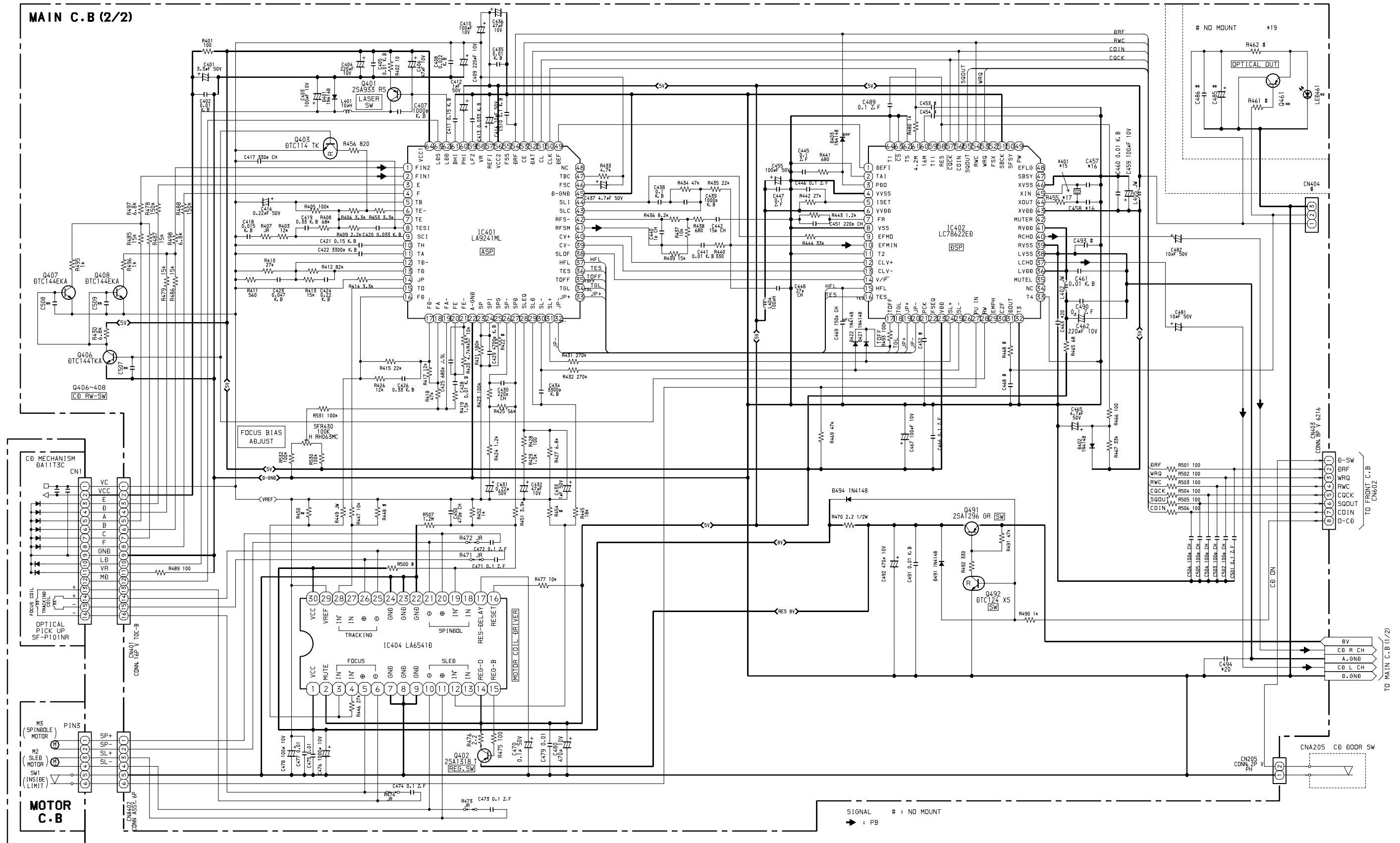
MOTOR C.B



SCHEMATIC DIAGRAM-1 (MAIN)

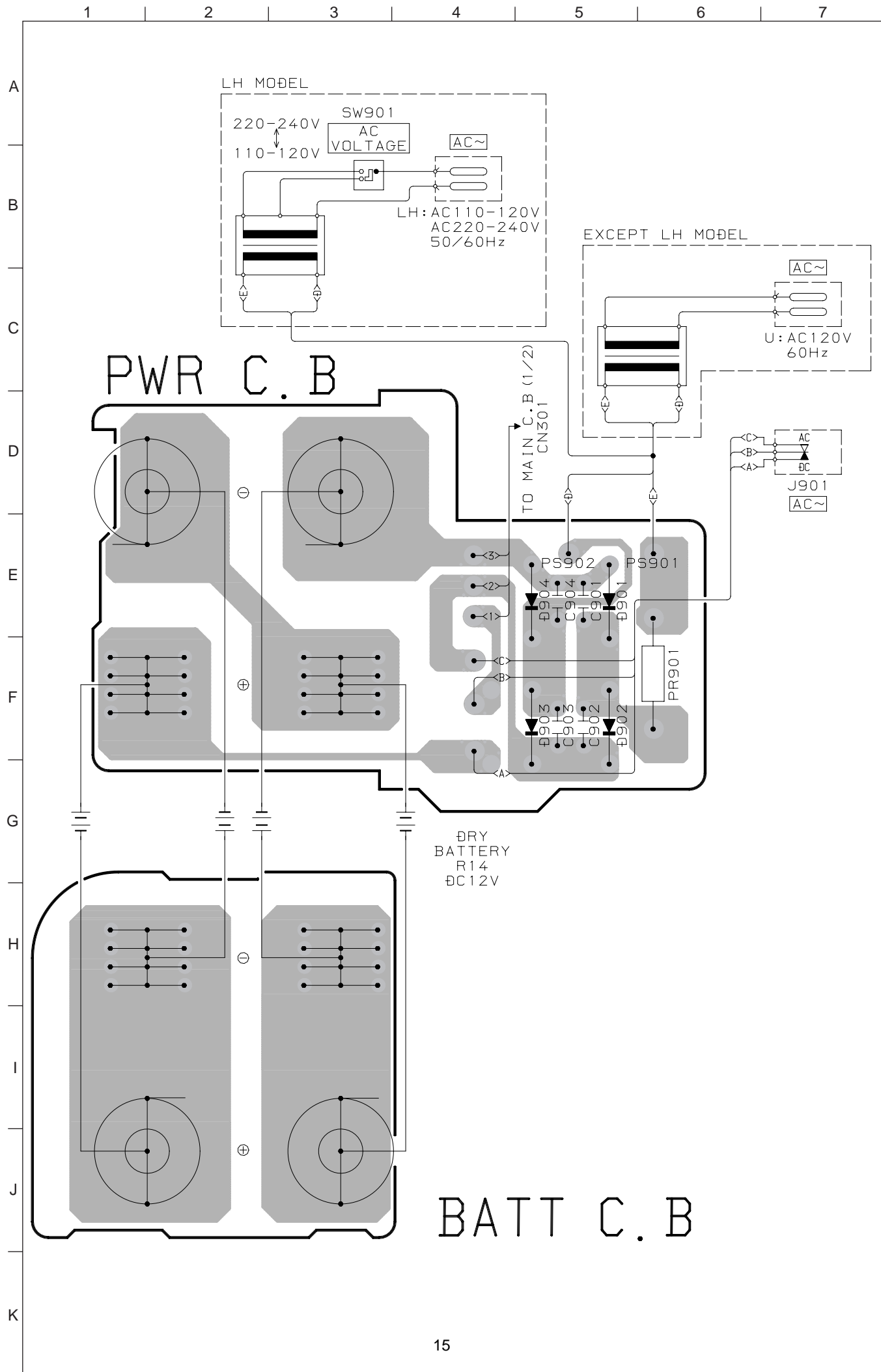


SCHEMATIC DIAGRAM-2 (CD)

