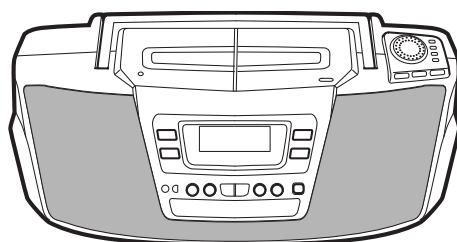




CSD-EL55 HR(S),K(S), EZ(S)



SERVICE MANUAL

COMPACT DISC STEREO RADIO
CASSETTE RECORDER

BASIC TAPE MECHANISM : 6ZM-3YPR3NC
BASIC CD MECHANISM : 3ZG-3E2N

This Service Manual is the "Revision Publishing" and replaces "Simple Manual"
(S/M Code No.09-996-333-4T2).

aiwa
S/M Code No. 09-996-333-4R2

REVISION

SPECIFICATIONS

<Tuner section>

FM Tuner Section

Tuning range	87.5 MHz to 108 MHz
Antenna	Rod antenna

AM (MW) Tuner Section

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Antenna	Ferrite bar antenna

AM (LW) Tuner Section [EZ, K Model]

Tuning range	153 kHz to 288 kHz
Antenna	Ferrite bar antenna

<Cassette deck section>

Track format	4 track, 2 channels stereo
Frequency response	Normal tape: 50 Hz - 12500 Hz
Recording system	AC bias
Heads	Deck 1: Playback head x 1 Deck 2: Recording/Playback head x 1 Erasure head x 1

<Compact disc player section>

Laser	Semiconductor laser ($\lambda = 780 \text{ nm}$)
D-A converter	1 bit dual

<General>

Speakers	100 mm cone type
Output	PHONES (stereo minijack)
Dimensions of main unit	(W x H x D) 510 x 181 x 244 mm
Weight of main unit	4.6 kg (not including batteries)

[HR Model]

Power output	2.5 W + 2.5 W (10% T.H.D. /7 Ω DC) 2.0 W + 2.0 W (DIN 1% Rated Power)
Power requirements	DC 12 V using eight size C (R14) batteries 110 - 120 V/220 - 240 V AC, switchable, 50/60 Hz
Power consumption	18 W

[EZ Model]

Power output	5 W + 5 W (DIN MUSIC POWER) 4.5 W + 4.5 W (10% T.H.D. /3.2 Ω DC) 3.3 W + 3.3 W (DIN 1% Rated Power)
Power requirements	DC 12 V using eight size C (R14) batteries 230 V AC, 50Hz
Power consumption	22 W

[K Model]

Power output	4.5 W + 4.5 W (10% T.H.D. /3.2 Ω DC) 3.3 W + 3.3 W (DIN 1% Rated Power)
Power requirements	DC 12 V using eight size C (R14) batteries 230 V AC, 50Hz
Power consumption	22 W

• Design and specifications are subject to change without notice.

ACCESSORIES 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".

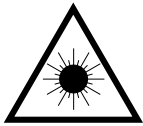
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
	1 8Z-CH1-907-010		IB, H (ECA) FM<HR>
	1 8Z-CH1-908-010		IB, EZ (9L) FM<EZ>
	1 8Z-CH1-909-010		IB, K (E) FM<K>
	2 8Z-CK4-962-010		RC UNIT, RC-ZAT04 (VS)
▲	3 87-050-076-010		AC CORD SET ASSY, E
▲	4 87-099-726-010		PLUG, ADPTR CONV (K) <K>
▲	4 87-099-789-010		PLUG, ADPTR IR44<HR>

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 mainitulla 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

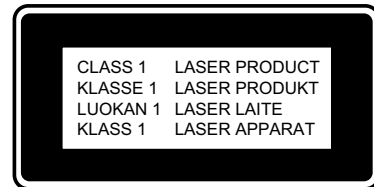
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.

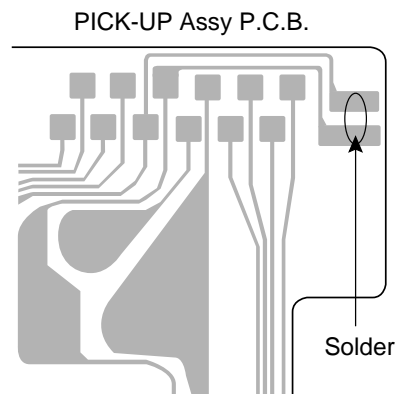
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block (KSS - 213F)

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.



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".

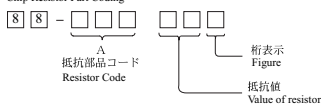
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C256	87-010-546-080		CAP, ELECT 0.33-50V
				C257	87-010-544-080		CAP, ELECT 0.1-50V
	87-A21-184-010	IC,TA2104AN		C258	87-010-544-080		CAP, ELECT 0.1-50V
	87-A21-185-040	C-IC,LC72121M		C261	87-010-263-080		CAP, ELECT 100-10V
	87-A21-103-040	C-IC,MM1454XFBE		C262	87-010-260-080		CAP, ELECT 47-25V
	87-A20-715-010	IC,M62439SP					
	87-A20-591-010	IC,BA5417		C269	87-010-402-080		CAP, ELECT 2.2-50V
				C270	87-010-402-080		CAP, ELECT 2.2-50V
	87-017-889-010	IC,NJM4558LD		C271	87-010-401-080		CAP, ELECT 1-50V
	87-017-804-010	IC,BU4052BC		C272	87-010-401-080		CAP, ELECT 1-50V
	87-070-282-010	IC,BU2092		C275	87-010-382-080		CAP, ELECT 22-25V
	8Z-CH1-622-010	IC,LC867132V-5L08					
	87-A20-459-010	C-IC,LC78622ED		C276	87-010-382-080		CAP, ELECT 22-25V
				C277	87-010-260-080		CAP, ELECT 47-25V
	87-070-416-010	IC,NUJ7201 L55		C278	87-010-384-080		CAP, ELECT 100-25V
	87-A20-911-010	IC,RPM6938		C281	87-010-380-080		CAP, ELECT 47-16V
	87-A20-446-010	C-IC,LA9241ML		C282	87-010-380-080		CAP, ELECT 47-16V
	87-A21-093-010	IC,LA6541D					
	87-001-982-010	IC,TA7291S		C283	87-010-236-080		CAP,E 1000-10 SME
				C284	87-010-236-080		CAP,E 1000-10 SME
				C291	87-010-401-080		CAP, ELECT 1-50V
TRANSISTOR				C305	87-010-263-080		CAP, ELECT 100-10V
				C306	87-010-263-080		CAP, ELECT 100-10V
	87-A30-091-080	FET,2SJ460					
	87-026-291-080	TR,DTC124XS		C311	87-010-546-080		CAP, ELECT 0.33-50V
	89-213-702-080	TR,2SB1370E		C312	87-010-546-080		CAP, ELECT 0.33-50V
	89-319-233-080	TR,2SC19230(0.1W)		C331	87-A10-171-010		CAP,CER 390P-50 K B
	87-A30-092-080	FET,2SK439E/F<K,EZ>		C332	87-A10-171-010		CAP,CER 390P-50 K B
				C333	87-A10-173-010		CAP,CER 560P-50 K B
	87-026-447-080	TR,2SC1740S RS<K,EZ>					
	89-320-011-080	TR,2SC2001K(15W)		C340	87-010-382-080		CAP, ELECT 22-25V
	87-026-214-080	TR,DTA114YS (0.3W)<K,EZ>		C343	87-A10-165-010		CAP,CER 120P-50 K B<K,EZ>
	87-026-215-080	TR,DTC114YS		C363	87-010-405-080		CAP, ELECT 10-50V
	87-026-462-080	TR,2SC1740 S(RS 0.3W)		C364	87-010-405-080		CAP, ELECT 10-50V
				C369	87-A10-163-010		CAP,CER 82P-50 K SL
	89-318-155-080	TR,2SC1815GR(0.4W)					
	87-A30-090-080	FET,2SK2541		C370	87-A10-163-010		CAP,CER 82P-50 K SL
	87-A30-197-080	TR,KTA1267GR		C373	87-010-401-080		CAP, ELECT 1-50V
	87-026-610-080	TR,KTC3198GR		C374	87-010-401-080		CAP, ELECT 1-50V
	87-A30-154-080	TR,RT1N441S		C382	87-010-401-080		CAP, ELECT 1-50V
				C383	87-010-248-080		CAP, ELECT 220-10V
	89-109-521-080	TR,2SA952K(0.6W)					
	87-026-245-080	TR,DTC114ES		C405	87-010-401-080		CAP, ELECT 1-50V
	89-112-965-080	TR,2SA1296GR(0.75W)		C406	87-010-401-080		CAP, ELECT 1-50V
	87-026-463-080	TR,2SA933SRS(0.3W)		C452	87-A10-170-010		CAP,CER 330P-50 K B
	89-113-187-080	TR,2SA1318TU		C453	87-010-406-080		CAP, ELECT 22-50
				C511	87-010-060-080		ELECTROLYTIC 100-16V
	87-026-289-080	TR,DTC143XS					
	87-026-464-080	TR,DTC114TS (0.3W)		C512	87-010-385-080		CAP, ELECT 220-25V
	89-113-184-080	TR,2SA1318TU		C514	87-010-248-080		CAP, ELECT 220-10V
	87-026-486-080	TR,DTA144TS		C520	87-010-405-080		CAP, ELECT 10-50V
	87-026-502-080	DTC144TS		C521	87-010-453-010		CAP, ELECT 4700-25V
				C526	87-010-404-080		CAP, ELECT 4.7-50V
DIODE				C527	87-010-401-080		CAP, ELECT 1-50V
				C528	87-010-221-080		CAP, ELECT 470-10V
	87-070-345-080	DIODE,IN4148		C529	87-010-263-080		CAP, ELECT 100-10V
	87-017-139-080	ZENER,HZS15-2		C530	87-010-248-080		CAP, ELECT 220-10V
	87-017-161-080	ZENER,HZS7C2L		C536	87-010-386-080		CAP,E330-25 SME
	87-017-148-080	ZENER,HZS6A1L					
	87-A40-465-010	DIODE,FR202		C542	87-010-221-080		CAP, ELECT 470-10V
				C543	87-010-401-080		CAP, ELECT 1-50V
	87-017-072-080	ZENER,HZS3B1		C801	87-010-403-080		CAP, ELECT 3.3-50V
	87-A40-292-080	ZENER,DZ2.7L		C802	87-018-134-080		CAPACITOR,TC-U 0.01-16
	87-017-159-080	ZENER,HZS7B3L		C803	87-010-263-080		CAP, ELECT 100-10V
MAIN C.B							
				C804	87-010-248-080		CAP, ELECT 220-10V
				C805	87-018-134-080		CAPACITOR,TC-U 0.01-16
				C806	87-010-374-080		CAP, ELECT 47-10V
C205	87-010-401-080	CAP, ELECT 1-50V		C807	87-018-131-080		CAP, CER 1000P-50V
C206	87-010-401-080	CAP, ELECT 1-50V		C809	87-010-248-080		CAP, ELECT 220-10V
C210	87-010-374-080	CAP, ELECT 47-10V					
C211	87-010-405-080	CAP, ELECT 10-50V		C810	87-010-263-080		CAP, ELECT 100-10V
C212	87-010-405-080	CAP, ELECT 10-50V		C812	87-010-401-080		CAP, ELECT 1-50V
				C814	87-010-405-080		CAP, ELECT 10-50V
C219	87-010-375-080	CAP,E 330-10 SME		C816	87-010-545-080		CAP, ELECT 0.22-50V
C220	87-010-405-080	CAP, ELECT 10-50V		C817	87-018-125-080		CAP, CER 330P-50V
C221	87-010-263-080	CAP, ELECT 100-10V					
C223	87-010-405-080	CAP, ELECT 10-50V		C825	87-018-129-080		CAP, CER 680P-50V
C251	87-010-400-080	CAP, ELECT 0.47-50V		C829	87-018-133-080		CAPACITOR,CER 4700P-16V
				C830	87-018-123-080		CAP, CER 220P-50V
C252	87-010-400-080	CAP, ELECT 0.47-50V		C831	87-010-545-080		CAP, ELECT 0.22-50V
C255	87-010-546-080	CAP, ELECT 0.33-50V		C832	87-010-374-080		CAP, ELECT 47-10V

