

SERVICE MANUAL

COMPACT DISC
STEREO SYSTEM

BASIC TAPE MECHANISM : ZZM-3 PR1NM
BASIC CD MECHANISM : AZG-1 ZD3RDM

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-DR1	CX-NDR1	SX-NSZ20	RC-ZAS02
NSX-SZ20	CX-NSZ20	SX-NSZ22	

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" NSX-DR1(EZ), (S/M Code No. 09-004-423-4T4).
- If requiring information about the CD mechanism, see Service Manual of AZG-1, (S/M Code No. 09-001-335-3N8).

SPECIFICATIONS

<FM tuner section>

Tuning range	EZ: 87.5 MHz to 108 MHz V: FM1 (OIRT) 65 MHz to 74 MHz (10 kHz step) FM2 (CCIR) 87.5 MHz to 108 MHz (50 kHz step)
Usable sensitivity (IHF)	EZ: 16.8 dBf V: FM1: 15.3 dBf FM2: 12.8 dBf
Antenna terminals	75 ohms (unbalanced)

<AM(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> <EZ only>

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

<Amplifier section>

Power output	Rated: 30 W + 30 W (6 ohms, THD 1%, 1 kHz/DIN 45500) Reference: 35 W + 35 W (6 ohms, THD 10%, 1 kHz/DIN 45324) DIN MUSIC POWER <EZ only>: 67 W + 67 W
Total harmonic distortion	0.08% (15 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX: 500 mV
Outputs	SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo jack): accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	50 Hz – 15 kHz
Recording system	AC bias
Heads	Deck 1: Playback head x 1 Deck 2: Recording/Playback head x 1, erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ = 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)

<General>

Power requirements	230 V AC, 50 Hz
Power consumption	80 W
Power consumption in standby mode	14 W With power-economizing mode off

	0.9 W With power-economizing mode on
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Dimensions of main unit (W x H x D)	260 x 328 x 335 mm
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Weight of main unit	6.2 kg
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<Speaker system>

<EZ: SX-NSZ20, V: SX-NSZ22>

Speaker System	3 way, bass reflex (magnetic shielded type)
Speaker units	Woofer: 140 mm cone type Tweeter: 60mm cone type Super tweeter: 20 mm ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	230 x 324x 256 mm
Weight	3.8 kg

• Design and specifications are subject to change without notice.

• The word "BBE" and the "BBE symbol" are trademarks of BBE
Sound, Inc.

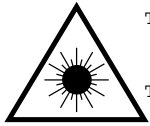
Under license from BBE Sound, Inc.

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.



T Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
T 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 laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

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

ATTENTION

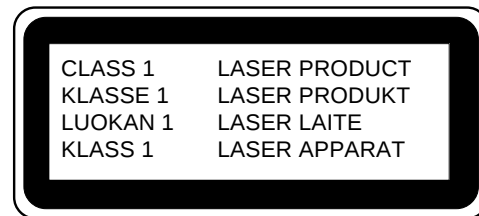
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL

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

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

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

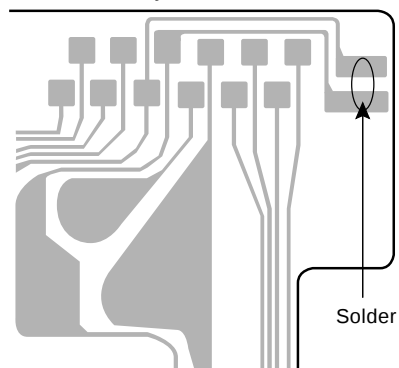


Precaution to replace Optical block (KSS-213F)

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

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

(KSS - 213F)
PICKUP Assy P.C.B.



NOTE ON BEFORE STARTING REPAIR

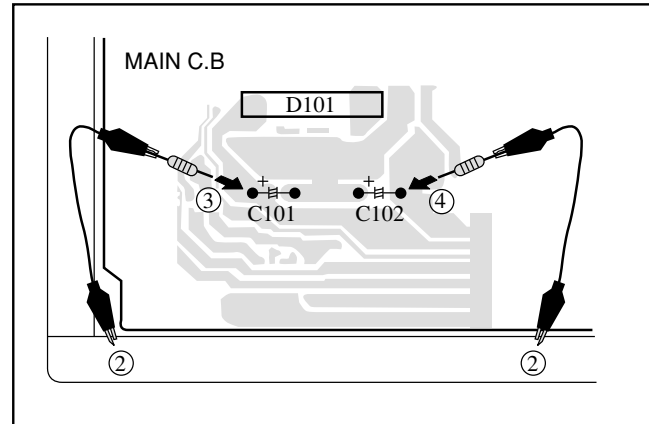
1. Forced discharge of electrolytic capacitor of power supply block

When repair is going to be attempted in the set that uses relay circuit in the power supply block, electric potential is kept charged across the electrolytic capacitors (C101, 102) even though AC power cord is removed. If repair is attempted in this condition, secondary defect can occur.

In order to prevent the secondary trouble, perform the following measures before starting repair work.

Discharge procedure

- ① Remove the AC power cord.
- ② Connect a discharging resistor at an end of lead wire that has clips at both ends. Connect the other end of the lead wire to metal chassis.
- ③ Contact the other end of the discharging resistor to the positive (+) side (+VH) of C101. (For two seconds)
- ④ Contact the same end of the discharging resistor as step 3 to the negative (-) side (-VH) of C102 in the same way. (For two seconds)
- ⑤ Check that voltage across C101 and C102 has decreased to 1 V or less using a multimeter or an oscilloscope.



Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor ()	Rated power (W)	Parts number
25-48	100	3	87-A00-247-090
49-140	220	5	87-A00-232-090

Note: The reference numbers (C101, C102) of the electrolytic capacitors can change depending on the models. Be sure to check the reference numbers of the charging capacitors on schematic diagram before starting the discharging work.

2. Check items before exchanging the MICROCOMPUTER

Be sure to check the following items before exchanging the MICROCOMPUTER. Exchange the MICROCOMPUTER after confirming that the MICROCOMPUTER is surely defective.

2-1. Regarding the HOLD terminal of the MICROCOMPUTER

When the HOLD terminal (INPUT) of the MICROCOMPUTER is “H”, the MICROCOMPUTER is judged to be operating correctly. When this terminal is “L”, the main power cannot be turned on. Therefore, be sure to check the terminal voltage of the HOLD terminal before exchange.

When the MICROCOMPUTER is not defective, the HOLD terminal can also go “L” when the POWER AMPLIFIER has any abnormalities that triggers the abnormality detection circuit on the MAIN C. B. that sets the HOLD terminal to “L”.

• Good or no good judgement of the MICROCOMPUTER

- ① Turn on the AC main power.
- ② Confirm that the main power is turned on and the HOLD terminal of the MICROCOMPUTER keeps the “H” level or not.
- ③ When the HOLD terminal is “L” level, the abnormality detection circuit is judged to be working correctly and the MICROCOMPUTER is judged to be good.

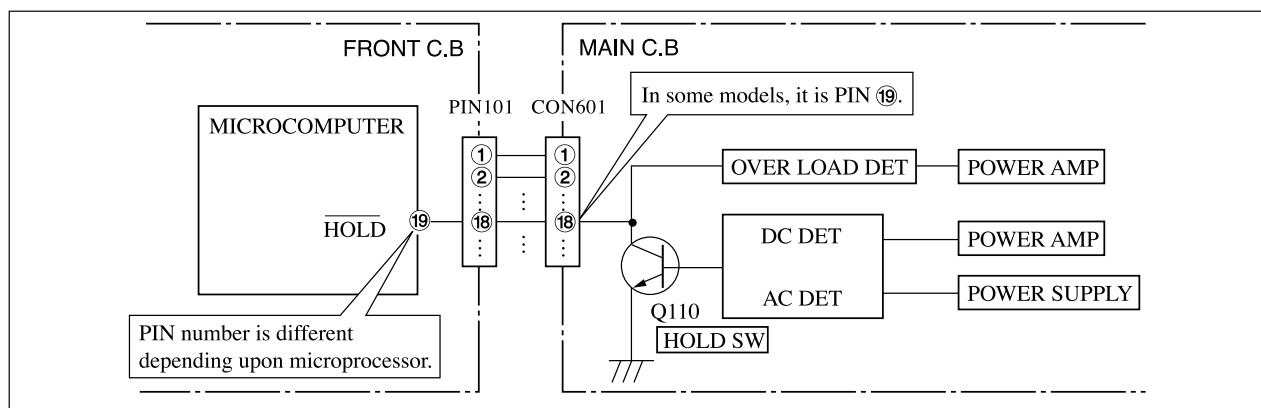


Fig-2-1

In such a case, check also if the POWER AMPLIFIER circuit or power supply circuit has any abnormalities or not.

2-2. Regarding reset

There are cases that the machine does not work correctly because the MICROCOMPUTER is not reset even though the AC power cord is re-inserted, or the software reset (pressing the STOP key + POWER key) is performed.

When the above described phenomenon occurs, it can lead to wrong judgement as if the MICROCOMPUTER is defective and to exchange the MICROCOMPUTER. In such a case, perform the forced-reset by the following procedure and check good or no good of the MICROCOMPUTER.

- ① Remove the AC power cord.

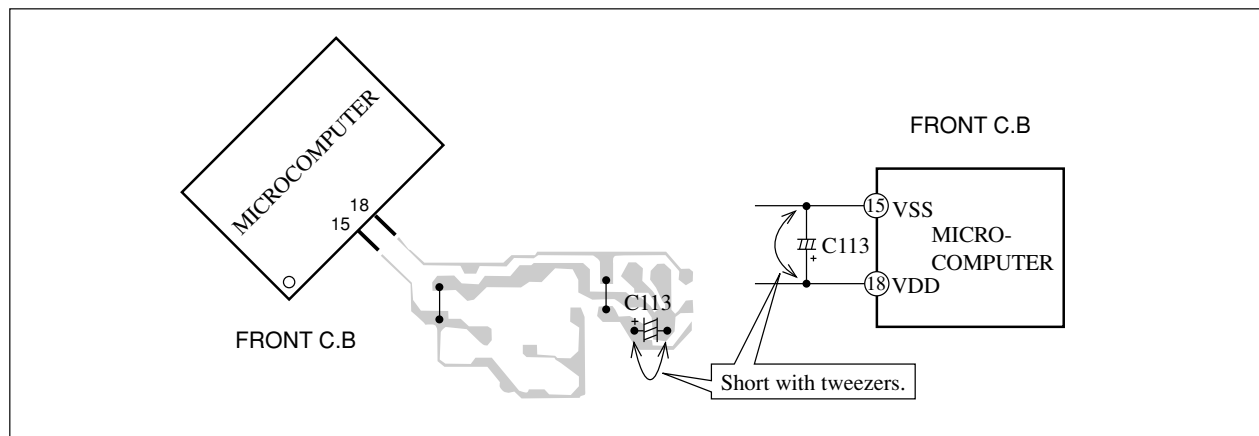


Fig-2-2

- ② Short both ends of the electrolytic capacitor C113 that is connected to VDD of the MICROCOMPUTER with tweezers.
- ③ Connect the AC power cord again. If the MICROCOMPUTER returns to the normal operation, the MICROCOMPUTER is good.

Note: The reference number or MICROCOMPUTER pin number of transistor (Q110) and electrolytic capacitor (C113) can change depending on the models. Be sure to check the reference numbers on schematic diagram before starting the discharging work.

2-3. Confirmation of soldering state of MICROCOMPUTER

Check the soldering state of the MICROCOMPUTER in addition to the above described procedures. Be sure to exchange the MICROCOMPUTER after surely confirming that the trouble is not caused by poor soldering but the MICROCOMPUTER itself.

