



**NSX-SZ20**

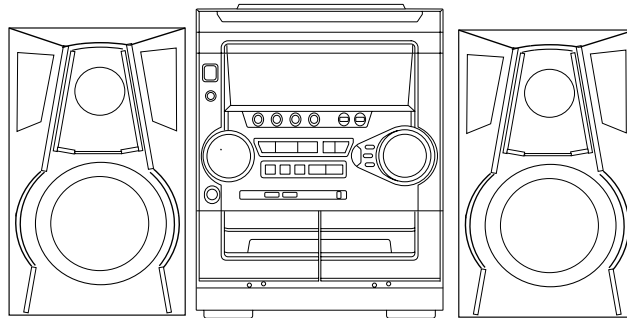
HA, HR

**NSX-SZ21**

LH

**NSX-SZ20E**

HA



# SERVICE MANUAL

COMPACT DISC  
STEREO SYSTEM

BASIC TAPE MECHANISM : ZM-3 PR1NM/YPR1NM  
BASIC CD MECHANISM : AZG-1 ZD8RDM/  
YZD8RDM/YZD8RDCM

SYSTEM	CD CASSEIVER	SPEAKER	REMOTE CONTROLLER
NSX-SZ20	CX-NSZ20	SX-NSZ22	RC-ZAS02
NSX-SZ21	CX-SNSZ21	SX-SNSZ22	
NSX-SZ20E	CX-NSZ20E	SX-NSZ22	

SYSTEM	TAPE MECHANISM	CD MECHANISM
NSX-SZ20	ZM-3 PR1NM	AZG-1 ZD8RDM
NSX-SZ21	ZM-3 YPR1NM	AZG-1 YZD8RDM
NSX-SZ20E		AZG-1 YZD8RDCM

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" NSX-SZ20<HA>, (S/M Code No. 09-99C-423-4T2) and NSX-SZ20/SZ20E<HR,HA>, (S/M Code No. 09-001-423-4T3).
- If requiring information about the CD mechanism, see Service Manual of AZG-1 ZD8RDM / YZD8RDM, (S/M Code No. 09-001-335-3N6) and AZG-1 YZD8RDCM, (S/M Code No. 09-001-335-3NA).

**aiwa**

S/M Code No. 09-005-423-4R3

REVISION

DATA

# SPECIFICATIONS

## <FM tuner section>

<b>Tuning range</b>	87.5 MHz to 108 MHz
<b>Usable sensitivity (IHF)</b>	13.2 dBf
<b>Antenna terminals</b>	75 ohms (unbalanced)

## <MW tuner section>

<b>Tuning range</b>	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
<b>Usable sensitivity</b>	350 $\mu$ V/m
<b>Antenna</b>	Loop antenna

## <SW tuner section> <HR only>

<b>Tuning range</b>	5.730 MHz to 17.900 MHz
<b>Usable sensitivity</b>	40 $\mu$ V (IEC)
<b>Antenna</b>	Wire antenna

## <Amplifier section>

<b>Power output</b>	HR: Rated: 24 W + 24 W (6 ohms, THD 1%, 1 kHz) Reference: 30 W + 30 W (6 ohms, THD 10%, 1 kHz) LH, HA: Rated: 40 W + 40 W (6 ohms, THD 1%, 1 kHz) Reference: 50 W + 50 W (6 ohms, THD 10%, 1 kHz)
<b>Total harmonic distortion</b>	HR: 0.08% (15 W, 1 kHz, 6 ohms, DIN AUDIO) LH, HA: 0.05% (25 W, 1 kHz, 6 ohms, DIN AUDIO)
<b>Inputs</b>	VIDEO/AUX: 500 mV HR: MIC: 1.0 mV (10 K ohms)
<b>Outputs</b>	SPEAKERS: accept speakers of 6 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

## <Cassette deck section>

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

## <Compact disc player section>

<b>Laser</b>	Semiconductor laser ( $\lambda$ =780 nm)
<b>D-A converter</b>	1 bit dual
<b>Signal-to-noise ratio</b>	85 dB (1 kHz, 0 dB)
<b>Harmonic distortion</b>	0.05 % (1 kHz, 0 dB)

## <Speaker system>

<b>&lt;HR,HA: SX-NSZ22, LH: SX-SNSZ22&gt;</b>	
<b>Speaker system</b>	3 way, bass reflex (magnetic shielded type)
<b>Speaker units</b>	Woofer: 140 mm cone type Tweeter: 60mm cone type Super tweeter: 20 mm ceramic type
<b>Impedance</b>	6 ohms
<b>Output sound pressure level</b>	87 dB/W/m
<b>Dimensions (W x H x D)</b>	230 x 324x 256 mm
<b>Weight</b>	3.8 kg

## <General>

<b>Power requirements</b>	120 V/220-230 V/240 V AC (switchable), 50/60 Hz
<b>Power consumption</b>	HR: 70 W LH, HA: 80 W
<b>Power consumption</b>	With power-economizing mode off : 13 W With power-economizing mode on : 0.9 W
<b>Dimensions of main unit (W x H x D)</b>	260 x 328 x 335 mm
<b>Weight of main unit</b>	HR: 5.6 kg LH, HA: 6.3 kg

• Design and specifications are subject to change without notice.

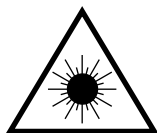
• The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.  
Under license from BBE Sound, Inc.

## 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.



- 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!

Laitteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän 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

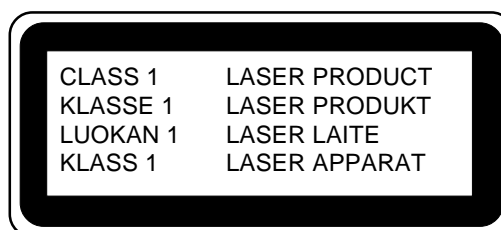
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### 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.

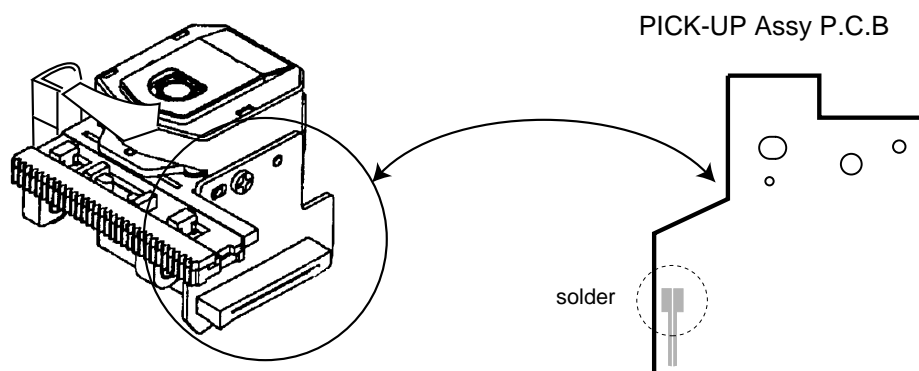
The CLASS 1 LASER PRODUCT label is located on the rear exterior.



### Precaution to replace Optical block (KSM-880CAB)

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.



## 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.

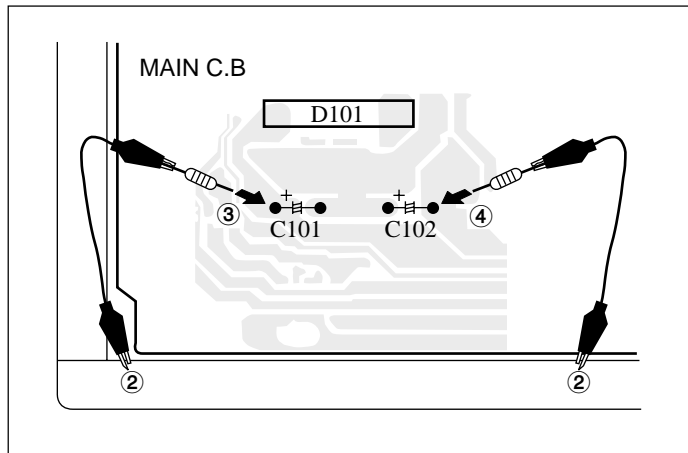


Fig-1

Select a discharging resistor referring to the following table.

Charging voltage (V) (C101, 102)	Discharging resistor ( $\Omega$ )	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.

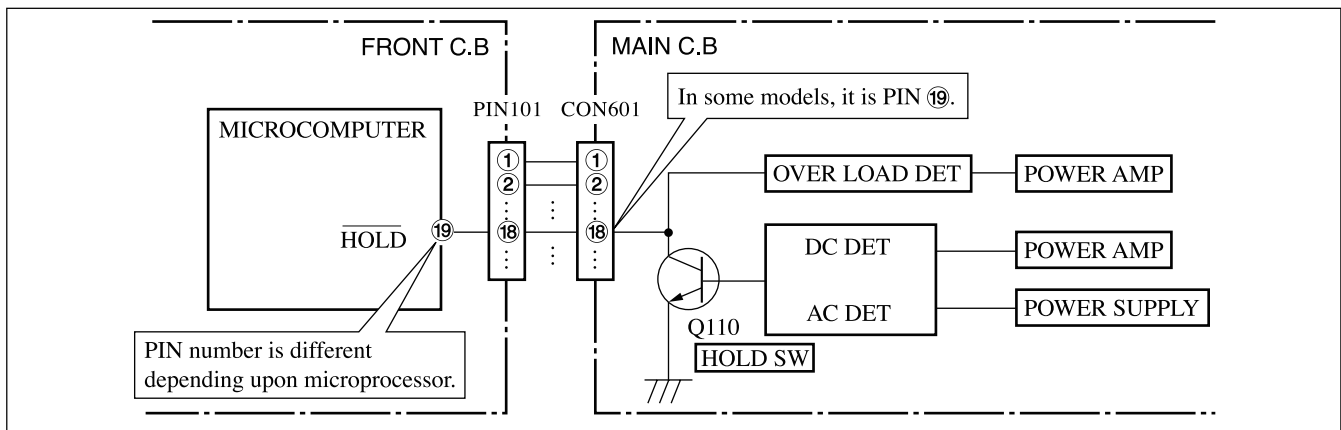


Fig-2-1

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.

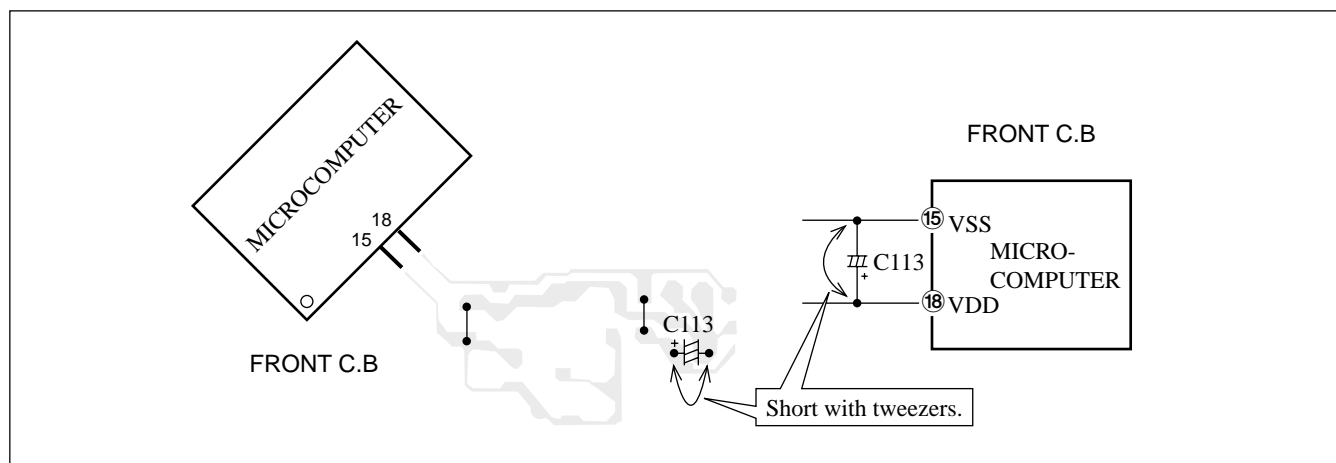


Fig-2-2

- 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
<b>IC</b>				C20	87-A12-036-000		CAP,E 2200-63 SMG<LH,HA>
	87-A21-396-010		IC,STK490-040<HR>	C21	87-016-495-000		CAP,E 3300-25 M SMG<HR>
	87-A21-398-010		IC,STK490-110<LH,HA>	C21	87-A10-520-000		CAP,E 3300-35 M SMG<LH,HA>
	87-A21-419-040		C-IC,NJM14558MD-TE2	C22	87-016-495-000		CAP,E 3300-25 M SMG<HR>
	87-A21-401-040		C-IC,M61503FP	C22	87-A10-520-000		CAP,E 3300-35 M SMG<LH,HA>
	87-A21-415-010		IC,LA1843	C25	87-010-385-080		CAP, ELECT 220-25V
	8A-NF9-601-110		C-IC,UPD780226GF-014-3BA<HR,LH>	C26	87-010-247-080		CAP, ELECT 100-50V
	8A-NF9-601-010		C-IC,UPD780226GF-012-3BA<HA>	C30	87-010-430-080		CAP, ELECT 100-63
	87-A21-482-010		IC,RPM6938-H4	C31	87-010-263-080		CAP, ELECT 100-10V
	87-070-127-110		IC,LC72131 D	C32	87-010-197-080		CAP, CHIP 0.01 DM
	87-A21-269-010		IC,EW732	C34	87-010-247-080		CAP, ELECT 100-50V
<b>TRANSISTOR</b>				C35	87-010-380-080		CAP, ELECT 47-16V
	87-026-609-080		TR,KTA1266GR	C36	87-010-381-080		CAP, ELECT 330-16V
	89-213-702-010		TR,2SB1370E(1.8W)	C38	87-010-197-080		CAP, CHIP 0.01 DM
	87-026-610-080		TR,KTC3198GR	C60	87-010-403-080		CAP, ELECT 3.3-50V
	87-A30-076-080		C-TR,2SC3052F	C61	87-010-260-080		CAP, ELECT 47-25V
	87-A30-075-080		C-TR,2SA1235F	C97	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-026-245-080		TR,DTC114ES	C101	87-010-185-080		C-CAP,S 3900P-50 B
	87-A30-198-080		TR,KTC3199GR	C102	87-010-185-080		C-CAP,S 3900P-50 B
	87-A30-074-080		C-TR,RT1P 141C	C103	87-010-545-080		CAP, ELECT 0.22-50V
	87-A30-468-080		C-TR,KRC102S-RTK<HR,LH>	C104	87-010-545-080		CAP, ELECT 0.22-50V
	87-A30-073-080		C-TR,RT1N 141C<HA>	C105	87-010-187-080		CAP CHIP S5600P
	87-A30-107-070		C-TR,CMBT5401	C106	87-010-187-080		CAP CHIP S5600P
	87-A30-106-040		C-TR,CMBT5551	C107	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-087-080		C-FET,2SK2158	C108	87-010-404-080		CAP, ELECT 4.7-50V
	87-A30-091-080		FET,2SJ460	C111	87-010-391-080		CAP,E 10-35 SME
	87-A30-090-080		FET,2SK2541	C112	87-010-391-080		CAP,E 10-35 SME
	87-A30-062-080		C-TR,KRC104S<HR,LH>	C113	87-010-405-080		CAP, ELECT 10-50V
	87-A30-104-080		C-TR,RT1N 441C<HA>	C114	87-010-405-080		CAP, ELECT 10-50V
	87-A30-318-080		TR,CSA952K	C119	87-010-197-080		CAP, CHIP 0.01 DM
	89-333-317-880		TR,2SC3331 (0.5W)	C120	87-010-197-080		CAP, CHIP 0.01 DM
	87-A30-329-080		TR,CD1585BC	C125	87-012-368-080		C-CAP,S 0.1-50 F
	89-327-143-080		TR,2SC2714(O)(0.1W)	C126	87-012-368-080		C-CAP,S 0.1-50 F
	87-A30-072-080		C-TR,RT1P 144C	C127	87-012-368-080		C-CAP,S 0.1-50 F
	87-A30-086-040		C-TR,CSD1306E<HR>	C128	87-012-368-080		C-CAP,S 0.1-50 F
	89-503-602-080		C-FET,2SK360E<HR>	C129	87-010-191-080		C-CAP,S 0.015-50 F
	87-A30-234-080		TR,CSC4115BC	C130	87-010-191-080		C-CAP,S 0.015-50 F
				C131	87-010-197-080		CAP, CHIP 0.01 DM
				C132	87-010-197-080		CAP, CHIP 0.01 DM
				C133	87-010-186-080		CAP,CHIP 4700P
<b>DIODE</b>				C140	87-010-182-080		C-CAP,S 2200P-50 B
	87-020-465-080		DIODE,1SS133	C141	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A40-535-080		DIODE,1N5393-GOODARK	C239	87-010-196-080		CHIP CAPACITOR,0.1-25
	87-A40-455-090		DIODE,RL203 GW<LH,HA>	C301	87-010-178-080		CHIP CAP 1000P
	87-A40-553-080		DIODE,1N4003 LES	C302	87-010-178-080		CHIP CAP 1000P
	87-A40-776-080		ZENER,UZ27BSD	C303	87-010-178-080		CHIP CAP 1000P
	87-A40-764-080		ZENER,UZ10BSC	C304	87-010-178-080		CHIP CAP 1000P
	87-A40-313-080		C-DIODE,MC 2840	C307	87-010-263-080		CAP, ELECT 100-10V
	87-A40-270-080		C-DIODE,MC2838	C308	87-010-263-080		CAP, ELECT 100-10V
	87-A40-269-080		C-DIODE,MC2836	C309	87-010-318-080		C-CAP,S 47P-50 CH
	87-A40-854-080		ZENER,UZ15BSA	C310	87-010-318-080		C-CAP,S 47P-50 CH
	87-A40-752-080		ZENER,UZ6.2BSC	C313	87-010-188-080		CAP,CHIP 6800P
	87-A40-739-080		ZENER,UZ2.7BSA	C314	87-010-188-080		CAP,CHIP 6800P
	87-017-149-080		ZENER,HZS6A2L	C315	87-010-263-080		CAP, ELECT 100-10V
				C317	87-010-546-080		CAP, ELECT 0.33-50V
				C318	87-010-546-080		CAP, ELECT 0.33-50V
				C326	87-010-198-080		CAP, CHIP 0.022
				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		CAP 470P
<b>MAIN C.B</b>				C401	87-010-544-080		CAP, ELECT 0.1-50V
C3	87-012-368-080		C-CAP,S 0.1-50 F	C402	87-010-544-080		CAP, ELECT 0.1-50V
C4	87-012-368-080		C-CAP,S 0.1-50 F	C403	87-010-321-080		CHIP CAPACITOR,82P(J)
C5	87-012-368-080		C-CAP,S 0.1-50 F	C404	87-010-321-080		CHIP CAPACITOR,82P(J)
C6	87-012-368-080		C-CAP,S 0.1-50 F	C405	87-010-197-080		CAP, CHIP 0.01 DM
C9	87-012-368-080		C-CAP,S 0.1-50 F	C406	87-010-197-080		CAP, CHIP 0.01 DM
C10	87-012-368-080		C-CAP,S 0.1-50 F	C407	87-010-197-080		CAP, CHIP 0.01 DM
C11	87-012-368-080		C-CAP,S 0.1-50 F	C408	87-010-197-080		CAP, CHIP 0.01 DM
C12	87-012-368-080		C-CAP,S 0.1-50 F	C409	87-010-182-080		C-CAP,S 2200P-50 B
C19	87-A10-627-000		CAP,E 2200-50 M SMG<HR>	C410	87-010-182-080		C-CAP,S 2200P-50 B
C19	87-A12-036-000		CAP,E 2200-63 SMG<LH,HA>				
C20	87-A10-627-000		CAP,E 2200-50 M SMG<HR>				

