

SERVICE MANUAL

COMPACT DISC
STEREO SYSTEM

BASIC CD MECHANISM : 3ZG-3 E3NC

SYSTEM	COMPACT DISC	SPEAKER	REMOTE CONTROLLER
XR-MG9	CX-LMG9	SX-LMG9	RC-BAT10

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" of XR-MG9 <U>, (S/M Code No. 09-016-448-0T1).

SPECIFICATIONS

MAIN UNIT CX-LMG9

TUNER	
FM tuning range	87.5 MHz to 108 MHz
FM usable sensitivity (IHF)	13.2 dBf
FM antenna terminals	75 ohms (unbalanced)
AM tuning range	530 kHz to 1710 kHz (10 kHz step) 531 kHz to 1602 kHz (9 kHz step)
AM usable sensitivity	350 μ V/m
AM antenna	Loop antenna
AMPLIFIER	
Power output	50 W + 50 W (40 Hz - 20 kHz, THD less than 1 %, 6 ohms) 62 W + 62 W (1 kHz, THD 10 %, 6 ohms)
Total harmonic distortion	0.15 % (5 W, 1 kHz, 6 ohms, DIN AUDIO)
Input	VIDEO/AUX IN: 500 mV
Outputs	SPEAKERS: 6 ohms or more PHONES: 32 ohms or more SUB WOOFER: 1.7 V DIGITAL OUT (OPTICAL) jack LINE OUT jack
CD PLAYER	
Laser	Semiconductor laser ($\lambda = 780$ nm)
D/A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.08 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

GENERAL

Power requirements	120 V AC, 60 Hz
Power consumption	60 W
Power consumption in standby mode	With ECO mode on: 1.0 W With ECO mode off: 12.0 W
Dimensions (W x H x D)	176.6 x 256 x 348.7 mm (7 X 10 ^{1/8} X 13 ^{3/4} in.)
Weight	4.9 kg (10 lbs 14 oz)

SPEAKER SYSTEM SX-LMG9

Speaker system	2 way, bass reflex (magnetic shielded)
Speaker units	Woofer: 120 mm (4 ^{7/8} in.) cone Tweeter: 25 mm (1 ^{1/16} in.) dome
Impedance	6 ohms
Dimensions (W x H x D)	160 x 256 x 230 mm (6 ^{3/8} X 10 ^{1/8} X 9 ^{1/8} in.)
Weight	3.2 kg (7 lbs 1 oz)

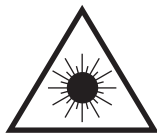
• Design and specifications are subject to change without notice.

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 mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle 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

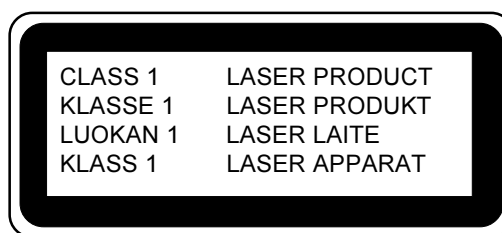
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.



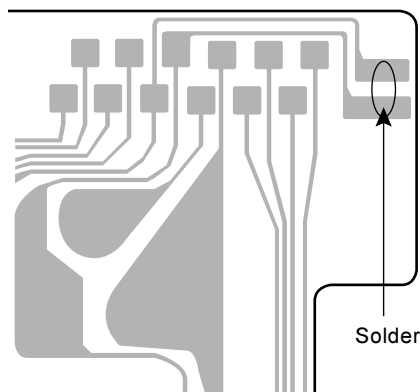
Precaution to replace Optical block

(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 right figure.

CD PICK-UP Assy PWB



ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC					87-A40-748-080		ZENER,UZ5.6BSA
	8B-CL4-601-030		C-IC,LC876564V-5W42				
	87-A21-695-010		IC,LA1845L	MAIN C.B			
	87-070-289-040		IC,BU 2092F				
	87-A21-928-010		IC,LC72131D-N	C2	87-010-785-080		C-CAP,U0.015-25BK
	87-020-903-010		IC,NJM7805FA	C3	87-016-083-080		C-CAP,S 0.15-16 RK
				C4	87-010-248-080		CAP, ELECT 220-10V
	87-001-642-010		IC,NJM78M12FA	C6	87-012-274-080		CHIP CAP,U 1000P-50B
	87-017-917-080		IC,BU4066BCF	C7	87-012-178-080		C-CAP,U 18P-50 CH
	87-A20-446-010		C-IC,LA9241ML				
	87-A21-985-040		C-IC,BA5983FM	C8	87-010-759-080		C-CAP,U, 0.1-25F
	87-A21-319-010		C-IC,LC78622NE	C9	87-012-184-080		C-CAP,U 33P-50 CH
				C10	87-010-759-080		C-CAP,U, 0.1-25F
	87-A21-968-030		C-IC,LC75824E	C11	87-012-274-080		CHIP CAP,U 1000P-50B
	87-A21-911-040		C-IC,M61515FP	C12	87-010-759-080		C-CAP,U, 0.1-25F
	87-A21-419-040		C-IC,NJM14558MD-TE2				
	87-A22-038-010		IC,SPS-447-1-E	C13	87-010-759-080		C-CAP,U, 0.1-25F
	87-017-825-010		IC,GP1F32T	C14	87-010-759-080		C-CAP,U, 0.1-25F
				C18	87-010-759-080		C-CAP,U, 0.1-25F
				C20	87-012-195-080		C-CAP,U 100P-50 J CH
TRANSISTOR				C21	87-010-379-080		CAP,E 22-16 M 11L SME
	89-503-602-080		C-FET,2SK360E	C22	87-010-379-080		CAP,E 22-16 M 11L SME
	87-A30-234-080		TR,CSC4115BC	C149	87-012-286-080		C-CAP,U 0.01-25 KB
	89-327-143-080		C-TR,2SC27140	C405	87-012-172-080		C-CAP,U 10P-50 D CH
	87-A30-547-040		C-TR,2SD1819AQRS	C406	87-012-172-080		C-CAP,U 10P-50 D CH
	87-A30-489-080		C-TR,KRA107S	C407	87-012-279-080		C-CAP,U 2700P-50 KB
				C408	87-012-279-080		C-CAP,U 2700P-50 KB
	87-A30-484-040		C-TR,KRA102S	C409	87-012-282-080		CAP, U 4700P-50
	87-A30-073-080		C-TR,RT1N141C	C414	87-012-286-080		CAP, U 0.01-25
	87-A30-087-080		C-FET,2SK2158	C415	87-012-286-080		CAP, U 0.01-25
	87-A30-490-040		C-TR,KRC107S	C416	87-010-788-080		C-CAP,U 0.033-2.5F
	87-A30-257-080		C-TR,2SD1306E				
				C417	87-010-788-080		C-CAP,U 0.033-2.5F
	87-026-609-080		TR,KTA1266GR	C418	87-010-068-040		CAP E 0.22-50 5L
	87-A30-635-040		C-TR,SBT5401F	C419	87-010-068-040		CAP E 0.22-50 5L
	89-322-405-680		TR,2SC2240 (GR/BL)	C420	87-010-068-040		CAP E 0.22-50 5L
	87-A30-636-040		C-TR,SBT5551F	C421	87-010-068-040		CAP E 0.22-50 5L
	87-A30-484-080		C-TR,KRA102S				
				C422	87-010-503-040		CAP,E 220-4 GAS
	87-A30-306-010		TR,2SB1677	C423	87-010-503-040		CAP,E 220-4 GAS
	87-A30-307-010		TR,2SD2619	C426	87-010-071-040		CAP,E 1-50 M 5L SRE
	87-A30-548-040		C-TR,2SB1218AQRS	C427	87-010-071-040		CAP,E 1-50 M 5L SRE
	87-A30-162-010		FET,2SK2937	C429	87-012-172-080		CAPACITOR CHIP U 10P CH
	87-A30-287-040		C-TR,DTC114TKA				
				C439	87-010-959-080		CHIP CAP,U 0.056-16F
	87-026-463-080		TR,2SA933S (0.3W)	C440	87-010-959-080		CHIP CAP,U 0.056-16F
	87-A30-218-080		TR,2SB1237Q	C441	87-A12-317-080		C-CAP,U 0.1-50 Z F
	87-A30-273-040		C-TR,DTC124EKA	C442	87-A12-317-080		C-CAP,U 0.1-50 Z F
	87-A30-515-080		TR,2SA19790/Y	C445	87-A12-390-080		C-CAP,S 1-25 Z F GRM40
	87-A30-520-080		TR,2SC5342Y				
				C446	87-010-264-040		CAP,E 100-10 M 5L SRE
	87-A30-427-040		C-TR,DTC114EKA	C447	87-010-073-040		CAP,E 3.3-50 5L
	87-A30-450-040		C-TR,DTA124XKA	C448	87-010-073-040		CAP,E 3.3-50 5L
	87-A30-436-040		C-TR,DTC144TKA	C451	87-010-073-040		CAP,E 3.3-50 5L
	89-327-125-080		CHIP TR,2SC2712GR	C452	87-010-073-040		CAP,E 3.3-50 5L
	87-A30-196-080		TR,2SC4115SRS				
				C453	87-012-274-080		CHIP CAP,U 1000P-50B
	89-111-625-080		C-TR,2SA1162 (0.15W)	C454	87-012-274-080		CHIP CAP,U 1000P-50B
	87-A30-455-040		C-TR,DTA144EKA	C455	87-012-287-080		C-CAP,U 0.015-25 F
	87-026-211-080		C-TR,DTA144EK	C457	87-010-301-080		C-CAP,220P-50 CH
	87-A30-494-080		TR,2SA1980G	C458	87-012-195-080		C-CAP,U 100P-50CH
				C470	87-012-284-080		CAP, U 6800P-50
DIODE				C471	87-012-284-080		CAP, U 6800P-50
	87-020-465-080		DIODE,1SS133 (110MA)	C473	87-010-759-080		C-CAP,U, 0.1-25F
	87-017-149-080		ZENER,HZS6A2L	C474	87-A11-049-080		C-CAP,U 1-6.3 KB
	87-A40-504-040		C-DIODE,KDS184	C480	87-010-549-040		CAP,E 47-6.3 M 5L SRE
	87-A40-505-040		C-DIODE,KDS181				
	87-070-022-010		DIODE,IN5402 (RECT)	C481	87-010-549-040		CAP,E 47-6.3 M 5L SRE
				C555	87-010-759-080		C-CAP,U, 0.1-25F
	87-A40-749-080		ZENER,UZ5.6BSB	C556	87-010-759-080		C-CAP,U, 0.1-25F
	87-A40-206-080		ZENER,UZ10BSC	C602	87-010-381-080		CAP, ELECT 330-16V
	87-070-274-080		DIODE,1N4003 SEM	C603	87-010-384-080		CAP, ELECT 100-25V
	87-A40-349-080		ZENER,MTZJ7.5C				
	87-A40-739-080		ZENER,UZ2.7BSA	C604	87-010-073-040		CAP,E 3.3-50 5L
				C605	87-012-286-080		CAP, U 0.01-25
				C606	87-010-408-080		CAP, ELECT 47-50V
	87-070-136-080		ZENER,MTZJ5.1B	C608	87-010-234-040		CAP,E 47-16 5L
	87-017-024-040		C-DIODE,DA204K	C610	87-010-385-080		CAP,E 220-25 M SME
	87-A40-454-080		DIODE,1N5393 GW				
	87-017-978-080		DIODE,1N4003				

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C611	87-012-286-080		CAP, U 0.01-25	C198	87-A10-730-080		CAP,E 1000-16 SMG
C612	87-A12-442-000		CAP,E 3300-25 M 85 IV LELON	C271	87-010-831-080		C-CAP,U,0.1-16F
C613	87-A11-007-080		CAP,M 0.047-50 J DE	CN101	87-A60-728-010		CONN,15P JL-R
C614	87-A12-381-000		CAP,E 2200-25 M 85 IV LELON	CN102	87-A60-717-010		CONN,3P JL-R
C615	87-A11-007-080		CAP,M 0.047-50 J DE	JR123	87-A10-596-080		C-CAP,S 100P-100 J CH
C616	87-A12-432-000		CAP,E 3300-50 M 85 IV LELON	JR124	87-A10-596-080		C-CAP,S 100P-100 J CH
C618	87-A12-432-000		CAP,E 3300-50 M 85 IV LELON	R129	87-A00-262-080		RES,M/F 0.15-2W J
C624	87-012-278-080		C-CAP,U 2200P-50 B	R130	87-A00-262-080		RES,M/F 0.15-2W J
C690	87-010-112-080		CAP,E 100-16 M 11L SME	R131	87-A00-262-080		RES,M/F 0.15-2W J
C691	87-010-112-080		CAP,E 100-16 M 11L SME	R132	87-A00-262-080		RES,M/F 0.15-2W J
C997	87-018-119-080		CAP,TC U 100P-50 KB	TH101	87-A91-042-080		C-THMS,100K 55001
C998	87-018-119-080		CAP,TC U 100P-50 KB	TH102	87-A91-042-080		C-THMS,100K 55001
CN1	87-A60-053-010		CONN,17P V 9604S-17C				
CN3	87-099-197-010		CONN, 9P 6216 V				
CN11	87-A60-691-010		CONN,3P V FE	CD C.B			
CN16	87-099-212-010		CONN,05P V BLK 6216	C200	87-010-759-080		C-CAP,U, 0.1-25F
CN401	87-A60-055-010		CONN,13P V 9604S-13C	C201	87-016-114-080		C-CAP,U0.01-25B
CN403	87-009-195-010		CONN,5P B5BEH	C202	87-010-067-040		CAP,E 0.1-50 5L
CN601	87-A60-740-010		CONN,15P JL-BT	C203	87-010-785-080		C-CAP,U0.015-25BK
CN602	87-A60-729-010		CONN,3P JL-BT	C204	87-010-068-040		CAP E 0.22-50 5L
CNA550	8B-CJ4-657-010		CONN ASSY,2P D-IN/OUT	C205	87-010-758-080		C-CAP,U 0.068-25F
CNA602	8B-CL4-652-010		CONN ASSY,9P P/SUPP	C206	87-012-268-080		C-CAP,U 330P-50 B
FB403	87-A90-896-080		F-BEAD, 035600STY7	C209	87-010-264-040		CAP,E 100-10 5L
FB404	87-A90-896-080		F-BEAD, 035600STY7	C210	87-A10-189-040		CAP,E 220-10
FB405	83-XM1-617-080		C-COIL,BK2125HM601	C212	87-010-788-080		C-CAP,U 0.033-2.5F
FB406	83-XM1-617-080		C-COIL,BK2125HM601	C213	87-016-114-080		C-CAP,U0.01-25B
FB407	83-XM1-617-080		C-COIL,BK2125HM601	C214	87-012-279-080		C-CAP,U 2700P-50 B
FB408	83-XM1-617-080		C-COIL,BK2125HM601	C218	87-012-274-080		CHIP CAP,U 1000P-50B
FB601	87-A50-189-080		C-COIL,S BLM21B272S	C219	87-010-553-040		CAP,E 47-16 GAS
FB602	87-A50-189-080		C-COIL,S BLM21B272S	C223	87-012-272-080		C-CAP,U 680P-50 B
FC1	88-917-161-110		FF-CABLE,17P 1.25 160MM	C224	87-010-787-080		CAP, U 0.022-25
FC401	88-913-101-110		FF-CABLE,13P 1.25 100MM	C226	87-010-071-040		CAP,E 1-50 M 5L SRE
J401	87-A60-217-010		TERMINAL,SPKR 4P	C227	87-A10-189-040		CAP,E 220-10
J402	87-099-801-010		JACK,PIN 1P BLK	C228	87-010-788-080		C-CAP,U 0.033-2.5F
J405	87-A60-926-010		JACK,PIN 4P R/W TC58-118	C229	87-010-264-040		CAP,E 100-10 5L
L1	87-A50-657-010		COIL,CLK 9.43MHZ (TOKO)7KLY	C230	87-010-068-080		CAP, ELECT 0.22-50
L402	87-A50-610-010		COIL,1UH K(MDEC)	C231	87-012-282-080		CAP, U 4700P-50
L403	87-A50-610-010		COIL,1UH K(MDEC)	C232	87-010-415-040		CAP,E 10-50 5L
WH602	87-A90-510-010		HLDL,WIRE 2.5-9P	C233	87-016-114-080		C-CAP,U0.01-25B
				C234	87-010-553-040		CAP,E 47-16 GAS
AMP C.B				C235	87-012-199-080		CAP 220P
C101	87-012-268-080		C-CAP,U 330P-50 KB	C236	87-010-759-080		C-CAP,U, 0.1-25F
C102	87-012-268-080		C-CAP,U 330P-50 KB	C237	87-010-374-080		CAP, ELECT 47-10V
C103	87-010-068-080		CAP, ELECT 0.22-50	C238	87-012-280-080		CAP, U 3300P-50
C104	87-010-068-080		CAP, ELECT 0.22-50	C239	87-012-199-080		CAP 220P
C105	87-012-277-080		C-CAP, U 1800P-50 B	C240	87-012-199-080		CAP 220P
C106	87-012-277-080		C-CAP, U 1800P-50 B	C241	87-010-071-080		CAP, ELECT 1-50 M 5L SRE
C107	87-A12-091-080		CAP,E 10-50 SMG	C242	87-012-270-080		CAP, U 470P-50
C108	87-010-415-040		CAP,E 10-50 M 5L SRE	C243	87-012-199-080		CAP 220P
C111	87-A12-077-080		CAP,E 33-35 SMG	C244	87-010-421-080		CAP, ELECT 4.7-50V
C112	87-A12-077-080		CAP,E 33-35 SMG	C245	87-016-114-080		C-CAP,U0.01-25B
C113	87-A10-596-080		C-CAP,S 100P-100 J CH	C246	87-010-260-080		CAP, ELECT 47-25V
C114	87-A10-596-080		C-CAP,S 100P-100 J CH	C247	87-010-759-080		C-CAP,U, 0.1-25F
C117	87-012-368-080		C-CAP,S 0.1-50 F	C249	87-016-114-080		C-CAP,U0.01-25B
C118	87-012-368-080		C-CAP,S 0.1-50 F	C250	87-012-162-080		C-CAP,U 1P-50 CK
C119	87-012-286-080		CAP, U 0.01-25	C251	87-012-274-080		CHIP CAP,U 1000P-50B
C120	87-012-286-080		CAP, U 0.01-25	C252	87-010-237-080		CAP, ELECT 1000-16V
C123	87-010-177-080		C-CAP,S 820P-50 SL	C254	87-012-176-080		CAP 15P
C124	87-010-177-080		C-CAP,S 820P-50 SL	C255	87-012-270-080		CAP, U 470P-50
C125	87-010-192-080		C-CAP,S 0.022-50 ZF	C256	87-010-759-080		C-CAP,U, 0.1-25F
C133	87-012-282-080		CAP, U 4700P-50	C257	87-010-221-080		CAP, ELECT 470-10V
C181	87-010-831-080		C-CAP,U,0.1-16F	C258	87-010-421-080		CAP, ELECT 4.7-50V
C182	87-010-759-080		C-CAP,U, 0.1-25F	C259	87-012-182-080		C-CAP,U 27P-50 CH
C183	87-010-831-080		C-CAP,U,0.1-16F	C260	87-010-759-080		C-CAP,U, 0.1-25F
C184	87-010-831-080		C-CAP,U,0.1-16F	C261	87-010-264-040		CAP,E 100-10 5L
C186	87-010-831-080		C-CAP,U,0.1-16F	C262	87-010-759-080		C-CAP,U, 0.1-25F
C187	87-010-405-040		CAP,E 10-50 M 11L SME	C263	87-010-759-080		C-CAP,U, 0.1-25F
C188	87-010-405-040		CAP,E 10-50 M 11L SME	C264	87-012-199-080		CAP 220P
C195	87-010-221-080		CAP, ELECT 470-10V	C266	87-012-197-080		C-CAP,U 150P-50 CH
				C267	87-010-264-040		CAP,E 100-10 5L