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C833	87-010-401-080		CAP, ELECT 1-50V	FFC3	88-905-141-210		FF-CABLE, 5P 1.25
C834	87-018-199-080		CAP, CER 3300P	ICP192	87-002-330-010		PROTECTOR IC,ICP-N5
C835	87-018-134-080		CAPACITOR,TC-U 0.01-16	J201	87-009-216-010		JACK, DIA 3.5
C836	87-010-374-080		CAP, ELECT 47-10V	L3	87-003-102-080		COIL, 10UH
C837	87-010-404-080		CAP, ELECT 4.7-50V	L38	87-003-102-080		COIL, 10UH
C838	87-018-209-080		CAP, CER 0.1-50V	L201	87-003-102-080		COIL, 10UH
C840	87-018-139-080		CAP,1P-50 CH	L331	87-007-342-010		COIL,OSC 85K BIAS
C842	87-018-149-080		CAP,TC-U 15P-50 CH	L801	87-003-102-080		COIL, 10UH
C843	87-018-209-080		CAP, CER 0.1-50V	L804	87-003-152-080		COIL, 100UH
C844	87-018-134-080		CAPACITOR,TC-U 0.01-16	L805	87-003-148-080		COIL, 33UH
C845	87-018-209-080		CAP, CER 0.1-50V	SFR801	87-024-176-080		SEMI-FIXED RESISTOR, 100K
C846	87-018-209-080		CAP, CER 0.1-50V	X801	81-592-641-010		VIB,CER 16.93MHZ
C847	87-018-209-080		CAP, CER 0.1-50V				
C848	87-018-111-080		CAP, CERA-SOL SS 27P				
C850	87-018-127-080		CAP, CER 470P-50V				
C851	87-018-123-080		CAP, CER 220P-50V	FRONT C.B			
C855	87-010-263-080		CAP, ELECT 100-10V	C435	87-015-819-080		CAPACITOR,0.01
C857	87-018-149-080		CAP,TC-U 15P-50 CH	C439	87-015-819-080		CAPACITOR,0.01
C858	87-018-149-080		CAP,TC-U 15P-50 CH	C501	87-010-754-080		CAP,E220-10 SRA 7L
C859	87-010-263-080		CAP, ELECT 100-10V	C503	87-015-677-010		ELECTROLYTIC CAPACITOR, 100U 6
C860	87-018-209-080		CAP, CER 0.1-50V	C505	87-018-209-080		CAP, CER 0.1-50V
C861	87-018-209-080		CAP, CER 0.1-50V	C506	87-A10-139-010		CAP,CER 18P-50 K CH
C862	87-010-248-080		CAP, ELECT 220-10V	C507	87-A10-140-010		CAP,CER 22P-50 K CH
C865	87-010-404-080		CAP, ELECT 4.7-50V	C508	87-018-114-080		CAP, CERA-SOL SS 39P
C866	87-018-209-080		CAP, CER 0.1-50V	C509	87-010-316-080		CAP, CERA-SOL SS 33P
C867	87-010-263-080		CAP, ELECT 100-10V	C510	87-A10-136-010		CAP,CER 10P-50 K CH
C869	87-018-121-080		CAP, CER 150P-50V	C511	87-015-819-080		CAPACITOR,0.01
C870	87-010-544-080		CAP, ELECT 0.1-50V	C522	87-015-696-080		CAP,E 2.2-50 7L
C875	87-018-134-080		CAPACITOR,TC-U 0.01-16	C523	87-015-694-080		CAP,E 0.47-50 7L
C876	87-010-236-080		CAP,E 1000-10 SME	C524	87-015-696-080		CAP,E 2.2-50 7L
C877	87-018-134-080		CAPACITOR,TC-U 0.01-16	C561	87-010-060-080		ELECTROLYTIC 100-16V
C878	87-010-263-080		CAP, ELECT 100-10V	C571	87-015-681-080		CAP,E 10-16 7L
C879	87-018-134-080		CAPACITOR,TC-U 0.01-16	CN461	87-099-753-010		CONN,11P H 9604
C880	87-010-221-080		CAP, ELECT 470-10V	CN501	87-009-880-010		CONN,10P TKC-T H(M)
C881	87-010-405-080		CAP, ELECT 10-50V	CN502	87-009-880-010		CONN,10P TKC-T H(M)
C882	87-010-405-080		CAP, ELECT 10-50V	CNA551	8Z-CH1-628-010		CONN ASSY,6P WHT
C883	87-018-123-080		CAP, CER 220P-50V	COP301	87-A60-114-010		CONN,4P H S2M-4WR
C884	87-018-123-080		CAP, CER 220P-50V	D565	87-A40-162-010		LED,L-1154SRD
C889	87-018-209-080		CAP, CER 0.1-50V	FFC4	88-911-101-110		FF-CABLE,11P 1.25
C891	87-018-134-080		CAPACITOR,TC-U 0.01-16	L502	81-NWB-655-010		COIL,10UH TROIDAL
C892	87-010-221-080		CAP, ELECT 470-10V	LCD501	8Z-CH1-623-010		LCD,ZCH-1 4177-30PIN
C893	87-018-134-080		CAPACITOR,TC-U 0.01-16	R458	87-001-486-010		IC,ICP-N15
C894	87-018-119-080		CAP, CER 100P-50V	SW301	87-A90-095-080		SW,TACT EVQ11G04M
C895	87-018-119-080		CAP, CER 100P-50V	SW302	87-A90-095-080		SW,TACT EVQ11G04M
C896	87-018-119-080		CAP, CER 100P-50V	SW303	87-A90-095-080		SW,TACT EVQ11G04M
C897	87-018-119-080		CAP, CER 100P-50V	SW304	87-A90-095-080		SW,TACT EVQ11G04M
C898	87-018-119-080		CAP, CER 100P-50V	SW305	87-A90-095-080		SW,TACT EVQ11G04M
C899	87-018-209-080		CAP, CER 0.1-50V	SW306	87-A90-095-080		SW,TACT EVQ11G04M
C901	87-018-134-080		CAPACITOR,TC-U 0.01-16	SW307	87-A90-095-080		SW,TACT EVQ11G04M
C902	87-010-263-080		CAP, ELECT 100-10V	SW308	87-A90-095-080		SW,TACT EVQ11G04M
C903	87-018-209-080		CAP, CER 0.1-50V	SW309	87-A90-095-080		SW,TACT EVQ11G04M
C1004	87-018-131-080		CAP, CER 1000P-50V	SW310	87-A90-095-080		SW,TACT EVQ11G04M
C1005	87-018-131-080		CAP, CER 1000P-50V	SW311	87-A90-095-080		SW,TACT EVQ11G04M
C1006	87-018-131-080		CAP, CER 1000P-50V	SW312	87-A90-095-080		SW,TACT EVQ11G04M
C1007	87-018-134-080		CAPACITOR,TC-U 0.01-16	SW313	87-A90-095-080		SW,TACT EVQ11G04M
C1008	87-018-134-080		CAPACITOR,TC-U 0.01-16	SW395	87-A90-095-080		SW,TACT EVQ11G04M
C1009	87-018-134-080		CAPACITOR,TC-U 0.01-16	SW396	87-A90-095-080		SW,TACT EVQ11G04M
C1011	87-018-131-080		CAP, CER 1000P-50V	SW397	87-A90-095-080		SW,TACT EVQ11G04M
CN201	87-009-883-010		CONN,10P TKC-T H(F)	X501	87-030-273-010		VIB,XTAL 32.768K5PPM
CN202	87-009-883-010		CONN,10P TKC-T H(F)	X502	87-A70-018-080		VIB,CER 6.00MHZ MG200
CN203	87-A60-457-010		CONN,4P V TID-X				
CN301	87-099-832-010		CONN,8P S2M-8W	LED C.B			
CN302	87-099-827-010		CONN,3P S2M-3W	D601	87-A40-161-010		LED,L-1154SGD
CN401	88-802-052-430		CONN ASSY,5P ORN	D602	87-A40-161-010		LED,L-1154SGD
CN501	87-099-827-010		CONN,3P S2M-3W	D603	87-A40-161-010		LED,L-1154SGD
CN801	87-A60-424-010		CONN,16P V TOC-B	D604	87-A40-161-010		LED,L-1154SGD
CN802	87-099-194-010		CONN,6P 6216V	D605	87-A40-161-010		LED,L-1154SGD
CN803	87-099-212-010		CONN,5P 6216 V	D606	87-A40-161-010		LED,L-1154SGD
FFC1	88-CD5-638-010		FF-CABLE, 16P 1.0 220MM	D607	87-A40-161-010		LED,L-1154SGD
FFC2	88-906-181-110		FF-CABLE,6P 1.25	D608	87-A40-161-010		LED,L-1154SGD

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
D609	87-A40-161-010		LED,L-1154SGD	C71	87-010-197-080		CAP, CHIP 0.01 DM<HR>
D610	87-A40-161-010		LED,L-1154SGD	C71	87-015-819-080		CAPACITOR, 0.01<K,EZ>
SWITCH C.B				C72	87-010-196-080		CHIP CAPACITOR,0.1-25
C391	87-A10-166-010		CAP,CER 150P-50 K B	C73	87-010-196-080		CHIP CAPACITOR,0.1-25
C392	87-A10-166-010		CAP,CER 150P-50 K B	C78	87-010-196-080		CAP,CER 0.1-16V<K,EZ>
CN391	88-802-042-640		CONN ASSY,4P YEL	CF2	82-785-747-080		CF,MS2 GHY,R
SW381	87-A90-798-010		SW,RTRY 1-2-24 EVQVENF0124B	CF3	82-785-747-080		CF,MS2 GHY,R
SW391	87-A90-095-080		SW,TACT EVQ11G04M	CF4	87-A91-094-010		FLTR,CDA10.7 MG80A
SW392	87-A90-095-080		SW,TACT EVQ11G04M	CN5	87-099-854-010		CONN,6P
SW393	87-A90-095-080		SW,TACT EVQ11G04M	CN6	87-A60-111-010		CONN,5P V S2M 5W
SW394	87-A90-095-080		SW,TACT EVQ11G04M	D3	87-A40-616-070		VARI-CAP,SVC384 (S/T)
TUNER C.B				D4	87-A40-615-070		VARI-CAP,KV1311NT
C1	87-010-314-080		C-CAP,S 22P-50V	D5	87-A40-615-070		VARI-CAP,KV1311NT
C2	87-010-314-080		C-CAP,S 22P-50V	L2	88-CD6-655-010		COIL,FM5MM*3.5T
C3	87-010-314-080		C-CAP,S 22P-50V	L3	87-A91-095-010		BAR-ANT,MW FOR 2B (SYN)<HR>
C5	87-010-196-080		CHIP CAPACITOR,0.1-25<HR>	L3	87-A91-096-010		BAR-ANT,MW/LW FOR 3B (SYN)<K,EZ>
C5	87-A10-484-080		C-CAP,S 1-25V<K,EZ>	L4	87-A50-420-010		COIL,MW OSC (SYN)
C6	87-010-312-080		C-CAP,S 15P-50 CH<K,EZ>	L5	87-A50-424-010		COIL,FM RF EX (SYN)
C6	87-010-313-080		CAP, CHIP 18P<HR>	L6	87-A50-427-010		COIL,FM OSC EX (SYN)
C7	87-014-049-080		CAP,PP 470P-100 J	L7	87-A90-733-010		AM IFT W/C.F
C8	87-012-349-080		C-CAP,S 1000P-50 CH	L8	87-005-849-080		COIL,10UH (CECS)
C10	87-010-197-080		CAP, CHIP 0.01 DM	L9	87-005-849-080		COIL,10UH (CECS)
C11	87-010-197-080		CAP, CHIP 0.01 DM	L51	87-A50-421-010		COIL,LW OSC (SYN)<K,EZ>
C12	87-010-197-080		CAP, CHIP 0.01 DM	TC1	87-011-220-080		TRIMMER CAP 20P VTC
C13	87-010-150-080		C-CAP,S 6P-50 CH	TC51	87-011-233-080		TRIMMER,50P VCT54<K,EZ>
C14	87-010-303-080		C-CAP,S 330P-50CH	X1	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
C15	87-012-349-080		C-CAP,S 1000P-50 CH	LOADING MOTOR C.B			
C16	87-010-380-080		CAP, ELECT 47-16V	M1	87-045-305-010		MOTOR,RF-500TB DC-5V(2MA)
C17	87-010-198-080		CAP, CHIP 0.022-25	SW1	87-036-110-010		SW,MICRO SPPB62
C18	87-015-819-080		CAPACITOR,0.01	SW2	87-036-110-010		SW,MICRO SPPB62
C19	87-010-112-080		CAP, ELECT 100-16V	CD MOTOR C.B			
C20	87-010-404-080		CAP, ELECT 4.7-50V	M2	87-045-358-019		MOT,RF-310TA 43
C21	87-010-197-080		CAP, CHIP 0.01 DM	M3	87-045-356-019		MOT,RF-310T 30
C22	87-010-197-080		CAP, CHIP 0.01 DM	SW1	87-A90-042-010		SW,LEAF MSW 17310 MVPO
C23	87-010-197-080		CAP, CHIP 0.01 DM	DECK C.B			
C24	87-010-303-080		C-CAP,S 330P-50CH<K,EZ>	M4	87-045-347-019		MOT,SHU 2L 70
C25	87-012-141-080		CAP, S 0.22-50V	SFR1	87-024-581-019		SFR,3.3K DIA6H K0A
C27	87-A10-484-080		C-CAP,S 1-25V	SOL1	82-ZM1-635-010		SOL ASSY,23
C28	87-010-196-080		CHIP CAPACITOR,0.1-25	SOL2	82-ZM1-635-010		SOL ASSY,23
C29	87-010-196-080		CHIP CAPACITOR,0.1-25	SW1	87-036-110-010		SW,MICRO SPPB62
C30	87-010-213-080		C-CAP,S 0.015-50 B<HR>	SW2	87-036-110-010		SW,MICRO SPPB62
C30	87-010-214-080		C-CAP,S 0.018-25<K,EZ>	SW3	87-036-110-010		SW,MICRO SPPB62
C31	87-010-213-080		C-CAP,S 0.015-50 B<HR>	SW4	87-036-110-010		SW,MICRO SPPB62
C31	87-010-214-080		C-CAP,S 0.018-25<K,EZ>	SW5	87-036-110-010		SW,MICRO SPPB62
C33	87-010-401-080		CAP, ELECT 1-50V	RELAY C.B			
C34	87-010-401-080		CAP, ELECT 1-50V	POWER C.B			
C35	87-015-819-080		CAPACITOR,0.01	△F701	87-035-190-010		FUSE,T2A 250V<HR>
C36	87-010-112-080		CAP, ELECT 100-16V	△F701	87-035-139-010		FUSE,T2.5AL 250V<K,EZ>
C37	87-010-197-080		CAP, CHIP 0.01 DM	△FC701	87-A90-160-080		FUSE CLAMP,FC 51F
C38	87-010-380-080		CAP, ELECT 47-16V	△FC702	87-A90-160-080		FUSE CLAMP,FC 51F
C39	87-010-404-080		CAP, ELECT 4.7-50V	BATT C.B			
C40	87-010-197-080		CAP, CHIP 0.01 DM	C46	87-010-197-080		CAP, CHIP 0.01 DM
C41	87-012-349-080		C-CAP,S 1000P-50 CH	C47	87-010-197-080		CAP, CHIP 0.01 DM
C42	87-012-349-080		C-CAP,S 1000P-50 CH	C48	87-010-197-080		CAP, CHIP 0.01 DM
C43	87-012-349-080		C-CAP,S 1000P-50 CH	C49	87-012-199-080		C-CAP,S 220P-50V CH
C44	87-010-311-080		CAP 12P	C51	87-010-312-080		C-CAP,S 15P-50 CH<K,EZ>
C45	87-010-312-080		C-CAP,S 15P-50 CH	C52	87-010-197-080		CAP, CHIP 0.01 DM<K,EZ>
C46	87-010-197-080		CAP, CHIP 0.01 DM	C53	87-010-197-080		CAP, CHIP 0.01 DM<K,EZ>
C47	87-010-197-080		CAP, CHIP 0.01 DM	C54	87-014-055-080		CAP,PP 820P-100 J<K,EZ>
C48	87-010-197-080		CAP, CHIP 0.01 DM	C55	87-010-197-080		CAP, CHIP 0.01 DM<K,EZ>
C49	87-012-199-080		C-CAP,S 220P-50V CH				
C51	87-010-312-080		C-CAP,S 15P-50 CH<K,EZ>				
C52	87-010-197-080		CAP, CHIP 0.01 DM<K,EZ>				
C53	87-010-197-080		CAP, CHIP 0.01 DM<K,EZ>				
C54	87-014-055-080		CAP,PP 820P-100 J<K,EZ>				
C55	87-010-197-080		CAP, CHIP 0.01 DM<K,EZ>				