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C411	87-010-405-080		CAP, ELECT 10-50V	C844	87-010-197-080		CAP, CHIP 0.01 DM
C412	87-010-405-080		CAP, ELECT 10-50V	C850	87-010-260-080		CAP, ELECT 47-25V
C452	87-010-382-080		CAP, ELECT 22-25V	C851	87-010-197-080		CAP, CHIP 0.01 DM
C453	87-010-183-080		C-CAP,S 2700P-50 B	C852	87-010-197-080		CAP, CHIP 0.01 DM
C454	87-010-183-080		C-CAP,S 2700P-50 B	C853	87-010-197-080		CAP, CHIP 0.01 DM
C455	87-010-183-080		C-CAP,S 2700P-50 B	C858	87-010-196-080		CHIP CAPACITOR,0.1-25
C456	87-010-197-080		CAP, CHIP 0.01 DM	C859	87-010-196-080		CHIP CAPACITOR,0.1-25
C460	87-010-196-080		CHIP CAPACITOR,0.1-25	C860	87-010-197-080		CAP, CHIP 0.01 DM
C461	87-012-158-080		C-CAP,S 390P-50 CH	C940	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C462	87-012-158-080		C-CAP,S 390P-50 CH	C941	87-010-314-080		C-CAP,S 22P-50V<HR>
C605	87-010-179-080		CAP,CHIP S B1200P	C943	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C606	87-010-179-080		CAP,CHIP S B1200P	C945	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C609	87-010-213-080		C-CAP,S 0.015-50 B	C946	87-010-971-080		C-CAP,S 4700P-50 B J<HR>
C610	87-010-213-080		C-CAP,S 0.015-50 B	C947	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C611	87-010-545-080		CAP, ELECT 0.22-50V	C948	87-010-148-080		CAP, CHIP S 4P-50<HR>
C612	87-010-545-080		CAP, ELECT 0.22-50V	C952	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C613	87-010-545-080		CAP, ELECT 0.22-50V	C953	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C614	87-010-545-080		CAP, ELECT 0.22-50V	C954	87-010-400-080		CAP, ELECT 0.47-50V<HR>
C615	87-010-154-080		CAP CHIP 10P	C956	87-010-263-080		CAP, ELECT 100-10V<HR>
C616	87-010-221-080		CAP, ELECT 470-10V	C959	87-010-196-080		CHIP CAPACITOR,0.1-25
C617	87-010-221-080		CAP, ELECT 470-10V	C960	87-010-196-080		CHIP CAPACITOR,0.1-25<LH,HA>
C618	87-010-405-080		CAP, ELECT 10-50V	C961	87-010-152-080		C-CAP,S 8P-50 CH<LH,HA>
C630	87-016-669-080		C-CAP,S 0.1-25 K B	C962	87-010-401-080		CAP, ELECT 1-50V<HR>
C631	87-010-185-080		C-CAP,S 3900P-50 B	C963	87-015-785-080		CHIP CAPACITOR, 0.1FZ-25Z
C632	87-010-185-080		C-CAP,S 3900P-50 B	C964	87-010-854-080		C-CAP,S 560PCH<HR>
C633	87-016-369-080		C-CAP,S 0.033-25 B K	C971	87-010-381-080		CAP, ELECT 330-16V
C634	87-016-369-080		C-CAP,S 0.033-25 B K	C972	87-010-404-080		CAP, ELECT 4.7-50V
C669	87-010-322-080		C-CAP,S 100P-50 CH	C973	87-010-197-080		CAP, CHIP 0.01 DM
C670	87-010-322-080		C-CAP,S 100P-50 CH	C974	87-010-197-080		CAP, CHIP 0.01 DM
C671	87-010-196-080		CHIP CAPACITOR,0.1-25<HR>	C979	87-010-322-080		C-CAP,S 100P-50 CH
C672	87-010-196-080		CHIP CAPACITOR,0.1-25<HR>	C981	87-010-260-080		CAP, ELECT 47-25V
C673	87-010-182-080		C-CAP,S 2200P-50 B<HR>	C982	87-010-196-080		CHIP CAPACITOR,0.1-25
C677	87-010-197-080		CAP, CHIP 0.01 DM	C983	87-010-197-080		CAP, CHIP 0.01 DM
C771	87-010-263-080		CAP, ELECT 100-10V	C984	87-010-197-080		CAP, CHIP 0.01 DM
C772	87-010-197-080		CAP, CHIP 0.01 DM	C987	87-010-197-080		CAP, CHIP 0.01 DM
C782	87-010-197-080		CAP, CHIP 0.01 DM	C989	87-010-197-080		CAP, CHIP 0.01 DM<HR>
C783	87-010-197-080		CAP, CHIP 0.01 DM	C991	87-010-312-080		C-CAP,S 15P-50 CH
C784	87-010-197-080		CAP, CHIP 0.01 DM	C992	87-010-312-080		C-CAP,S 15P-50 CH
C785	87-010-197-080		CAP, CHIP 0.01 DM	C993	87-010-178-080		CHIP CAP 1000P
C786	87-010-197-080		CAP, CHIP 0.01 DM	C995	87-010-178-080		CHIP CAP 1000P
C788	87-010-149-080		C-CAP,S 5P-50 CH	C997	87-010-196-080		CHIP CAPACITOR,0.1-25
C789	87-A10-801-080		C-CAP,S 0.022-16 J B<HR>	C998	87-010-260-080		CAP, ELECT 47-25V
C789	87-A12-052-080		C-CAP,S 0.033-25 J B<LH,HA>	C999	87-A11-155-080		CAP,TC U 0.01-16 Z F
C790	87-A10-801-080		C-CAP,S 0.022-16 J B<HR>	CF831	87-008-261-010		FILTER, SFE10.7MA5-A
C790	87-A12-052-080		C-CAP,S 0.033-25 J B<LH,HA>	CF832	87-008-261-010		FILTER, SFE10.7MA5-A
C791	87-010-196-080		CHIP CAPACITOR,0.1-25	CN301	87-A60-620-010		CONN,3P V 2MM JMT
C792	87-010-197-080		CAP, CHIP 0.01 DM	CN351	87-A60-625-010		CONN,8P V 2MM JMT
C793	87-010-404-080		CAP, ELECT 4.7-50V	CN601	87-099-719-010		CONN,30P TYK-B(X)
C795	87-010-197-080		CAP, CHIP 0.01 DM	CN602	87-A60-131-010		CONN,6P V FE
C796	87-010-197-080		CAP, CHIP 0.01 DM	CNA1	8A-NF8-653-010		CONN ASSY,9P TID-A(480)
C797	87-010-405-080		CAP, ELECT 10-50V	D951	87-A40-618-080		VARI-CAP,SVC 348(S/T)<HR>
C798	87-010-197-080		CAP, CHIP 0.01 DM	FC104	88-911-101-110		FF-CABLE,11P 1.25<HR,LH>
C799	87-010-407-080		CAP, ELECT 33-50V	FC602	88-906-251-110		FF-CABLE,6P 1.25<HR,LH>
C800	87-012-369-080		C-CAP,S 0.047-50F	FC731	88-913-301-110		FF-CABLE,13P-1.25<HR,LH>
C801	87-010-403-080		CAP, ELECT 3.3-50V	FFE831	A8-8ZA-190-030		8ZA-1 FEUNM<HR,HA>
C802	87-010-194-080		CAP, CHIP 0.047	FFE831	A8-8ZA-191-030		8ZA-1 YFEUNM<LH>
C803	87-010-198-080		CAP, CHIP 0.022	J202	87-A60-488-010		JACK,DIA6.3 BLK ST W/SW KM16AT
C804	87-010-263-080		CAP, ELECT 100-10V	J203	87-A60-238-010		TERMINAL,SP 4P (MSC)
C807	87-010-400-080		CAP, ELECT 0.47-50V	J602	87-A60-881-010		JACK,PIN 2P MSP 242V05 PBSN
C808	87-010-401-080		CAP, ELECT 1-50V	J831	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-02
C809	87-010-401-080		CAP, ELECT 1-50V	J940	87-A60-633-010		CONN,2P H 2.5MM JMT<HR>
C810	87-010-196-080		CHIP CAPACITOR,0.1-25	L101	87-A50-610-010		COIL,1UH K(MDEC)<HR,LH>
C814	87-010-197-080		CAP, CHIP 0.01 DM	L101	87-003-383-010		COIL,1UH-S<HA>
C815	87-010-400-080		CAP, ELECT 0.47-50V	L102	87-A50-610-010		COIL,1UH K(MDEC)<HR,LH>
C816	87-010-400-080		CAP, ELECT 0.47-50V	L102	87-003-383-010		COIL,1UH-S<HA>
C821	87-010-405-080		CAP, ELECT 10-50V	L451	87-007-342-010		COIL,OSC 85K BIAS
C823	87-010-177-080		C-CAP,S 820P-50 SL	L801	87-A50-540-010		COIL,FM DET(TOK)
C824	87-010-405-080		CAP, ELECT 10-50V	L802	87-A91-552-010		FLTR,PCFMT-450AL (TOK)<HR>
C825	87-010-596-080		CAP, S 0.047-16	L802	87-A91-551-010		FLTR,PCFJZH-450 L(TOK)<LH,HA>
C842	87-010-197-080		CAP, CHIP 0.01 DM	L811	87-005-847-080		COIL,2.2UH(CECS)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L832	87-005-847-080		COIL, 2.2UH (CECS)	C908	87-010-322-080		C-CAP, S 100P-50 CH
L941	87-A50-022-010		COIL, ANT SW (COI) <HR>	C909	87-010-322-080		C-CAP, S 100P-50 CH
L942	87-A50-550-010		COIL, OSC SW-2N (COI) <HR>	C910	87-010-322-080		C-CAP, S 100P-50 CH
L943	87-A50-522-080		COIL, 1MH K CEC<HR>	C911	87-010-178-080		CHIP CAP 1000P
L944	87-A50-159-010		COIL, 10MH K C2B<HR>	C912	87-010-196-080		CHIP CAPACITOR, 0.1-25
L951	8A-NF8-667-010		COIL, AM PACK 4 (TOK) <LH, HA>	C913	87-010-248-040		CAP, E 220-10 SME
L952	87-A50-430-010		COIL, ANT MW (3BSW) <HR>	C914	87-010-248-040		CAP, E 220-10 SME
L953	87-A50-431-010		COIL, OSC MW (3BSW) <HR>	C915	87-010-196-080		CHIP CAPACITOR, 0.1-25
R131	87-A00-257-080		RES, M/F 0.15-1W J <LH, HA>	C916	87-010-196-080		CHIP CAPACITOR, 0.1-25
R131	87-A00-258-080		RES, M/F 0.22-1W J <HR>	C917	87-010-196-080		CHIP CAPACITOR, 0.1-25
R132	87-A00-257-080		RES, M/F 0.15-1W J <LH, HA>	C919	87-010-197-080		CAP, CHIP 0.01 DM
R132	87-A00-258-080		RES, M/F 0.22-1W J <HR>	C920	87-012-369-080		C-CAP, S 0.047-50F
R143	87-A00-440-050		RES, 220-1/2W J RP	C921	87-010-186-080		CAP, CHIP 4700P
R144	87-A00-440-050		RES, 220-1/2W J RP	C951	87-010-312-080		C-CAP, S 15P-50 CH
R145	87-A00-440-050		RES, 220-1/2W J RP	C952	87-012-155-080		C-CAP 180P-50CH
R146	87-A00-440-050		RES, 220-1/2W J RP	C953	87-012-140-080		CAP 470P
R653	87-A11-144-080		CAP, TC U 0.1-50 K B	C961	87-010-378-040		CAP, E 10-16
R654	87-A11-144-080		CAP, TC U 0.1-50 K B	C962	87-012-157-080		C-CAP, S 330P-50 CH
R790	87-010-197-080		CAP, CHIP 0.01 DM	C963	87-010-196-080		CHIP CAPACITOR, 0.1-25
R991	87-010-322-080		C-CAP, S 100P-50 CH	CN104	87-A60-057-010		CONN, 11P V 9604S-11C
R993	87-010-322-080		C-CAP, S 100P-50 CH	CN701	87-099-720-010		CONN, 30P TYK-B(P)
R995	87-010-322-080		C-CAP, S 100P-50 CH	CN731	87-099-015-010		CONN, 13P 6216V
SFR451	87-A90-432-080		SFR, 30K H NVZ6TLTA	EMI401	87-008-372-080		FILTER, EMI BL OIRNI<HR>
SFR452	87-A90-432-080		SFR, 30K H NVZ6TLTA	FL901	8A-NF9-605-010		FL, HNA-10SS12
TC941	87-011-254-080		TRIMMER, 20P LAR<HR>	J401	87-A61-242-010		JACK, 6.3 BLK MONO W/SW V KM<HR>
TC943	87-011-253-080		TRIMMER, 30P LAR<HR>	L951	87-A50-434-010		COIL, CLK 4.19M (TOKO)
WH1	87-A90-510-010		HLD, WIRE 2.5-9P	LED201	87-A40-619-040		LED, SLR-56PT-T31-W GRN
X991	87-A70-061-010		VIB, XTAL 4.500MHZ CSA-309	LED202	87-A40-619-040		LED, SLR-56PT-T31-W GRN
				LED204	87-A40-619-040		LED, SLR-56PT-T31-W GRN
				LED205	87-A40-619-040		LED, SLR-56PT-T31-W GRN
FRONT C.B				LED209	87-A40-317-080		LED, SLR-342VCT31 RED
C101	87-010-196-080		CHIP CAPACITOR, 0.1-25	LED210	87-A40-619-040		LED, SLR-56PT-T31-W GRN
C102	87-010-196-080		CHIP CAPACITOR, 0.1-25	S301	87-A91-024-180		SW, TACT KSHG611BT<HA>
C103	87-010-498-040		CAP, E 10-16 GAS	S301	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C104	87-010-196-080		CHIP CAPACITOR, 0.1-25	S302	87-A91-024-180		SW, TACT KSHG611BT<HA>
C107	87-010-493-040		CAP, E 0.47-50 GAS	S302	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C108	87-012-393-080		C-CAP, S 0.22-16 R K	S303	87-A91-024-180		SW, TACT KSHG611BT<HA>
C153	87-010-198-080		CAP, CHIP 0.022	S303	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C154	87-010-246-040		CAP, E 47-35 SME	S304	87-A91-024-180		SW, TACT KSHG611BT<HA>
C155	87-010-404-040		CAP, E 4.7-50 SME	S304	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C156	87-010-404-040		CAP, E 4.7-50 SME	S305	87-A91-024-180		SW, TACT KSHG611BT<HA>
C361	87-010-178-080		CHIP CAP 1000P	S305	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C362	87-010-178-080		CHIP CAP 1000P	S306	87-A91-024-180		SW, TACT KSHG611BT<HA>
C371	87-010-178-080		CHIP CAP 1000P	S306	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C372	87-010-178-080		CHIP CAP 1000P	S307	87-A91-024-180		SW, TACT KSHG611BT<HA>
C401	87-010-186-080		CAP, CHIP 4700P<HR>	S307	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C402	87-010-112-040		CAP, E 100-16<HR>	S308	87-A91-024-180		SW, TACT KSHG611BT<HA>
C403	87-010-545-040		CAP, E 0.22-50 SME<HR>	S308	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C404	87-010-320-080		CHIP CAP 68P<HR>	S309	87-A91-024-180		SW, TACT KSHG611BT<HA>
C405	87-010-544-040		CAP, E 0.1-50 SME<HR>	S309	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C406	87-010-544-040		CAP, E 0.1-50 SME<HR>	S321	87-A91-024-180		SW, TACT KSHG611BT<HA>
C407	87-010-405-040		CAP, E 10-50<HR>	S321	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C408	87-010-322-080		C-CAP, S 100P-50 CH<HR>	S322	87-A91-024-180		SW, TACT KSHG611BT<HA>
C409	87-010-265-040		CAP, E 33-16 SME<HR>	S322	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C410	87-012-369-080		C-CAP, S 0.047-50F<HR>	S323	87-A91-024-180		SW, TACT KSHG611BT<HA>
C413	87-010-177-080		C-CAP, S 820P-50 SL<HR>	S323	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C601	87-010-382-040		CAP, E 22-25 SME	S324	87-A91-024-180		SW, TACT KSHG611BT<HA>
C801	87-010-195-080		C-CAP, S 0.068-25 F	S324	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C802	87-010-195-080		C-CAP, S 0.068-25 F	S325	87-A91-024-180		SW, TACT KSHG611BT<HA>
C803	87-010-402-040		CAP, E 2.2-50 SME	S325	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C804	87-010-402-040		CAP, E 2.2-50 SME	S326	87-A91-024-180		SW, TACT KSHG611BT<HA>
C805	87-010-196-080		CHIP CAPACITOR, 0.1-25	S326	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C806	87-010-196-080		CHIP CAPACITOR, 0.1-25	S341	87-A91-024-180		SW, TACT KSHG611BT<HA>
C901	87-010-322-080		C-CAP, S 100P-50 CH	S341	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C902	87-010-322-080		C-CAP, S 100P-50 CH	S342	87-A91-024-180		SW, TACT KSHG611BT<HA>
C903	87-010-322-080		C-CAP, S 100P-50 CH	S342	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C904	87-010-322-080		C-CAP, S 100P-50 CH	S343	87-A91-024-180		SW, TACT KSHG611BT<HA>
C905	87-010-322-080		C-CAP, S 100P-50 CH	S343	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>
C906	87-010-322-080		C-CAP, S 100P-50 CH	S344	87-A91-024-180		SW, TACT KSHG611BT<HA>
C907	87-010-322-080		C-CAP, S 100P-50 CH	S344	87-A90-164-080		SW, TACT SKQAB(N) <HR, LH>



REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S345	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S345	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S346	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S346	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S347	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S347	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S348	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S348	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S349	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S349	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S350	87-A91-024-180	SW, TACT	KSHG611BT<HA>
S350	87-A90-164-080	SW, TACT	SKQAB(N)<HR, LH>
S361	87-A91-633-010	SW, RTRY	XRE012103PVB25FINA 1-2
S371	87-A91-632-010	SW, RTRY	XRE012103PVB25FINB 1-2
VR401	86-NFA-607-010	VR, RTRY	10K15AX1 1 V XV0121PVN<HR>

PT C.B

C1	87-010-387-080	CAP, E	470-25 SME
C31	87-010-403-080	CAP, ELECT	3.3-50V
CN1	87-A61-110-010	CONN, 9P V	TID-A
△ PT1	8A-NF9-613-010	PT, ANF-9	HR<HR>
△ PT1	8A-NF9-615-010	PT, ANF-9	LH<LH, HA>
△ PT2	8A-NF8-673-010	PT, SUB ANF-8	(H)KAMI
△ RY1	87-A91-339-010	RELAY, AC	DC12V G5PA-2
△ S1	87-A90-165-010	SW, SL	1-2-3 SWS2301
△ T1	87-A60-317-010	TERMINAL, 1P	MSC
△ T2	87-A60-317-010	TERMINAL, 1P	MSC

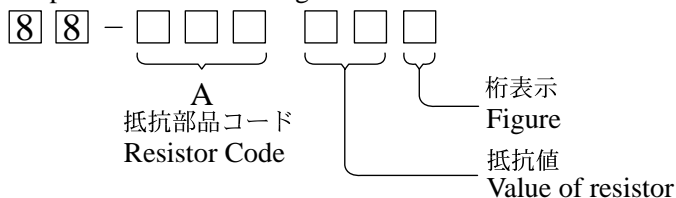
DECK C.B

CN1	87-099-753-010	CONN, 11P H	9604
HL1	8Z-ZM3-214-010	HLD, IC	
SFR1	87-024-581-010	SFR, 3.3K	DIA6V K0A
SW1	87-A90-673-010	SW, MICRO	ESE11SH1C
SW2	87-A91-500-010	SW, MICRO	MPU11470MLB0
SW3	87-A91-500-010	SW, MICRO	MPU11470MLB0
SW4	87-A91-500-010	SW, MICRO	MPU11470MLB0
SW5	87-A90-673-010	SW, MICRO	ESE11SH1C

○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

CD1585BC  
CSA952K  
CSC4115BC  
KTA1266GR  
KTC3198GR



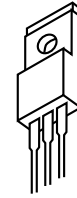
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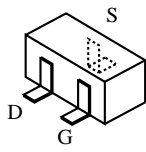
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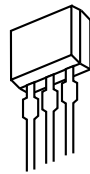


B C E

2SB1370

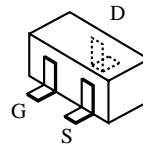


2SK360E

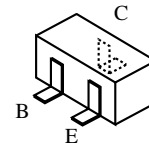


S D G

2SJ460  
2SK2541



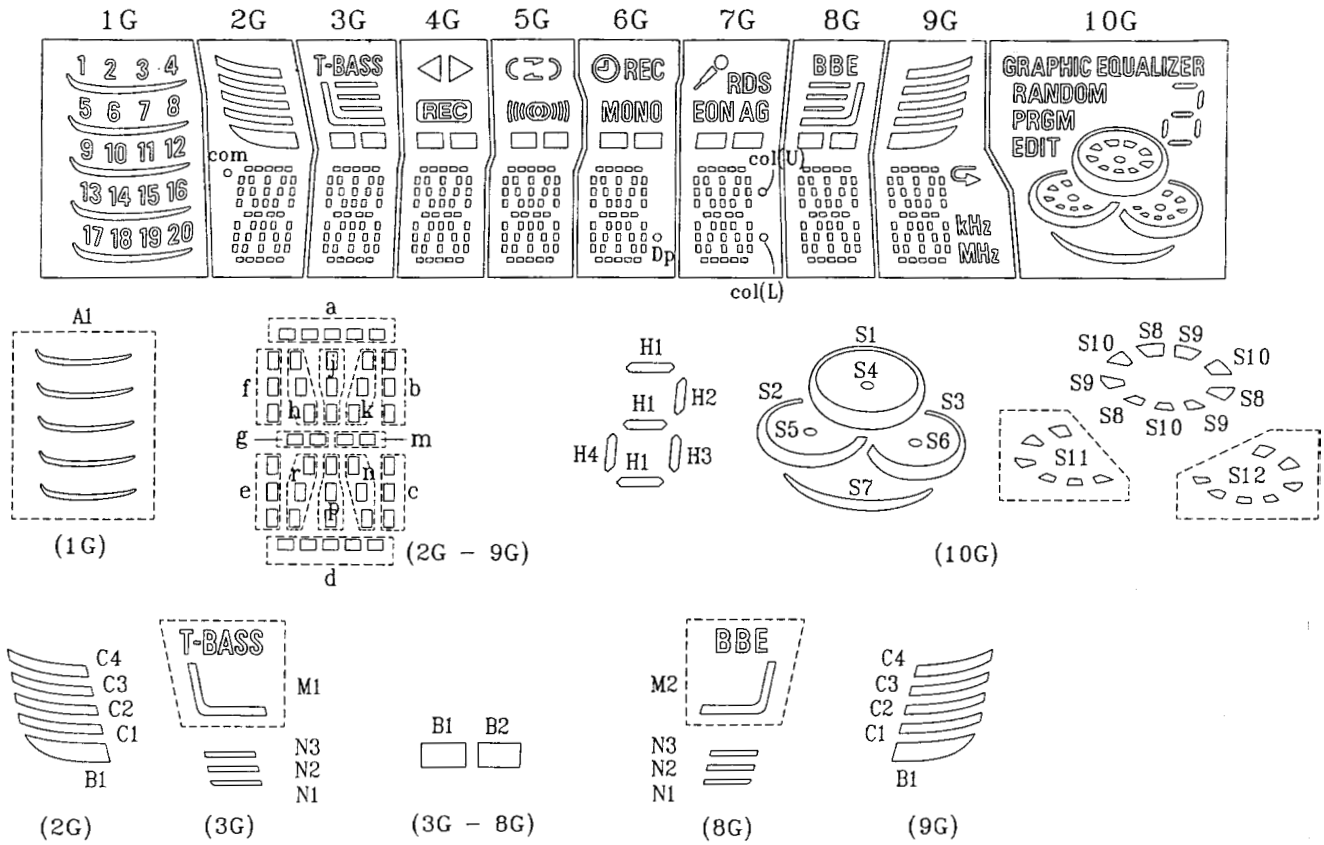
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2SA1235F	KRC102S
2SC2714	KRC104S
2SC3052F	RT1N141C
CMBT5401	RT1N441C
CMBT5551	RT1P141C
CSD1306E	RT1P144C