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C271	87-010-759-080		C-CAP,U, 0.1-25F	S312	87-A90-095-080		SW,TACT EVQ11G04M
C273	87-010-371-080		CAP, ELECT 470-6.3V	S313	87-A90-095-080		SW,TACT EVQ11G04M
C275	87-010-421-040		CAP,E 4.7-50 5L	S314	87-A90-095-080		SW,TACT EVQ11G04M
C276	87-010-759-080		C-CAP,U, 0.1-25F	S320	87-A90-095-080		SW,TACT EVQ11G04M
C277	87-012-182-080		C-CAP,U 27P-50 CH	S321	87-A90-095-080		SW,TACT EVQ11G04M
C278	87-012-182-080		C-CAP,U 27P-50 CH	S322	87-A90-095-080		SW,TACT EVQ11G04M
C279	87-016-114-080		C-CAP,U0.01-25B	S323	87-A90-095-080		SW,TACT EVQ11G04M
C280	87-010-759-080		C-CAP,U, 0.1-25F				
C281	87-016-114-080		C-CAP,U0.01-25B				
C282	87-010-264-040		CAP,E 100-10 5L				
C283	87-010-495-040		CAP,E 2.2-50 GAS	C772	87-012-286-080		CAP, U 0.01-25
C284	87-010-495-040		CAP,E 2.2-50 GAS	C784	87-012-286-080		CAP, U 0.01-25
C285	87-012-195-080		C-CAP,U 100P-50CH	C785	87-012-286-080		CAP, U 0.01-25
C286	87-012-195-080		C-CAP,U 100P-50CH	C786	87-010-787-080		CAP, U 0.022-25 KB
C287	87-012-195-080		C-CAP,U 100P-50CH	C788	87-012-167-080		C-CAP,U 5P-50 CH
C288	87-012-195-080		C-CAP,U 100P-50CH	C789	87-010-787-080		CAP, U 0.022-25 KB
C289	87-012-195-080		C-CAP,U 100P-50CH	C790	87-010-787-080		CAP, U 0.022-25 KB
C290	87-012-277-080		C-CAP, U 1800P-50 B	C791	87-010-831-080		C-CAP,U 0.1-16 Z F
C291	87-012-277-080		C-CAP, U 1800P-50 B	C792	87-012-286-080		CAP, U 0.01-25
C292	87-012-195-080		C-CAP,U 100P-50CH	C793	87-A11-056-080		C-CAP,U 1-10 Z F
C293	87-010-549-040		CAP,E 47-6.3 GAS	C795	87-012-286-080		CAP, U 0.01-25
C300	87-016-114-080		C-CAP,U 0.01-25 J B	C799	87-010-982-040		CAP,E 33-25 GAS
C301	87-016-114-080		C-CAP,U 0.01-25 J B	C801	87-A11-056-080		C-CAP,U 1-10 Z F
C330	87-010-759-080		C-CAP,U 0.1-25 ZF	C802	87-010-829-080		CAP, U 0.047-16 Z F
C904	87-016-114-080		C-CAP,U 0.01-25 J B	C804	87-010-555-040		CAP,E 100-10 GAS
C999	87-018-131-080		CAP,TC U 1000P-50 KB	C807	87-A10-463-080		C-CAP,U 0.47-10 Z F
CN200	87-099-199-010		CONN,06P H BLK 6216	C808	87-A11-056-080		C-CAP,U 1-10 Z F
CN201	87-A60-429-010		CONN,16P H TOC-A	C809	87-A11-056-080		C-CAP,U 1-10 Z F
CN202	87-099-210-010		CONN,05P H BLK 6216	C810	87-010-831-080		C-CAP,U 0.1-16 Z F
CN203	87-A60-619-010		CONN,2P V 2MM JMT	C814	87-012-286-080		CAP, U 0.01-25
CN204	87-A60-053-010		CONN,17P V 9604S-17C	C815	87-A10-463-080		C-CAP,U 0.47-10 Z F
FC200	88-906-171-110		FF-CABLE,6P 1.25	C816	87-A10-463-080		C-CAP,U 0.47-10 Z F
FC201	8B-CJ4-656-010		FF-CABLE,16P 1.0 240MM	C821	87-A11-063-080		C-CAP,S 4.7-10 Z F
FC202	88-905-291-110		FF-CABLE,5P 1.25 290	C823	87-012-273-080		C-CAP,U 820P-50 KB
JW217	87-A90-896-080		F-BEAD,035600STY7	C824	87-A11-063-080		C-CAP,S 4.7-10 Z F
L201	87-003-102-080		COIL, 10UH	C825	87-A11-317-080		C-CAP,U 0.068U-16 K B
L202	87-003-146-080		COIL,15UH LAL02	C831	87-010-552-040		CAP,E 22-16 GAS
L205	87-003-152-080		COIL, 100UH	C836	87-012-286-080		CAP, U 0.01-25
L207	87-003-152-080		COIL, 100UH	C842	87-012-286-080		CAP, U 0.01-25
R300	87-A50-189-080		C-COIL,S BLM21B272S	C844	87-012-286-080		C-CAP,U 0.01-25
SFR201	87-024-437-080		SFR100K,RH063EC	C850	87-A11-056-080		C-CAP,U 1-10 Z F
X201	87-A70-046-010		VIB,XTAL 16.934MHZ	C851	87-012-286-080		CAP, U 0.01-25
				C852	87-012-286-080		CAP, U 0.01-25
				C853	87-012-286-080		CAP, U 0.01-25
				C858	87-010-831-080		C-CAP,U 0.1-16F
FRONT C.B							
C301	87-010-829-080		CAP, U 0.047-16	C860	87-012-286-080		CAP, U 0.01-25
C302	87-010-829-080		CAP, U 0.047-16	C902	87-012-167-080		C-CAP,U 5P-50 C CH
C303	87-012-195-080		C-CAP,U 100P-50CH	C908	87-012-176-080		C-CAP,U 15P-50 J CH
C304	87-012-286-080		CAP, U 0.01-25	C909	87-012-274-080		C-CAP,U 1000P-50 KB
C305	87-010-415-040		CAP,E 10-50 5L	C911	87-012-170-080		C-CAP,U 8P-50 D CH
CN301	87-A60-078-010		CONN,09P H 9604S-09F	C912	87-012-195-080		C-CAP,U 100P-50CH
FC301	88-909-201-110		FF-CABLE,9P 1.25	C913	86-ZA1-616-080		C-CAP,U 0.01-50 K B (MUR)
LCD301	8B-CL4-604-010		LCD,BCL-4	C914	86-ZA1-616-080		C-CAP,U 0.01-50 K B (MUR)
LED301	87-A92-217-010		LED,SELU1910CXM-LF38 ORN	C915	86-ZA1-616-080		C-CAP,U 0.01-50 K B (MUR)
LED302	87-A92-217-010		LED,SELU1910CXM-LF38 ORN	C918	87-012-164-080		C-CAP,U 2P-50 C CH
LED303	87-A92-217-010		LED,SELU1910CXM-LF38 ORN	C920	87-012-180-080		C-CAP,U 22P-50 J CH
LED304	87-A92-217-010		LED,SELU1910CXM-LF38 ORN	C921	87-012-186-080		C-CAP,U 39P-50 J CH
				C922	87-012-174-080		C-CAP,U 12P-50 J CH
				C923	87-012-270-080		C-CAP,U 470P-50 KB
KEY C.B				C924	87-012-174-080		C-CAP,U 12P-50 J CH
CN320	87-A60-082-010		CONN,05P H 9604S-05F	C927	87-012-195-080		C-CAP,U 100P-50CH
FC320	88-905-241-110		FF-CABLE,5P 1.25 240MM	C961	87-012-170-080		C-CAP,U 8P-50 D CH
LED101	87-A40-317-080		LED,SLR-342VCT31 RED	C963	87-010-831-080		C-CAP,U,0.1-16F
S301	87-A90-095-080		SW,TACT EVQ11G04M	C971	87-010-381-080		CAP, ELECT 330-16V
S303	87-A90-095-080		SW,TACT EVQ11G04M	C972	87-A11-063-080		C-CAP,S 4.7-10 Z F
S306	87-A90-095-080		SW,TACT EVQ11G04M	C973	87-012-286-080		CAP, U 0.01-25
S307	87-A90-095-080		SW,TACT EVQ11G04M	C974	87-012-286-080		CAP, U 0.01-25
S308	87-A90-095-080		SW,TACT EVQ11G04M	C976	87-010-831-080		C-CAP,U,0.1-16F
S310	87-A90-095-080		SW,TACT EVQ11G04M	C979	87-012-195-080		C-CAP,U 100P-50CH
S311	87-A90-095-080		SW,TACT EVQ11G04M	C981	87-010-553-040		CAP,E 47-16 GAS

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C982	87-010-831-080		C-CAP,U,0.1-16F	C264	87-010-759-080		C-CAP,U, 0.1-25F
C983	87-A11-132-080		CAP,TC U 0.01-50 K B	C265	87-010-759-080		C-CAP,U, 0.1-25F
C984	87-012-286-080		CAP, U 0.01-25	C266	87-010-759-080		C-CAP,U, 0.1-25F
C985	87-012-195-080		C-CAP,U 100P-50CH	C267	87-010-759-080		C-CAP,U, 0.1-25F
C987	87-012-286-080		CAP, U 0.01-25	C268	87-010-759-080		C-CAP,U, 0.1-25F
C990	87-012-195-080		C-CAP,U 100P-50CH	CN250	87-A61-110-010		CONN,9P V TID-A
C991	87-012-176-080		C-CAP,U 15P-50 J CH	△ PR250	87-A91-965-080		FUSE,2.5A 125V F 20N
C992	87-012-176-080		C-CAP,U 15P-50 J CH	△ PR251	87-A91-970-080		FUSE,5A 125V F 20N
C993	87-012-274-080		CHIP CAP,U 1000P-50B	△ PR252	87-A91-970-080		FUSE,5A 125V F 20N
C994	87-012-195-080		C-CAP,U 100P-50CH	△ PR253	87-A91-969-080		FUSE,4A 125V F 20N
C995	87-012-274-080		CHIP CAP,U 1000P-50B	△ PR254	87-A91-969-080		FUSE,4A 125V F 20N
C996	87-012-195-080		C-CAP,U 100P-50CH	△ PT250	8B-CLR-607-010		PT,U BCL-R 50
C997	87-010-831-080		C-CAP,U,0.1-16F	△ PT251	8B-NF9-661-010		PT,SUB BNF U (TAM)
C998	87-010-553-040		CAP,E 47-16 GAS	△ RY251	87-A90-976-010		RELAY,AC12V SDT-S-112LMR
C999	87-012-286-080		CAP, U 0.01-25	△ T250	87-A60-317-010		TERMINAL, 1P MSC
CF831	87-008-261-010		FLTR,CF SFE10.7MA5	△ T251	87-A60-317-010		TERMINAL, 1P MSC
CF832	87-008-261-010		FLTR,CF SFE10.7MA5				
CN992	87-099-015-010		CONN,13P V BLK 6216				
D902	87-A40-916-040		C-VARI-CAP,HVC 202A	HP C.B			
D903	87-A40-916-040		C-VARI-CAP,HVC 202A				
J832	87-A61-535-010		TERMINAL,ANT 2P HSP-302V	C520	87-012-274-080		CHIP CAP,U 1000P-50B
J940	87-A60-633-010		CONN,2P H 2.5MM JMT	C521	87-010-560-040		CAP,E 10-50 M 5L MA
L801	87-A50-694-010		COIL,FM-DET 2 (COILS)	CN540	87-A60-815-010		CONN,3P H FE-ST-VK-N
L802	87-A91-551-010		FLTR,PCFJZH-450 L(TOK)	CNA402	8B-CJ4-654-010		CONN ASSY,5P H/P
L811	87-005-847-080		COIL,2.2UH (CECS)	FC540	88-903-301-110		FF-CABLE,3P 1.25 300MM
L832	87-005-847-080		COIL,2.2UH K (CECS)	J407	87-A60-420-010		JACK,3.5 ST (MSC)
L903	88-ZA1-602-110		COIL,FM-RF-U2 2G				
L904	88-ZA1-601-010		COIL,FM-RF-U1 2G	CD-DRIVE C.B			
L906	87-005-847-080		COIL,2.2UH K (CECS)				
L907	8A-NEC-611-010		COIL,FM OSC U 2G	CON3	87-A60-086-010		CONN,6P H 6216
L908	88-ZA1-624-010		COIL,FM IFT 7-6.2 (COILS)	M20	87-045-358-010		MOT,RF-310TA 43
L951	8A-NF8-667-010		COIL,AM PACK 4(TOK)	M21	87-045-363-010		MOT,MDN4RA3ETA1
R790	87-012-286-080		CAP, U 0.01-25	SW1	87-A90-042-010		SW,LEAF MSW-17310MVPO
R902	87-012-166-080		C-CAP,U 4P-50 C CH				
X991	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309	CD-LOAD C.B			
PT C.B				CON6	87-099-210-010		CONN,5P H BLK 6216
C251	87-010-387-080		CAP,E 470-25 SME	M1	87-045-305-010		MOTOR,RF-500TB
C254	87-A10-479-080		CAP,CER 2200P-250 M E KH	SW1	87-036-110-010		SW, MICRO SPPB62
C256	87-A12-317-080		C-CAP,U 0.1-50 Z F	SW2	87-036-110-010		SW, MICRO SPPB62
C257	87-A12-317-080		C-CAP,U 0.1-50 Z F				
C258	87-A12-317-080		C-CAP,U 0.1-50 Z F				
C259	87-A12-317-080		C-CAP,U 0.1-50 Z F				
C260	87-015-997-010		CAP, ELECT 2200UF-16V				
C261	87-010-759-080		C-CAP,U, 0.1-25F				
C262	87-010-759-080		C-CAP,U, 0.1-25F				
C263	87-010-759-080		C-CAP,U, 0.1-25F				

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



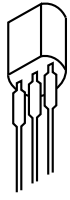
A
抵抗部品コード
Resistor Code

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



E C B

KTA1266GR



E C B

2SA1979O/Y
2SA1980G
2SC2240(GR/BL)
2SC5342Y



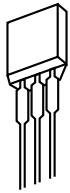
B C E

2SB1677
2SD2619



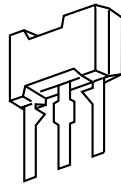
E C B

CSC4115BC



E C B

2SA933S
2SC4115SRS



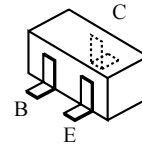
E C B

2SB1237Q

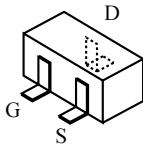


G D S

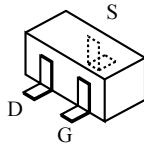
2SK2937



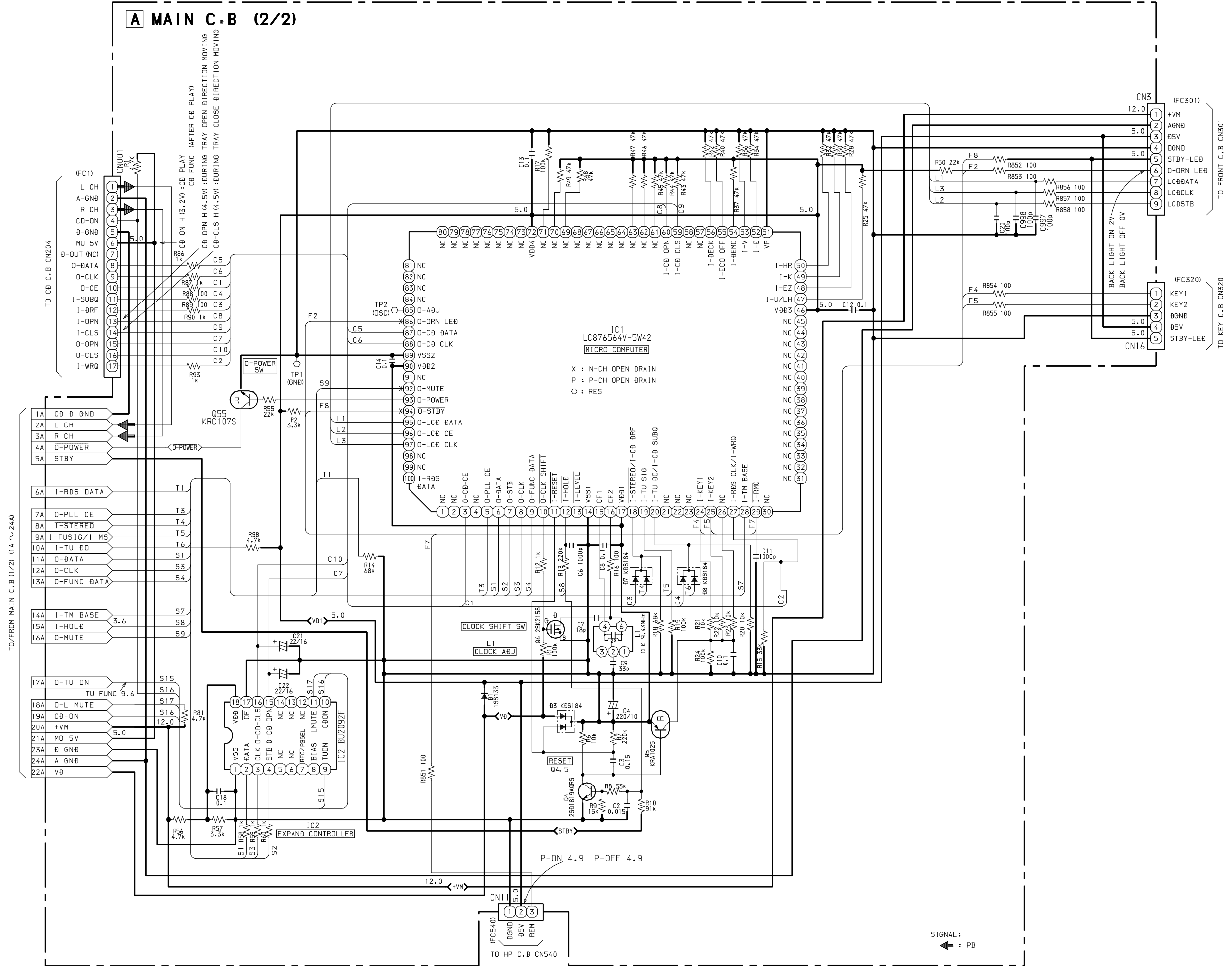
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2SC2712GR
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2SD1306E
2SD1819AQRS
DTA124XKA
DTA144EK
DTA144EKA
DTC114TKA
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DTC144TKA
KRA102S
KRA107S
KRC107S
RT1N141C
SBT5401F
SBT5551F