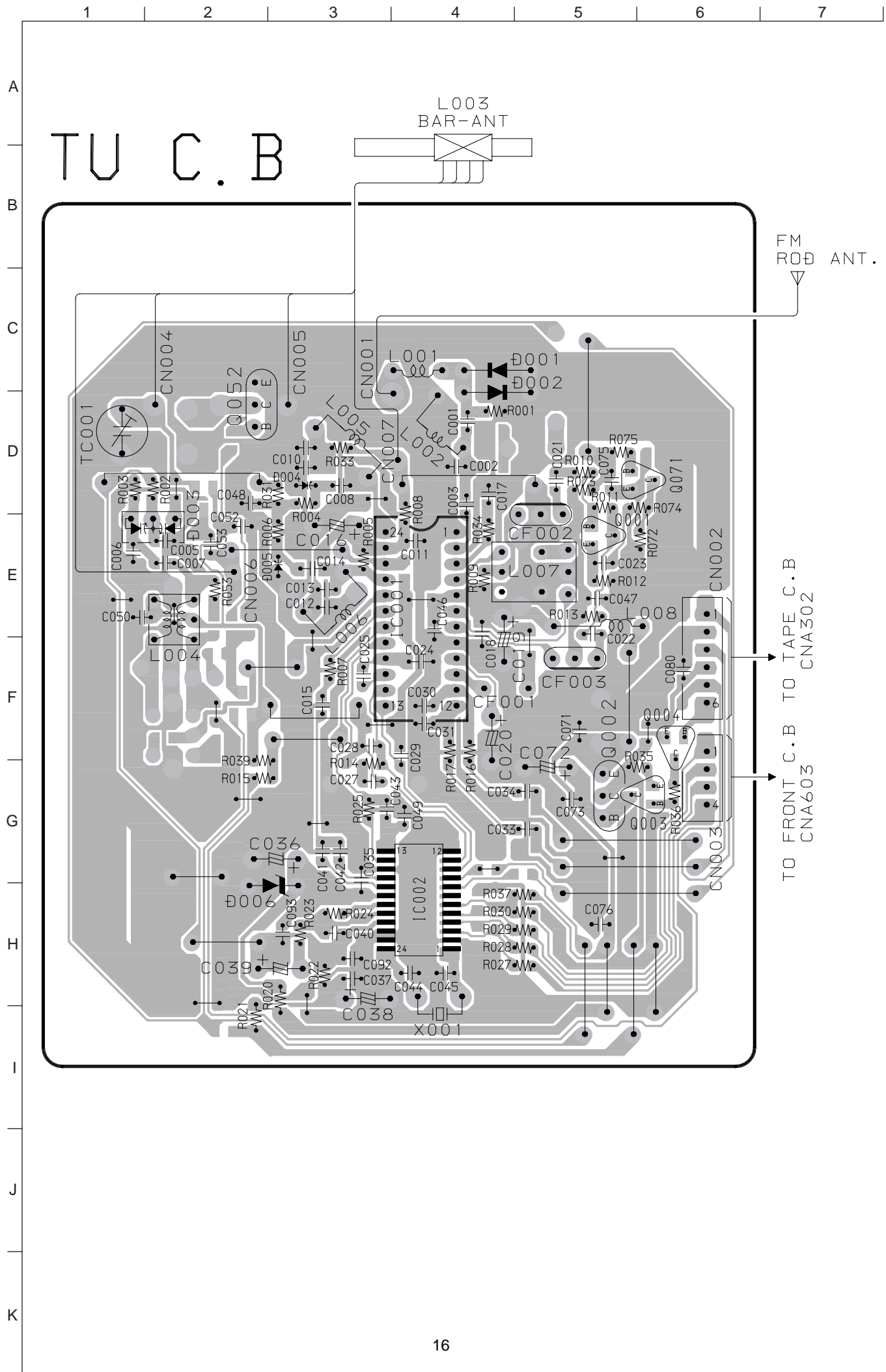


	*15 (X401)	*16 (C457, 458)	*17 (R455)	*19 OPT1 OUT)	*20 (C463, 494)
LH	VIB. CER	16.934MHZ (TBC)	15p	100	NO MOUNT
U					0.01

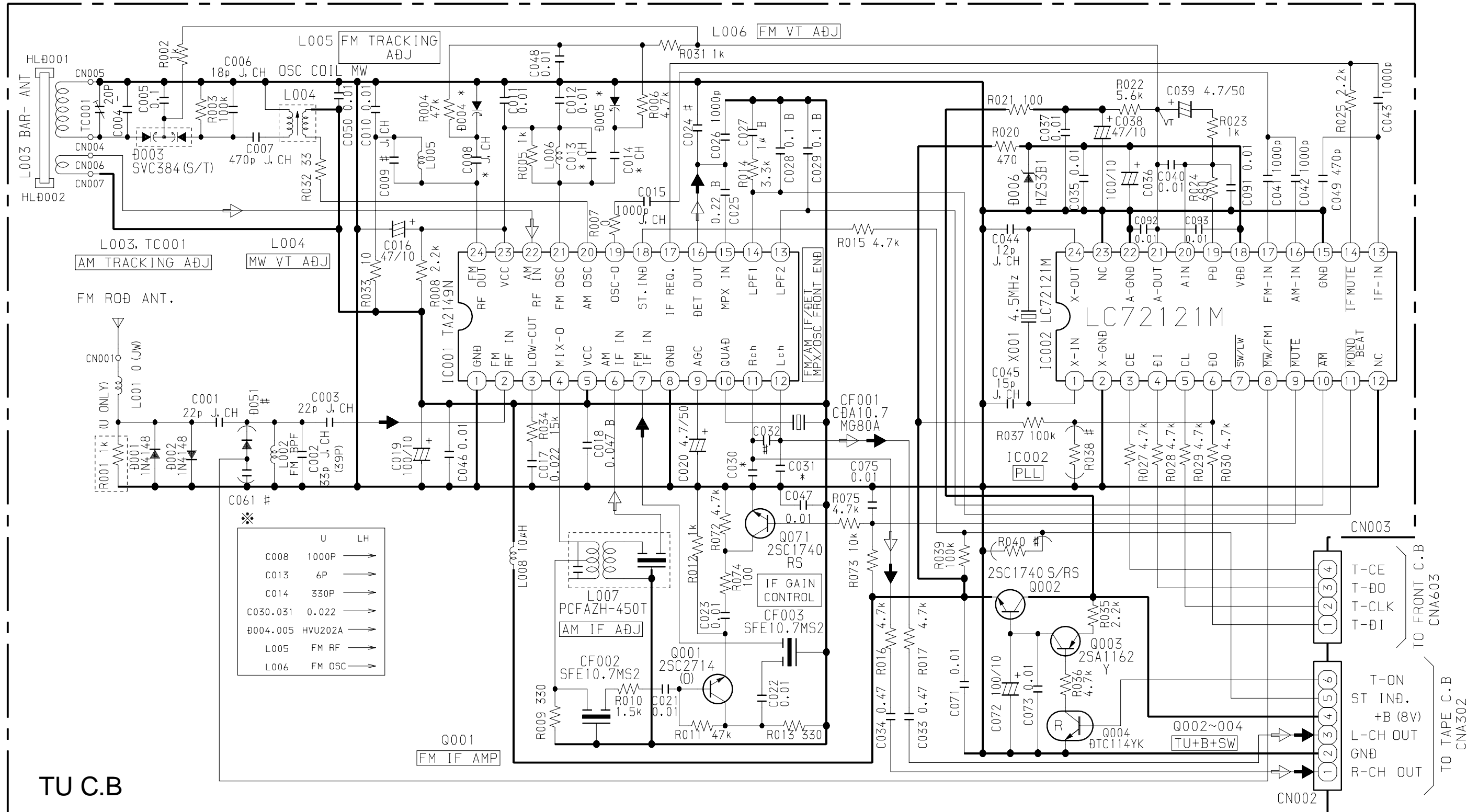
WIRING-2 (POWER)



WIRING-3 (TU)



SCHEMATIC DIAGRAM-3 (TUNER)



TU C.B

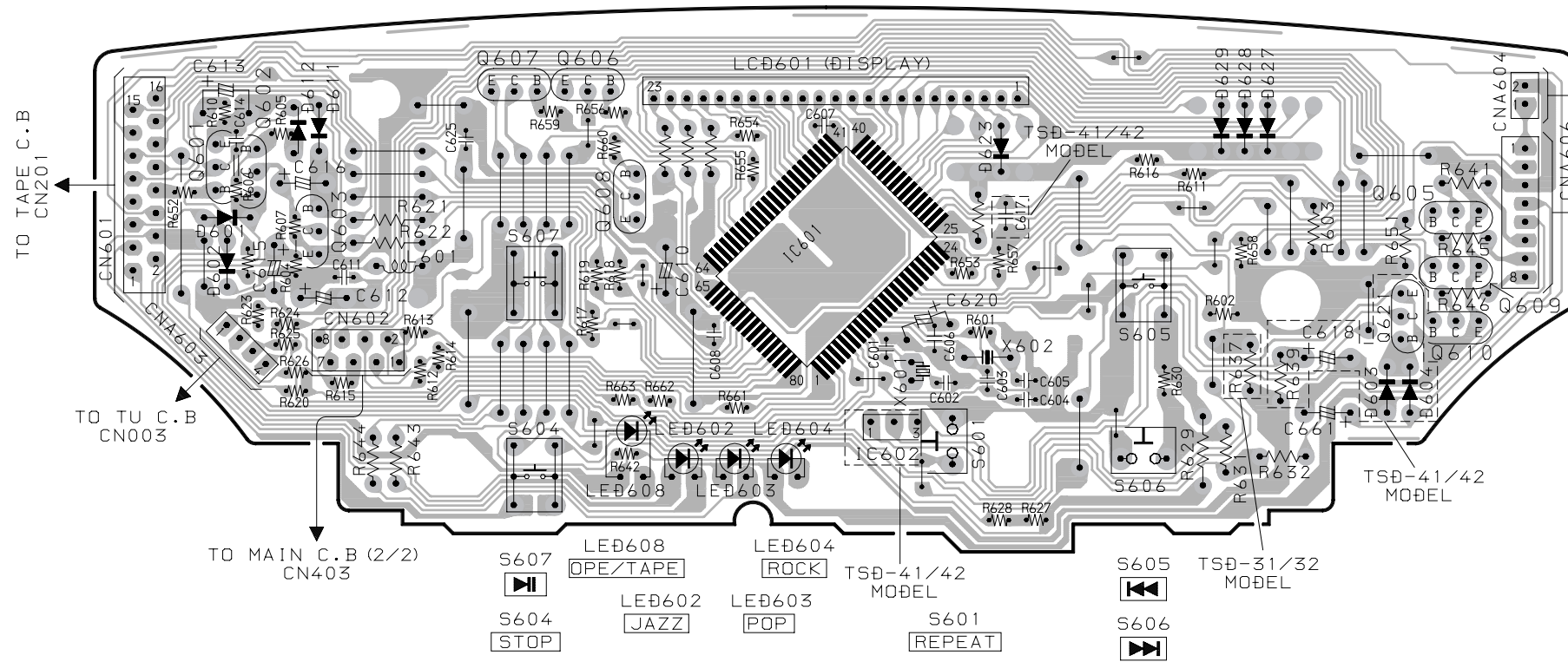
SIGNAL
 ➔ :FM
 ⇨ :AM
 #:NO MOUNT

WIRING-4 (FRONT)

