

SERVICE MANUAL

COMPACT DISC
STEREO SYSTEM

BASIC CD MECHANISM : DA11T3C

SYSTEM	SPEAKER	REMOTE CONTROL
XR-M300	SX-M310	RC-AAT15
XR-M301		

This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-008-349-3T1).

SPECIFICATIONS

Main unit

FM tuner section

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	16.8 dBf
Antenna terminals	75 ohms (unbalanced)

MW tuner section

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

LW tuner section

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 μ V/m
Antenna	Loop antenna

Amplifier section

Power output	Rated: 12 W + 12 W (6 ohms, T.H.D.1%, 1 kHz/DIN 45500) Reference: 15 W + 15 W (6 ohms, T.H.D. 10%, 1 kHz/DIN 45324) DIN MUSIC POWER 32 W + 32 W
Inputs	AUX IN: 500 mV MD IN: 310 mV
Outputs	SUPER WOOFER: 1.2 V SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo mini jack): accepts headphones of 32 ohms or more LINE OUT: 2V DIGITAL OUT (OPTICAL):

Compact disc player section

Laser	Semiconductor laser ($\lambda = 780$ nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05 % (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

General

Power requirements	230 V AC, 50 Hz
Power consumption	80 W
Standby power consumption	1.8 W (power-economizing mode set to ON)
Dimensions of main unit (W \times H \times D)	144 \times 175 \times 284 mm
Weight of main unit	3.6 kg


Speaker system

Cabinet type	2 way, bass reflex (magnetic shielded type)
Speakers	Woofer: 100 mm Tweeter: 22 mm dome type
Impedance	6 ohms
Output sound pressure level	86 dB/W/m
Dimensions (W \times H \times D)	116 \times 169 \times 200 mm
Weight	1.4 kg

- Design and specifications are subject to change without notice.
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- Under license from BBE Sound, Inc.

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".

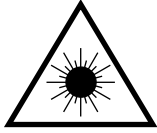
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CL6-915-010		IB, K(E)M<K>
1	8A-CL6-916-010		IB, EZ(9L)M<EZ>
2	8A-CL6-951-010		RC UNIT, RC-AAT15 EX
3	87-006-225-010		ANT, LOOP ANT NC2
4	87-A90-118-010		ANT, WIRE FM(Z)
	5	87-099-811-010	PLUG, ADPTR CONV(K)<K>

PROTECTION OF EYES FROM 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

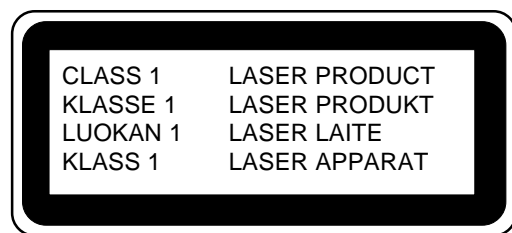
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

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.

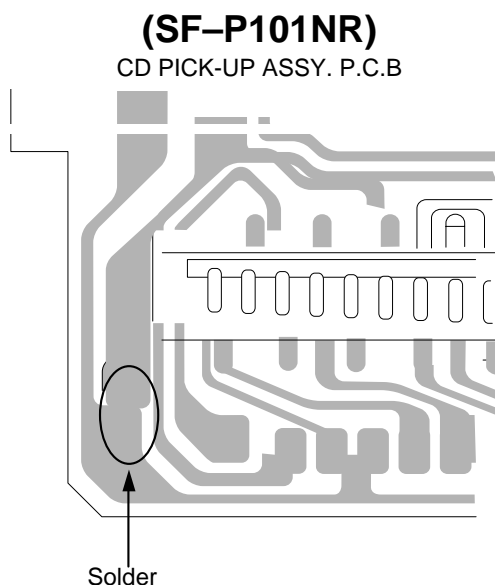
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



Precaution to replace Optical block

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.

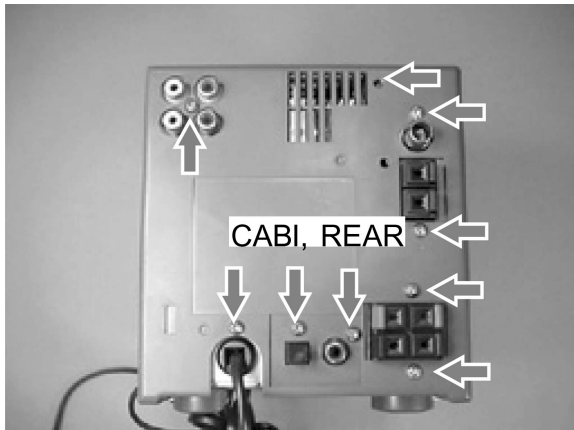
- 1) After the connection, remove solder shown in the figures below.



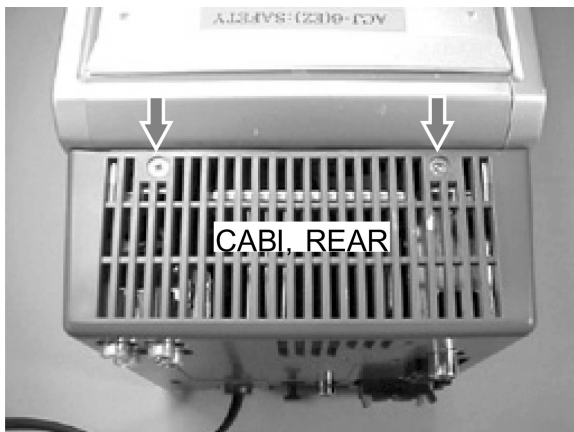
DISASSEMBLY INSTRUCTIONS

1. Removing the Ornament Parts

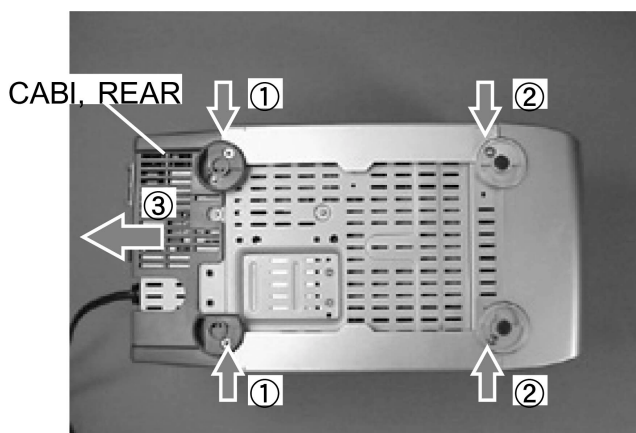
1) Remove the nine screws.



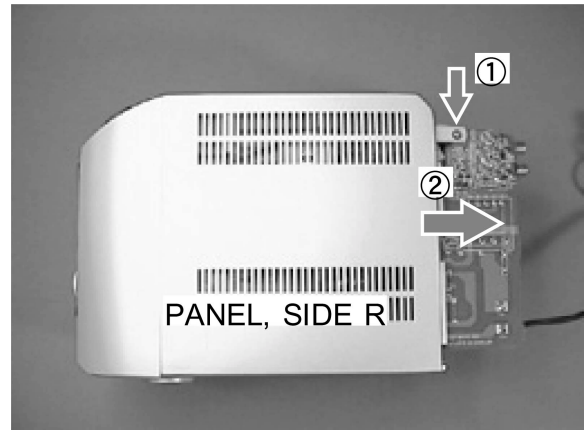
2) Remove the two screws.



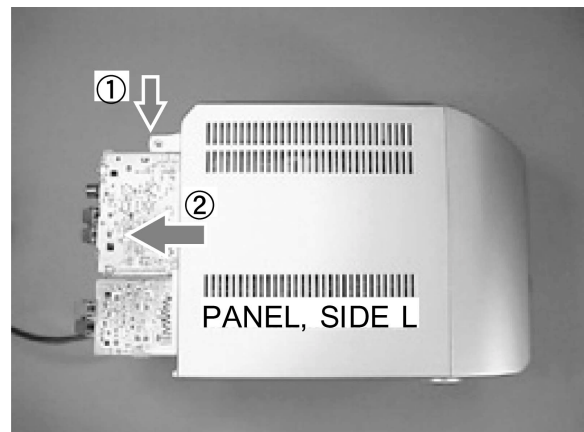
3) Remove the four screws (two screws ①, two screws ②) and remove the CABI, REAR ③.



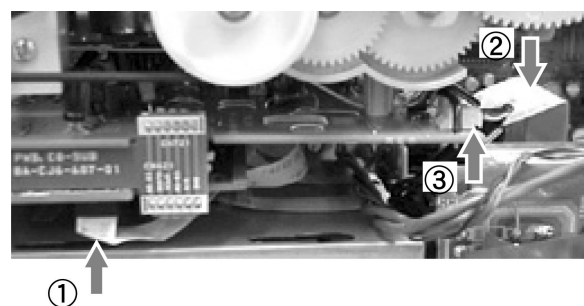
4) Remove the screw ① and remove the PANEL, SIDE R ②.



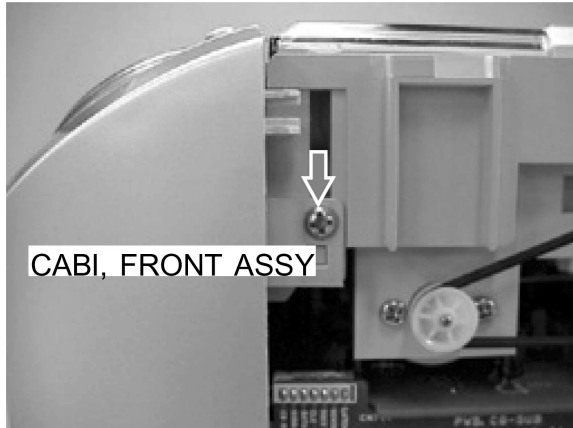
5) Remove the screw ① and remove the PANEL, SIDE L ②.



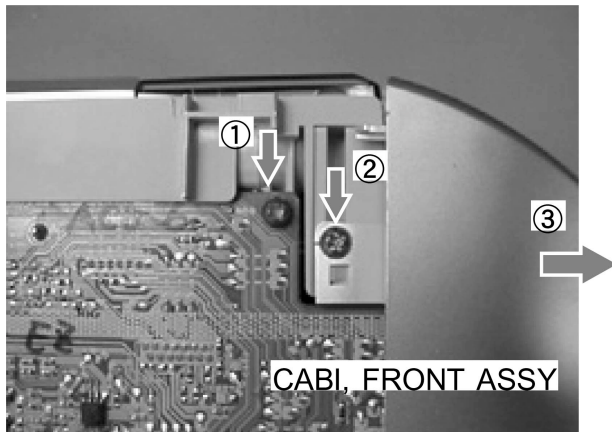
6) Remove the two FFCs ① and ②, and remove the connector ③.



7) Remove the screw.

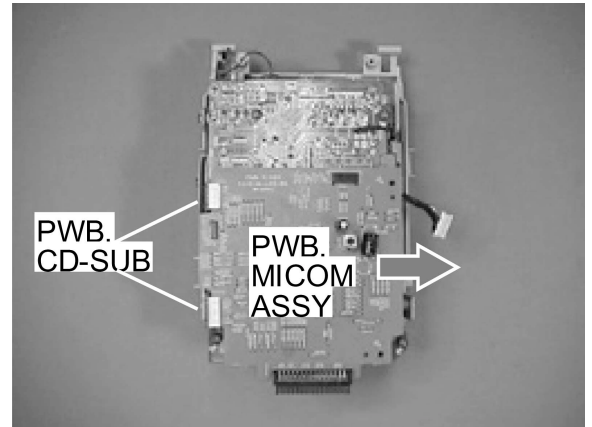


8) Remove the two screws ① and ②, and remove the CABI, FRONT ASSY ③.

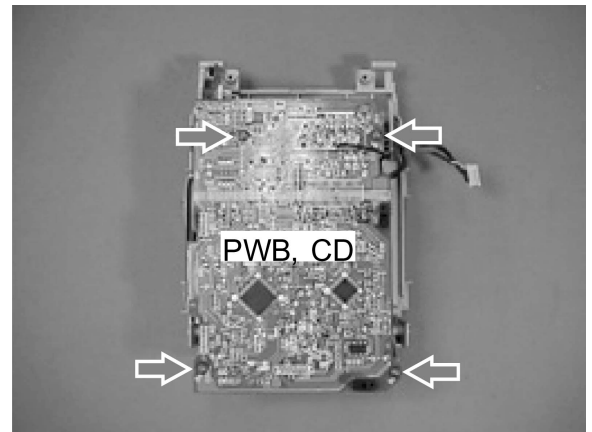


2. Removing the CD ASSY

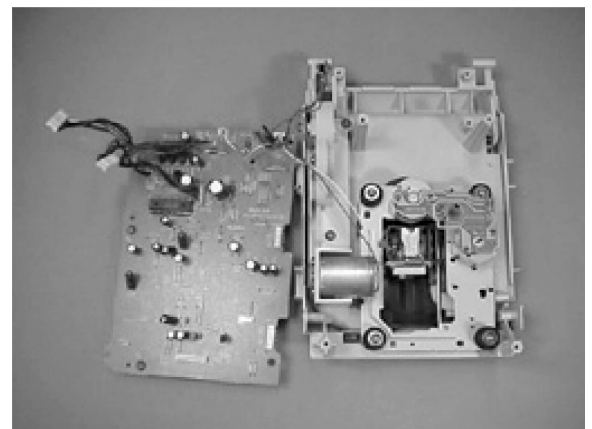
1) Remove the PWB, MICOM ASSY from the PWB, CD-SUB connector.



2) Remove the four screws and remove the PWB, CD.



3) This figure shows the state of the board removed.



TEST MODE <CD>

1. How to Activate CD Test Mode

While pressing the CD function button, insert the AC plug to the outlet. The message “CD TEST” appears on the display.

2. How to Cancel CD Test Mode

Exit the CD test mode by any of the following procedures.

- Press the function button (except the CD function button.)
- Press the power button.
- Disconnect the AC plug.

3. CD Test Mode functions

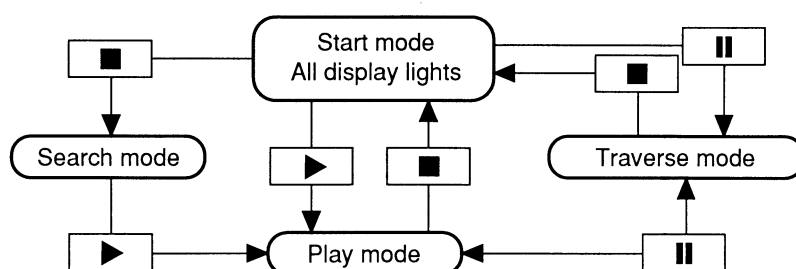
No	Mode	Operation	FL display	Operation	Checking item
1	Start mode		All lit		<ul style="list-style-type: none"> • FL item • Microprocessor
2	Search mode	■	TOC READING	<ul style="list-style-type: none"> • LD lights • Continuous focus search*1 	<ul style="list-style-type: none"> • APC circuit • Laser current • Focus search waveform • Focus error waveform (FOK and FZC are not monitored in the search mode)
3	Play mode	◀ ▶	Normal time display (spectrum analyzer)	<ul style="list-style-type: none"> • Normal playback • If TOC cannot be read, focus search of “2” is continued 	<ul style="list-style-type: none"> • Focus servo • Tracking servo • Sled servo • Spindle servo • FOK • RF waveform
4	Traverse mode		Normal time display	<ul style="list-style-type: none"> • Turning off/on repeats each time tracking servo OFF/ON is pressed 	<ul style="list-style-type: none"> • Tracking servo • Traverse waveform
5	Sled mode	◀▶	CD TEST	<ul style="list-style-type: none"> • Pickup moves to the outermost track *2 • Pickup moves to the innermost track (normal operation during playback) 	<ul style="list-style-type: none"> • Sled circuit • Mechanism

* Note 1: The driver IC (IC501) 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, restart the unit.

* Note 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 pick-up is located in the innermost track or the outermost track.

4. Overview of Operation

The each mode can be operated one after another using each button in the order that is shown by the arrow mark in the illustration from the “Start” mode.