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C34	87-010-247-080		CAP, ELECT 100-50V
	87-A21-397-010		IC,STK490-070	C35	87-010-380-080		CAP, ELECT 47-16V M 11L
	87-A21-419-040		IC,NJM14558MD-TE2	C36	87-010-381-080		CAP, ELECT 330-16V
	87-A21-401-040		C-IC,M61503FP	C38	87-010-197-080		CAP, CHIP 0.01-25 K B
	87-A21-269-010		IC,EW732	C60	87-010-403-080		CAP, ELECT 3.3-50V
	87-A21-560-010		IC,LA1844L-A				
	8A-NF9-601-110		C-IC,UPD780226GF-014-3BA<EZ>	C61	87-010-260-080		CAP, ELECT 47-25V
	8A-NF9-604-010		C-IC,UPD780226GF-015-3BA<V>	C97	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A21-482-010		IC,RPM6938-H4	C99	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-070-127-110		IC,LC72131 D	C101	87-010-185-080		C-CAP,S 3900P-50 B
				C102	87-010-185-080		C-CAP,S 3900P-50 B
TRANSISTOR				C103	87-010-545-080		CAP, ELECT 0.22-50V SME
	87-026-609-080		TR,KTA1266GR	C104	87-010-545-080		CAP, ELECT 0.22-50V SME
	89-213-702-010		TR,2SB1370 (1.8W)	C105	87-010-187-080		CHIP CAP 5600P-50 K B
	87-026-610-080		TR,KTC3198GR	C106	87-010-187-080		CHIP CAP 5600P-50 K B
	87-A30-076-080		C-TR,2SC3052F	C107	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-075-080		C-TR,2SA1235F				
	87-A30-074-080		C-TR,RT1P 141C	C108	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-107-070		C-TR,CMBT5401	C109	87-010-179-080		C-CAP,S 1200P-50 KB
	87-A30-106-040		C-TR,CMBT5551	C110	87-010-179-080		C-CAP,S 1200P-50 KB
	87-026-235-080		CHIP-TR,DTC114EK	C111	87-010-391-080		CAP,E 10-35 SME
	87-A30-087-080		C-FET,2SK2158	C112	87-010-391-080		CAP,E 10-35 SME
	87-A30-091-080		FET,2SJ460				
	87-A30-090-080		FET,2SK2541	C113	87-010-405-080		CAP, ELECT 10-50V
	89-333-317-880		TR,2SC3331 (0.5W)	C114	87-010-405-080		CAP, ELECT 10-50V
	87-A30-318-080		TR,CSA952K	C119	87-010-197-080		C-CAP,S 0.01-25 K B
	87-A30-329-080		TR,CD1585BC	C120	87-010-197-080		C-CAP,S 0.01-25 K B
	89-327-143-080		TR,2SC2714 (0.1W)	C123	87-010-176-080		C-CAP,S 680P-50 J SL
	87-A30-072-080		C-TR,RT1P 144C				
	87-A30-234-080		TR,CSC4115BC	C124	87-010-176-080		C-CAP,S 680P-50 J SL
	87-A30-468-080		C-TR,KRC102S-RTK	C125	87-012-368-080		C-CAP,S 0.1-50 F
	87-A30-086-040		C-TR,CSD1306E<EZ>	C126	87-012-368-080		C-CAP,S 0.1-50 F
	89-503-602-080		C-FET 2SK360E<EZ>	C127	87-012-368-080		C-CAP,S 0.1-50 F
	87-A30-062-080		C-TR,KRC104S	C128	87-012-368-080		C-CAP,S 0.1-50 F
DIODE				C129	87-010-191-080		C-CAP,S 0.015-50 F
	87-A40-553-080		DIODE,1N4003 LES	C130	87-010-191-080		C-CAP,S 0.015-50 F
	87-A40-776-080		ZENER,UZ27BSD	C131	87-010-197-080		CAP, CHIP 0.01-25 K B
	87-A40-764-080		ZENER,UZ10BSC	C132	87-010-197-080		CAP, CHIP 0.01-25 K B
	87-A40-313-080		C-DIODE,MC 2840	C133	87-010-186-080		CAP,CHIP 4700P-50 K
	87-A40-270-080		C-DIODE,MC2838				
	87-A40-269-080		C-DIODE,MC2836	C140	87-010-182-080		C-CAP,S 2200P-50 B
	87-A40-752-080		ZENER,UZ6.2BSC	C141	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A40-739-080		ZENER,UZ2.7BSA	C183	87-010-387-080		CAP, ELECT 470-25 M
	87-017-149-080		ZENER,HZS6A2L	C184	87-010-403-080		CAP, ELECT 3.3-50 M
	87-020-465-080		DIODE,1SS133	C185	87-A11-148-080		CAP, TC U 0.1-50 ZF
	87-A40-854-080		ZENER,UZ15BSA				
MAIN C.B				C239	87-010-196-080		CHIP CAPACITOR,0.1-25
C3	87-012-368-080		C-CAP,S 0.1-50 F	C301	87-010-178-080		C-CAP,S 1000-50 K B
C4	87-012-368-080		C-CAP,S 0.1-50 F	C302	87-010-178-080		C-CAP,S 1000-50 K B
C5	87-012-368-080		C-CAP,S 0.1-50 F	C303	87-010-178-080		C-CAP,S 1000-50 K B
C6	87-012-368-080		C-CAP,S 0.1-50 F	C304	87-010-178-080		C-CAP,S 1000-50 K B
C9	87-012-368-080		C-CAP,S 0.1-50 F				
C10	87-012-368-080		C-CAP,S 0.1-50 F	C307	87-010-263-080		CAP, ELECT 100-10V
C11	87-012-368-080		C-CAP,S 0.1-50 F	C308	87-010-263-080		CAP, ELECT 100-10V
C12	87-012-368-080		C-CAP,S 0.1-50 F	C309	87-010-318-080		C-CAP,S 47P-50 CH
C19	87-A10-627-000		CAP,E 2200-50 SMG	C310	87-010-318-080		C-CAP,S 47P-50 CH
C20	87-A10-627-000		CAP,E 2200-50 SMG	C313	87-010-188-080		CAP,CHIP 6800P-50 K
C21	87-A10-520-000		CAP,E 3300-35 M SMG				
C22	87-A10-520-000		CAP,E 3300-35 M SMG	C314	87-010-188-080		CAP,CHIP 6800P-50 K
C25	87-010-385-080		CAP, ELECT 220-25V	C315	87-010-263-080		CAP, ELECT 100-10V
C26	87-010-247-080		CAP, ELECT 100-50V	C317	87-010-546-080		CAP, ELECT 0.33-50V
C30	87-010-430-080		CAP, ELECT 100-63	C318	87-010-546-080		CAP, ELECT 0.33-50V
C31	87-010-263-080		CAP, ELECT 100-10V	C326	87-010-198-080		CAP, CHIP 0.022-25 K
C32	87-010-197-080		CAP, CHIP 0.01-25 K B				
				C327	87-012-368-080		C-CAP,S 0.1-50 F
				C360	87-010-401-080		CAP, ELECT 1-50V
				C399	87-012-140-080		C-CAP,S 470P-50 J
				C401	87-010-544-080		CAP, ELECT 0.1-50V
				C402	87-010-544-080		CAP, ELECT 0.1-50V
				C403	87-010-321-080		CHIP CAPACITOR,82P(J)
				C404	87-010-321-080		CHIP CAPACITOR,82P(J)
				C405	87-010-197-080		CAP, CHIP 0.01-25 K B
				C406	87-010-197-080		CAP, CHIP 0.01-25 K B
				C407	87-010-197-080		CAP, CHIP 0.01-25 K B
				C408	87-010-197-080		CAP, CHIP 0.01-25 K B
				C409	87-010-182-080		C-CAP,S 2200P-50 B
				C410	87-010-182-080		C-CAP,S 2200P-50 B
				C411	87-010-405-080		CAP, ELECT 10-50V
				C412	87-010-405-080		CAP, ELECT 10-50V

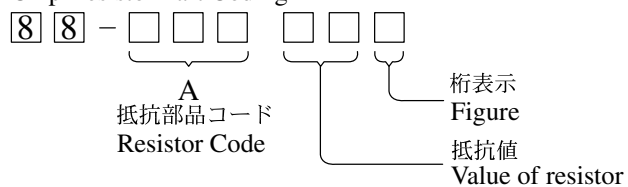
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C452	87-010-382-080		CAP, ELECT 22-25V	C831	87-010-406-080		CAP, ELECT 22-50 M SME<EZ>
C453	87-010-183-080		C-CAP,S 2700P-50 B	C842	87-010-197-080		CAP, CHIP 0.01-25 K B
C454	87-010-183-080		C-CAP,S 2700P-50 B	C844	87-010-197-080		CAP, CHIP 0.01-25 K B
C455	87-010-183-080		C-CAP,S 2700P-50 B	C850	87-010-260-080		CAP, ELECT 47-25V
C456	87-010-197-080		CAP, CHIP 0.01-25 K B	C851	87-010-197-080		CAP, CHIP 0.01-25 K B
C460	87-010-196-080		CHIP CAPACITOR,0.1-25	C852	87-010-197-080		CAP, CHIP 0.01-25 K B
C461	87-012-158-080		C-CAP,S 390P-50 CH	C853	87-010-197-080		CAP, CHIP 0.01-25 K B
C462	87-012-158-080		C-CAP,S 390P-50 CH	C858	87-010-196-080		CHIP CAPACITOR,0.1-25
C458	87-010-178-080		C-CAP,S 1000-50 K B	C859	87-010-196-080		CHIP CAPACITOR,0.1-25
C459	87-010-175-080		C-CAP,S 560P-50 J SL	C860	87-010-197-080		CAP, CHIP 0.01-25 K B
C605	87-010-179-080		CAP,CHIP S 1200P-50 K	C940	87-010-197-080		CAP, CHIP 0.01-25 K B
C606	87-010-179-080		CAP,CHIP S 1200P-50 K	C942	87-010-149-080		C-CAP,S 5P-50 CH<EZ>
C609	87-010-213-080		C-CAP,S 0.015-50 B	C947	87-010-197-080		CAP, CHIP 0.01-25 K B<EZ>
C610	87-010-213-080		C-CAP,S 0.015-50 B	C948	87-012-140-080		C-CAP,S 470P-50 J CH<EZ>
C611	87-010-545-080		CAP, ELECT 0.22-50V	C952	87-010-197-080		CAP, CHIP 0.01-25 K B<EZ>
C612	87-010-545-080		CAP, ELECT 0.22-50V	C957	87-010-311-080		C-CAP,S 12P-50 J CH<EZ>
C613	87-010-545-080		CAP, ELECT 0.22-50V	C958	87-010-197-080		CAP, CHIP 0.01-25 K B<EZ>
C614	87-010-545-080		CAP, ELECT 0.22-50V	C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C615	87-010-154-080		CAP CHIP 10P-50 CH	C960	87-010-196-080		CHIP CAPACITOR,0.1-25
C616	87-010-221-080		CAP, ELECT 470-10V SME	C961	87-010-152-080		C-CAP,S 8P-50 D CH GRM<V>
C617	87-010-221-080		CAP, ELECT 470-10V SME	C962	87-010-401-080		CAP, ELECT 1-50V<EZ>
C618	87-010-405-080		CAP, ELECT 10-50V	C963	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C630	87-016-669-080		C-CAP,S 0.1-25 K B	C971	87-010-381-080		CAP, ELECT 330-16V
C631	87-010-185-080		C-CAP,S 3900P-50 B	C972	87-010-404-080		CAP, ELECT 4.7-50V
C632	87-010-185-080		C-CAP,S 3900P-50 B	C973	87-010-197-080		CAP, CHIP 0.01-25 K B
C633	87-016-369-080		C-CAP,S 0.033-25 K B	C974	87-010-197-080		CAP, CHIP 0.01-25 K B
C634	87-016-369-080		C-CAP,S 0.033-25 K B	C979	87-010-322-080		C-CAP,S 100P-50 CH
C669	87-010-322-080		C-CAP,S 100P-50 CH	C981	87-010-260-080		CAP, ELECT 47-25V
C670	87-010-322-080		C-CAP,S 100P-50 CH	C982	87-010-196-080		CHIP CAPACITOR,0.1-25
C677	87-010-197-080		CAP, CHIP 0.01-25 K B	C983	87-010-197-080		CAP, CHIP 0.01-25 K B
C779	87-010-971-080		C-CAP,S 4700P-50 J B	C984	87-010-197-080		CAP, CHIP 0.01-25 K B
C780	87-010-971-080		C-CAP,S 4700P-50 J B	C985	87-010-322-080		C-CAP,S 100P-50 J CH<EZ>
C771	87-010-263-080		CAP, ELECT 100-10V	C987	87-010-197-080		CAP, CHIP 0.01-25 K B
C772	87-010-197-080		CAP, CHIP 0.01-25 K B	C989	87-010-197-080		CAP, CHIP 0.01-25 K B<EZ>
C779	87-A10-801-080		C-CAP,S 0.022-16 J B<EZ>	C991	87-010-312-080		C-CAP,S 15P-50 CH
C780	87-A10-801-080		C-CAP,S 0.022-16 J B<EZ>	C992	87-010-312-080		C-CAP,S 15P-50 CH
C782	87-010-197-080		CAP, CHIP 0.01-25 K B	C993	87-010-178-080		CHIP CAP 1000P-50 K B
C783	87-010-197-080		CAP, CHIP 0.01-25 K B	C995	87-010-178-080		CHIP CAP 1000P-50 K B
C784	87-010-197-080		CAP, CHIP 0.01-25 K B	C997	87-010-196-080		CHIP CAPACITOR,0.1-25
C785	87-010-197-080		CAP, CHIP 0.01-25 K B	C998	87-010-260-080		CAP, ELECT 47-25V
C786	87-010-197-080		CAP, CHIP 0.01-25 K B	C999	87-A11-155-080		CAP,TC U 0.01-16 Z F
C788	87-010-149-080		C-CAP,S 5P-50 CH	CF831	87-008-423-010		FILTER, SFE10.7MS3G-A<EZ>
C789	87-A10-801-080		C-CAP,S 0.022-16 J B	CF831	87-008-261-010		FILTER, CF SFE10.7MA5<V>
C790	87-A10-801-080		C-CAP,S 0.022-16 J B	CF832	82-785-747-010		CF, MS2 GHYR<EZ>
C791	87-010-196-080		CHIP CAPACITOR,0.1-25	CF831	87-008-261-010		FILTER, CF SFE10.7MA5<V>
C792	87-010-197-080		CAP, CHIP 0.01-25 K B	CN301	87-A60-620-010		CONN,3P V 2MM JMT
C793	87-010-404-080		CAP, ELECT 4.7-50V	CN351	87-A60-625-010		CONN,8P V 2MM JMT
C794	87-012-140-080		C-CAP,S 470P-50 J CH<EZ>	CN601	87-099-719-010		CONN,30P TYK-B(X)
C795	87-010-197-080		CAP, CHIP 0.01-25 K B	CN602	87-A60-131-010		CONN,6P V FE
C796	87-010-197-080		CAP, CHIP 0.01-25 K B	D951	87-A40-618-080		VARI-CAP,SVC 348
C797	87-010-405-080		CAP, ELECT 10-50V	FC602	88-906-251-110		FF-CABLE,6P 1.25
C798	87-010-197-080		CAP, CHIP 0.01-25 K B	FB303	87-008-474-080		F-BEAD BL02RN1-R62T2 EMI
C799	87-010-407-080		CAP, ELECT 33-50V	FFE831	A8-6ZA-191-130		6ZA-1 FEENM
C800	87-012-369-080		C-CAP,S 0.047-50F	J202	87-A60-488-010		JACK,DIA6.3 BLK ST W/SW KM16AT
C801	87-010-403-080		CAP, ELECT 3.3-50V	J203	87-A60-238-010		TERMINAL,SP 4P (MSC)
C802	87-010-194-080		CAP, CHIP 0.047-25 Z F	J602	87-A60-881-010		JACK,PIN 2P MSP 242V05 PBSN
C803	87-010-198-080		CAP, CHIP 0.022-25 K B	J831	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02<V>
C804	87-010-263-080		CAP, ELECT 100-10V	J832	87-A60-403-010		TERMINAL,ANT PAL 2P HSP-312V05<EZ>
C807	87-010-400-080		CAP, ELECT 0.47-50V	L101	87-A50-610-010		COIL,1UH-K
C808	87-010-401-080		CAP, ELECT 1-50V	L102	87-A50-610-010		COIL,1UH-K
C809	87-010-401-080		CAP, ELECT 1-50V	L451	87-007-342-010		COIL,OSC 85K BIAS
C810	87-010-196-080		CHIP CAPACITOR,0.1-25	L801	87-A50-608-010		COIL,FM DET-N(TOK)
C814	87-010-197-080		CAP, CHIP 0.01-25 K B	L802	87-A91-551-010		FLTR,PCFJZH-450 L(TOK)
C815	87-010-400-080		CAP, ELECT 0.47-50V	L811	87-005-847-080		COIL,2.2UH(CECS)
C816	87-010-400-080		CAP, ELECT 0.47-50V	L832	87-005-847-080		COIL,2.2UH(CECS)
C818	87-010-180-080		C-CAP,S 1000P-50 J CH<EZ>	L941	87-A50-020-010		COIL,ANT LW(COI) 252KHZ<EZ>
C821	87-010-405-080		CAP, ELECT 10-50V	L942	87-A50-019-010		COIL,OSC LW(COI) 856KHZ<EZ>
C823	87-012-349-080		C-CAP,S 1000P-50 J CH	L951	8A-NF8-668-010		COIL,AM PACK 2(TOK)
C824	87-010-404-080		CAP, ELECT 4.7-50M 11L SME	R131	87-A00-258-080		RES,M/F 0.22-1W J
C825	87-010-596-080		CAP, S 0.047-16	R132	87-A00-258-080		RES,M/F 0.22-1W J