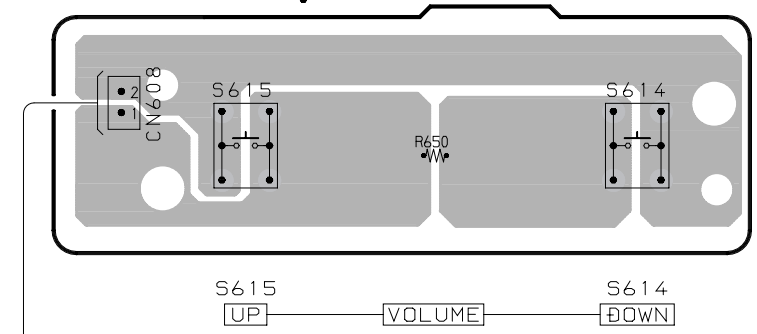
1 2 3 4 5 6 7 8 9 10 11 12 13 14

A
B
C
D
E
F
G
H
I
J
K

FRONT C.B

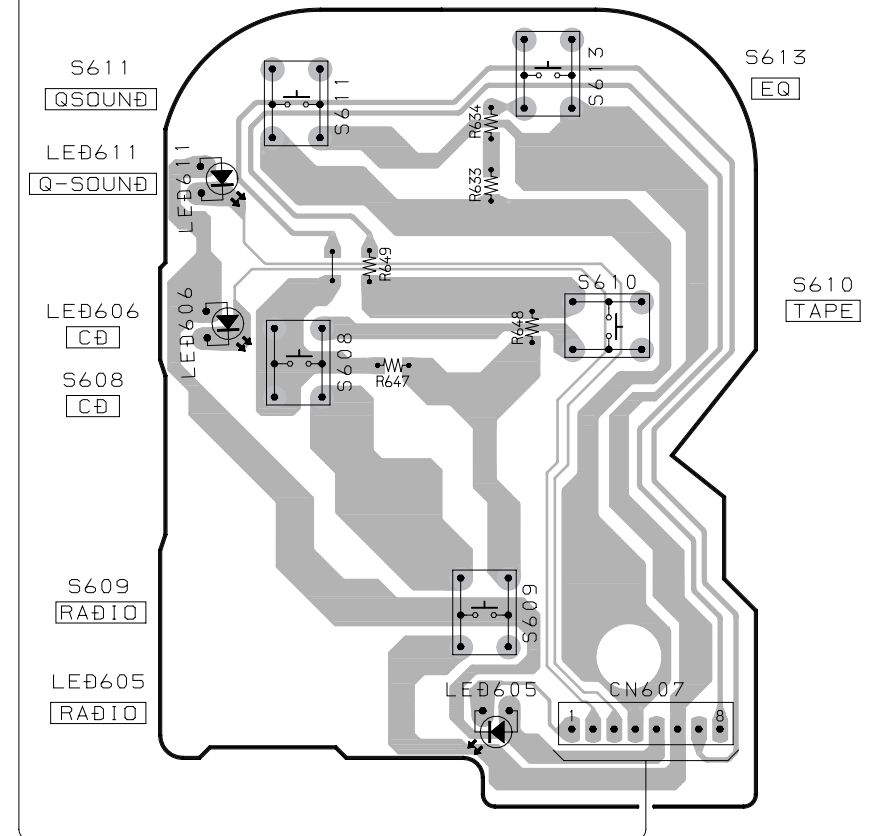


VOL C.B

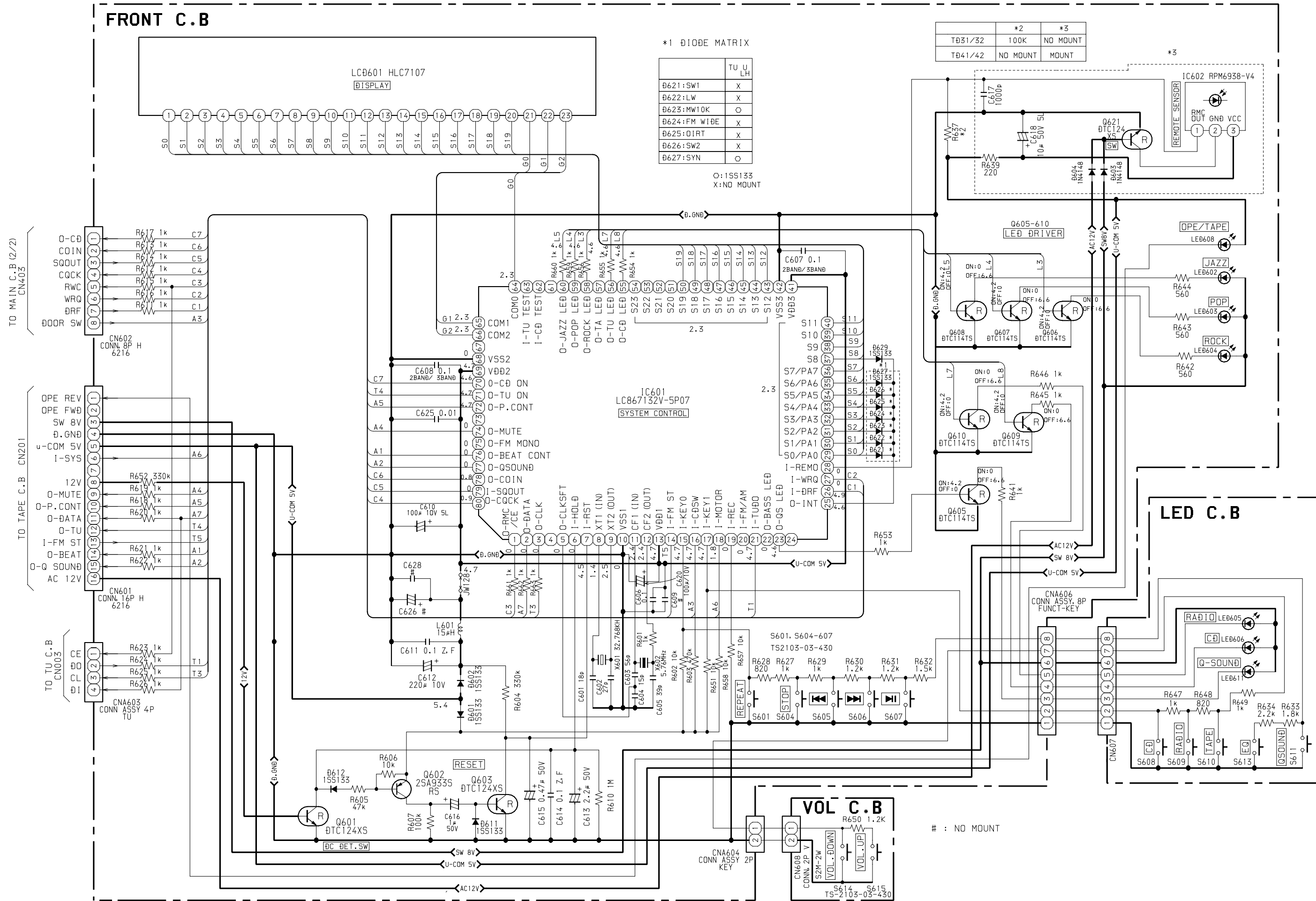


S615 UP VOLUME S614 DOWN

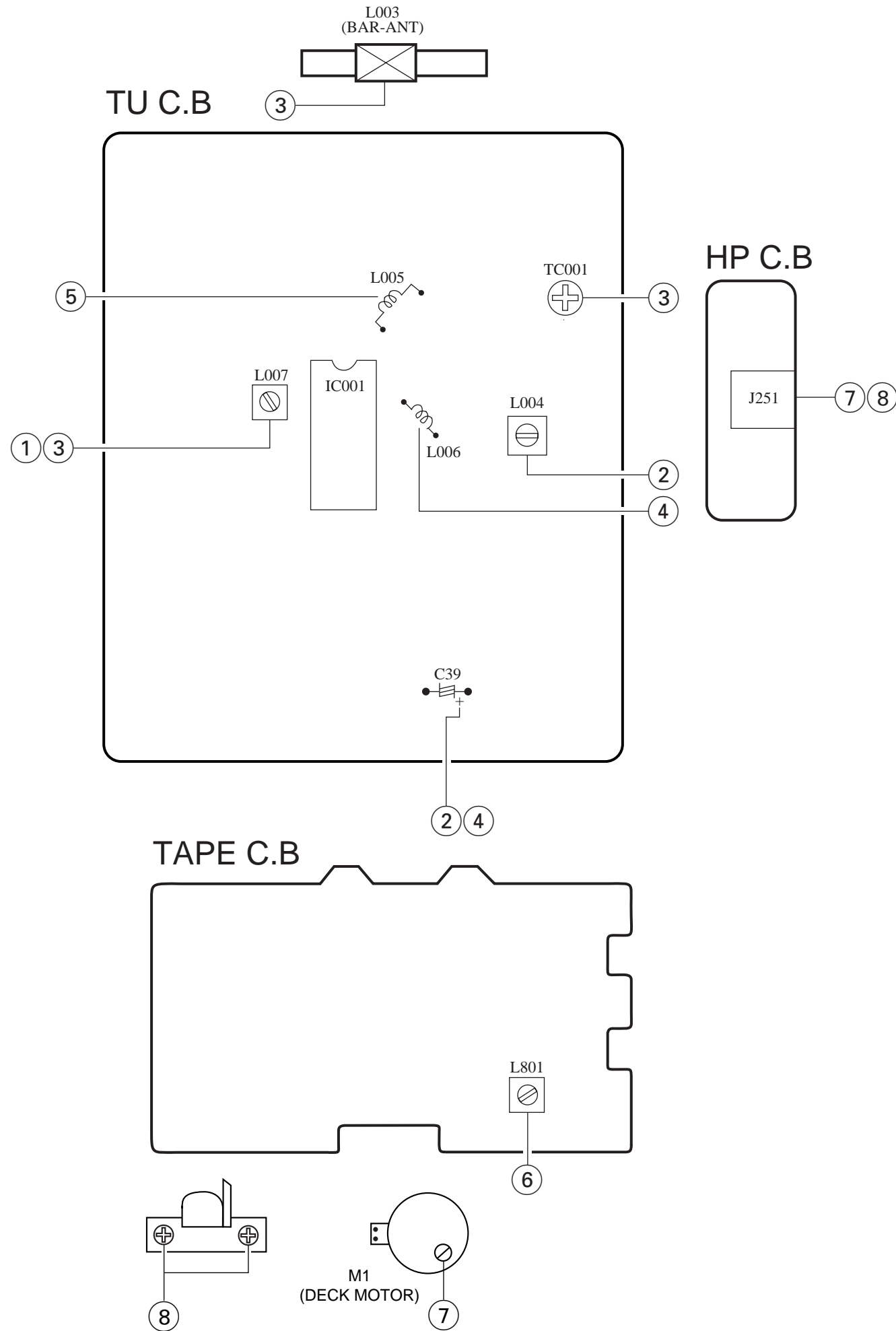
LED C.B



SCHEMATIC DIAGRAM-4 (FRONT)



ELECTRICAL ADJUSTMENT



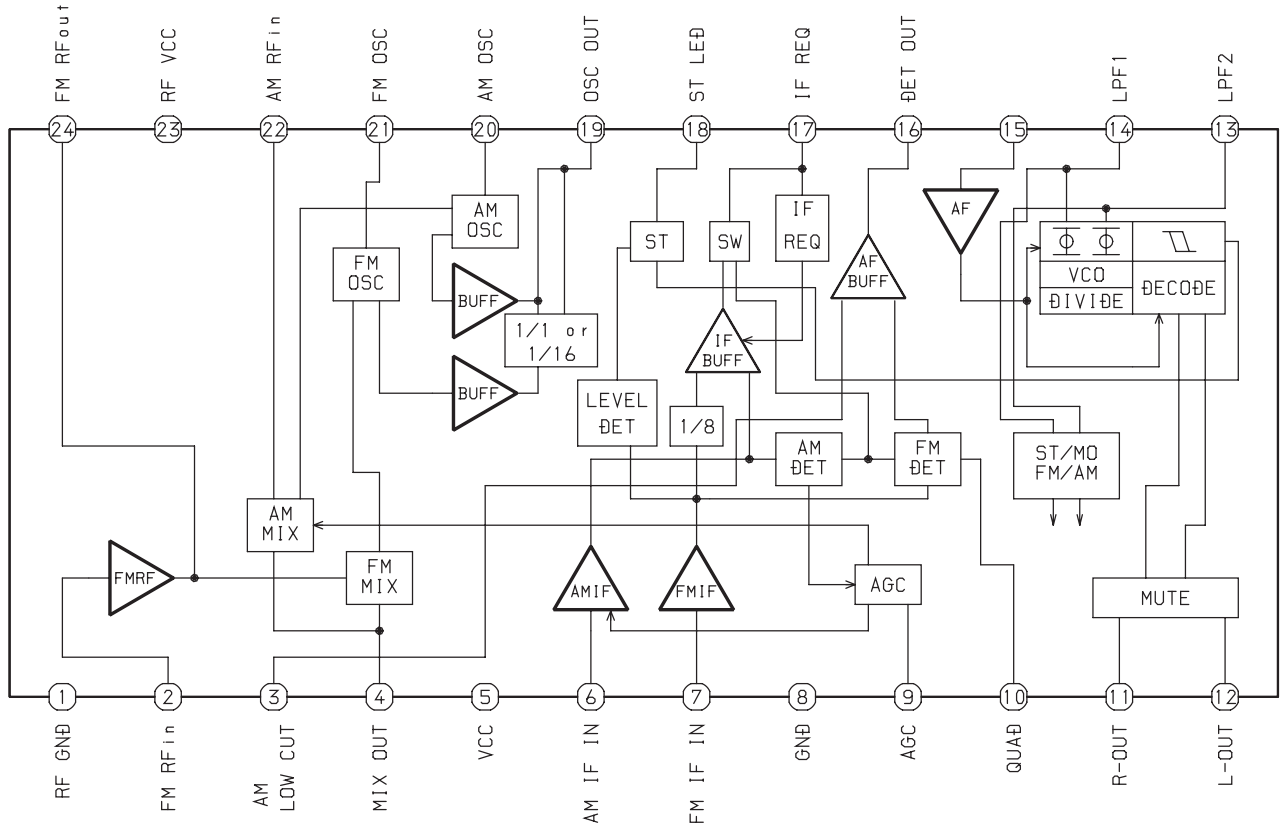
< TUNER SECTION >

1. AM IF Adjustment
L007 450kHz
2. AM VT Adjustment
Settings: • Test point: C39⊕
• Adjustment location: L004
Method: Set to AM 1000kHz adjust L004 so that the test point becomes 3.7V±0.02V
3. AM Tracking Adjustment
L003 600kHz
TC001, L007 1400kHz
4. FM VT Adjustment
Settings: • Test point: C39⊕
• Adjustment location: L006
Method: Set to FM 108MHz adjust L006 so that the test point becomes 6.0V±0.2V
5. FM Tracking Adjustment
L005 98MHz