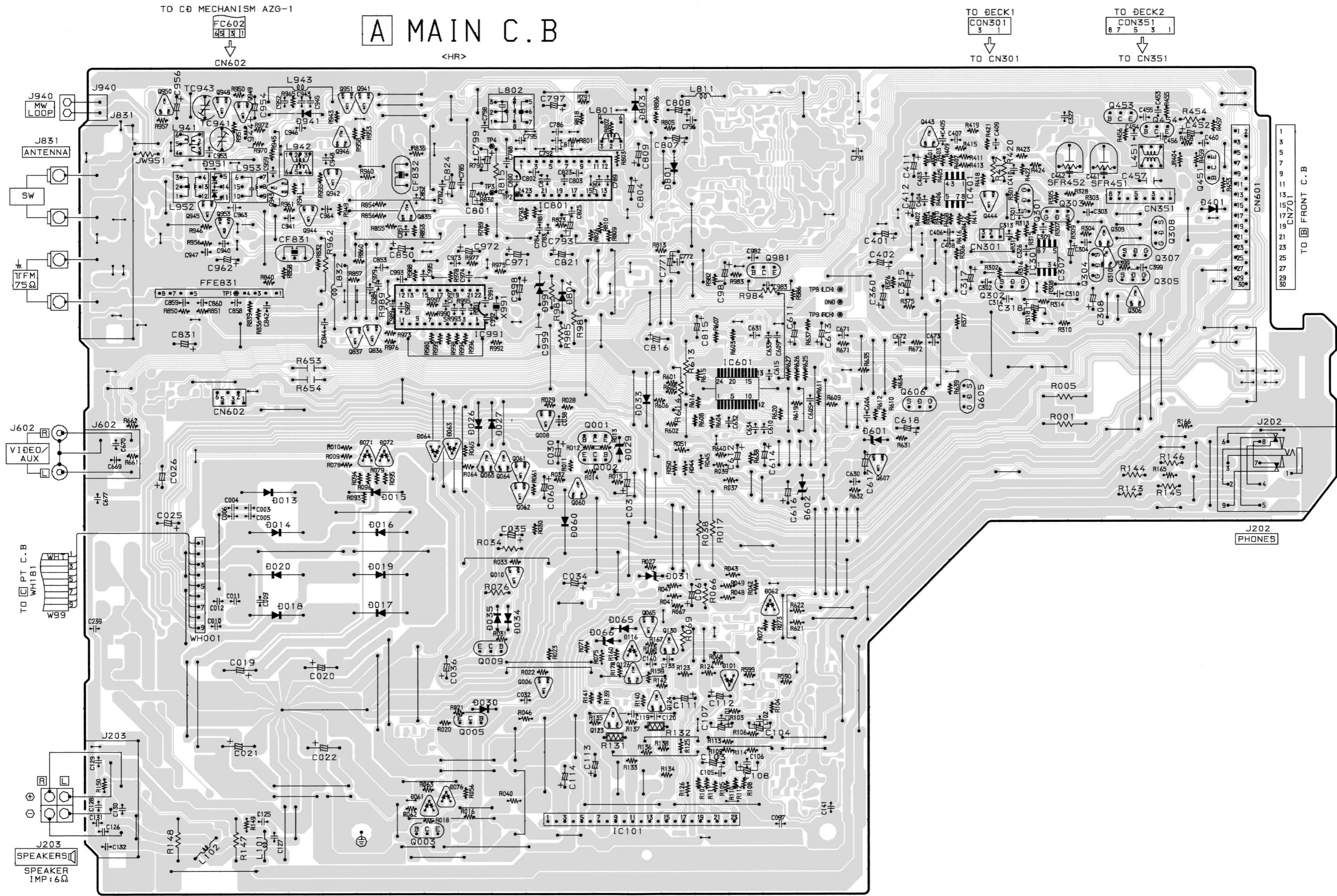
# FL (HNA-10SS12) GRID ASSIGNMENT AND ANODE CONNECTION

## GRID ASSIGNMENT

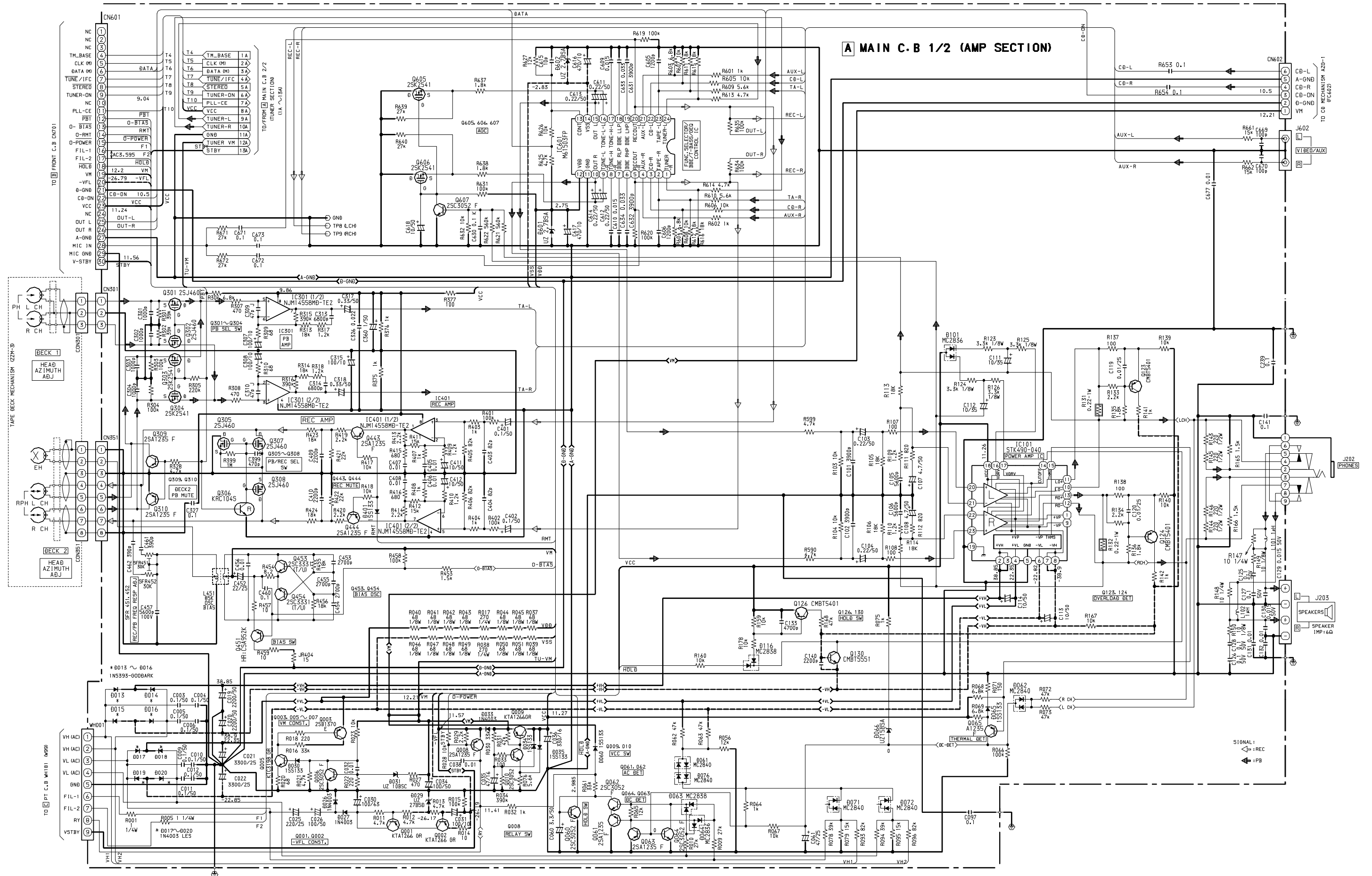


## ANODE CONNECTION

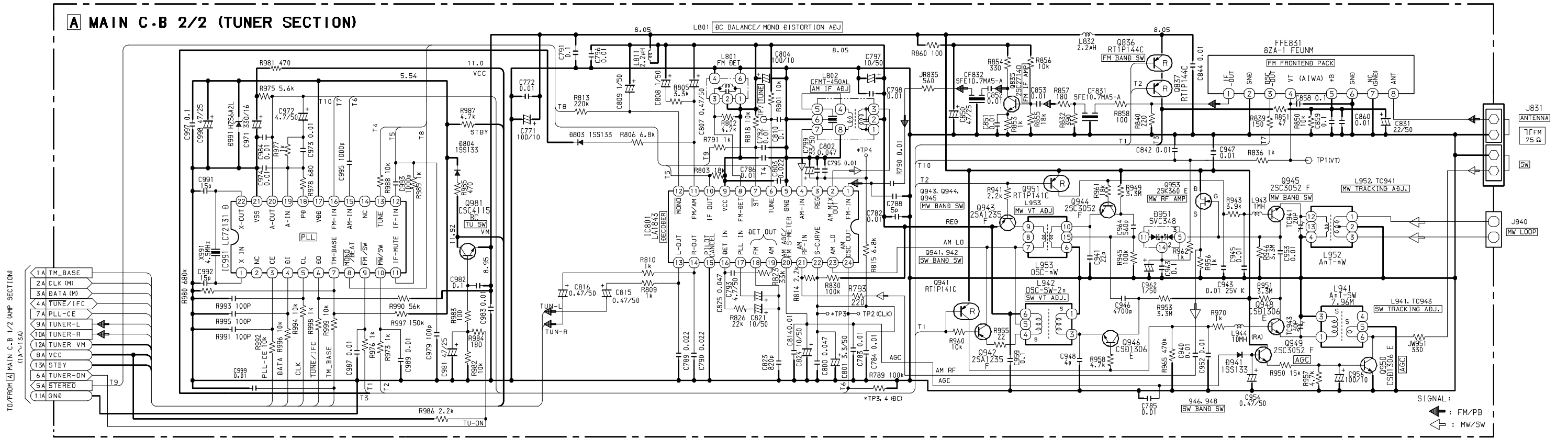
	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G
P1	20	d	d	d	d	d	d	d	d	S1
P2	19	n	n	n	n	n	n	n	n	S2
P3	18	p	p	p	p	p	p	p	p	S3
P4	17	r	r	r	r	r	r	r	r	S4
P5	16	e	e	e	e	e	e	e	e	S5
P6	15	c	c	c	c	c	c	c	c	S6
P7	14	g	g	g	g	g	g	g	g	S7
P8	13	m	m	m	m	m	m	m	m	S8
P9	12	f	f	f	f	f	f	f	f	S9
P10	11	b	b	b	b	b	b	b	b	S10
P11	10	k	k	k	k	k	k	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	<	C	MONO	col(L)	N1	C3	H2
P19	2	C4	N2	>	MONO	REC	EON	N2	C4	H3
P20	1	com	N3			AG	RDS	N3	kHz	
P21	A1									
P22									MHz	



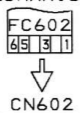
SCHEMATIC DIAGRAM - 1 (MAIN 1/2 : AMP <HR>)



SCHEMATIC DIAGRAM - 2 (MAIN 2/2 : TUNER <HR>)

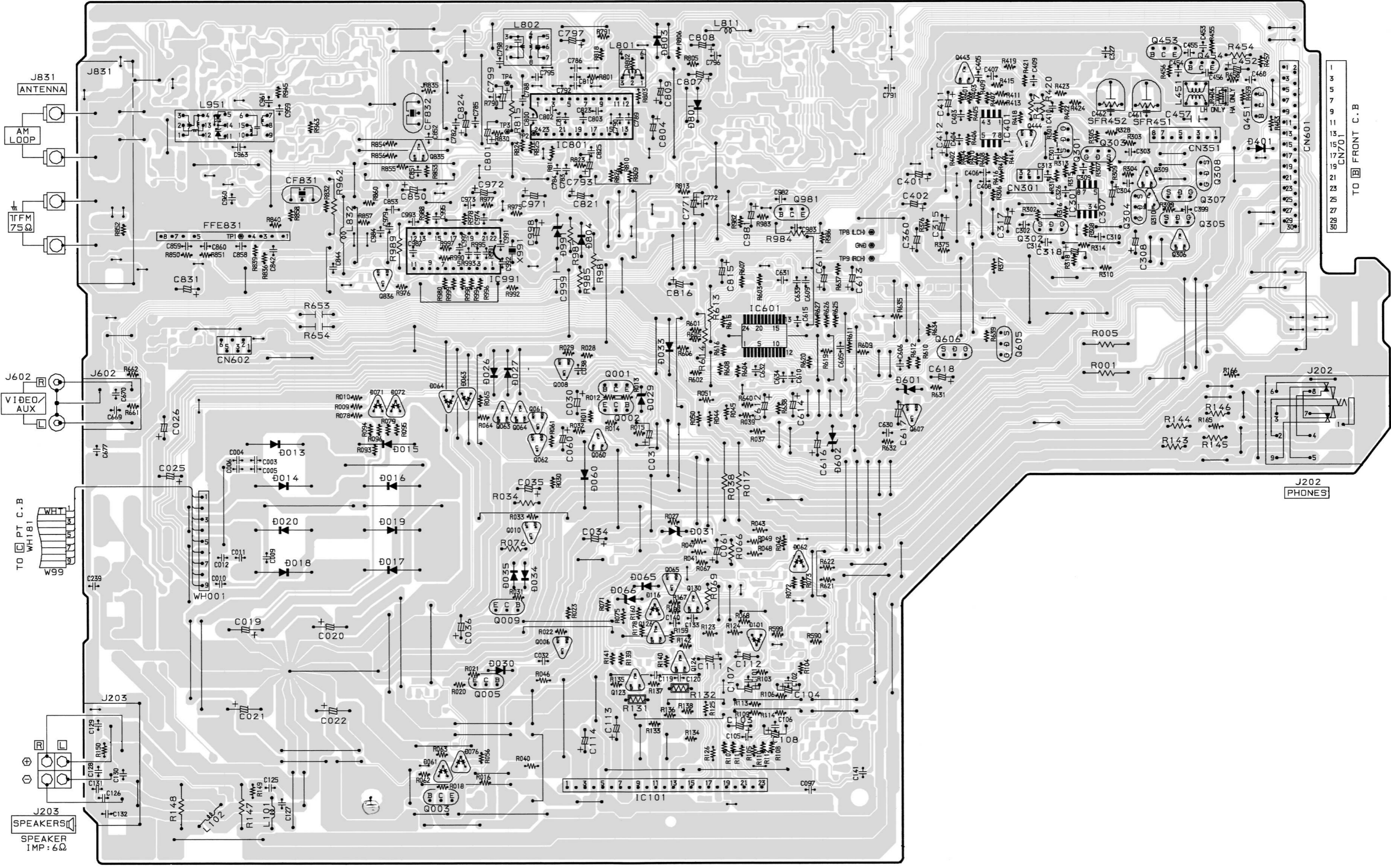
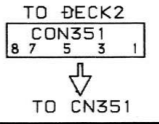
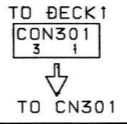


TO CD MECHANISM AZG-1



# A MAIN C.B

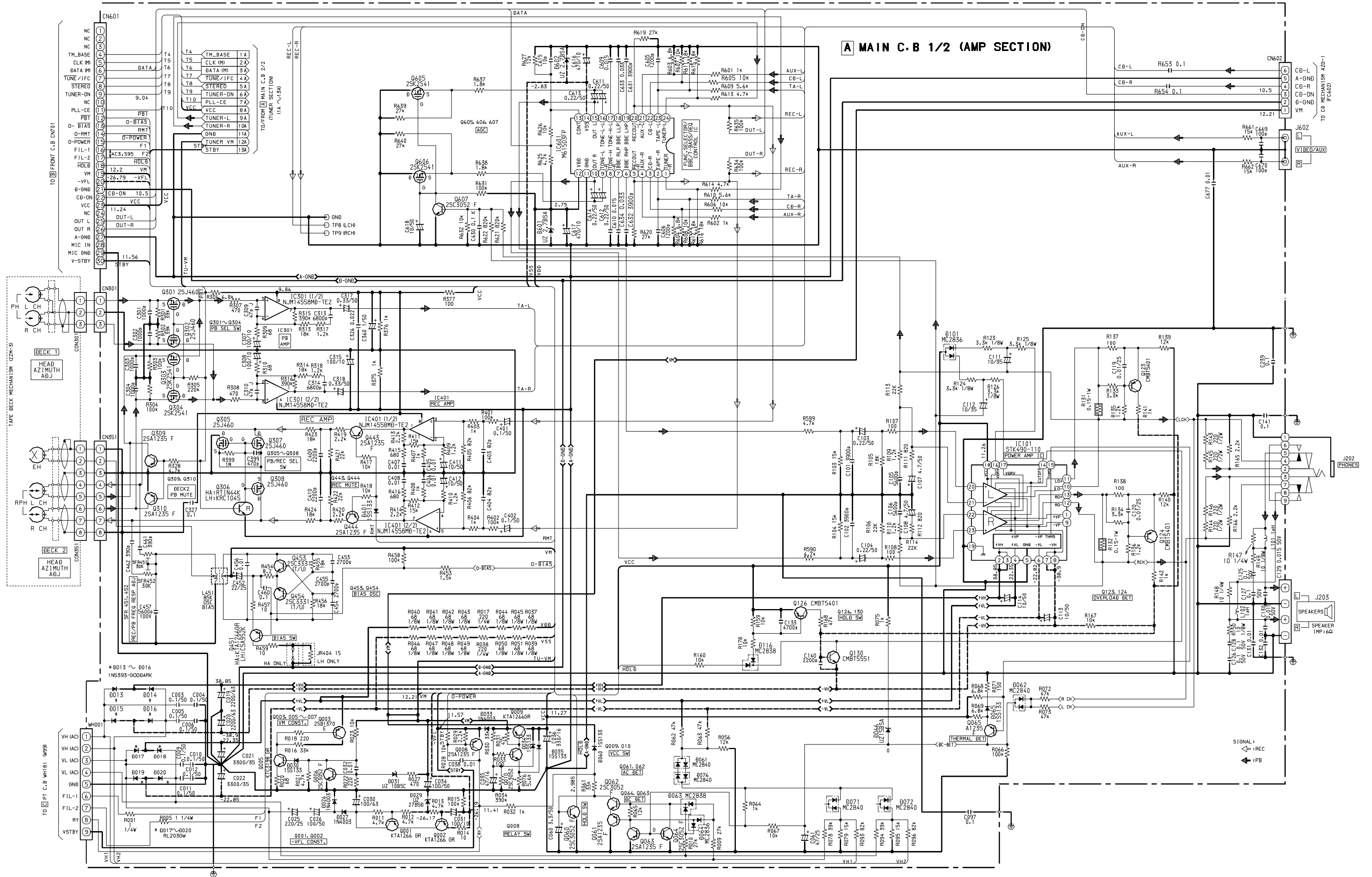
<LH, HA>



TO FRONT C.B

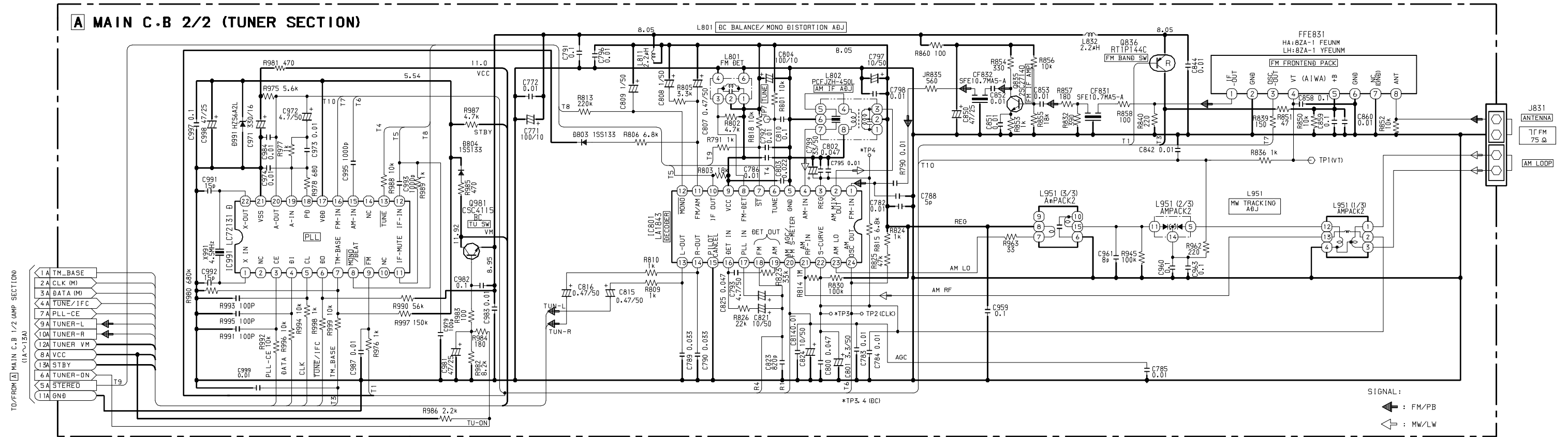
J202 PHONES

SCHEMATIC DIAGRAM - 3 (MAIN 1/2 : AMP <LH,HA>)