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
R143	87-A00-440-050		RES,220-1/2W J RP	FC104	88-911-101-110		FF-CABLE,11P 1.25
R144	87-A00-440-050		RES,220-1/2W J RP	FC731	88-913-301-110		FF-CABLE,13P-1.25
R145	87-A00-440-050		RES,220-1/2W J RP	FL901	8A-NF9-605-010		FL,HNA-10SS12
R146	87-A00-440-050		RES,220-1/2W J RP	L951	87-A50-434-010		COIL,CLK 4.19M(TOKO)
R653	87-A11-144-080		CAP,TC U 0.1-50 KB	LED201	87-A40-619-040		LED,SLR-56PT-T31-W GRN
R654	87-A11-144-080		CAP,TC U 0.1-50 KB	LED202	87-A40-619-040		LED,SLR-56PT-T31-W GRN
R790	87-010-197-080		CAP,CHIP 0.01 DM	LED204	87-A40-619-040		LED,SLR-56PT-T31-W GRN
R991	87-010-322-080		C-CAP,S 100P-50 CH	LED205	87-A40-619-040		LED,SLR-56PT-T31-W GRN
R993	87-010-322-080		C-CAP,S 100P-50 CH	LED209	87-A40-317-080		LED,SLR-342VCT31 RED
R995	87-010-322-080		C-CAP,S 100P-50 CH	LED210	87-A40-619-040		LED,SLR-56PT-T31-W GRN
SFR451	87-A90-432-080		SFR,30K H NVZ6TLTA	S301	87-A90-164-080		SW,TACT SKQNA(B) (N)
SFR452	87-A90-432-080		SFR,30K H NVZ6TLTA	S302	87-A90-164-080		SW,TACT SKQNA(B) (N)
TC942	87-011-253-080		TRIMMER,CER 30P 4.0X4.5 ECRLA<EZ>	S303	87-A90-164-080		SW,TACT SKQNA(B) (N)
W99	8A-NF9-609-010		F-CABLE,9P 2.5 480MM	S304	87-A90-164-080		SW,TACT SKQNA(B) (N)
WH1	87-A90-510-010		HLD,R,WIRE 2.5-9P	S305	87-A90-164-080		SW,TACT SKQNA(B) (N)
X991	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309	S306	87-A90-164-080		SW,TACT SKQNA(B) (N)
FRONT C.B				S307	87-A90-164-080		SW,TACT SKQNA(B) (N)
C101	87-010-196-080		CHIP CAPACITOR,0.1-25	S308	87-A90-164-080		SW,TACT SKQNA(B) (N)
C102	87-010-196-080		CHIP CAPACITOR,0.1-25	S309	87-A90-164-080		SW,TACT SKQNA(B) (N)
C103	87-010-498-040		CAP,E 10-16 M 5L	S321	87-A90-164-080		SW,TACT SKQNA(B) (N)
C104	87-010-196-080		CHIP CAPACITOR,0.1-25	S322	87-A90-164-080		SW,TACT SKQNA(B) (N)
C107	87-010-493-040		CAP,E 0.47-50 M 5L	S323	87-A90-164-080		SW,TACT SKQNA(B) (N)
C108	87-012-393-080		C-CAP,S 0.22-16 K	S324	87-A90-164-080		SW,TACT SKQNA(B) (N)
C153	87-010-198-080		CAP,CHIP 0.022-25 K B	S325	87-A90-164-080		SW,TACT SKQNA(B) (N)
C154	87-010-246-040		CAP,E 47-35 SME	S326	87-A90-164-080		SW,TACT SKQNA(B) (N)
C155	87-010-404-040		CAP,E 4.7-50 SME	S341	87-A90-164-080		SW,TACT SKQNA(B) (N)
C156	87-010-404-040		CAP,E 4.7-50 SME	S342	87-A90-164-080		SW,TACT SKQNA(B) (N)
C361	87-010-178-080		CHIP CAP 1000P-50 K B	S343	87-A90-164-080		SW,TACT SKQNA(B) (N)
C362	87-010-178-080		CHIP CAP 1000P-50 K B	S344	87-A90-164-080		SW,TACT SKQNA(B) (N)
C371	87-010-178-080		CHIP CAP 1000P-50 K B	S345	87-A90-164-080		SW,TACT SKQNA(B) (N)
C372	87-010-178-080		CHIP CAP 1000P-50 K B	S346	87-A90-164-080		SW,TACT SKQNA(B) (N)
C601	87-010-382-040		CAP,E 22-25 SME	S347	87-A90-164-080		SW,TACT SKQNA(B) (N)
C801	87-010-195-080		C-CAP,S 0.068-25 F	S348	87-A90-164-080		SW,TACT SKQNA(B) (N)
C802	87-010-195-080		C-CAP,S 0.068-25 F	S349	87-A90-164-080		SW,TACT SKQNA(B) (N)
C803	87-010-402-040		CAP,E 2.2-50 SME	S350	87-A90-164-080		SW,TACT SKQNA(B) (N)
C804	87-010-402-040		CAP,E 2.2-50 SME	S361	87-A91-633-010		SW,RTRY XRE012103PVB25FINA 1-2
C805	87-010-196-080		CHIP CAPACITOR,0.1-25	S371	87-A91-632-010		SW,RTRY XRE012103PVB25FINB 1-2
C806	87-010-196-080		CHIP CAPACITOR,0.1-25	PT C.B			
C901	87-010-322-080		C-CAP,S 100P-50 CH	C183	87-010-387-080		CAP,E 470-25 SME
C902	87-010-322-080		C-CAP,S 100P-50 CH	C184	87-010-403-080		CAP, ELECT 3.3-50V
C903	87-010-322-080		C-CAP,S 100P-50 CH	△ PT1	8A-NF9-617-010		PT,ANF-9 EZ
C904	87-010-322-080		C-CAP,S 100P-50 CH	△ PT181	8A-NF8-662-010		PT,SUB ANF-8 (E)
C905	87-010-322-080		C-CAP,S 100P-50 CH	△ RY181	87-A91-418-010		RELAY,AC12V G5PA-1-M
C906	87-010-322-080		C-CAP,S 100P-50 CH	△ T181	87-A60-317-010		TERMINAL, 1P MSC
C907	87-010-322-080		C-CAP,S 100P-50 CH	△ T182	87-A60-317-010		TERMINAL, 1P MSC
C908	87-010-322-080		C-CAP,S 100P-50 CH	WH181	87-A90-510-010		HLD,R,WIRE 2.5-9P
C909	87-010-322-080		C-CAP,S 100P-50 CH	DECK C.B			
C910	87-010-322-080		C-CAP,S 100P-50 CH	CN1	87-099-753-010		CONN,11P H 9604
C911	87-010-178-080		CHIP CAP 1000P-50 K B	HL1	8Z-ZM3-214-010		HLD,R,IC
C912	87-010-196-080		CHIP CAPACITOR,0.1-25	SFR1	87-024-581-010		SFR,3.3K DIA6V K0A
C913	87-010-248-040		CAP,E 220-10 SME	SW1	87-A90-673-010		SW,MICRO ESE11SH1C
C914	87-010-248-040		CAP,E 220-10 SME	SW2	87-A91-500-010		SW,MICRO MPU11470MLB0
C915	87-010-196-080		CHIP CAPACITOR,0.1-25	SW3	87-A91-500-010		SW,MICRO MPU11470MLB0
C916	87-010-196-080		CHIP CAPACITOR,0.1-25	SW4	87-A91-500-010		SW,MICRO MPU11470MLB0
C917	87-010-196-080		CHIP CAPACITOR,0.1-25	SW5	87-A90-673-010		SW,MICRO ESE11SH1C
C919	87-010-197-080		CAP,CHIP 0.01-25 K B				
C920	87-012-369-080		C-CAP,S 0.047-50 Z F				
C921	87-010-186-080		CAP,CHIP 4700P-50 K B				
C951	87-010-312-080		C-CAP,S 15P-50 CH				
C952	87-012-155-080		C-CAP 180P-50CH				
C953	87-012-140-080		CAP 470P-50 CH				
C961	87-010-378-040		CAP,E 10-16 M SME				
C962	87-012-157-080		C-CAP,S 330P-50 CH				
C963	87-010-196-080		CHIP CAPACITOR,0.1-25				
CN104	87-A60-057-010		CONN,11P V 9604S-11C				
CN701	87-099-720-010		CONN,30P BLK TYK-B(P)				
CN731	87-099-015-010		CONN,13P V BLK 6216V				

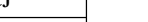
○チップ抵抗部品コード／CHIP RESISTOR PART CODE

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
				外形／Form	L	W	t	Resistor Code : A
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