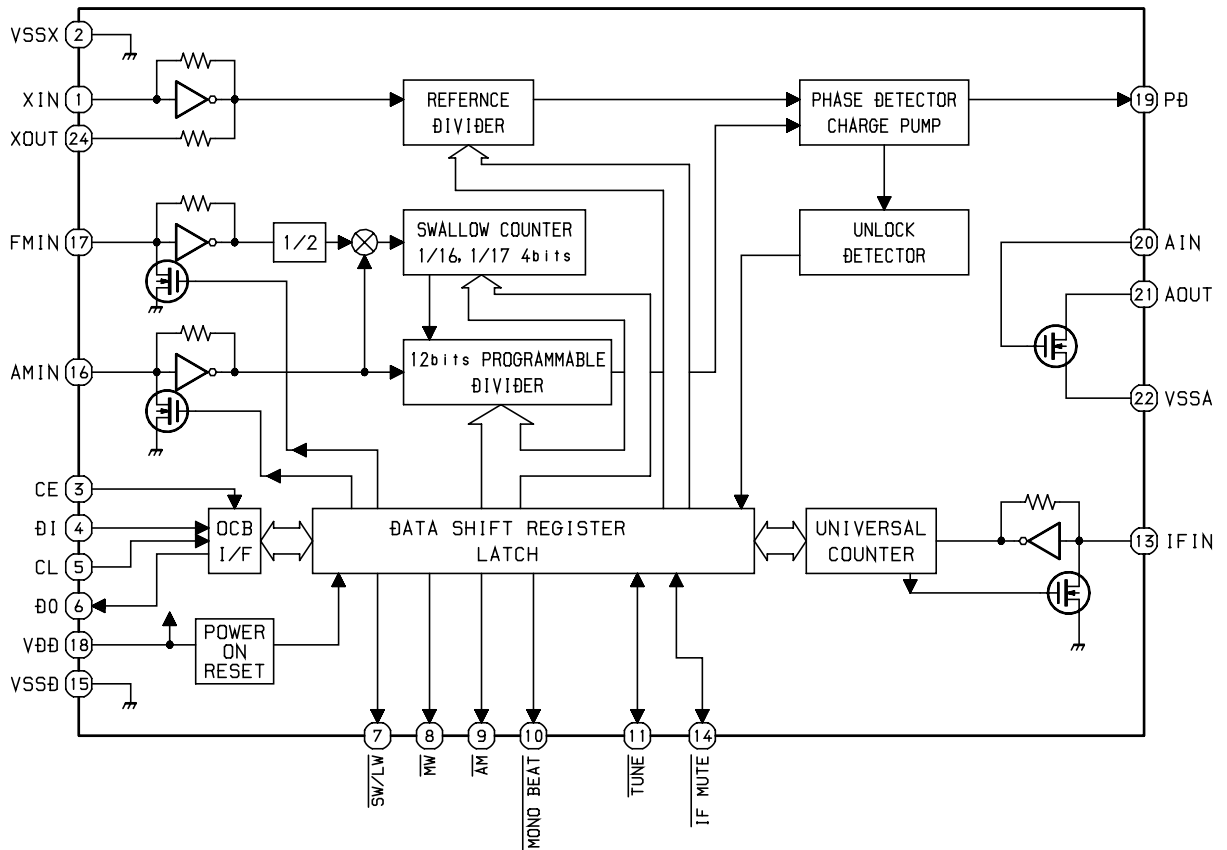
< TAPE SECTION >

6. Bias frequency Adjustment
L801 85Hz ±500Hz
7. Tape speed Adjustment
Settings: • Test tape: TTA-100
• Test point: PHONES JACK (J251)
• Adjustment location: SFR of deck motor
Method: Play back the test tape and adjust so that the output frequency is 3000Hz ±30Hz.
8. Azimuth Adjustment
Settings: • Test tape: TTA-320
• Test point: PHONES JACK (J251)
• Adjustment location: Azimuth adjustment screw
Method: Play back the test tape and adjust so that the output is maximum.