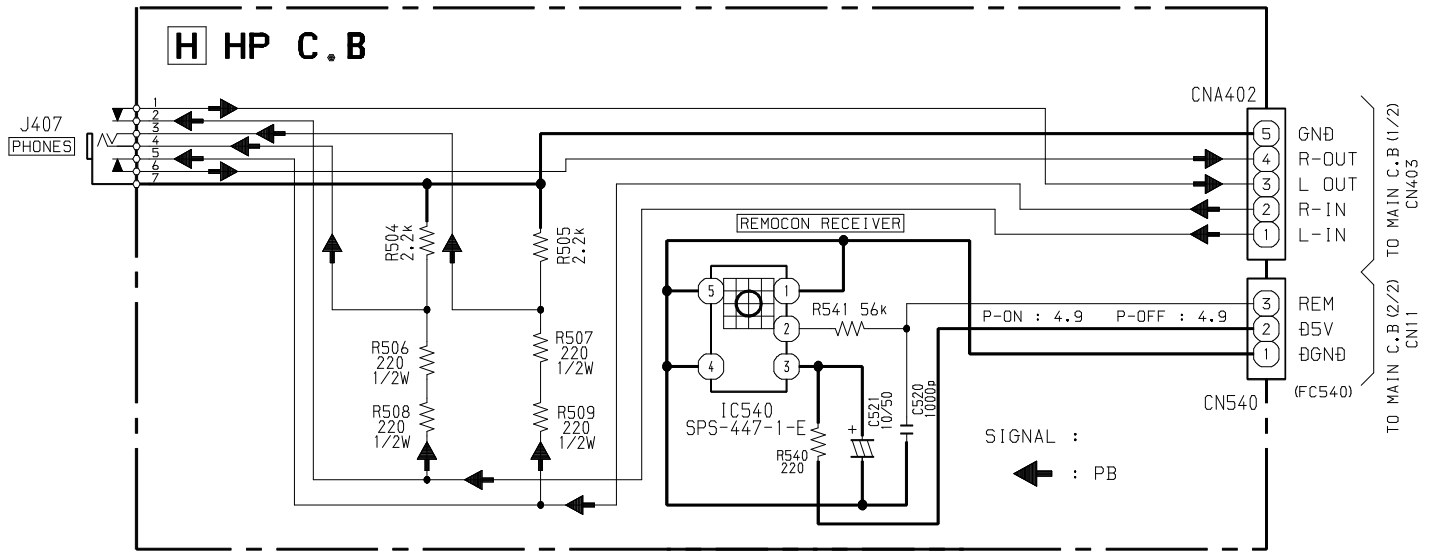
2SK2158



2SK360E



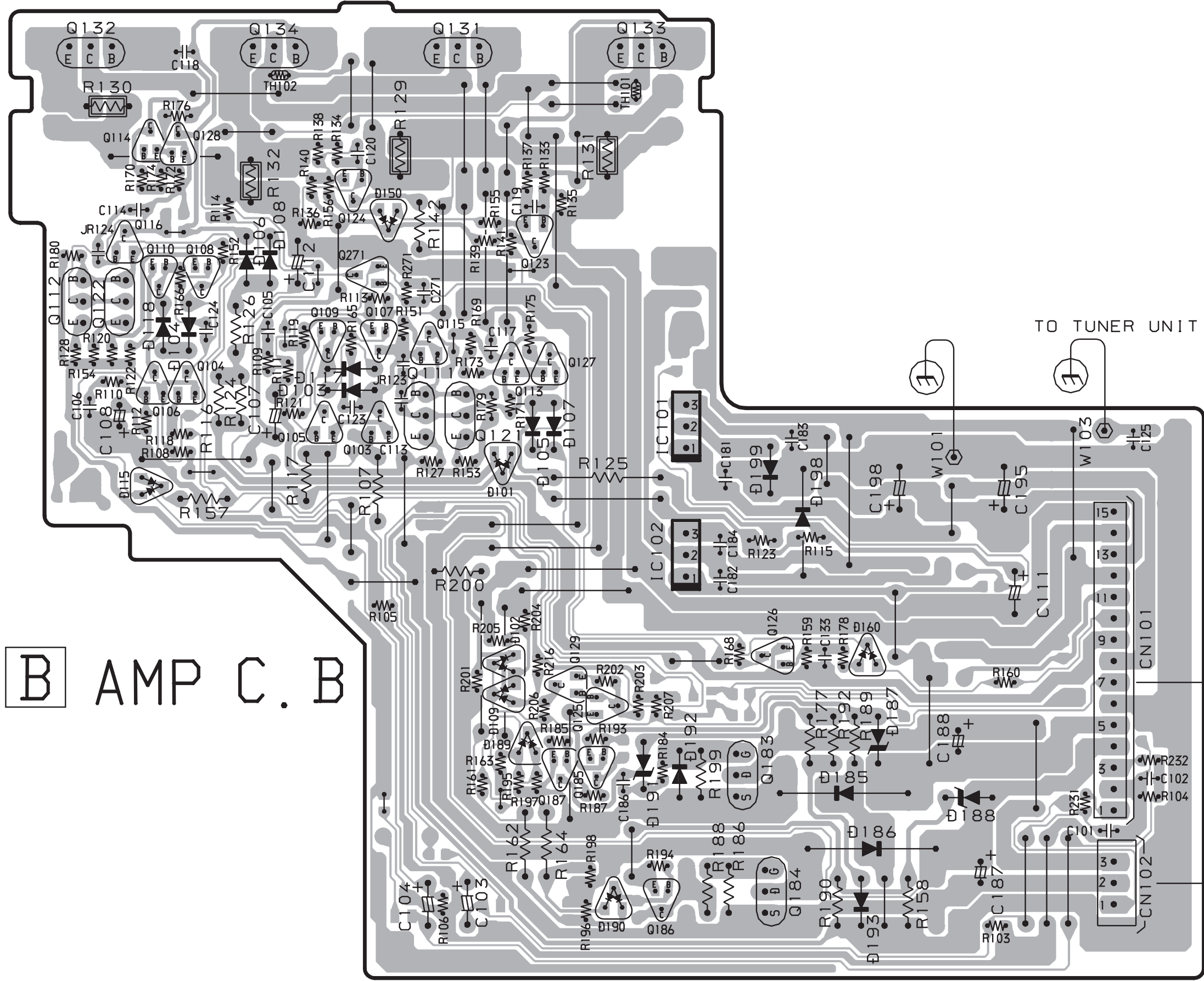
SCHEMATIC DIAGRAM - 3 (HP)



32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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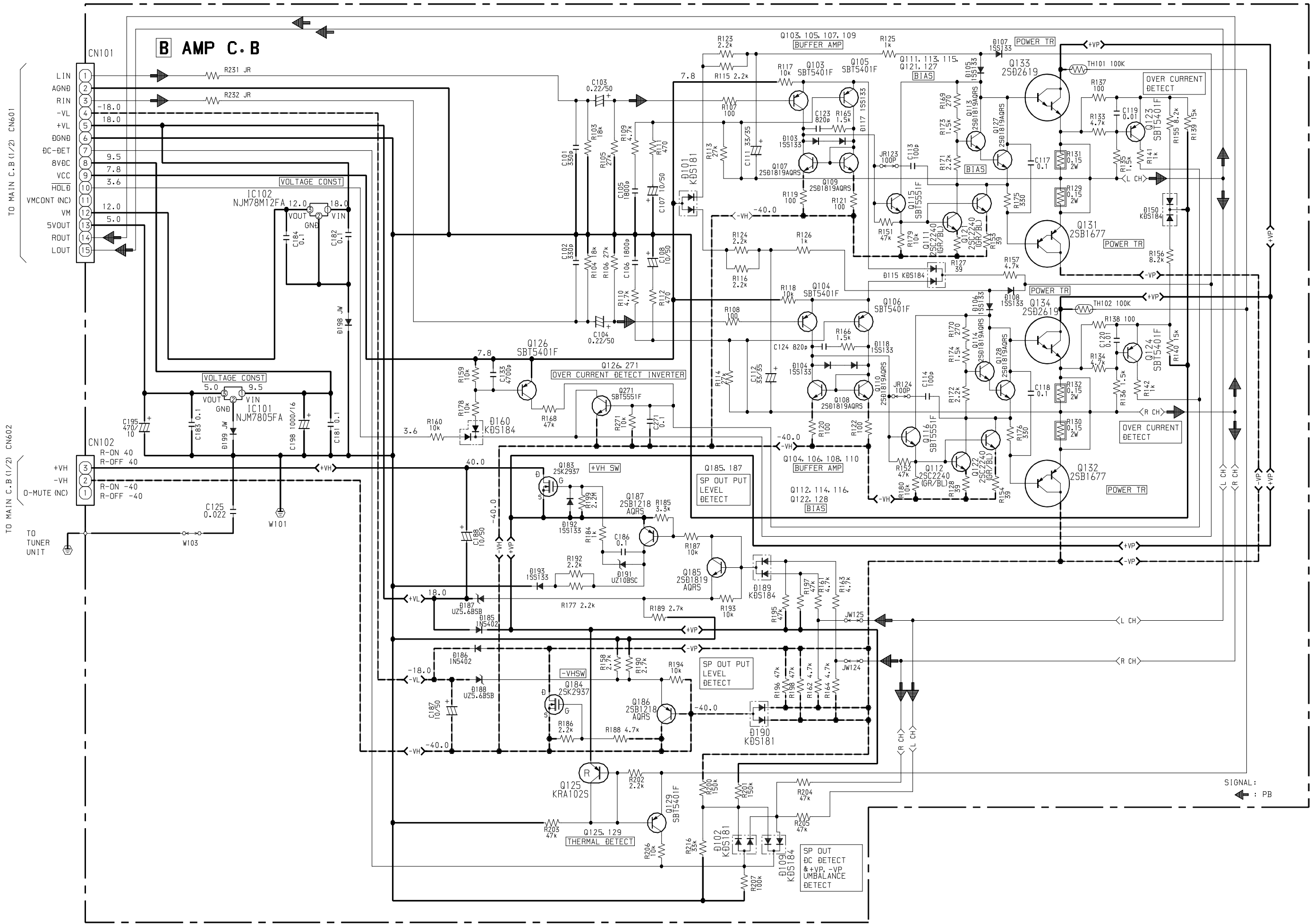
B AMP C.B

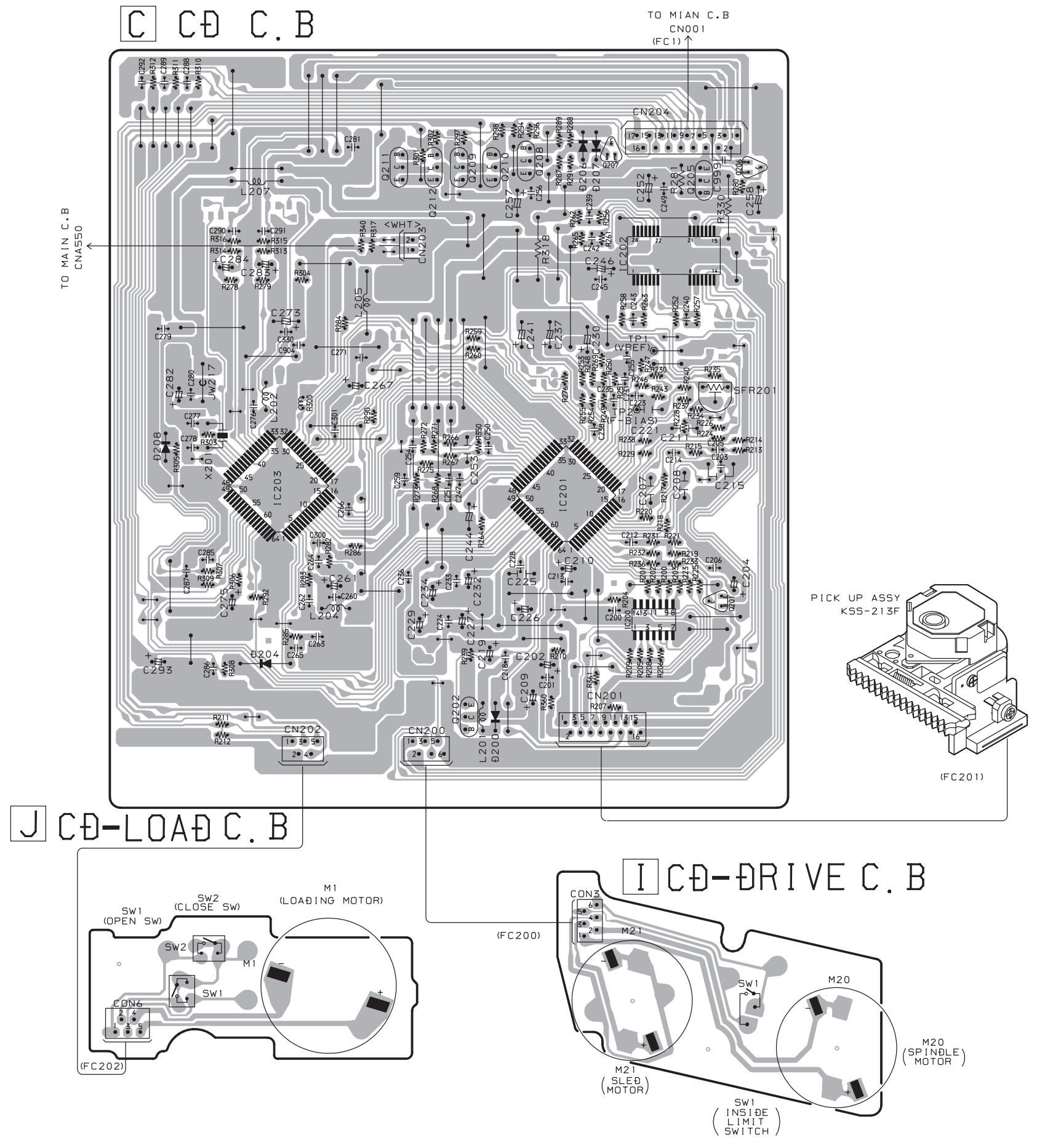


TO MAIN C.B
CN601

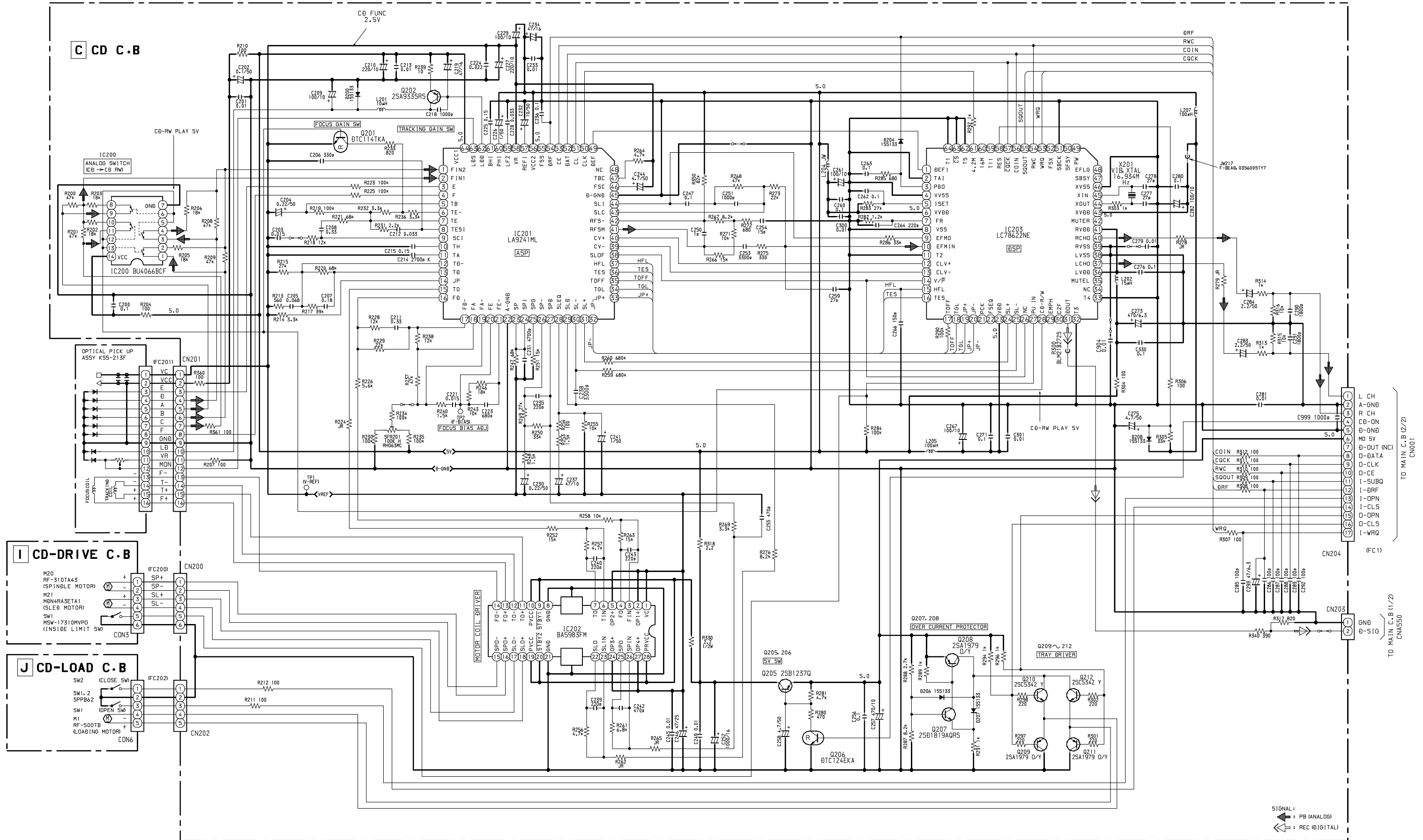
TO MAIN C.B
CN602

SCHEMATIC DIAGRAM - 4 (AMP)