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

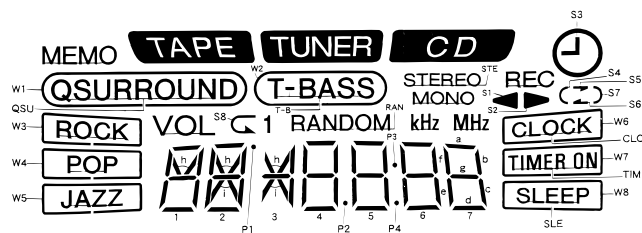
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



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	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

LCD DISPLAY



No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
COM1	COM1			TAPE	W1	ROCK	W3	OSU	1h	1a	2f	2h	2a	VOL	T B	1	W2
COM2		COM2		TUNER	MEMO	POP	W4	1f	1g	1b	2e	2g	2b	S8	3h	3b	4f
COM3			COM3	CD		JAZZ	W5	1e	1d	1c	2d	2i	2c	P1	3i	3g	4e

No	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
COM1	4a	4b	RAN	5a	5b	6f	6a	MHz	MHz	7a	S3	W6	CLO	REC	S2	STE
COM2	4g	4c	5f	5g	5c	6e	6g	6b	7f	7g	7b	W7	TIM	S6	S4	MONO
COM3	4d	P2	5e	5d	P3	P4	6d	6c	7e	7d	7c	W8	SLE	S5	S7	S1

TRANSISTOR ILLUSTRATION



ECB

- 2SA952
- 2SA1296
- 2SA1318
- 2SC1740
- 2SC1815
- 2SC1923
- 2SC2001
- KTC3198



ECB

- 2SA933S
- DTA114YS
- DTA144TS
- DTC114ES
- DTC114TS
- DTC124XS
- DTC144TS
- RT1N441S
- DTC114YS
- DTC143XS
- KTA1267



GSD

- 2SK439



SDG

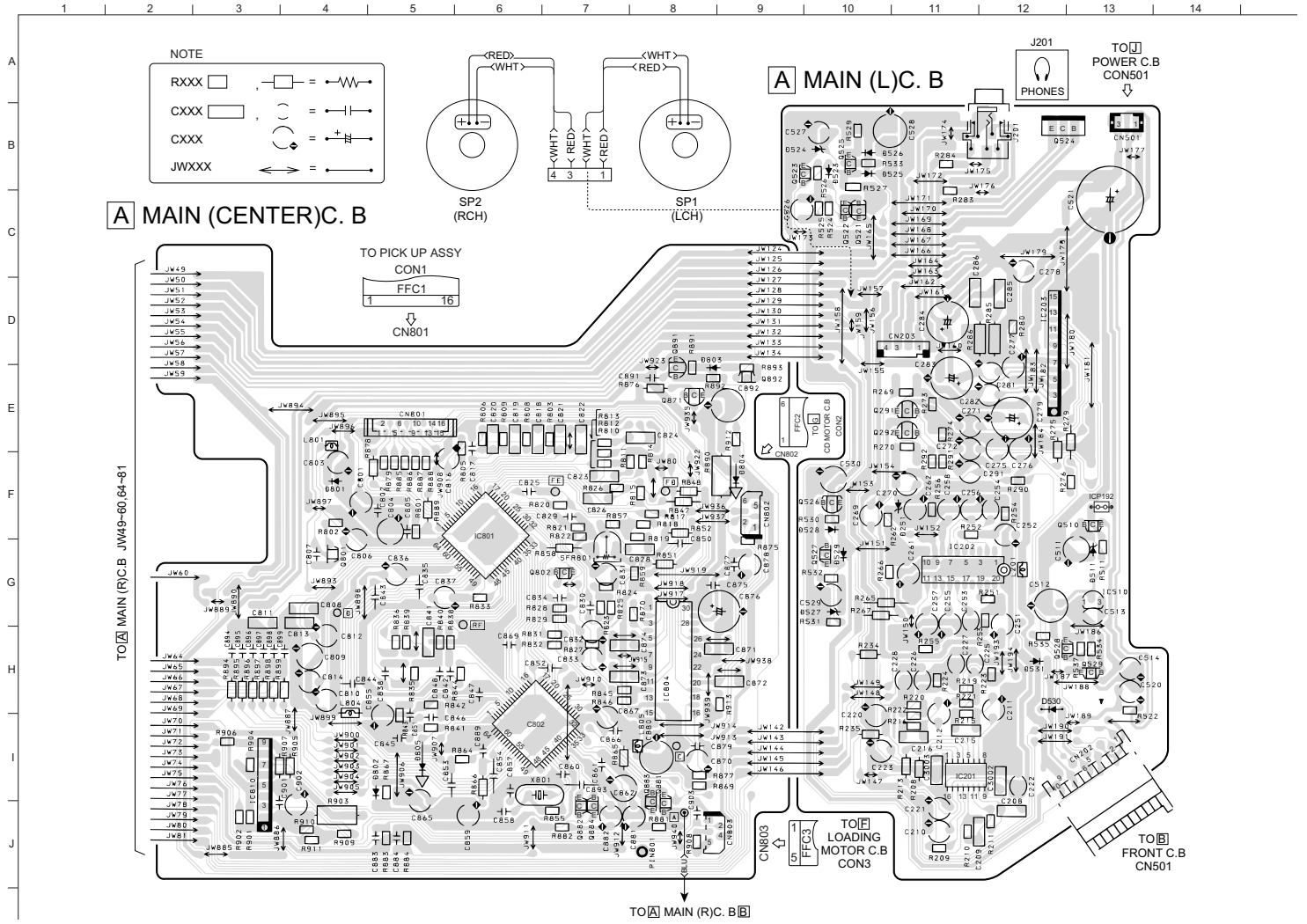
- 2SJ460
- 2SK2541



BCE

- 2SB1370

WIRING-1 (MAIN-CENTER, L SECTION)