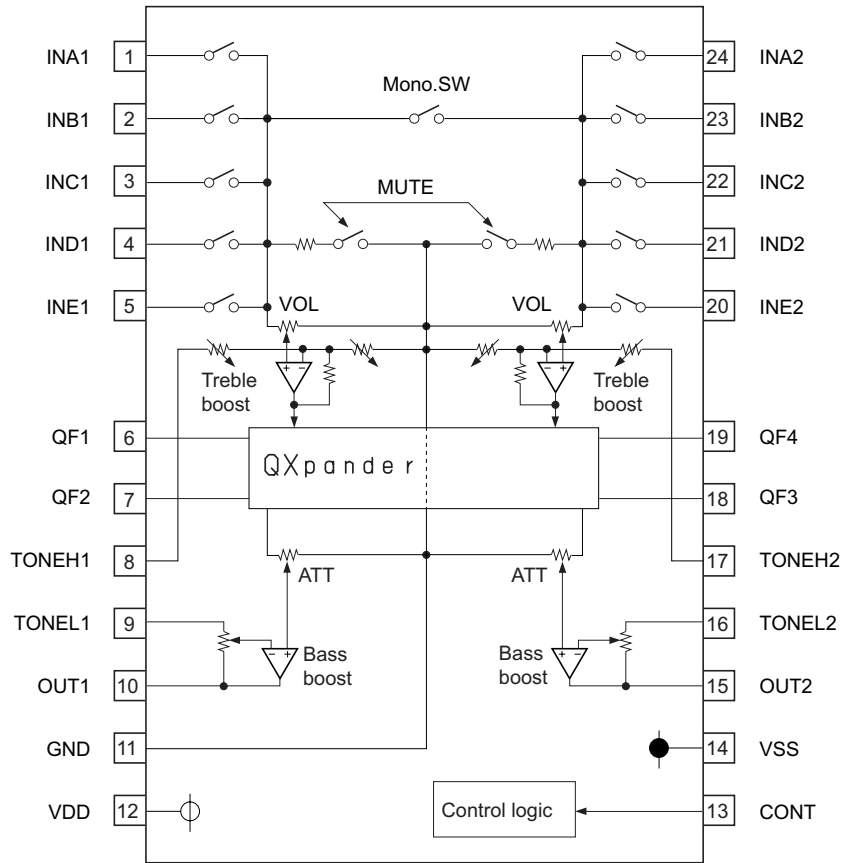
IC BLOCK DIAGRAM
IC, TA2149N



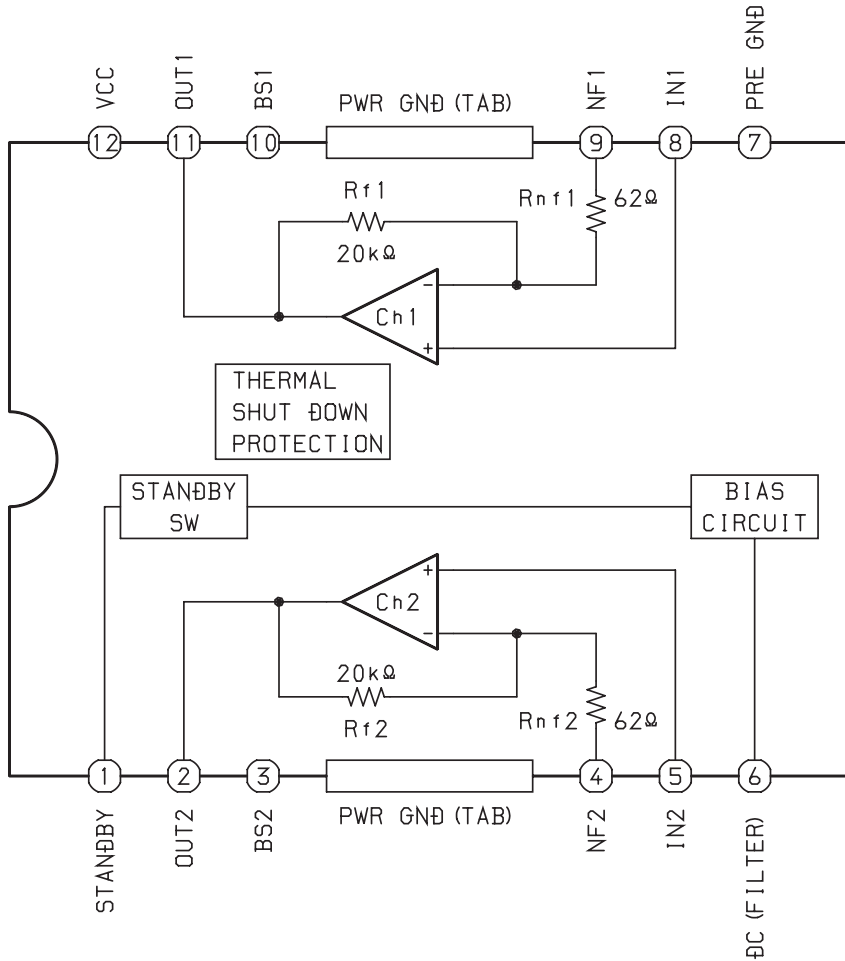
IC, LC72121M



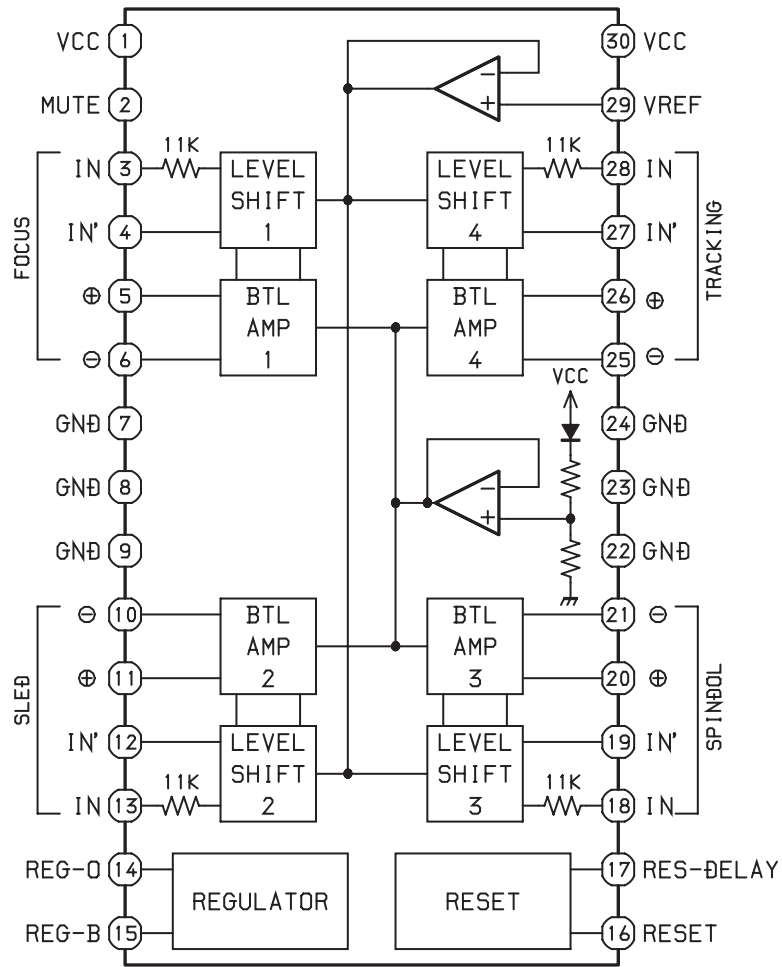
IC, M61509FP



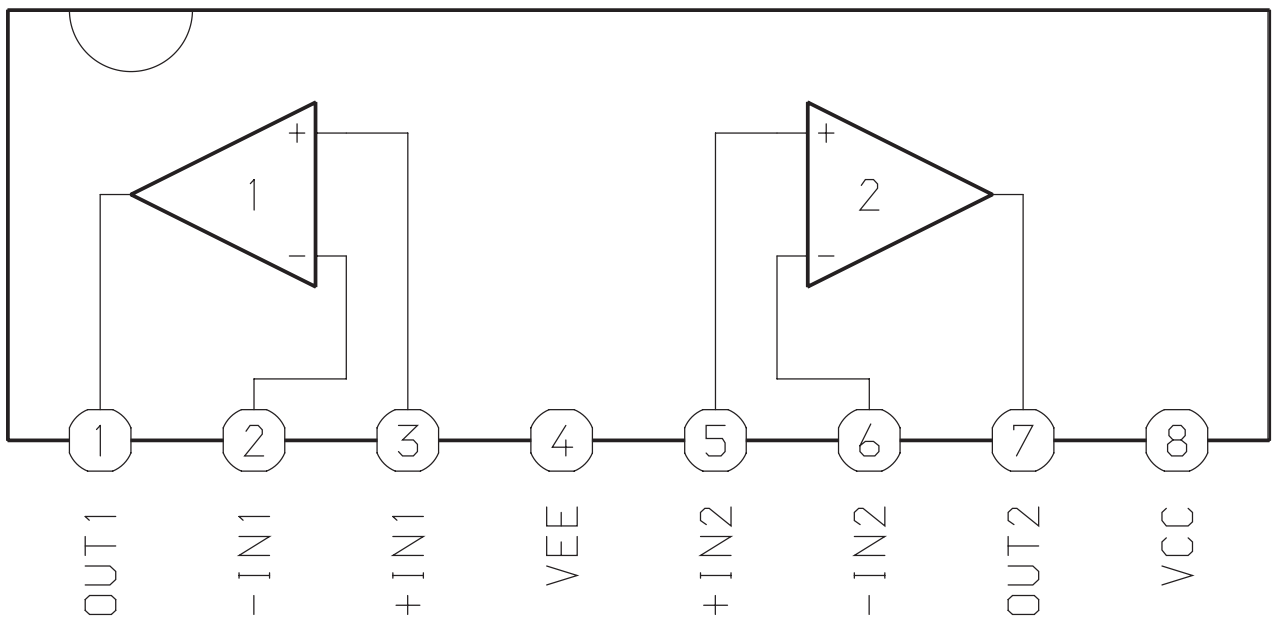
IC, LA4227



IC, LA6541D



IC, BA4560N



IC DESCRIPTION

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	—	No connection.
24	SPI	O	Single ended output of the CV+ and CV- pin input signal.
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, LC78622ED

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	T2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLK-	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	SL+	O	Moves the sled to outer circumference.	
25	SL-	O	Moves the sled to inner circumference.	
26	—	—	Not connected.	
27	PUIN	I	CD pickup inner switch detection.	
28	RW	O	Read, wright signal.	
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	T3, T4	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	RES	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	T11	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	T5	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	T1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

IC, LC867132V-5P07

Pin No.	Pin Name	I/O	Description
1	O-RMC/CE	O	CD read/write control output.
2	O-DATA	O	Data output to sound processor IC (M62495FP).
3	O-CLK	O	Clock output to sound processor IC (M62495FP).
4	NC	—	Not Connected.
5	O-CLK SFT	O	Clock shift output of the microcomputer.
6	I-HOLD	I	Hold status detection.
7	I-RST	I	Microcomputer reset.
8	XT1 (IN)	I	Connected to 32.768kHz crystal oscillator.
9	XT2 (OUT)	O	
10	VSS1	—	GND.
11	CF1 (IN)	I	Connected to 5.76MHz Ceramic Filter.
12	CF2 (OUT)	O	
13	VDD1	—	Power supply for microcomputer (+5V).
14	I-FM ST	I	FM STEREO status input.
15	I-KEYO	I	KEY AD input.
16	I-CD SW	I	CD DOOR SW status detection input.
17	I-KEY1	I	KEY AD input.
18	I-MOTOR	I	DECK MECHA MOTOR status input.
19	I-REC	I	REC status input.
20	I-FM/AM (NC)	I	FM, AM status input. (Not connected)
21	I-TU DO	I	Data input from tuner PLL.
22	O-BASS LED (NC)	O	BASS LED ON/OFF control output. (Not connected)
23	O-QS LED	O	Q-Sound LED ON/OFF control output.
24	NC	—	Not connected.
25	O-INT	O	INT DIODE MATRIX detection output.
26	I-DRF	I	CD RF level detection input.
27	I-WRQ	I	CD sub-code Q standby input.
28	I-REMO	I	Remote control input.
29	SO/PA0 (NC)	O	LCD segment output and initial settings output. (SW) (Not connected)
30	S1/PA1 (NC)	O	LCD segment output and initial settings output. (LW) (Not connected)
31	S2/PA2	O	LCD segment output and initial settings output. (MW 10K)
32	S3/PA3 (NC)	O	LCD segment output and initial settings output. (FM WIDE) (Not connected)
33	S4/PA4 (NC)	O	LCD segment output and initial settings output. (OIRT) (Not connected)
34	S5/PA5 (NC)	O	LCD segment output and initial settings output. (SW2) (Not connected)
35	S6/PA6	O	LCD segment output and initial settings output. (SYN)
36	S7/PA7	O	LCD segment output and initial settings output.
37-40	S8-S11	O	
41	VDD3	—	Power supply for microcomputer (+5V).
42	VSS3	—	GND.
43-50	S12-S19	O	LCD segment output.
51-54	S20-S23 (NC)	O	LCD segment output. (Not Connected)

Pin No.	Pin Name	I/O	Description
55	O-CD LED	O	LED ON/OFF control output for CD functions.
56	O-TU LED	O	LED ON/OFF control output for TU functions.
57	O-TA LED (NC)	O	LED ON/OFF control output for TAPE functions. (Not Connected)
58	O-ROCK LED	O	LED ON/OFF control output for ROCK.
59	O-POP LED	O	LED ON/OFF control output for POP.
60	O-JAZZ LED	O	LED ON/OFF control output for JAZZ.
61	NC	—	Not connected.
62	I-CD TEST (NC)	I	
63	I-TU TEST (NC)	I	
64-66	COM0-COM2	O	LCD common output.
67	NC	—	Not connected.
68	VSS2	—	GND.
69	VDD2	—	Power supply for microcomputer (+5V).
70	O-CD ON	O	CD PWR control output.
71	O-TU ON	O	TU PWR control output.
72	O-P.CONT	O	Power supply control output.
73	NC	—	Not connected
74	O-MUTE	O	Main mute output.
75	O-FM MONO (NC)	O	FM force control MONO output. (Not connected)
76	O-BEAT CONT	O	BEAT switch over output.
77	O-QSOUND	O	Q-Sound ON/OFF output.
78	O-COIN	O	CD command output.
79	I-SQOUT	I	CD sub-code Q input.
80	O-CQCK	O	CLK for CD commands/sub-codes.