CD1585BC
CSA952K
KTA1266GR
KTC3198GR



E C B

2SC3331



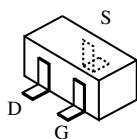
E C B

CSC4115BC

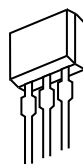


B C E

2SB1370

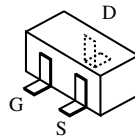


2SK360E

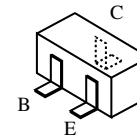


S D G

2SJ460
2SK2541



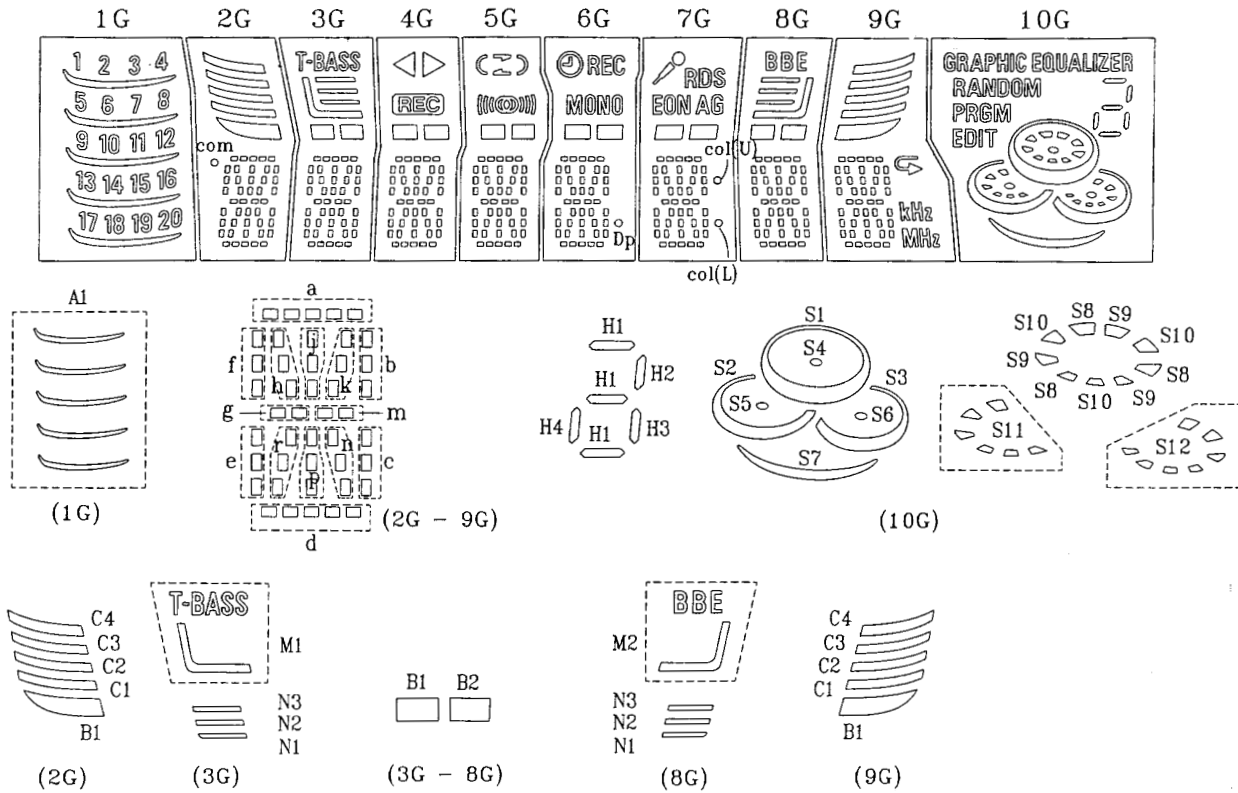
2SK2158



2SA1235F DTC114EK
2SC2714 KRC102S-RTK
2SC3052F KRC104S
CMBT5401 RT1P141C
CMBT5551 RT1P144C
CSD1306E

FL (HNA-10SS12) GRID ASSIGNMENT AND ANODE CONNECTION

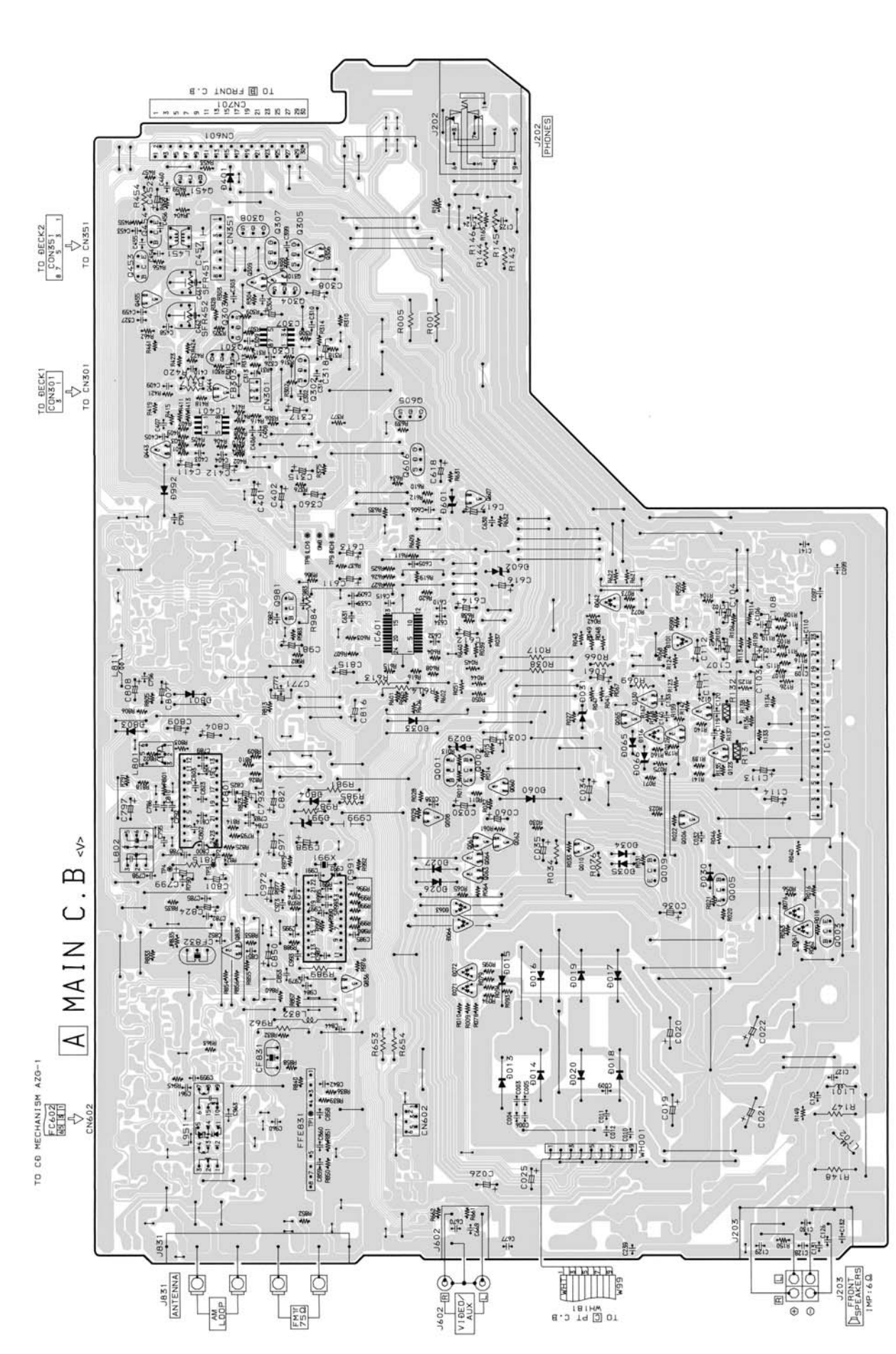
GRID ASSIGNMENT



ANODE CONNECTION

	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G
P1	20	d	d	d	d	d	d	d	d	S1
P2	19	n	n	n	n	n	n	n	n	S2
P3	18	p	p	p	p	p	p	p	p	S3
P4	17	r	r	r	r	r	r	r	r	S4
P5	16	e	e	e	e	e	e	e	e	S5
P6	15	c	c	c	c	c	c	c	c	S6
P7	14	g	g	g	g	g	g	g	g	S7
P8	13	m	m	m	m	m	m	m	m	S8
P9	12	f	f	f	f	f	f	f	f	S9
P10	11	b	b	b	b	b	b	b	b	S10
P11	10	k	k	k	k	k	k	k	k	S11
P12	9	j	j	j	j	j	j	j	j	S12
P13	8	h	h	h	h	h	h	h	h	EDIT
P14	7	a	a	a	a	a	a	a	a	PRGM
P15	6	B1	B1	B1	B1	B1	B1	B1	B1	RANDOM
P16	5	C1	B2	B2	B2	B2	B2	B2	C1	GRAPHIC EQUALIZER
P17	4	C2	M1	REC	MONO	Dp	col(U)	M2	C2	H1
P18	3	C3	N1	<	<	MONO	col(L)	N1	C3	H2
P19	2	C4	N2	>	>	REC	EON	N2	C4	H3
P20	1	com	N3			AG	AG	N3		H4
P21	A1					RDS				
P22										





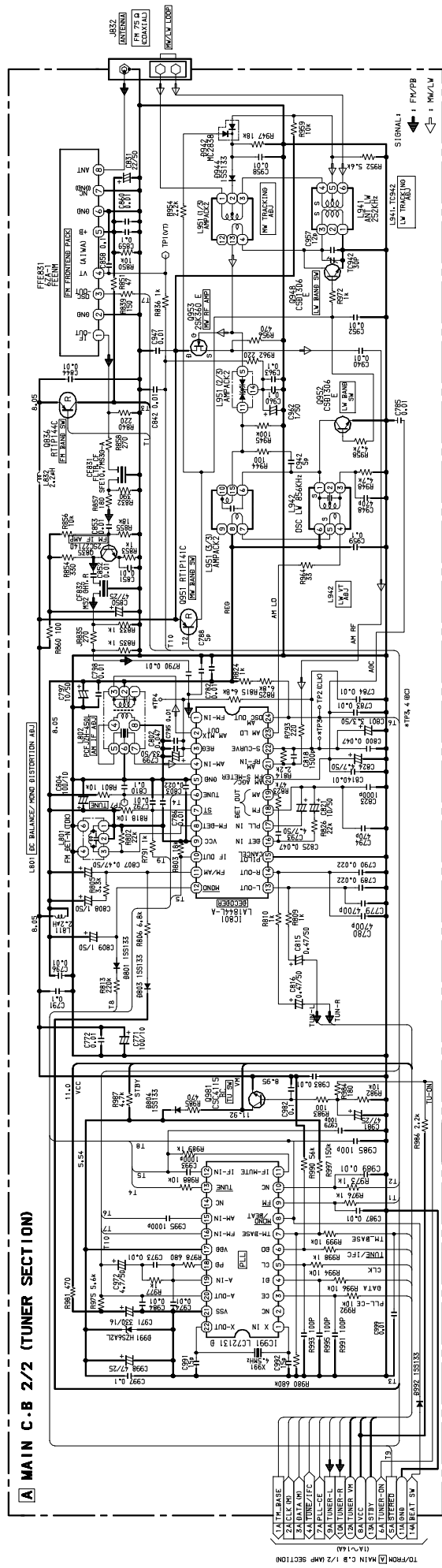
A MAIN C.B. 1/2 (AMP SECTION)

This schematic diagram illustrates the main chassis board (MAIN C.B. 1/2) for the amplifier section of a vacuum tube radio receiver. The circuit is powered by a B+ supply from a power transformer (PT) and includes various control and signal processing stages.

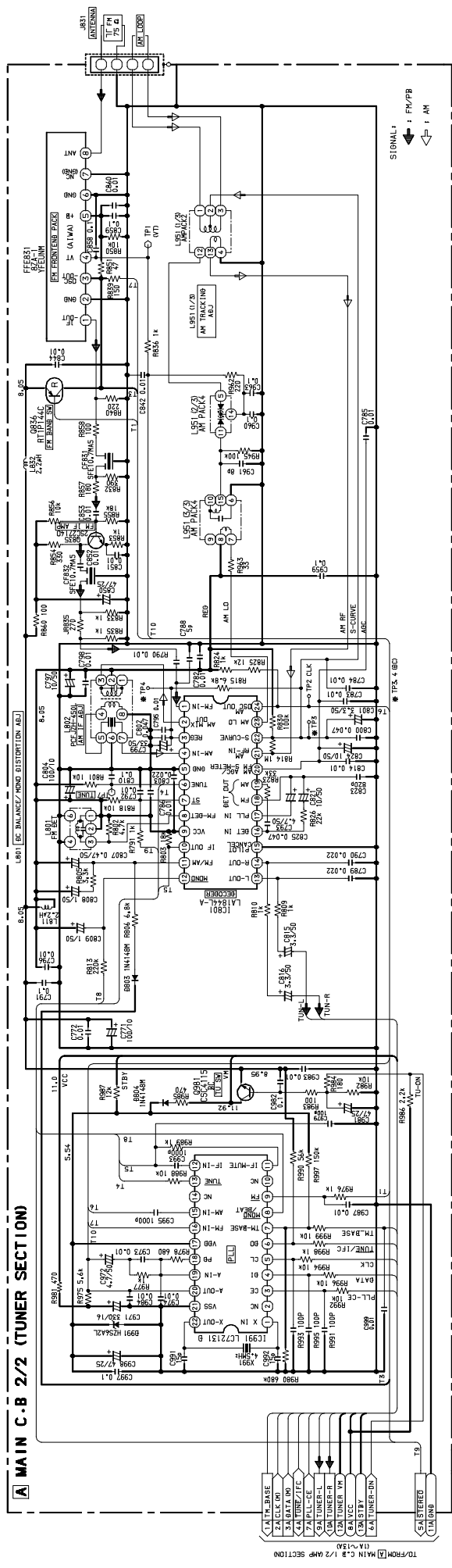
Key Components and Sections:

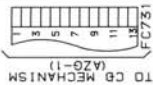
- Power Section:** Includes the B+ supply rail, filter capacitors (e.g., 0.001, 0.002, 0.005), and the filament winding for the vacuum tubes.
- Tuning Indicator Section:** Features a tuning indicator lamp (TUNING IND.) connected to the antenna input through a series of resistors and capacitors.
- Antenna Input Section:** Shows the antenna input terminals (ANTENNA IN.), a variable capacitor (VC), and associated coupling components.
- Detector and AF Amplifier Section:** Utilizes a 6X4 vacuum tube for detection and audio frequency amplification. It includes a detector diode (DET.), a variable capacitor (VC), and various biasing and coupling components.
- AF Amplifier Section:** Employs a 6V6 vacuum tube for further audio frequency amplification. It includes a grid leak bias network and a push-pull output stage.
- Rectifier Section:** Uses a 6AR5 vacuum tube as a full-wave rectifier for the B+ supply.
- Control Section:** Includes the volume control potentiometer (VOL. CTRL.), tone control potentiometer (TONE CTRL.), and other user-adjustable components.
- Output Stage:** Features a 6L6 vacuum tube in a push-pull configuration driving a speaker or headphones through a matching network.