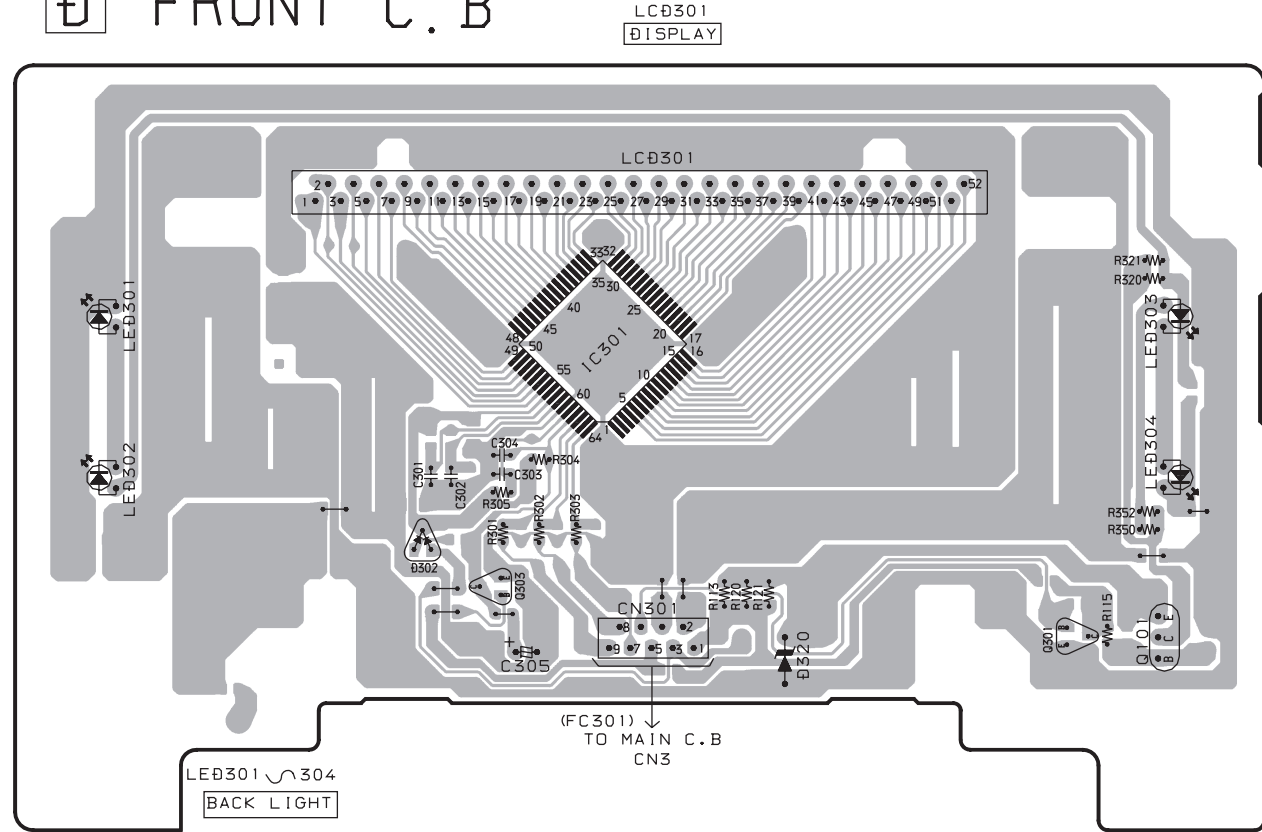




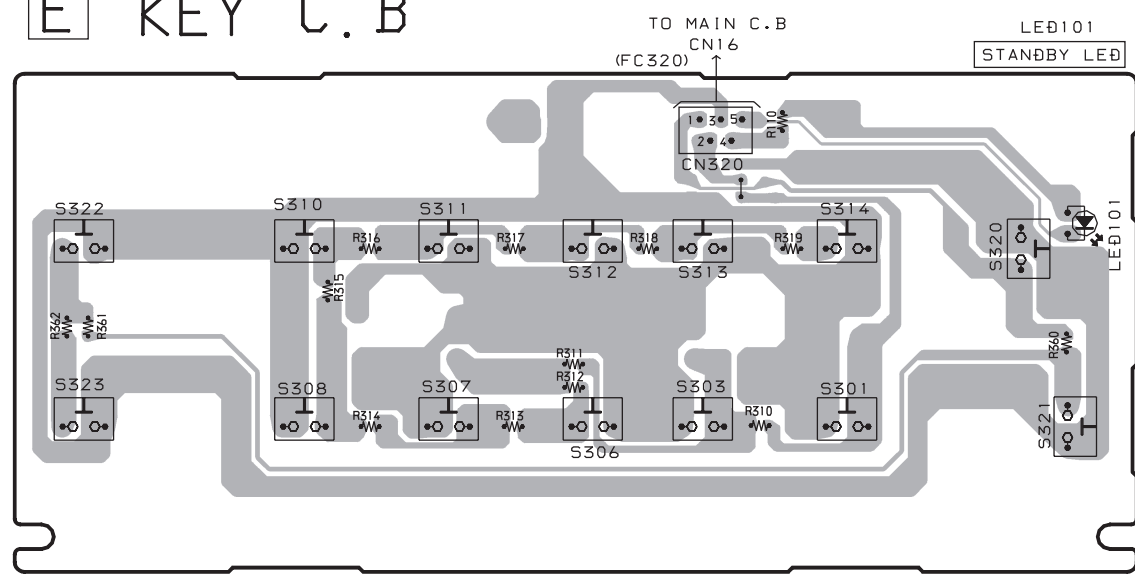
SCHEMATIC DIAGRAM - 5 (CD / CD - DRIVE / CD - LOAD)



D FRONT C.B

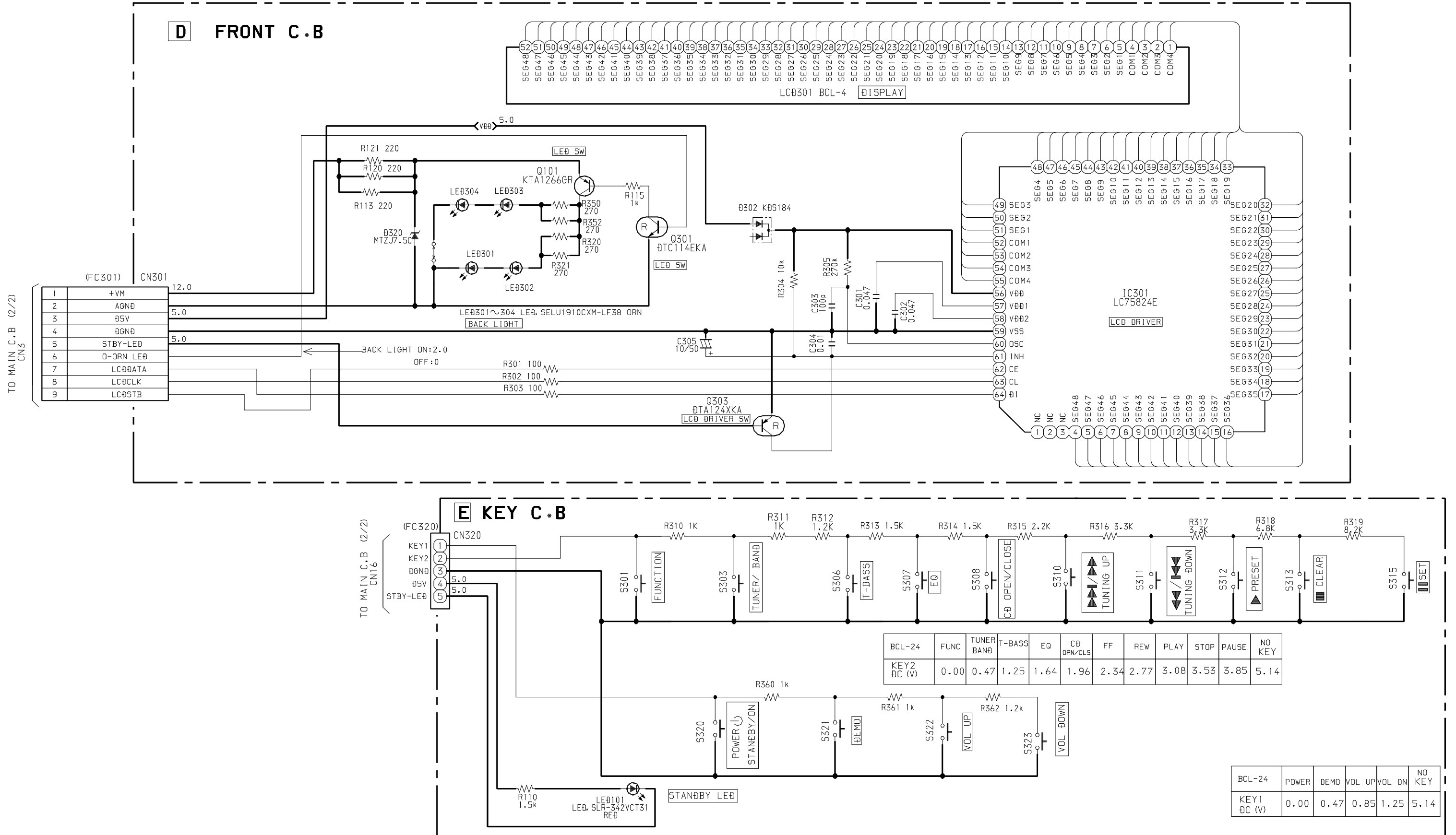


E KEY C.B

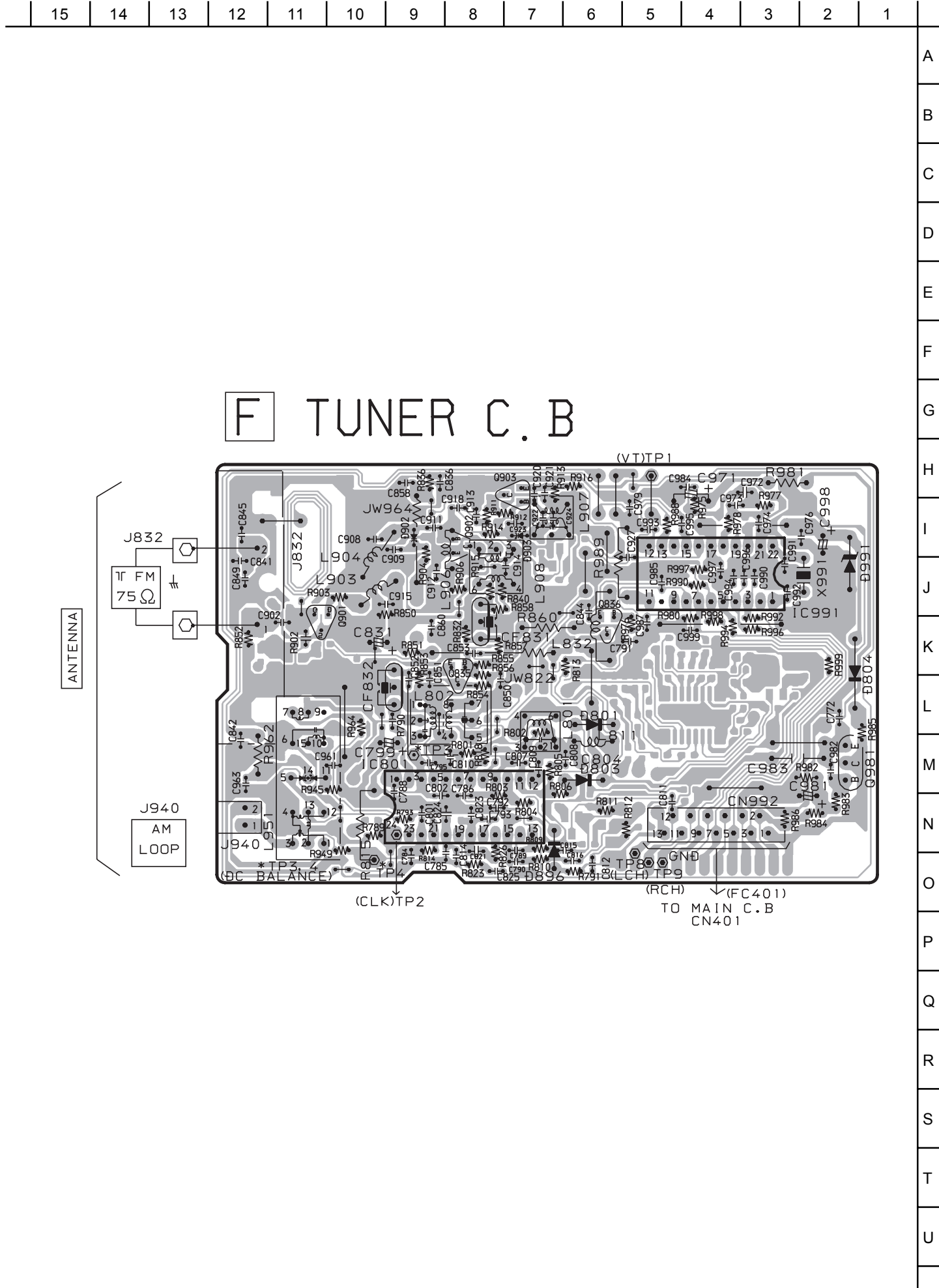


- | | | | | | | |
|------------------|--------------------------|---------------------|----------------|------------------------|------------------|--------------------------------|
| S322
VOL UP | S310
TUNING UP | S311
TUNING DOWN | S312
PRESET | S313
CLEAR | S314
SET | S320
POWER ON
STANDBY/ON |
| S323
VOL DOWN | S308
CD
OPEN/CLOSE | S307
EQ | S306
T-BASS | S303
TUNER/
BAND | S301
FUNCTION | S321
DEMO |

SCHEMATIC DIAGRAM-6 (FRONT/KEY)

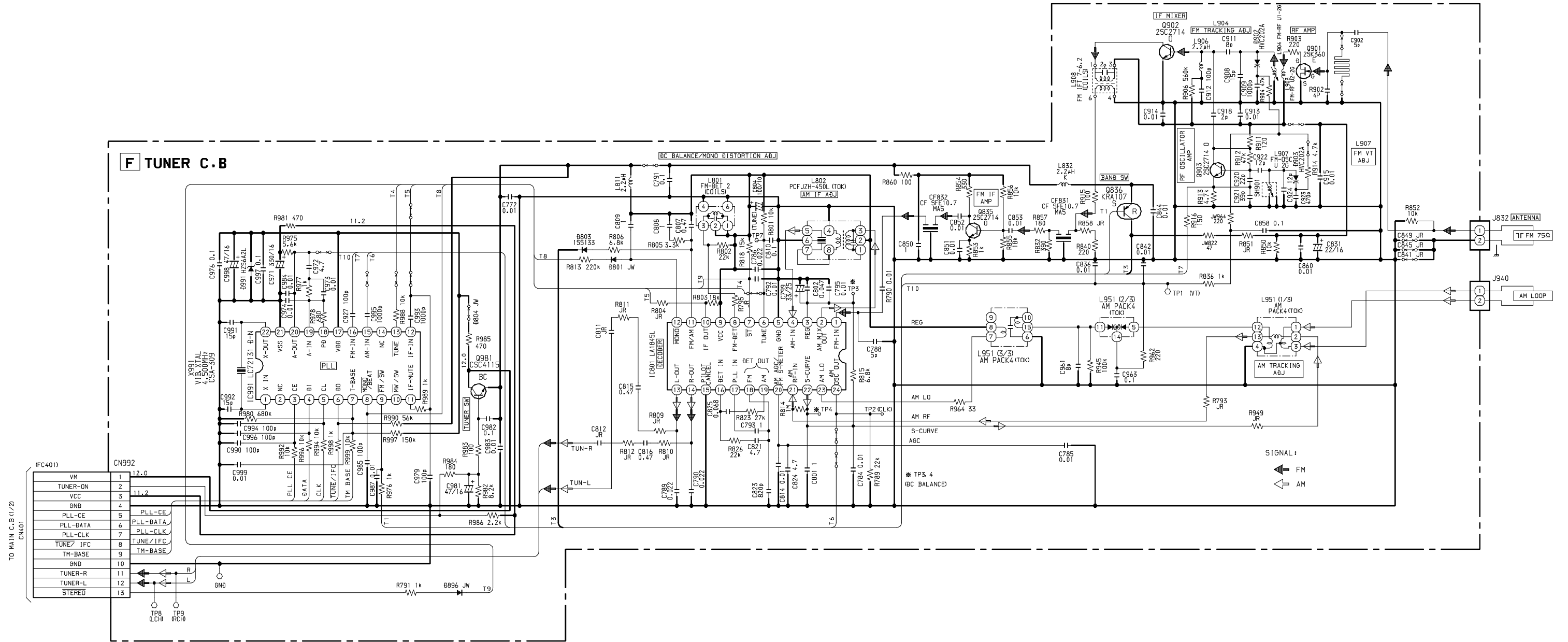


WIRING-5 (TUNER)



F TUNER C.B

SCHEMATIC DIAGRAM-7 (TUNER)

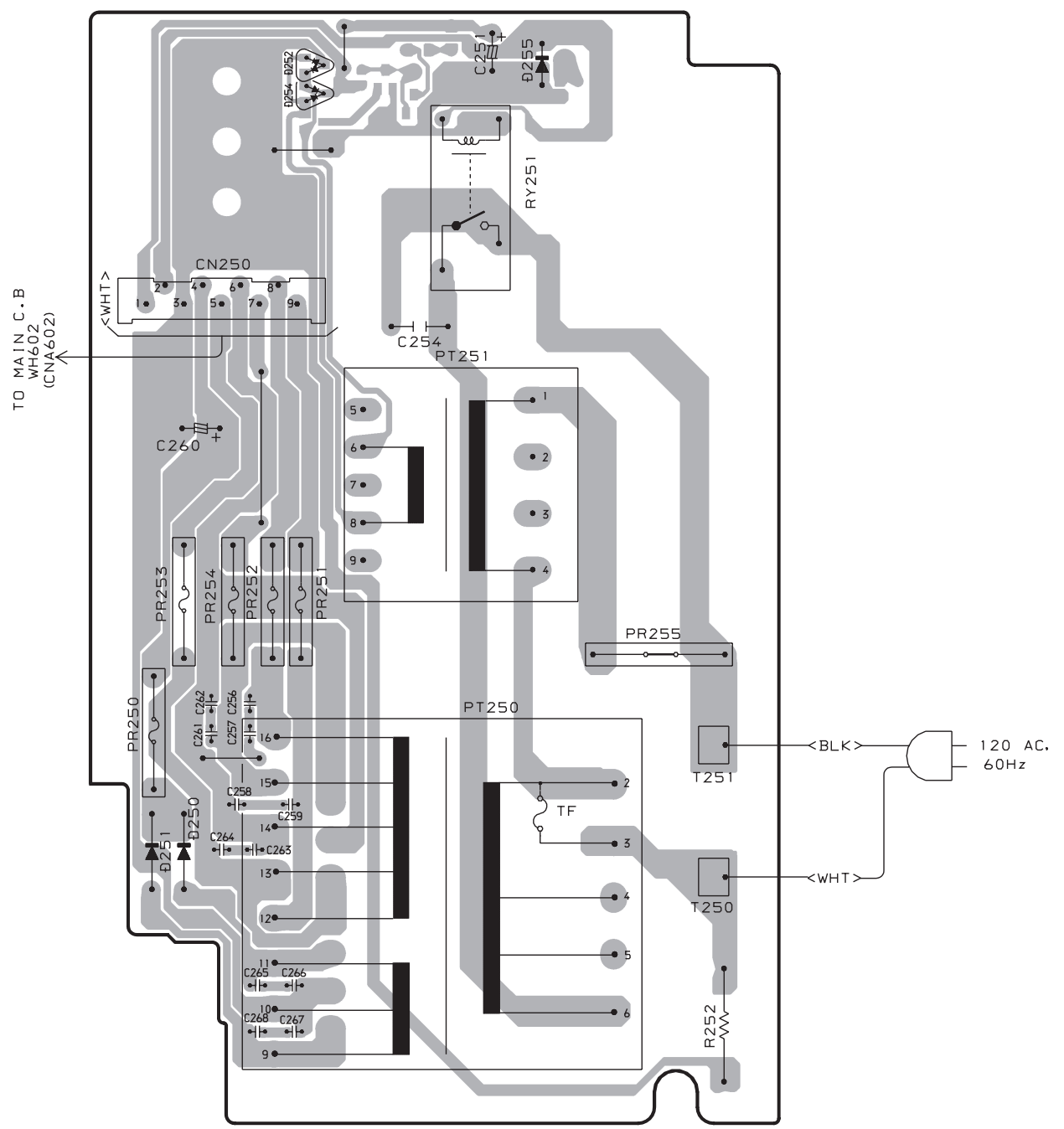


WIRING-6 (PT)