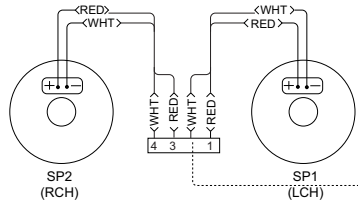
NOTE

RXXX =

CXXX =

CXXX =

JWXXX =



A MAIN (L) C. B

A MAIN (CENTER) C. B

TO PICK UP ASSY
CON1
FFC1
16
CN801

J201
PHONES
TO POWER C.B
CON501

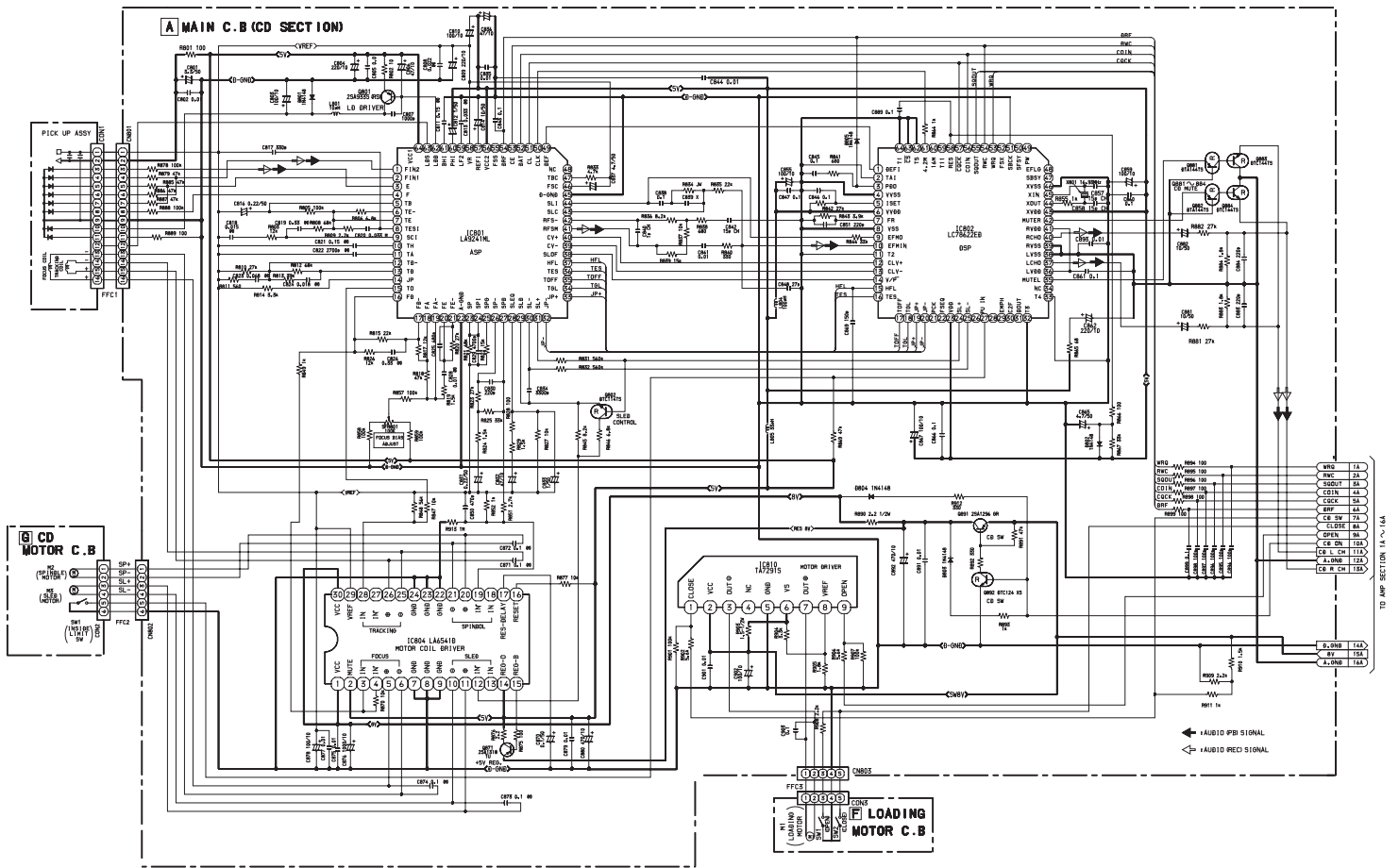
TO MAIN (R) C. B
JW49-60 64-81

TO LOADING
MOTOR C.B
CON3
CN803

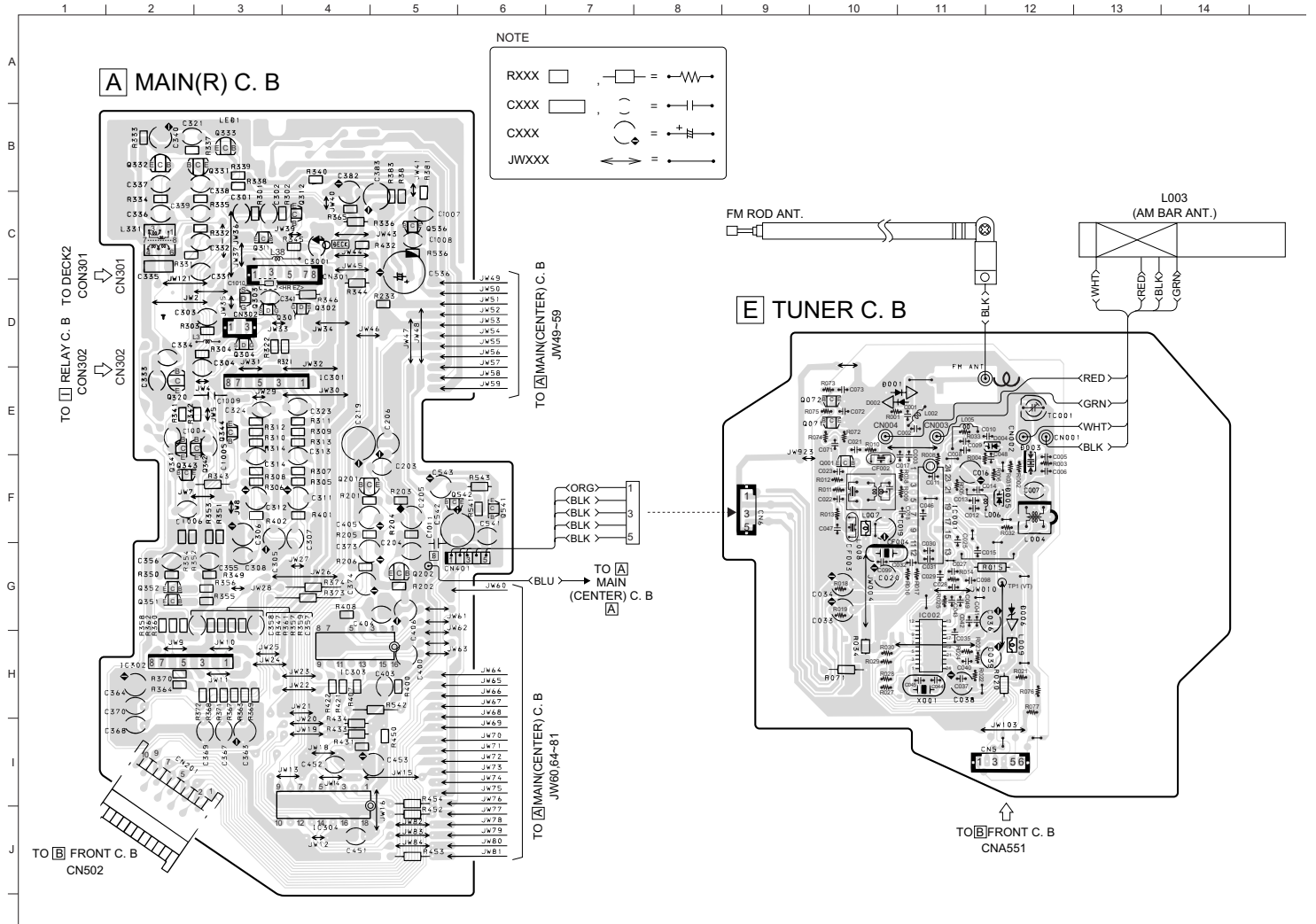
TO FRONT C.B
CN501

TO MAIN (R) C. B

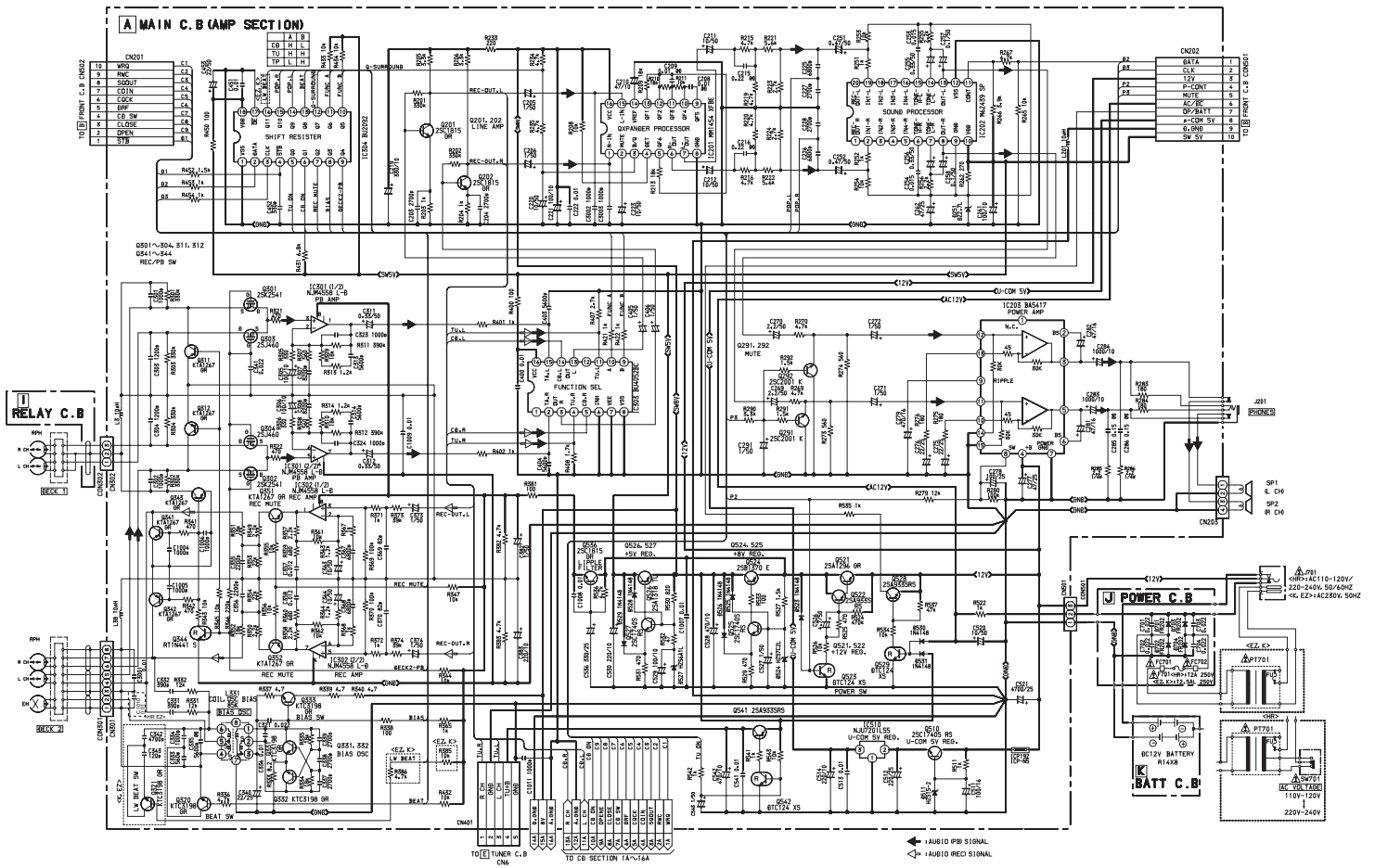
SCHEMATIC DIAGRAM-1 (MAIN-CD SECTION)



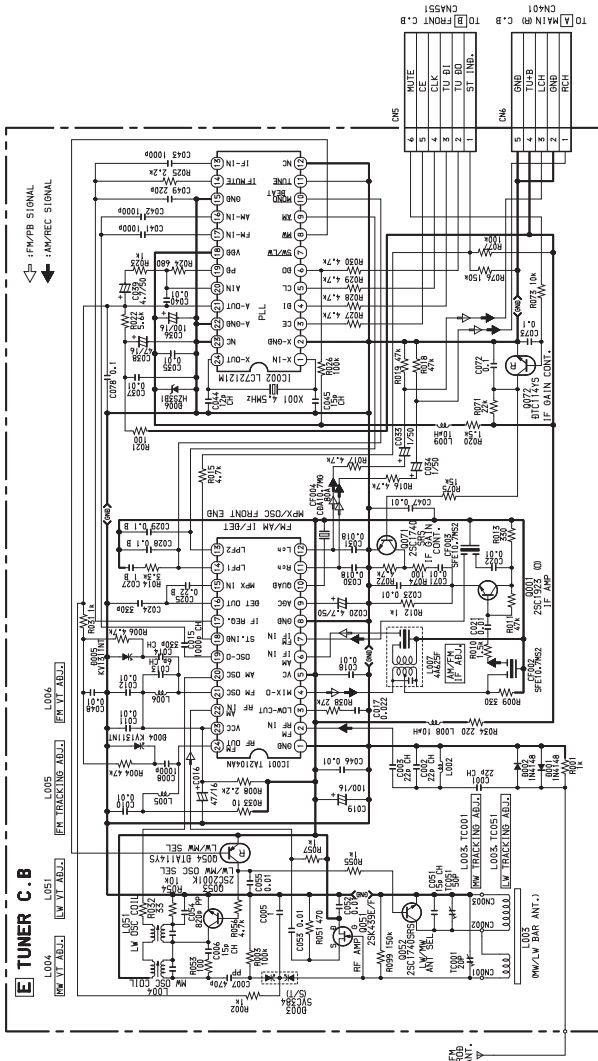
WIRING-2 (MAIN-R, TUNER SECTION) <For HR Model>



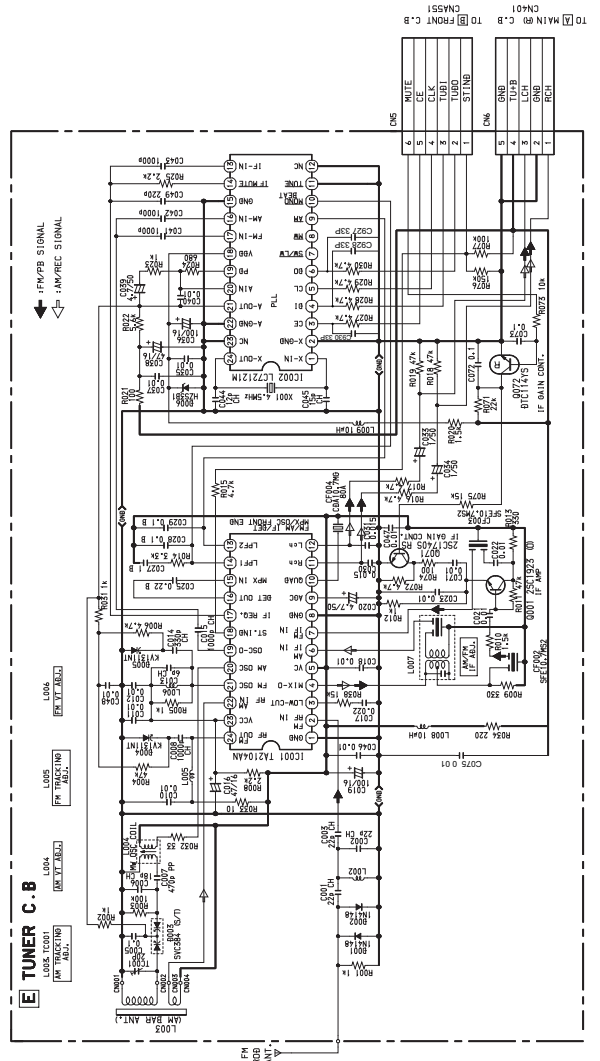
SCHEMATIC DIAGRAM-2 (MAIN-AMP SECTION)



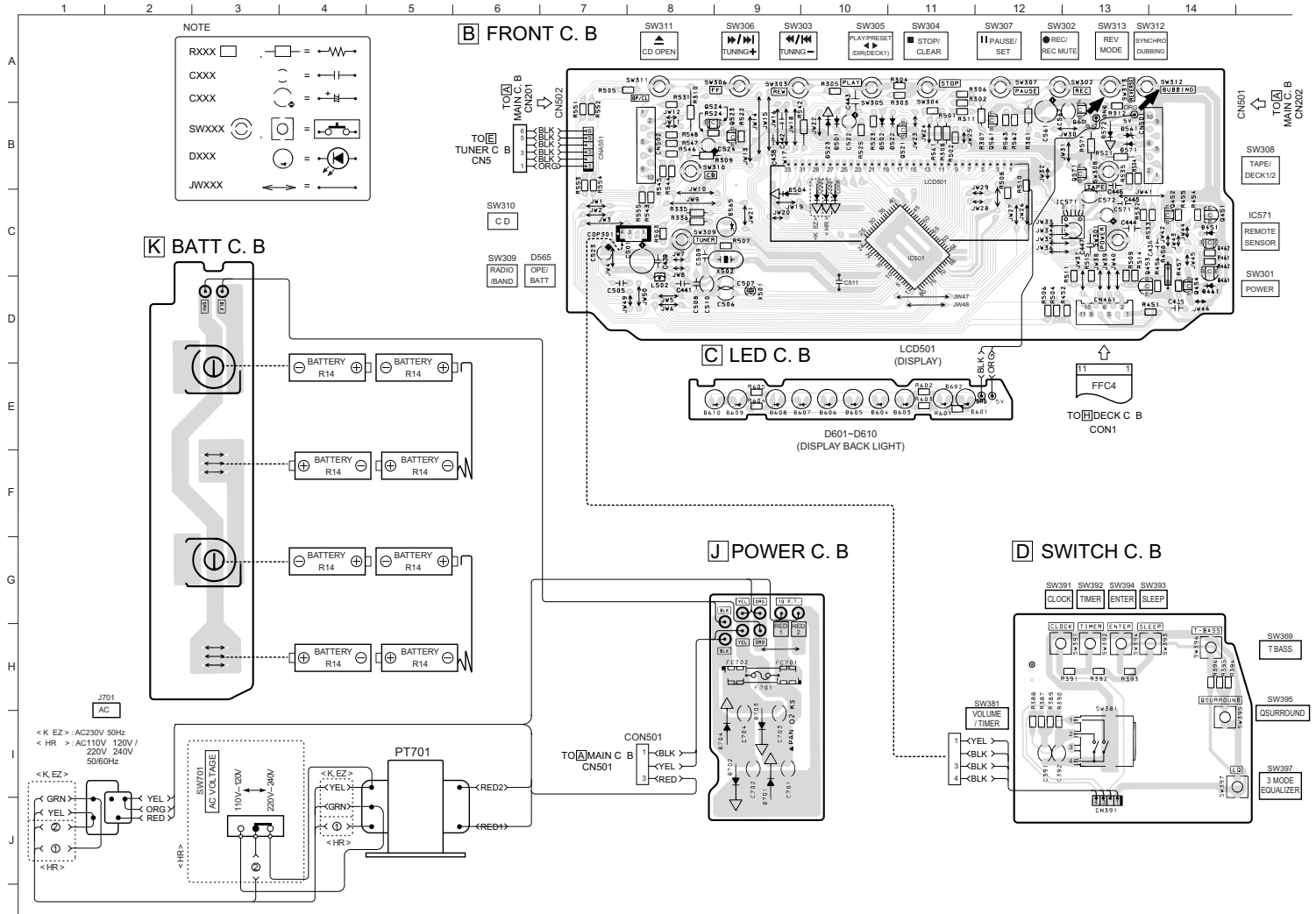
SCHEMATIC DIAGRAM-3 (TUNER SECTION) <FOR EZ, K Models>