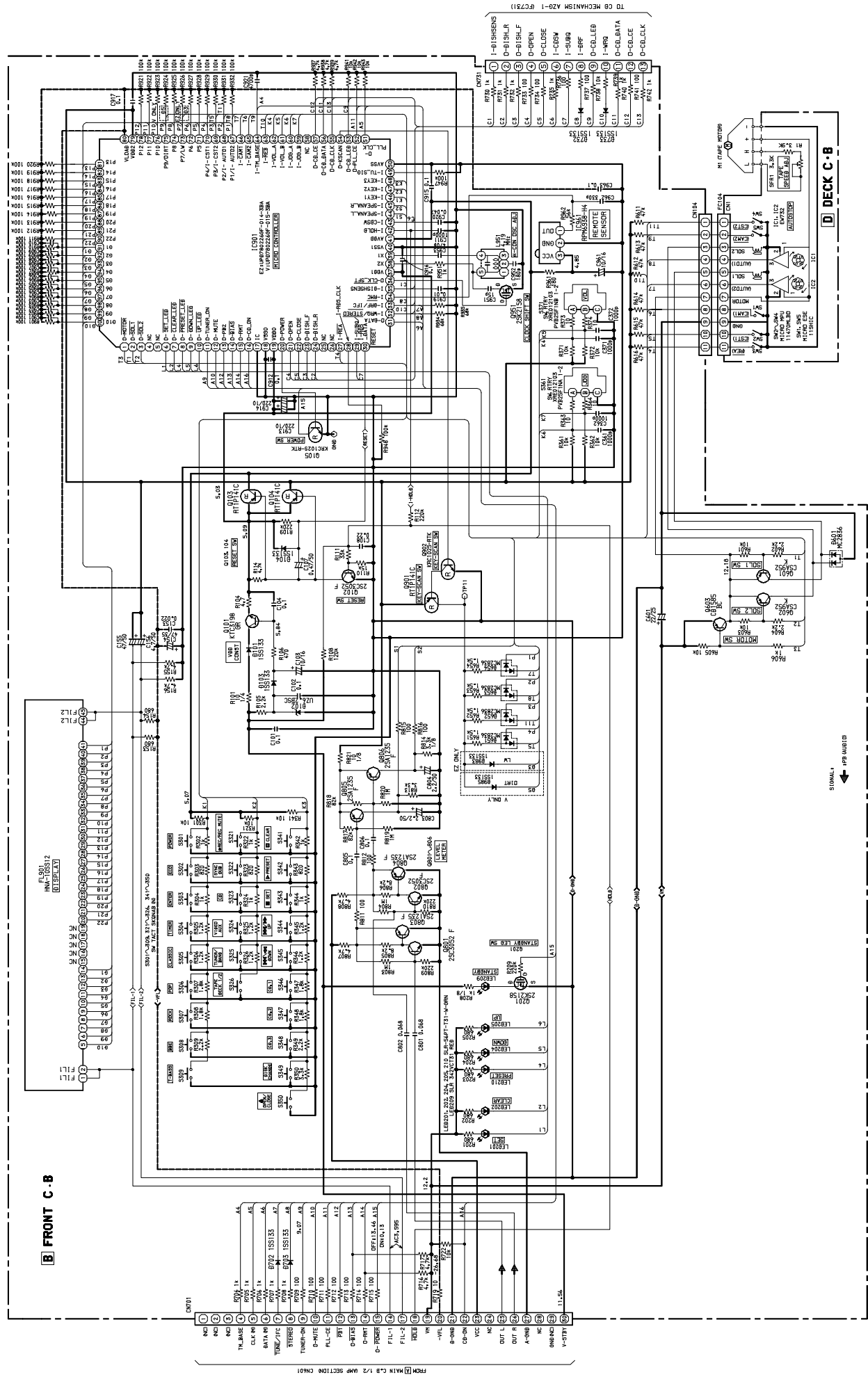
The diagram shows a complex arrangement of resistors, capacitors, and vacuum tubes, all interconnected to provide the desired audio performance and tuning characteristics.



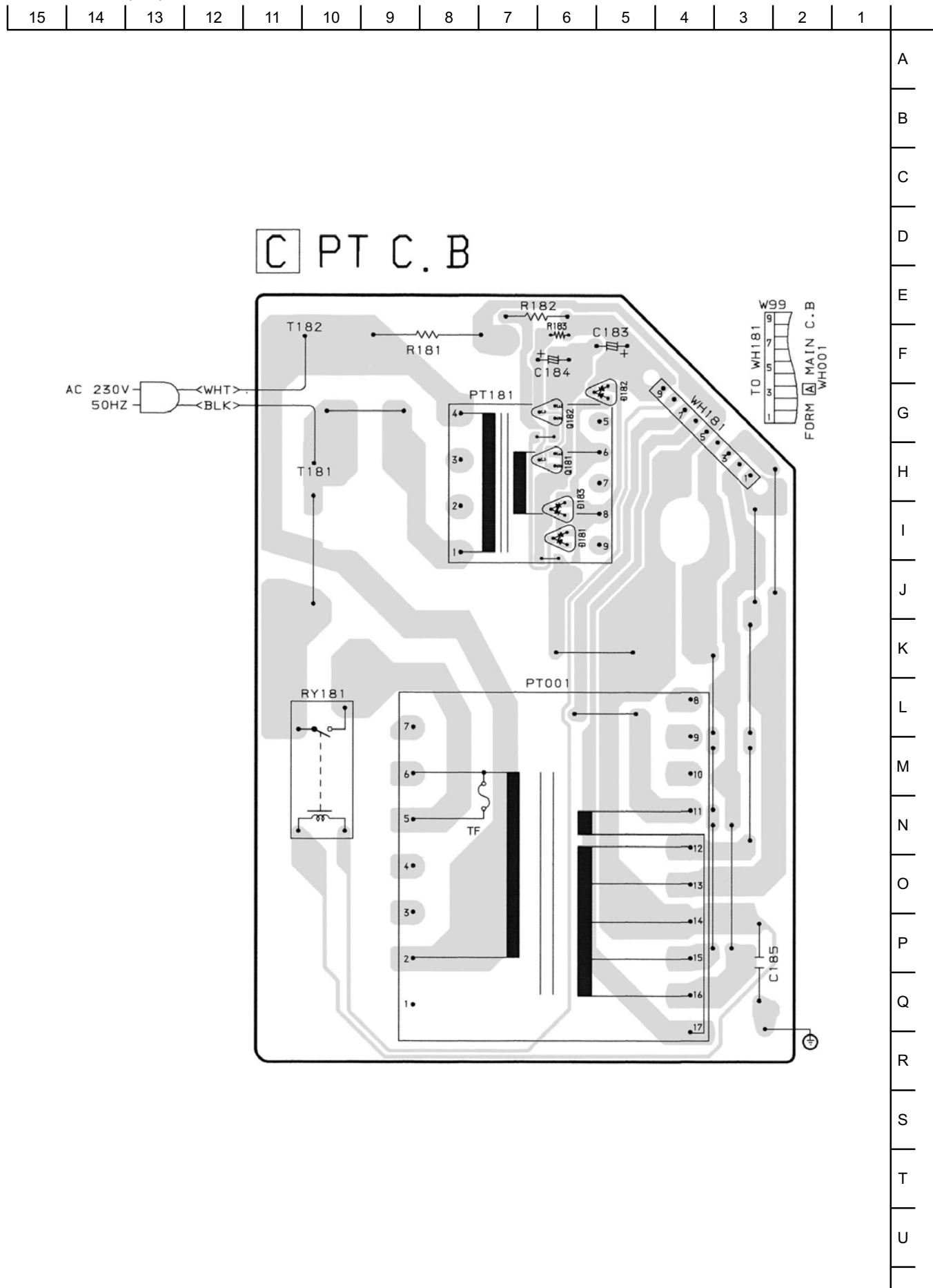
SCHEMATIC DIAGRAM – 3 (MAIN 2 / 2 : TUNER)<V>



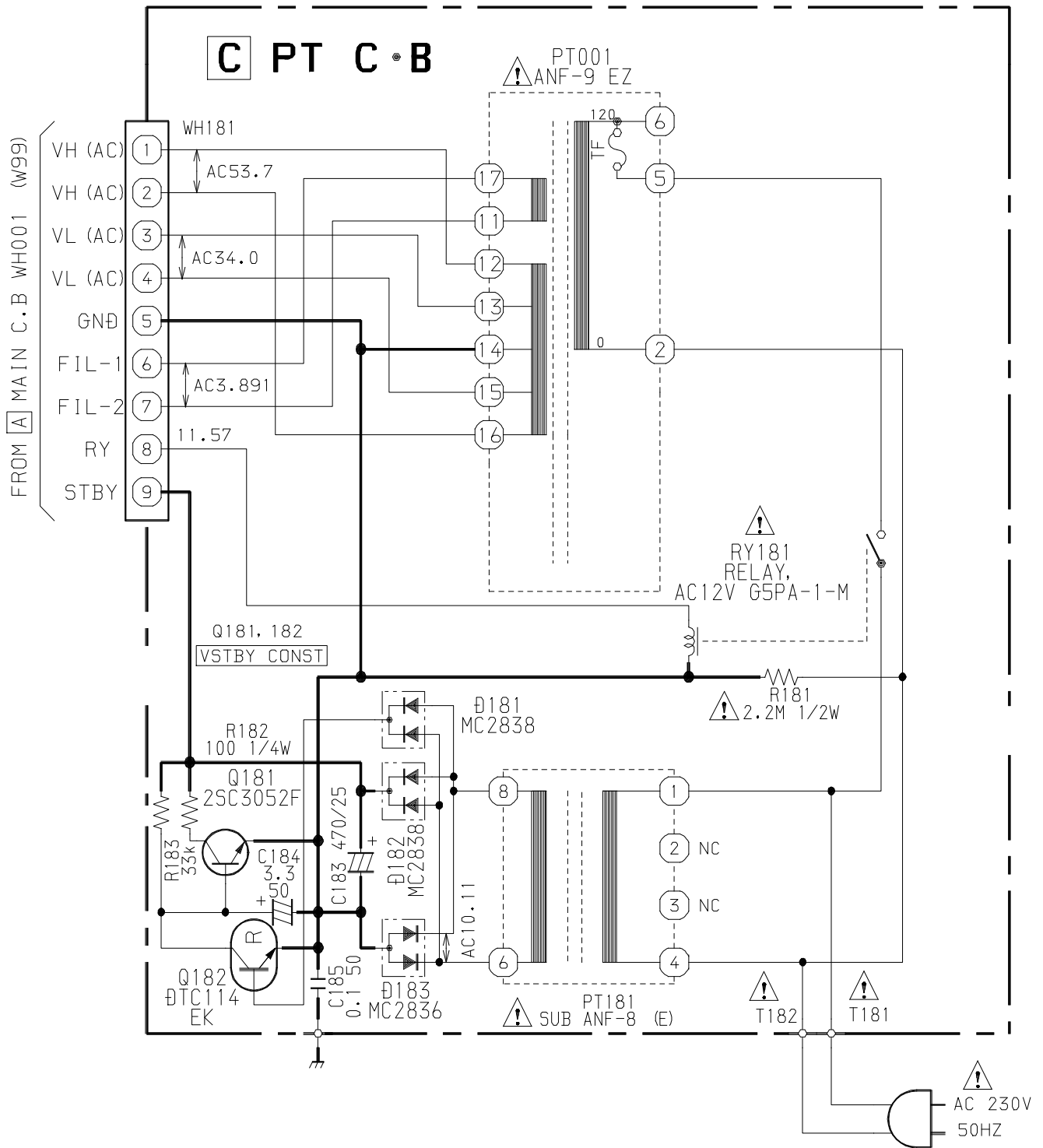


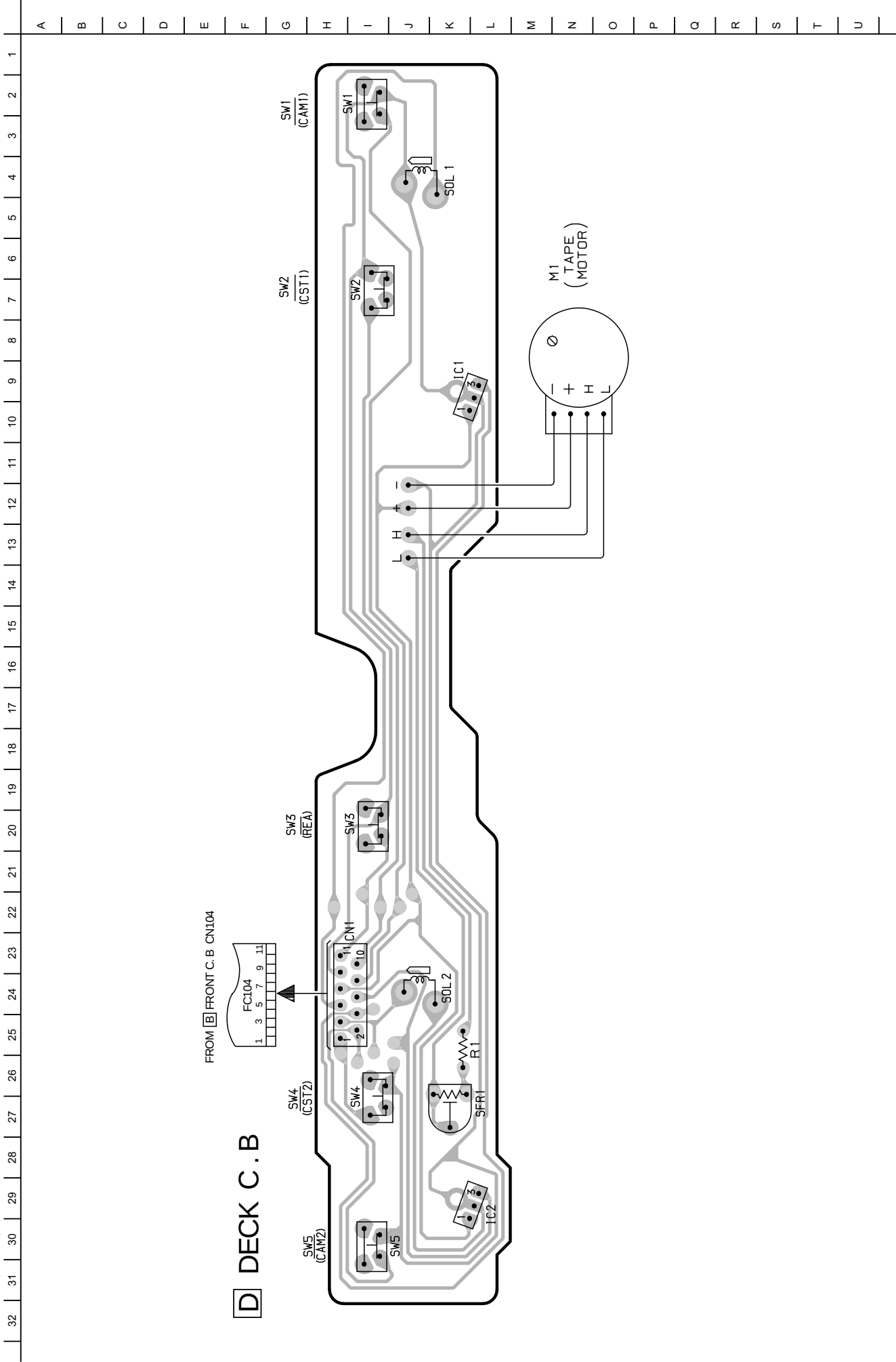


WIRING – 4 (PT)