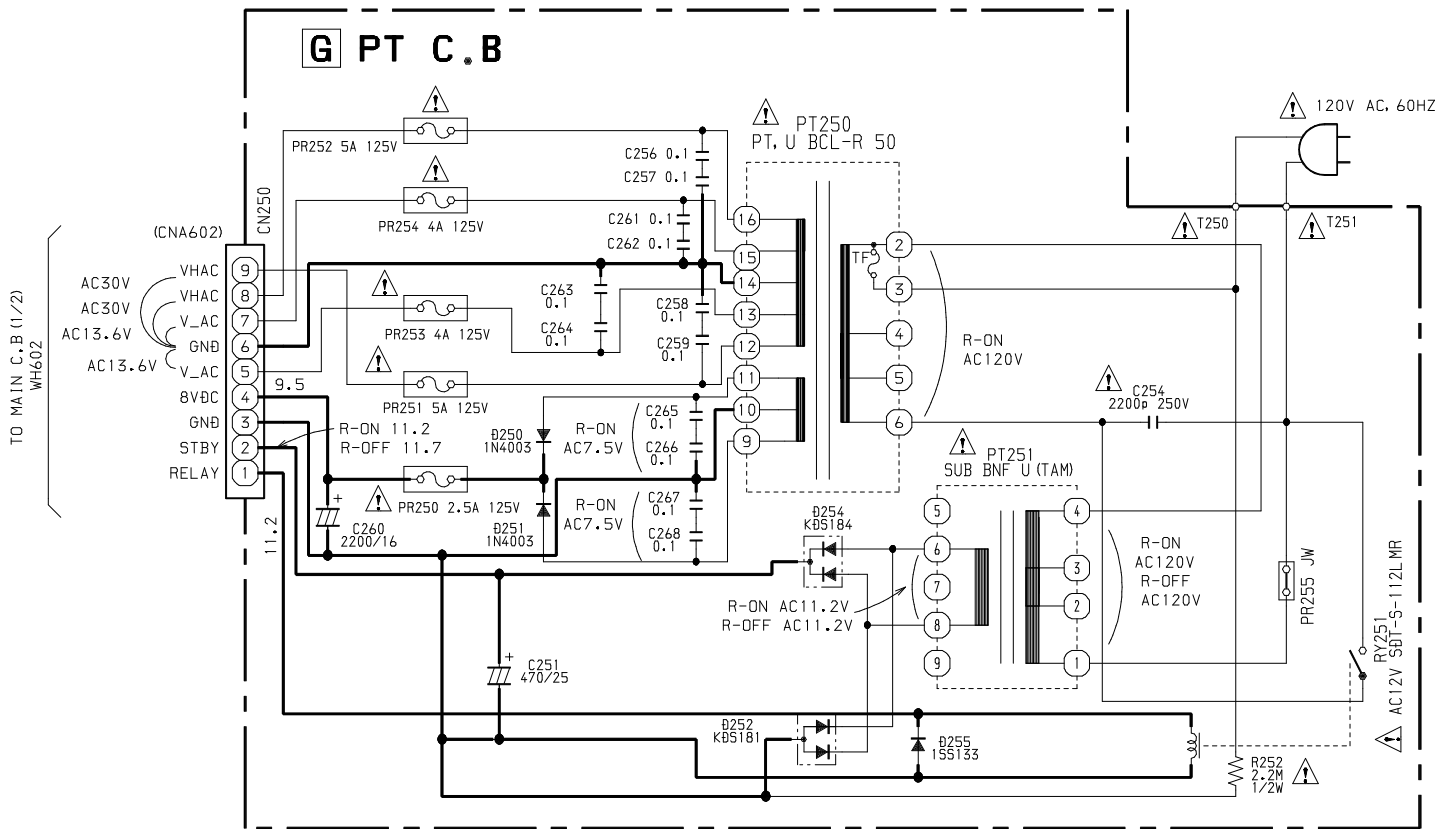
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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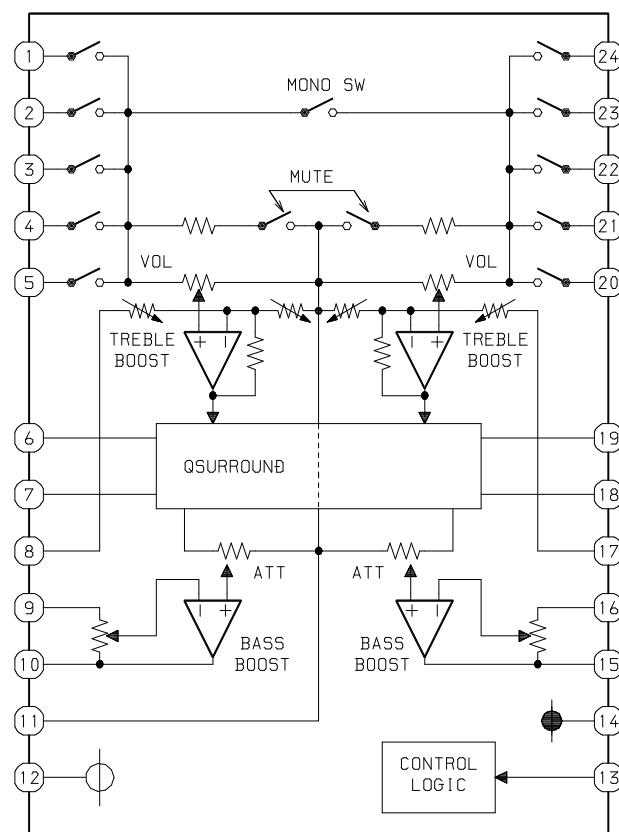


SCHEMATIC DIAGRAM-8 (PT)