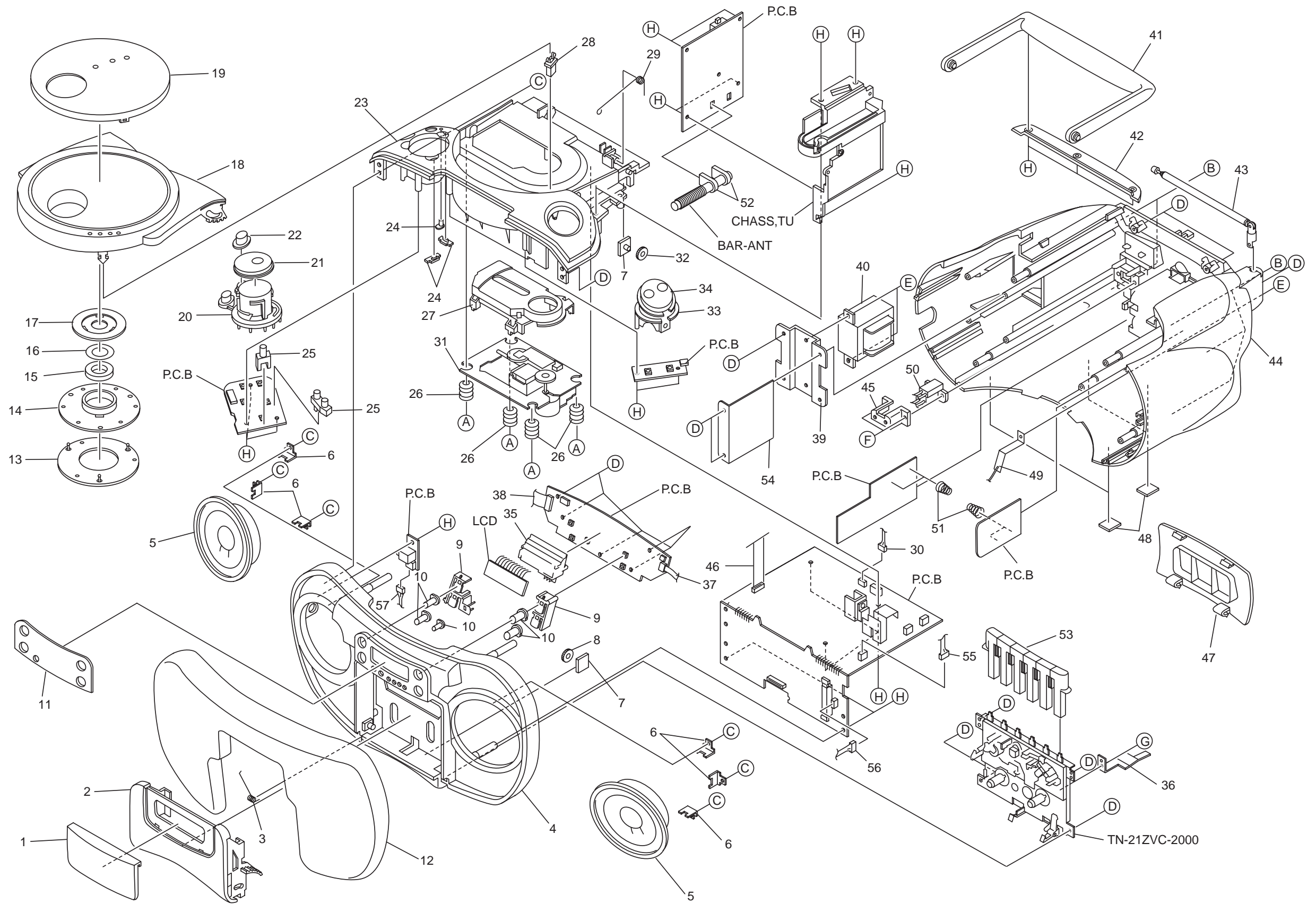
MECHANICAL PARTS LIST 1/1

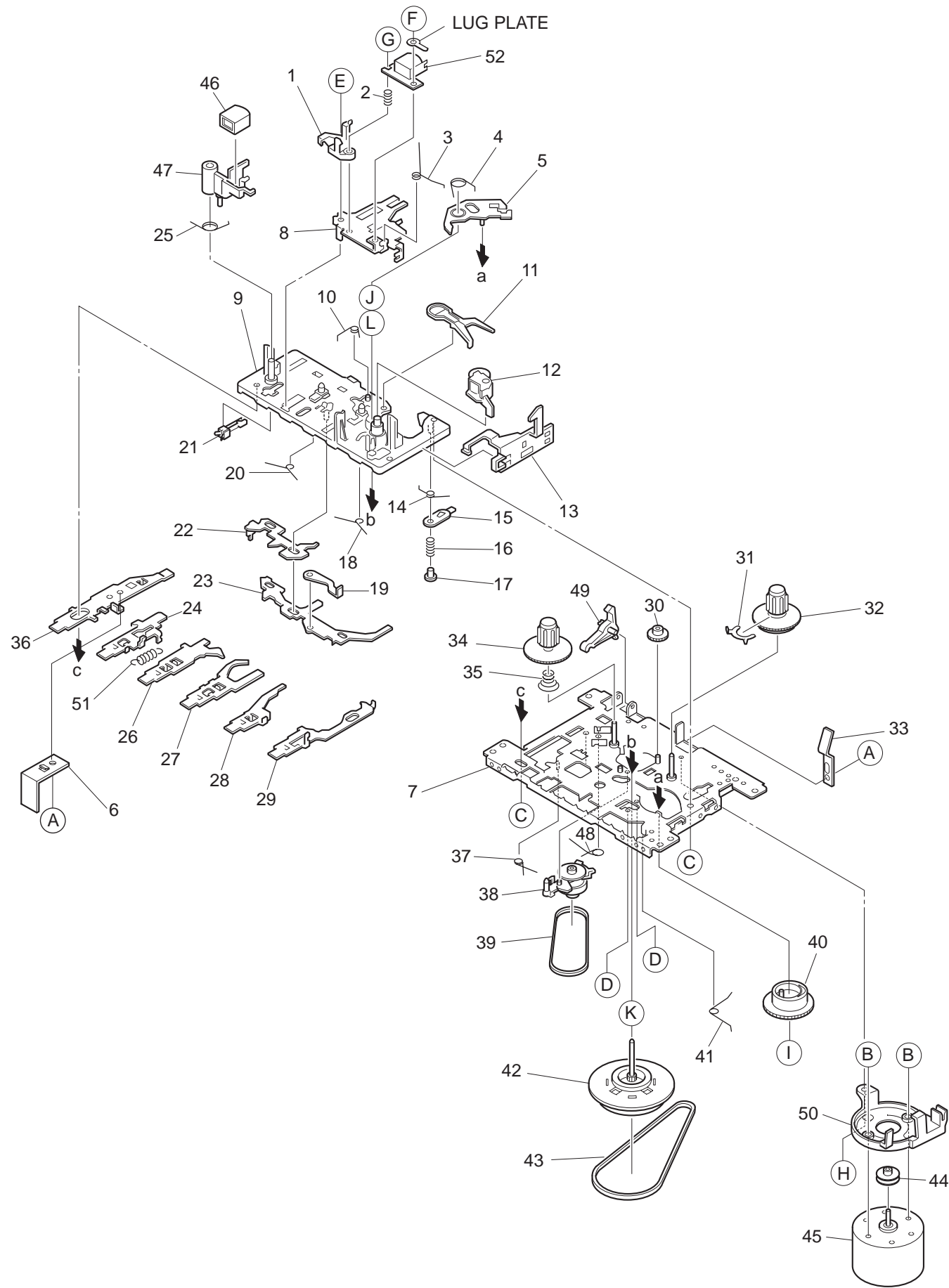
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CDB-006-010		WINDOW, CASS<41US>	31	M8-ZZK-E90-070		DA11T3C
1	8A-CHM-007-010		WINDOW, CASS S.GOLD<42UN>	32	87-063-165-010		OIL-DMPR 150
2	8A-CDB-008-010		BOX, CASS<41US>	33	8A-CDB-214-010		BASE, VOL
2	8A-CHM-008-010		BOX, CASS S.GOLD<42UN>	34	8A-CDB-012-010		BTN, VOL<41US>
3	8A-CDB-204-010		SPR-T, CASS	34	8A-CHM-017-010		BTN, VOL S.GOLD<42UN>
4	8A-CDB-001-010		CABI, FR<41US>	35	8A-CHB-202-010		HLDR, LCD
4	8A-CHM-001-010		CABI, FR S.GOLD<42UN>	36	8A-CDB-212-010		PLATE, REC
5	88-CD8-622-010		SPKR, F 77 70HM 3W	37	8A-CHB-619-010		FF-CABLE, 8P 1.25 CD-FR
6	8Z-CDB-208-010		HLDR, SPKR	38	8A-CHB-618-010		FF-CABLE, 16P 1.25 FR-MAIN
7	8A-CDB-205-010		PLATE, OIL DUMP	39	8A-CDB-219-010		HLDR, TRAN
8	87-063-164-010		OIL-DMPR 80	△	40	8A-CDB-650-010	PT, U 2.5W EI48X23
9	8A-CDB-206-010		BASE, CD	41	8A-CDB-019-010		HANDL, GRIP<41US>
10	8A-CDB-016-010		BTN, CD	41	8A-CHM-011-010		HANDL, GRIP S.GOLD<42UN>
11	8A-CHM-005-010		WINDOW, DISPLAY S<41US>	42	8A-CDB-018-010		COVER, HANDL<41US>
11	8A-CHM-004-010		WINDOW, DISPLAY S.GOLD<42UN>	42	8A-CHM-010-010		COVER, HANDL S.GOLD<42UN>
12	8A-CDB-023-010		GRILLE, SPKR<41US>	43	8Z-CH4-640-010		ANT, ROD
12	8A-CHM-013-010		GRILLE, SPKR S.GOLD<42UN>	44	8A-CHB-001-010		CABI, REAR<41US>
13	8Z-CT6-213-010		BASE, CHUCK	44	8A-CHM-002-010		CABI, REAR S.GOLD<42UN>
14	8Z-CT6-214-010		RING, CHUCK	45	87-A90-086-010		COVER, AC-SOCKET
15	87-036-368-010		MAGNET	46	8A-CDB-623-010		FF-CABLE, 16P 1.0 CD-RF
16	86-CT9-222-010		PLATE, MAGNET	47	8A-CDB-020-010		LID, BATT<41US>
17	86-CT9-217-010		HLDR, CHUCK A(S)	47	8A-CHM-012-010		LID, BATT S.GOLD<42UN>
18	8A-CDB-009-010		BOX, CD<41US>	48	86-CT9-223-010		CUSH, FOOT
18	8A-CHM-009-010		BOX, CD S.GOLD<42UN>	49	8A-CDB-207-010		HLDR, ANT
19	8A-CHB-011-010		WINDOW, CD<41US>	△	50	87-A60-177-010	JACK, AC U W/SW
19	8A-CHM-006-010		WINDOW, CD S.GOLD<42UN>	51	8A-CDB-215-010		SPR-T, BATT
20	8A-CDB-213-010		BASE, FUNC	52	8A-CDB-220-010		HLDR, M66 BAR ANT
21	8A-CHB-014-010		BTN, FUNC<41US>	53	8A-CDB-015-010		KEY, CASS
21	8A-CHM-016-010		BTN, FUNC S.GOLD<42UN>	54	8A-CDB-216-010		PLATE, TRAN
22	8A-CDB-014-010		BTN, QSOUND<41US>	55	8A-CDB-625-010		CONN ASSY, 4P CASS MECHA
22	8A-CHM-018-010		BTN, QSOUND S.GOLD<42UN>	56	8A-CDB-626-010		CONN ASSY, 4P CASS HEAD
23	8A-CDB-003-010		CHAS, CD<41US>	57	8A-CDB-633-010		CONN ASSY, 4P SPKR
23	8A-CHM-003-010		CHAS, CD S.GOLD<42UN>	A	81-CD5-204-010		SCREW CD
24	8A-CDB-021-010		LENS, FUNC	B	87-651-104-410		VT1+3-30
25	8A-CDB-203-010		HLDR, LED FUNC	C	87-741-096-410		UT2+3-10
26	88-CH6-220-010		CUSHION, CD A	D	87-751-097-410		SCREW 3X12
27	8Z-CT9-064-010		PANEL CD	E	87-261-096-410		SCREW, V+3-10 GLD
28	87-036-389-010		SW, PUSH LOCK	F	87-741-074-410		UT2+2.6-8
29	8A-CDB-218-010		SPR-T, CD	G	87-261-032-410		SCREW, V+2-3 GLD
30	8A-CDB-620-010		CONN ASSY, 2P CD-DOOR	H	87-751-095-410		VT2+3-8 W/O