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				C102	87-010-178-080		C-CAP,S 1000P-50 K B C2012
	87-A21-552-010	IC,LA4663A		C103	87-010-178-080		C-CAP,S 1000P-50 K B C2012
	8A-CJ6-681-030	C-IC,LC87F65C8A-R07		C104	87-010-234-040		CAP,E 47-16 M 5L SRE
	87-A20-914-010	IC,SPS-442-1-F		C106	87-010-405-080		CAP,E 10-50 M 11L SME
	87-A21-111-040	C-IC,M62495FP		C108	87-010-069-080		CAP,E 0.33-50 M 5L SRE
	87-A21-022-040	C-IC,BA3880FS		C109	87-010-069-080		CAP,E 0.33-50 M 5L SRE
	87-001-607-080	C-IC,NJM4558M		C110	87-010-260-080		CAP,E 47-25 M 11L SME
	87-A21-103-040	C-IC,MM1454XFBE		C111	87-010-385-080		CAP,E 220-25 M SME
	87-A20-547-010	C-IC,CXA1992AR		C112	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
	87-A20-546-010	C-IC,CXD2589Q		C113	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
	87-A20-445-010	IC,BA5936S		C114	87-010-544-080		CAP,E 0.1-50 M 11L SME
	87-017-917-080	C-IC,BU4066BCF		C115	87-010-544-080		CAP,E 0.1-50 M 11L SME
	87-001-792-080	C-IC,NJM2100M		C116	87-010-182-080		C-CAP,S 2200P-50 K B C2012
	87-A20-611-080	IC,M51943BSL-700A		C117	87-010-182-080		C-CAP,S 2200P-50 K B C2012
	87-017-825-010	IC,GP1F32T		C124	87-010-112-080		CAP,E 100-16 M 11L SME
	87-070-127-110	IC,LC72131D		C125	87-010-112-080		CAP,E 100-16 M 11L SME
	87-A20-913-010	IC,LA1837NL		C126	87-010-112-080		CAP,E 100-16 M 11L SME
	87-A20-440-040	C-IC,BUL920FS<EZ>		C127	87-012-156-080		C-CAP,S 220P-50 J CH GRM
TRANSISTOR				C128	87-012-156-080		C-CAP,S 220P-50 J CH GRM
	87-026-610-080	TR,KTC3198GR		C129	87-010-112-080		CAP,E 100-16 M 11L SME
	87-A30-234-080	TR,CSC4115BC		C131	87-010-405-080		CAP,E 10-50 M 11L SME
	87-A30-075-080	C-TR,2SA1235F		C132	87-010-405-080		CAP,E 10-50 M 11L SME
	87-A30-076-080	C-TR,2SC3052F		C134	87-010-322-080		C-CAP,S 100P-50 J CH GRM
	89-213-702-010	TR,2SB1370E		C135	87-010-297-080		C-CAP,100P-50 J CH
	87-A30-105-080	C-TR,RT1P 441C		C136	87-010-075-080		CAP,E 10-16 M 5L SRE
	87-026-228-080	C-TR,DTA124EK		C138	87-015-819-080		C-CAP, 0.01-50 K B C3216
	87-A30-257-080	C-TR,2SD1306E		C139	87-010-197-080		C-CAP,S 0.01-25 K B C2012
	87-A30-073-080	C-TR,RT1N 141C		C140	87-018-134-080		CAP,TC U 0.01-16 N Y UP050
	87-A30-087-080	C-FET,2SK2158		C143	87-015-819-080		C-CAP, 0.01-50 K B C3216
	87-026-580-080	C-TR,DTA123JK		C144	87-015-819-080		C-CAP, 0.01-50 K B C3216
	87-026-236-080	C-TR,DTC124EK		C145	87-010-197-080		C-CAP,S 0.01-25 K B C2012
	87-026-297-080	C-TR,DTA144TK		C146	87-010-197-080		C-CAP,S 0.01-25 K B C2012
	89-110-155-080	TR,2SA1015GR		C305	87-010-197-080		C-CAP,S 0.01-25 K B C2012
	89-113-184-080	TR,2SA1318T		C600	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
	87-A30-047-080	TR,CSD655E		C603	87-010-805-080		C-CAP,S 1-16 Z F
	87-A30-072-080	C-TR,RT1P 144C		C606	87-010-071-040		CAP,E 1-50 M 5L SRE
	89-327-143-080	C-TR,2SC27140		C607	87-010-805-080		C-CAP,S 1-16 Z F
	89-505-434-540	C-FET,2SK543(4/5)		C608	87-010-381-080		CAP,E 330-16 M SME
	87-A30-086-070	C-TR,CSD1306E		C609	87-010-197-080		C-CAP,S 0.01-25 K B C2012
	87-A30-074-080	C-TR,RT1P 141C		C610	87-010-197-080		C-CAP,S 0.01-25 K B C2012
DIODE				C611	87-010-402-080		CAP,E 2.2-50 M 11L SME
	87-A40-509-080	ZENER,MTZJ6.8C		C612	87-010-402-080		CAP,E 2.2-50 M 11L SME
	87-070-274-080	DIODE,1N4003 SEM		C613	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
	87-A40-345-080	ZENER,MTZJ10C		C614	87-010-318-080		C-CAP,S 47P-50 J CH GRM
	87-020-465-080	DIODE,1SS133		C615	87-010-318-080		C-CAP,S 47P-50 J CH GRM
	87-A40-270-080	C-DIODE,MC2838		C616	87-010-421-080		CAP,E 4.7-50 M 5L SRE
	87-A40-269-080	C-DIODE,MC2836		C617	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
	87-070-178-090	DIODE,1N5402-BD54		C618	87-012-140-080		C-CAP,S 470P-50 J CH
	87-A40-313-080	C-DIODE,MC2840		C619	87-012-140-080		C-CAP,S 470P-50 J CH
	87-A40-466-080	ZENER,MTZJ2.7A		C620	87-010-197-080		C-CAP,S 0.01-25 K B C2012
	87-070-136-080	ZENER,MTZJ5.1B		C621	87-010-234-080		CAP,E 47-16 M 5L SRE
	87-017-149-080	ZENER,HZS6A2L		C622	87-010-197-080		C-CAP,S 0.01-25 K B C2012
MAIN C.B				C625	87-010-071-040		CAP,E 1-50 M 5L SRE
C1	87-010-264-040	CAP,E 100-10 M 5L SRE		C631	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C2	87-010-194-080	C-CAP,S 0.047-25 Z F		C632	87-012-154-080		C-CAP,S 150P-50 J CH GRM
C3	87-010-075-040	CAP,E 10-16 M 5L SRE		C633	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C4	87-010-194-080	C-CAP,S 0.047-25 Z F		C634	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C6	87-010-235-080	CAP,E 470-16 M SME		C635	87-010-421-080		CAP,E 4.7-50 M 5L SRE
C7	87-010-112-080	CAP,E 100-16 M 11L SME		C636	87-010-421-080		CAP,E 4.7-50 M 5L SRE
C8	87-010-408-080	CAP,E 47-50 M 11L SME		C637	87-010-421-040		CAP,E 4.7-50 M 5L SRE
C11	87-010-403-080	CAP,E 3.3-50 M 11L SME		C638	87-012-140-080		C-CAP,S 470P-50 J CH
C100	87-010-068-080	CAP,E 0.22-50 M 5L SRE		C639	87-012-140-080		C-CAP,S 470P-50 J CH
C101	87-010-068-080	CAP,E 0.22-50 M 5L SRE		C640	87-010-188-080		C-CAP,S 6800P-50 K B C2012
				C641	87-010-188-080		C-CAP,S 6800P-50 K B C2012
				C642	87-010-213-080		C-CAP,S 0.015-25 K B GRM
				C643	87-010-213-080		C-CAP,S 0.015-25 K B GRM
				C644	87-010-404-080		CAP,E 4.7-50 M 11L SME
				C645	87-010-404-080		CAP,E 4.7-50 M 11L SME
				C646	87-010-404-080		CAP,E 4.7-50 M 11L SME
				C647	87-010-404-080		CAP,E 4.7-50 M 11L SME

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C650	87-010-213-080		C-CAP,S 0.015-25 K B GRM	C762	87-012-286-080		C-CAP,U 0.01-25 K B
C651	87-010-182-080		C-CAP,S 2200P-50 K B C2012	C763	87-010-829-080		C-CAP,U 0.047-16 Z F
C652	87-010-182-080		C-CAP,S 2200P-50 K B C2012	C765	87-012-286-080		C-CAP,U 0.01-25 K B
C653	87-010-234-080		CAP,E 47-16 M 5L SRE	C766	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C654	87-010-213-080		C-CAP,S 0.015-25 K B GRM	C768	87-012-286-080		C-CAP,U 0.01-25 K B
C655	87-010-491-040		CAP,E 0.22-50 M 5L SRE	C769	87-010-260-080		CAP,E 47-25 M 11L SME
C656	87-010-491-040		CAP,E 0.22-50 M 5L SRE	C770	87-010-829-080		C-CAP,U 0.047-16 Z F
C657	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C771	87-010-383-080		CAP,E 33-25 M 11L SME
C662	87-010-491-040		CAP,E 0.22-50 M 5L SRE	C772	87-010-829-080		C-CAP,U 0.047-16 Z F
C663	87-010-491-040		CAP,E 0.22-50 M 5L SRE	C773	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C666	87-015-680-080		CAP,E 47-10 M 7L SRA	C774	87-010-263-080		CAP,E 100-10 M 11L SME
C667	87-015-680-080		CAP,E 47-10 M 7L SRA	C775	87-010-404-080		CAP,E 4.7-50 M 11L SME
C674	87-010-154-080		C-CAP,S 10P-50 D CH GRM	C776	87-012-286-080		C-CAP,U 0.01-25 K B
C675	87-010-112-080		CAP,E 100-16 M 11L SME	C777	87-010-493-080		CAP,E 0.47-50 M 5L SRE
C676	87-010-405-080		CAP,E 10-50 M 11L SME	C778	87-010-401-080		CAP,E 1-50 M 11L SME
C677	87-010-234-080		CAP,E 47-16 M 5L SRE	C779	87-010-401-080		CAP,E 1-50 M 11L SME
C678	87-010-322-080		C-CAP,S 100P-50 J CH GRM	C780	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C679	87-010-415-080		CAP,E 10-50 M 5L SRE	C781	87-010-405-080		CAP,E 10-50 M 11L SME
C680	87-010-405-080		CAP,E 10-50 M 11L SME	C782	87-010-405-080		CAP,E 10-50 M 11L SME
C681	87-010-197-080		C-CAP,S 0.01-25 K B C2012	C783	87-012-286-080		C-CAP,U 0.01-25 K B
C682	87-010-197-080		C-CAP,S 0.01-25 K B C2012	C784	87-012-286-080		C-CAP,U 0.01-25 K B
CN5	87-099-567-010		CONN,10P V TUC-P10P-B1	C785	87-010-402-080		CAP,E 2.2-50 M 11L SME
CN600	87-A60-770-010		CONN,18P B TMC-D(X)	C786	87-010-402-080		CAP,E 2.2-50 M 11L SME
CN604	87-A60-624-010		CONN,7P V 2MM JMT	C787	87-012-275-080		C-CAP,U 1200P-50 K B GRM
CN606	87-A60-668-010		CONN,4P H 2MM JMT	C788	87-012-275-080		C-CAP,U 1200P-50 K B GRM
CNA1	88-805-033-030		CONN ASSY,3P 300	C789	87-012-275-080		C-CAP,U 1200P-50 K B GRM
CNA101	88-805-020-890		CONN ASSY,2P 80	C790	87-012-275-080		C-CAP,U 1200P-50 K B GRM
CNA604	8A-CL6-641-010		CONN ASSY,8P V LINE-OUT	C791	87-010-405-080		CAP,E 10-50 M 11L SME
J100	87-A60-238-010		TERMINAL,SP 4P (MSC)	C793	87-012-273-080		C-CAP,U 1500P-50 K B
J102	87-009-216-010		JACK,3.5 BLK ST W/SW	C794	87-010-406-080		CAP,E 22-50 M 11L SME
JR623	87-A50-190-080		C-COIL,S BLM21A102S	C795	87-010-596-080		C-CAP,S 0.047-16 K R C2012
JW102	87-008-372-080		FLTR,EMI BL01 RN1	C796	87-010-403-080		CAP,E 3.3-50 M 11L SME
JW121	87-008-372-080		FLTR,EMI BL01 RN1	C797	87-012-276-080		C-CAP,U 1500P-50 K B
JW122	87-008-372-080		FLTR,EMI BL01 RN1	C798	87-012-276-080		C-CAP,U 1500P-50 K B
L100	87-003-383-010		COIL,1UH K	C799	87-010-829-080		C-CAP,U 0.047-16 Z F
L101	87-003-383-010		COIL,1UH K	C812	87-012-286-080		C-CAP,U 0.01-25 K B
L103	87-008-372-080		FLTR,EMI BL01 RN1	C814	87-012-286-080		C-CAP,U 0.01-25 K B
				C820	87-010-260-080		CAP,E 47-25 M 11L SME
				C821	87-012-286-080		C-CAP,U 0.01-25 K B
				C822	87-012-286-080		C-CAP,U 0.01-25 K B
TUNER C.B							
C701	87-010-381-080		CAP,E 330-16 M SME	C823	87-012-286-080		C-CAP,U 0.01-25 K B
C702	87-010-404-080		CAP,E 4.7-50 M 11L SME	C828	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C703	87-012-286-080		C-CAP,U 0.01-25 K B	C829	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C704	87-012-286-080		C-CAP,U 0.01-25 K B	C859	87-012-286-080		C-CAP,U 0.01-25 K B<EZ>
C709	87-012-195-080		C-CAP,U 100P-50 J CH	C861	87-012-199-080		C-CAP,U 220P-50 J CH<EZ>
C711	87-010-260-080		CAP,E 47-25 M 11L SME	C862	87-012-199-080		C-CAP,U 220P-50 J CH<EZ>
C712	87-010-831-080		C-CAP,U 0.1-16 Z F	C863	87-012-270-080		C-CAP,U 470P-50 K B<EZ>
C713	87-012-286-080		C-CAP,U 0.01-25 K B	C864	87-010-405-080		CAP,E 10-50 M 11L SME<EZ>
C714	87-012-286-080		C-CAP,U 0.01-25 K B	C865	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<EZ>
C715	87-012-195-080		C-CAP,U 100P-50 J CH	C866	87-010-405-080		CAP,E 10-50 M 11L SME<EZ>
C717	87-012-286-080		C-CAP,U 0.01-25 K B	C867	87-012-286-080		C-CAP,U 0.01-25 K B<EZ>
C719	87-012-286-080		C-CAP,U 0.01-25 K B	C868	87-012-184-080		C-CAP,U 33P-50 J CH<EZ>
C720	87-012-195-080		C-CAP,U 100P-50 J CH	C869	87-012-180-080		C-CAP,U 22P-50 J CH<EZ>
C721	87-012-176-080		C-CAP,U 15P-50 J CH	C940	87-012-286-080		C-CAP,U 0.01-25 K B
C722	87-012-176-080		C-CAP,U 15P-50 J CH	C942	87-012-168-080		C-CAP,U 6P-50 D CH
C723	87-012-274-080		C-CAP,U 1000P-50 K B	C947	87-012-286-080		C-CAP,U 0.01-25 K B
C725	87-018-131-080		CAP,TC U 1000P-50 K B UP050	C949	87-A10-039-080		C-CAP,U 470P-50 J CH
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	C952	87-012-286-080		C-CAP,U 0.01-25 K B
C728	87-010-248-080		CAP,E 220-10 M 11L SME	C958	87-010-197-080		C-CAP,S 0.01-25 K B C2012
C729	87-012-274-080		C-CAP,U 1000P-50 K B	C959	87-010-831-080		C-CAP,U 0.1-16 Z F
C731	87-012-286-080		C-CAP,U 0.01-25 K B	C960	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C733	87-012-280-080		C-CAP,U 3300P-50 K B	C962	87-010-401-080		CAP,E 1-50 M 11L SME
C734	87-012-280-080		C-CAP,U 3300P-50 K B	CF801	87-008-423-010		FLTR,CF SFE10.7MS3G-A
C752	87-012-282-080		C-CAP,U 4700P-50 K B	CF802	82-785-747-010		CF,MS2 GHY,R
C753	87-012-195-080		C-CAP,U 100P-50 J CH	CN701	87-A60-650-010		CONN,16P H GRY TUC-P16X-C1<EZ>
C755	87-012-286-080		C-CAP,U 0.01-25 K B	CN701	87-A60-700-010		CONN,13P H GRY TUC-P13X-C1<K>
C756	87-012-286-080		C-CAP,U 0.01-25 K B	FFE801	A8-6ZA-19H-030		6ZA-1 FEMENM
C757	87-012-188-080		C-CAP,U 47P-50 J CH	J801	87-033-241-010		TERMINAL,ANT 2P AJ-2039
C758	87-012-167-080		C-CAP,U 5P-50 C CH	L771	87-A50-266-010		COIL,FM DET-2N(TOK)
C761	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	L772	87-A91-110-010		FLTR,PCFJZH-450 (TOK)