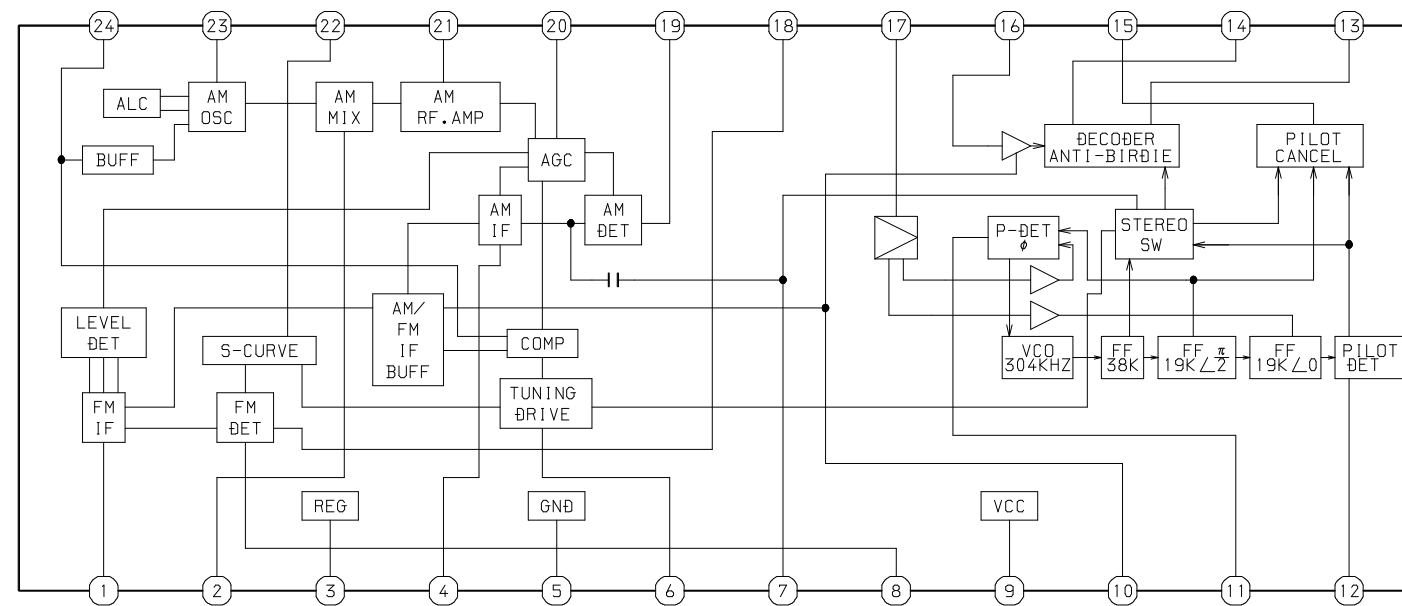


IC BLOCK DIAGRAM

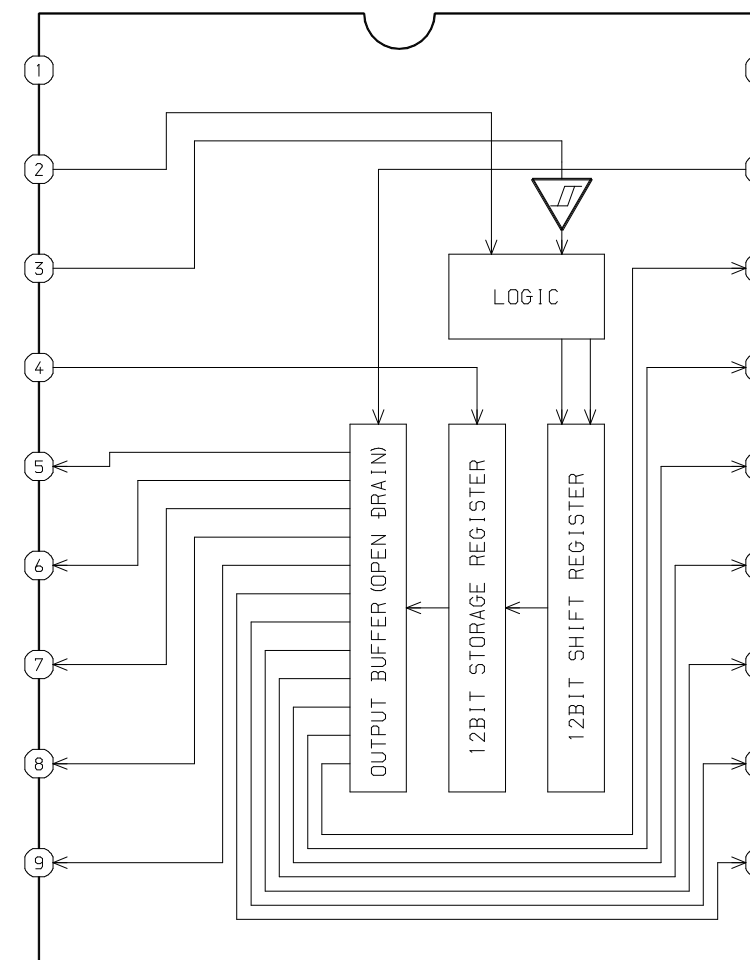
IC, M61515FP



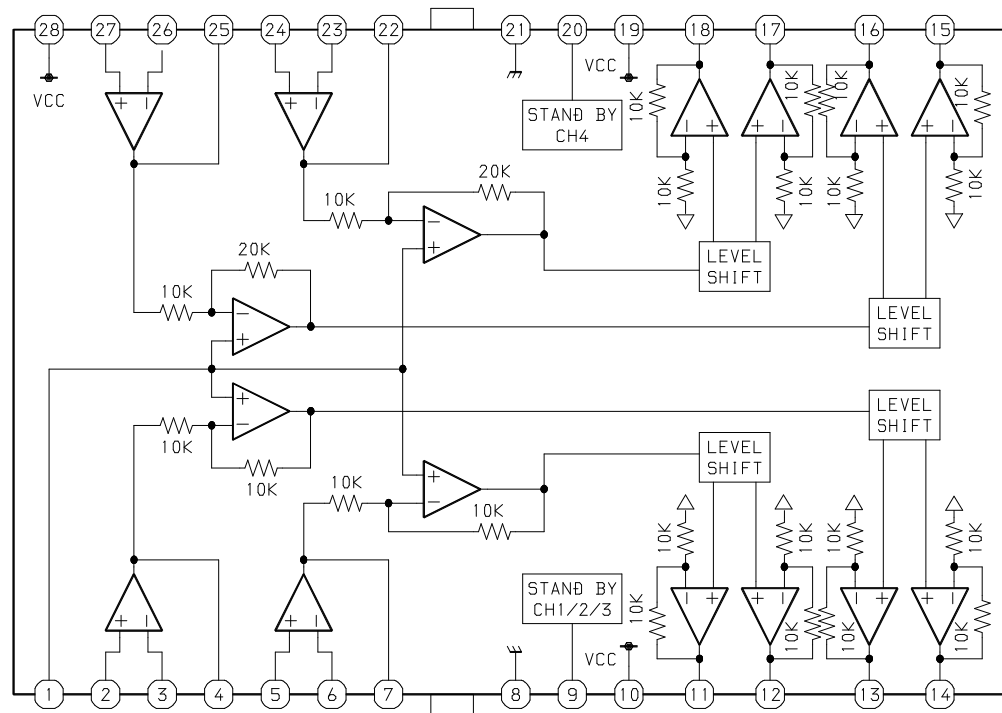
IC, LA1845L



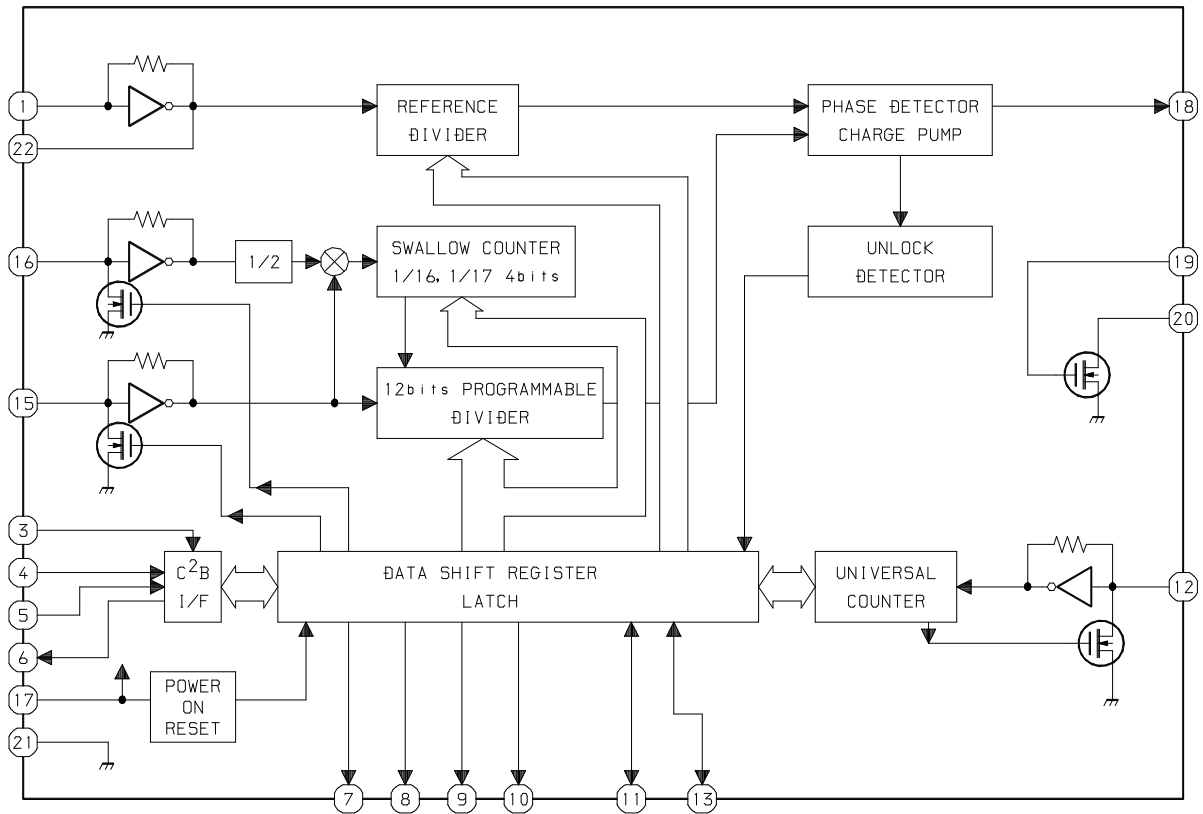
IC, BU2092F



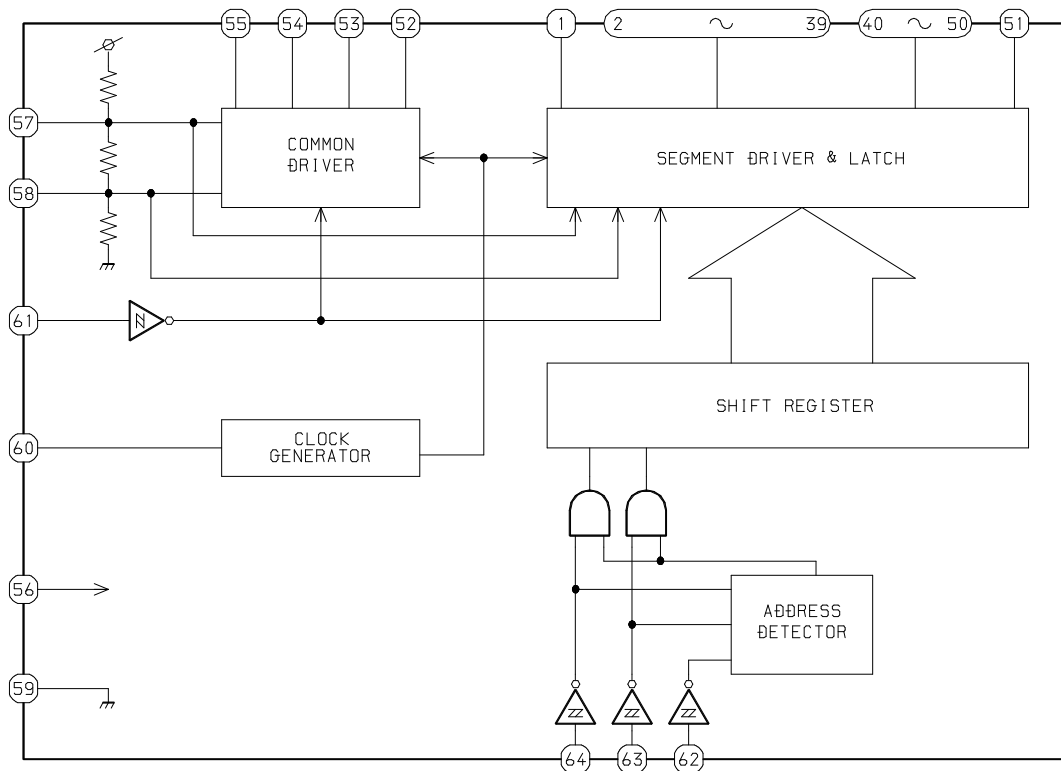
IC, BA5983FM

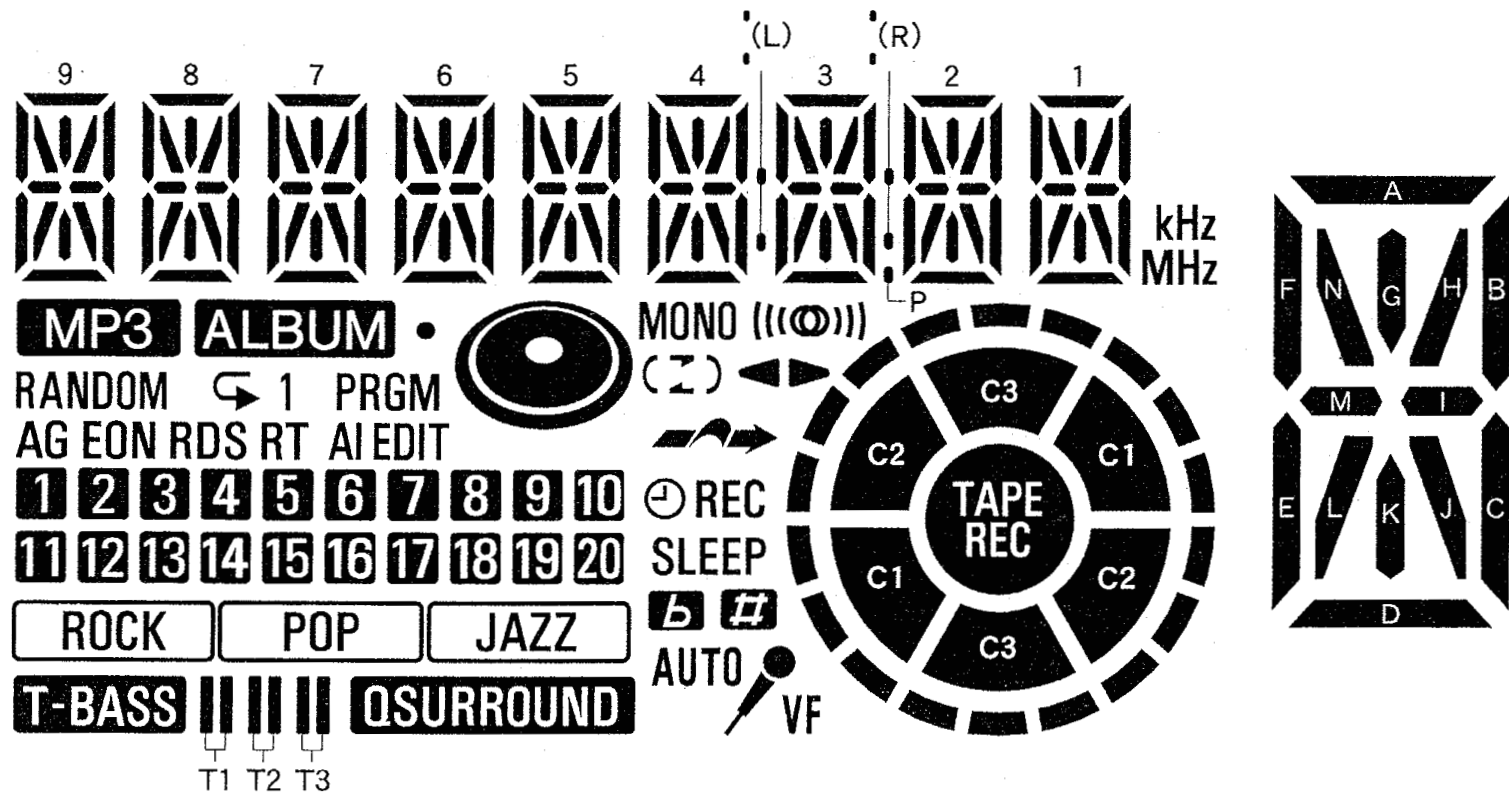
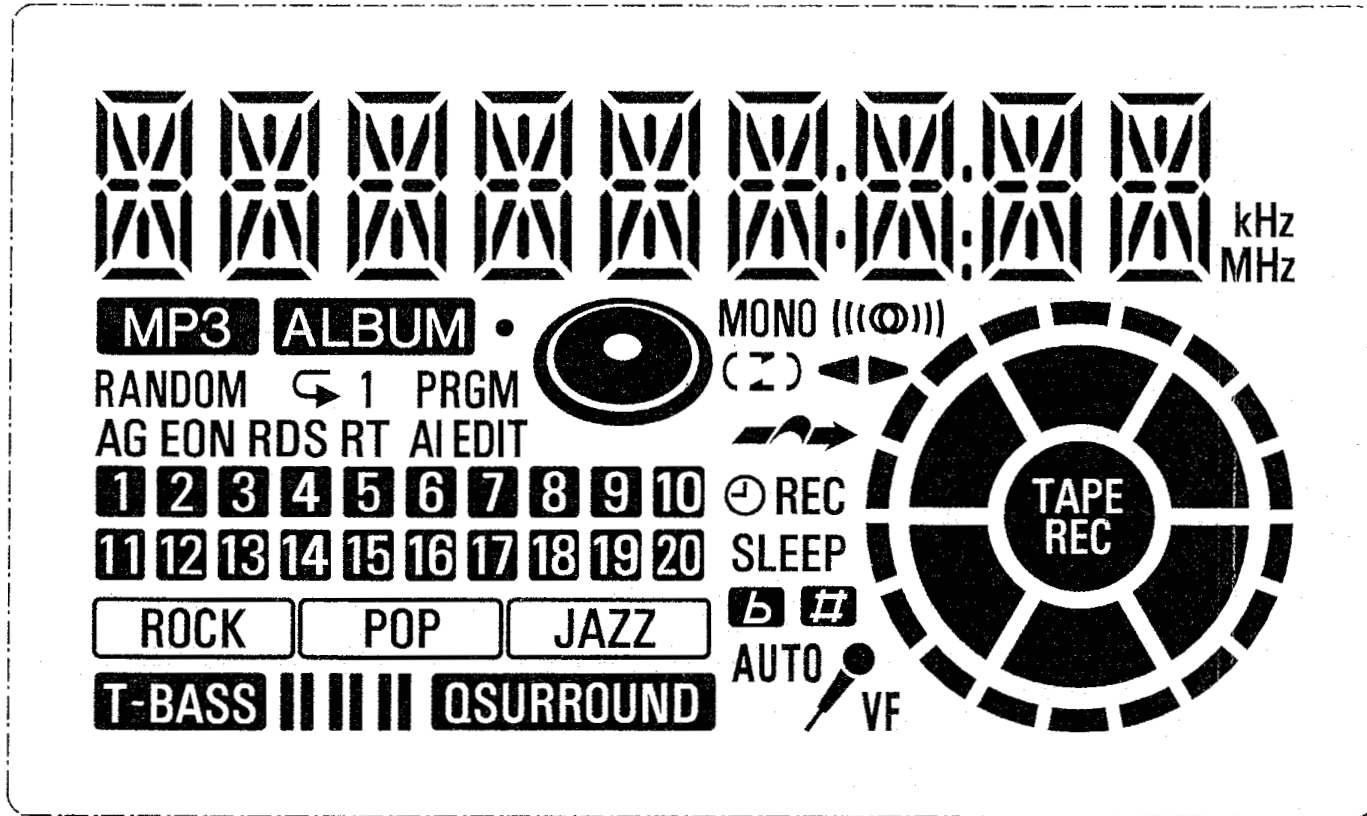


IC, LC72131D-N



IC, LC75824E





No	COM1	COM2	COM3	COM4	No	COM1	COM2	COM3	COM4
1	- - -	- - -	- - -	COM4	27	5A	5B	5C	MONO
2	- - -	- - -	COM3	- - -	28	5G	5H	5I	5J
3	- - -	COM2	- - -	- - -	29	5N	5M	5L	5K
4	COM1	- - -	- - -	- - -	30	5F	5E	5D)
5	JAZZ	17	7	AI	31	6A	6B	6C	⊙
6	QSURROUND	18	8	EDIT	32	6G	6H	6I	6J
7	20	19	9	10	33	6N	6M	6L	6K
8	AUTO	b	SLEEP	⊖	34	6F	6E	6D	(
9	VF	#	REC	↶	35	7A	7B	7C	z
10	C2	C3	C1	⊙	36	7G	7H	7I	7J
11	1A	1B	1C	⊙	37	7N	7M	7L	7K
12	1G	1H	1I	1J	38	7F	7E	7D	•
13	1N	1M	1L	1K	39	8A	8B	8C	ALBUM
14	1F	1E	1D	kHz	40	8G	8H	8I	8J
15	2A	2B	2C	P, MHz	41	8N	8M	8L	8K
16	2G	2H	2I	2J	42	8F	8E	8D	1
17	2N	2M	2L	2K	43	9A	9B	9C	MP3
18	2F	2E	2D	(R)	44	9G	9H	9I	9J
19	3A	3B	3C	((⊙))	45	9N	9M	9L	9K
20	3G	3H	3I	3J	46	9F	9E	9D	RANDOM
21	3N	3M	3L	3K	47	ROCK	15	5	RT
22	3F	3E	3D	(L)	48	T-BASS	12	2	EON
23	4A	4B	4C	▶	49	T1	11	1	AG
24	4G	4H	4I	4J	50	T2	13	3	RDS
25	4N	4M	4L	4K	51	T3	14	4	↶
26	4F	4E	4D	◀	52	POP	16	6	PRGM

IC DESCRIPTION

IC, LC78622NE

Pin No.	Pin Name	I/O	Description
1	DEFI	I	Defect detection signal (DEF) input. ("L" is applied when not used.)
2	TAI	I	For PLL/Test input. (Connected to 0V)
3	PDO	O	Phase comparison output to control the external VCO.
4	VVSS	–	Ground of the built-in VCO. Normally 0V.
5	ISET	I	For the connection of a resistor which adjusts the PDO output current.
6	VVDD	–	Power supply of the built-in VCO.
7	FR	I	Adjusts the VCO frequency range.
8	VSS	–	Ground of digital circuits. Normally 0V.
9	EFMO	O	For slice level control/EFM signal output.
10	EFMIN	I	EFM signal input.
11	T2	I	Test input. A pull-down resistor is incorporated. (Connected to 0V)
12	CLV+	O	Disc motor control tri-state output.
13	CLV-		
14	$\overline{V/P}$	O	Output to monitor the automatic switching between the rough servo control and phase servo control. "H" : Rough servo, "L": Phase servo.
15	HFL	I	Track detection signal input. Schmitt trigger input.
16	TES	I	Track error signal input. Schmitt trigger input.
17	TOFF	O	Tracking off output.
18	TGL	O	Tracking gain switching output. "L" raises the gain.
19	JP+	O	Track jump control tri-state output.
20	JP-		
21	PCK	O	Monitors the clock signal for EFM data playback. 4.3218MHz when the phase is locked. (Not used)
22	FSEQ	O	Sync signal detection output. Goes "H" when the sync signal detected from the EFM signal matches the sync signal generated internally. (Not used)
23	VDD	–	Power supply of digital circuits.
24	SL+	O	Controlled by serial data command issued by the microprocessor.
25	SL–	O	Controlled by serial data command issued by the microprocessor.
26	NC	–	Not connected.
27	PU IN	I	CD pickup inside limit switch.
28	CD R/W	O	CD-RW disc select control.
29	EMPH	O	Deemphasis monitor. "H": when playing a deemphasis disc. (Not used)
30	C2F	O	C2 flag output. (Not used)
31	DOUT	O	Output a digital OUT signal. (EIAJ format)
32	T3	I	Test input. (Connected to 0V)
33	T4		
34	NC	–	Not connected.
35	MUTEL	O	Lch 1-bit DAC/Lch muting output. (Not used)
36	LVDD	–	Lch power supply.
37	LCHO	O	Lch output.
38	LVSS	–	Lch ground. Normally 0V.
39	RVSS	–	Rch 1-bit DAC/Rch ground. Normally 0V.

Pin No.	Pin Name	I/O	Description
40	RCHO	O	Rch output.
41	RVDD	–	Rch power supply.
42	MUTER	O	Rch muting output. (Not used)
43	XVDD	–	Power supply of crystal oscillator.
44	XOUT	O	For the connection of a 16.93MHz crystal oscillator.
45	XIN	I	
46	XVSS	–	Ground of crystal oscillator. Normally 0V.
47	SBSY	O	Subcode block sync signal output. (Not used)
48	EFLG	O	C1, C2, single, duplex correction monitor. (Not used)
49	PW	O	Output of subcodes P, Q, R, S, T, U and W. (Not used)
50	SFSY	O	Subcode frame sync signal output. Falls when the subcode is set to the standby state. (No used)
51	SBCK	I	Subcode read-out clock input. Schmitt trigger input. ("L" is applied when not used.) (Connected to 0V)
52	FSX	O	7.35kHz sync signal output obtained by dividing the oscillator frequency. (Not used)
53	WRQ	O	Subcode Q standby output.
54	RWC	I	Read/write control input. Schmitt trigger input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input from the microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input retrieval clock or subcode retrieval clock input from SQOUT. Schmitt trigger input.
58	RES	I	LC78622NE reset input.
59	T11	O	Test output. Set to open (normally "L" output.) (Not used)
60	16M	O	16.9344MHz output. (Not used)
61	4.2M	O	4.236MHz output.
62	T5	I	Test input. A pull-down resistor is incorporated. (Connected to 0V)
63	$\overline{\text{CS}}$	I	Chip select input. (Connected to 0V)
64	T1	I	Test input with no pull-down resistor. (Connected to 0V)

Pin No.	Pin Name	I/O	Description
1	FIN2	I	For the connection of the pickup photodiode. Addition to the FIN1 pin creates an RF signal and subtraction from it create an EF signal.
2	FIN1	I	For the connection of the pickup photodiode.
3	E	I	For the connection of the pickup photodiode. Subtraction from the F pin creates a TE signal.
4	F	I	For the connection of the pickup photodiode.
5	TB	I	Inputs the DC components in the TE signal.
6	TE-	I	For the connection of a resistor which sets the gain of the TE signal between this pin and the TE pin.
7	TE	O	TE signal output.
8	TESI	I	TES (track error sense) comparator input. The TE signal is passed through a BPF.
9	SCI	I	Shock detection input.
10	TH	I	Sets the time constant for the tracking gain.
11	TA	O	TA amp output.
12	TD-	I	Composes the tracking phase compensation constant between the TD and VR pins.
13	TD	O	Sets the tracking phase compensation.
14	JP	I	Sets the amplitude of the tracking jump signal (kick pulses).
15	TO	O	Tracking control signal output.
16	FD	O	Focusing control signal output.
17	FD-	I	Composes the focusing phase compensation constant between the FD and FA pins.
18	FA	O	Composes the focusing phase compensation constant between the FD- and FA- pins.
19	FA-	I	Composes the focusing phase compensation constant between the FA and FE pins.
20	FE	O	FE signal output.
21	FE-	I	For the connection of a resistor which sets the gain of the FE signal between this pin and the TE pin.
22	A-GND	-	Ground of analog signals.
23	SP	O	Single-ended output of the signals input to the CV+ and CV- pins.
24	SPI	I	Spindle amp input.
25	SPG	I	For the connection of a resistor which sets the gain in the spindle 12cm mode.
26	SP-	I	For the connection of the spindle phase compensation constant with the SPD pin.
27	SPD	O	Spindle control signal output.
28	SLEQ	I	For the connection of sled phase compensation constant.
29	SLD	O	Sled control signal output.
30	SL-	I	Sled feed signal input from the microprocessor.
31	SL+		
32	JP-	I	Tracking signal input from the DSP.
33	JP+		
34	TGL	I	Tracking gain control signal input from the DSP. Low gain when TGL is "H".
35	TOFF	I	Tracking off control signal input from the DSP. Off when TOFF is "H".
36	TES	O	Outputs the TES signal to the DSP.
37	HFL	O	The HFL (high frequency level) signal is used to judge whether the main beam is positioned on the pit or on the mirror.

Pin No.	Pin Name	I/O	Description
38	SLOF	I	Sled servo off control input.
39	CV-	I	CLV error signal input from the DSP.
40	CV+		
41	RFSM	O	RF output.
42	RFS-	O	Sets the RF gain and the EFM signal's 3T compensation constant together with the RFSM pin.
43	SLC	O	The SLC (slice level control) signal is output to control the DSP's data slice level of the RF waveform.
44	SLI	I	Input to control the DSP's data slice level.
45	D-GND	-	Ground of digital signals.
46	FSC	O	Output for the focus search smoothing capacitor.
47	TBC	I	The TBC (tracking balance control) signal sets the EF balance variation range.
48	NC	-	Not connected.
49	DEF	O	Disc defect detection output.
50	CLK	I	Reference clock input. 4.23MHz is input from the DSP.
51	CL	I	Microprocessor command clock input.
52	DAT	I	Microprocessor command data input.
53	CE	I	Microprocessor chip enable input.
54	DRF	O	DRF (detect RF) is an output to detect the RF level.
55	FSS	I	The FSS (focus search select) signal switches the focus search modes (+/-search / +search with respect to the reference voltage). (Not used)
56	VCC2	-	VCC of servo and digital circuits.
57	REFI	-	For the connection of bypass capacitor for the reference voltage.
58	VR	O	Reference voltage output.
59	LF2	-	Sets the time constant for disc defect detection.
60	PH1	-	For the connection of a capacitor to hold the RF signal peak.
61	BH1	-	For the connection of a capacitor to hold the RF signal bottom.
62	LDD	O	APC circuit output.
63	LDS	I	APC circuit input.
64	VCC1	-	VCC of RF signal circuits.