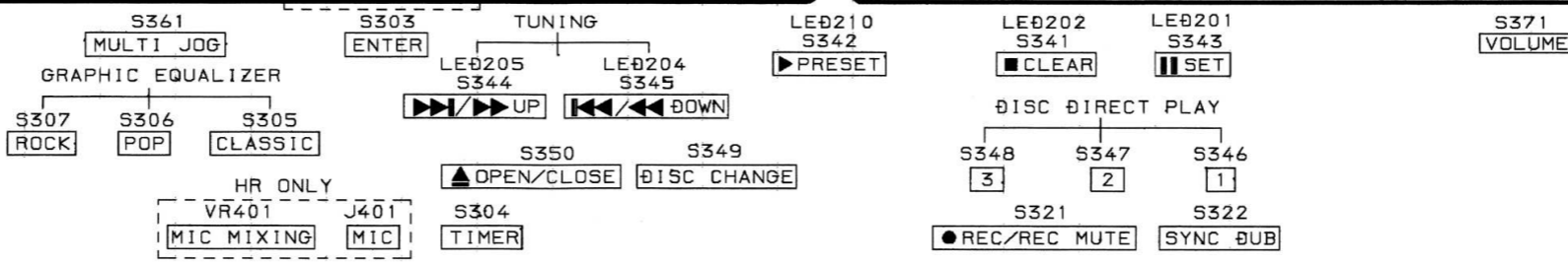
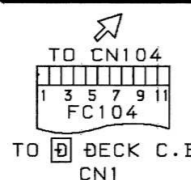
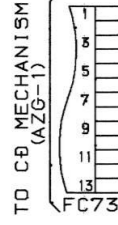
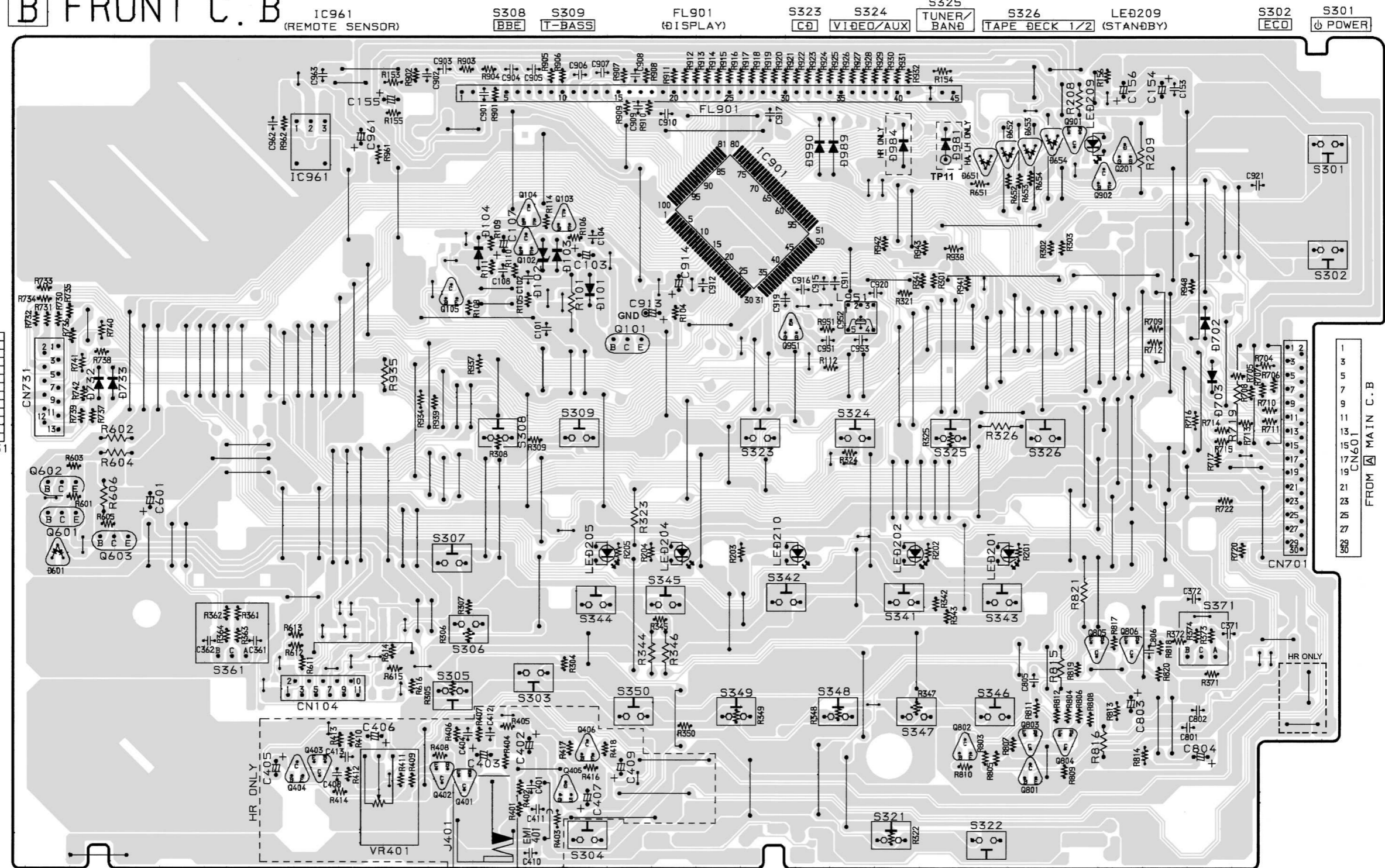
SCHEMATIC DIAGRAM - 4 (MAIN 2/2 : TUNER <LH,HA>)



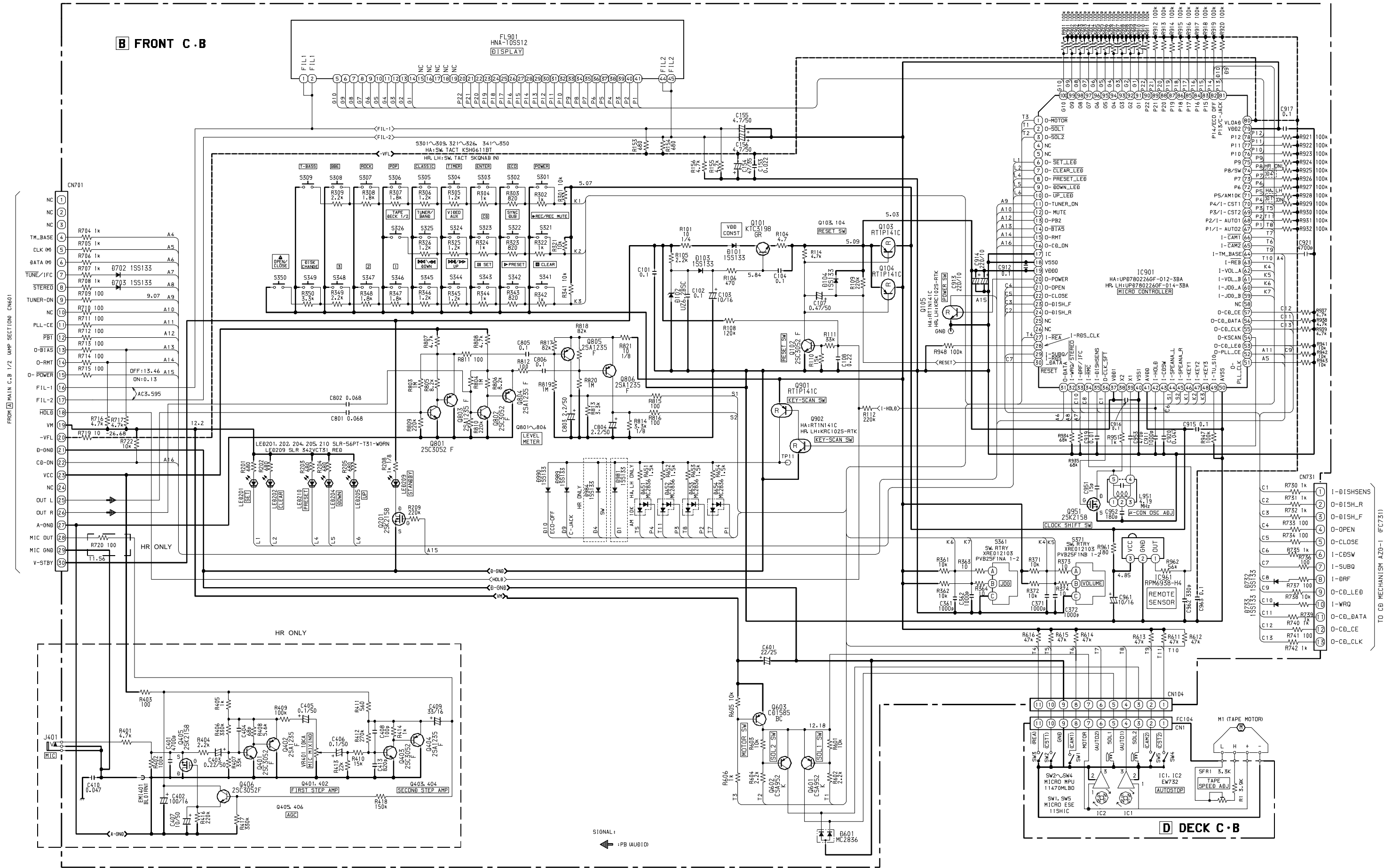
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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**B FRONT C. B**



SCHEMATIC DIAGRAM – 5 (FRONT)

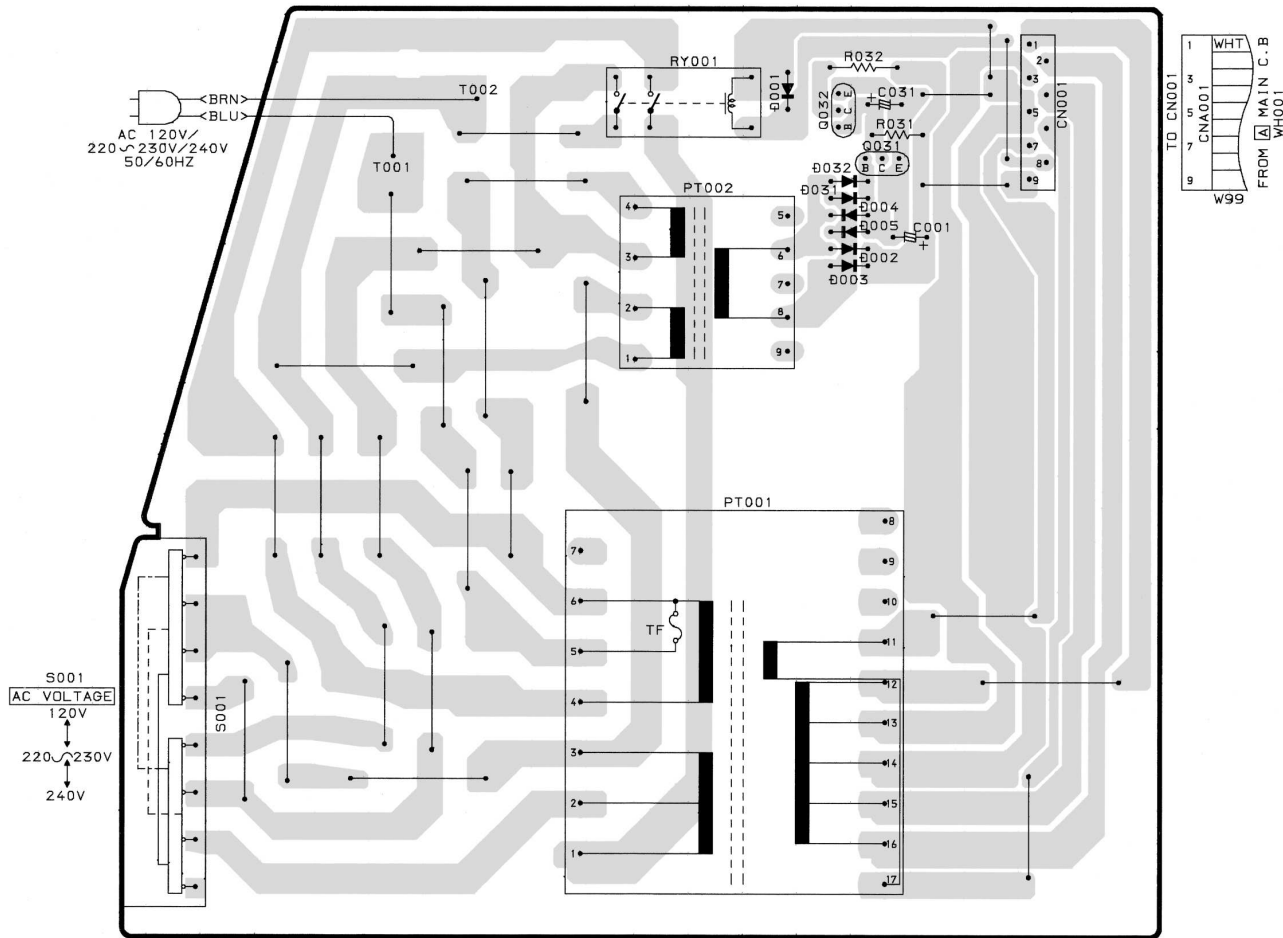


# WIRING - 4 (PT)

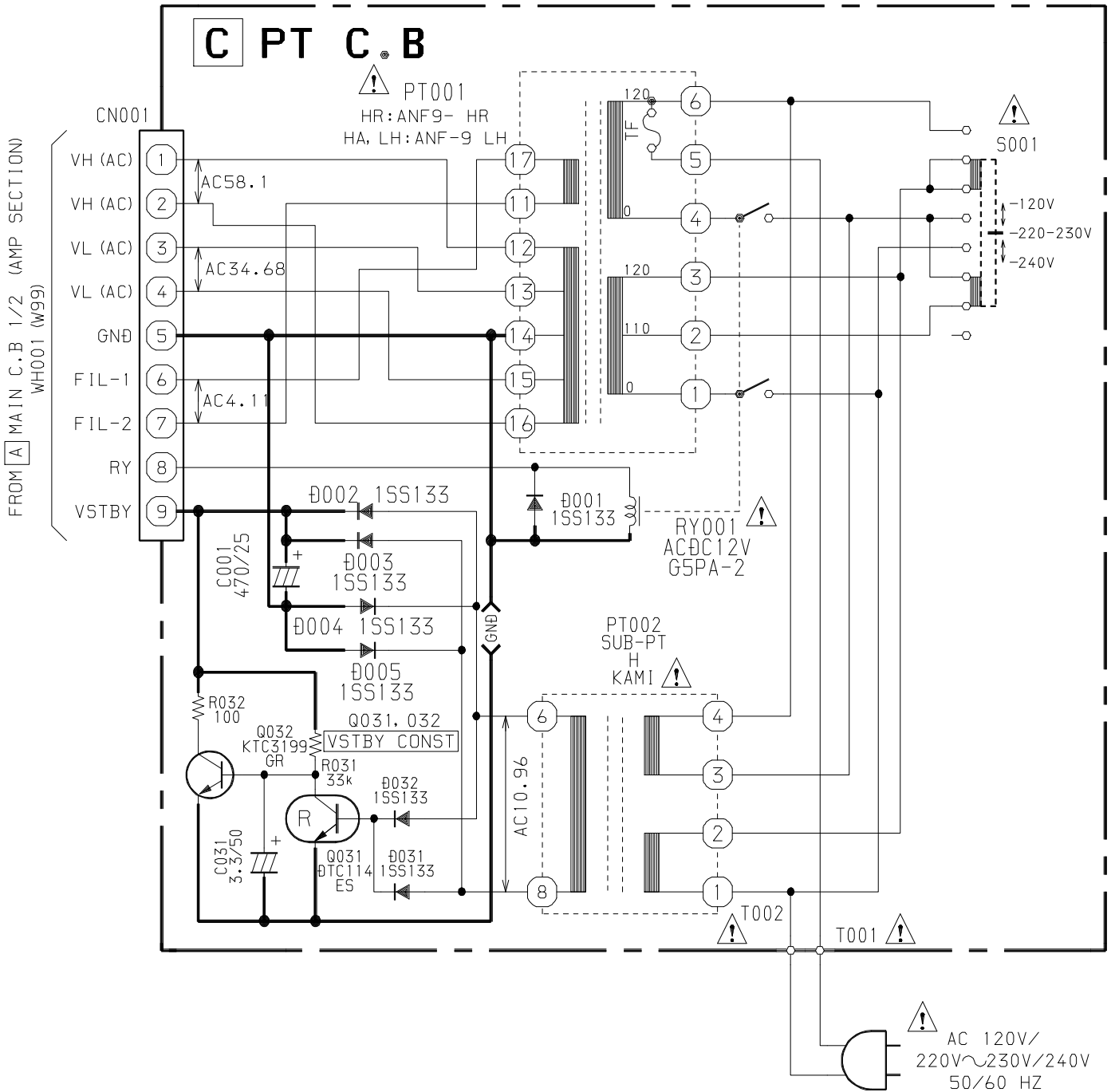
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## C PT C.B