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C764	87-016-081-080		C-CAP,S 0.1-16 K R GRM	PIN3	S2-369-750-000		PLUG,6P
C765	87-010-382-080		CAP,E 22-25 M 11L SME	SW1	S4-S13-A01-600		SW,LEAF
C766	87-016-081-080		C-CAP,S 0.1-16 K R GRM	M1	S0-M10-A09-700		MOTOR SLED ASSY
C767	87-012-154-080		C-CAP,S 150P-50 J CH GRM				
C768	87-012-154-080		C-CAP,S 150P-50 J CH GRM				
							CD-SW C.B
C769	87-010-371-080		CAP,E 470-6.3 M SME				
C770	87-010-197-080		C-CAP,S 0.01-25 K B C2012	CNA705	8A-CJ6-639-010		CONN ASSY,3P V CD-SW
C771	87-010-176-080		C-CAP,S 680P-50 J SL	S701	87-A90-117-010		SW,PUSH 1-1-1 MPU10371MLB0 MIC
C772	87-010-176-080		C-CAP,S 680P-50 J SL	S702	87-A90-117-010		SW,PUSH 1-1-1 MPU10371MLB0 MIC
C773	87-010-318-080		C-CAP,S 47P-50 J CH GRM				
							LINE-OUT/PT C.B
C774	87-010-318-080		C-CAP,S 47P-50 J CH GRM				
C776	87-016-081-080		C-CAP,S 0.1-16 K R GRM				
C777	87-010-405-080		CAP,E 10-50 M 11L SME	C200	87-010-388-080		CAP,E 1000-25 M SME
C778	87-010-405-080		CAP,E 10-50 M 11L SME	C201	87-010-073-080		CAP,E 3.3-50 M 5L SRE
C781	87-010-181-080		C-CAP,S 1800P-50 K B GRM	△C202	87-A10-479-080		CAP,CER 2200P-250 M E KH
				C668	87-010-182-080		C-CAP,S 2200P-50 K B C2012
				C669	87-010-182-080		C-CAP,S 2200P-50 K B C2012
C782	87-010-181-080		C-CAP,S 1800P-50 K B GRM				
C785	87-010-322-080		C-CAP,S 100P-50 J CH GRM				
C786	87-010-154-080		C-CAP,S 10P-50 D CH GRM	C670	87-010-182-080		C-CAP,S 2200P-50 K B C2012
C787	87-010-322-080		C-CAP,S 100P-50 J CH GRM	C671	87-010-182-080		C-CAP,S 2200P-50 K B C2012
C788	87-010-154-080		C-CAP,S 10P-50 D CH GRM	C672	87-010-182-080		C-CAP,S 2200P-50 K B C2012
				C673	87-010-182-080		C-CAP,S 2200P-50 K B C2012
				C690	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C789	87-010-154-080		C-CAP,S 10P-50 D CH GRM				
C790	87-010-322-080		C-CAP,S 100P-50 J CH GRM	C691	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C791	87-010-318-080		C-CAP,S 47P-50 J CH GRM	CN201	87-A60-620-010		CONN,3P V 2MM JMT
C800	87-A11-112-080		CAP,TC U 1000P-50 J CH	CN603	87-A60-625-010		CONN,8P V 2MM JMT
C801	87-010-186-080		C-CAP,S 4700P-50 K B C2012	CNA200	8A-CJ6-635-010		CONN ASSY,8P H POWER
				J600	87-099-813-010		JACK,PIN 3P RRR W/O SW
C802	87-018-209-080		CAP,TC U 0.1-50 Z F UP050				
C803	87-016-081-080		C-CAP,S 0.1-16 K R GRM	J601	87-099-814-010		JACK,PIN 3P WWW W/O SW
C804	87-016-081-080		C-CAP,S 0.1-16 K R GRM	JR606	87-A50-190-080		C-COIL,S BLM21A102S
C805	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	△PR202	87-A90-091-080		PROTECTOR,2A 491SERIES 60V
C806	87-010-196-080		C-CAP,S 0.1-25 Z F C2012	△PR203	87-A90-091-080		PROTECTOR,2A 491SERIES 60V
				△PT200	8A-CJ6-671-010		PT,EZ ACJ-6
C810	87-010-596-080		C-CAP,S 0.047-16 K R C2012				
C815	87-010-260-080		CAP,E 47-25 M 11L SME	△PT201	8Z-NF8-659-010		PT,SUB ZNF-8(E) TAM
C816	87-010-178-080		C-CAP,S 1000P-50 K B C2012	△RY200	87-A90-977-010		RELAY,AC12V DG12D1-O(M)
CN702	87-A60-667-010		CONN,3P H 2MM JMT	△T201	87-A60-317-010		TERMINAL, 1P MSC
CN704	87-A60-619-010		CONN,2P V 2MM JMT	△T202	87-A60-317-010		TERMINAL, 1P MSC
							PT-SUB C.B
CN705	87-A60-620-010		CONN,3P V 2MM JMT				
CN707	87-A60-424-010		CONN,16P V TOC-B				
CN710	87-099-555-010		CONN,7P TUC-P7X-B1				
CN720	87-099-554-010		CONN,6P H TUC-P6X-B1				
CNA700	8A-CJ6-633-010		CONN ASSY,7P H CD-SIG				
CNA706	88-805-061-220		CONN ASSY,6P 120				
FFC707	8A-CJ6-643-010		FF-CABLE,16P 70MM CD-CTRL				
JW734	87-008-372-080		FLTR,EMI BL01 RN1				
L701	87-003-102-080		COIL,10UH J LAL02				
L710	87-003-102-080		COIL,10UH J LAL02				
L801	87-008-372-080		FLTR,EMI BL01 RN1				
R700	87-022-214-080		C-RES,S 100K-1/10W F				
R701	87-022-214-080		C-RES,S 100K-1/10W F				
R702	83-212-863-080		C-RES,S 27K-1/10W F				
R703	83-212-863-080		C-RES,S 27K-1/10W F				
R705	87-022-350-080		C-RES,S 3.3K-1/10W F				
R706	87-022-350-080		C-RES,S 3.3K-1/10W F				
R707	87-022-350-080		C-RES,S 3.3K-1/10W F				
R708	87-022-350-080		C-RES,S 3.3K-1/10W F				
R714	87-022-367-080		C-RES,S 150K-1/10W F				
R715	87-022-367-080		C-RES,S 150K-1/10W F				
R773	87-A50-190-080		C-COIL,S BLM21A102S				
R789	87-008-372-080		FLTR,EMI BL01 RN1				
R804	87-A50-190-080		C-COIL,S BLM21A102S				
X701	87-A70-046-010		VIB.XTAL 16.934MHZ				

CD-SUB C.B

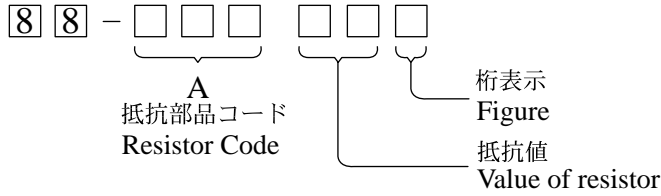
CN421	87-099-565-010		CONN,6P TUC-P6P-B1
CN431	87-099-566-010		CONN,7P TUC-P7P-B1
CN711	87-099-566-010		CONN,7P TUC-P7P-B1
CN721	87-099-565-010		CONN,6P TUC-P6P-B1

CD MOTOR C.B

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding



チップ抵抗
Chip resistor

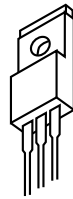
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形/Form	L	W		t
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



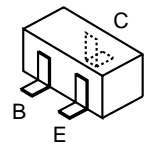
E C B

2SA1015
2SA1318
CSC4115
CSD655
KTC3198



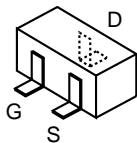
B C E

2SB1370

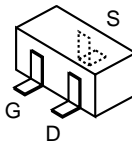


B C E

2SA1235
2SC2714
2SC3052
2SD1306
CSD1306
DTA123JK
DTA124EK
DTA144TK
DTC124EK
RT1N141C
RT1P141C
RT1P144C
RT1P441C

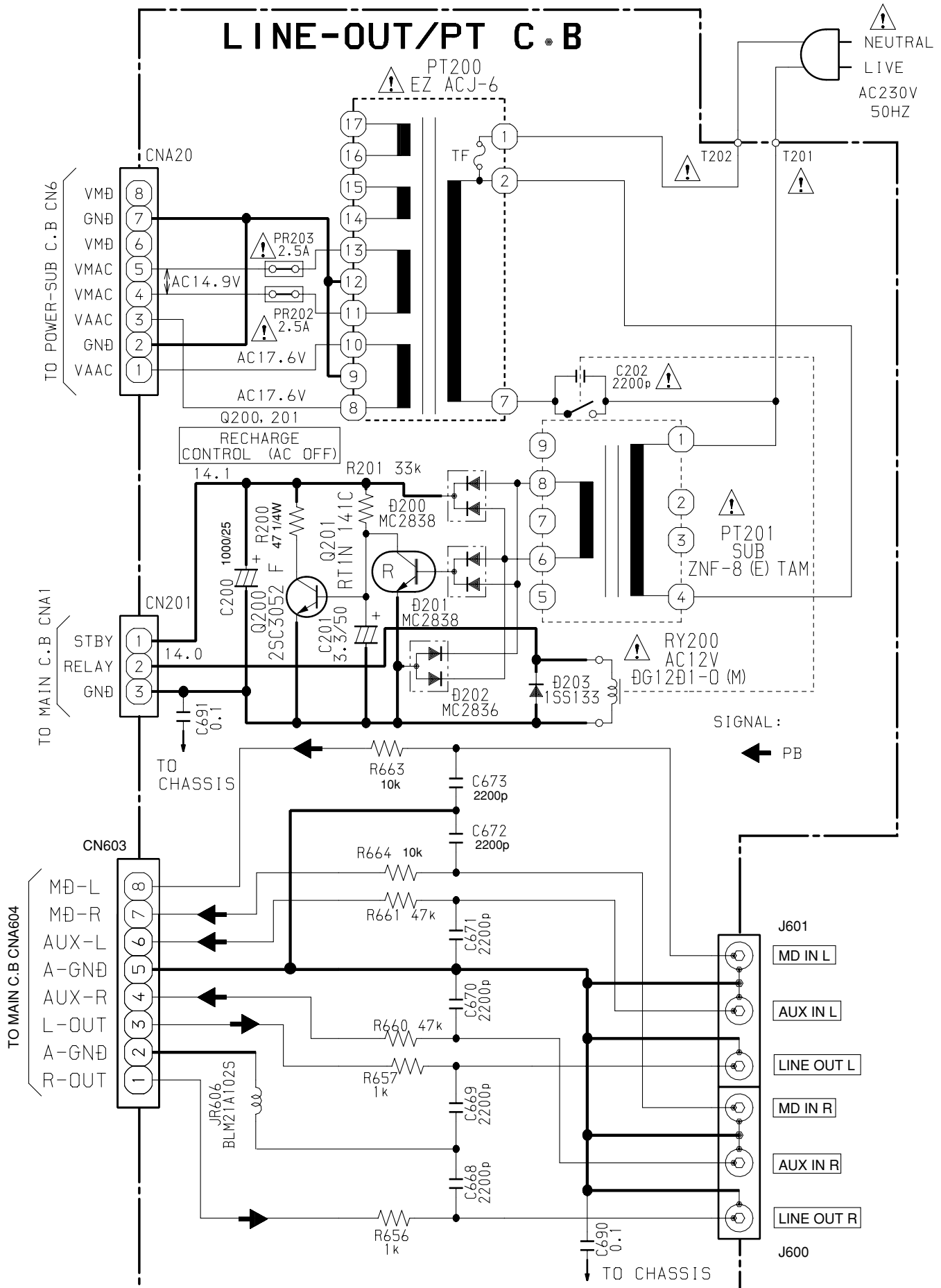


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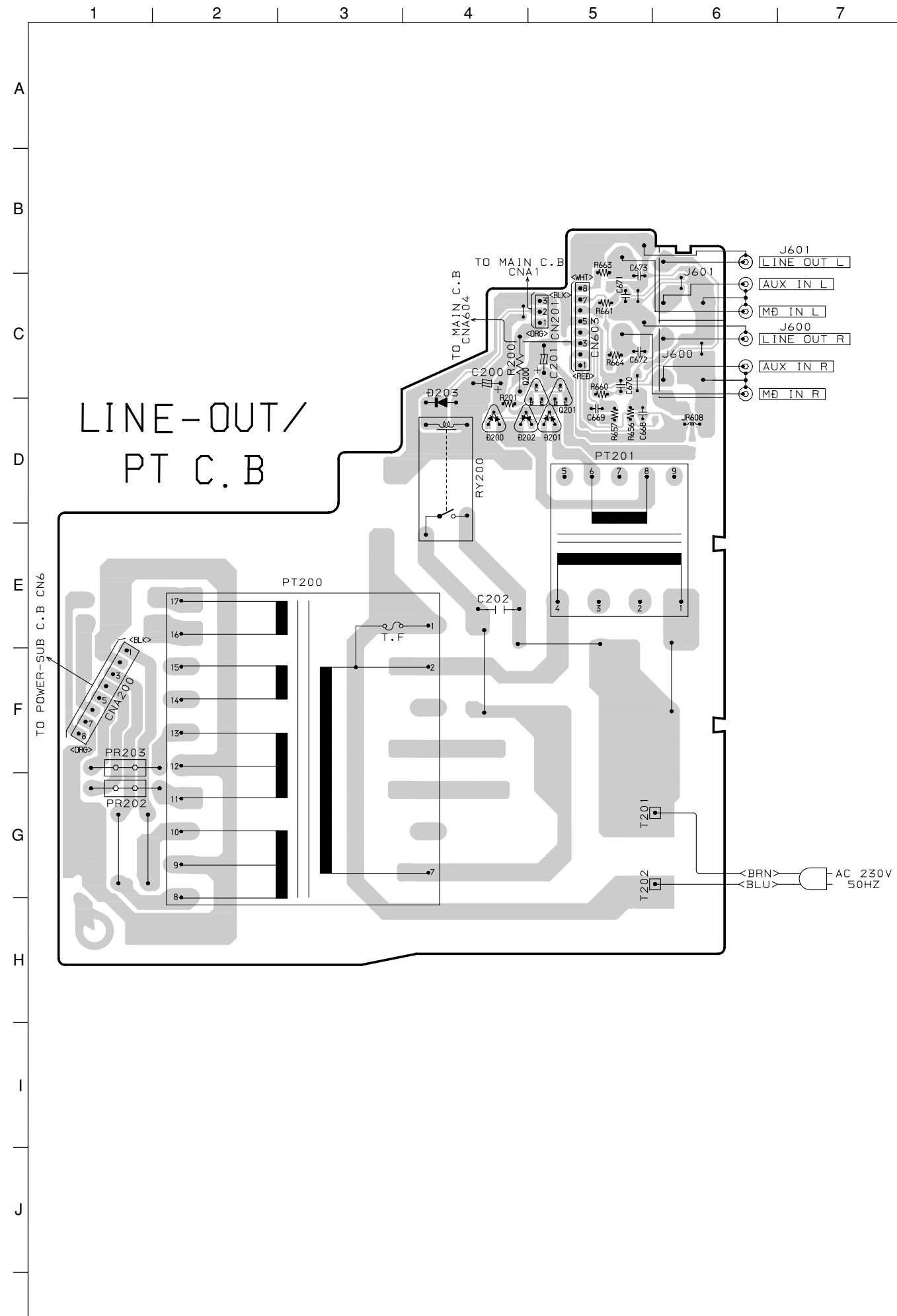


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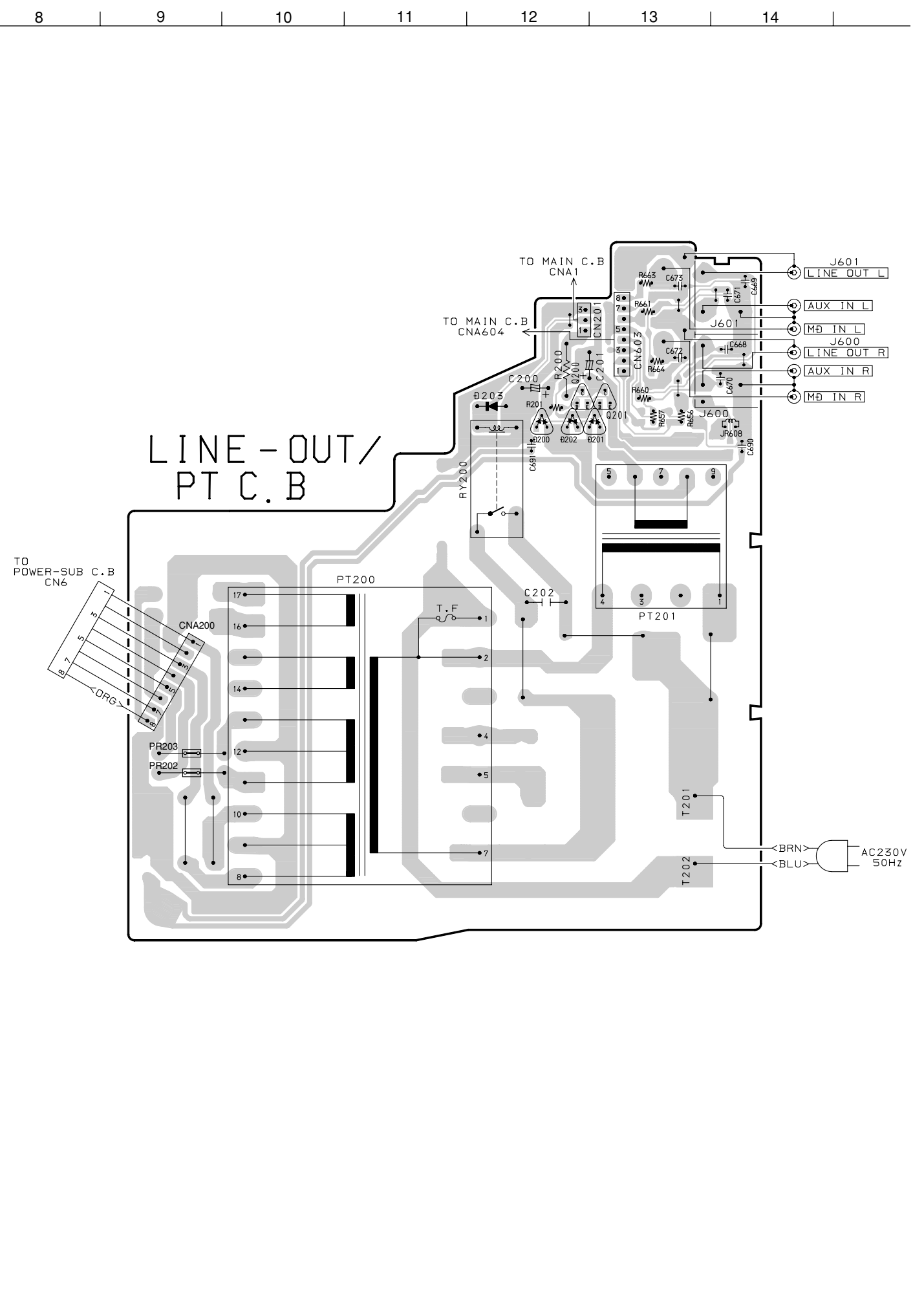
SCHEMATIC DIAGRAM-1 (LINE OUT/PT SECTION)