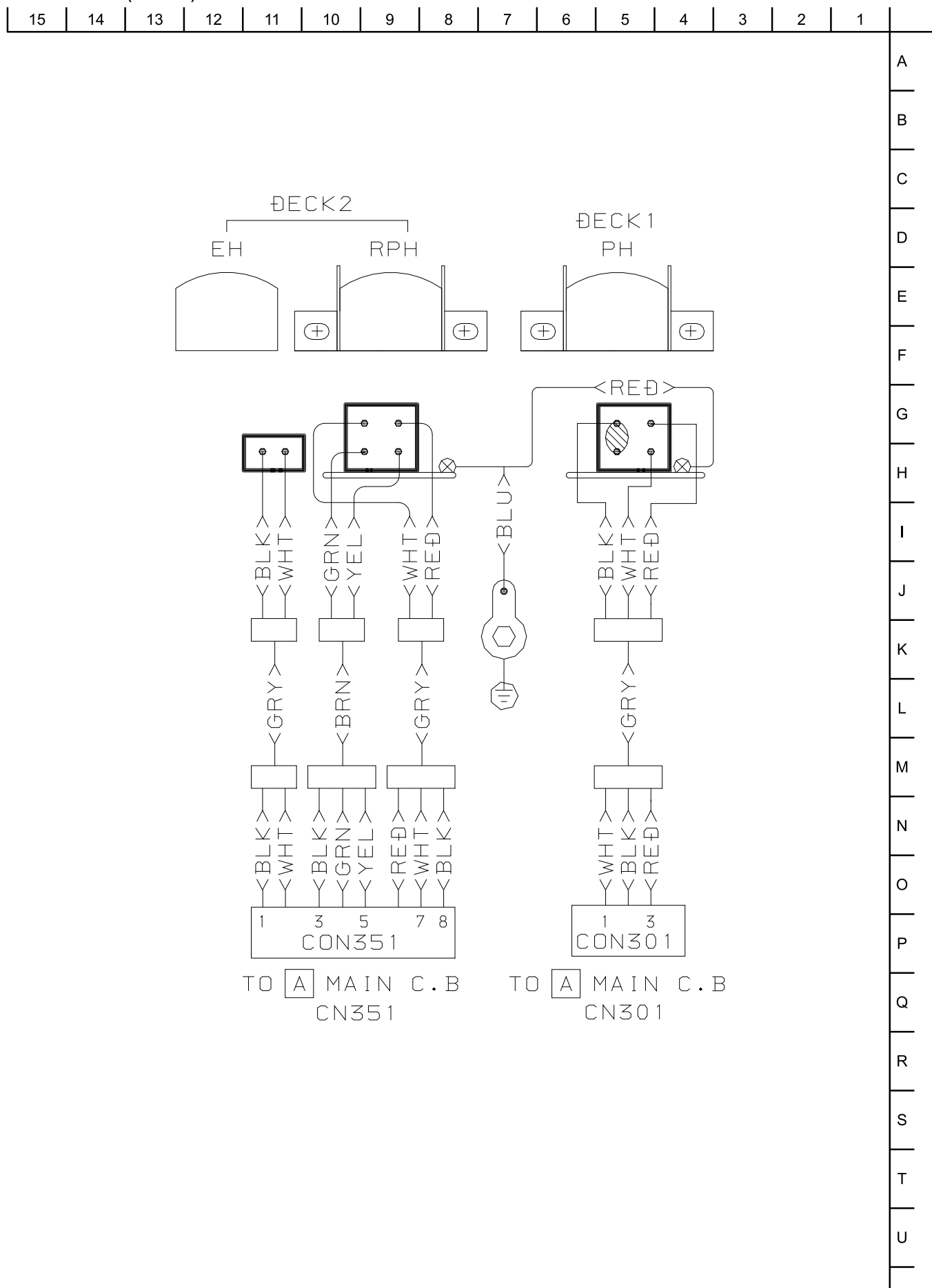


SCHEMATIC DIAGRAM – 5 (PT)



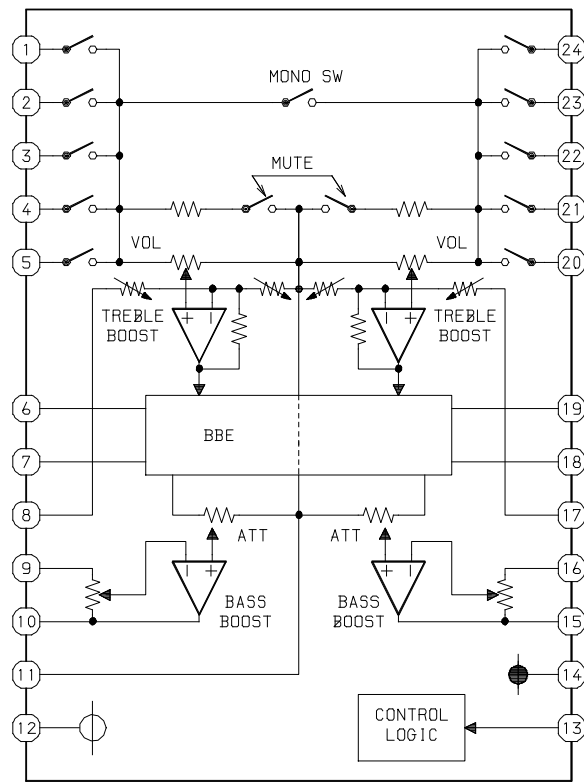


WIRING – 6 (HEAD)

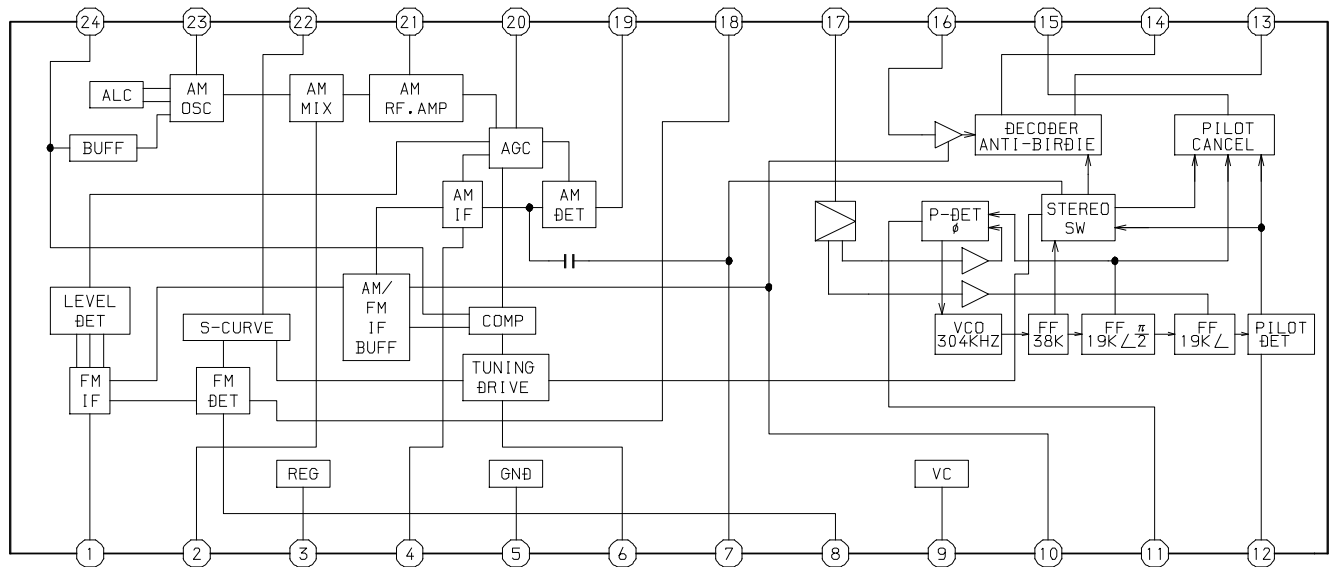


IC BLOCK DIAGRAM

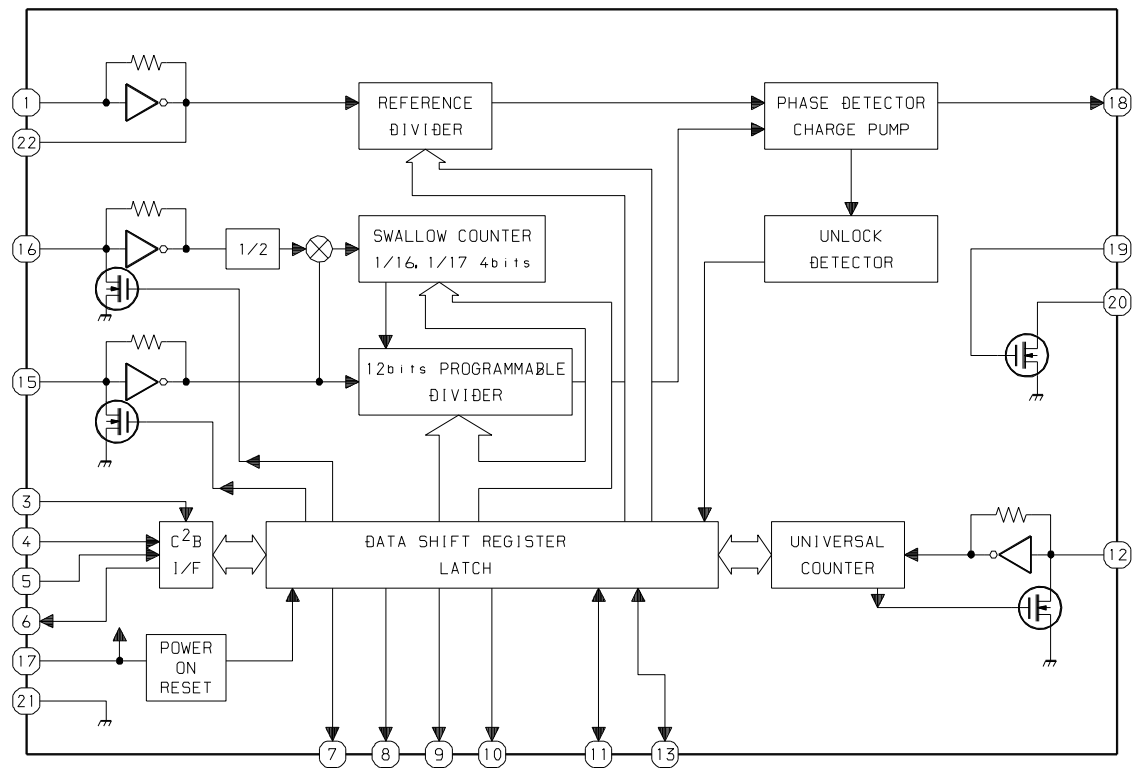
IC, M61503FP



IC, LA1844L-A



IC, LC72131D



IC DESCRIPTION

IC, μ PD780226GF-014-3BA / 015-3BA

Pin No.	Pin Name	I/O	Description
1	O-MOTOR	O	DECK MOTOR ON/OFF output.
2	O-SOL1	O	DECK1 solenoid output.
3	O-SOL2	O	DECK2 solenoid output.
4	NC	–	Not connected.
5	NC	–	Not connected.
6	O-SET_LED	O	SET LED ON/OFF output.
7	O-CLEAR_LED	O	CLEAR LED ON/OFF output.
8	O-PRESET_LED	O	PRESET LED ON/OFF output.
9	O-DOWN_LED	O	DOWN LED ON/OFF output.
10	O-UP_LED	O	UP LED ON/OFF output.
11	O-TUNER_ON	O	TUNER ON output.
12	O-MUTE	O	MUTE output.
13	O-PB2	O	DECK2/DECK1 play output.
14	O-BIAS	O	BIAS ON output.
15	O-RMT	O	REC mute output.
16	O-CD_ON	O	CD ON output.
17	IC	–	Internal connection (connected to GND).
18	VSSO	–	GND.
19	VDDO	–	Power supply.
20	O-POWER	O	System power supply ON/OFF output.
21	O-OPEN	O	CD tray open data output.
22	O-CLOSE	O	CD tray close data output.
23	O-DISH_F	O	CD turntable forward rotation output.
24	O-DISH_R	O	CD turntable reverse rotation output.
25	NC	–	Not connected.
26	NC	–	Not connected.
27	I-REA	I	Volume jog AD input.
28	I-RDS_CLK	I	Connected to GND through Resistor.
29	I-SUBQ/I-RDS_DATA	I	CD SUBQ data input / Tuner RDS data input (not used).
30	RESET	–	System reset.
31	O-DATA	O	Data output for MAIN.
32	I-WRQ/STEREO	I	CD WRQ input / Tuner stereo input.
33	I-DRF/IFC	I	CD DRF input / Tune IF count serial data input.
34	I-RMC	I	System remote control input.
35	I-DISHSENS	I	CD turntable photo sensor input.
36	O-CLK_SFT	O	Micon clock shift output.
37	VDD1	–	Power supply.
38	X2	–	4.19MHz oscillator circuit.
39	X1	–	4.19MHz oscillator circuit.
40	VSS1	–	GND.
41	AVDD	–	Power supply.
42	I-HOLD	I	Power failure detected input.
43	I-CDSW	I	CD mecha switch input.