IC, LC876564V-5W42

Pin No.	Pin Name	I/O	Description
1	NC	-	Not connected.
2	NC	-	Not connected.
3	O-CD CE	O	CD IC control chip enable output.
4	NC	-	Not connected.
5	O-PLL CE	O	PLL IC chip enable output.
6	O-DATA	O	PLL, shift register IC control data output.
7	O-STB	O	Shift register IC control strobe output.
8	O-CLK	O	PLL, shift register IC control clock output.
9	O-FUNC DATA	O	Function IC control data output. (3 state)
10	$\overline{\text{O-CLK SHIFT}}$	O	MICON clock shift output.
11	$\overline{\text{I-RESET}}$	I	Reset input.
12	$\overline{\text{I-HOLD}}$	I	Power failure detection input.
13	I-LEVEL	I	Signal level input. (Not used)
14	VSS1	-	GND.
15	CF1	-	9.43MHz oscillator circuit.
16	CF2	-	9.43MHz oscillator circuit.
17	VDD1	-	Power supply input.
18	$\overline{\text{I-STEREO/I-CD DRF}}$	I	Tuner stereo detect input / CD IC DRF input.
19	I-TU SIG	I	Tuner SD detect input.
20	I-TU DO/I-CD SUBQ	I	Tuner IF count serial data input / CD IC data input.
21 ~ 23	NC	-	Not connected.
24	I-KEY1	I	Key input. (A/D)
25	I-KEY2	I	Key input. (A/D)
26	NC	-	Not connected.
27	I-RDS CLK/I-WRQ	I	RDS clock input (Not used) / CD IC control WRQ input.
28	I-TM BASE	I	Reference clock input for watch.
29	$\overline{\text{I-RMC}}$	I	System remote control signal input.
30 ~ 45	NC	-	Not connected.
46	VDD3	-	Power supply input.
47	I-U/LH	I	AM 10k / $\overline{9k}$. (Connected to GND through a resistor)
48	I-EZ	I	LW+RDS / $\overline{\text{NON}}$. (Connected to GND through a resistor)
49	I-K	I	LW / $\overline{\text{NON}}$. (Connected to GND through a resistor)
50	I-HR	I	2 BAND / $\overline{\text{NON}}$. (Connected to GND through a resistor)
51	VP	-	GND.
52	I-D	I	AM stereo, FM wide / $\overline{\text{NON}}$. (Connected to GND through a resistor)
53	I-V	I	OIRT / $\overline{\text{NON}}$. (Connected to GND through a resistor)
54	I-DEMO	I	AC IN DEMO start / $\overline{\text{NON}}$. (Connected to VDD through a resistor)
55	I-ECO OFF	I	ECO OFF / $\overline{\text{ON}}$. (Connected to GND through a resistor)
56	I-DECK	I	Deck / $\overline{\text{No deck}}$. (Connected to GND through a resistor)
57, 58	NC	-	Not connected.
59	I-CD CLS	I	CD tray close switch signal input.
60	I-CD OPN	I	CD tray open switch signal input.

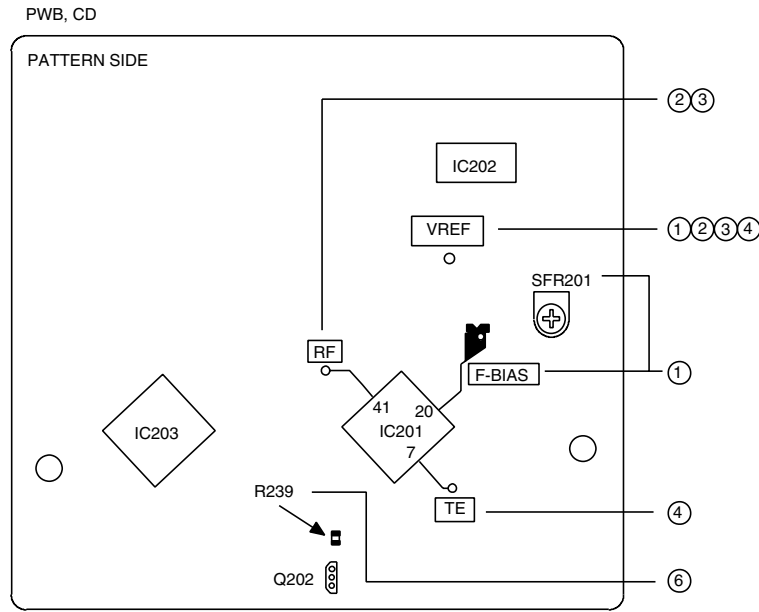
Pin No.	Pin Name	I/O	Description
61 ~ 63	NC	-	Connected to VDD through a resistor.
64 ~ 68	NC	-	Not connected.
69, 70	NC	-	Connected to VDD through a resistor.
71	NC	-	Connected to GND through a resistor.
72	VDD4	-	Power supply input.
73 ~ 84	NC	-	Not connected.
85	O-ADJ	O	MICON clock adjustment output.
86	O-ORN LED	O	Orange LED control output.
87	O-CD DATA	O	CD IC control data output.
88	O-CD CLK	O	CD IC control clock output.
89	VSS2	-	GND.
90	VDD2	-	Power supply input.
91	NC	-	Not connected.
92	O-MUTE	O	Audio mute ON / OFF control output.
93	O-POWER	O	System power supply ON / OFF output.
94	O-STBY	O	Standby LED ON / OFF control output.
95	O-LCD DATA	O	LCD driver IC control data output.
96	O-LCD CE	O	LCD driver IC control chip enable output.
97	O-LCD CLK	O	LCD driver IC control clock output.
98, 99	NC	-	Not connected.
100	I-RDS DATA	I	RDS data input. (Not used)

ADJUSTMENT <TUNER / CD / MAIN>

< TUNER SECTION >

1. Clock Frequency Check
Settings : • Test point : TP2(CLK)
Method : Set to AM 1710kHz and check that the test point is 2160kHz \pm 45Hz.
2. AM VT Check
Settings : • Test point : TP1(VT)
Method : Set to AM 1710kHz and check that the test point is less than 8.5V. Then set to AM 530kHz and check that the test point is more than 0.6V.
3. AM Tracking Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location : L951(1/3)
Method : Set to AM 1000kHz and adjust L951(1/3) so that the test point becomes maximum.
4. AM IF Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L802 450kHz.
5. FM VT Adjustment
Settings : • Test point : TP1(VT)
• Adjustment location : L907
Method : Set to FM 108.0MHz and adjust L907 so that the test point becomes 7.0V \pm 0.05V. Then set to FM 87.5MHz and check that the test point is more than 0.5V.
6. FM Tracking Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location : L904
Method : Set to FM 98.0MHz and adjust L904 so that the test point becomes maximum and distortion minimum.
7. DC Balance / Mono Distortion Adjustment
Settings : • Test point : TP3, TP4 (DC Balance)
TP8(Lch), TP9(Rch) (Distortion)
• Adjustment location : L801
• Input level : 60dB μ V
Method : Set to FM 98.0MHz and adjust L801 so that the distortion is less than 1.2%. Then check that the voltage between TP3 and TP4 is 0V \pm 500mV.
8. Output Level Check
<AM>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Input level : 74dB μ V
Method : Set to AM 1000kHz and check that the test point is 55mV \pm 3dB.

<FM>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Input level : 60dB μ V
Method : Set to FM 98.0MHz and check that the test point is 270mV \pm 3dB.
9. FM Separation Check
Settings : • Test point : TP8(Lch), TP9(Rch)
• Input level : 60dB μ V
Method : Set to FM 98.0MHz and check that the test point is more than 25dB.



CD Adjustment Method

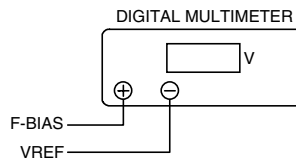
- Perform the adjustments after the machine enters the test mode.
- Place the CD mechanism on level ground.
- Equipment and tools required

Measuring equipment: Oscilloscope (Use the probe of 10:1)
 Digital Multimeter (Use it in the DC Volt range)
 Jitter meter (Kikusui 6235)

Test Disc: TCD-782
 ATD-001

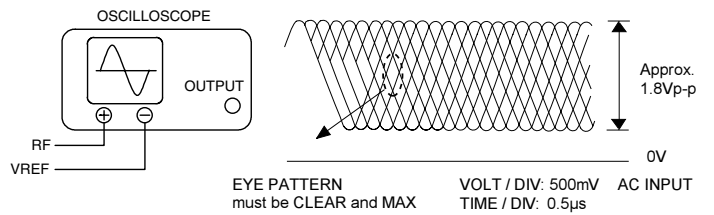
1. Focus Bias Adjustment

- 1) Connect a digital multimeter to the test point (F-BIAS), (VREF).
- 2) Play back the 2nd track of TCD-782.
- 3) Adjust SFR201 until the digital multimeter indicates 0 ± 30 mV.



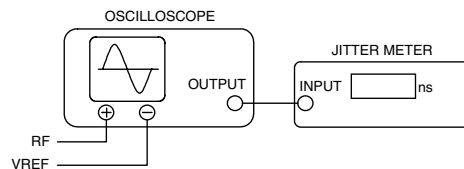
2. RF Waveform Check

- 1) Connect an oscilloscope to test point (RF), (VREF).
- 2) Play back the 2nd track of TCD-782.
- 3) Check that the RF waveform has the maximum amplitude and the center of the wedge waveform has the clear blank.



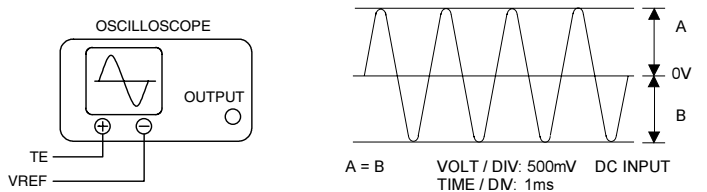
3. Jitter Check

- 1) While an oscilloscope is kept connected in the same test point as in step 2. RF Waveform Check, connect the output terminal of an oscilloscope to the input terminal of the jitter meter.
- 2) Set the VOLT range selector of an oscilloscope to 500 mV range or lower.
- 3) Play back the 2nd track of TCD-782.
- 4) Check that the jitter meter indicates 28.0 ns or less.



4. Tracking Balance Check

- 1) Connect the test point (TE), (VREF) to the oscilloscope.
- 2) Playback the second track of TCD-782 and press the PAUSE button.
- 3) Check that the traverse waveforms of the oscilloscope are up and down symmetrical.



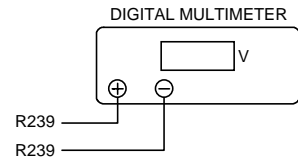
5. Play Ability Check

- 1) Play back the 3rd, 8th, and 13th track of ATD-001. Check that the noise does not occur and sound skipping does not occur.

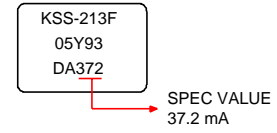
6. Laser Current Check

* Do not perform this measurement unless the laser is suspected to be defective.

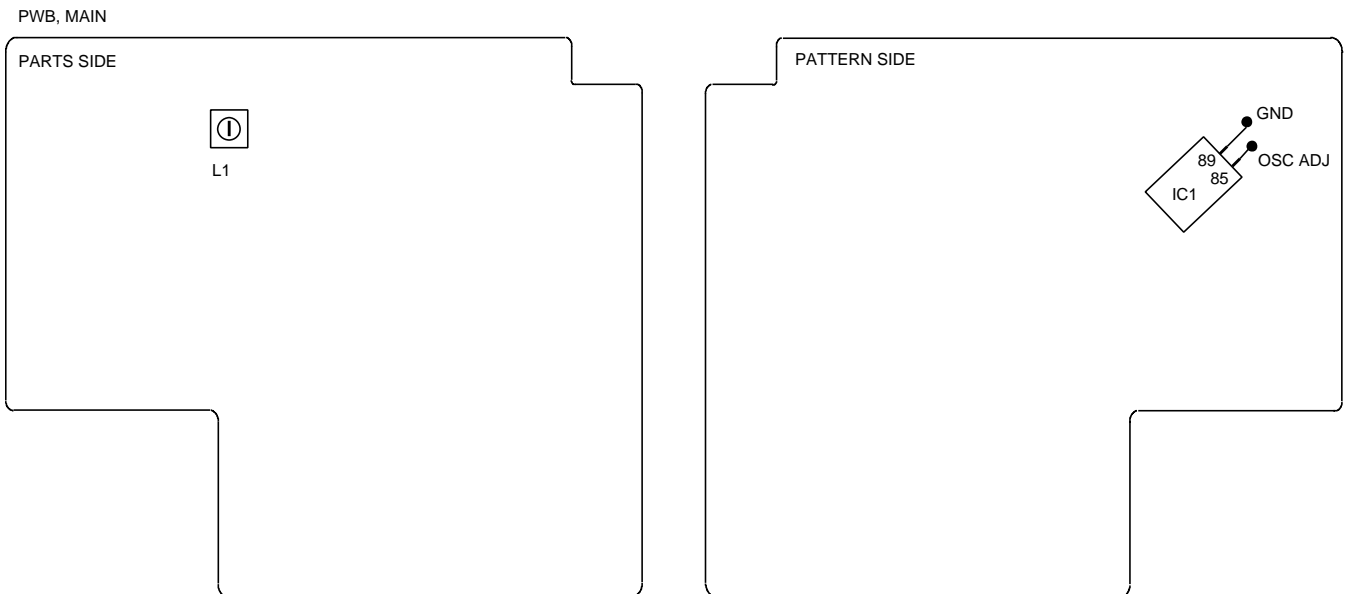
- 1) Connect a digital multimeter across the resistor R239 (10 ohm).
- 2) Play back the TCD-782 and check the DC voltage value on the digital multimeter.
- 3) Calculate the laser current (I_{op}) by dividing the DC voltage across R239 by the resistor value ($R239 = 10 \text{ ohm}$). Check that the laser current (I_{op}) is SPEC VALUE $\pm 6 \%$.



EXAMPLE



< MAIN >



1. Clock Adjustment

- 1) Connect an oscilloscope to test point OSC (IC1 85 pin) and GND (IC1 89 pin).
- 2) Insert the AC plug while pressing VOLUME / DOWN and TUNER / BAND buttons.
- 3) Adjust L1 until the oscilloscope indicates $98.220 \text{ Hz} \pm 0.098 \text{ Hz}$ ($10.191 \sim 10.171 \text{ ms}$)

CD TEST MODE

1. How to Start the CD Test Mode

While pressing the EJECT button, insert the AC plug to the power outlet.
When the test mode started, all lights on the display are lit.

2. How to Exit the CD Test Mode

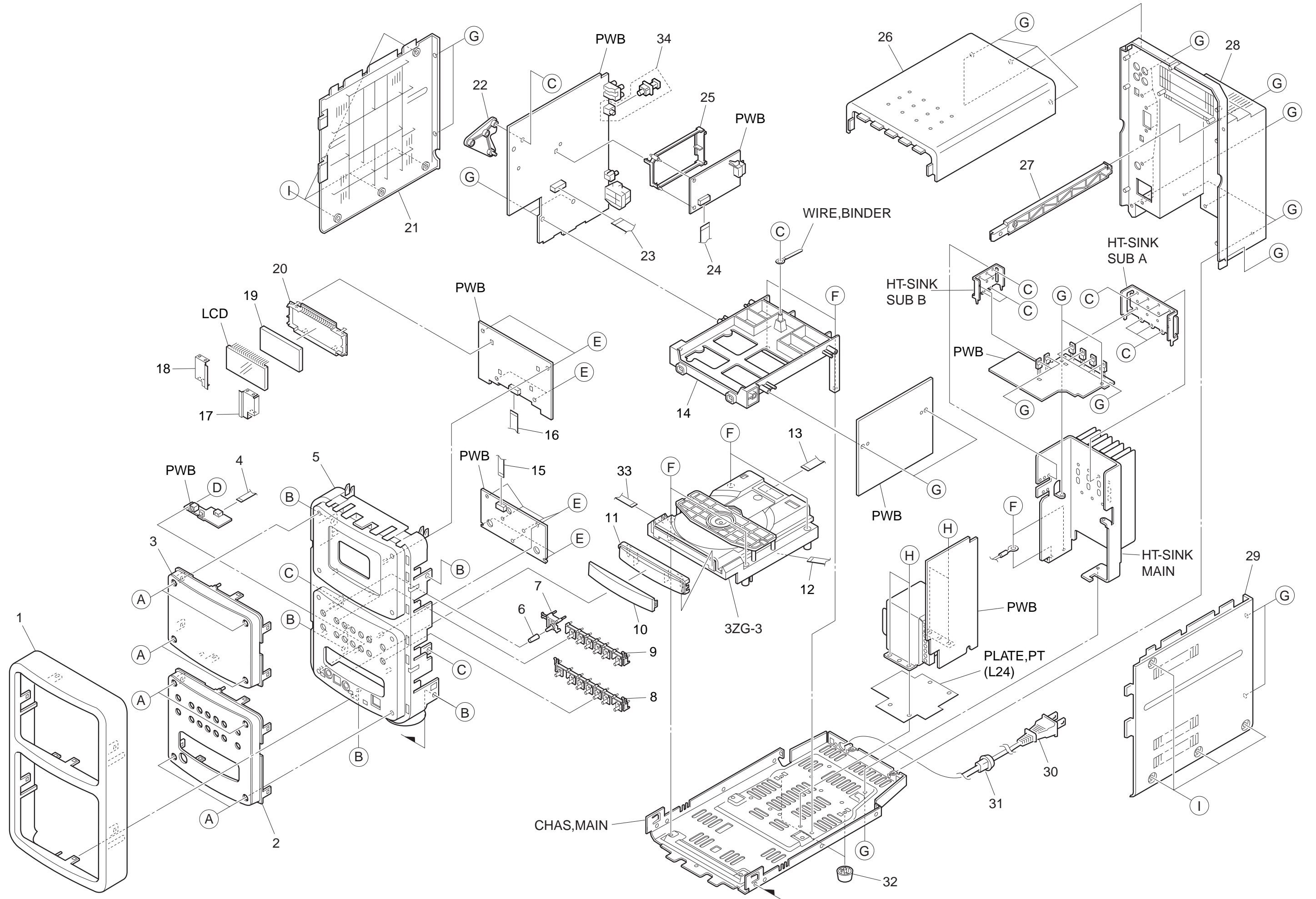
Press the POWER button or press the other FUNCTION buttons or disconnect the AC plug.