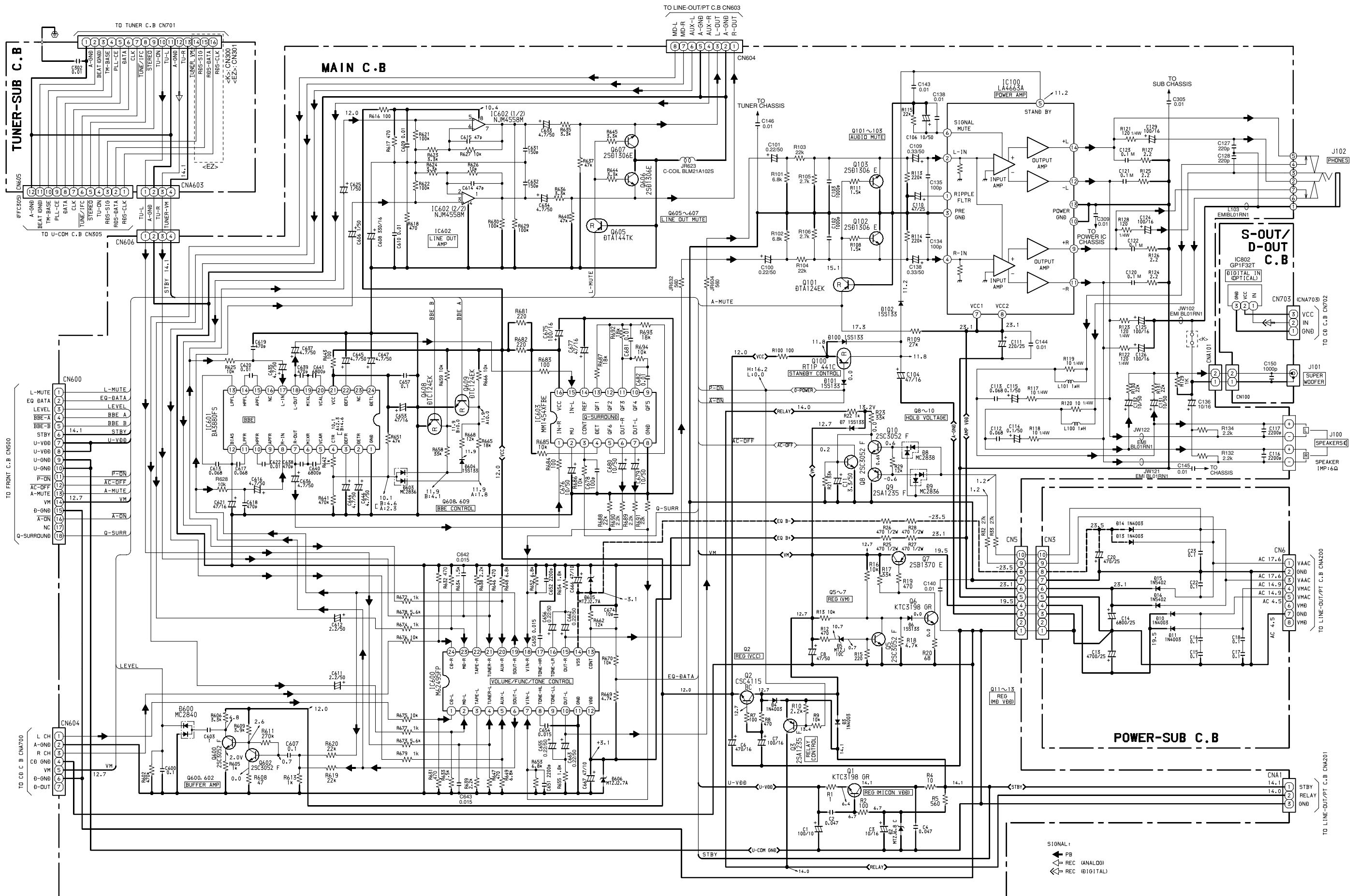
WIRING-1 (LINE OUT/PT C.B) <K>

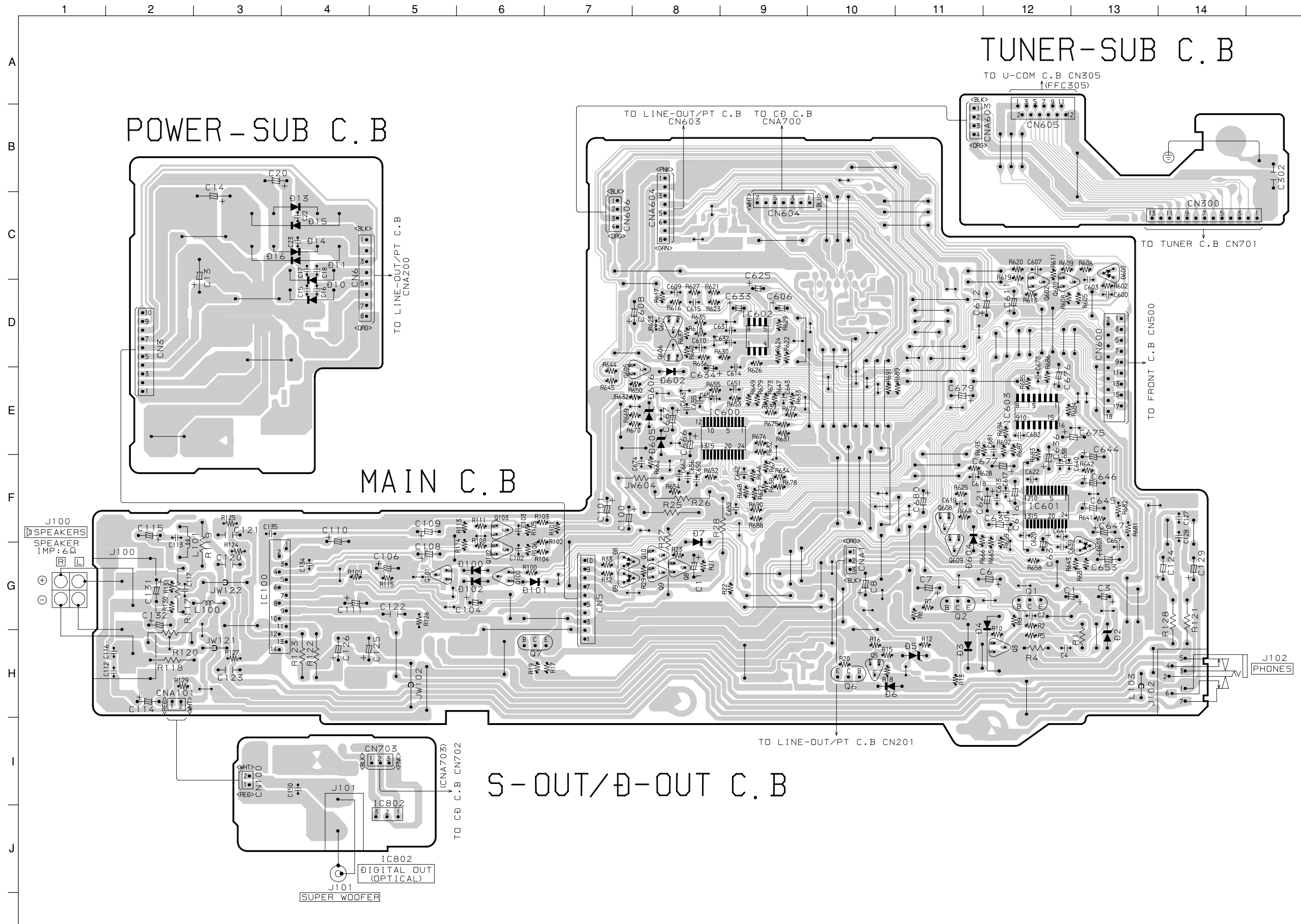


WIRING-2 (LINE OUT/PT C.B) <EZ>

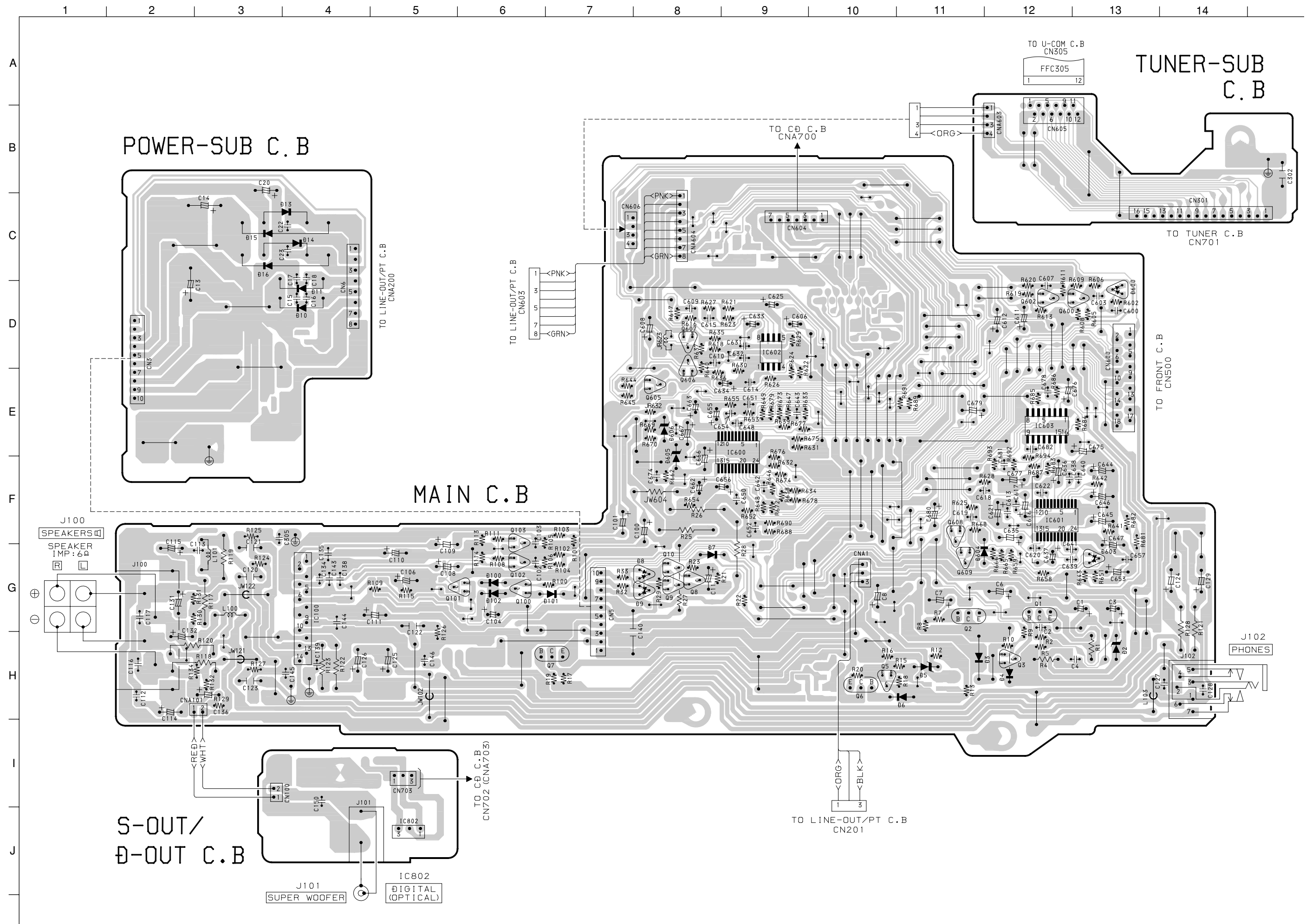


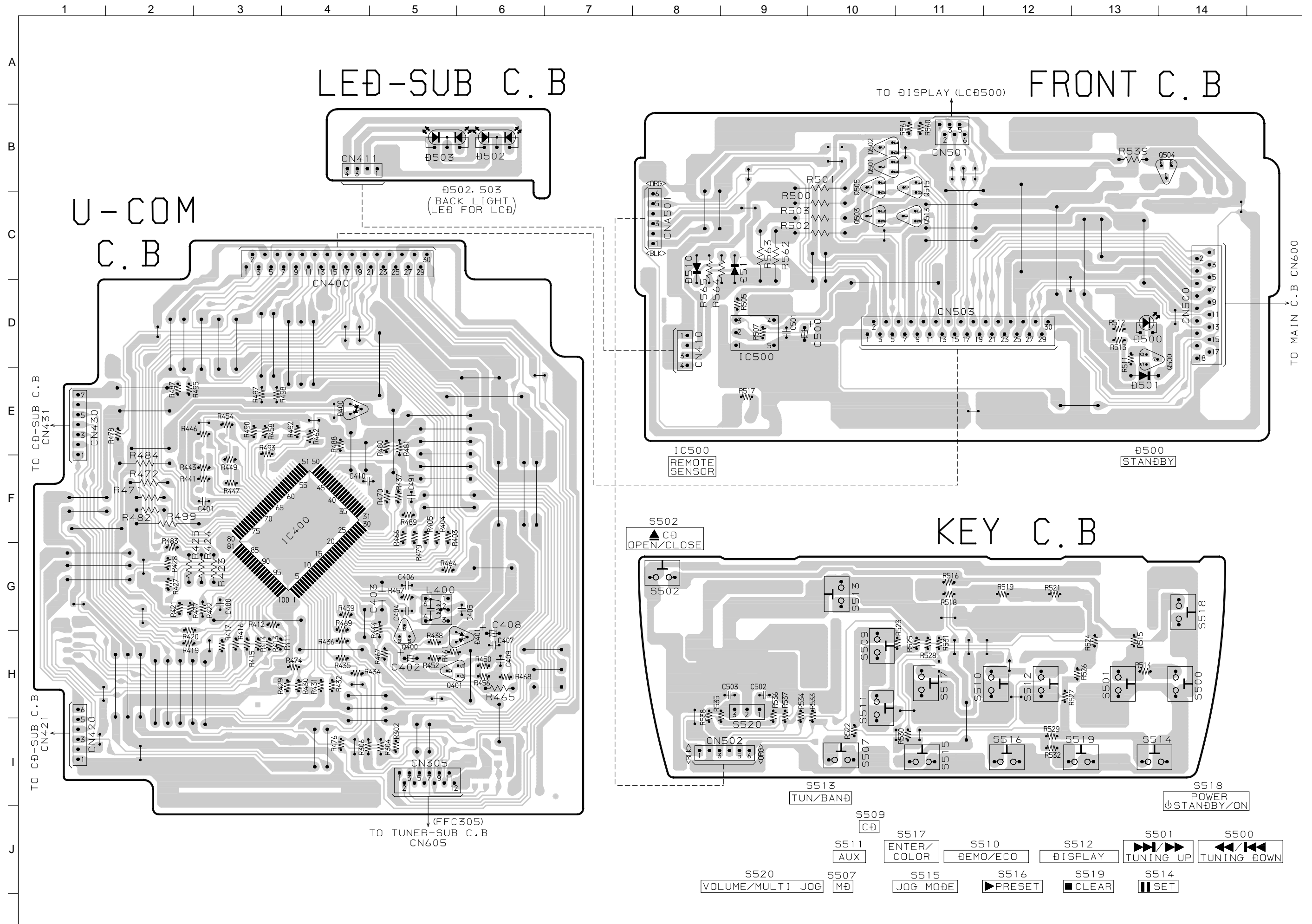
SCHEMATIC DIAGRAM-2 (MAIN SECTION)