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		



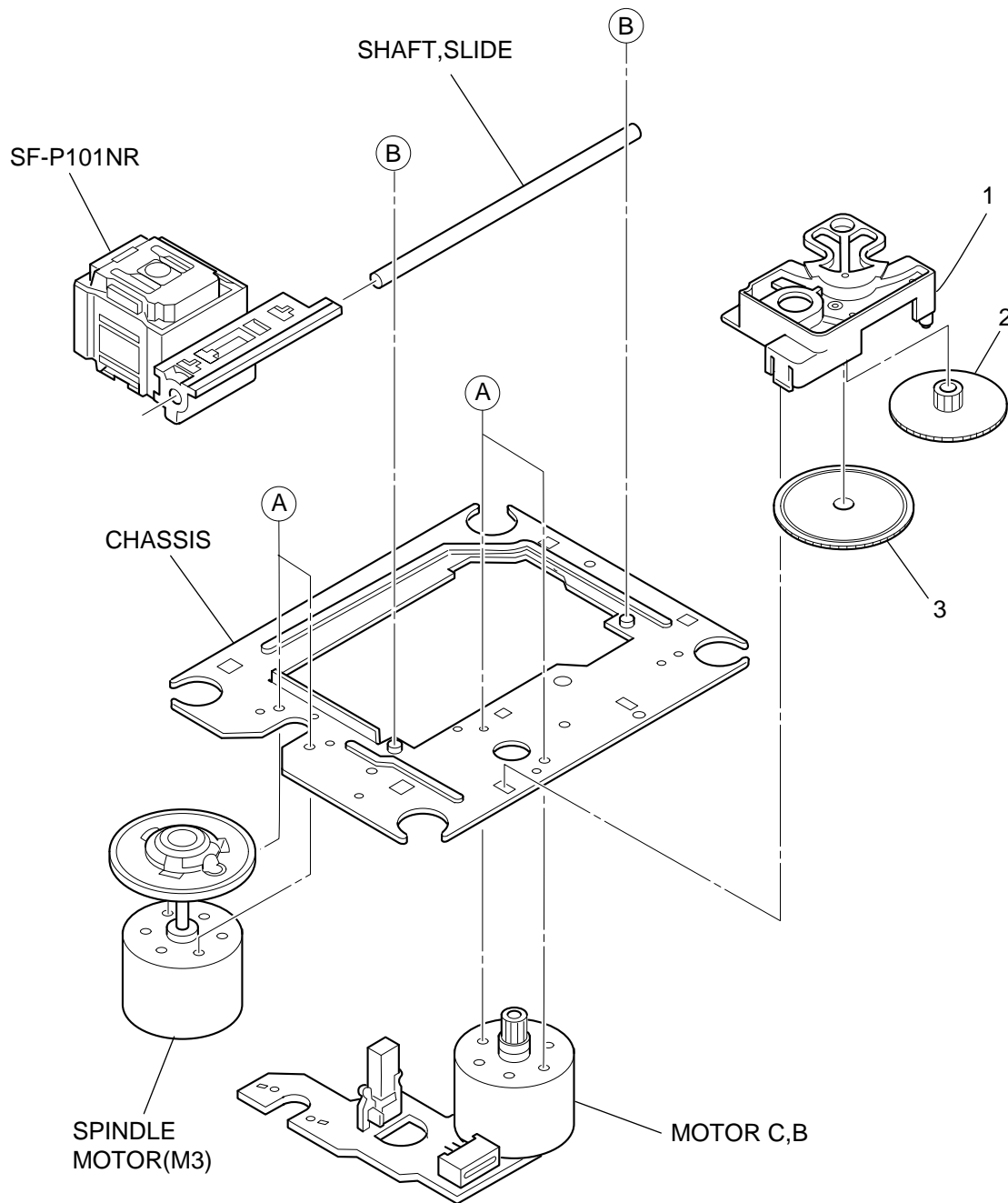


TAPE MECHANISM PARTS LIST 1/1

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	S1-921-030-4A0		HEAD BASE	36	S1-921-140-030		REC BUTTON LEVER
2	S1-821-030-070		AZIMUTH SPRING	37	S1-921-140-170		P.S.LEVER SPRING
3	S1-921-030-090		PANEL P SPRING	38	S1-921-073-040		RF CLUTCH ASSY
4	S1-921-260-050		GEAR PLATE SPRING	39	S1-921-070-030		RF BELT
5	S1-921-265-020		GEAR PLATE ASSY	40	S1-921-260-020		CAM GEAR
6	S1-510-020-020		REC SPRING PLATE	41	S1-921-140-160		E ACTUATOR SPRING
7	S1-921-015-010		CHASSIS ASSY	42	S1-921-093-210		FLYWHEEL ASSY
8	S1-921-030-110		HEAD PANEL	43	S1-921-090-380		MAIN BELT
9	S1-921-143-160		BASE ASSY	44	S1-921-120-590		MOTOR PULLEY
10	S1-921-141-8A0		M CONTROL SPRING	45	S6-002-030-220		MOTOR EG530AD-2B
11	S1-921-260-4A0		SENSING LEVER	46	S6-209-100-100		E HEAD PH-K380-MS1
12	S1-921-043-100		PINCH ROLLER ARM ASSY	47	S1-921-030-050		MG ARM
13	S1-921-130-010		EJECT SLIDE LEVER	48	S1-921-140-210		REC BUTTON LEVER SPRING
14	S1-921-141-3A0		P CONTROL SPRING	49	S1-821-100-690		RECORD SAFETY LEVER
15	S1-921-140-550		PAUSE LEVER(E)	50	S1-821-128-9A0		MOTOR BRACKET
16	S1-921-140-120		PAUSE LEVER SPRING	51	S1-821-010-500		PLAY BUTTON LEVER SPRING
17	S1-921-140-110		PAUSE STOPPER	52	S6-201-011-110		HEAD,RP7442ES-0951
18	S1-921-140-150		BUTTON LEVER SPRING(B)	A	S9-P04-200-310		C TAPPING SCREW 2-3
19	S1-821-011-590		E KICK LEVER	B	S1-921-120-020		MOTOR COLLER SCREW
20	S1-921-141-070		BUTTON LEVER SPRING(A)	C	S9-B10-200-510		P TAPPING BIND SCREW M2-5
21	S6-401-011-490		LEAF SW MSW-1541T	D	S9-C07-204-510		SCREW,TAPPING(CAMERA)M2-4.5
22	S1-921-140-090		SWITCH ACTUATOR	E	S9-P01-200-610		SCREW,M2-6
23	S1-921-140-080		PUSH BUTTON ACTUATOR	F	S9-B01-200-310		(+)BIND SCREW M2-3
24	S1-921-140-190		PLAY BUTTON LEVER	G	S9-F08-200-710		AZIMUTH SCREW M2-7
25	S1-921-030-100		MG ARM SPRING	H	S1-921-120-030		MB SCREW
26	S1-921-140-040		REW BUTTON LEVER	I	S9-W02-300-100		P WASHER CUT 1.2-3.8-0.3
27	S1-921-140-050		FF,BUTTON REVER	J	S9-W02-500-100		P WASHER CUT 1.45-3.8-0.5
28	S1-921-140-060		STOP BUTTON LEVER	K	S9-W01-400-100		P WASHER 2-3.5-0.4
29	S1-921-140-600		PAUSE BUTTON LEVER	L	S9-W01-130-200		P WASHER 2.1-4-0.13
30	S1-821-100-700		FF GEAR				
31	S1-921-050-060		SENSOR				
32	S1-921-053-100		TAKE UP REEL ASSY				
33	S1-829-100-010		PACK SPRING				
34	S1-921-050-150		S REEL HUB				
35	S1-921-050-220		BACK TENSION SPRING				

CD MECHANISM EXPLODED VIEW 1/1



CD MECHANISM PARTS LIST 1/1

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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-OSE		SCR PAN PCS 2-3
B	87-261-073-410		SCR S-TPG FLT 2.6-6
ALL	M8-ZZK-E90-070		DA11T3C

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