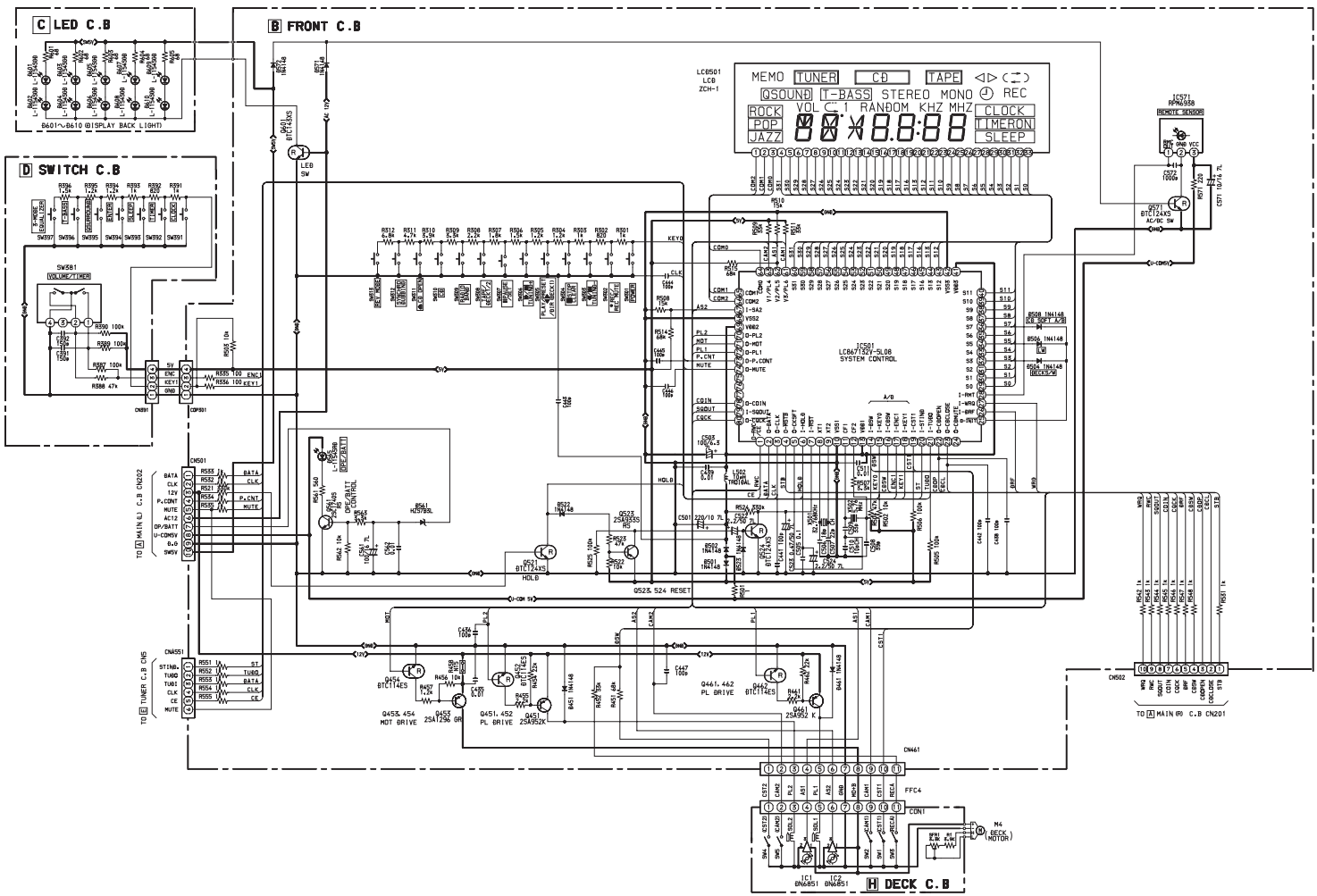
SCHEMATIC DIAGRAM-4 (TUNER SECTION) <FOR HR Model>



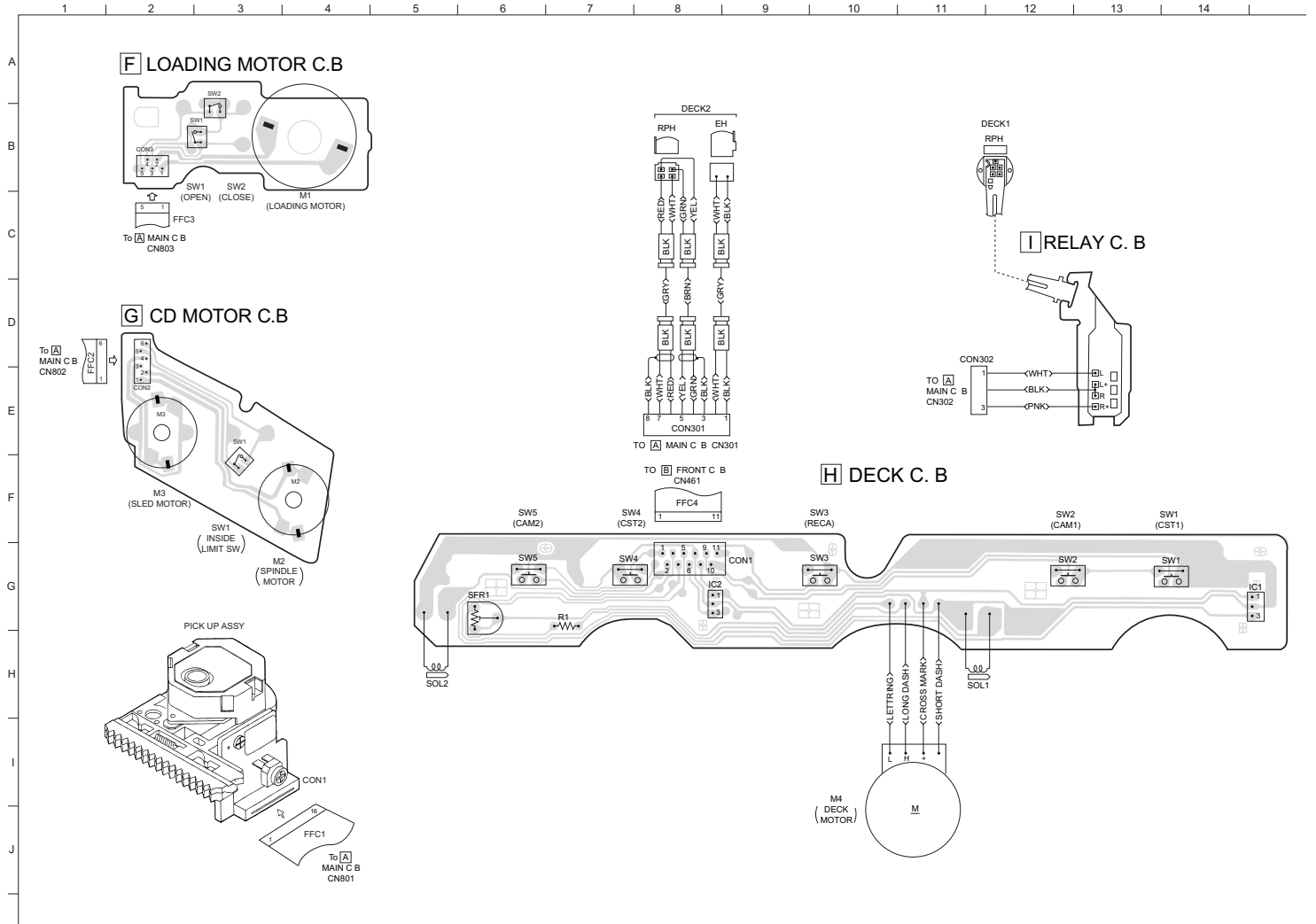
WIRING-4 (FRONT SECTION)



SCHEMATIC DIAGRAM-5 (FRONT SECTION)

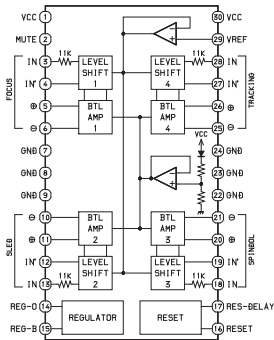


WIRING-5 (CD, CASSETTE MECHA SECTION)

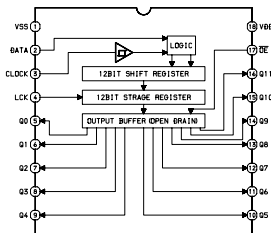


IC BLOCK DIAGRAMS

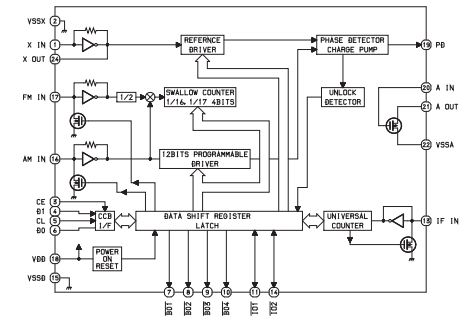
IC, LA6541D



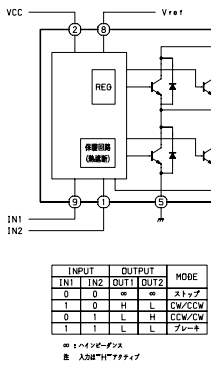
IC, BU2092



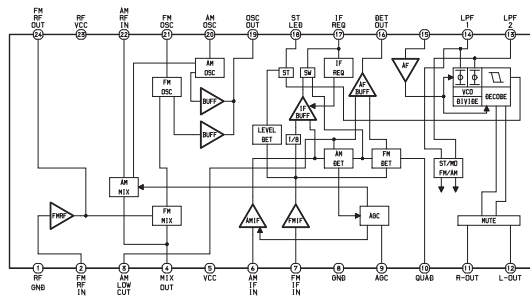
IC, LC72121M



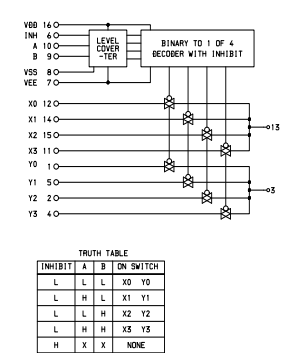
IC, TA7291S



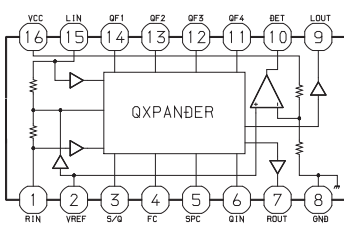
IC, TA2104AN



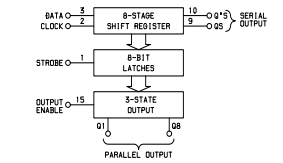
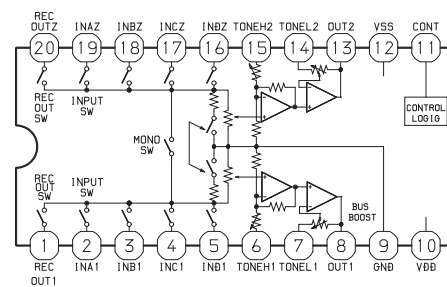
IC, BU4052BC



IC, MM1454XFBE



IC, M62439SP



VOLTAGE CHARTS

[IC]

IC001/TA2104AN

Pin No	Voltage (V)
1	0
2	0.79
3	0
4	4.57
5	4.76
6	4.22
7	4.57
8	0
9	0.21
10	3.97
11	1.27
12	1.25
13	3.86
14	4.1
15	0.7
16	1.17
17	1.46
18	4.5
19	3.29
20	4.76
21	3.01
22	4.76
23	3
24	4.75

IC201/MM1454XF

Pin No	Voltage (V)
1	3.5
2	3.5
3	0.05
4	0.3
5	3.5
6	3.5
7	3.5
8	0
9	3.5
10	3.5
11	3.5
12	3.5
13	3.5
14	4.2
15	3.5
16	7.69

IC203/BA5417

Pin No	Voltage (V)
1	NC
2	11.1
3	5.97
4	11.9
5	5.95
6	11.1
7	0
8	3.5
9	6.6
10	0.5
11	0
12	0
13	0.5
14	0
15	0

IC303/BU4052BC

Pin No	Voltage (V)
1	2.8
2	0.2
3	0.15
4	0
5	0
6	0
7	0
8	0
9	5.69
10	0.02
11	0
12	0.56
13	0.3
14	0
15	0.3
16	5.7

IC501/LC867132V-5L08

Pin No	Voltage (V)
1	0.81
2	0.02
3	0.01
4	0.82
5	0.01
6	0.02
7	4.63
8	2.23
9	2.64
10	0.01
11	2.28
12	2.46
13	4.83
14	4.98
15	5.01
16	4.55
17	4.98
18	5.01
19	4.97
20	0.63
21	4.97
22	0.01
23	0.01
24	0.01
25	4.83
26	0.46
27	0.03
28	5.23
29	2.46
30	2.45
31	2.44
32	2.41
33	2.46
34	2.43
35	2.44
36	2.42
37	2.44
38	2.44
39	2.43
40	2.41
41	4.82
42	0
43	2.42
44	2.43
45	2.39
46	2.41
47	2.4
48	2.44
49	2.42
50	2.44

Pin No	Voltage (V)
51	2.44
52	2.44
53	2.44
54	2.44
55	2.44
56	2.4
57	2.44
58	2.41
59	2.44
60	2.4
61	4.98
62	2.2
63	4.98
64	2.47
65	2.49
66	2.46
67	4.94
68	0
69	4.83
70	0.01
71	0.01
72	0.01
73	4.79
74	4.7
75	0.01
76	0.01
77	0.01
78	0.01
79	0.04
80	0.01

IC801/LA9241ML

Pin No	Voltage (V)
1	2.47
2	2.47
3	2.5
4	2.5
5	2.48
6	2.49
7	2.49
8	2.49
9	2.49
10	2.47
11	2.5
12	2.49
13	2.49
14	2.5
15	2.48
16	2.5
17	2.5
18	2.49
19	2.47
20	2.49
21	2.49
22	0.006
23	2.48
24	2.49
25	2.5
26	2.5
27	2.49
28	2.49
29	2.5
30	2.4
31	2.39
32	0.1
33	0.1
34	4.89
35	4.75
36	0.05
37	0.04
38	4.87
39	0.06
40	0.05
41	1.58
42	2.39
43	2.51
44	2.48
45	0.01
46	2.49
47	2.49
48	NC
49	0.01
50	2.42