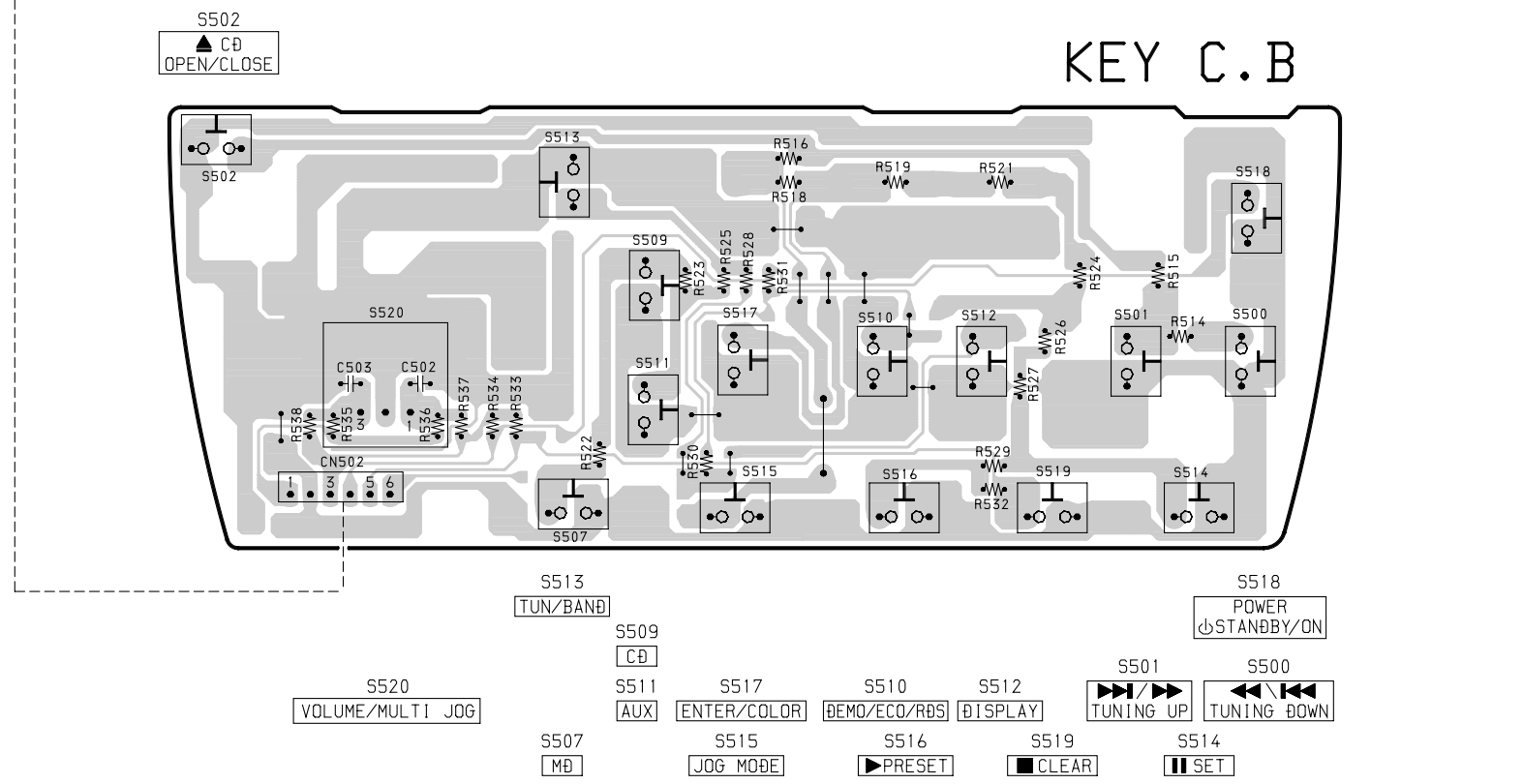
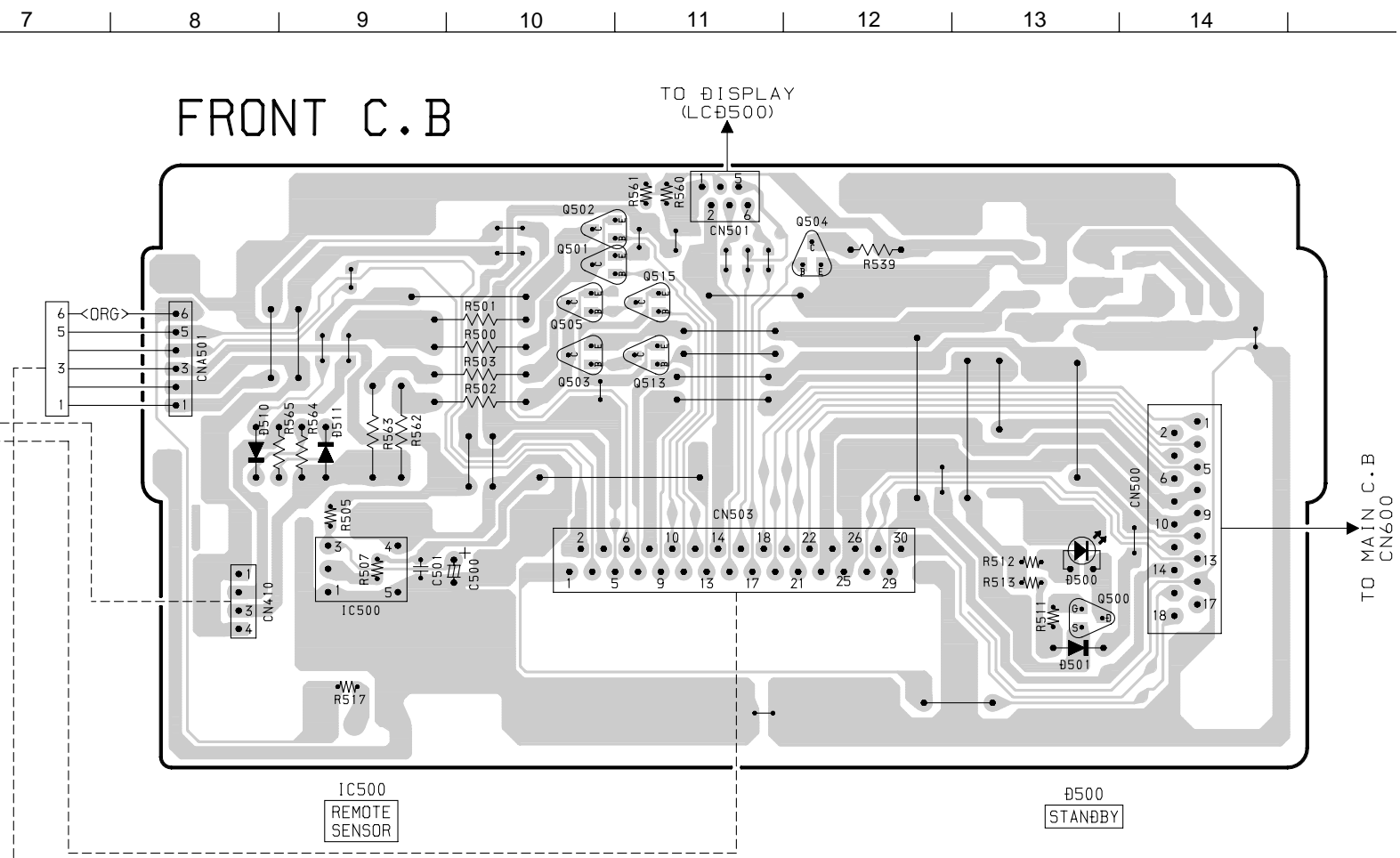
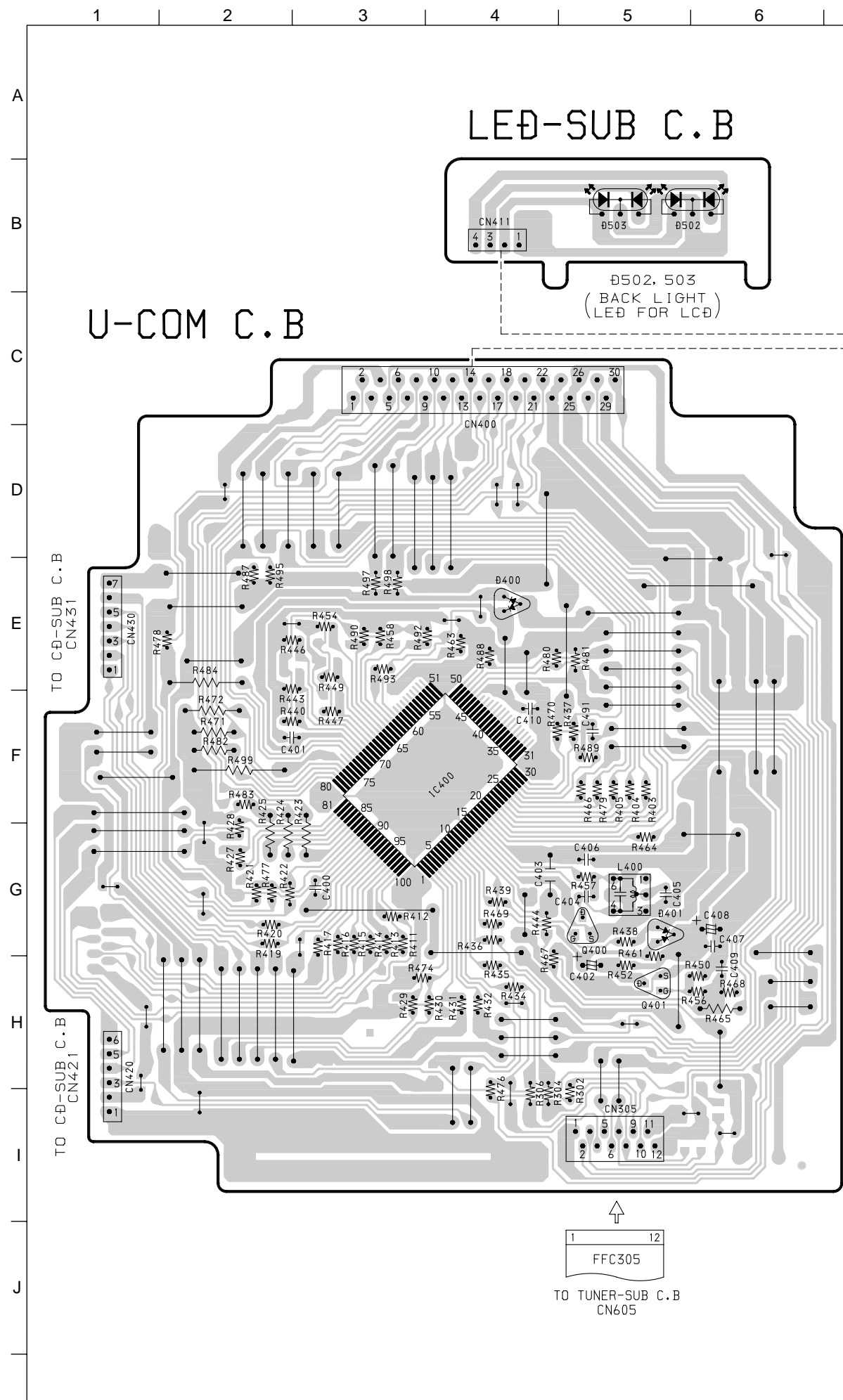