SCHEMATIC DIAGRAM - 6 (PT)

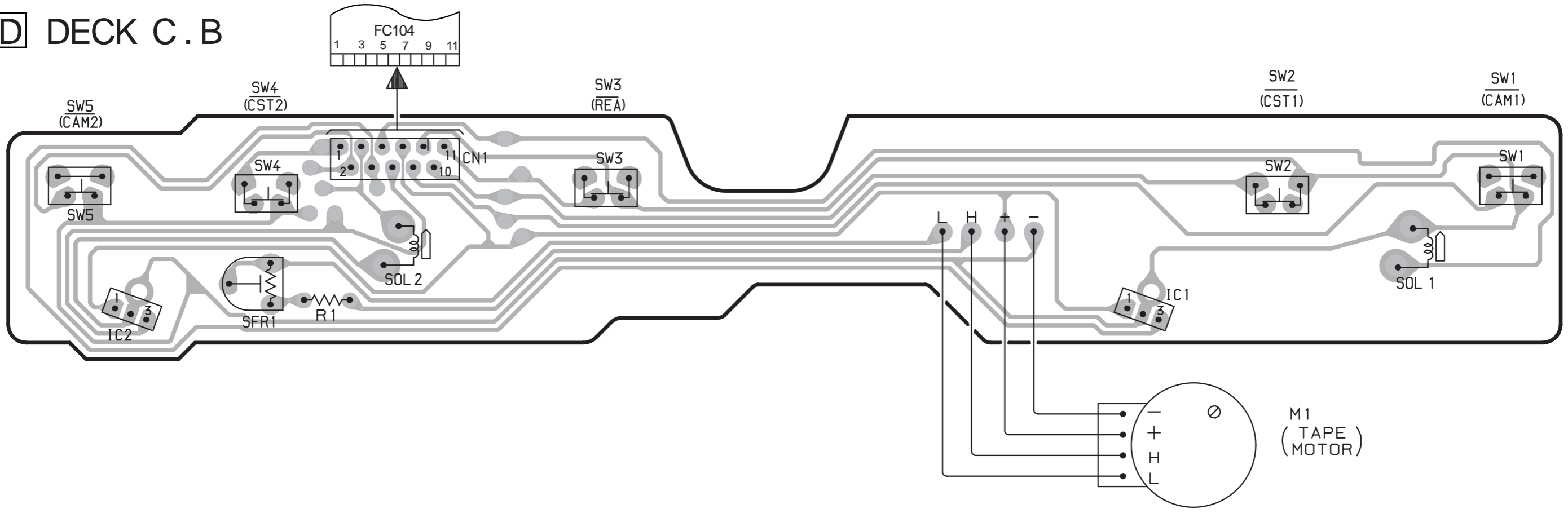


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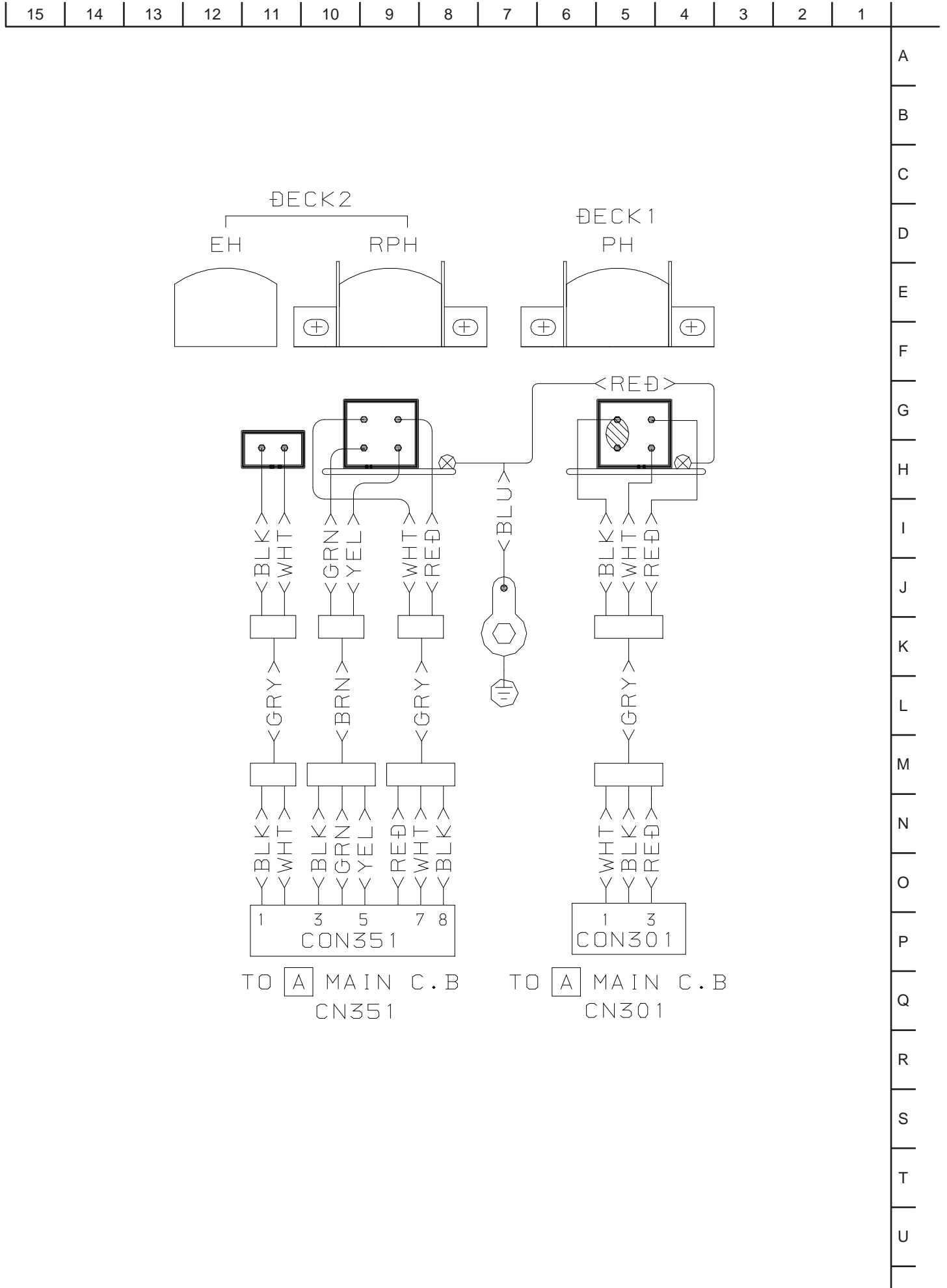
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**D** DECK C. B

FROM **B** FRONT C. B CN104

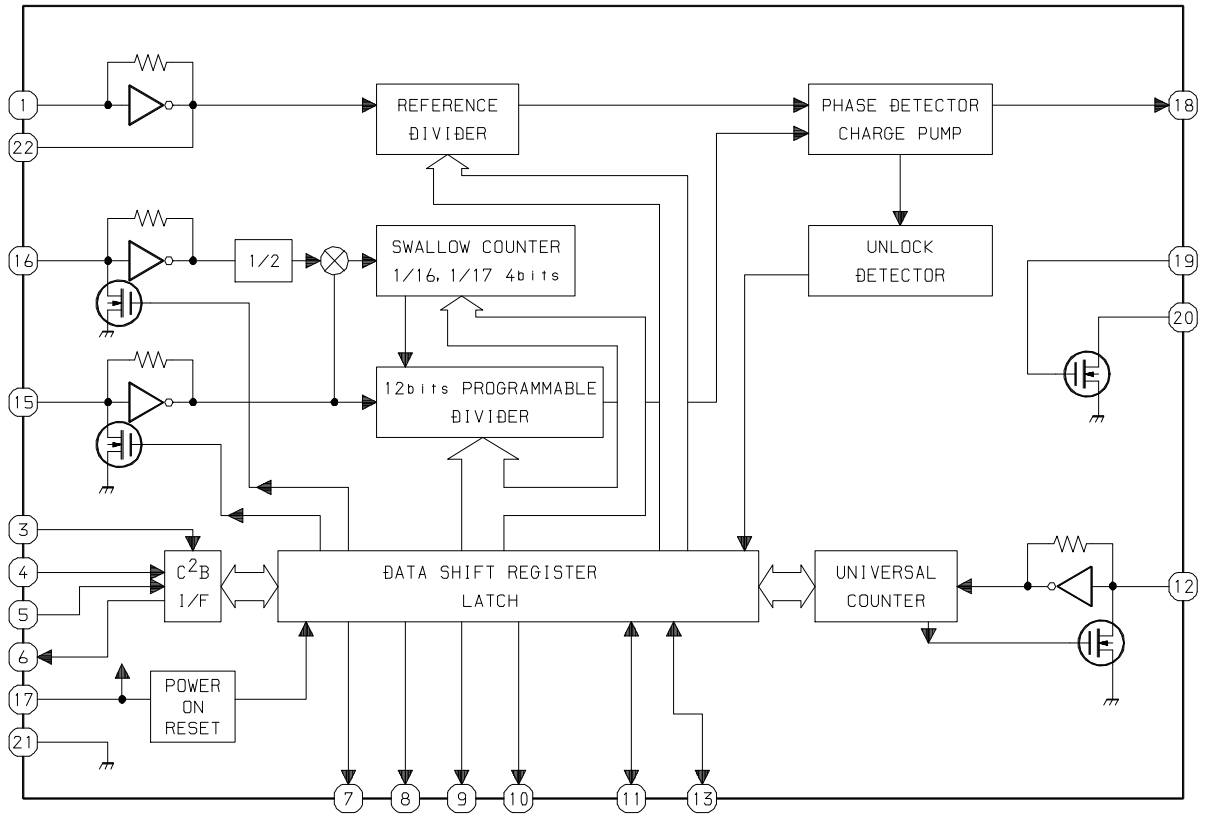


# WIRING - 6 (HEAD)

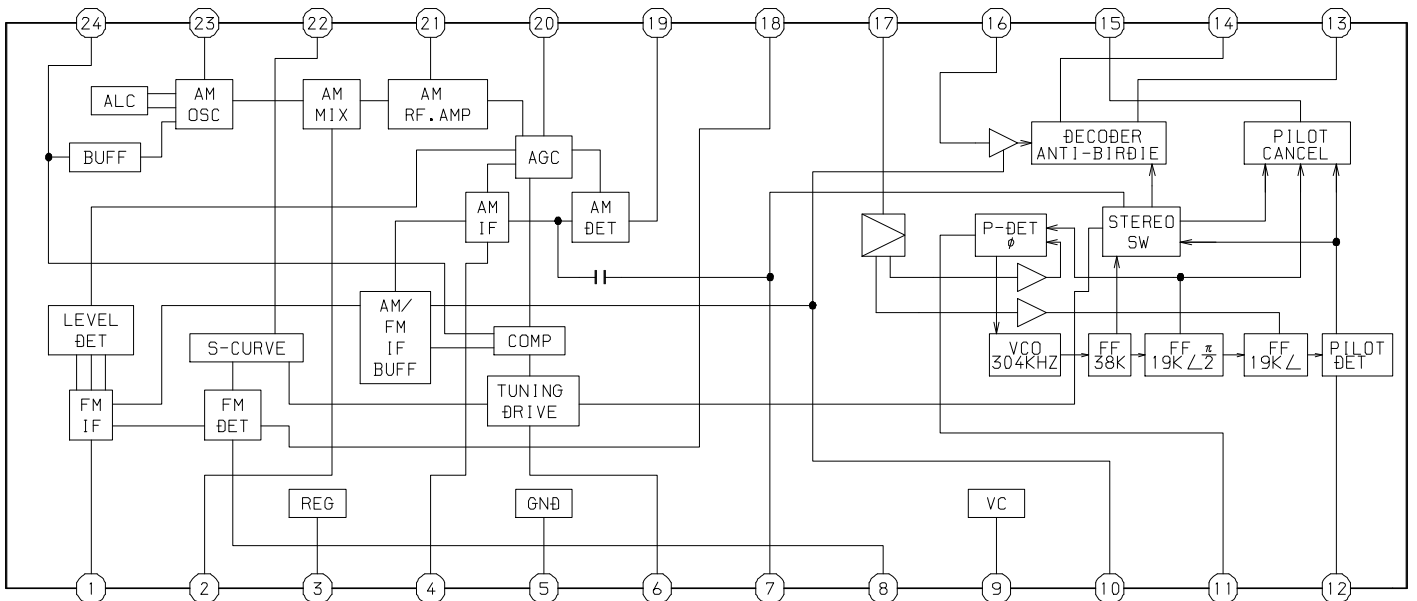


# IC BLOCK DIAGRAM

IC, LC72131D

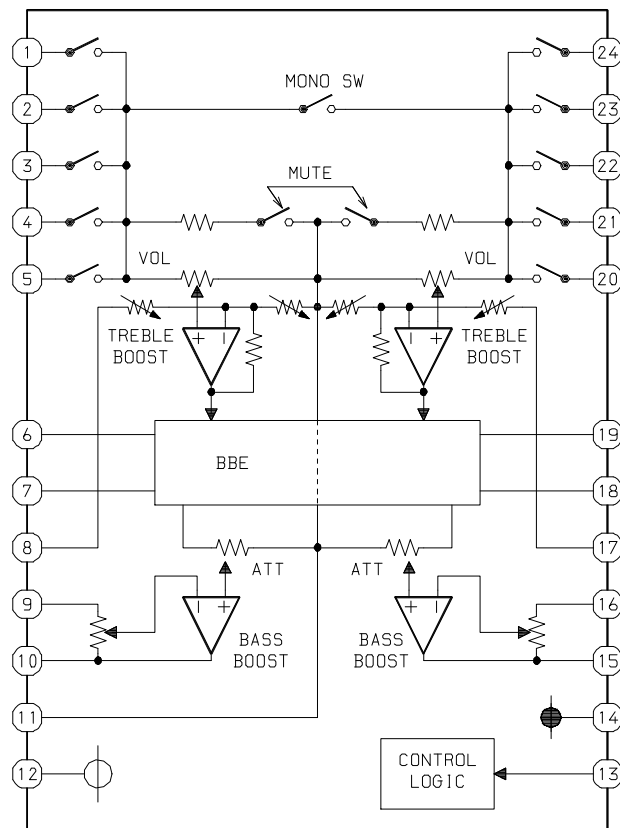


IC, LA1843





IC, M61503FP



## IC DESCRIPTION

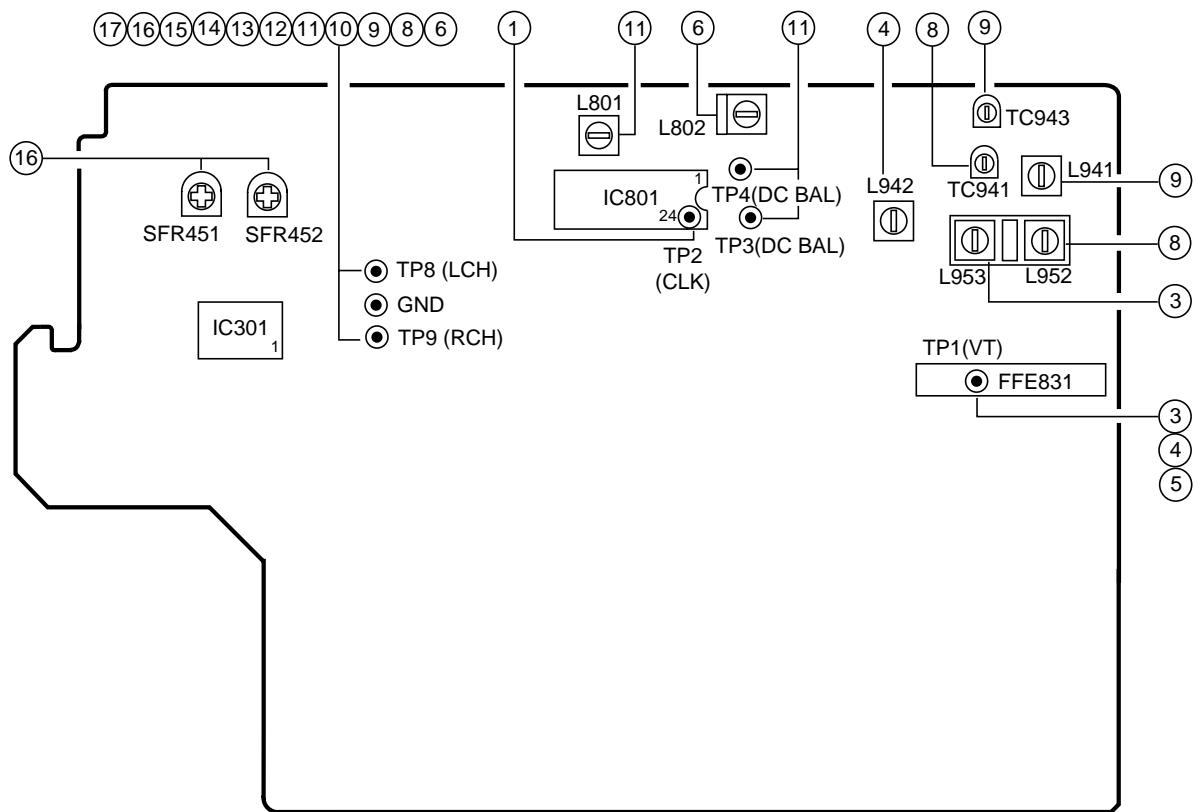
IC,  $\mu$ PD780226GF-012-3BA / 014-3BA

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.