Pin No	Voltage (V)
51	4.7
52	4.7
53	0.003
54	0.03
55	0.1
56	4.9
57	2.49
58	2.5
59	0.95
60	0.96
61	2.21
62	4.47
63	1.04
64	5.03

IC002/LC72121M

Pin No	Voltage (V)
1	1.33
2	0
3	0
4	0.01
5	0
6	4.96
7	0.04
8	0.03
9	3.86
10	4.09
11	0
12	0
13	1.06
14	0
15	0
16	1.34
17	2.74
18	0.98
19	0.98
20	0.74
21	0
22	1.4
23	
24	

IC202/M62439SP

Pin No	Voltage (V)
1	2.85
2	2.85
3	0.04
4	0.04
5	0.04
6	2.85
7	2.85
8	2.88
9	2.85
10	5.7
11	3.36
12	0
13	2.88
14	2.87
15	2.85
16	2.6
17	2.6
18	2.6
19	2.85
20	2.85

IC301/NJM4558LD

Pin No	Voltage (V)
1	3.54
2	3.55
3	3.55
4	0
5	3.55
6	3.55
7	3.54
8	8.48

IC304/BU2092

Pin No	Voltage (V)
1	0
2	0.55
3	0
4	0
5	0.02
6	0.03
7	8.47
8	0.28
9	0.05
10	5.69
11	0.5
12	0.05
13	0.03
14	0
15	0
16	0
17	0
18	5.7

IC302/NJM4558L-D

Pin No	Voltage (V)
1	3.55
2	3.55
3	3.52
4	0
5	3.52
6	3.56
7	3.55
8	8.48

[TRANSISTOR]

IC802/LC78622ED

Pin No.	Voltage (V)
1	0.01
2	0.01
3	0.02
4	0.01
5	1.93
6	4.9
7	0.08
8	0.01
9	2.48
10	2.51
11	0.01
12	0.05
13	0.06
14	4.88
15	0.02
16	0.06
17	4.88
18	4.88
19	0.1
20	0.1
21	0.1
22	NC
23	4.91
24	0.13
25	0.13
26	NC
27	4.88
28	NC
29	NC
30	NC
31	2.35
32	0.007
33	0.007
34	NC
35	NC
36	4.88
37	2.12
38	0.001
39	0.001
40	0.002
41	4.88
42	NC
43	4.91
44	2.14
45	2.04
46	0.007
47	NC
48	NC
49	NC
50	NC

Pin No.	Voltage (V)
51	0.004
52	2.47
53	0.02
54	0.003
55	0.02
56	4.7
57	4.7
58	4.88
59	NC
60	NC
61	2.35
62	0
63	0
64	0

IC804/LA6541D

Pin No.	Voltage (V)
1	7.52
2	4.97
3	2.46
4	2.46
5	3.38
6	3.36
7	0
8	0
9	0
10	3.37
11	3.37
12	2.46
13	2.45
14	4.97
15	6.85
16	4.95
17	4.87
18	2.45
19	2.46
20	3.36
21	3.39
22	0
23	0
24	0
25	3.38
26	3.38
27	2.46
28	2.45
29	2.46
30	7.52

Pin No.	E(V)	C(V)	B(V)
Q001	2.19	4.04	2.93
Q071	0	0.01	0.64
Q072	0	3.46	0
Q151	2.64	4.84	3.34
Q152	3.44	4.84	2.42
Q201	1.22	3.12	1.85
Q202	1.23	1.65	1.85
Q291	0	0	0.64
Q292	0	0	0.64
Q301	3.55	3.55	0.06
Q302	3.55	3.55	0.06
Q303	3.55	3.55	0.06
Q331	0	0.23	0.22
Q332	0	0.24	0.23
Q341	0.1	3.55	3.12
Q342	0.1	3.55	3.13
Q344	0	3.15	0.05
Q351	3.55	3.54	8.46
Q352	3.55	3.54	8.46
Q451	15.76	0	15.73
Q452	0	15.72	0
Q453	15.76	0.61	15.75
Q454	0	15.73	0
Q461	15.73	0	15.72
Q521	0	0.02	1.56
Q521	11.89	11.19	11.2
Q522	11.2	11.2	10.53
Q523	0	0	4.53
Q524	0	7.63	0
Q525	6.9	10.4	7.52
Q526	7.63	5.6	6.89
Q527	5	6.89	5.57
Q536	10.98	11.26	10.27
Q541	7.63	1	7.01
Q542	0.71	7	0
Q561	0.01	0.11	0.69
Q571	0	0.01	12
Q601	0.01	0.17	12.55
Q801	4.94	1.6	4.29
Q802	2.45	2.45	0.01
Q871	7.59	5.11	6.87
Q882	4.81	4.8	0
Q884	0	0	4.8
Q891	7.61	7.59	6.86
Q892	0	0.15	4.51

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	NC	—	No connection.
24	SP	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	TEST2	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 thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24-28	CONT1-CONT5	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.

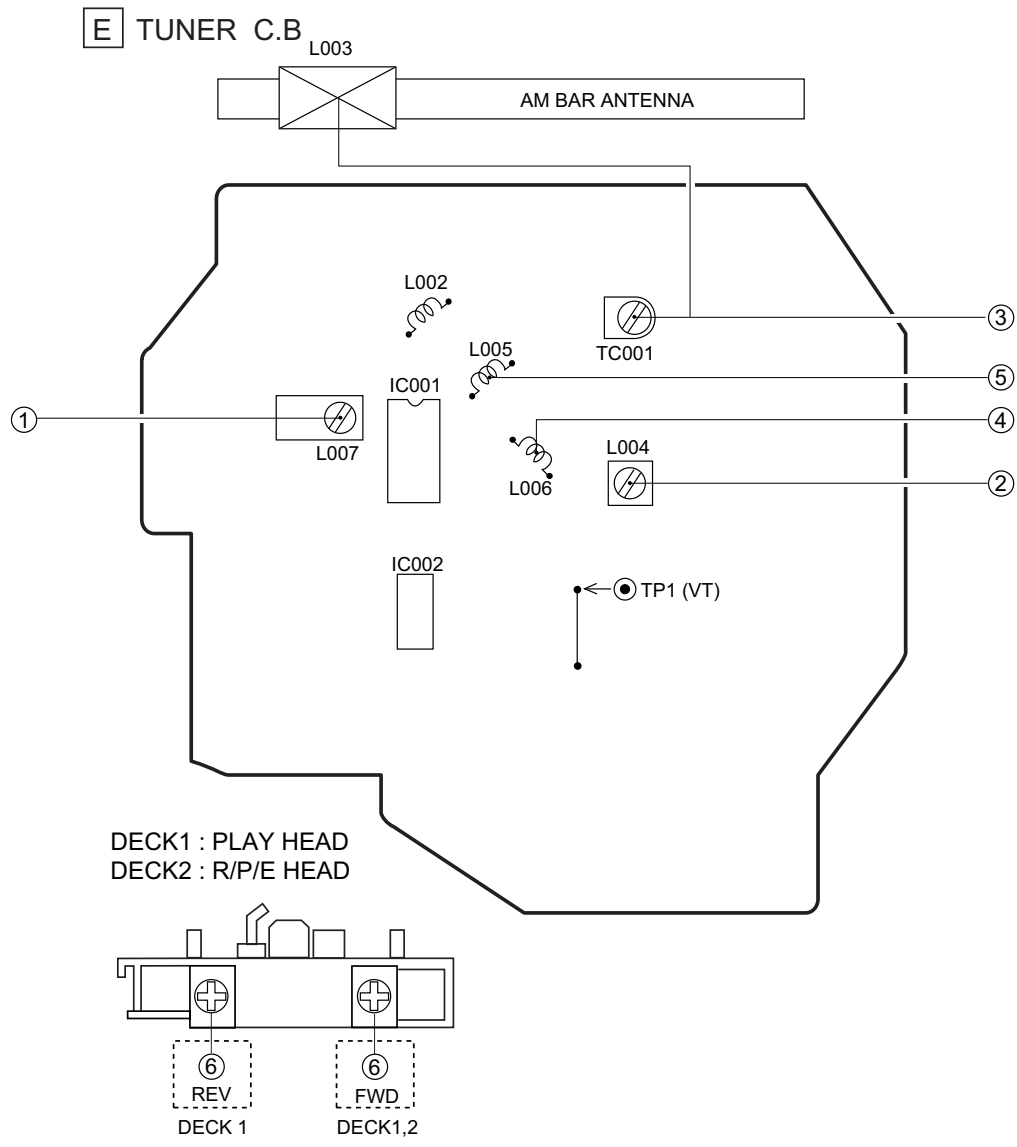
Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single 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	CQCK	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	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	$\overline{\text{CS}}$	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.

IC, LC867132V-5L08

Pin No.	Pin Name	I/O	Description
1	O-RWC/CE	O	CD read/write control output and TU ship enable.
2	O-DATA	O	Data output for IC BU2092, LC72131D (Z) and M62439SP.
3	O-CLK	O	Clock output for IC BU2092 and LC72131.
4	O-STB	O	Strobe output for IC BU2092.
5	O-CKSFT	O	Clock shift output for system micro computer.
6	I-HOLD	I	Detect hold status. "H" = HOLD.
7	I-RST	I	Reset micro computer.
8	XT1	I	Connected to crystal oscillator (32,768kHz).
9	XT2	O	
10	VSSI	—	Connected to digital ground.
11	CF1	I	Connected to 6MHz oscillator.
12	CF2	O	
13	VDD1	—	Power supply to micro computer (+5V).
14	I-DSW	I	Deck mechanism status detection input (AD).
15	I-KEYO	I	Key AD value input.
16	I-CDSW	I	CD tray OPEN/CLOSE status detection input (AD).
17	I-ENC	I	AD value input for rotary encoder output A and B.
18	I-KEY1	I	Key AD value input.
19	I-CST1	I	Deck 1 tape detection.
20	I-STIND	I	TUNER STEREO indicator input.
21	I-TUDO	I	Data input from IC LC72131D (Z).
22	O-CDOPEN	O	CD tray open control output.
23	O-CDCLOSE	O	CD tray close control output.
24	O-CDMUTE	O	CD mute output . (Not connected)
25	O-INIT	O	Initial diode matrix detection output.
26	I-DRF	I	CD (detect RF) RF level detection input.
27	I-WRQ	I	CD sub code Q stand-by input.
28	I-RMT	I	Remote controller input.
29 ~ 40	SO ~ SI1	O	LCD segment output.
41	VDD3	—	Power supply to micro computer (+5V).
42	VSS3	—	Connected to digital ground.
43 ~ 60	S12 ~ S13, S16 ~ S31	O	LCD segment output.
61	I-CAM1	I	Deck 1 mechanism status detection input.
62	I-AS1	I	Deck 1 mechanism status detection input.
63	I-CAM2	I	Deck 2 mechanism status detection input. (stop pulse)
64 ~ 66	COM0 ~ COM2	O	LCD common output.
67	I-AS2	I	Deck 1 mechanism status detection input. (auto pulse)
68	VSS2	—	Connected to digital ground.
69	VDD2	—	Power supply to micro computer (+5V).
70	O-PL2	O	Single & deck 2 plunger control output.
71	O-MOT	O	Deck mechanism motor control output.

Pin No.	Pin Name	I/O	Description
72	O-PL1	O	Double deck 1 plunger control output. (Not connected).
73	O-P. CONT	O	Power supply control output.
74	O-MUTE	O	Main mute output.
75 ~ 77	—	—	Not connected.
78	O-COIN	O	CD command output.
79	I-SQOUT	I	CD sub code Q input.
80		O	Clock output for CD command and sub code.

ELECTRICAL ADJUSTMENT <HR Model>



<TUNER SECTION>

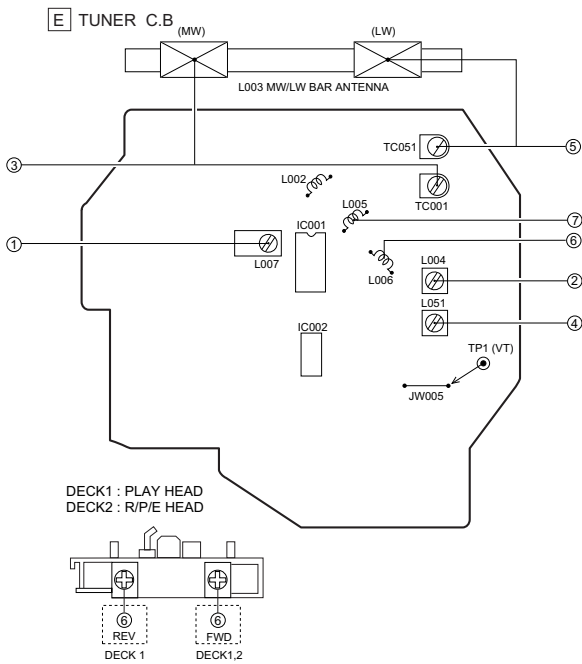
1. AM IF Adjustment
 L007 603kHz
 Adjust the level at 603 kHz to MAX by L007
2. MW VT Adjustment
 Setting : • Test point : TP1 (VT)
 • Adjustment location : L004
 Method : Set to MW 1602 kHz and adjust L004 so that the test point becomes $5.6 V \pm 0.05 V$.
3. MW Tracking Adjustment
 L003 603 kHz
 TC001 1404 kHz
4. FM VT Adjustment
 Setting : • Test point : TP1 (VT)
 • Adjustment location : L006
 Method : Set to FM 108.0 MHz and adjust L006 so that the test point becomes $6.0 V \pm 0.05 V$.