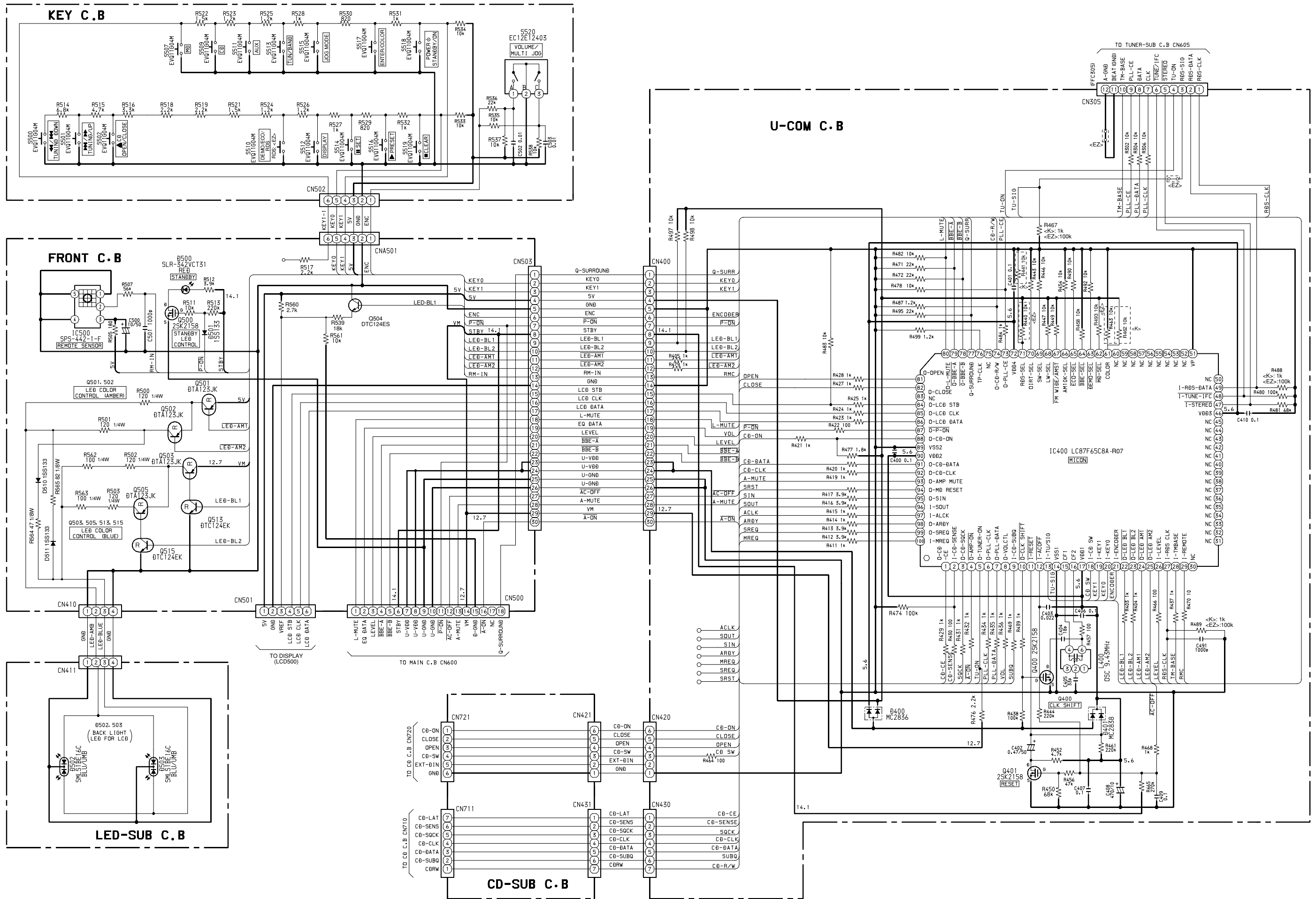
WIRING-4 (MAIN, POWER-SUB, TUNER-SUB, S-OUT/D-OUT C.B) <EZ>



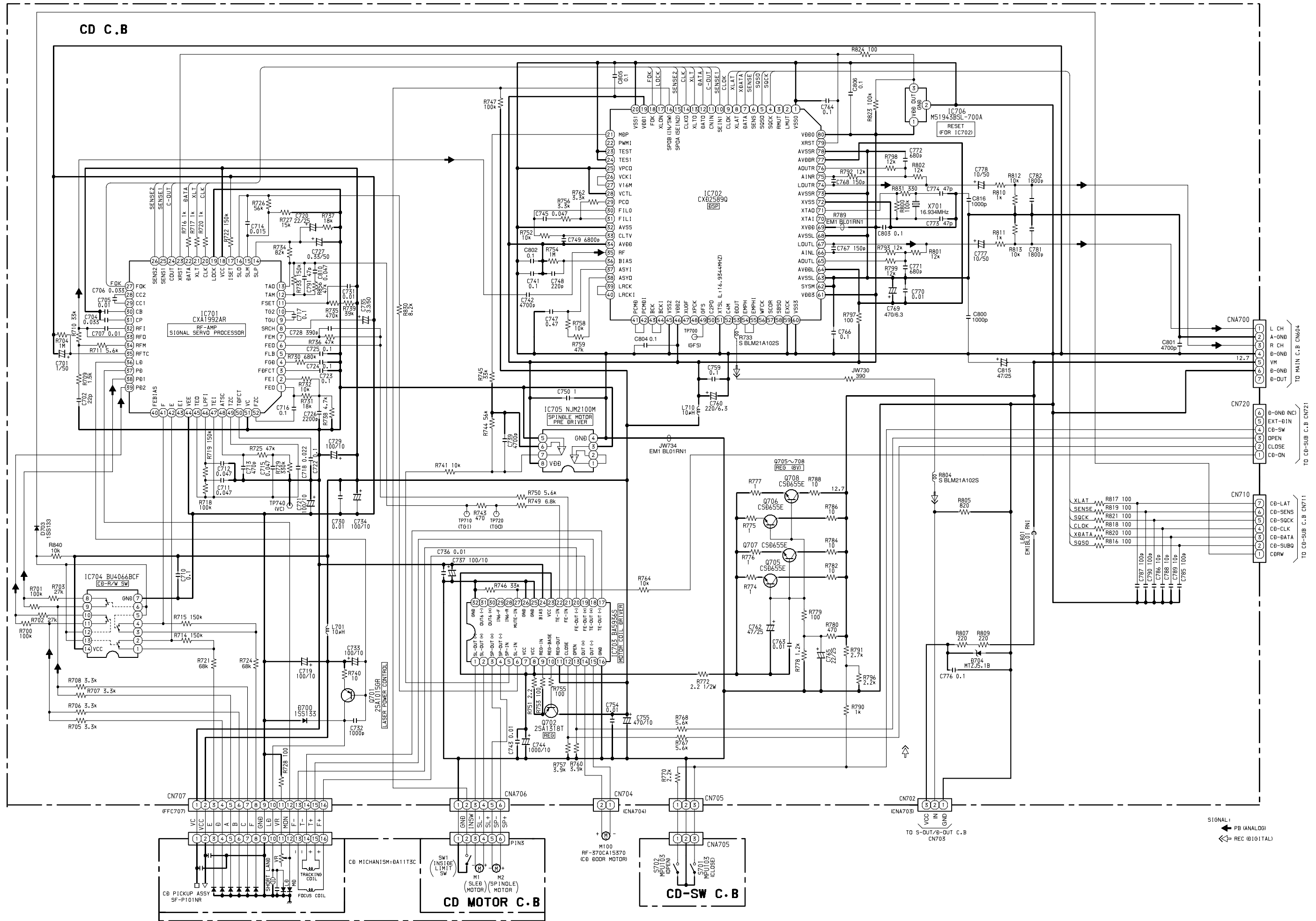


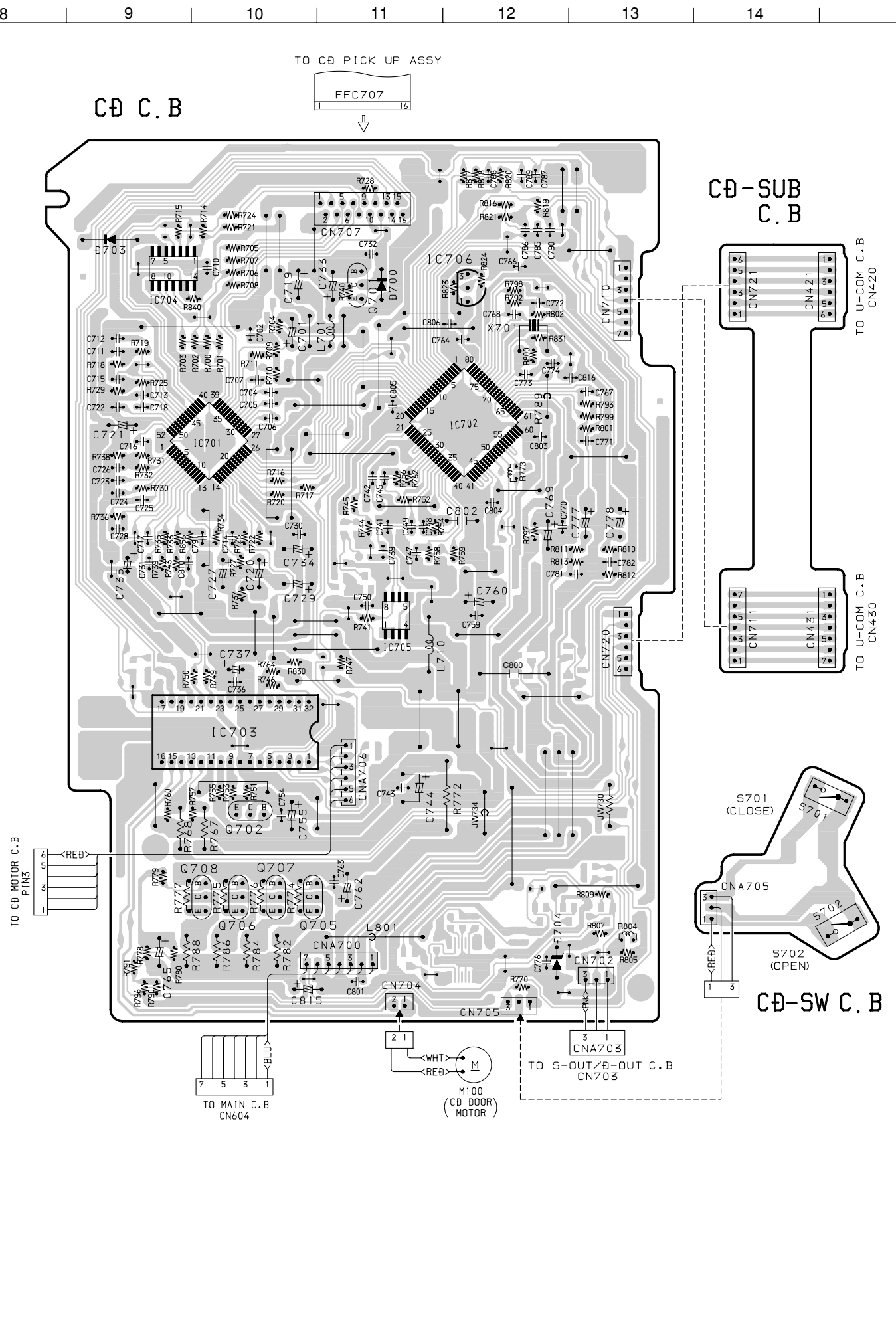
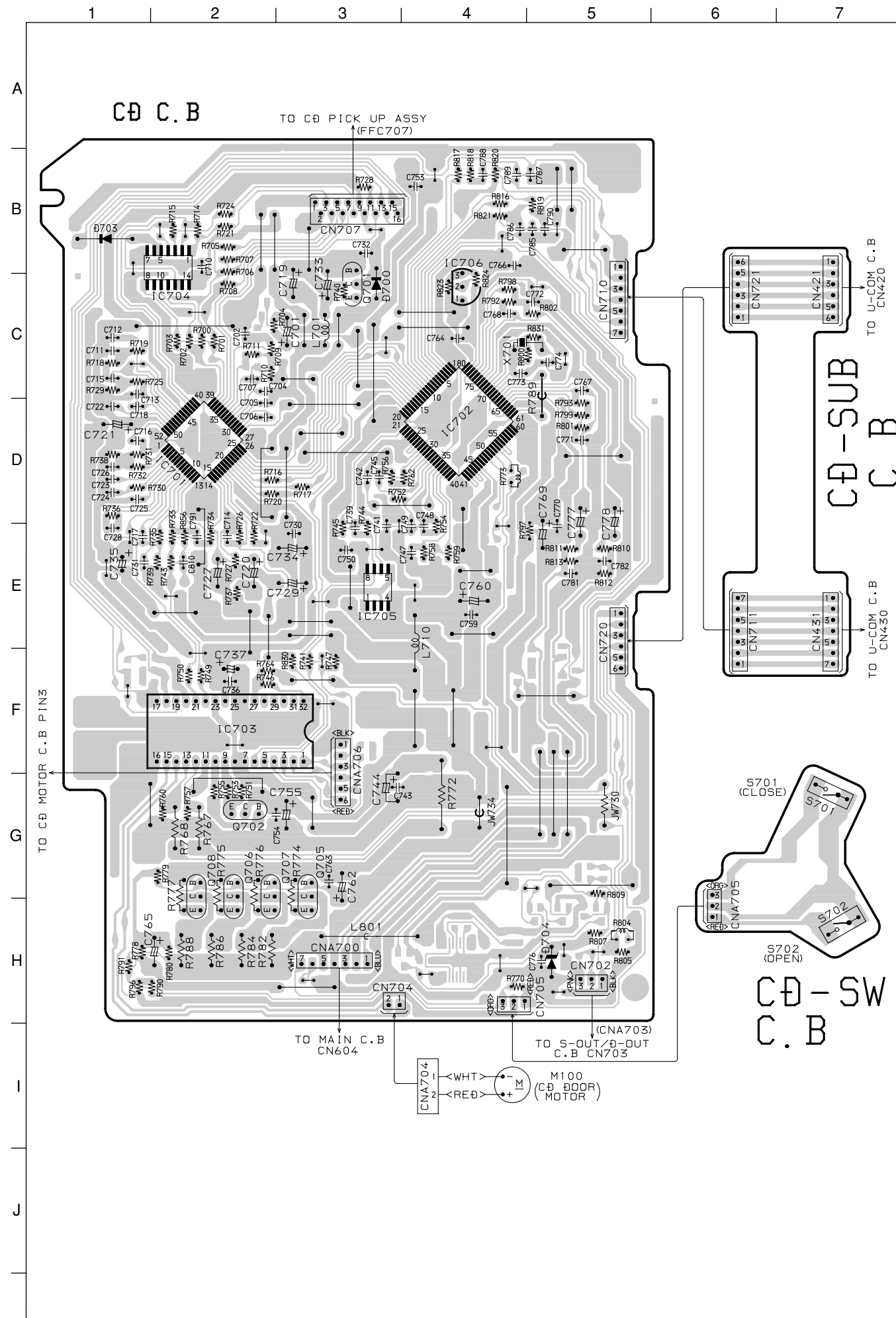


SCHEMATIC DIAGRAM-3 (KEY, FRONT, U-COM SECTION)

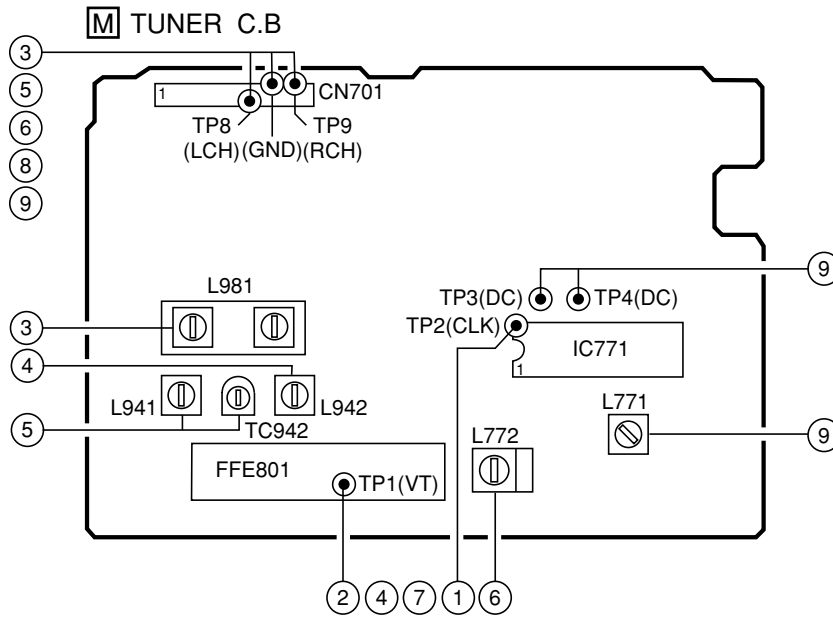


SCHEMATIC DIAGRAM-4 (CD SECTION)





ADJUSTMENT <TUNER>



1. Clock Frequency Check
 Settings : • Test point : TP2 (CLK)
 Method : Set to MW 1602kHz and check that the test point is 2052kHz \pm 45Hz.
2. MW VT Check
 Settings : • Test point : TP1 (VT)
 Method : Set to MW 1602kHz and check that the test point is less than 8.0V. Then set to MW 531kHz and check that the test point is more than 0.6V.
3. MW Tracking Adjustment
 Settings : • Test point : TP8 (Lch), TP9 (Rch)
 • Adjustment location : L981 (1/3)
 Method : Set to MW 999kHz and adjust L981 (1/3) so that the test point becomes maximum.
4. LW VT Adjustment
 Settings : • Test point : TP1 (VT)
 • Adjustment location : L942
 Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V \pm 0.05V. Then set to LW 290kHz and check that the test point is less than 8.0V.
5. LW Tracking Adjustment
 Settings : • Test point : TP8 (Lch), TP9 (Rch)
 • Adjustment location :
 L941 144kHz
 TC942 290kHz
 Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to maximum by L941. Then the level at 290kHz is adjusted to maximum by TC942.
6. AM IF Adjustment
 Settings : • Test point : TP8 (Lch), TP9 (Rch)
 • Adjustment location :
 L772 450kHz
7. FM VT Check
 Settings : • Test point : TP1 (VT)
 Method : Set to FM 108.0MHz and check that the test point is less than 8.0V. Then set to FM 87.5 MHz and check that the test point is more than 0.5V.
8. FM Tracking Check
 Settings : • Test point : TP8 (Lch), TP9 (Rch)
 Method : Set to FM 98.0MHz and check that the test point is less than 13dB μ V.
9. DC Balance / Mono Distortion Adjustment
 Settings : • Test point : TP3,TP4 (DC balance)
 TP8 (Lch), TP9 (Rch) (Distortion)
 • Adjustment location : L771
 • Input level : 60dB μ V
 Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP3 and TP4 becomes 0V \pm 0.04V.
 Next, check that the distortion is less than 1.3%.

IC DESCRIPTION

IC, CXA1992AR

Pin No.	Pin Name	I/O	Description
1	FEO	O	Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition.
2	FEI	I	Input terminal for focus error.
3	FDFACT	I	Capacitor connection terminal for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TAM	I	Tracking amplifier inverted input.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input.
15	SLM	I	Sled amplifier inverted input.
16	SLO	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input with external resistance connected.
18	VCC	I	Power supply.
19	LOCK	I	“L” setting starts sled disorder-prevention circuit. (No pull-up resistance) (Connected to VC)
20	CLK	I	Clock input for serial data transfer from CPU. (No pull-up resistance)
21	XLT	I	Latch input from CPU. (No pull-up resistance)
22	DATA	I	Serial data input from CPU. (No pull-up resistance)
23	XRST	I	Reset system at “L” setting. (No pull-up resistance)
24	COUT	O	Signal output for track number counting.
25	SENS1	O	FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU.
26	SENS2	O	DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU.
27	FOK	O	Output terminal for focus OK comparator.
28	CC2	I	Input pin where the DEFECT bottom hold output is capacitance coupled.
29	CC1	O	DEFECT bottom-hold output terminal. Internally connected to interruption comparator input.
30	CB	I	Connection terminal for DEFECT bottom-hold capacitor.
31	CP	I	Connection terminal for MIRR hold-capacitor. Anti-reverse input terminal for MIRR comparator.
32	RFI	I	Input terminal by capacity combination of RF summing amplifier.
33	RFO	O	Output terminal of RF summing amplifier. Checkpoint of Eye pattern.

Pin No.	Pin Name	I/O	Description
34	RFM	I	Anti-reverse input terminal for RF summing amplifier. The gain of RF amplifier is decided by the connection resistance between RF-M and RF-O terminals.
35	RFTC	I	This is a pin where the selection time constant is externally connected to control the RF level.
36	LD	O	APC amplifier output terminal.
37	PD	I	APC amplifier input terminal.
38 ~ 39	PD1 ~ PD2	I	RFI-V amplifier inverted input pin. These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input.
40	FEBIAS	I/O	Bias adjustment pin of the focus error amplifier. (Not used)
41 ~ 42	F ~ E	I	F and EIV amplifier inverted input pins. These pins are connected to the F and E of the optical pickup, receiving by current input.
43	EI	-	Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment) (Not used)
44	VEE	-	GND connection pin.
45	TEO	O	Output terminal for tracking-error amplifier. Output E-F signal.
46	LPFI	I	BAL adjustment comparator input pin. (Input through LPF from TEO)
47	TEI	I	Input terminal for tracking error.
48	ATSC	I	Window-comparator input terminal for detecting ATSC.
49	TZC	I	Input terminal for tracking-zero cross comparator.
50	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
51	VC	O	Output terminal for DC voltage reduced to half of VCC+VEE.
52	FZC	I	Input terminal for focus-zero cross comparator.

IC, CXD2589Q

Pin No.	Pin Name	I/O	Description
1	VSS	-	GND.
2	LMUT	O	Left channel zero detection flag. (Not used)
3	RMUT	O	Right channel zero detection flag. (Not used)
4	SQCK	I	SQSO readout clock input.
5	SQSO	O	Sub Q 80-bit serial output.
6	SENS	O	SENS output to CPU.
7	DATA	I	Serial data input from CPU.
8	XLAT	I	Latch input from CPU. Serial data is latched at the falling edge.
9	CLOK	I	Serial data transfer clock input from CPU.
10	SEIN1	I	SENS input from SSP.
11	CNIN	I	Track jump count signal input.
12	DATO	I	Serial data output to SSP.
13	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
14	CLKO	O	Serial data transfer clock output to SSP.
15	SEIN2	I	Microcomputer extended interface (input A). (SENS input from SSP.)

Pin No.	Pin Name	I/O	Description
16	IN/SW	I	Microcomputer extended interface (input B). (CD pickup inside limit switch.)
17	XLON	O	Microcomputer extended interface (output).
18	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.
19	VDD1	–	Power supply (+5V).
20	VSS1	–	GND.
21	MDP	O	Spindle motor servo control.
22	PWMI	I	Spindle motor external control input. (Not used)
23	TEST	I	TEST pin. (Connected to GND)
24	TES1	I	TEST pin. (Connected to GND)
25	VPCO	O	Charge pump output for the wide-band EFM PLL. (Connected to GND)
26	VCKI	I	VCO2 oscillation input for the wide-band EFM PLL.
27	V16M	O	VCO2 oscillation output for the wide-band EFM PLL.
28	VCTL	I	VCO2 control voltage input for the wide-band EFM PLL. (Connected to GND)
29	PCO	O	Master PLL charge pump output.
30	FILO	O	Master PLL (slave = digital PLL) filter output.
31	FILI	I	Master PLL filter input.
32	AVSS	–	Analog GND.
33	CLTV	I	Master VCO control voltage input.
34	AVDD	–	Analog power supply (+5V).
35	RF	I	EFM signal input.
36	BIAS	I	Constant current input of the asymmetry circuit.
37	ASYI	I	Asymmetry comparator voltage input.
38	ASYO	O	EFM full swing output. "L" = VSS, "H" = VDD.
39	LRCK	O	D/A interface. LR clock output $f = F_s$.
40	LRCKI	I	LR clock input.
41	PCMD	O	D/A interface. Serial data output (two's complement, MSB first).
42	PCMDI	I	D/A interface. Serial data input (two's complement, MSB first).
43	BCK	O	D/A interface. Bit clock output.
44	BCKI	I	D/A interface. Bit clock input.
45	VSS2	–	GND.
46	VDD2	–	Power supply (+5V).
47	XUGF	O	XUGF output. Switched to MNT1 or RFCK output by a command. (Not used)
48	XPCK	O	XPCLK output. Switched to MNT0 output by a command. (Not used)
49	GFS	O	GFS output. Switched to MNT3 or XRAOF output by a command. (Not used)
50	C2PO	O	C2PO output. Switched to GTOP output by a command. (Not used)
51	XTSL	I	Crystal selector input. "L" = 16.9344MHz, "H" = 33.8688MHz. (Connected to VDD)
52	C4M	O	4.2336MHz output. 1/4 frequency divided VCKI output in CAV-W mode. (Not used)
53	DOUT	O	Digital out output.
54	EMPH	O	Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis.
55	EMPHI	I	Inputs a high signal when de-emphasis is on, and a low signal when de-emphasis is off.