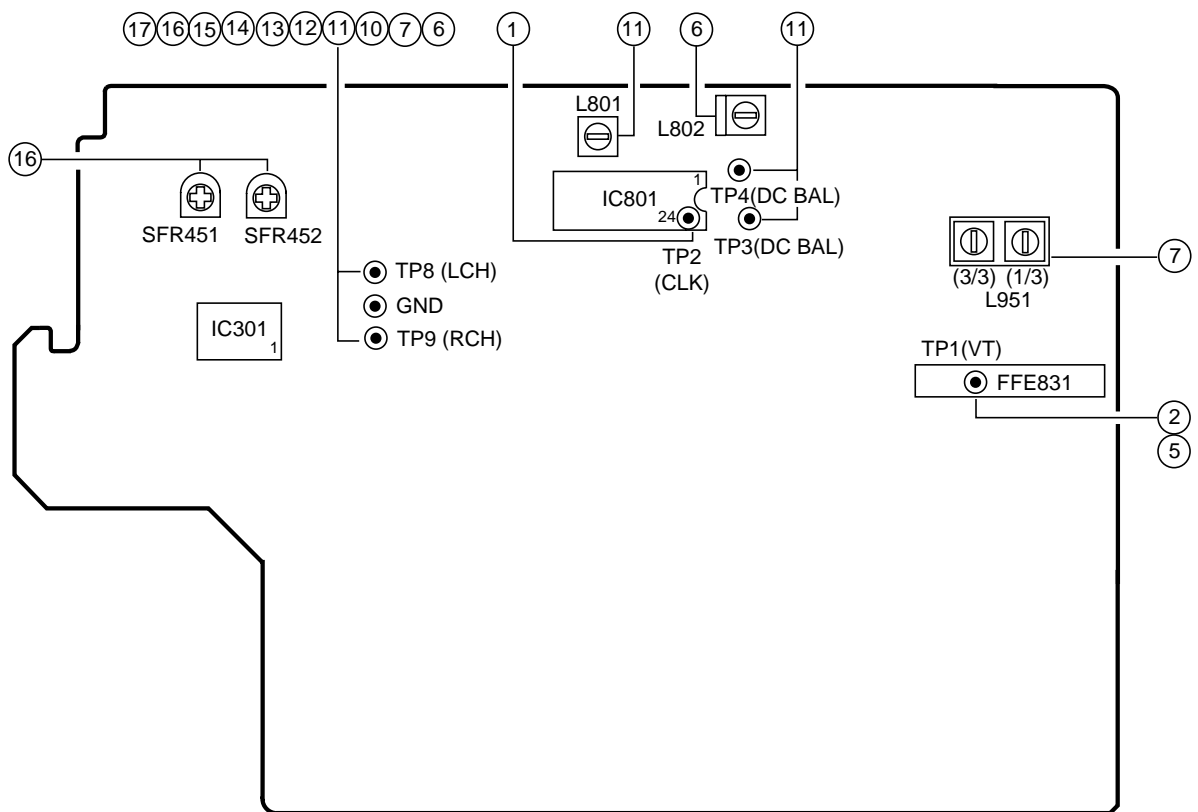
Pin No.	Pin Name	I/O	Description
44	I-SPEANA_L	I	A/D L-input for spectrum analyser level display.
45	I-SPEANA_R	I	A/D R-input for spectrum analyser level display.
46	I-KEY1	I	Key1 input.
47	I-KEY2	I	Key2 input.
48	I-KEY3	I	Key3 input.
49	I-TU_SIG	I	Tuner signal input.
50	AVSS	–	GND.
51	O-PLL_CLK	O	PLL 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- $\overline{\text{REB}}$	I	Deck 2 side B recordable SW. "L" : REC
64	I-TM_BASE	I	Base input for clock.
65	I- $\overline{\text{CAM2}}$	I	DECK2 CAM switch data input.
66	I- $\overline{\text{CAM1}}$	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	P5/AM10K	O	FL segment P5 output / AM10K data input <HA,LH>.
72, 73	P6,P7	O	FL segment P6, P7 output.
74	P8/SW	O	FL segment P8 output / SW mode data input <HR>.
75, 76	P9, P10	O	FL segment P9, P10 output.
77, 78	P11, P12	O	FL segment P11, P12 output.
79	VDD2	–	Power supply.
80	VLOAD	–	Power supply for FL display.
81	P13/C-JACK	O/I	FL segment P13 output / C-JACK data input.
82	P14/ECO-OFF	O/I	FL segment P14 output / ECO-OFF data input.
83 ~ 90	P15 ~ P22	O	FL segment P15 ~ P22 output.
91 ~100	G1 ~ G10	O	FL grid G1 ~ G10 output.

ADJUSTMENT <TUNER / DECK / MICON>

**A** MAIN C.B <HR>



**A** MAIN C.B <LH,HA>



< TUNER SECTION >

1. Clock frequency Check

Settings : • Test point : TP2 (CLK)

Method : <HR,HA>

Set to MW 1602kHz and check that the test point is 2052kHz  $\pm$  45Hz.

<LH>

Set to MW 1710kHz and check that the test point is 2160kHz  $\pm$  45Hz.

2. MW VT Check <LH,HA>

Settings : • Test point : TP1 (VT)

Method : Set to MW 1710kHz, 530kHz and check that the test point is less than 8.5V (1710kHz) and more than 0.6V (530kHz).

3. MW VT Adjustment <HR>

Settings : • Test point : TP1 (VT)

• Adjustment location : L953

Method : Set to MW 1710kHz and adjust L953 so that the test point becomes 8.5V  $\pm$  0.05V. Then check that the test point is more than 0.3V (530kHz).

4. SW VT Adjustment <HR>

Settings : • Test point : TP1 (VT)

• Adjustment location : L942

Method : Set to SW 17.9MHz and adjust L942 so that the test point becomes 8.0V  $\pm$  0.05V. Then check that the test point is more than 0.3V (5.9MHz).

5. FM VT Check

Settings : • Test point : TP1 (VT)

Method : 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).

6. AM IF Adjustment

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L802 ..... 450kHz

Method : The output level at 999/1000kHz is adjusted to maximum by L802.

7. MW Tracking Adjustment <LH,HA>

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L951(1/3) ..... 1000kHz

Method : Set to MW 1000kHz and adjust L951(1/3) to MAX.

8. MW Tracking Adjustment <HR>

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L952 ..... 603kHz

TC941 ..... 1404kHz

Method : Set up TC941 to center before adjustment. The output level at 603kHz is adjusted to maximum by L952. Then the output level at 1404kHz is adjusted to maximum by TC941.

9. SW Tracking Adjustment <HR>

Settings : • Test point : TP8(Lch), TP9(Rch)

• Adjustment location :

L941 ..... 5.9MHz

TC943 ..... 17.9MHz

Method : Set up TC943 to center before adjustment. The output level at 5.9MHz is adjusted to maximum by L941. Then the output level at 17.9 MHz is adjusted to maximum by TC943.

10. 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 9dB $\mu$ V.

11. DC Balance / Mono Distortion Adjustment

Settings : • Test point : TP3, TP4 (DC Balance)

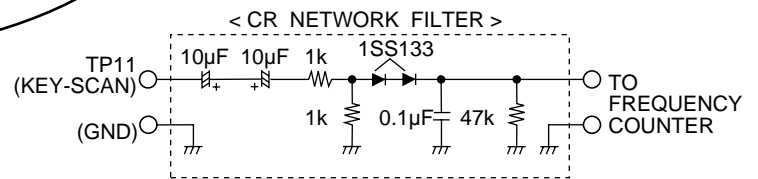
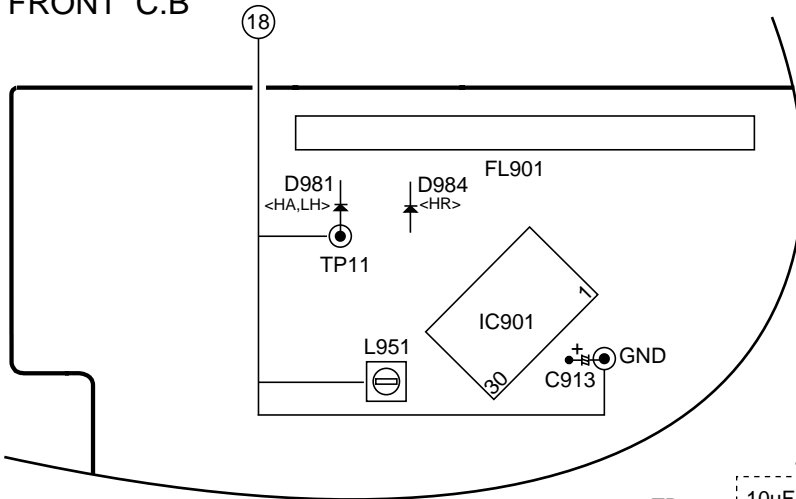
TP8(Lch), TP9(Rch) (Distortion)

• Adjustment location : L801

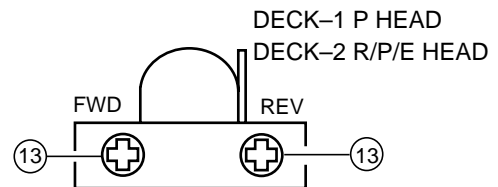
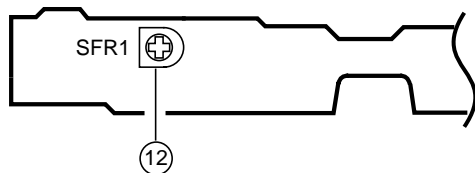
• Input level : 60dB $\mu$ V

Method : Set to FM 98.0MHz and adjust L801 so that the voltage between TP3 and TP4 becomes 0V  $\pm$  300mV. Next, adjust DC Balance coil to achieve minimum distortion.

## B FRONT C.B



## D DECK C.B



### < DECK SECTION >

#### 12. 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  $3000\text{Hz} \pm 5\text{Hz}$  (FWD) and  $\text{FWD SPEED} \pm 45\text{Hz}$  (REV).

#### 13. 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.

#### 14. 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.

#### 15. 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  $110\text{mV} \pm 3.0\text{dB}$ .

#### 16. 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  $-20\text{VU}$  ( $-26\text{dBV}$ ). Record and play back the 1kHz and 8kHz signals and adjust SFRs so that the output of the 8kHz signals becomes  $0\text{dB} \pm 0.5\text{dB}$  with respect to that of the 1kHz signal.

#### 17. REC/PB Sensitivity Check (DECK 2)

- Settings : • Test tape : TTA-602  
 • Test point : TP8(Lch), TP9(Rch)  
 • Input signal : 1kHz (LINE IN)

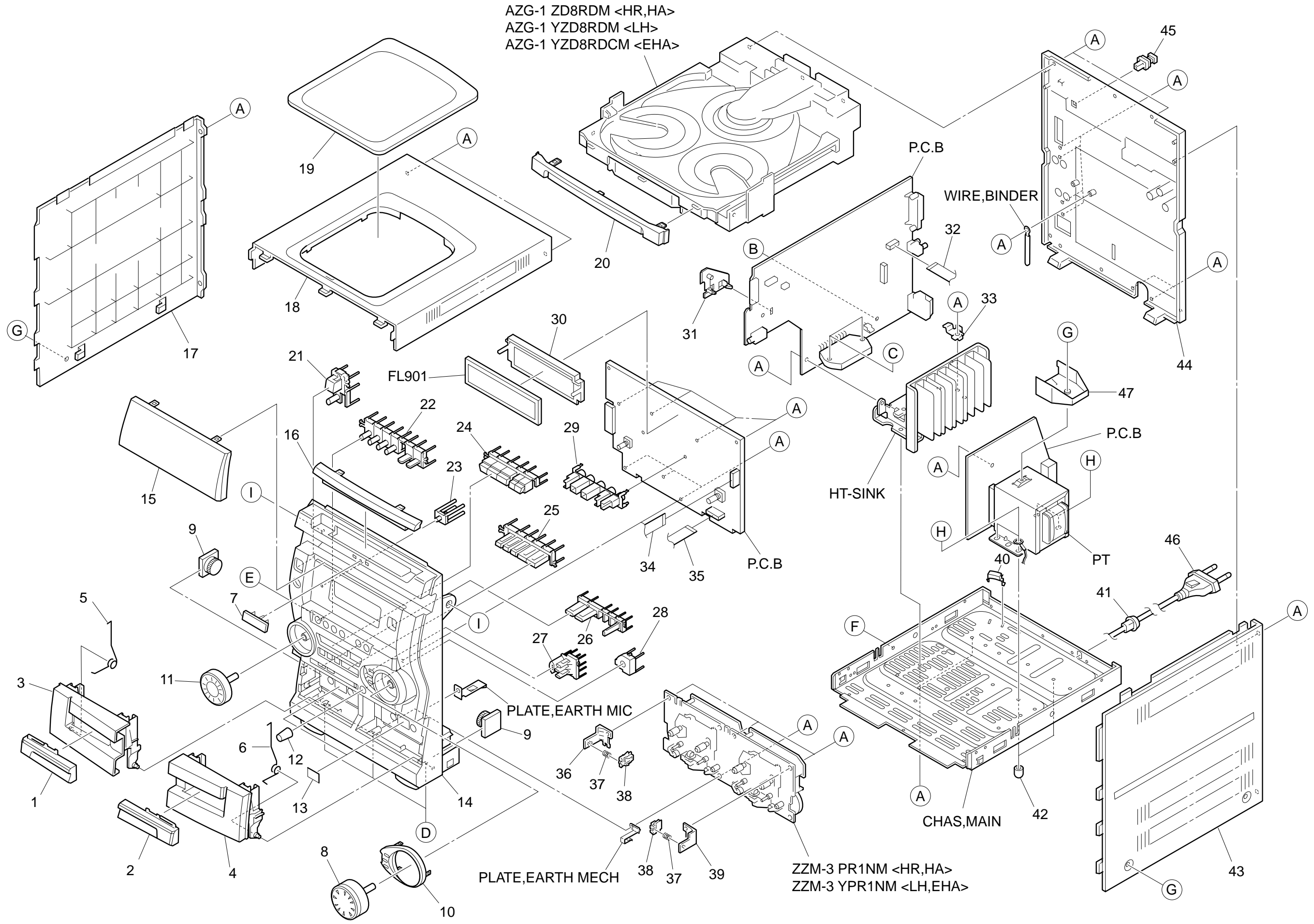
Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at TP8, TP9 becomes  $0\text{VU}$  ( $-6\text{dBV}$ ). Record and play back the 1kHz signals and check that the output is  $-1\text{dB} \pm 3.5\text{dB}$ .