5. FM Tracking Adjustment
 L005 108.0 MHz

<DECK SECTION>

6. Head Azimuth Adjustment
 Setting : • Test point : TTA320
 • Adjustment location :
 Head Azimuth Adjustment Screw
 Method : Play back the 10kHz signal of test tape and adjust Screw so that the output becomes maximum. Next perform REV PLAY mode.

ELECTRICAL ADJUSTMENT <K, EZ Model>



<TUNER SECTION>

1. AM IF Adjustment
L007 603kHz
Adjust the level at 603 kHz to MAX. by L007
2. MW VT Adjustment
Setting : • Test point : TP1 (VT)
• Adjustment location : L004
Method : Set to MW 1611 kHz and adjust L004 so that the test point becomes $5.6 V \pm 0.05 V$.
3. MW Tracking Adjustment
L003 (MW) 603 kHz
TC001 1404 kHz
4. LW VT Adjustment
Setting : • Test point : TP1 (VT)
• Adjustment location : L051
Method : Set to LW 288 kHz and adjust L051 so that the test point becomes $4.5 V \pm 0.05 V$.
5. LW Tracking Adjustment
L003 (LW) 153 MHz
TC051 288 kHz
6. FM VT Adjustment
Setting : • Test point : TP1 (VT)
• Adjustment location : L006
Method : Set to FM 108.0 MHz and adjust L006 so that the test point becomes $6.0 V \pm 0.05 V$.
7. FM Tracking Adjustment
L005 108.0 MHz

<DECK SECTION>

8. Head Azimuth Adjustment
Setting : • Test tape : TTA-320
• Test point : J201 (Phones jack)
• Adjustment location :
Head Azimuth Adjustment Screw
Method : Play back the 10kHz signal of test tape and adjust screw so that the output becomes maximum. Next perform REV PLAY mode.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : (THD 3%)	Less than 14 dB [at 87.5/98.0 MHz] Less than 15dB [at 108.0 MHz]
Signal to noise ratio : (Input - 54 dB)	More than 60 dB [at 98.0 MHz]
Distortion : (Input - 54dB)	Less than 2.0% [at 98.0 MHz]
Stereo separation :	More than 25 dB [at 98.0 MHz]
Intermediate frequency :	10.7 MHz

<AM (MW) SECTION>

Sensitivity : (S/N 10 dB)	Less than 52 dB [at 603 kHz] Less than 51 dB [at 999/1404 kHz]
Signal to noise ratio : (Input - 74 dB)	More than 35 dB [at 999 kHz]
Distortion : (Input - 74 dB)	Less than 2.0% [at 999 kHz]
Intermediate frequency :	450 kHz

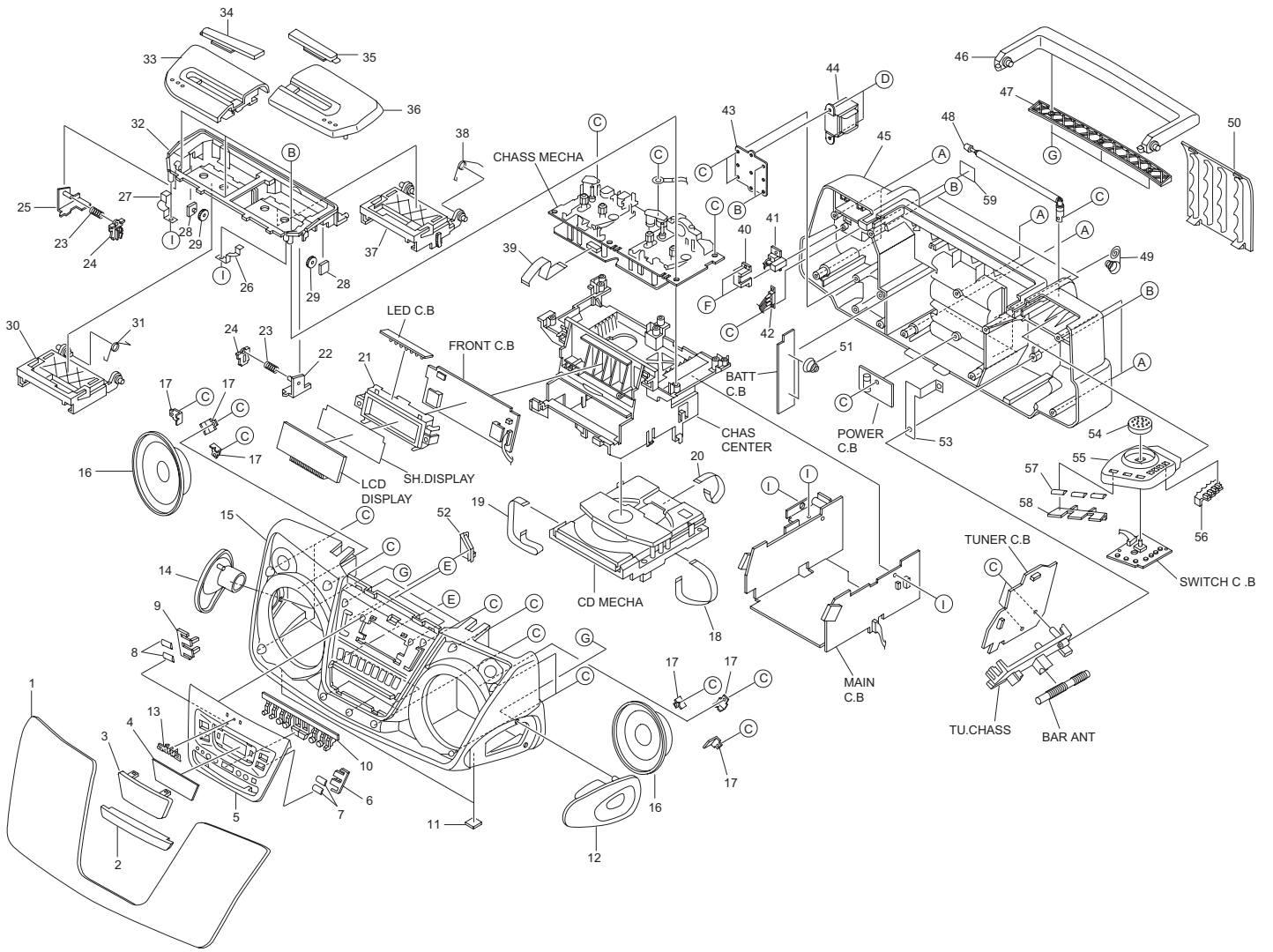
<LW SECTION> <EZ, K Model>

Sensitivity :	Less than 57 dB [at 153 kHz] Less than 56 dB [at 198/288 kHz]
Signal to noise ratio :	More than 35 dB [at 198 kHz]

<DECK SECTION>

Tape speed :	3000 Hz \pm 90 Hz
Wow & flutter :	Less than 0.35% (JIS RMS)
Take-up torque :	30 ~ 60 g-cm (FWD, PLAY)
EF & REW torque :	55 ~ 150 g-cm (FWD, REV)
Back tension :	1 ~ 7 g-cm
S/N ratio :	More than 38 dB (PB, AC, DC Vol.21) More than 36 dB (R/PB, SP OUT, AC)
Distortion :	Less than 3.0% (PB, DC) Less than 5.0% (R/PB, DC)
Noise level	Less than 35 mV (PB, AC, DC) Less than 55mV (R/PB, AC)
Erasing ratio	More than 40 dB (w/o Filter)

MECHANICAL EXPLODED VIEW 1/1



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".

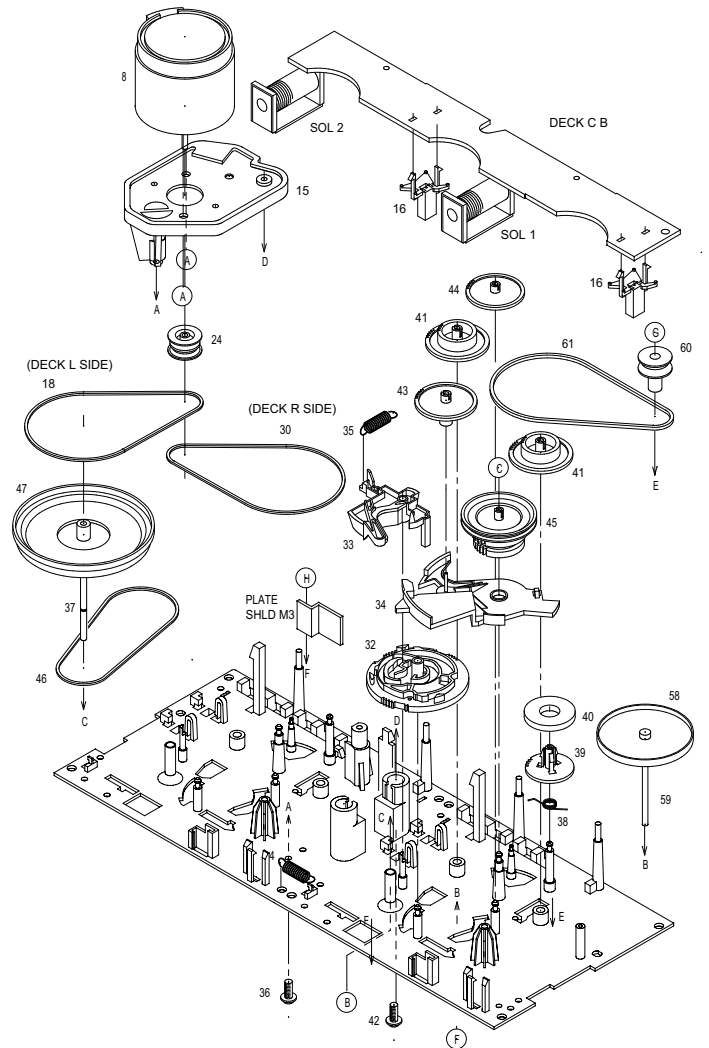
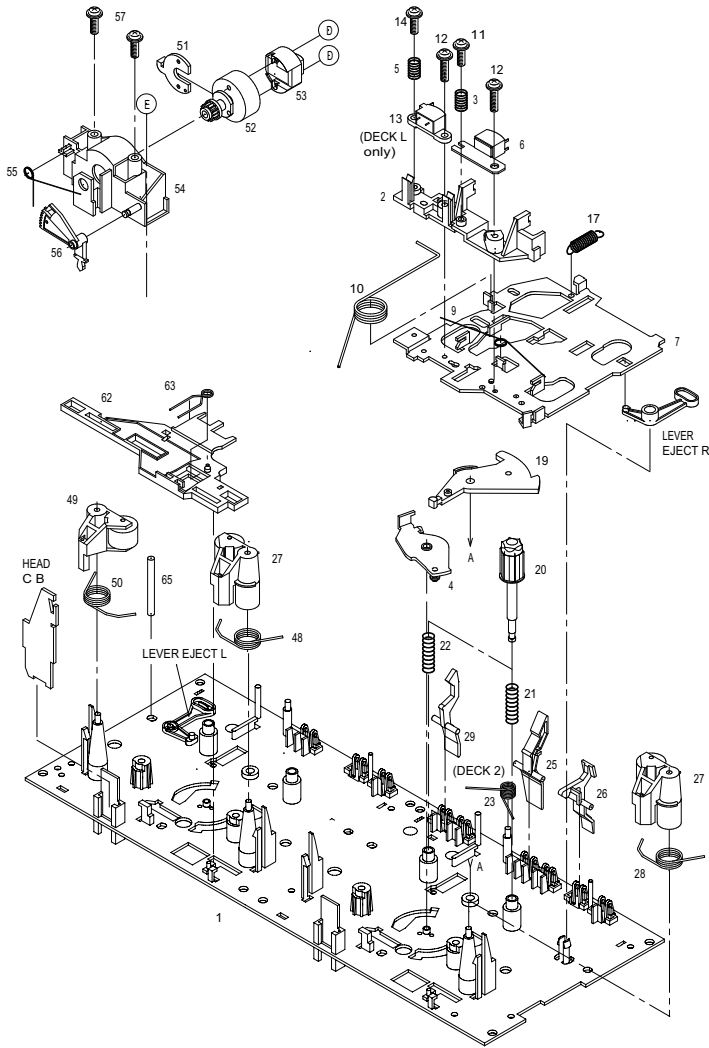
REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-CH1-038-010		NET,SPKR ASS'Y	36	8Z-CH1-006-010		LID,CASS R
2	8Z-CH1-014-010		PANEL,CD	37	8Z-CH1-004-010		BOX,CASS R
3	8Z-CH1-015-010		WINDOW,DISPLAY	38	88-CD4-214-010		SPR-T,CASS B
4	8Z-CH1-044-010		PLATE,DISPLAY EX	39	88-911-101-110		FF-CABLE,11P 1.25
5	8Z-CH1-041-010		PANEL,FR EX	40	87-A90-086-010		COVER,AC-SOCKET
6	8Z-CH1-210-010		BTN,FUNC BASE R	△	41	87-A60-178-010	JACK,AC E W/SW
7	8Z-CH1-017-010		BTN,FUNC	△	42	87-A91-302-010	SW,AC SL 2 2 2 SDKGA40100<HRJ<S>>
8	8Z-CH1-024-010		BTN,POWER	43	88-CD5-212-010		HLDR,TRANS
9	8Z-CH1-202-010		BTN,FUNC BASE L	△	44	88-CD5-647-010	PT,E<K<S>,EZ<S>>
10	8Z-CH1-019-010		BTN,CONTROL	△	44	88-CD5-648-010	PT,H<HRJ<S>>
11	86-CT9-223-010		CUSH,FOOT	45	8Z-CH1-002-010		CABI,REAR
12	8Z-CH1-026-010		PIPE,SPKR R	46	8Z-CH1-012-010		HANDL,ARM
13	86-CT9-040-010		BADGE,AIWA -	47	8Z-CH1-013-010		HANDL,GRIP
14	8Z-CH1-025-010		PIPE,SPKR L	48	86-CT4-616-010		ANT,ROD
15	8Z-CH1-001-010		CABI,FR	49	88-CD5-206-010		SPR-C,BATT LINK
16	88-CD5-603-010		SPKR,10 70HM	50	8Z-CH1-016-010		LID,BATT
17	88-CD5-211-010		HLDR,SPKR	51	88-CD5-207-010		SPR-C,BATT -
18	88-905-141-210		FF-CABLE, 5P 1.25	52	88-CD4-204-010		HLDR,JOINT
19	88-906-181-110		FF-CABLE,6P 1.25	53	8Z-CH1-212-010		HLDR,ANT 2
20	88-CD5-638-010		FF-CABLE, 16P 1.0 220MM	54	8Z-CH1-021-010		KNOB,RTRY VOL
21	8Z-CH1-203-010		HLDR,DISPLAY	55	8Z-CH1-042-010		CABI,TOP EX
22	8Z-CH1-205-010		HLDR,LOCK 2N R	56	8Z-CH1-018-010		BTN,TIMER
23	88-CD5-213-010		SPR-C,LOCK	57	8Z-CH1-020-010		BTN,EQ
24	8Z-NF5-229-010		PLATE,LOCK	58	8Z-CH1-201-010		BTN,EQ BASE
25	8Z-CH1-204-010		HLDR,LOCK 2N L	59	88-CD5-040-010		PLATE,COVER
26	8Z-CH1-209-010		SPR-P,CASS R	A	87-751-104-410		VT2+3-30
27	8Z-CH1-208-010		SPR-P,CASS L	B	87-B10-166-010		VT2+3-16 W/O
28	86-CT9-220-110		OIL-DMPR,BRACKET	C	87-261-097-410		V+3-12
29	86-CT9-225-010		OIL-DMPR,GEAR N	D	87-501-095-410		VF+3-8
30	8Z-CH1-003-010		BOX,CASS L	E	87-721-095-410		QT2+3-8GLD W/O SLOT
31	88-CD4-209-010		SPR-T,CASS A	F	87-352-075-210		VT2+2.6-10
32	8Z-CH1-009-010		CHAS,CASS	G	87-721-096-410		QT2+3-10 GLD
33	8Z-CH1-005-010		LID,CASS L	H	87-751-097-410		SCREW 3X12
34	8Z-CH1-007-010		WINDOW,CASS L	I	87-751-095-410		VT2+3-8 W/O
35	8Z-CH1-008-010		WINDOW,CASS R				