Pin No.	Pin Name	I/O	Description
56	WFCK	O	WFCK output. (Not used)
57	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected. (Not used)
58	SBSO	O	Sub P to W serial output. (Not used)
59	EXCK	I	SBSO readout clock input. (Connected to GND)
60	VSS3	–	GND.
61	VDD3	–	Power supply (+5V).
62	SYSM	I	Mute input. Active when high. (Connected to Analog GND)
63	AVSSL	–	Analog GND.
64	AVDDL	–	Analog power supply (+5V).
65	AOUTL	O	Left channel analog output.
66	AINL	I	Left channel operational amplifier input.
67	LOUTL	O	Left channel LINE output.
68	AVSSL	–	Analog GND.
69	XVDD	–	Power supply for master clock.
70	XTAI	I	Crystal oscillation circuit input. Input the external master clock via this pin.
71	XTAO	O	Crystal oscillation circuit output.
72	XVSS	–	GND for master clock.
73	AVSSR	–	Analog GND.
74	LOUTR	O	Right channel LINE output.
75	AINR	I	Right channel operational amplifier input.
76	AOUTR	O	Right channel analog output.
77	AVDDR	–	Analog power supply (+5V).
78	AVSSR	–	Analog GND.
79	XRST	I	System reset. Reset when low.
80	VDD0	–	Power supply (+5V).

Notes: • PCMD is an MSB first, two's complement output.

- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge of XPCLK and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136 μ (during normal speed).
- C2PO represents the data error status.
- XRAOF is generated when the 16K RAM exceeds the $\pm 48F$ jitter margin.

IC, LC87F65C8A

Pin No.	Pin Name	I/O	Description
1	O-CD-CE	O	Chip enable output to CD DSP IC (CXD2589Q).
2	I-CD-SENSE	I	SENS input from CD DSP IC (CXD2589Q).
3	O-CD-SQCLK	O	SUBQ data readout clock output to CD DSP IC (CXD2589Q).
4	$\overline{\text{O-AMP-ON}}$	O	Power on control output to POWER AMP IC (LA4663A). "L" = POWER ON.
5	O-TUNER-ON	O	TUNER power supply control output. "H" = POWER ON.
6	O-PLL-CLK	O	Clock output to TUNER PLL IC (LC72131D).
7	O-PLL-DATA	O	Data output to TUNER PLL IC (LC72131D).
8	O-VOLCTL	O	Connect to VOLUME/FUNCTION/TONE CONTROL IC (M62495FP) pin 13 (CONT).
9	I-CD-SUBQ	I	SUBQ input from CD DSP IC (CXD2589Q).
10	$\overline{\text{O-CLK SHIFT}}$	O	Clock shift output for FM-BEAT.
11	$\overline{\text{I-RESET}}$	I	Reset input.
12	$\overline{\text{I-ACOFF}}$	I	Power failure detection/HOLD input.
13	I-TU-SIG	I	RDS signal input.
14	VSS1	–	GND.
15	CF1	I	Crystal oscillator input for system clock (9.43MHz).
16	CF2	O	Crystal oscillator output for system clock (9.43MHz).
17	VDD1	–	Power supply (+5.6V).
18	I-CD SW	I	CD tray (open/close) position detection input.
19	I-KEY1	I	Tact key A/D level input 1.
20	I-KEY0	I	Tact key A/D level input 0.
21	I-ENCODER	I	A/D input from rotary encoder.
22	$\overline{\text{O-LED BL1}}$	O	LED control output for LCD back light.
23	$\overline{\text{O-LED BL2}}$	O	LED control output for LCD back light.
24	$\overline{\text{O-LED AM1}}$	O	LED control output for LCD back light.
25	$\overline{\text{O-LED AM2}}$	O	LED control output for LCD back light.
26	I-LEVEL	I	A/D input from AMP for level meter display.
27	I-RDS-CLK	I	RDS clock input.
28	I-TMBASE	I	Time base input from TUNER PLL IC (LC72131D).
29	I-REMOTE	I	Remote control signal input.
30 ~ 45	NC	–	Not connected.
46	VDD3	–	Power supply (+5.6V).
47	$\overline{\text{I-STEREO}}$	I	TUNER stereo-mode input. "L" = STEREO.
48	$\overline{\text{I-TUNE-IFC}}$	I	TUNER TUNE-IF count input. "L" = TUNE.
49	I-RDS-DATA	I	RDS data input.
50	NC	–	Not connected.
51	VP	–	Connected to GND.
52 ~ 60	NC	–	Not connected.
61	COLOR	O	Not used.
62	$\overline{\text{MD-SEL}}$	I	Initial setting selector. "L" = MD.
63	$\overline{\text{DEMO-SEL}}$	I	Initial setting selector. "L" = DEMO.
64	$\overline{\text{BBE-SEL}}$	I	Initial setting selector. "L" = BBE.

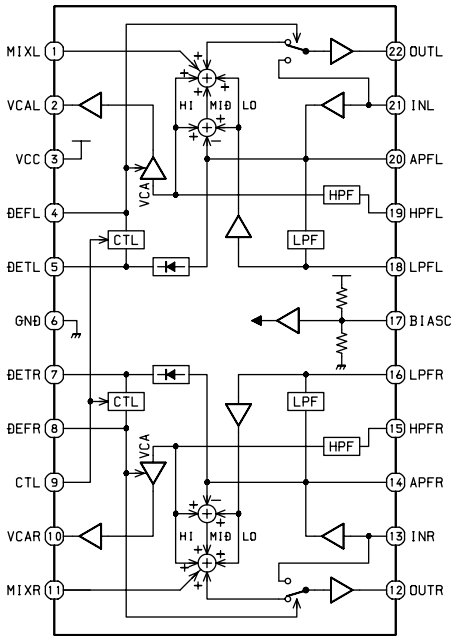
Pin No.	Pin Name	I/O	Description
65	$\overline{\text{ECO-SEL}}$	I	Initial setting selector. "L" = ECO mode setting.
66	AM10K-SEL	I	Initial setting selector. "H" = AM10kHz step. (Not used)
67	$\overline{\text{FM WIDE/AMST-SEL}}$	I	Initial setting selector. "L" = FM WIDE BAND & AM-STEREO. (Not used)
68	LW-SEL	I	Initial setting selector. "H" = TUNER-LW.
69	SW-SEL	I	Initial setting selector. "H" = TUNER-SW. (Not used)
70	OIRT-SEL	I	Initial setting selector. "H" = TUNER-FM OIRT. (Not used)
71	RDS-SEL	I	Initial setting selector. "H" = TUNER-FM RDS.
72	VDD4	–	Power supply (+5.6V).
73	O-PLL-CE	O	Chip enable output to TUNER PLL IC (LC72131D).
74	O-CD-R/W	O	CD servo system switching output. "H" = CDRW mode.
75	NC	–	Not connected.
76	TP-CLK	O	Test point for micon clock adjust. (Frequency division of micon clock: Approx. 1kHz.)
77	Q-SURROUND	O	Q-SURROUND output.
78	$\overline{\text{O-BBE-B}}$	O	BBE IC (BA3880FS) control output-B
79	$\overline{\text{O-BBE-A}}$	O	BBE IC (BA3880FS) control output-A.
80	L-MUTE	O	Line out mute output.
81	O-OPEN	O	CD tray (open) control output. "H" = OPEN.
82	O-CLOSE	O	CD tray (close) control output. "H" = CLOSE.
83	NC	–	Not connected.
84	O-LCD STB	O	Strobe output control for LCD driver.
85	O-LCD CLK	O	Clock output control for LCD driver.
86	O-LCD DATA	O	Data output control for LCD driver.
87	$\overline{\text{O-P-ON}}$	O	Main AC ON/OFF control output. "L" = POWER ON.
88	O-CD-ON	O	CD power supply ON/OFF control output. "H" = POWER ON.
89	VSS2	–	GND.
90	VDD2	–	Power supply (+5.6V).
91	O-CD-DATA	O	Data command output to CD DSP IC (CXD2589Q).
92	O-CD-CLK	O	Clock command output to CD DSP IC (CXD2589Q).
93	O-AMP MUTE	O	Audio mute control output for POWER AMP input signal. "H" = MUTE ON.
94	O-MD RESET	O	Reset output to MD unit.
95	O-SIN	O	Serial data control output to MD unit.
96	I-SOUT	I	Serial data control input from MD unit.
97	I-ACLK	I	Latch clock input from MD unit.
98	O-ARDY	O	Serial data ready port control output to MD unit.
99	O-SREQ	O	Serial data transfer request control output to MD unit.
100	I-MREQ	I	Serial data transfer request control input from MD unit.

IC, LC72131D

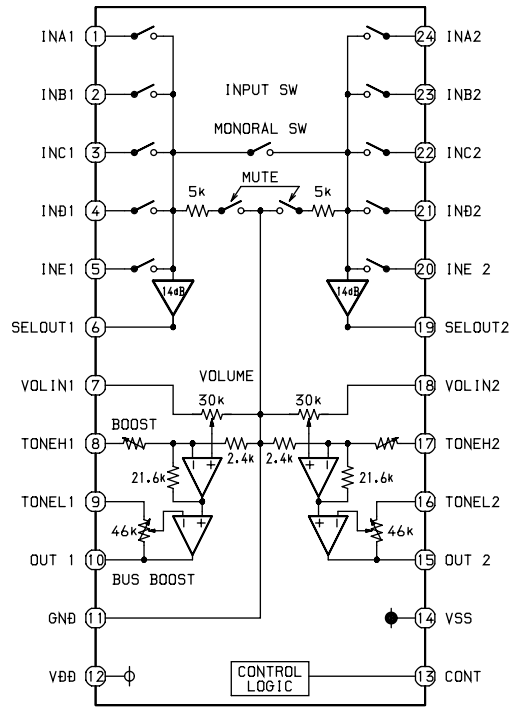
Pin No.	Pin Name	I/O	Description																								
1	X-IN	I	A crystal oscillator (4.5MHz) is connected between these pins.																								
22	X-OUT	O																									
2	NC	–	Not connected.																								
3	CE	I	To enable the IC. Active "H".																								
4	DI	I	Digital data input from CPU (LC87F65C8A) when relevant key is operated. Active "H".																								
5	CL	I	To clock in the data DI.																								
6	DO	O	Digital data output to CPU (LC87F65C8A).																								
7	TM-BASE	O	Outputs a reference clock signal (8Hz) for the clock.																								
8	$\overline{\text{MONO}} / \text{BEAT}$	O	Outputs "H" when MONO / BEAT is switched.																								
9	$\overline{\text{FM}} / \overline{\text{SW}}$	O	Output "L" or "H" as follows: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="2">2 BAND</th> <th colspan="3">3 BAND</th> <th colspan="3">3 BAND</th> </tr> <tr> <th>AM</th> <th>FM</th> <th>LW</th> <th>MW</th> <th>FM</th> <th>MW</th> <th>SW</th> <th>FM</th> </tr> </thead> <tbody> <tr> <td>H</td> <td>L</td> <td>H</td> <td>H</td> <td>L</td> <td>H</td> <td>L</td> <td>L</td> </tr> </tbody> </table>	2 BAND		3 BAND			3 BAND			AM	FM	LW	MW	FM	MW	SW	FM	H	L	H	H	L	H	L	L
2 BAND		3 BAND			3 BAND																						
AM	FM	LW	MW	FM	MW	SW	FM																				
H	L	H	H	L	H	L	L																				
10	$\overline{\text{MW}} / \text{SW}$	O	Outputs "L" or "H" as follows: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="2">2 BAND</th> <th colspan="3">3 BAND</th> <th colspan="3">3 BAND</th> </tr> <tr> <th>AM</th> <th>FM</th> <th>LW</th> <th>MW</th> <th>FM</th> <th>MW</th> <th>SW</th> <th>FM</th> </tr> </thead> <tbody> <tr> <td>L</td> <td>L</td> <td>H</td> <td>L</td> <td>L</td> <td>L</td> <td>H</td> <td>L</td> </tr> </tbody> </table>	2 BAND		3 BAND			3 BAND			AM	FM	LW	MW	FM	MW	SW	FM	L	L	H	L	L	L	H	L
2 BAND		3 BAND			3 BAND																						
AM	FM	LW	MW	FM	MW	SW	FM																				
L	L	H	L	L	L	H	L																				
11	IF-MUTE	O	To control internal counter.																								
12	IF-IN	I	General purpose counter input.																								
13	$\overline{\text{TUNE}}$	I	Receives "L" when station is tuned.																								
14	NC	–	Not connected.																								
15	AM-IN	I	Receives the AM local oscillator frequency signal.																								
16	FM-IN	I	Receives the FM local oscillator frequency signal.																								
17	VDD	–	Supply power to IC (+5V).																								
18	PD	O	PLL charge pump output.																								
19	A-IN	I	The MOS transistor used for PLL active low pass filter.																								
20	A-OUT	O																									
21	VSS	–	Ground.																								

IC BLOCK DIAGRAM-2

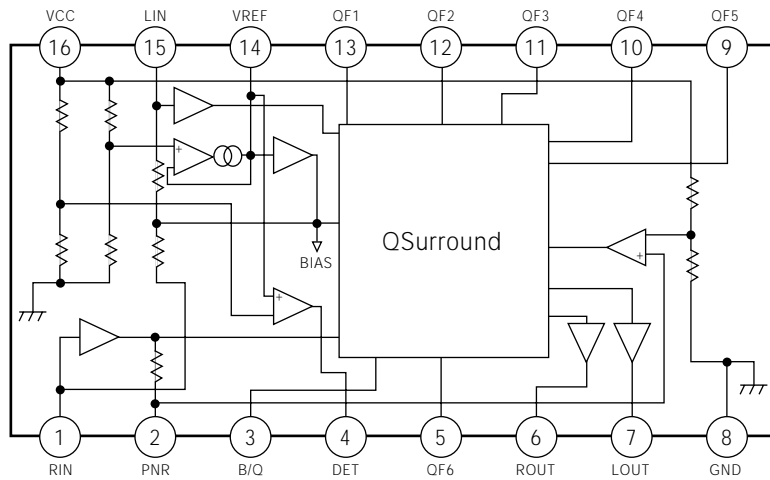
IC, BA3880FS



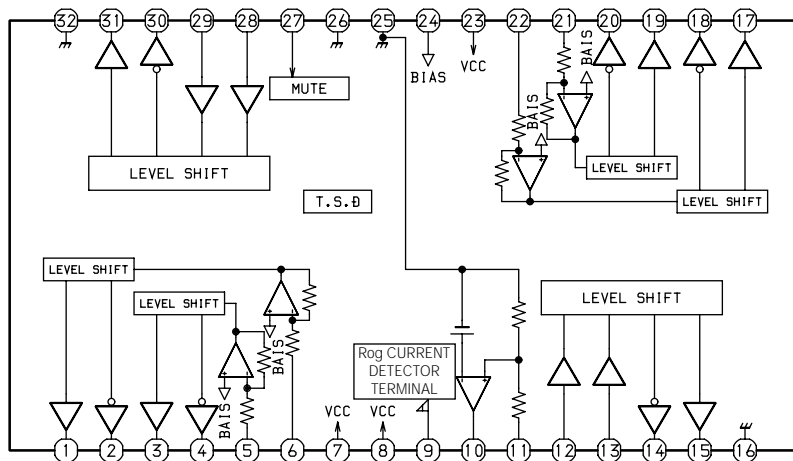
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IC, MM1454XFBE