Pin No.	Pin Name	I/O	Description
44	I-SPEANA_L	I	A/D L-input for spectrum analyser level display.
45	I-SPEANA_R	I	A/D R-input for spectrum analyser level display.
46	I-KEY1	I	Key1 input.
47	I-KEY2	I	Key2 input.
48	I-KEY3	I	Key3 input.
49	I-TU_SIG	I	Tuner signal input.
50	AVSS	–	GND.
51	O-PLL_CLK	O	PLL clock enable output.
52	O-PLL_CE	O	Chip enable output for tuner PLL.
53	O-CD_LED	O	CD flash window LED ON/OFF output.
54	O-KSCAN	O	Key scan output.
55	O-CD_CLK	O	CD clock output.
56	O-CD_DATA	O	CD data output.
57	O-CD_CE	O	CD enable output.
58	NC	–	Not connected.
59	I-JOG_B	I	Dial jog rotary encoder input B.
60	I-JOG_A	I	Dial jog rotary encoder input A.
61	I-VOL_B	I	Volume rotary encoder input B.
62	I-VOL_A	I	Volume rotary encoder input A.
63	I-REB	I	DECK2 side-B recordable switch data input. "L" = REC.
64	I-TM_BASE	I	Base input for clock.
65	I-CAM2	I	DECK2 CAM switch data input.
66	I-CAM1	I	DECK1 CAM STOP switch data input.
67	P1/I-AUTO2	O/I	FL segment P1 output / DECK2 AUTO STOP switch data input.
68	P2/I-AUTO1	O/I	FL segment P2 output / DECK1 AUTO STOP switch data input.
69	P3/I-CST2	O/I	FL segment P3 output / DECK2 cassette detect switch data input.
70	P4/I-CST1	O/I	FL segment P4 output / DECK1 cassette detect switch data input.
71, 72	P5, P6	O	FL segment P5, P6 output.
73	P7/LW	O/I	FL segment P7 output / LW mode data input <EZ only>.
74	P8	O	FL segment P8 output.
75	P9/OIRT	O/I	FL segment P8 output / OIRT mode data input <V only>.
76	P10	O	FL segment P10 output.
77, 78	P11, P12	O	FL segment P11, P12 output.
79	VDD2	–	Power supply.
80	VLOAD	–	Power supply for FL display.
81 ~ 90	P13 ~ P22	O	FL segment P13 ~ P22 output.
91 ~100	G1 ~ G10	O	FL grid G1 ~ G10 output.

ADJUSTMENT <TUNER / DECK / FRONT>

< TUNER SECTION >

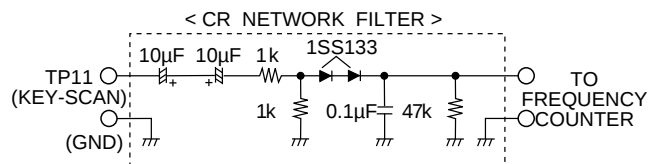
1. Clock frequency Check
Settings : • Test point : TP2 (CLK)
Method : Set to AM(MW) 1602kHz and check that the test point is 2052kHz $\pm$ 45Hz.
2. AM(MW) VT Check
Settings : • Test point : TP1 (VT)
Method : Set to AM(MW) 1602kHz, 531kHz and check that the test point is less than 8.0V (1602kHz) and more than 0.6V (531kHz).
3. LW VT Adjustment <EZ only>
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.
4. FM VT Check
Settings : • Test point : TP1 (VT)
Method : EZ:
Set to FM 87.5MHz, 108.0MHz and check that the test point is more than 0.5V (87.5MHz) and less than 8.0V (108.0MHz).
V:
Set to FM 65MHz, 108.0MHz and check that the test point is more than 1.0V (65MHz) and less than 9.5V (108.0MHz).
5. AM(MW) Tracking Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L951(1/3) 1000kHz
Method : Set to AM(MW) 999kHz and adjust L951(1/3) to MAX.
6. LW Tracking Adjustment <EZ only>
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L941 144kHz
TC942 290kHz
Method : Set up TC942 to center before adjustment.
Adjust L941 so that the level at 144kHz becomes maximum. Then adjust TC942 so that the level at 290kHz becomes maximum.
7. 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 <EZ> and 8dB μ V <V>.
8. AM IF Adjustment
Settings : • Test point : TP8(Lch), TP9(Rch)
• Adjustment location :
L802 450kHz
9. 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 voltage between TP3 and TP4 becomes 0V $\pm$ 0.04V.
Next, check that the distortion is less than 1.3%.

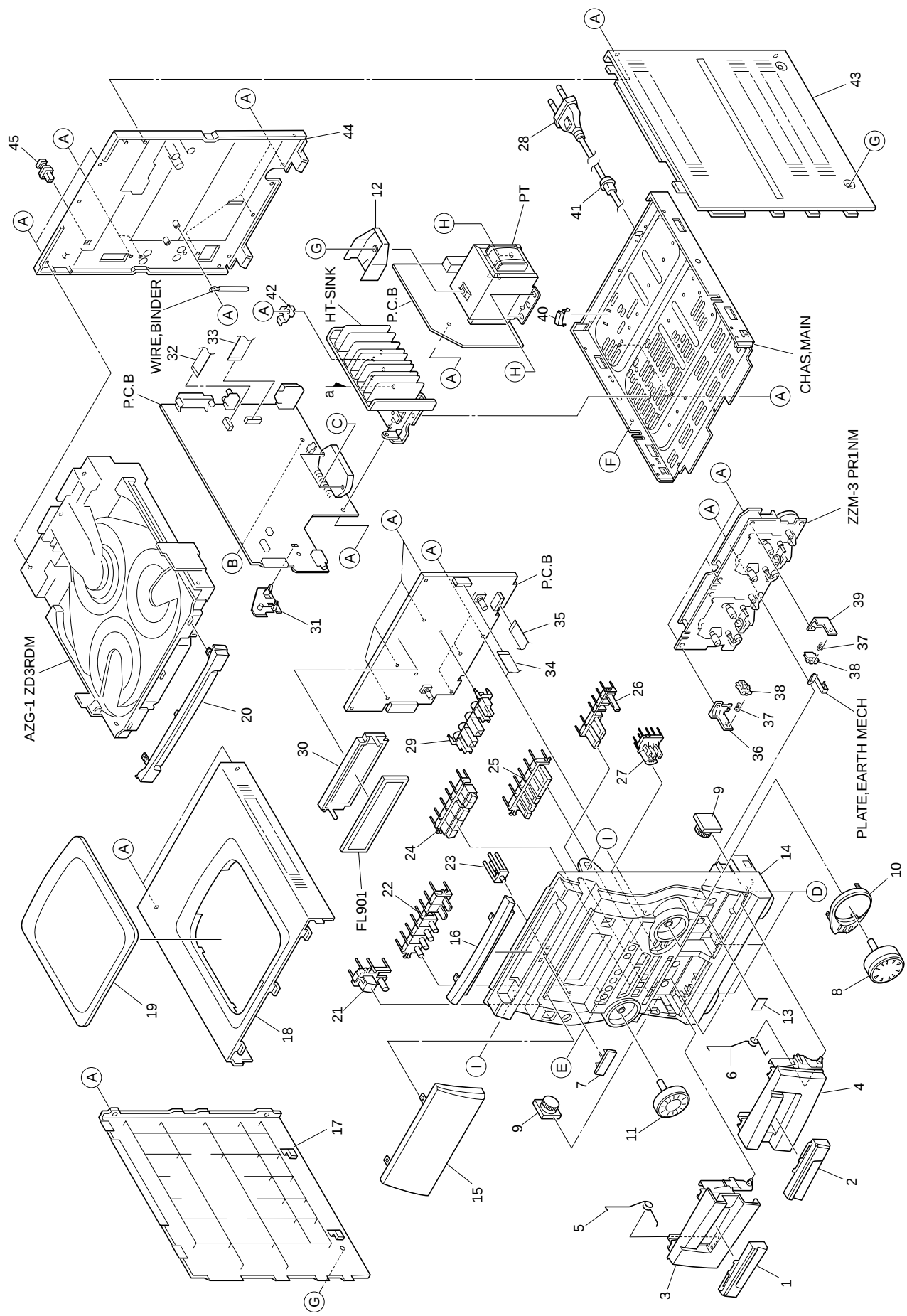
< DECK SECTION >

10. Tape Speed Adjustment (DECK 2)
Settings : • Test tape : TTA-100
• Test point : TP8(Lch), TP9(Rch)
• Adjustment location : SFR1
Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz $\pm$ 5Hz (FWD) and FWD SPEED $\pm$ 45Hz (REV).
11. Head Azimuth Adjustment (DECK 1, DECK 2)
Settings : • Test tape : TTA-330
• Test point : TP8(Lch), TP9(Rch)
• Adjustment location : Azimuth adjustment screw
Method : Play back (FWD) the 8kHz signal of the test tape and adjust screw so that the output becomes maximum.
Next, perform on REV PLAY mode.
12. PB Frequency Response Check (DECK 1, DECK 2)
Settings : • Test tape : TTA-330
• Test point : TP8(Lch), TP9(Rch)
Method : Play back the 315Hz and 8kHz signals of the test tape and check that the output ratio of the 8kHz signal with respect to that of the 315Hz signal is within 5.0dB.
13. PB Sensitivity Check (DECK 1, DECK 2)
Settings : • Test tape : TTA-200
• Test point : TP8(Lch), TP9(Rch)
Method : Play back the test tape and check that the output level of the test point is 110mV $\pm$ 3.0dB.
14. REC/PB Frequency Response Adjustment (DECK 2)
Settings : • Test tape : TTA-602
• Test point : TP8(Lch), TP9(Rch)
• Input signal : 1kHz / 8kHz (LINE IN)
• Adjustment location : SFR451 (Lch)
SFR452 (Rch)
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP8, TP9 becomes -20VU (-26dBV). Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signals becomes 0dB $\pm$ 0.5dB with respect to that of the 1kHz signal.
15. REC/PB Sensitivity Check (DECK 2)
Settings : • Test tape : TTA-602
• Test point : TP8(Lch), TP9(Rch)
• Input signal : 1kHz (LINE IN)
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP8, TP9 becomes 0VU (-6dBV). Record and play back the 1kHz signals and check that the output is -1dB $\pm$ 3.5dB.

< FRONT SECTION >

16. μ -CON OSC Adjustment
Settings : • Test point : TP11 (KEY-SCAN), (GND)
• Adjustment location : L951
Method : Connect a frequency counter across TP11 and GND via a CR network filter as shown below. Then adjust L951 so that the test point becomes 184.94Hz $\pm$ 0.18Hz.





MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF9-006-010		WINDOW, CASS 1
2	8A-NF9-007-010		WINDOW, CASS 2
3	8A-NF9-003-010		BOX, CASS 1
4	8A-NF9-004-010		BOX, CASS 2
5	8A-NF8-207-010		SPR-T, EJECT 1
6	8A-NF8-208-010		SPR-T, EJECT 2
7	87-CE3-023-010		BADGE, AIWA 30N SILV
8	8A-NF9-018-010		KNOB, RTRY JOG
9	8A-NF8-209-010		OIL-DMPR, 120
10	8A-NF9-017-010		PANEL, JOG
11	8A-NF9-016-010		KNOB, RTRY VOL
12	8A-NF9-211-010		HLDR, PWB PT HI
13	81-532-080-010		LABEL, CASS. COMPT
14	8A-NF9-001-010		CABI, FR U
15	8A-NF9-103-010		WINDOW, DISP EZ NDR1<EZ>
15	8A-NF9-052-010		WINDOW, DISP LH<V>
16	8A-NF9-039-010		WINDOW, CD
17	8A-NF8-007-010		PANEL, LEFT V-2
18	8A-NF8-005-010		PANEL, TOP
19	8A-NF8-006-010		WINDOW, TOP
20	8A-NF9-014-010		PANEL, TRAY
21	8A-NF9-008-010		KEY, POWER
22	8A-NF9-009-010		KEY, FUN
23	8A-NF9-022-010		REFLECTOR, ECO
24	8A-NF9-010-110		KEY, ASSY OPE 1 WAY
25	8A-NF9-020-110		KEY, CD
26	8A-NF9-019-010		KEY, SYNC
27	8A-NF9-026-110		KEY, ENTER
28	87-A80-157-010		AC CORD ASSY, E BLK CC
29	8A-NF9-201-010		GUIDE, OPE 1 WAY

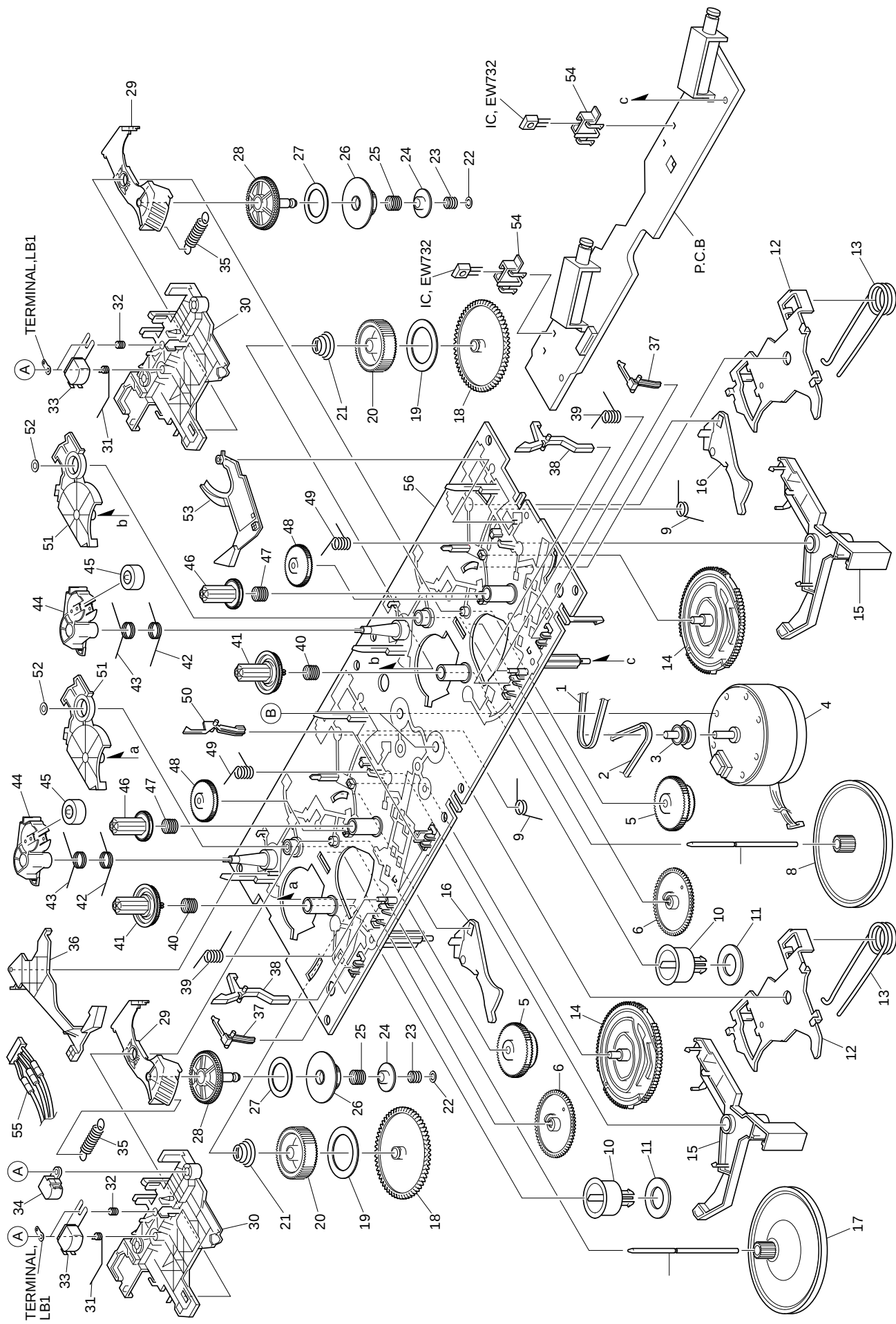


REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
30	82-NF7-210-110		GUIDE, FL (*)
31	8A-NF8-206-010		HLDR, PWB M
32	88-906-251-110		FF-CABLE, 6P 1.25
33	8A-NF9-609-010		F-CABLE, 9P 2.5 480MM
34	88-913-301-110		FF-CABLE, 13P-1.25
35	88-911-101-110		FF-CABLE, 11P 1.25
36	87-NF4-216-010		HLDR, LOCK 1
37	86-NF9-224-010		SPR-C, LOCK
38	82-NF5-229-010		PLATE, LOCK
39	87-NF4-217-110		HLDR, LOCK 2
40	87-NF4-221-010		HLDR, CABLE
41	87-085-185-010		BUSHING, AC CORD (E)
42	8A-NF8-205-010		HLDR, IC
43	8A-NF8-008-010		PANEL, RIGHT V-2
44	8A-NF9-031-110		CABI, REAR EZSE R<EZ>
44	8A-NF9-036-010		CABI, REAR VJSM<V>
45	84-ZG1-245-210		CAP, OPTICAL
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-NF4-224-010		S-SCREW, IT3B+3-8 CU
C	87-067-581-010		BVT2+3-15 W/O SLOT
D	87-067-689-010		TAPPING SCREW, BVTT+3-8
E	87-723-096-410		QT2+3-10W/O SLOT BLK
F	87-721-096-410		QT2+3-10 W/O SLOT
G	87-067-641-010		UTT2+3-8 BLK
H	87-078-200-010		S-SCREW, ITC+4-8 R
I	87-721-097-410		QT2+3-12 W/O SLOT

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

TAPE MECHANISM EXPLODED VIEW 1/1



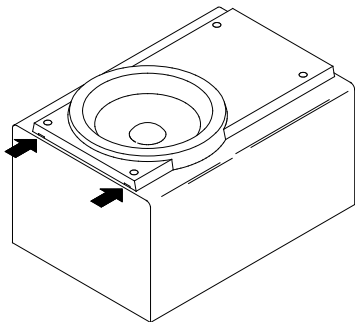
TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM3-227-010	0E	BELT,MAIN M3	31	8Z-ZM3-233-010	0E	SPR-T,BRG M3
2	8Z-ZM3-235-010	0E	BELT,MAIN L	32	84-ZM2-227-310	0E	SPR-C,AZIMUTH
3	8Z-ZM1-235-010	0E	PULLEY,MOT	33	87-A90-403-110	1B	HEAD,RPH MS15R
4	87-045-347-010	1H	MOT,SHU2L 70	34	87-A90-404-010	1B	HEAD,EH LE15B
5	8Z-ZM1-232-010	0E	GEAR,IDL FF/REW	35	8Z-ZM3-239-010	0E	SPR-E,FR
6	8Z-ZM3-244-010	0E	GEAR,CAM TD20	36	8Z-ZM3-211-010	0E	LEVER,EJECT R
8	8Z-ZM1-290-010	0E	FLY-WHL ASSY ,ZZM-1	37	8Z-ZM3-225-010	0E	LEVER,STOP
9	8Z-ZM3-231-010	0E	SPR-T,TRIG	38	8Z-ZM3-221-010	0E	LEVER,CAS
10	8Z-ZM3-213-010	0E	CLR,MG	39	8Z-ZM3-234-010	0E	SPR-T,LVR CAS
11	82-ZM3-616-010	0E	RING MAGNET 4	40	8Z-ZM3-223-010	0E	SPR-C,REEL R M3
12	8Z-ZM3-243-010	0E	LEVER ASSY,HD UP	41	8Z-ZM1-225-110	0E	GEAR,REEL R
13	8Z-ZM3-238-010	0E	SPR-T,HD UP	42	8Z-ZM3-240-010	0E	SPR-T,T-UP M3
14	8Z-ZM3-219-010	0E	GEAR,CAM M3	43	8Z-ZM3-237-010	0E	SPR-T,PINCH M3
15	8Z-ZM3-206-010	0E	LEVER,TRIG	44	8Z-ZM3-215-010	0E	LEVER,PINCH M3
16	8Z-ZM3-209-010	0E	LEVER,CAM FR	45	8Z-ZM1-261-110	0E	ROLLER ASSY,PINCH
17	8Z-ZM2-256-010	0E	FLY-WHL ASSY,M3 R	46	8Z-ZM1-226-010	0E	GEAR,REEL L
18	8Z-ZM1-228-010	0E	GEAR,SLIP T-UP B	47	8Z-ZM3-222-010	0E	SPR-C,REEL L M3
19	8Z-ZM1-265-010	0E	FELT,T-UP	48	8Z-ZM3-251-010	0E	GEAR,IDL REW M3
20	8Z-ZM1-227-010	0E	GEAR,SLIP T-UP A	49	8Z-ZM3-236-010	0E	SPR-T,PLAY M3
21	8Z-ZM1-251-110	0E	SPR-C,T-UP SLIP	50	82-ZM1-240-110	0E	LVR,REC(*)
22	8Z-ZM1-275-010	0E	W-L,1,47-4-0.25	51	8Z-ZM3-216-010	0E	LEVER,T-UP M3
23	8Z-ZM1-257-010	0E	SPR-C,F/R	52	87-B10-301-010	0E	W-L,1.63-3.2-05 SLIT
24	8Z-ZM1-236-010	0E	CLR,SLIP FF/REW	53	8Z-ZM3-212-010	0E	LEVER,EJECT L
25	8Z-ZM3-226-010	0E	SPR-C,FR M3	54	8Z-ZM3-214-010	0E	HLD,IC
26	8Z-ZM3-250-010	0E	GEAR,SLIP F/R A M3	55	86-ZM3-605-110	1B	CONN ASSY,8P -RPB
27	8Z-ZM1-269-010	0E	FELT,FF/REW 2	56	8Z-ZM3-203-010	1H	CHAS ASSY,M3
28	8Z-ZM1-238-110	0E	GEAR,SLIP FF/REW B 2	A	84-ZM2-242-010	0E	S-SCREW,AZ1-2-6.4
29	8Z-ZM3-220-010	0E	LEVER,FR M3	B	8Z-ZM2-220-110	0E	V+2.6 ZZM-2
30	8Z-ZM3-205-010	0E	LEVER,PLAY M3				

SPEAKER DISASSEMBLY INSTRUCTIONS

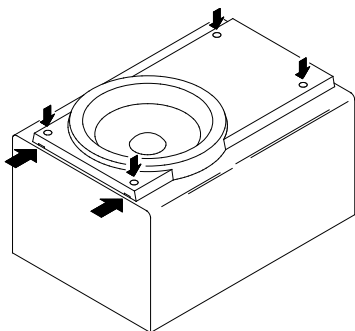
Type.1

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.



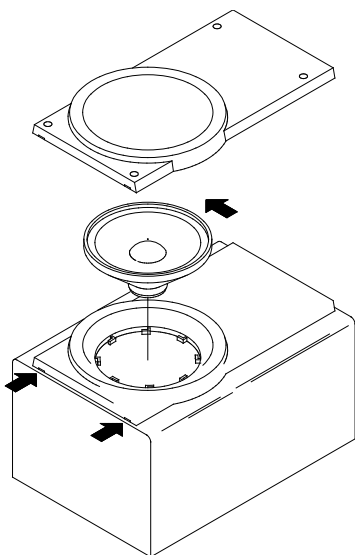
Type.2

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.

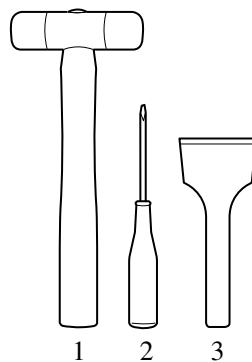


Type.3

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.

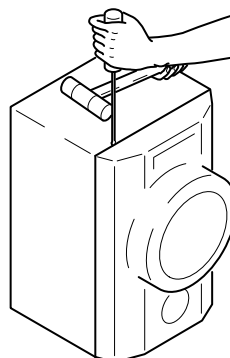


Fig-1

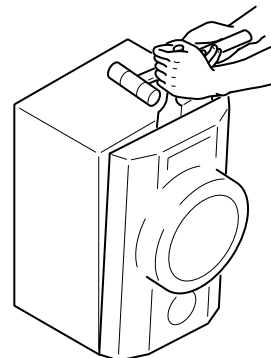


Fig-2

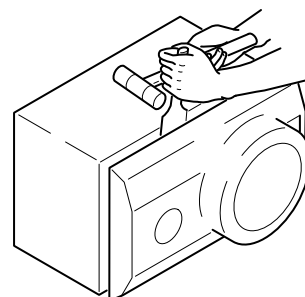


Fig-3

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 PARTS LIST

SX-NSZ20 (YSL,YSC9,YSY1,YSY2), SX-NSZ22 (YJSC,YJSC9)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NSK-001-010		PANEL,FR
2	8A-NSK-003-010		GRILLE,FRAME ASSY
3	8A-NSK-007-010		PROTECTOR,TWA
4	8A-NSK-602-010		SPKR,W 140<EXCEPT YJSC>
4	8A-NSJ-602-010		SPKR,W 130<YJSC>
5	88-NS5-605-010		SPKR,T 60<EXCEPT YJSC>
5	8A-NSK-604-010		SPKR,TW 60<YJSC>
6	87-NSH-612-010		SPKR,CERAMIC ASSY
7	87-NS7-611-010		CORD,SPKR

ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF9-926-110		IB,EZ(9L)M<EZ>
1	8A-NF9-907-010		IB,V(ER)M<V>
2	87-A90-118-010		ANT,WIRE FM(Z)<EZ>
2	87-043-115-010		ANT,FEEDER FM<V>
3	87-006-225-010		AM,LOOP ANT NC2<EZ>
4	8Z-NF9-701-210		RC UNIT,ZAS02



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