TAPE MECHANISM PARTS LIST 1/1

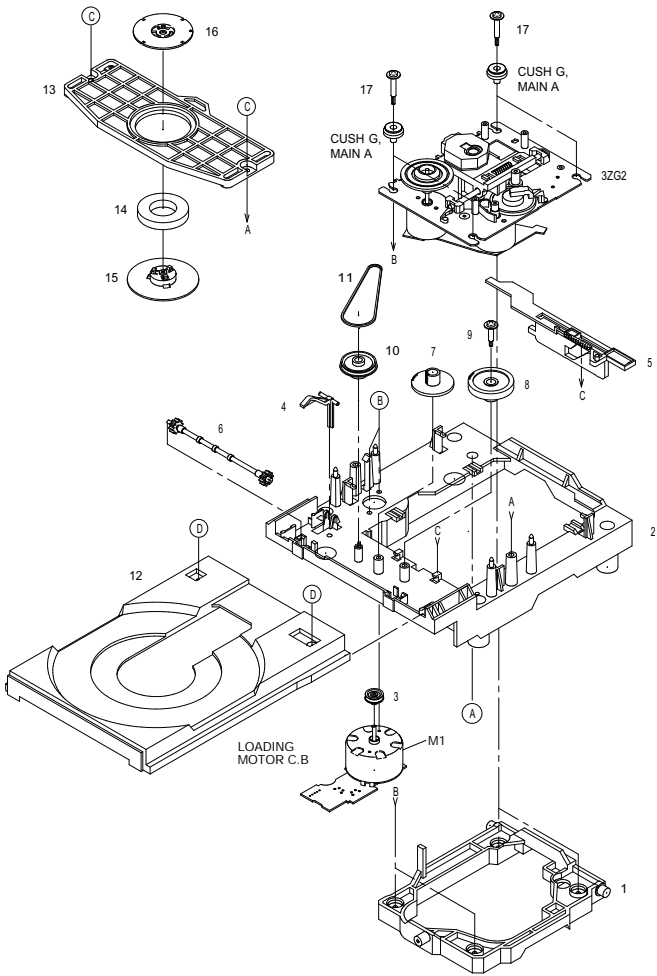
DESCRIPTIONで判断できない物は"REFERENCE NAME LIST"を参照してください。
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REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	86-ZM3-215-010		CHAS ASSY,RS	41	82-ZM1-216-319		GEAR, REEL
2	86-ZM3-202-010		BASE,HEAD S	42	86-ZM3-213-010		S-SCREW,HLDR, MOT 3
3	86-ZM3-205-010		SPR-C,RPH S	43	82-ZM1-225-219		GEAR,FR
4	82-ZM1-333-210		PLATE,LINK 2	44	82-ZM1-226-019		GEAR,REW
5	86-ZM3-206-010		SPR-C,EH S	45	82-ZM3-333-310		SLIP DISK ASSY 2
6	87-A90-403-019		HEAD,RPH MS15R	46	82-ZM1-338-010		BELT FR4
7	86-ZM3-201-010		CHAS,HEAD S (DECK L)	47	82-ZM1-349-019		FLY-WHL RW (DECK L)
7	82-ZM3-206-910		CHAS,HEAD (DECK R)	47	82-ZM3-338-010		FLY-WHL R3W (DECK R)
8	87-045-347-019		MOT,SHU2L 70 (M1)	48	82-ZM1-259-210		SPR-T,PINCH R
9	82-ZM1-269-219		SPR-T,BRG	49	82-ZM1-341-110		LVR ASSY,PINCH L2
10	82-ZM1-219-110		SPR-T, LINK	50	82-ZM1-258-210		SPR-T, PINCH L
11	86-ZM3-209-010		S-SCREW, ASIMUTHS	51	82-ZM1-314-110		PLATE,HEAD
12	86-ZM3-207-010		S-SCREW, RPH	52	82-ZM1-208-310		HLDR,HEAD
13	87-A90-404-019		HEAD,EH LE15B	53	87-A90-366-010		HEAD,PH YK50P-BF414
14	86-ZM3-208-010		S-SCREW, EH	54	82-ZM1-207-810		GUIDE TAPE
15	86-ZM3-203-010		HLDR, MOTS	55	82-ZM1-213-010		SPR-T, HEAD
16	82-ZM1-245-210		HLDR, IC	56	82-ZM1-210-110		GEAR, HT
17	82-ZM1-218-019		SPR-E, HB	57	86-ZM4-206-010		S-SCREW AZIMUTH L
18	86-ZM3-214-010		BELT, SUB RR	58	82-ZM1-348-010		FLY-WHL, LW
19	82-ZM1-222-219		LVR, PLAY	59	82-ZM1-236-019		CAPSTAN N 2-41.5
20	82-ZM1-217-419		REEL TABLE	60	82-ZM3-335-210		PULLEY, COUPLER M3
21	82-ZM1-244-519		SPR-C, BT	61	86-ZM1-206-010		BELT, MAIN L
22	82-ZM1-285-410		SPR-C, BT L	62	82-ZM1-266-110		LVR, DIR
23	82-ZM1-257-019		SPR-T, CAS	63	82-ZM1-214-010		SPR-T, DIR
24	82-ZM3-221-010		PULLEY, MOT 2M	64	82-ZM1-255-310		SPR-E, LVR DIR
25	82-ZM1-242-019		LVR, CAS	65	82-ZM3-339-010		SHAFT, COUPLER N3
26	82-ZM1-243-019		LVR, STOP	A	87-251-071-417		U+2.6-4
27	82-ZM1-344-119		LVR ASSY, PINCH	B	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
28	86-ZM3-204-010		SPR-T, PINCHDS	C	82-ZM3-334-010		PW,2.16-6-0.4
29	82-ZM1-240-119		LVR, REC (DECK 2)	D	80-ZM6-207-010		V+1.6-7
30	86-ZM3-210-010		BELT, RS	E	85-ZM3-202-010		S-SCREW TG
32	82-ZM3-305-119		GEAR, CAM M2	F	82-ZM1-288-010		SH,1.63-3.2-0.5 SLT
33	82-ZM1-227-319		LVR, TRIG	G	87-B10-043-010		W-P, 0.99-4-0.25 SLT
34	82-ZM3-306-110		LVR, FR M2	H	87-571-032-410		VIT+2-3
35	82-ZM1-265-119		SPR-E, TRIG				
36	87-761-073-419		VFT2+2.6-6 W/O SLOT				
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7				
38	82-ZM1-322-019		SPR-T, FR60				
39	82-ZM1-220-219		GEAR, IDLER				
40	82-ZM3-616-019		RING MAGNET 4				

TAPE MECHANISM EXPLODED VIEW 1/1



CD MECHANISM EXPLODED VIEW 1/2

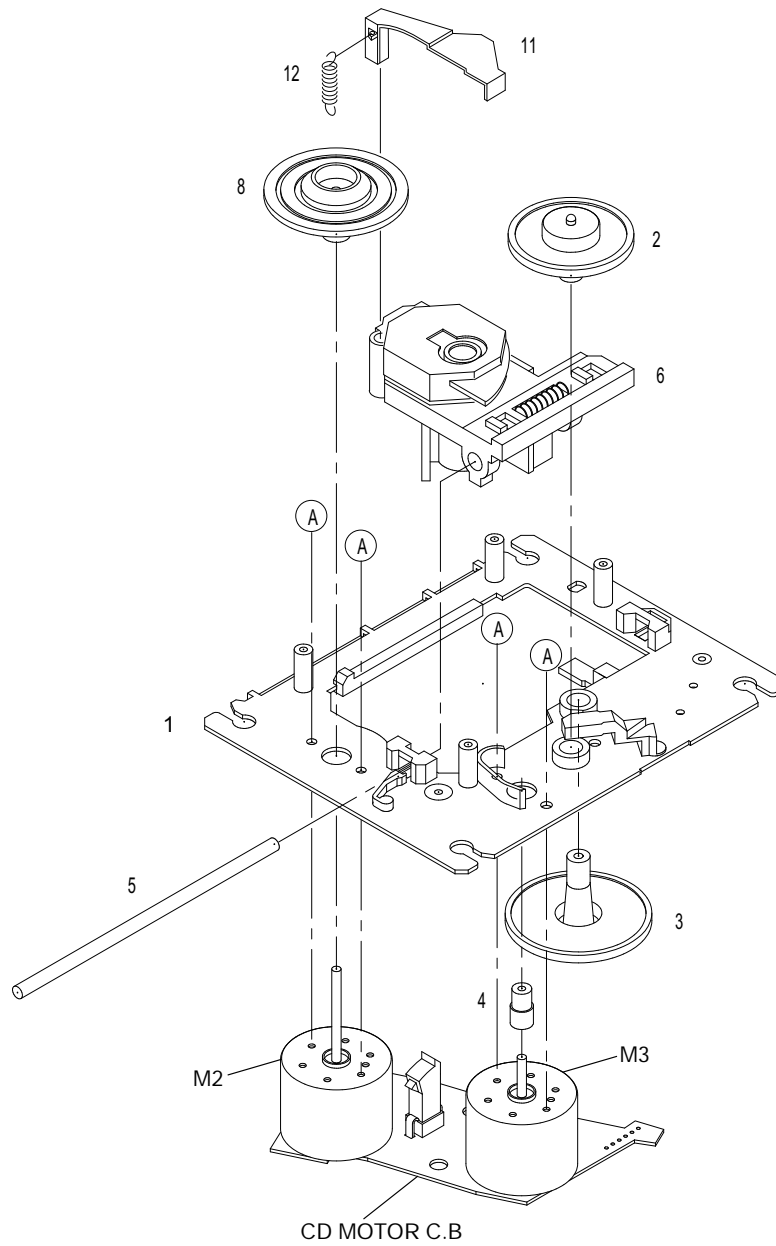


CD MECHANISM PARTS LIST 1/2

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REF NO	PART NO	KANRI NO	DESCRIPTION	REF NO	PART NO	KANRI NO	DESCRIPTION
1	83-2G3-224-310		HLD R, M2	16	83-2G3-211-010		PLATE, DISC
2	83-2G3-228-610		CHAS, L6	17	81-2G1-254-010		S-SCREW, MECH. HLD R
3	83-2G3-208-010		PULLEY, MOTOR	A	87-067-945-110		VFT2+3-12 (P10)
4	83-2G3-213-010		LVR, SW	B	87-251-071-110		U+2.6-4
5	83-2G3-209-610		CM, SLIDE	C	87-512-074-210		VFT2+2.6-8
6	83-2G3-207-010		GEAR, TRAY	D	87-352-075-210		VT2+2.6-10
7	83-2G3-204-210		GEAR, C				
8	83-2G3-205-010		GEAR, D				
9	83-2G3-217-010		S-SCREW, GEAR D				
10	83-2G3-220-210		GEAR, PULLEY 2				
11	83-2G3-214-010		BELT, L				
12	83-2G3-229-410		TRAY, CD 2				
13	83-2G3-210-110		HUB, CHECK				
14	83-2G3-602-010		RING, MAG				
15	83-2G3-212-010		CAP, DISC				

CD MECHANISM EXPLODED VIEW 2/2



CD MECHANISM PARTS LIST 2/2

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REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-210		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-253-010		SHAFT,SLIDE 5
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-227-210		TURN TABLE,C1
11	83-ZG2-245-410		LEVER,SHUTTER
12	83-ZG2-250-110		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3



サービス技術ニュース	
番号	連絡内容
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G- -	

アイワ株式会社 〒110 東京都台東区池之端1-2-11 ☎03 (3827) 3111 (代表)
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