### < FRONT SECTION >

#### 18. $\mu$ -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. Then adjust L951 so that the test point becomes  $184.94\text{Hz} \pm 0.18\text{Hz}$ .



# MECHANICAL PARTS LIST 1 / 1

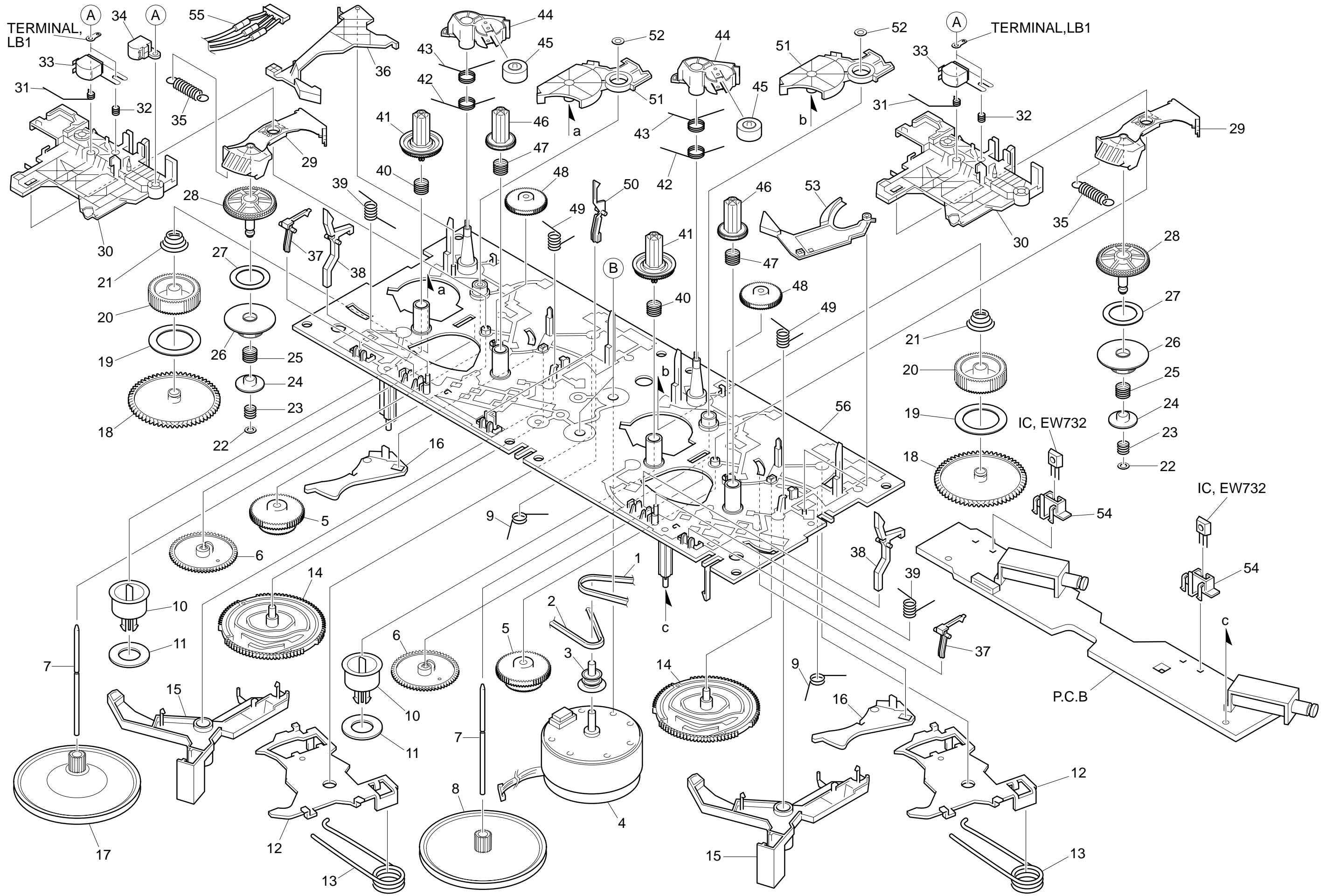
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF9-006-010		WINDOW,CASS 1	36	87-NF4-216-010		HLLDR,LOCK 1
2	8A-NF9-007-010		WINDOW,CASS 2	37	86-NF9-224-010		SPR-C,LOCK
3	8A-NF9-003-010		BOX,CASS 1	38	82-NF5-229-010		PLATE,LOCK
4	8A-NF9-004-010		BOX,CASS 2	39	87-NF4-217-110		HLLDR,LOCK 2
5	8A-NF8-207-010		SPR-T,EJECT 1	40	87-NF4-221-010		HLLDR,CABLE<EXCEPT HR>
6	8A-NF8-208-010		SPR-T,EJECT 2	41	87-085-185-010		BUSHING, AC CORD (E)<EXCEPT LH>
7	87-CE3-023-010		BADGE,AIWA 30N SILV	41	87-A91-422-010		BUSHING,AC CORD(U)<LH>
8	8A-NF9-018-010		KNOB,RTRY JOG	42	8Z-NB8-240-010		COVER, PL
9	8A-NF8-209-010		OIL-DMPR,120	43	8A-NF8-008-010		PANEL,RIGHT V-2
10	8A-NF9-017-010		PANEL, JOG	44	8A-NF9-056-010		CABI,REAR LHSFD<EHA>
11	8A-NF9-016-010		KNOB,RTRY VOL	44	8A-NF9-060-110		CABI,REAR LH W/O SPEC<HA>
13	81-532-080-010		LABEL, CASS. COMPT	44	8A-NF9-028-010		CABI,REAR LHSM<HR>
14	8A-NF9-001-010		CABI,FR U	44	8A-NF9-057-010		CABI,REAR USFD<LH>
15	8A-NF9-052-010		WINDOW,DISP LH<HA,HR>	45	84-ZG1-245-210		CAP,OPTICAL
15	8A-NF9-005-010		WINDOW,DISP U<LH>	△	46	87-A80-092-010	AC CORD ASSY,E BLK SUNFAI<EXCEPT LH>
16	8A-NF9-039-010		WINDOW,CD	△	46	87-A80-110-010	AC CORD ASSY,U SPT-2W<LH>
17	8A-NF8-007-010		PANEL,LEFT V-2	47	8A-NF9-211-010		HLLDR,PWB PT HI
18	8A-NF8-005-010		PANEL, TOP	A	87-067-703-010		TAPPING SCREW, BVT2+3-10
19	8A-NF8-006-010		WINDOW, TOP	B	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
20	8A-NF9-014-010		PANEL, TRAY	C	87-067-581-010		TAPPING SCREW, BVT2+3-15
21	8A-NF9-008-010		KEY,POWER	D	87-067-689-010		TAPPING SCREW, BVT+3-8
22	8A-NF9-009-010		KEY,FUN	E	87-723-096-410		QT2+3-10W/O SLOT BL
23	8A-NF9-022-010		REFLECTOR,ECO	F	87-721-096-410		QT2+3-10 GLD
24	8A-NF9-010-110		KEY,ASSY OPE 1 WAY	G	87-067-641-010		UTT2+3-8(W/O SLOT)BL
25	8A-NF9-020-010		KEY,CD	H	87-078-191-010		S-SCREW,IT+4-10
26	8A-NF9-019-010		KEY,SYNC	I	87-721-097-410		QT2+3-12 GLD
27	8A-NF9-026-110		KEY,ENTER				
28	8A-NF9-021-010		PLATE,MIC<HR>				
29	8A-NF9-201-010		GUIDE,OPE 1 WAY				
30	82-NF7-210-110		GUIDE, FL				
31	8A-NF8-206-010		HLLDR,PWB M				
32	88-906-251-110		FF-CABLE,6P 1.25				
33	8A-NF8-205-010		HLLDR, IC				
34	88-913-301-110		FF-CABLE, 13P-1.25				
35	88-911-101-110		FF-CABLE,11P 1.25				

## 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		



TAPE MECHANISM EXPLODED VIEW 1 / 1



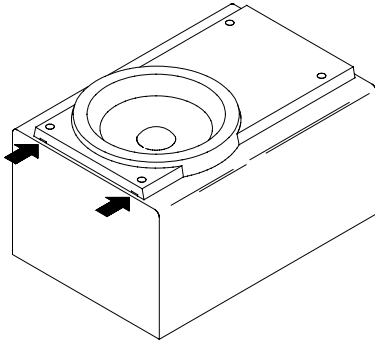
# TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM3-227-010		BELT,MAIN M3	31	8Z-ZM3-233-010		SPR-T,BRG M3
2	8Z-ZM3-235-010		BELT,MAIN L	32	84-ZM2-227-310		SPR-C,AZIMUTH
3	8Z-ZM1-235-010		PULLEY,MOT	33	87-A90-403-110		HEAD,RPH MS15R
4	87-045-347-010		MOT,SHU2L 70	34	87-A90-404-010		HEAD,EH LE15B
5	8Z-ZM1-232-010		GEAR,IDL FF/REW	35	8Z-ZM3-239-010		SPR-E,FR
6	8Z-ZM3-244-010		GEAR,CAM TD20	36	8Z-ZM3-211-010		LEVER,EJECT R
7	8Z-ZM3-242-010		SHAFT,CAP M3	37	8Z-ZM3-225-010		LEVER,STOP
8	8Z-ZM3-228-010		FLY-WHL,M3	38	8Z-ZM3-221-010		LEVER,CAS
9	8Z-ZM3-231-010		SPR-T,TRIG	39	8Z-ZM3-234-010		SPR-T,LVR CAS
10	8Z-ZM3-213-010		CLR,MG	40	8Z-ZM3-223-010		SPR-C,REEL R M3
11	82-ZM3-616-010		RING MAGNET 4	41	8Z-ZM1-225-110		GEAR,REEL R
12	8Z-ZM3-243-010		LEVER ASSY,HD UP	42	8Z-ZM3-240-010		SPR-T,T-UP M3
13	8Z-ZM3-238-010		SPR-T,HD UP	43	8Z-ZM3-237-010		SPR-T,PINCH M3
14	8Z-ZM3-219-010		GEAR,CAM M3	44	8Z-ZM3-215-010		LEVER,PINCH M3
15	8Z-ZM3-206-010		LEVER,TRIG	45	8Z-ZM1-261-110		ROLLER ASSY,PINCH
16	8Z-ZM3-209-010		LEVER,CAM FR	46	8Z-ZM1-226-010		GEAR,REEL L
17	8Z-ZM2-211-010		FLY-WHL,ZZM-2	47	8Z-ZM3-222-010		SPR-C,REEL L M3
18	8Z-ZM1-228-010		GEAR,SLIP T-UP B	48	8Z-ZM3-251-010		GEAR,IDL REW M3
19	8Z-ZM1-265-010		FELT,T-UP	49	8Z-ZM3-236-010		SPR-T,PLAY M3
20	8Z-ZM1-227-010		GEAR,SLIP T-UP A	50	82-ZM1-240-110		LVR,REC(*)
21	8Z-ZM1-251-110		SPR-C,T-UP SLIP	51	8Z-ZM3-216-010		LEVER,T-UP M3
22	8Z-ZM1-275-010		W-L,1,47-4-0.25	52	87-B10-301-010		W-L,1.63-3.2-05 SLIT
23	8Z-ZM1-257-010		SPR-C,F/R	53	8Z-ZM3-212-010		LEVER,EJECT L
24	8Z-ZM1-236-010		CLR,SLIP FF/REW	54	8Z-ZM3-214-010		HLDR,IC
25	8Z-ZM3-226-010		SPR-C,FR M3	55	86-ZM3-605-110		CONN ASSY,8P -RPB
26	8Z-ZM3-250-010		GEAR,SLIP F/R A M3	56	8Z-ZM3-203-010		CHAS ASSY,M3
27	8Z-ZM1-269-010		FELT,FF/REW 2	A	84-ZM2-242-010		S-SCREW,AZ1-2-6.4
28	8Z-ZM1-238-110		GEAR,SLIP FF/REW B 2	B	8Z-ZM2-220-110		V+2.6 ZZM-2
29	8Z-ZM3-220-010		LEVER,FR M3				
30	8Z-ZM3-205-010		LEVER,PLAY M3				

# SPEAKER DISASSEMBLY INSTRUCTIONS

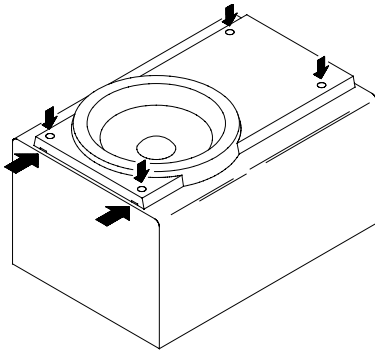
## Type.1

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.



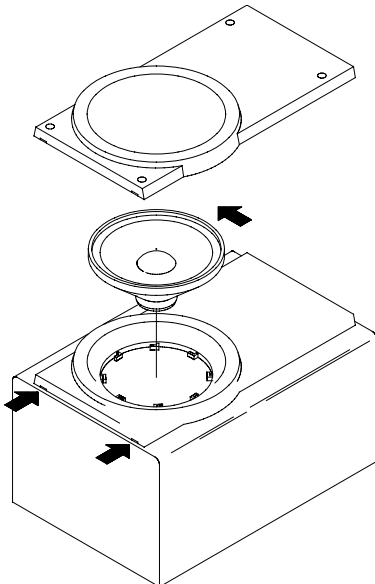
## Type.2

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.

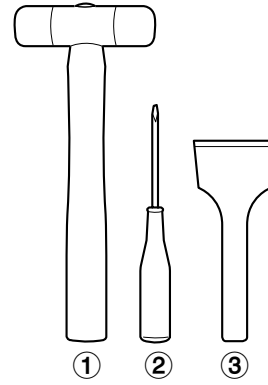


## Type.3

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.

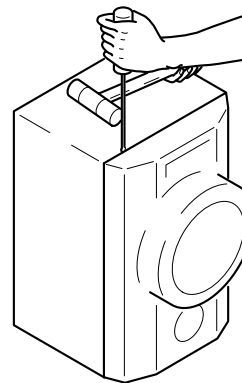


Fig-1

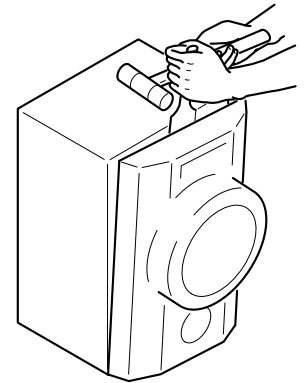


Fig-2

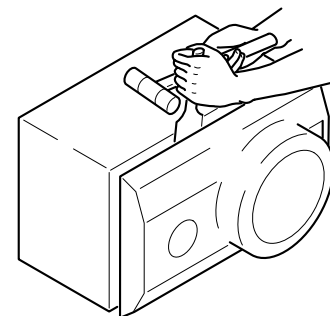


Fig-3

## 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-NSZ22 (YJSC,YJSL,YJSC9,YJSK1BL,YJ3SL,YJ7SL,YLSC,YLSL) <HR,HA>

SX-SNSZ22 (YLSC3M) <LH>

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,YLSC,YJSK1BL>
4	8A-NSJ-602-010		SPKR,W 130<YJSC,YLSC,YJSK1BL>
5	88-NS5-605-010		SPKR,T 60<YJSC9,YJ3SL,YJ7SL,YLSL>
5	8A-NSK-604-010		SPKR,TW 60<YJSC,YJSL,YLSC>
5	8A-NSK-606-010		SPKR,T 60<YJSK1BL,YLSC3M>
6	87-NSH-612-010		SPKR,CERAMIC ASSY
7	87-NS7-611-010		CORD,SPKR
8	8A-NSK-015-010		CORD,BUSH<YJSK1BL>

## ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-NF9-901-010		IB,H(ECA)M<HR>
1	8A-NF9-902-010		IB,LH(ECP)M<LH,HA>
1	8A-NF9-928-010		IB,HA(S)NEA<EHA>
2	87-043-115-010		ANT,FEEDER FM
3	87-A90-119-010		ANT,WIRE SW(5M)<HR>
4	87-006-226-010		AM-LOOP ANT C0<HR>
4	87-006-225-010		AM LOOP ANT NC2<EXCEPT HR>
△	5	87-A91-017-010	PLUG,CONVERSION JT-0476<HR>
6	8Z-NF9-701-210		RC UNIT,ZAS02

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