3. Function and Usage of the CD Test Mode

No	Mode	Button for Activation	Display	Operation	Contents
1	Start Mode		All lights are lit.		<ul style="list-style-type: none"> • Microcomputer check
2	Search Mode	STOP button	TOC READ	<ul style="list-style-type: none"> • LD illuminates all the time • Focus search continues operations *1 • Spindle motor continuous kick 	<ul style="list-style-type: none"> • APC circuit check • Laser current measurement • Focus search waveform check • Focus error waveform check (DRF in the search mode is ignored)
3	Play Mode	PLAY button	Normal	<ul style="list-style-type: none"> • Normal playback • If TOC cannot be read, focus search is continued 	<ul style="list-style-type: none"> • Each servo circuit is checked • DRF check
4	Traverse Mode	PAUSE button	Normal	<ul style="list-style-type: none"> • Tracking servo OFF/ON STOP button to cancel 	<ul style="list-style-type: none"> • Tracking balance check
5	Sled Mode	FF button	CD TEST	<ul style="list-style-type: none"> • Pickup moves to the inner circumference *2 	<ul style="list-style-type: none"> • Sled circuit check • Tracking circuit check • Mechanism operation check • Pickup check
		RWD button	CD TEST	<ul style="list-style-type: none"> • Pickup is moves to the outer circumference *2 	

* 1. The driver IC heats up and the protection circuit starts working when the focus search is continued for 10 minutes or longer. There can be a case that operations cannot be performed correctly. In such a case, turn off the main power. After cooling down the machine, restart the machine.

* 2. Be careful not to damage the gear because the sled motor rotates while the FF or RWD button is being pressed even if the pickup is located in the innermost track or the outermost track.



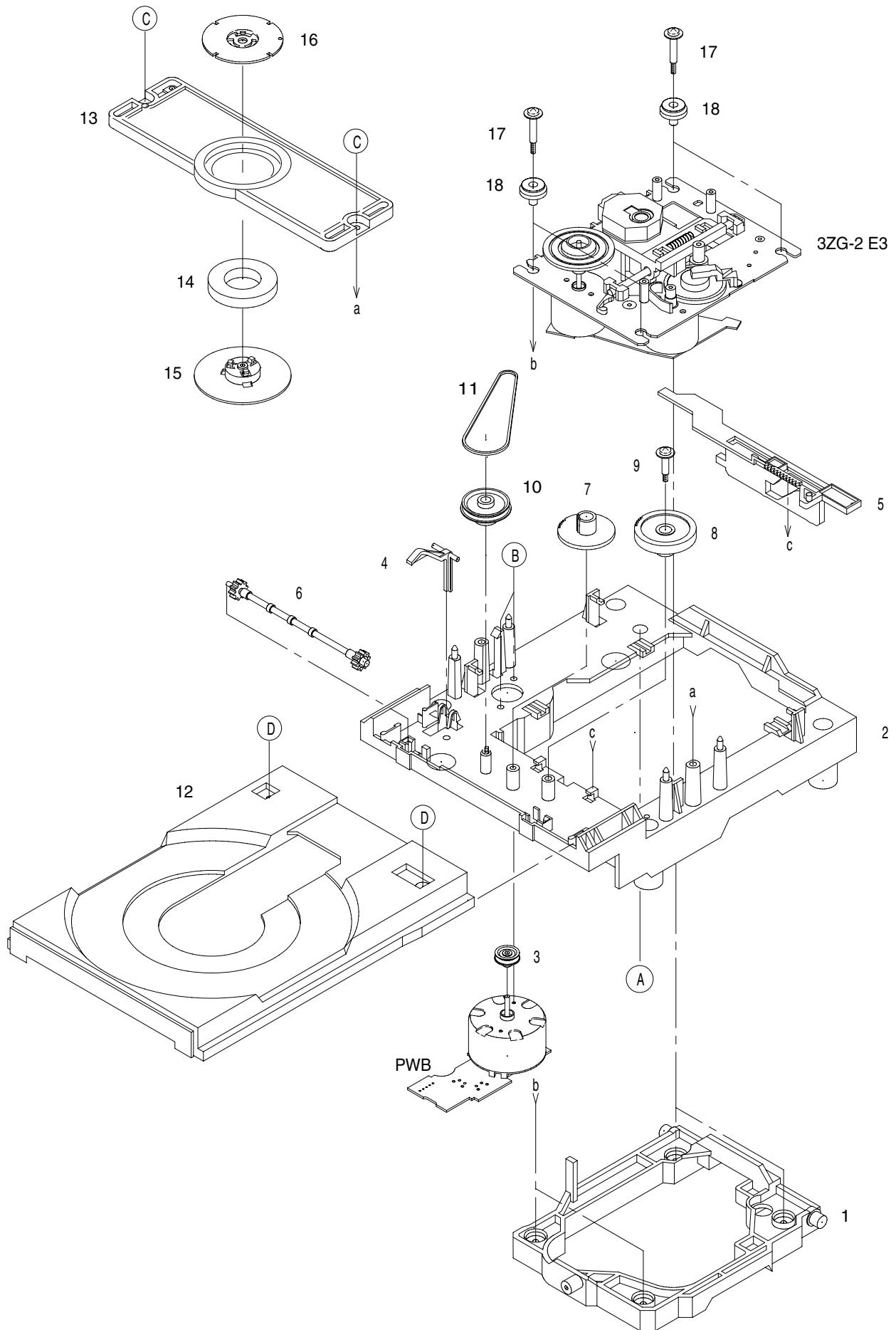
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CLR-001-010		PANEL, FR PLATE (L24)	26	8B-CLR-003-010		PANEL, TOP (L24) U
2	8B-CLR-009-010		WINDOW, FUN T2.5 (L24)	27	8A-CJ4-239-010		HLDR, CABI JOINT
3	8B-CLR-008-010		WINDOW, DISPLAY T2.5 (L24)	28	8B-CLR-010-010		CABI, REAR (L24) U
4	88-903-301-110		FF-CABLE, 3P 1.25 300MM	29	8B-CLR-005-010		PANEL, SIDE R (L24) U
5	8B-CLR-012-010		CABI, FR (L24) U	△ 30	87-A80-110-010		AC CORD ASSY, U SPT-2W
6	8B-CJ4-024-010		KEY, POWER SPRAY (J4)	31	87-085-189-010		BUSHING, CORD (U)
7	8B-CLR-031-010		BTN, POWER PLATE (L24)	32	8A-CJ4-080-010		FOOT ASSY, H10
8	8B-CLR-028-010		KEY, FUN (L24)	33	88-905-291-110		FF-CABLE, 5P 1,25 290MM
9	8B-CLR-032-010		KEY, PLAY (L24)	34	87-017-825-010		IC, GP1F32T
10	8B-CJ4-014-010		WINDOW, CD T2.5 (J4)	A	8B-CLR-033-010		S-SCREW, BCL24
11	8B-CJ4-008-010		PANEL, TRAY T2.5 (J4)	B	87-721-095-410		QT2+3-8 W/O SLOT
12	88-906-171-110		FF-CABLE, 6P 1.25	C	87-067-579-010		TAPPING SCREW, BVT2+3-8
13	8B-CJ4-656-010		FF-CABLE, 16P 1.0 270MM	D	88-AR1-217-010		S-SCREW, BFT2+3-8
14	8B-CJ4-208-010		CHAS, MD (J4)	E	87-078-060-010		BVIT3PB+3-10
15	88-905-241-110		FF-CABLE, 5P 1.25 240MM	F	87-B10-314-010		BVIT3B+3-6 R W/O
16	88-909-201-110		FF-CABLE, 9P 1.25	G	87-067-703-010		TAPPING SCREW, BVT2+3-10
17	8B-CLR-203-010		HLDR, LCD (L24) R	H	87-B10-318-010		BVIT3C+4-8 R W/O
18	8B-CLR-202-010		HLDR, LCD (L24) L	I	87-067-660-010		TAPPING SCREW, BVT2+3-8
19	8B-CLR-029-010		REFLECTOR, LCD (L24)				
20	8B-CLR-201-010		GUIDE, LCD (L24)				
21	8B-CLR-004-010		PANEL, SIDE L (L24) U				
22	8A-CJ4-219-010		HLDR, PWB (MOLD)				
23	88-917-161-110		FF-CABLE, 17P 1.25 160MM				
24	88-913-101-110		FF-CABLE, 13P 1.25 100MM				
25	8B-CJ4-205-010		HLDR, TU PWB (J4)				

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	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green	HT	Transparent Gray
HM	Metallic Gray	NH	Champagne Gold	M	Wood Pattern

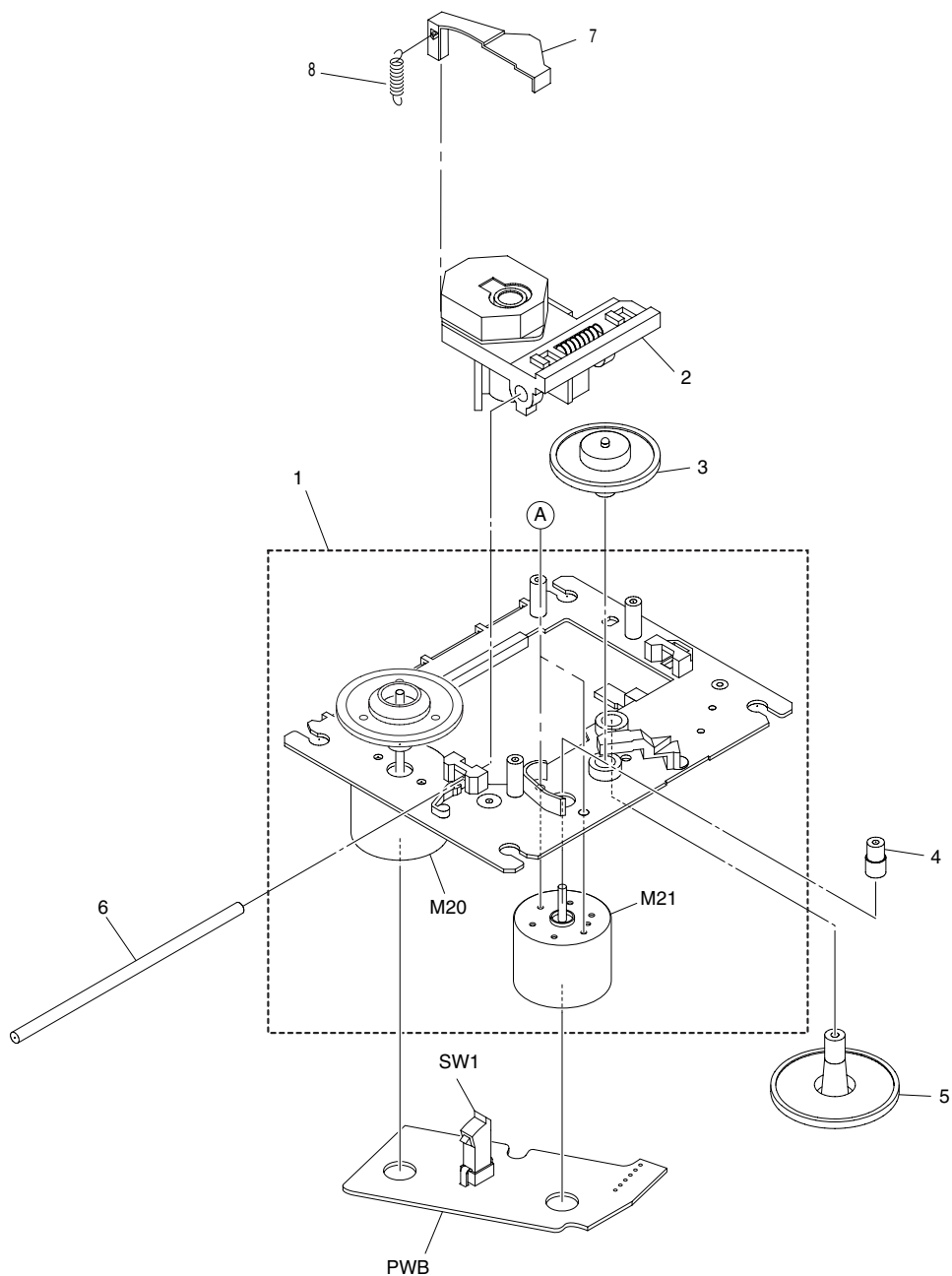
CD MECHANISM EXPLODED VIEW 1 / 2



CD MECHANISM PARTS LIST 1 / 2

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG3-224-510		HLDR M2
2	83-ZG3-228-610		CHAS, L6
3	83-ZG3-208-010		PULLEY, MOTOR
4	83-ZG3-213-010		LVR, SW
5	83-ZG3-209-610		CAM, SLIDE
6	83-ZG3-207-010		GEAR, TRAY
7	83-ZG3-204-210		GEAR, C
8	83-ZG3-205-010		GEAR, D
9	83-ZG3-217-010		S-SCREW, GEAR D
10	83-ZG3-220-210		GEAR, PULLEY 2
11	83-ZG3-214-010		BELT, L
12	83-ZG3-229-410		TRAY, CD 2
13	83-ZG3-210-110		HLDR, CHUCK
14	83-ZG3-602-010		RING, MAG
15	83-ZG3-212-010		CAP, DISC
16	83-ZG3-211-010		PLATE, DISC
17	81-ZG1-254-010		S-SCREW, MECH HLDR
18	83-ZG3-225-010		CUSH-G, MAIN A
A	87-067-945-110		VFT2+3-12 (F10)
B	87-251-071-410		U+2.6-4
C	87-512-074-210		SCREW, 2+2.6-8
D	87-352-075-210		VT2+2.6-10

CD MECHANISM EXPLODED VIEW 2 / 2



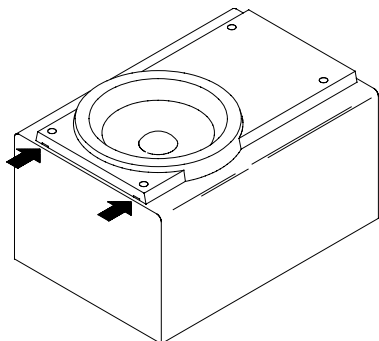
CD MECHANISM PARTS LIST 2 / 2

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-262-010		CHAS ASSY, E3
2	87-A90-836-010		PICKUP, KSS-213F
3	83-ZG2-235-010		GEAR, A3
4	83-ZG2-236-010		GEAR, MOTOR 3
5	83-ZG2-205-310		GEAR, B
6	83-ZG2-253-010		SHAFT, SLIDE 5
7	83-ZG2-245-510		LEVER, SHUTTER (*)
8	83-ZG2-250-210		SPR-E, SHT 2
A	87-261-032-210		V+2-3

GENERAL SPEAKER DISASSEMBLY INSTRUCTIONS (FOR REFERENCE)

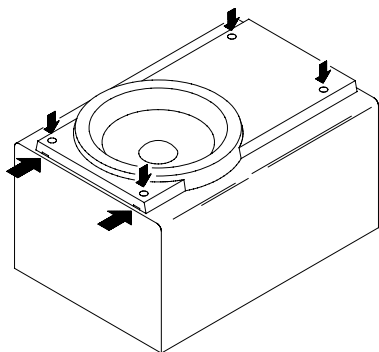
Type.1

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



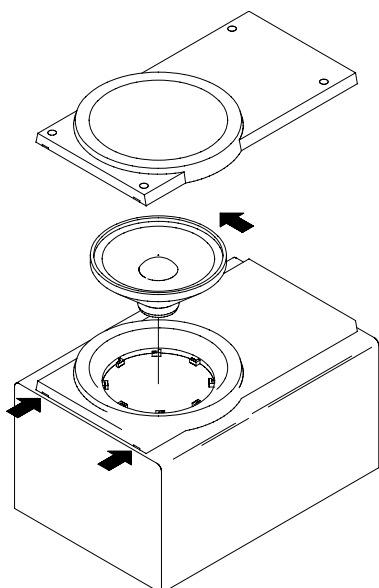
Type.2

Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver. Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.

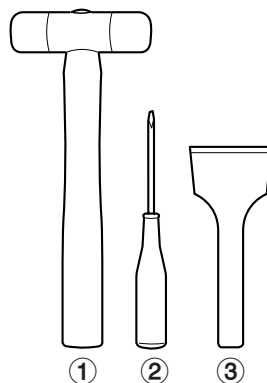


Type.3

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counter-clockwise direction while inserting a flat-bladed screwdriver into one of the hollows around speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



Type.4



TOOLS

- ① Plastic head hammer
- ② (⊖) flat head screwdriver
- ③ Cut chisel

How to Remove the PANEL, FR

1. Insert the (⊖) flat head screwdriver tip into the gap between the PANEL, FR and the PANEL, SPKR. Tap the head of the (⊖) flat head screwdriver with the plastic hammer head, and create the clearance as shown in Fig-1.
2. Insert the cut chisel in the clearance, and tap the head of the cut chisel with plastic hammer as shown in Fig-2, to remove the PANEL, FR.
3. Place the speaker horizontally. Tap head of the cut chisel with plastic hammer as shown in Fig-3, and remove the PANEL, FR completely.

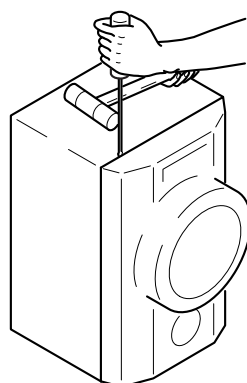


Fig-1

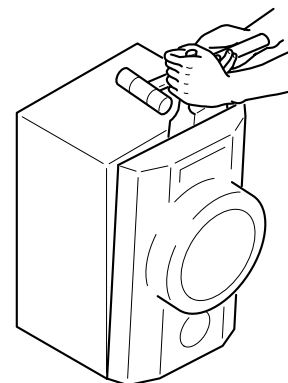


Fig-2

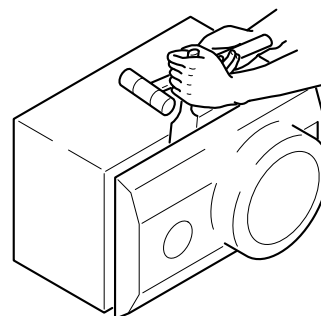


Fig-3

How to Attach the PANEL, FR

Attach the PANEL, FR to the PANEL, SPKR. Tap the four corners of the PANEL, FR with the plastic hammer to fit the PANEL, FR into the PANEL, SPKR completely.

SPEAKER PARTS LIST <SX – LMG9 (YJBN)>

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CPR-001-010		PANEL, FR A
2	8B-CPR-002-010		PANEL, FR B
3	8B-CPR-003-010		RING, W
4	8B-CPR-004-010		GRILLE, FRAME ASSY
5	8B-CPR-007-010		PROTECTOR
6	8B-CPR-008-010		HLLDR, TW
7	8B-CPR-602-010		SPKR, W 120 25/4
8	8B-CPR-604-010		SPKR, TW 25
9	8B-CP5-610-010		CORD, SPKR
10	8A-CJ5-415-010		TERMINAL

ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CLR-903-010		IB, U (ESF) B
2	87-006-226-010		ANT, LOOP AM
3	87-043-115-010		FEEDER-ANT, FM
4	8B-CL4-951-010		RC UNIT, RC-BAT10

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