IC, BA5936S



LCD DISPLAY

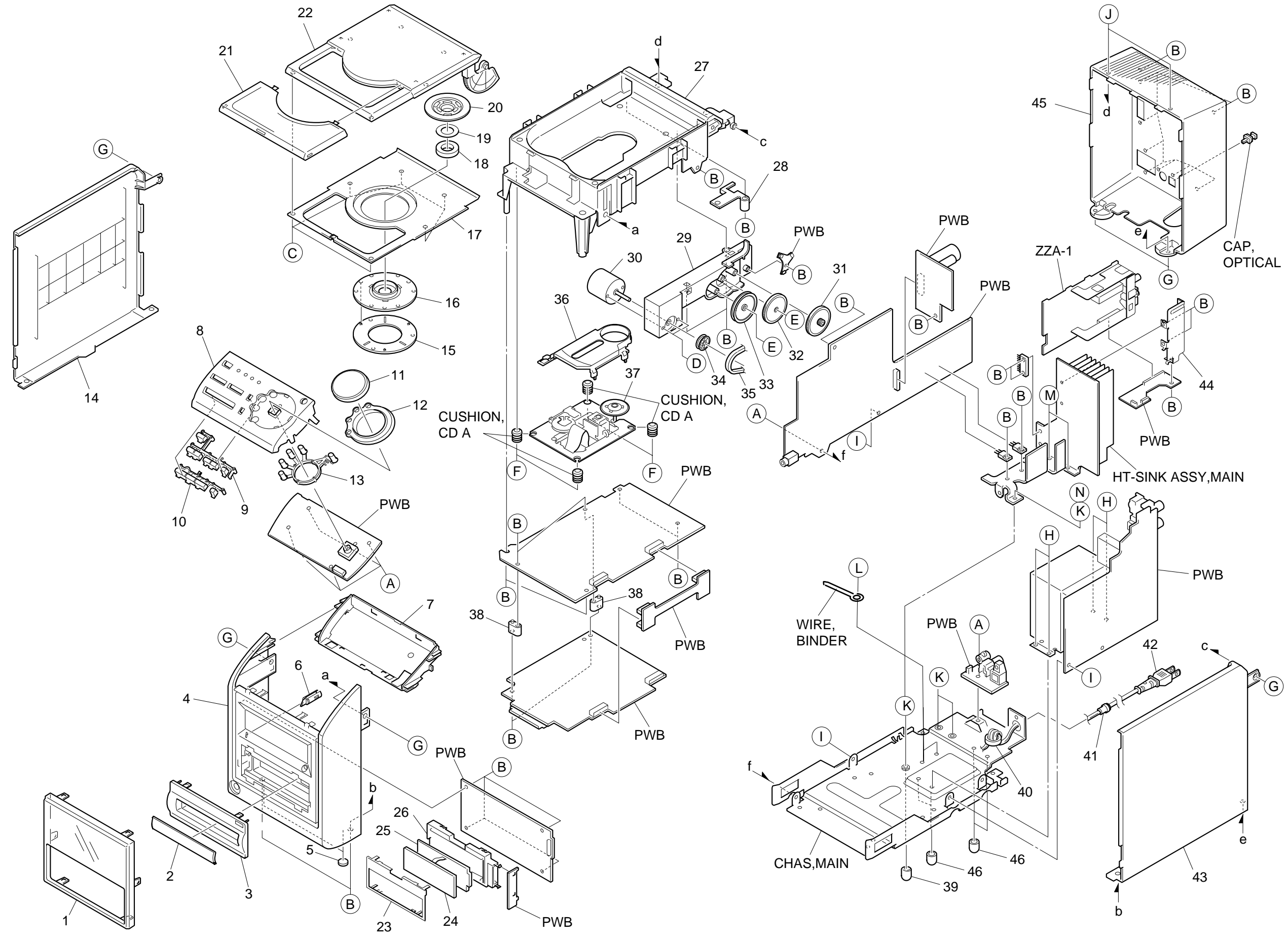
DDRAM ADDRESS (11 DIGIT X 1 ROW)

02 03 04 05 06 07 08 09 0A 0B 0C

(b) (#) AUTO VF AG EON RDS RT REC SLEEP AUTO MARK TIME MARK MD REC
 BBE Q SURROUND MONO RANDOM 1 2 3 4 5 6 7 8 9 10
 T-BASS ROCK POP JAZZ PRGM EDIT 11 12 13 14 15 16 17 18 19 20

PGRAM ADDRESS					PGRAM DATA				
H1	L4	L3	L2	L1	b4	b3	b2	b1	b0
0	0	0	0	0	③	#	b	BBE	T-BASS
0	0	0	0	1	①	MD	⑥	⑤	④
0	0	0	1	0	☾ ₅	○ ₄	AUTO		②
0	0	0	1	1				▶ ROCK	☾ ₆
0	0	1	0	0					
0	0	1	0	1					▶ POP
0	0	1	1	0	MONO				((⊙))
0	0	1	1	1		▶ JAZZ			
0	1	0	0	0					
0	1	0	0	1					
0	1	0	1	0	12	11			1
0	1	0	1	1		14	13		
0	1	1	0	0		15			
0	1	1	0	1	17	16			
0	1	1	1	0	20				
0	1	1	1	1				18	19

PGRAM ADDRESS					PGRAM DATA				
H1	L4	L3	L2	L1	b4	b3	b2	b1	b0
1	0	0	0	0	③'	[](#)	[](b)		
1	0	0	0	1	①'	CD	⑥'	⑤'	④'
1	0	0	1	0	☾ ₂	○ ₁	VF		②'
1	0	0	1	1		EON		AG	☾ ₃
1	0	1	0	0			RDS		Q SURROUND
1	0	1	0	1					RT
1	0	1	1	0	⌚				REC
1	0	1	1	1		SLEEP			
1	1	0	0	0	↔			RANDOM	
1	1	0	0	1		↶	EDIT	PRGM	
1	1	0	1	0	2	1			AUTO
1	1	0	1	1		4	3		MARK (AUTO MARK)
1	1	1	0	0		5			TIME
1	1	1	0	1	7	6			MARK (TIME MARK)
1	1	1	1	0	10		MD REC		
1	1	1	1	1				8	9



MECHANICAL MAIN PARTS LIST 1/1

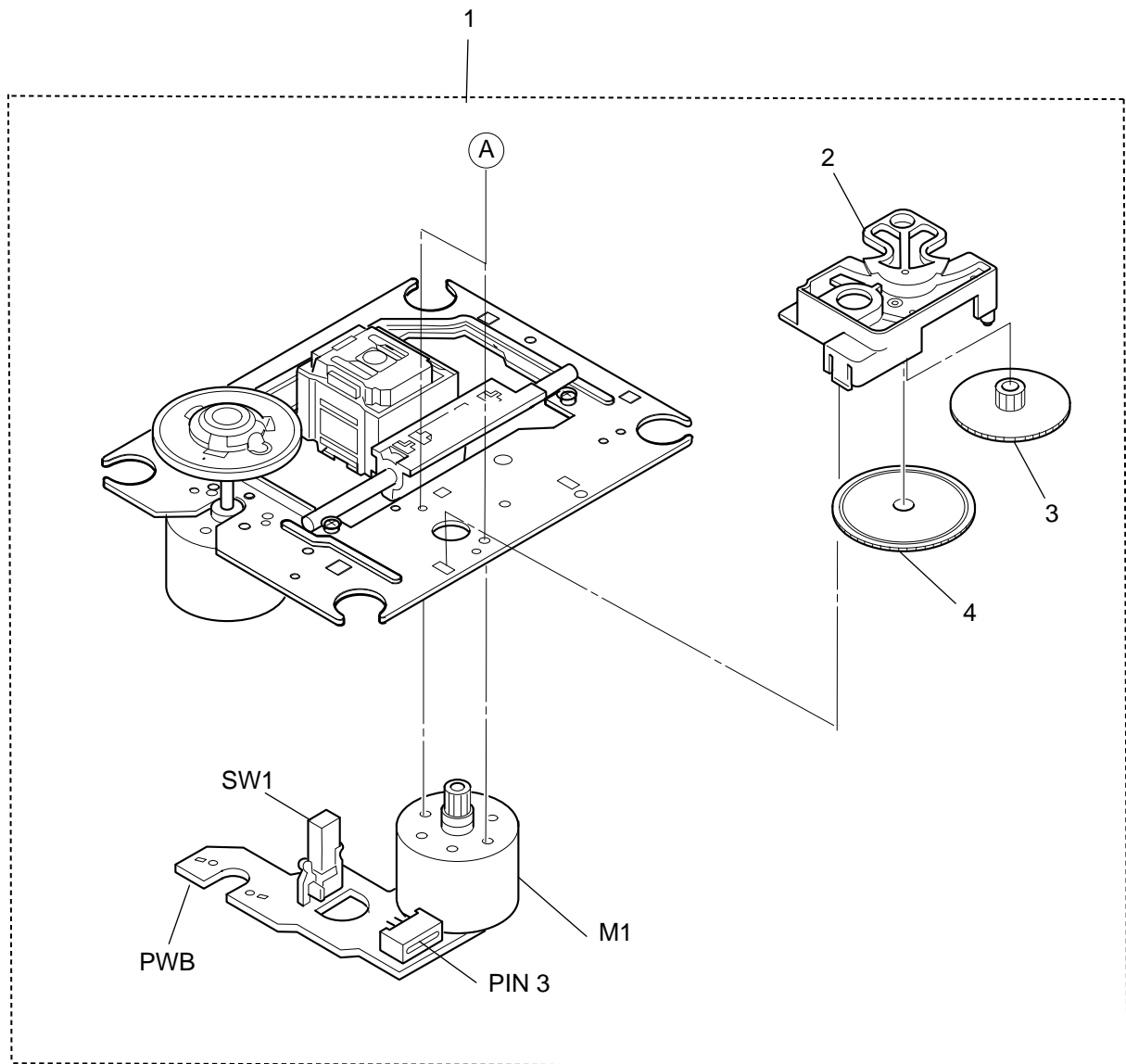
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CJ6-009-010		WINDOW,FR<EZ>	29	8A-CJ6-036-010		HLDR,GEAR (V)<K>
1	8A-CL6-033-010		WINDOW,FR K<K>	30	87-A91-069-010		MOT,RF-370CA15370
2	8A-CL6-025-010		PANEL,FR2 EZ<EZ>	31	8Z-CL5-207-010		GEAR,CD
2	8A-CL6-035-010		PANEL,FR2 L6 K<K>	32	8Z-CL5-206-010		GEAR,MID CD
3	8A-CL6-006-010		PANEL,FR	33	8Z-CL5-205-010		PULLEY,GEAR CD
4	8A-CJ6-023-010		CABI,FR J6-EX<EZ>	34	8Z-CL5-208-010		PULLEY,MOTOR
4	8A-CL6-028-010		CABI,FR L6 K<K>	35	8Z-CL5-217-010		BELT,PULLEY
5	8A-CJ6-219-010		CUSH,FOOT DIA 8-3	36	8Z-CDB-169-010		PANEL,CD SANYO
6	8A-CJ6-019-010		REFLECTOR,STAND BY	37	M8-ZZK-E90-070		DALLT3C
7	8A-CJ6-211-010		HLDR,FUN<EZ>	38	8A-CJ6-213-010		HLDR,PWB
7	8A-CJ6-220-010		HLDR,FUN (V)<K>	39	8Z-NB8-254-010		COVER, PL M3
8	8A-CL6-020-010		PANEL,FUN L6 EZ<EZ>	40	87-003-317-010		F-BEAD,15-25-15 E2515MRT
8	8A-CL6-031-010		PANEL,FUN L6 K<K>	41	87-085-185-010		BUSHING,AC CORD(E) CM-22B
9	8A-CJ6-015-010		KEY,POWER	42	87-A80-143-010		AC CORD ASSY,E BLK<K>
10	8A-CJ6-025-010		KEY,PLAY	42	87-A80-092-010		AC CORD ASSY,E BLK SUN FAI<EZ>
11	8A-CJ6-017-010		KNOB,RTRY VOL	43	8A-CJ6-006-010		PANEL,SIDE R
12	8A-CJ6-008-010		PANEL,VOL<EZ>	44	8A-CJ6-206-010		HLDR,TUNER
12	8A-CL6-032-010		PANEL,VOL K<K>	45	8A-CL6-004-010		CABI,REAR L6-EZ
13	8A-CL6-026-010		KEY,OPEN CD L6<EZ>	46	8Z-NB8-240-010		COVER, PL
13	8A-CL6-037-010		KEY,OPEN CD L6(V)<K>	A	87-067-579-010		BVT2+3-8 W/O SLOT
14	8A-CJ6-005-010		PANEL,SIDE L	B	87-067-703-010		BVT2+3-10 W/O SLOT
15	8Z-CH4-212-010		RING,CHUCK	C	87-264-529-310		V+1.7-4
16	8Z-CH4-211-010		BASE,CHUCK	D	87-261-092-410		V+3-4
17	8A-CJ6-011-010		HLDR,CHUCK B	E	87-761-096-410		VFT2+3-10 W/O SLOT
18	83-ZG3-604-010		RING,MAG 2	F	8Z-CK5-222-010		S-SCREW,CD+2.6-6 F9
19	84-CD5-217-010		PLATE,MAGNET	G	87-721-096-410		QT2+3-10 W/O SLOT
20	8Z-CH4-225-110		HLDR,CHUCK A(S)	H	87-067-752-010		BVTT+4-10 SWCH/ZN
21	8A-CJ6-010-010		WINDOW,CD<EZ>	I	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
21	8A-CL6-034-010		WINDOW,CD K<K>	J	87-723-096-410		QT2+3-10 W/O SLOT BLK
22	8A-CJ6-004-010		LID,CD<EZ>	K	87-067-130-010		W-F,3.2-8-1 W/ADH
22	8A-CL6-030-010		LID,CD K<K>	L	87-067-584-010		BVT2+3-6 W/O SLOT
23	8A-CJ6-202-010		GUIDE,LCD	M	87-067-633-010		BVT2+3-8 W/O SLOT W/CONVEX
24	8A-CJ6-620-010		LCD ASSY,ACJ-6	N	87-067-758-010		BVT2+3-12 W/O SLOT
25	8A-CJ6-021-010		REFLECTOR,LCD				
26	8A-CJ6-212-010		HLDR,LCD				
27	8A-CJ6-003-010		CABI,CD<EZ>				
27	8A-CL6-029-010		CABI,CD K<K>				
28	8A-CJ6-020-010		COVER, CD L<EZ>				
28	8A-CJ6-035-010		COVER, CD L (V)<K>				
29	8A-CJ6-022-010		HLDR,GEAR<EZ>				

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				

CD MECHANISM EXPLODED VIEW 1/1 <DA11T3C>



CD MECHANISM MAIN PARTS LIST 1/1 <DA11T3C>

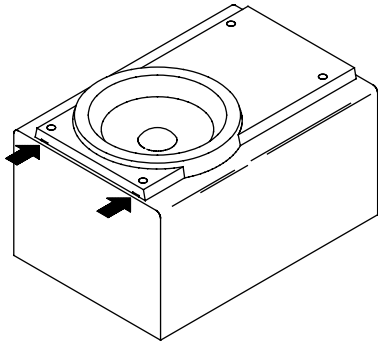
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF.NO	PART NO.	KANRI NO.	DESCRIPTION
1	M8-ZZK-E90-070	2B	DA11T3C
2	S2-121-A28-400	1A	COVER GEAR
3	S2-511-A21-000	0E	GEAR MIDDLE
4	S2-511-A21-100	1A	GEAR,DRIVE
M1	S0-M10-A09-700	1H	MOTOR SLED ASSY
PIN3	S2-369-750-000	0E	PLUG,6P
SW1	S4-S13-A01-600	0E	SW,LEAF
A	S1-PN2-03R-OSE	0E	SCR PAN PCS 2-3

SPEAKER DISASSEMBLY INSTRUCTIONS

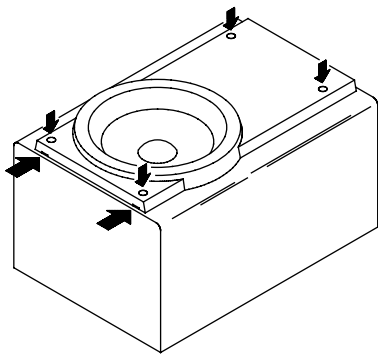
Type.1

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.



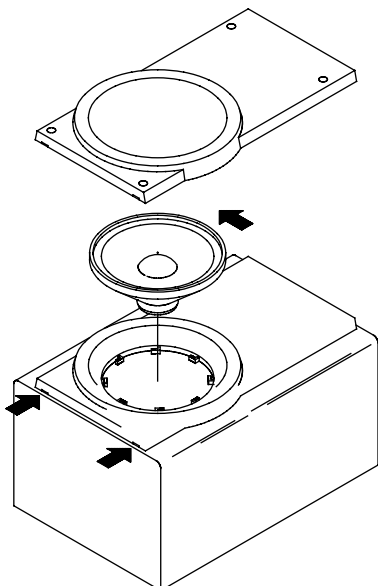
Type.2

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.

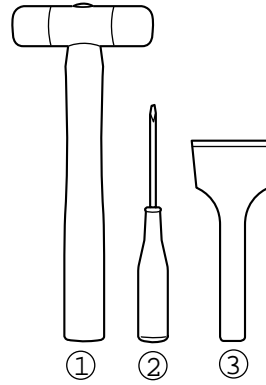


Type.3

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.

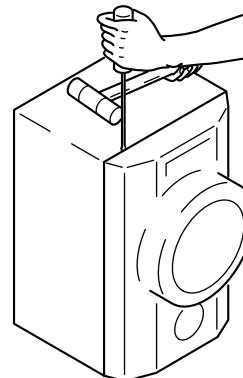


Fig-1

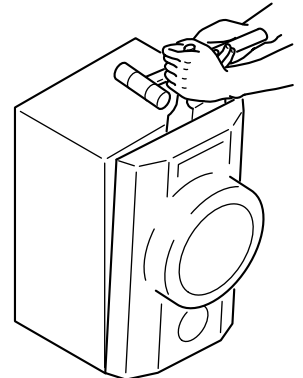


Fig-2

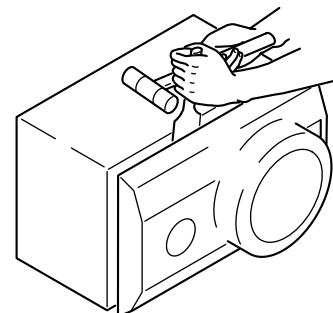


Fig-3

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 MAIN PARTS LIST 1/1

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

REF.NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-CJ6-402-010		PANEL,FR
2	8A-CJ6-406-010		GRILLE,FRAME ASSY<EZ>
2	8A-CJ6-420-010		GRILLE,FRAME ASSYV<K>
3	8A-CJ6-403-010		PANEL,SP<EZ>
3	8A-CJ6-419-010		PANEL,SP V<K>
4	8A-CJ6-404-010		PANEL,TW
5	8A-CJ6-415-010		SPKR, W 100<K>
5	8A-CJ6-417-010		SPKR, W 100 L<EZ>
6	8A-CJ6-416-010		SPKR, TW 20
7	8A-CJ5-415-010		TERMINAL,

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